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RECORD INTERIORS 1990

ALSO IN THIS ISSUE:

**NEW ARCHITECTURE AND PLANNING
IN DOWNTOWN SAN JOSE**

**BUILDING TYPES STUDY:
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It's Time . . . continued

Congratulations on the first two editorials that you wrote for RECORD, [June 1990, pages 56-57, and July 1990, page 45]. They are truly on-point and hit hard at the central issue facing architects today: how does the profession, once and for all, begin to combine quality design with first-class management?

You are clearly off to a great start, and I look forward to seeing the design profession respond to the challenges you have addressed.

BARRY B. LE PATNER

*Le Patner, Block, Pawa & Rivelis, Law Offices
New York City*

In your June 1990 editorial, you predict that the 1990s will see a leaner firm that depends heavily on CADD. I believe that the leaner firms will depend heavily on the manipulation and processing of information aided by computer. This includes CADD, but also includes expert systems for specifications, materials research, building-code analysis, and other construction-related applications. The leaner architectural practice will further demand that principals and staff be proficient in these emerging technologies.

One result of these technologies is that the levels of service and professionalism demanded of architects by the marketplace will increase. I believe that our services to the public will need to become more comprehensive, considering a client's needs from inception through construction, and then continuing to facilities management.

You predict that the economies of the medium-sized firms will become increasingly unstable, and that the future belongs to small specialized firms and large firms. The revenue volume in the medium-sized firm does not allow the organization to build and retain the diverse range of high-caliber staff that complex projects require. Small "idea" firms, with established reputations in specific areas of practice, will be able to offer clients a high level of professional service. On more complex projects, I believe you will see the "idea" firms working together

with large comprehensive service architectural organizations, either in association or in joint-venture.

You note that the architectural profession should cease backing out of responsibility for construction contract administration. The maxim that authority requires responsibility can be applied in this situation. I feel that if architects want to maintain a leading role in the construction process, then they must assume that responsibility. It is naive to assume that the marketplace will tolerate architects' demand for leadership if they attempt to allocate responsibility to other parties. If we continue our present trend, we have no one but ourselves to blame should our role in construction be relegated to that of a "design subcontractor."

Your final point noted that architects need to take a tougher stand in fee negotiations. Excellent professional service is not produced on the cheap. Firms that cannot charge reasonable fees will, long-term, be unable to produce the quality of service that the marketplace will demand. Our fees should reflect value for money. The more value that we can bring to a project, the stronger our position at the bargaining table will be.

**LESTER KORZILIUS,
ARCHITECT
New York City**

Ecological paranoia

After listing the many environmental problems facing the world, James Wines, in his article "Green Architecture" [RECORD, April 1990, pages 78-79], approached with "paranoid guilt" the "subject of architecture and nature." Surprisingly, the only ecological contribution he could claim for architecture and his work was "how vegetation can function as environmental commentary," and he is probably right. For example, in Japan we find an architect helping to eliminate a forest with a golf course and then building a tower of tree trunks to assuage his guilt. But as with any other monument, the tower does not bring back the dead.

**FRED L. OSMON, ARCHITECT
Carefree, Arizona**

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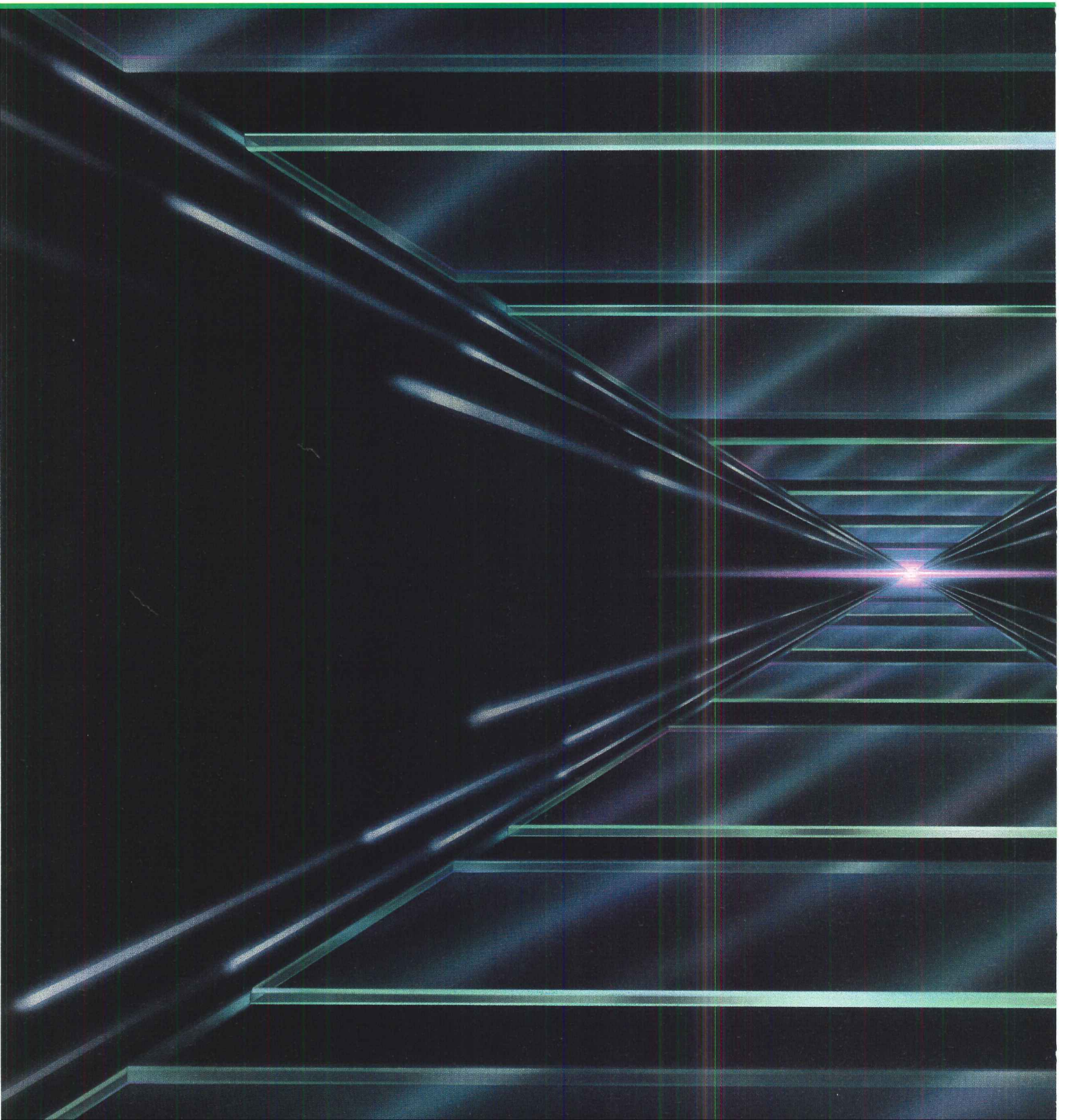
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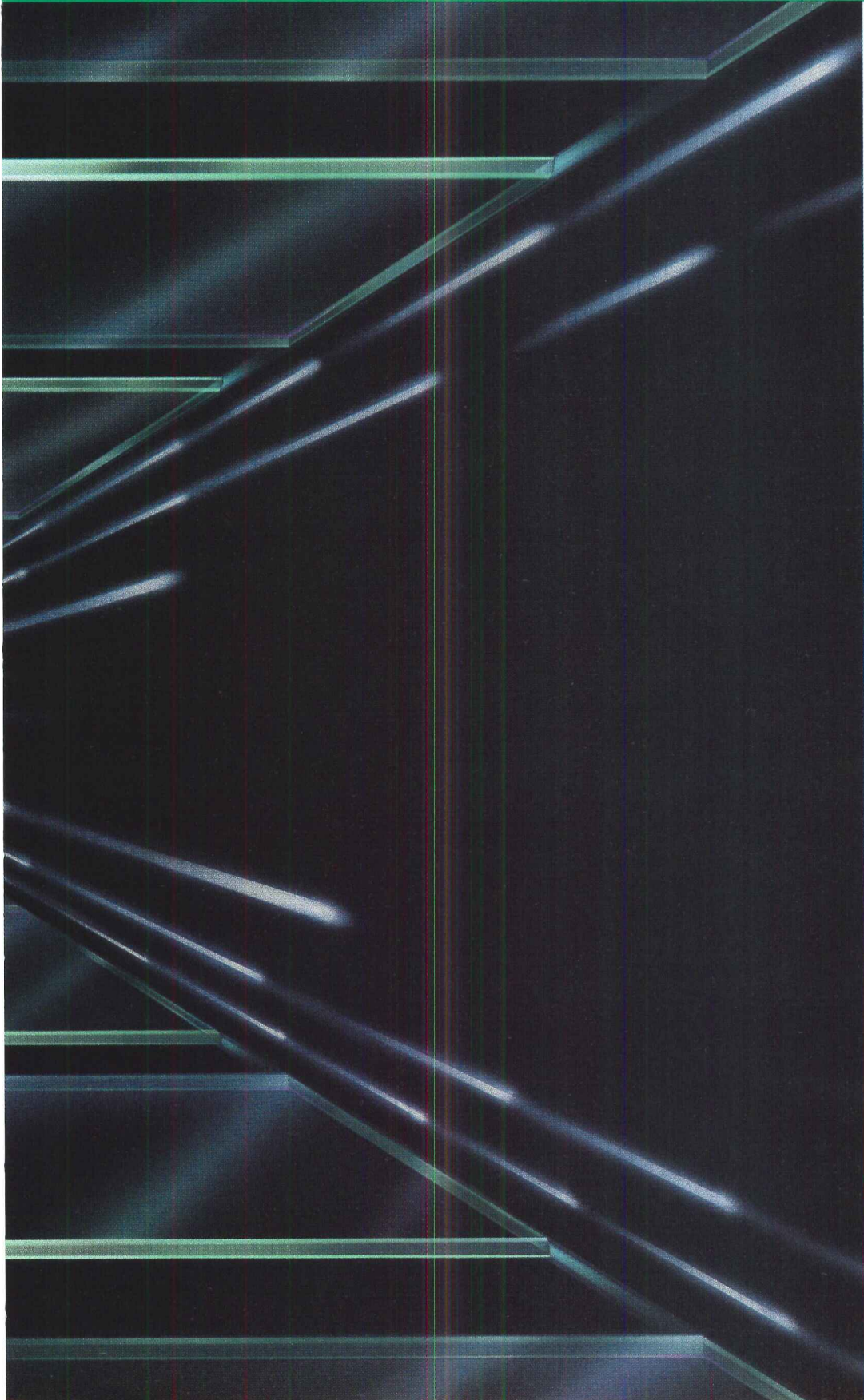
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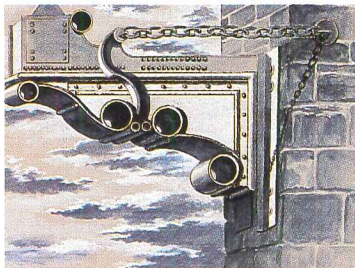
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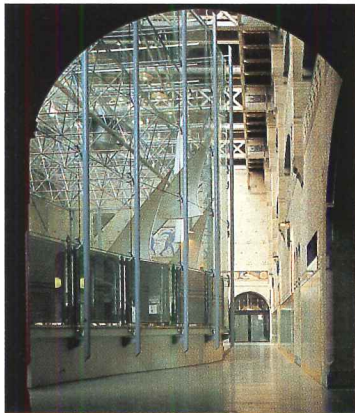
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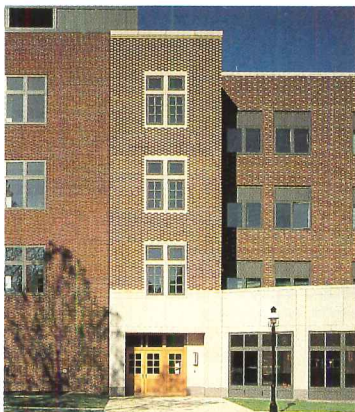
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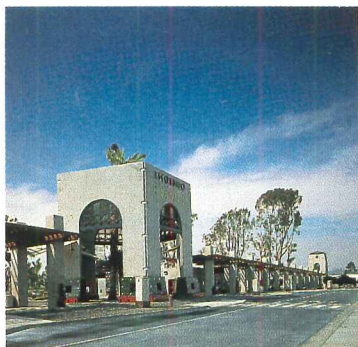
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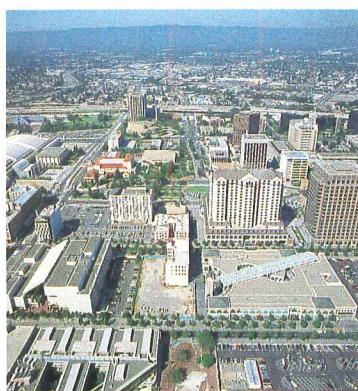
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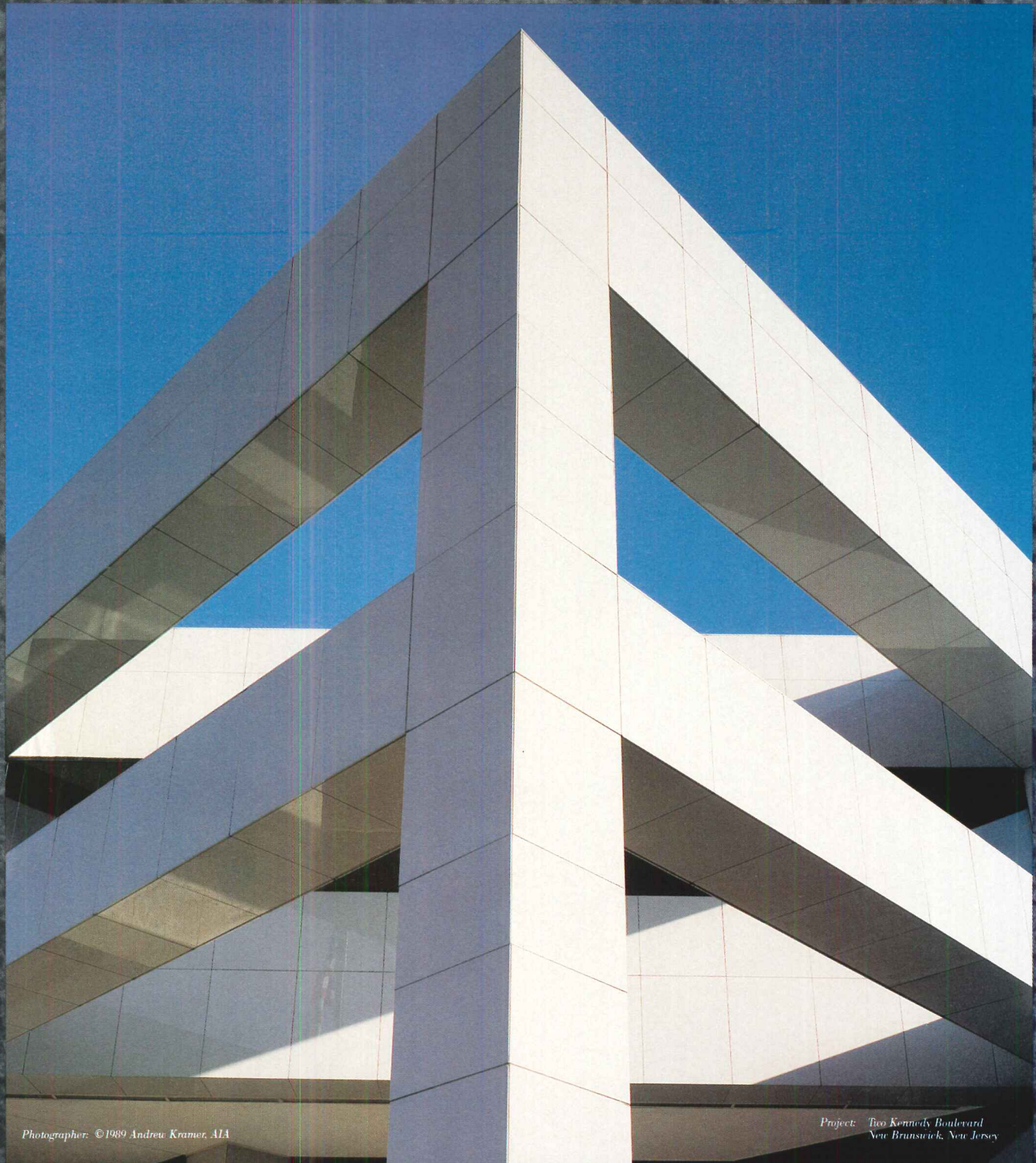
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BUILDING TYPES STUDIES 1991

ARCHITECTURAL RECORD published its first Building Types Study in 1937: a 56-page special section on the design of department stores, small shops, and restaurants. The purpose of these studies, according to the editors at that time, was "to review authentic current practice with respect to plan, construction methods, materials, and equipment . . . giving a fair idea of modern trends in design and of the practical considerations motivating the trends. It is our belief that there is a distinct need by architects and others for practical planning information, collected together in convenient and usable form."

Over 50 years—and nearly 700 issues—later, the Building Types Study remains the cornerstone of RECORD's monthly editorial calendar. The wisdom of presenting completed works of architecture by functional type as a way of revealing how different architects use different esthetic and technical solutions to solve related programs is as viable today as it was in 1937.

In order to publish the best possible material in this section of the magazine, RECORD invites architects to submit **completed** buildings for editorial consideration in 1991. Here's the list of Building Types Studies scheduled for 1991:

Building Types Study	Editor-in-charge
Academic Buildings	Magaret Gaskie
Commercial Interiors	Karen Stein
Day-Care Centers	Margaret Gaskie
Design for the Aged and Handicapped	Margaret Gaskie
High-Tech Industrial or Research Labs	James Russell
Mixed-Use Projects	Donald Canty
Primary Health-Care Facilities	Clifford Pearson
Record Interiors	Karen Stein
Record Houses	Paul Sachner
Renovation/Adaptive Use	Paul Sachner
Schools	Clifford Pearson
Sports and Recreation Facilities	Karen Stein
Transportation Centers	Donald Canty

ELIGIBILITY:

Buildings must be completed and available for professional photography at least **four months** prior to publication date (e.g., January for the April issue). Entries should consist of good-quality slides or professional 4-by-5 transparencies of the building; reduced versions of floor plans, site plan, and sections (*not* plan rolls); and a one-page or less text outlining the client's goals and the architect's technical and design solutions. You may send submissions throughout the year. Send projects to the appropriate editor-in-charge at ARCHITECTURAL RECORD, 1221 Avenue of the Americas, New York, NY 10020. For additional information, phone RECORD's editorial offices at 212/512-2594.

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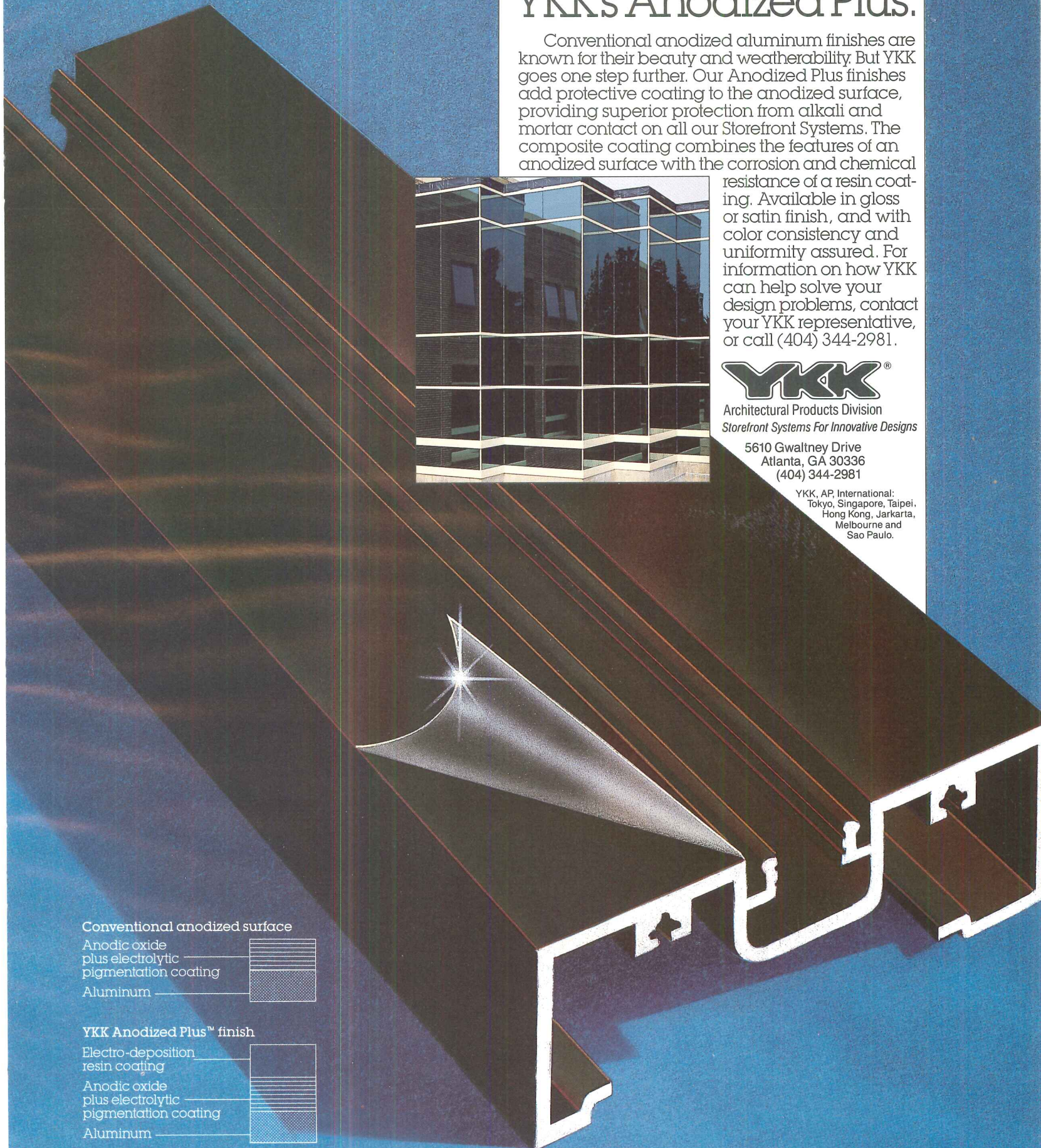
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HEALTH RISKS SEEN IN BLOOD PRESSURE EVEN SLIGHTLY ABOVE NORMAL

ORGAN DAMAGE SEEN

By **SALLY J. ROBERTS**

A new study reveals that blood pressure levels previously thought to be safe can lead to permanent damage of the heart and blood vessels, and increase the risk of a heart attack.

The results suggest that people with mild hypertension should be monitored more closely, and treated more aggressively than is the case today, some experts say.

"We are seeing people with blood pressure levels today not considered dangerous or even deserving of treatment suffering some organ damage," said Dr. Alexa Cullman, physician and author.

Others say that these findings are too preliminary to warrant a reevaluation of current treatment procedures.

Study Reveals More

Hypertension has long known to damage the heart, the kidneys and major blood vessels, often leading to heart attack and stroke.

But these new findings are the first to suggest a link between borderline hypertension and major organ damage.

None of the physicians contacted would say whether or not these findings would radically alter the treatment procedures for what is today considered "mild" hypertension, but all agreed that these procedures should be reviewed in the very near future. One added "The tactics for avoiding hypertension remain the same."

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Cocaine lies.

After nearly a decade of being America's glamour drug, researchers are starting to uncover the truth about cocaine.

It's emerging as a very dangerous substance.

No one thinks the things described here will ever happen to them. But you can never be certain. Whenever and however you use cocaine, you're playing Russian roulette.

You can't get addicted to cocaine.

Cocaine was once thought to be non-addictive, because users don't have the severe *physical* withdrawal symptoms of heroin—delirium, muscle-cramps, and convulsions.

However, cocaine is intensely addicting *psychologically*.

In animal studies, monkeys with unlimited access to cocaine self-administer until they die. One monkey pressed a bar 12,800 times to obtain a single dose of cocaine. Rhesus monkeys won't smoke tobacco or marijuana, but 100% will smoke cocaine, preferring it to sex and to food—even when starving.

Like monkey, like man.

If you take cocaine, you run a 10% chance of addiction. The

risk is higher the younger you are, and may be as high as 50% for those who smoke cocaine. (Some crack users say they felt addicted from the *first time* they smoked.)

When you're addicted, all you think about is getting and using cocaine. Family, friends, job, home, possessions, and health become unimportant.

Because cocaine is expensive, you end up doing what all addicts do. You steal, cheat, lie, deal, sell anything and everything, including yourself. All the while you risk imprisonment. Because, never forget, cocaine is illegal.

There's no way to tell who'll become addicted. But one thing is certain.

No one who is an addict, set out to become one.

C'mon, just once can't hurt you.

Cocaine hits your heart before it hits your head. Your pulse rate rockets and your blood pressure soars. Even if you're only 15, you become a prime candidate for a heart attack, a stroke, or an epileptic-type fit.

In the brain, cocaine mainly affects a primitive part where the emotions are seated. Unfortunately, this part of the brain also controls your heart and lungs.

A big hit or a cumulative overdose may interrupt the electrical signal to your heart and lungs. They simply stop.

That's how basketball player Len Bias died.

If you're unlucky the first time you do coke, your body will lack a chemical that breaks down the drug. In which case, you'll be a first time O.D. Two lines will kill you.

Sex with coke is amazing.

Cocaine's powers as a sexual stimulant have never been proved or disproved. However, the evidence seems to suggest that the drug's reputation alone serves to heighten sexual feelings. (The same thing happens in Africa, where natives swear by powdered rhinoceros horn as an aphrodisiac.)

What is certain is that continued use of cocaine leads to impotence and finally complete loss of interest in sex.

It'll make you feel great.

Cocaine makes you feel like a new man, the joke goes. The only trouble is, the first thing the new man wants is more cocaine.

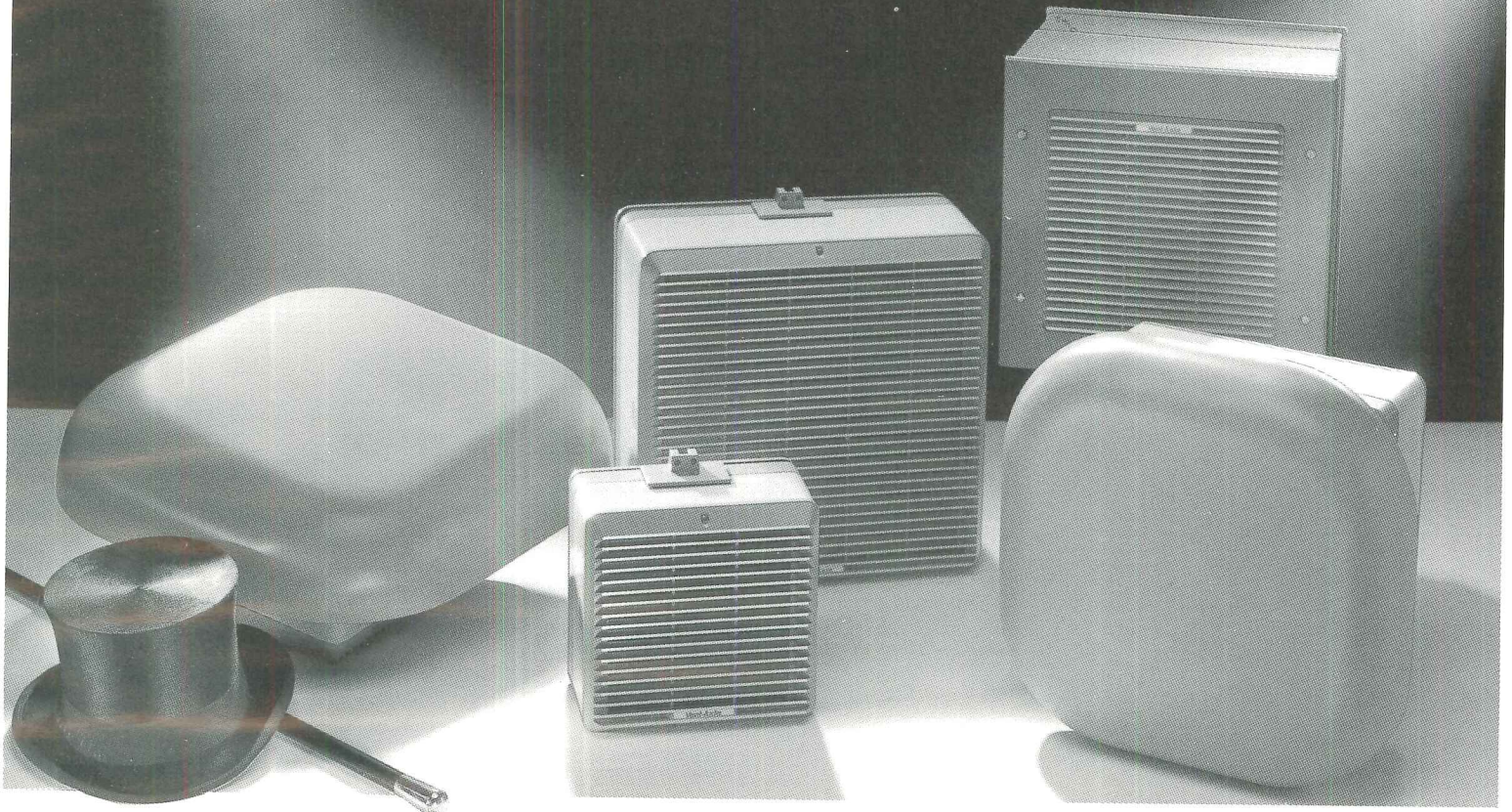
It's true. After the high wears off, you may feel a little anxious, irritable, or depressed. You've got the coke blues. But fortunately, they're easy to fix, with a few more lines or another hit on the pipe.

Of course, sooner or later you have to stop. Then—for days at a time—you may feel lethargic, depressed, even suicidal.

Says Dr. Arnold Washton, one of the country's leading cocaine experts: "It's impossible for the nonuser to imagine the deep, vicious depression that a cocaine addict suffers from."

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PRACTICE

More Stirrings on the Antitrust Front

Invoking the 100-year-old Sherman Act, once used as a club against 19th-century robber-baron monopolies, the Justice Department in early July filed—and immediately settled—an antitrust suit against the AIA.

Both the suit itself, alleging unreasonable restraint of price competition, and the proposed consent decree were filed in tandem July 5 in the U. S. District

Court in Washington D. C.. The verdict will become final after a 60-day comment period.

The suit alleged that under Section 1 of the Sherman Act the AIA and “co-conspirators”—specifically, the Chicago Chapter—had entered into an illegal agreement prohibiting members from engaging in competitive bidding, discounting fees, or providing free services by adopting, in September 1984, a compensation and fee-policy statement to this effect.

The consent decree, in addition to requiring the AIA to pay \$50,000 to the government for the costs of the investigation, orders the AIA to institute a “comprehensive” antitrust-compliance program, including annual written statements for 10 years from AIA officials that they agree to comply with the decree.

The decree supersedes a 1972 anti-trust judgement against the AIA that prohibited it from adopting policies restricting competitive bidding. The new

decree would extend to discounted or free services.

The AIA is not prohibited from lobbying in favor of architect selection for public projects by additional criteria—talent, experience, qualifications—under the Brooks Act. Said architect Hugh Newell Jacobsen: “If you interview us, select us for our ability, our experience, or our necktie, but never talk about fees” [RECORD August 1990, page 53]. **PETER HOFFMAN,** *Washington, D. C.*

What It Takes To Get Ahead Abroad

Large U. S. firms continue to be called in for big, complex, technically demanding jobs, as they have since Daniel Burnham’s pioneering corporate practice made “no little plans” for Manila. Today, though, these firms’ specialities—such as Swanke Hayden Connell’s in preservation technology, recently applied to several City of London landmarks—may be as highly prized as their mainstream services like high-rise office planning. And today’s international owner is more likely to mix and match consultants than to buy an all-U. S. package.

According to *ENR* magazine, the 500 largest U. S. architects, engineers, and planners that do business abroad increased their international billings by 35 percent last year. Of these, the top 50 designers in foreign markets (including CRSS, SOM, DMJM, Pei Cobb Freed, Perkins & Will, Heery International and HOK) took in over 85 percent of the total, or about \$3 billion.

Europe/UK has been the hottest big-firm market, but the Pacific Rim is catching up. The *ENR* 500’s \$1.3-billion income in Europe, while double 1988’s, was only about 20-percent higher than that in Asia/Australia, which in turn was twice that in the Middle East.

With England’s office-building market reportedly starting

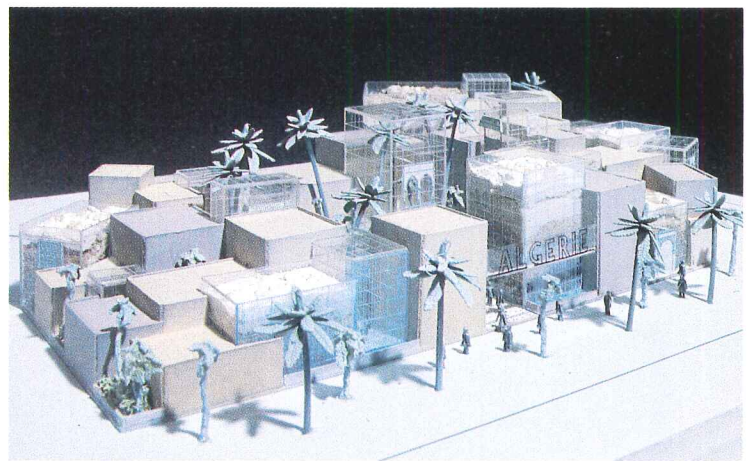
to resemble New England’s, this year’s excitement has shifted to Japan and Western Europe, and beyond to Eastern Europe and the Soviet Union.

RTKL’s Harold Adams, now primarily an international marketer after having set up firm offices in the U. K. and Japan, doesn’t see a “gold rush” comparable to a ’70s Mideast or an ’80s London. “American firms that offered full-service capability were valuable in helping [those

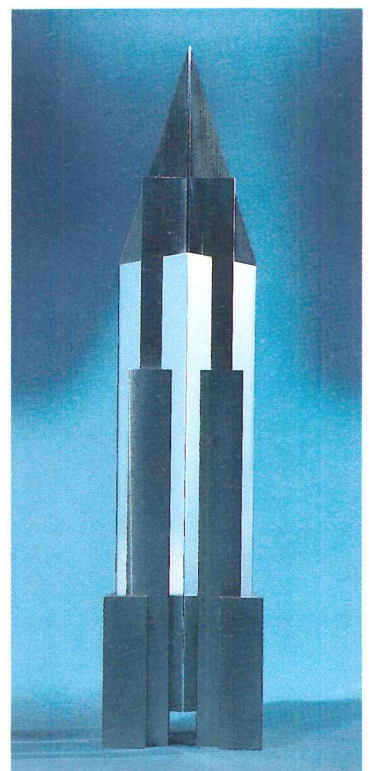


economies] through a surge of work,” he says. The Soviets or Japanese, with fewer urgent, big jobs, are more likely to require a limited alliance with local firms and language usually makes this a practical necessity.

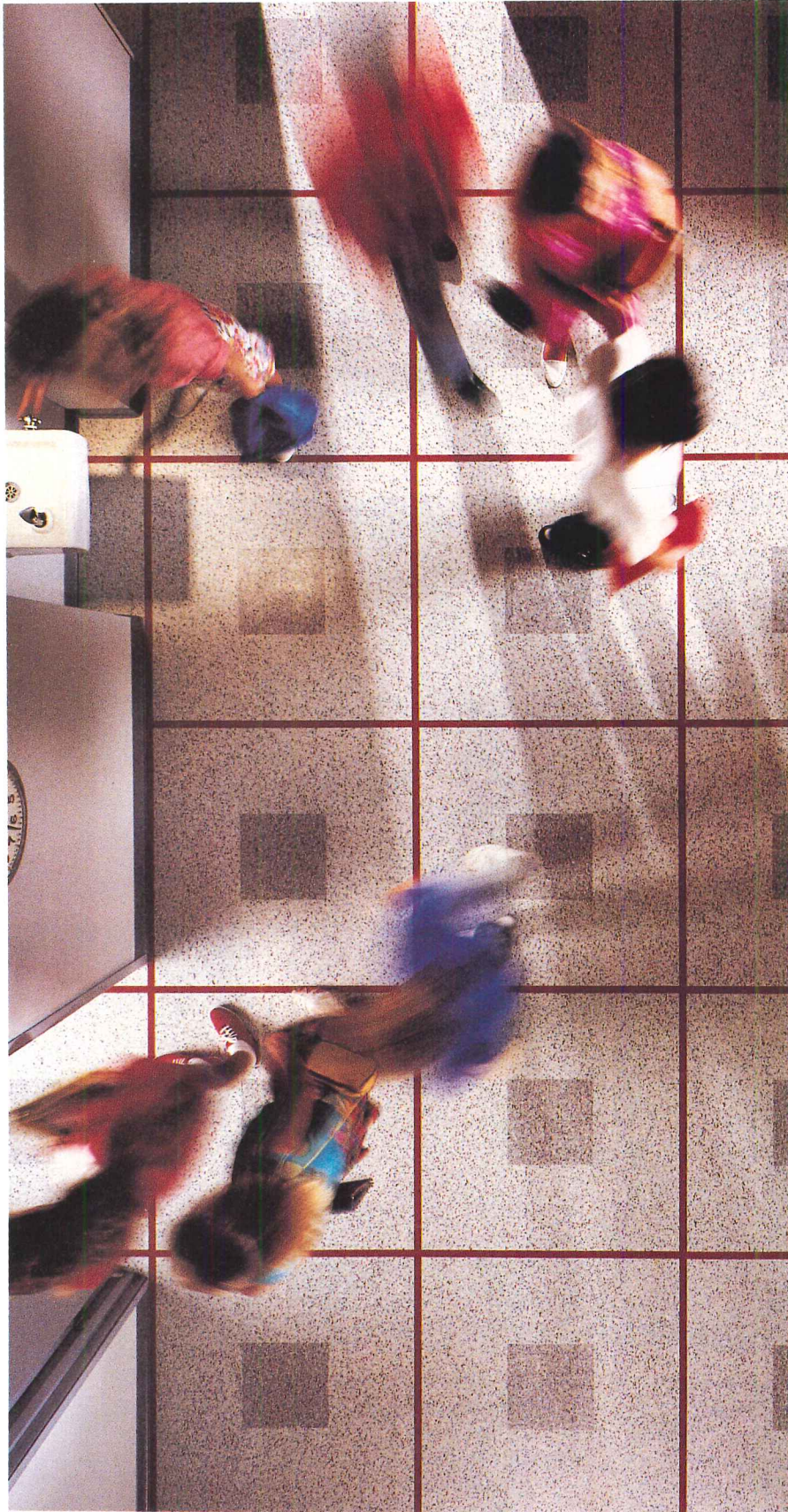
Add the impediments of professional licensing, building



U. S. architects abroad: SITE in Spain (top), Algerian Pavilion, Expo 1992; Swanke Hayden Connell in London (above), Wren House office building; William McDonough in Warsaw (right), Warsaw Trade Center.



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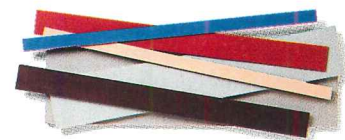
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VINYL COMPOSITION TILE

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codes, and styles of doing business. Hungary, says SOM's John Winkler, is still struggling with how to ascribe worth to property. The Soviet Union lacks corporate legislation, conventional real-estate leases, and planning and zoning regulations. In much of Eastern Europe, reports Swanke's Theo Prudon: "The infrastructure problems go well beyond buildings. If you don't have a good sewage plant, there's no point in building a good hotel."

Kohn Pederson Fox's Eugene Kohn quoted AIA conventioners a \$2-million price tag for a full-scale overseas office. Good project-by-project relationships with local architects or design-construct companies, says Adams, may be a more cost-effective alternative.

Not always is it U. S. efficiency that foreign clients want

Says EDAW's Joe Brown: "The global demand for American design and planning values, images, and themes is dramatic and increasing, particularly in a unified Europe and the Orient." At the new Euro Disneyland outside Paris, EDAW is doing site design for a five-hotel resort center. Part of the attraction: "name" American architects.

It's a neat reversal of the days when Yankee millionaires shipped whole Spanish castles and Japanese teahouses to Locust Valley or Sarasota. At Euro Disney, Robert Stern's palatial hotel and *tapis vert* will recycle Edith Wharton-era francophilia back to the source—at premium prices. Nearby are a Southwestern oasis by Antoine Predock, sleek towers by Michael Graves, a Cheyenne townscape by Stern, and a shopping and entertainment center by Frank Gehry.

Just around the globe lies an even more avid market for American dreams. "U. S. designers find bright horizons in Japan," trumpets a recent *New York Times* article, seeking light in the city's dismal economy. SITE's James Wines, with several projects in Tokyo, is quoted to the effect that the Japanese "want to be with it."

One of the latest West Coast firms to open an office in Tokyo, finds Japan responding to a whole range of media-fed desires. In Singapore, where ELS

is designing a five-block, riverfront retail center, "there are many technically fine architects, but many look to the U. S. for imagination," says ELS's Carol Shen. What is wanted seems to be the whole American leisure gestalt—historic sites, real and imagined; shopping and sports



Swanke Hayden Connell in London, MHT office interiors.

facilities; museums and recreational-eating places.

A command of imagery can also serve weightier ends. At least two American firms have explored work at Auschwitz, both in stabilizing and interpreting the camps themselves, and in creating new memorials. In Warsaw, William McDonough's project for a Polish-American developer's skyscraper embodies related concerns, recycling rubble from the Warsaw ghetto in its stone base.

The opportunities aren't coming to everyone. Still, amidst the giants and celebrities, there are more niches for firms with adequate capital, one or two sought-after specialties, and persistence. As whole countries open up, the possibilities can range from prefabricated conference centers on the steppes, to museums for developing countries. Among recent directions:

- A new AIA committee on international architectural practice plans to hold its first meeting in November in Hawaii. Meanwhile, such U. S. client groups as the Urban Land Institute are airing topics like the current Canadian developer "invasion" of Moscow and Leningrad.
- The U. S. Department of Com-

merce, pleading budget cuts, now claims to get its best information on U. S. professional-service activity from *ENR*. Commerce hopes to offer more support in the future, however, as the export of services become more significant in the overall trade picture.

of bending, even in Japan. "It's now becoming possible to go on a marketing expedition," says RTKL's Adams, although the indispensable face-to-face meeting with the right person still takes time. To outfit the search, some marketing firms are producing print materials and videos keyed to the specific styles of foreign businesses.

• Growing media interest is improving chances for visibility abroad. U. S. journals are carefully scanned by overseas clients. Japanese publishers find portfolios of U. S. design work highly profitable.

Potentially the most important long-term trend is a gradual liberalization in foreign regulation of U. S. firms. As SOM's Winkler notes, nations hoping to be closer to the global economic centers are making it easier for U. S. professionals to start offices and become full partners in local projects. The long-term promise is of an integrated, truly international architectural culture, very different from that in boom times past.

ROBERT L. MILLER

Architect Miller heads Robert L. Miller Associates, professional-service marketing and communications consultants in Washington and New York.

Making Documents for a Global Market

Different codes, materials, construction and labor practices, language, and dimensioning are among challenges architectural firms face when producing construction documents for overseas projects.

Specifics cited by a panel of architects and specifications writers at this summer's Chicago convention of the Construction Specifications Institute:

- If the U. S. designer isn't licensed in a country, carry drawings through design development and have a local architect do the contract documents.
- If the local language is other than English, get the best possible translation of correspondence, shop drawings, product literature, and specs, but state that the original English takes precedence over translations.
- Dimension original drawings in metric units, using millime-

ters only to avoid accidental misplacement of a decimal point.

• Recognize that the owner may often hire different trades, such as painting or interior partitions, separately, so that trade contracts may need to be broken out accordingly.

• Trade practices themselves may differ. For example, in Europe, rebar fabricators don't produce rebar drawings and lists; in the U. S., they do.

• Training a local labor force can be frustrating. One speaker cited a test that involved assembling a nut with a bolt. It took the candidates an average of 21 minutes to figure it out.

• The panel consisted of Rodney Lind, an associate in the Chicago office of SOM; Mickey Kupperman of A. Epstein International, Chicago, and Terry Wadsworth, of The Oak Tree Group, Austin.

S. A. K.

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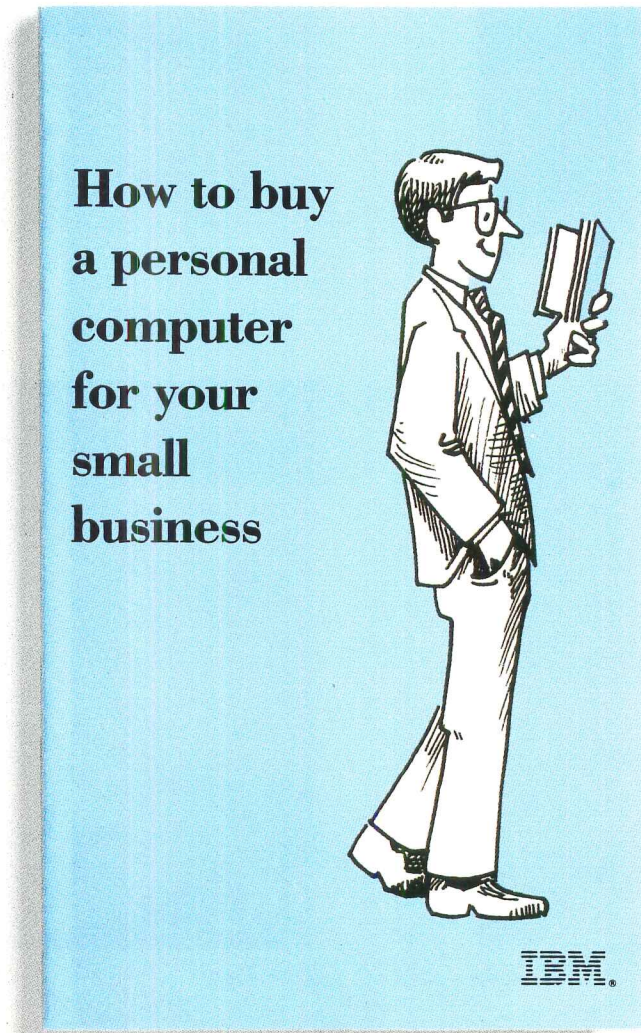
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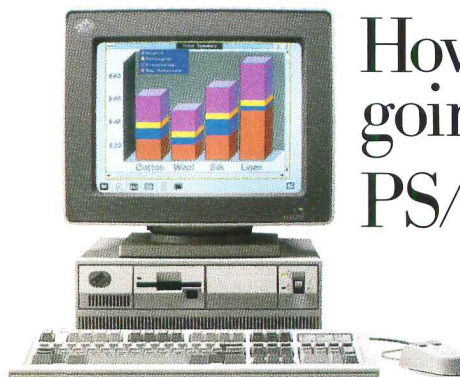
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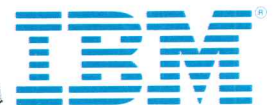
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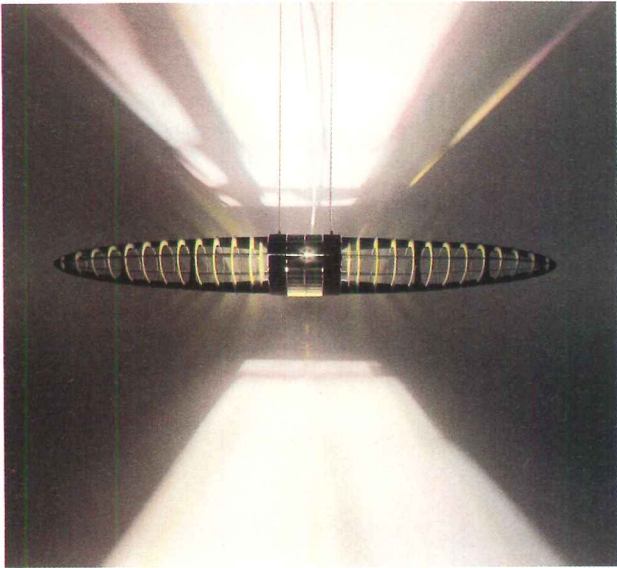
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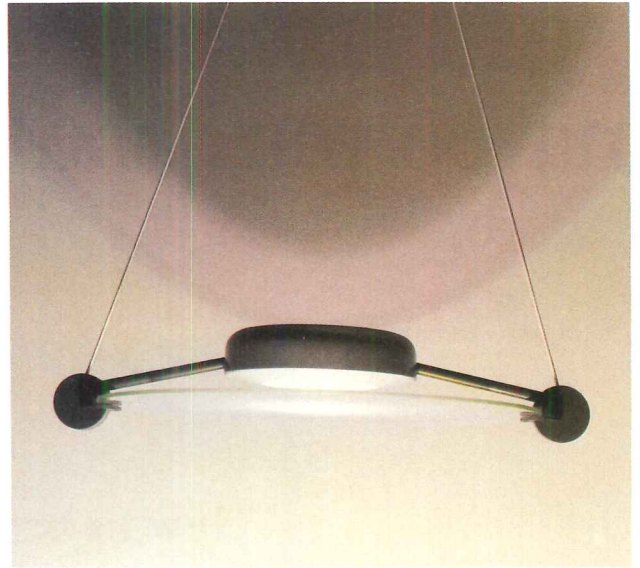


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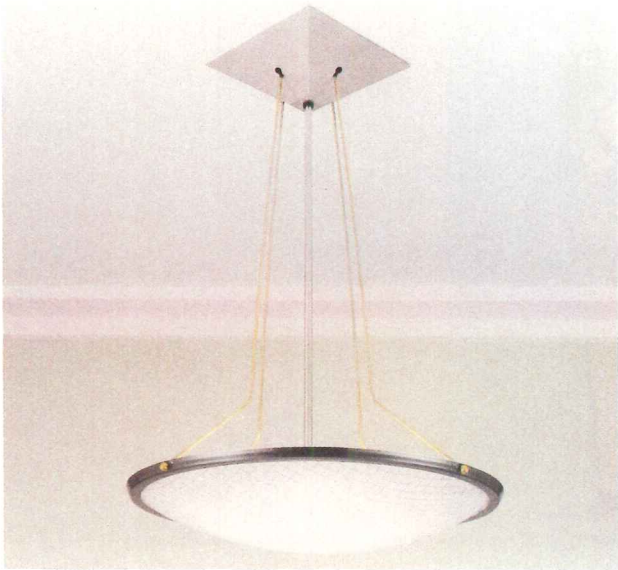


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Cyclos



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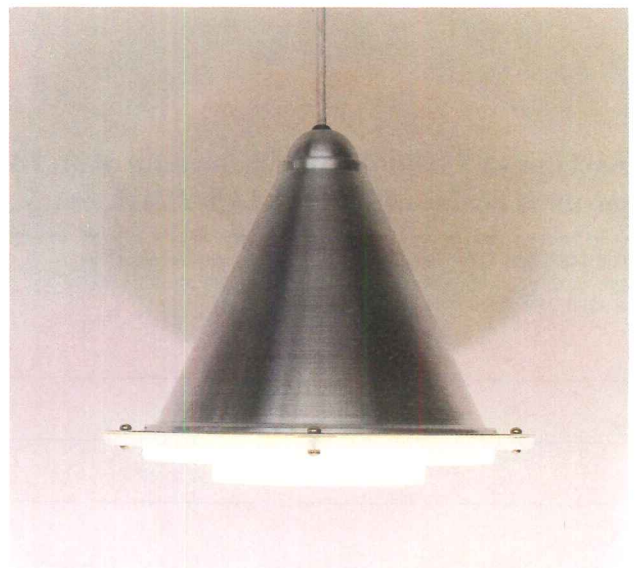


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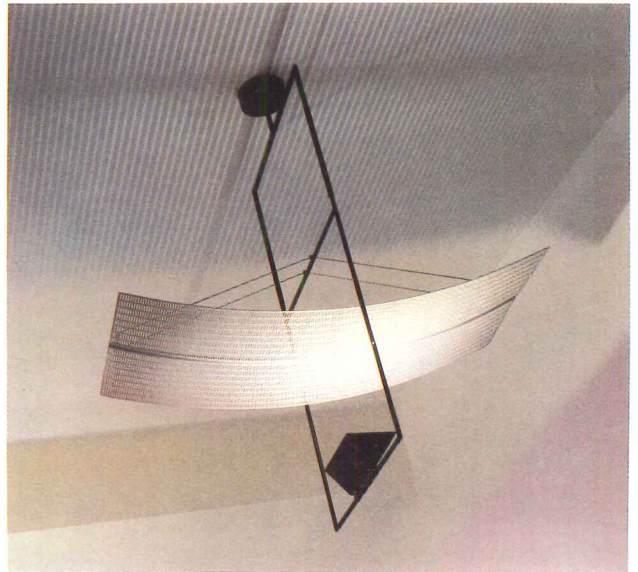


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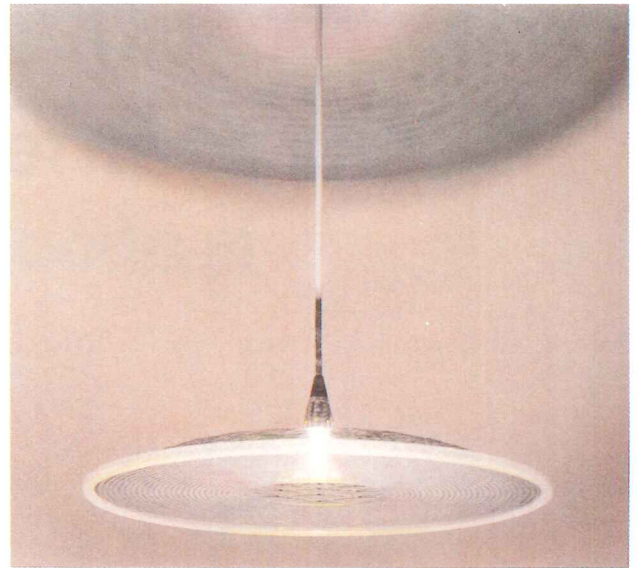


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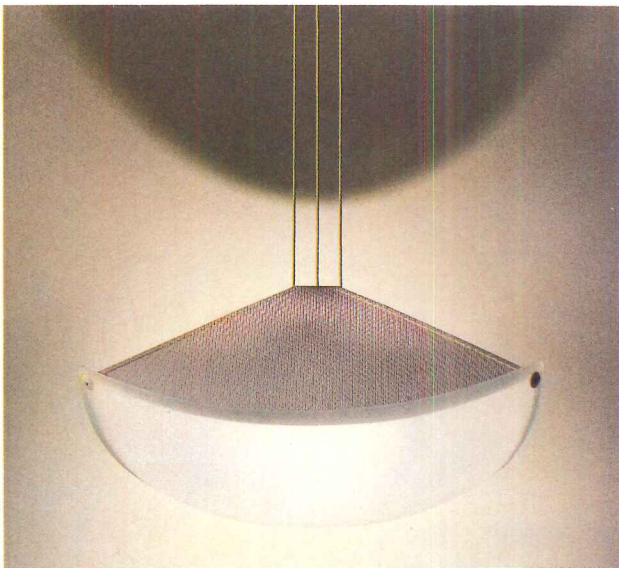
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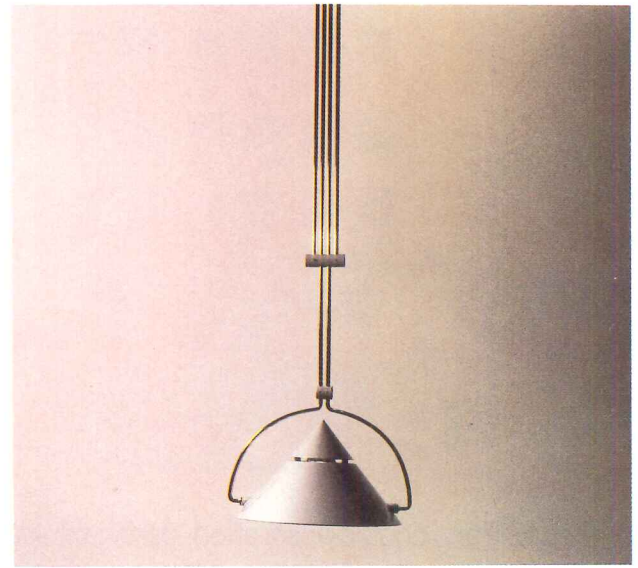
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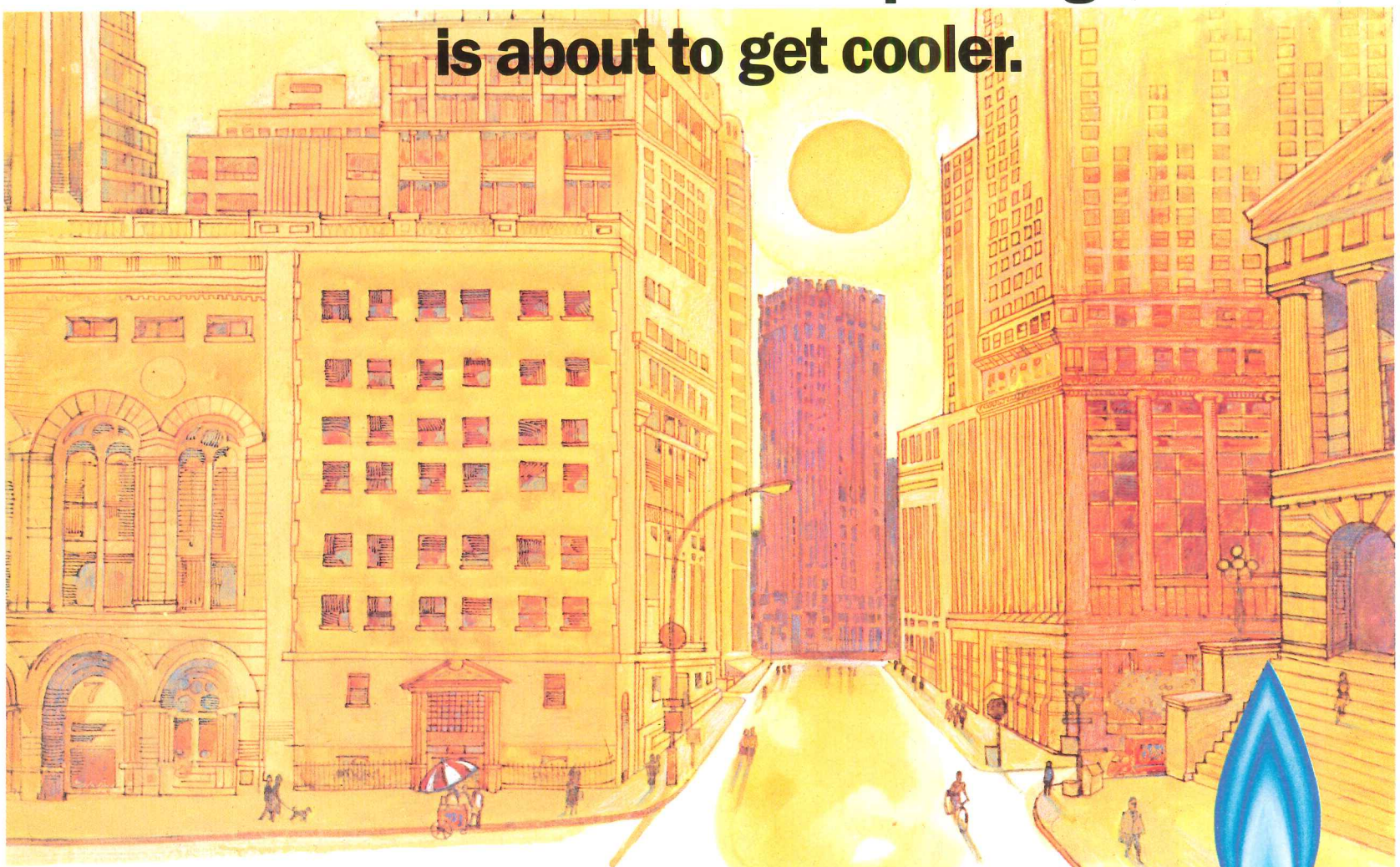
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DESIGN

Gates House: High-Tech Domestic Laboratory

It's not often we see competitions for houses, even those in the 37,000-square-foot range, but William Gates is not a typical client. The founder of Microsoft Corp., the largest software vendor in the microcomputer field, Gates, 35 years old, is not only the country's youngest billionaire, his company has repeatedly broken new ground in the software field. The residence, to be erected on a waterfront site east of Seattle, is not just a suburban retreat in the rich-and-famous mode (although creature comforts are hardly ignored). Gates charged the competing architects to provide a domestic laboratory for some free-form speculations on the future of computing.

Michael Doss, an architect in Seattle who has made a specialty of running competitions for large residential commissions, asked 22 firms to submit qualifications. Three firms were paid to submit preliminary designs, including Peter Forbes of Boston, who proposed that the most private spaces occupy a separate pavilion at the top of the site with more "public" functions set at lakeside (bottom right), and Charles Moore and William Turnbull, in whose

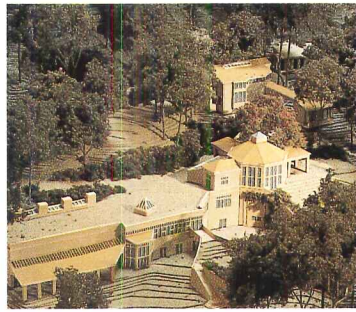
scheme linked pavilions step diagonally down the site (bottom left). Gates selected a design by a joint venture of Bohlin Powell Larkin Cywinski of Wilkes-

Barre, Pennsylvania, and James Cutler, of Bainbridge Island, Washington.

As yet, little is known about Gates's vision of the future

(areas for computers are simply blocked-out in plan), but he intends to take computing well beyond a box on a desk. A melding of high-definition television technology and software is being discussed in which wall-sized computer images could be manipulated from across the room with voice commands or devices akin to TV remote controls. Light-sampling devices may permit screens to revert electronically so that they match surrounding paneling, including appropriately "cast" shadows. State-of-the-art devices will control every mechanical and electrical system, but much of this is already on the market.

The job of BPLC and Cutler is more prosaic. To shore up the wooded but unstable and steeply sloping site, a vaulted underground parking structure and other private spaces (including an arcade-game room) are set deeply into the hillside, which they also support. These spaces are linked by a series of wood-framed, distinctly non-high-tech "public" pavilions (top photo) for receptions and dining spaces to accommodate large groups. Gates's personal living area is housed in a separate pavilion. An intense reforestation effort will further reduce the visible bulk of the project. **J. S. R.**



EDEN ARTS, CHRIS EDEN PHOTOS

Chicago Architect Takes This Year's Ferriss Prize

This year's Hugh Ferriss Memorial Prize for excellence in architectural drawing went to architect Gilbert Gorski of Chicago. The prize, given by the American Society of Architectural Perspectivists and the Van Nostrand Reinhold Company, honored Gorski's color-pencil rendering of Trajan's Forum in Rome, which was done on commission for an archeological study by Professor James Packer of Northwestern University.

Gorski's drawing and 53 others, including runners-up by Frank Costantino of Boston and Martin Myers of Toronto, will be shown in ASAP's exhibit "Architecture in Perspective V" at the State Transportation Building in Boston for three months from November 14. They will also be seen next spring in Washington, D. C., at the AIA convention and around the same time at the National Building Museum.

Jurors were architects Robert Campbell, architecture critic for the *Boston Globe*, Jean-Paul Carlhian, a partner of Shepley, Bulfinch, Richardson & Abbott, and Lebbeus Woods, illustrator.



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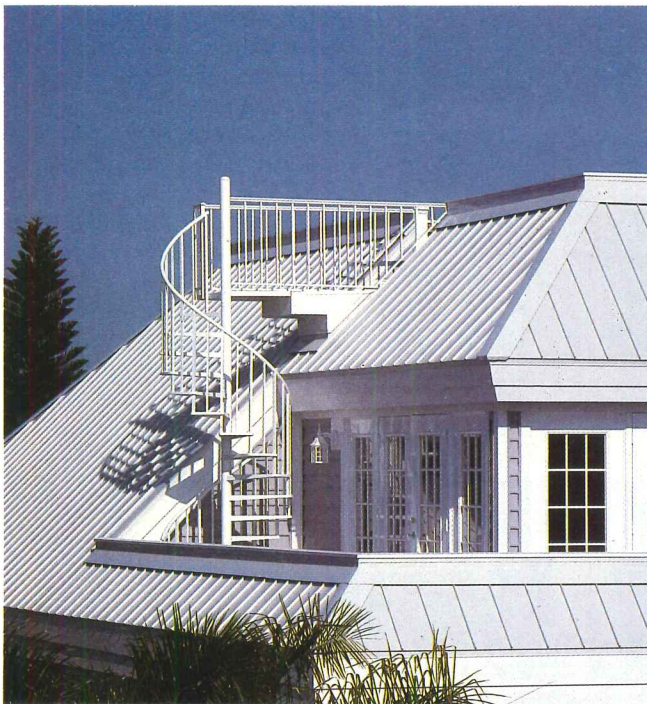
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Briefs

• **Gordon Bunshaft** died August 6 at the age of 81 in New York City. Long the chief designer in Skidmore, Owings & Merrill's New York office, Bunshaft designed Lever House, among many other buildings, and was widely recognized as the man who established the International Style as the architecture of choice for corporate America. He won the Pritzker Prize in 1988. *RECORD* will publish an analysis of Bunshaft's life and work next month.

• **At the ballet:** architects Robert Venturi and Steven Izenour of Venturi, Scott Brown & Associates have been commissioned for the décor of a new ballet, *Franklin Court*, which will be choreographed by Christopher d'Amboise for the Pennsylvania Ballet. In 1976, Venturi designed a memorial to Benjamin Franklin at Philadelphia's Franklin Court.

• **The 1990 Design Awards** presented by the New York State Association of Architects went to: Hoffman O'Brien Look & Taube for Student Agencies, Inc. in Ithaca; Fifield Piaker & Associates for 215 Park Avenue South, New York City; Robert A. M. Stern for a house on Fishers Island; Steven Forman Architect for a Manhattan triplex penthouse [see *RECORD's* cover this month]; Fox & Fowle for an addition to Spence School in New York City; Smith-Miller + Hawkinson for the Moss loft in New York City; Iffland Kavanagh Waterbury for Cullum Hall at West Point; Paul Segal Associates for the Children's Museum of Manhattan [*RECORD*, July 1990, pages 68-71]; Fox & Fowle, Architects, for 1675 Broadway in New York City; Kohn Pedersen Fox Associates for 1325 Avenue of the Americas, New York City; and Beyer Blinder Belle/Notter Finegold + Alexander for the restoration of buildings at Ellis Island [*RECORD*, July 1990, pages 46-57].

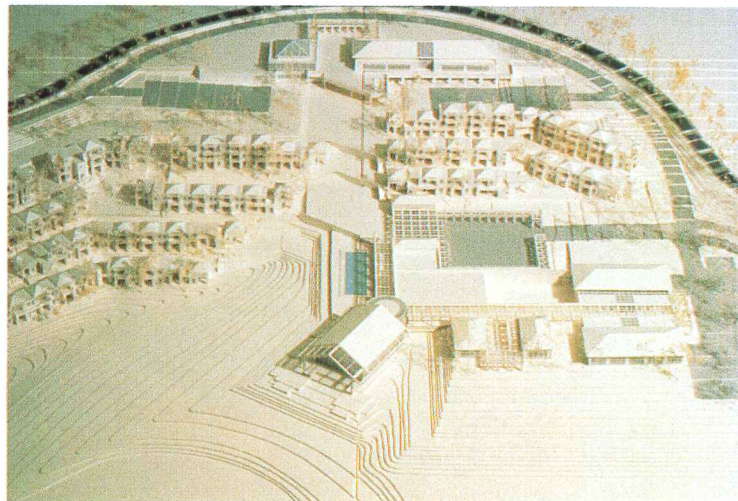
• **Architectural commissions:** Mesick-Cohen-Waite-Architects have been named by the American Architectural Foundation as restoration architects for the Octagon, the William Thornton design built in 1801 in Washington, D. C., and the former headquarters of the AIA.

A Training Ground for the Pursuit of the Gold

Athletes who wish to pursue the rigors of the Summer Olympics will have an official place to train beginning in 1993. Swimming, cycling, and tennis are among 27 sports to be accommodated in indoor and outdoor facilities, currently under construction on a 15-acre site in San Diego.

Architects Tucker, Sadler & Associates are working with Skidmore, Owings & Merrill in Washington, D. C., on the project. The first training center in this country for warm-weather Olympic sports, it will be donated to the U. S. Olympic Committee by the San Diego National Sports Training Foundation.

The Visitors Center marks the entrance to the project and is the site's highest point. By standing at the observation platform on top of the Visitors Center, one will be able to see the entire complex. Housing for 300 people



(center and left in photo), a steel and glass dining hall (lower left in photo), and nine playing fields with natural and artificial surfaces are included.

The two-story Court of Champions, a circular trellis of redwood that surrounds a tile map of the United States, is located in the Visitors Center. Within the representation of each state, medallions will be installed for each medalist from that state.

SUSAN R. BLEZNICK

Affordable Housing for Brooklyn



The affordable single-family house is a disappearing building type in many American cities. In recent years, nobody has replenished the low-rise housing abandoned or demolished by private landlords. Stuyvesant Mews (above) will help fill this vacuum in Brooklyn's Bedford-Stuyvesant neighborhood.

Architects Stephen B. Jacobs & Associates designed the prototypical factory-built row houses for DeLuxe Houses of Pennsylvania, developer of the 132-unit complex for the New

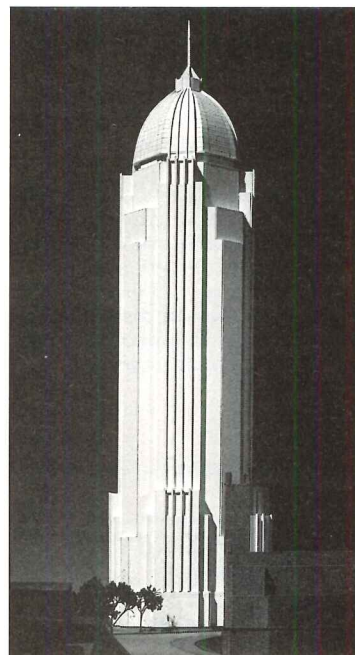
York City Housing Partnership, a nonprofit group that serves as a conduit for state and city housing funds.

Modeled on the serviceable developer housing erected throughout the city before World War II, the design offers a pleasant aluminum-clapboard facade to the street, with individual gardens and parking lots at the rear. Meant to sell for about \$150,000, each will include a two-story, three-bedroom owner's apartment and a two-bedroom, third-floor rental apartment.

Chamfered Tower for Atlanta

To be built in Atlanta's New Midtown commercial district, the octagonal shape of Rhodes Center Tower, with its sharp chamfered corners, helped architects Fox & Fowle to take advantage of several axial views at once: views of the city's downtown in one direction and other views of its suburbs in the diagonal direction.

Because the tower is surrounded by historical buildings, the New York City architects gave special care to the materials and scale of the base—particularly to the design of the arcade, which corresponds to the porches of neighboring Rhodes Hall, an 1830s mansion now the headquarters of the Atlanta Historical Society. The strong verticals of the tower's stone ribs will be crowned by a dome with lantern and finial.



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Three Romantic Conservatories for a Public Garden

The proposed gardens at Bloemendaal near Richmond, Virginia, required intensive planning efforts by both Pittsburgh landscape architects Environmental Planning and Design (EPD) and Richmond architects Marcellus Wright Fox & Smith. The 80-acre Lewis Ginter Botanical Gardens, surrounded on three sides by residential neighborhoods, will accommodate extensive planting as well as the existing Bloemendaal farmhouse. In the words of principal-in-charge Frederic H. Cox, Jr., "botanical and horticultural considerations were the primary concepts," while the buildings were designed mainly as complementary accommodation for plants and people.

Drawing on romantic images of Edwardian conservatories and Virginia's Classic Revival, the architects designed three large greenhouses: a circular Tropical House and two octagonal structures—a Floral Display House and a Desert House. Connecting galleries display ferns and orchids, and outdoor displays will include such special installations as a rose garden and a rhododendron collection.

Visitors enter beneath a glass cupola, proceeding by a covered semicircular colonnade to the auditorium, the library, and the conservatories, or walking through a circular garden surrounding a lily pond. The entry building will also house a gift shop and cafeteria.

Back-of-the-house activities take place in production greenhouses and soil-mixing facilities out of sight at the back of the conservatories.

A Look at What's Happening in Interior Design

Architects and designers will have a chance to examine the latest in the interior design market at two New York City shows in October. "Design New York '90" will take place at two design centers in Manhattan, and "Designer's Saturday 1990: Cross-currents" will be seen at the International Design Center in Long Island City, Queens.

From October 11 through 13, visitors can see numerous exhibits at more than 100 IDCNY showrooms. Designers from the United States and abroad will

participate in IDCNY's annual fall show of contract furnishings for interiors. On October 12, Aldo Rossi, winner of the 1990 Pritzker Prize, will speak at IDCNY about his most recent projects.

On October 10-12, 240 showrooms will be on display at "Design New York '90," Manhattan's sixth annual fall residential interior furnishings market. Located in the Decoration & Design Building (979 Third Avenue) and at the New York Design Center (200 Lexington Avenue), the program will feature speakers as well as viewings of new products. Bus service between the two buildings will be available. **S. R. B.**

A Park on a Historic Site

A two-acre urban park with waterworks, designed by John Burgee Architects, is under construction in Houston on the site of the Shamrock Hotel, a local cultural monument built in 1949 and demolished in 1988.

Situated on a triangular corner at a major intersection, the Gus S. and Lyndall F. Wortham Park is part of an expansion of the Texas Medical Center, which occupies several hundred densely built acres across the street.

The park design emphasizes the diagonal of its site with a procession of water pillars of progressively taller jets, repeating the historical axis of the hotel. Colonnades of uniform spouts line the sides of the street, isolating the interior lawn from automobile traffic. The rear boundary is formed by a linear grove of trees providing shade but effectively disconnecting the park from any future development. The site has

no master plan, and buildings now under construction ignore the diagonal established by the Shamrock and reiterated by the park; the visual line of the water jets will lead to nothing.

The park is being funded by the Wortham Foundation. Associate architects Richard Fitzgerald & Associates of Houston and Martha Schwarz Ken Smith David Meyer Landscape Architects of San Francisco participated in the scheme.

Houston is known for destroying its past before it can become history. The Shamrock Hotel was history from its beginning, a heritage that is at present being discarded with piecemeal, unplanned development. The diagonal waterworks of Wortham Park, splashing the occasional pedestrian, make a small gesture toward taking symbolic advantage of the leg-end of the Shamrock Hotel.—

GERALD MOORHEAD, HOUSTON



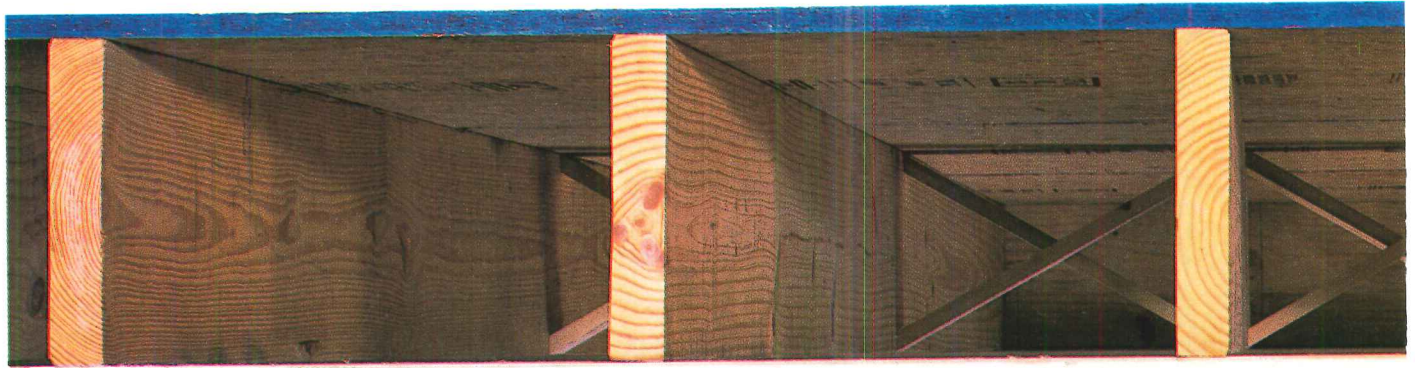
Competition Calendar

- A call for entries in the 1990 Concrete Building Awards competition has been issued by three sponsors: the Canadian Portland Cement Association, the Portland Cement Association, and Instituto Mexicano del Cemento y del Concreto. Buildings eligible for the biennial competition may be located in Canada, Mexico, or the United States, may be new or remodeled using cast-in-place concrete, concrete masonry, or precast masonry, and must have been completed between September 1988 and September 1990. The deadline for

entries is September 23. For information: Glen Simon, PCA, 5420 Old Orchard Road, Skokie, Illinois 60077 (708/966-6200).

- The Construction Specifications Institute seeks entries in its annual Specifications Competition, which includes two groups—Concepts and Coordination, and Specifications—in a number of categories for various building types. According to the jury's discretion, awards may include one Honor Award in each category, plus Honorable Mentions and Merit Awards. The deadline for entries is November 6. For information and forms: CSI, 601 Madison Street, Alexandria, Virginia 22314-1791 (703/684-0300).

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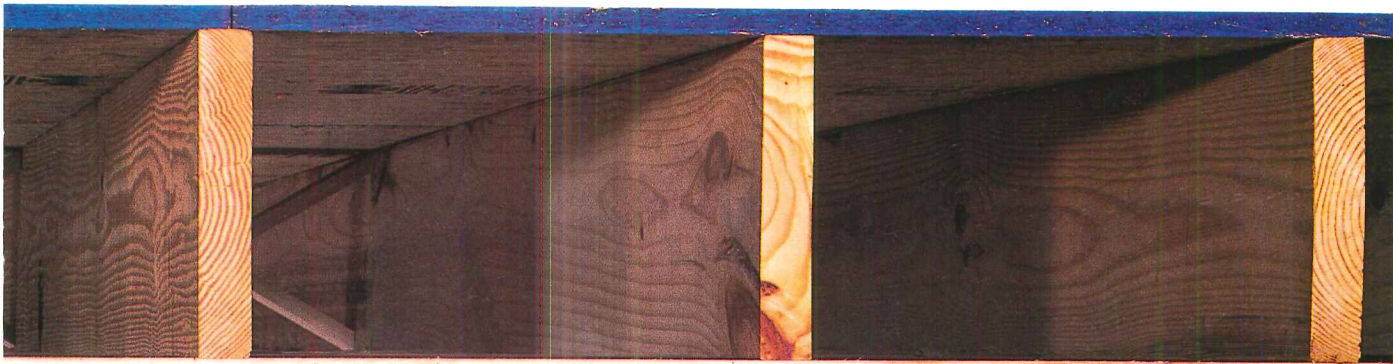


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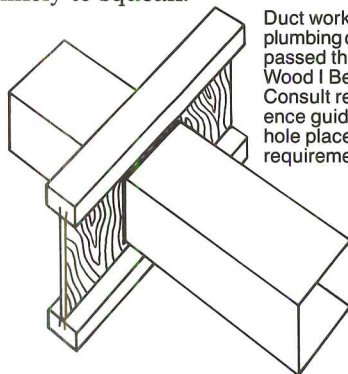
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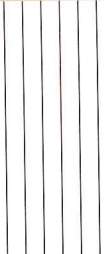
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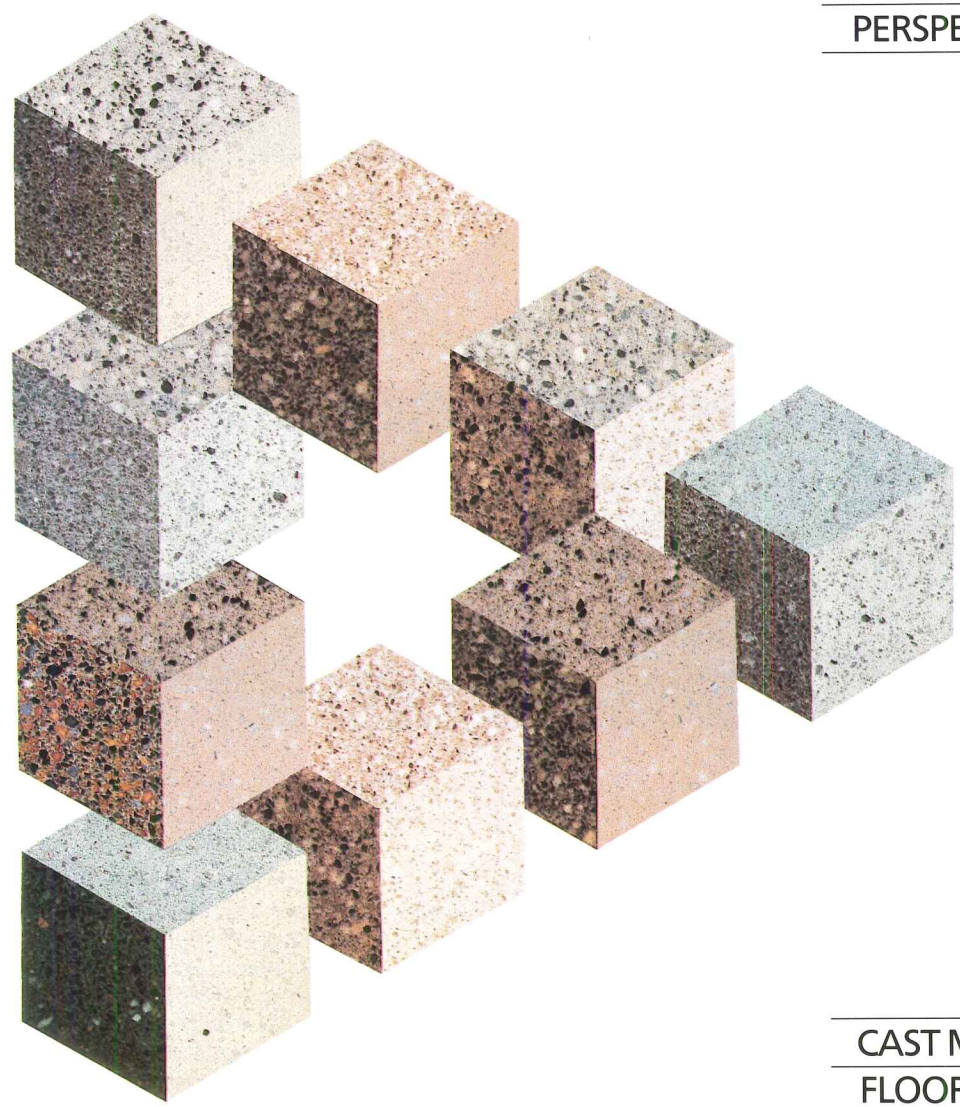
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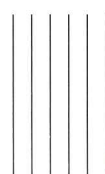
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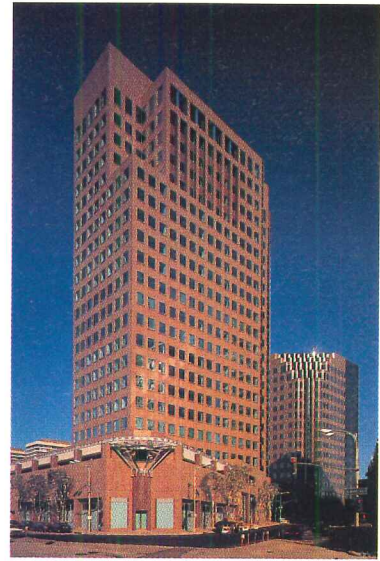


*Stephen A. Klimont,
Editor*

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*Center West (Los Angeles).
Architects: Mitchell/Giurgola.
Photo: Scott Frances/ESTO.*

Coming in the October '90 issue...

Building Types Study: High-rise Speculative Office Buildings. Highlights examples in Boston, Chicago, Los Angeles.

Uptown District (San Diego). Low-rise residential and commercial buildings form virtually a new town within an existing city neighborhood.

Stadelhofen Train Station (Zurich). Features poured-in-place concrete bridges, cantilevered steel-and-glass platform roofs, expressionistic shopping arcade.

Library and Children's Museum (Las Vegas). Described as an "oasis in a brittle desert environment."

Building Technology. One article updates indoor air quality; another looks into the engineering of tall, extremely slender buildings.

Architectural Practice. Includes articles on small-firm marketing; photographing architecture; information management in the office.

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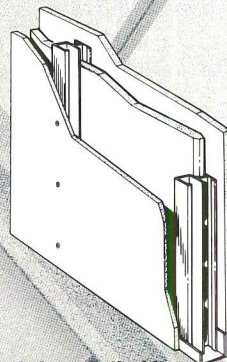
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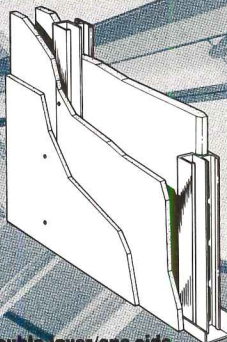
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STARTING YOUR OWN FIRM

Successful firms started within the past 10 years reveal how they did it. This first of two parts discusses how to begin.

By Bradford Perkins

Having one's own practice is the goal of most young architects. A new practice that is successful and achieves its founders' basic goals is often the most satisfying way to pursue a career in the field.

While the rewards (in self-expression if not income) can be significant, so are the risks. Most new businesses—whether architectural firms or restaurants—never get off the ground. Some get going and survive, but never really achieve much more than a modest success and a few of the founders' goals. A few, however, manage to surmount the inherent problems and not just achieve success as a business, but also success on the basis that most architects hope for—as a respected design firm.

Many architects feel that achieving distinction as a successful new design firm is as much public relations as substance, but this is not always the case. Some do it the old-fashioned way; they earn it by the consistent quality of their work. For a growing firm with the type of projects that a young firm can get, achieving success as a design firm without compromising to achieve other goals (such as making payroll) requires both talent and commitment.

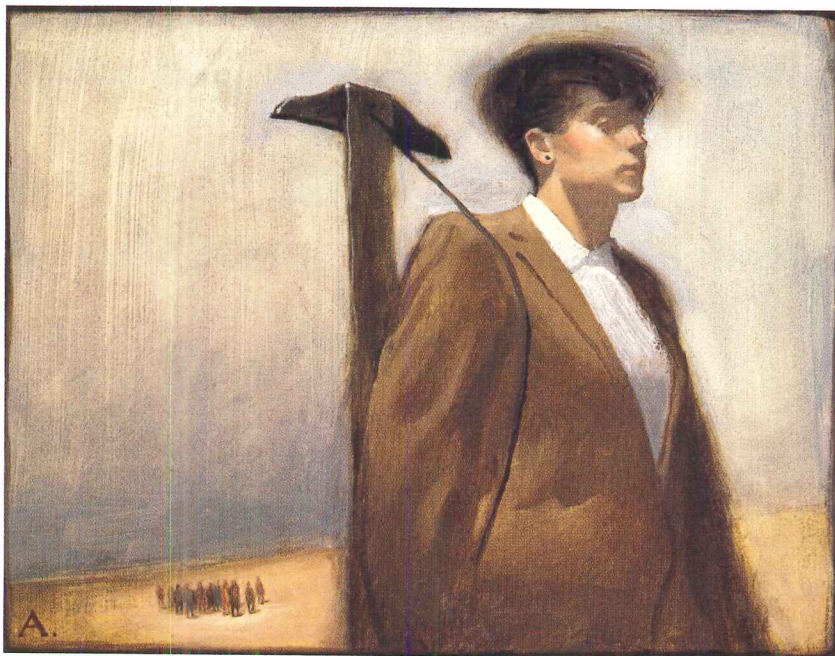
I draw here from my experience and even more from other young firms'.

Many of the interviewed firms followed one of 10 proven start-up scenarios:

1. The major client as first-stage booster rocket

The firm is founded or taken beyond the start-up with the support of a single client willing to gamble on a young firm. The combination of the client and the work of the firm acts—as one architect put it—as a booster rocket that lifts the firm up above the crowd to where it can be seen. Most successful firms can trace their history back to one or two important early clients or projects. A rare variation on this is the firm that wins a major, open competi-

DANIEL ADEL



tion. This is what happened to Acheson, Thornton and Doyle, a new 20-person firm in New York, and my firm as well.

2. The house for mother

For some, the booster rocket has been a project for a family member or one done with family money. Gwathmey, Siegel & Associates, Robert Venturi, and Philip Johnson are only a few examples of well-known architects who became visible with the help of such projects.

3. The academic incubator

Many of the best-known design-firm principals have relied on their teaching positions to provide them with the basic income, time, credibility, and exposure to build up the base of a practice. Only when their practice becomes too demanding do they leave their academic ties. Thom Mayne and Michael Rotundi of Morphosis relied on their Southern California Institute of Architecture teaching salaries until their practice finally took off in the last few years.

4. The better mousetrap

Some firms see an unmet need and set out to fill it. In past years, this has included firms that first focused on specialties such as recycling historic structures, or smaller projects in communities not served by local

strong designers or, sometimes, any.

5. The supersalesman

A few firms—Kohn Pedersen Fox being the best-known of the recently founded firms—get off the ground due in large part to the exceptional sales skills of a founder. All successful architects have some sales skills, but there is only a handful who can convince clients to hire a new firm for major projects instead of known-quality, established competition.

6. The sponsor

There are a few firms—including some of the best known—that have had

other established architects act as their booster rockets. There are many forms:

- Established firms pass on work, leads, or strong references to new offices.
- Well-known architects—Charles Moore being the most prolific—lend their names and skills to young firms.
- In a few cases, elder statesmen—among them Philip Johnson—promote emerging stars. Philip Johnson's role in Michael Graves' winning the Portland competition is a well-known example.

7. The golden handshake

Sometimes the sponsor is the architect's former employer who provides the new firm's initial work. When my grandfather had to leave his position as head of the drafting room of Burnham and Root in the contraction after the 1892 Columbia Exposition, Daniel Burnham got him his first commission. A short time after they started, Voorsanger & Mills (recently reorganized into two firms, Voorsanger & Associates Architects and Edward I. Mills & Associates) received a major subcontract from I. M. Pei, their former employer, which sustained their start-up.

8. The spinoff

Among the most common models are the spinoffs—firms that break away from es-

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established ones in which the new-firm members have built their reputations, skills, and potential client base. Kohn Pedersen Fox (founded by the former leadership of John Carl Warnecke's New York office) falls also into this category. Acheson, Thornton and Doyle is a more typical example, however. The founders of ATD spent their early years rising to senior positions in their former firms, in which they built strong personal reputations and reference lists as well as a modest base of moonlight clients too small for their former employers. This background and the successful competition got them going.

9. *The phoenix*

The converse of the spinoff is the takeover. In a few cases, a new young leadership takes over a declining or moribund existing organization and revives and reshapes it into a new, vibrant firm. Johnson, Fain and Pereira Associates is rapidly becoming a well-known example of this model.

This model is very complex because—as it did at JFPA—it involves assuming substantial financial liabilities, an established image, and an established senior-organizational structure. JFPA had to deal with all these while reshaping the design direction of a large practice.

10. *Starting small*

Some firms are content to do small projects and build on that base. For Tod Williams Billie Tsien and Associates, a small dormitory at Princeton finally gave them credibility at an institutional level. After several smaller earlier projects had been published, Princeton included them on a list of alumni architects to be interviewed for what was to be a small addition. Instead, it became a new building, which won several awards and was widely published.

The importance of motivation

Selecting an appropriate model is, of course, not enough. First of all, while none of the interviewed firms had one when they first started, there should be a plan.

The basics:

- Assembling the resources for a startup;
- Getting work;
- Doing it well;
- Making enough money to survive, get more projects, and do them well.

Still, many practices start by one or more people jumping into the deep end of the pool and starting to swim. For one reason or another, they know it is better than working for someone else. In the interviewed firms the motivations differed:

Although each had done well and were generally happy with respective employers, Acheson, Thornton and Doyle all decided that the structure of their former offices limited their growth.

Tod Williams' motivations were in some ways similar. In addition to having found a project of his own, he felt that he had to have his own firm if he was to understand and be involved in all the constituent parts of the creative process of architecture—landscape, structure, business, interior design, etc..

Thom Mayne of Morphosis said that he just did not fit into a large corporate practice. For him, there was "no other way" except to go on his own.

Bill Fain and Scott Johnson, on the other hand, had large-firm backgrounds and saw the opportunity to reshape the Pereira firm in their own image.

Having been a senior principal in two large international practices, I was motivated by a desire to control the quality and direction of my own practice.

**Everything—every
client, contact,
reference, etc.—
leads somewhere.**

While everyone—looking back—advises against leaping into the pool unprepared, many do. These firms survived, but it was unnecessarily hard.

Assembling the resources for start-up

Being prepared typically includes:

- Being licensed and capable of providing the services you plan to offer;
- Having a clear idea where the initial work will come from;
- Having enough money—or a supplementary source of income—to pay the start-up costs and survive long enough to get going.

Each of the firms interviewed for this article approached these issues differently:

Acheson, Thornton and Doyle jumped into the pool as soon as they had their first major client, setting up in one of the principals' apartments. Looking back, they said they should have set up in a real office immediately.

The founders of Morphosis did competitions and submitted early projects to awards programs. When they received the first of their many awards, their firm suddenly became credible.

In my case, I had already run offices for two large firms and had dealt with most aspects of an established practice. I also had a number of ongoing clients who, I felt, would give me enough support and momentum to get the practice going.

But since I was starting with a sizable staff (over 20 people), finances were a ma-

ior worry. My father had advised me to have the equivalent of three- to four-months' operating costs as working capital, but (just as he had) I started with far less than half that—the product of mortgaging my house and using all my savings.

Getting the first projects

Most firms can trace their success back to one or two projects. My father and his partners traced theirs back to one school board in Winnetka, Ill., willing to gamble on his young firm because of my grandfather's reputation in school design and because of family friend and quasi-sponsor Eliel Saarinen's willingness to serve as an adviser. The firms in this article have a similar story. For Morphosis, it was the first competition award won; for Johnson, Fain and Pereira Associates, it was a high-rise office building, Fox Plaza, and for Voorsanger & Mills, it was an award-winning interior for New York University's Real Estate Institute.

In general, getting significant projects requires creativity. Among the established techniques are:

- To parlay a lead into a joint venture with a major firm in order to get the project.
- To focus on clients—especially ones for which one person makes the choice of the architect—that will consider your firm's individuals rather than its brochure. Past clients, privately owned firms, and others are typical of this group. Committee selections are heavily weighted against new firms.
- To focus on building as wide a network of friends and contacts as possible and not to be shy about asking for their help in getting work.
- To create your own projects by extending planning and programming studies, feasibility analyses, and other front-end assignments into architectural projects.
- To pick off the stragglers—the major projects that for one reason or another do not attract a lot of interest from the established competition. There are always some projects that are considered too difficult, off-beat, or out of fashion to be of much interest to quality competition. In our early years, virtually all of our most interesting assignments came from these sources.

With a base of projects, contacts, and references, getting the second and third round of projects is much easier. An often-repeated axiom on this subject is: "Everything—every client, contact, reference, etc.—leads somewhere." □

Mr. Perkins founded his firm, Perkins Geddis Eastman, in 1983. Today it has grown to 55 people, with a varied practice largely based in the eastern U.S.

Next month in RECORD, Perkins will explore how to navigate when the new firm is off the ground.

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CONSTRUCTION VOLUME UPDATE

While construction bottoms at a higher level than in 1982's recession, regional differences will be apparent. By George A. Christie

So far in 1990, the construction sector has shown us two speeds: down fast and down slower. By midyear this left the cumulative value of the year's newly started construction 8-percent short of 1989's first half, with all three major categories of projects bearing minus signs. The setback interrupted a seven-year period of continuous expansion of new construction activity.

A look over the shoulder at midyear showed that the free fall was confined pretty much to the first quarter. A firming of contracting through the second (June's Dodge Index, at 152, was actually an improvement over April's 148, and close to May's 156) left the impression that the building market was stabilizing in the 150s—roughly 15-percent below its 1989 third quarter peak of 175.

If the President can change his mind about taxes, surely the Chairman of the Federal Reserve Board is entitled to modify his stand on monetary policy. But twice in less than a month?

As recently as June, official Fed dogma held that there was no credit crunch. (Well, maybe a selective credit crunch confined to construction and real estate, but nothing to get excited about.) By July, the Fed concluded that restrictive credit conditions did, in fact, pose a threat to the economy's continued expansion, announcing that it would move rates down in order to offset overly cautious lending practices by banks. Later in July, Chairman Greenspan recanted, declaring that "stable credit-market conditions... would be appropriate."

Ironically, anything the central bank might do to nudge interest rates down (and it is the style of this Fed to make only small changes) would be mostly of indirect benefit to the faltering construction sector where the *availability* of credit, not the rate of interest, is the current concern. Still, if monetary relaxation helps to accelerate the sluggish pace of general economic activity, the construction industry is bound to be better off for it.

Lack of funding was the last straw

The recent evaporation of funding for real-estate development and construction—a by-product of the savings-and-loan scan-

dal—is but one of several problems plaguing the construction industry in 1990. It appears, however, to be the one that finally toppled the building business from its lofty, but precarious, perch.

For two years—from mid-1987 through mid-1989—construction contracting rode the peak of a cyclical expansion that had developed during the early and middle years of the 1980s. This rare condition of stability at a high level was the result of a delicate balance of positive and negative forces acting on the market. The oversupply of commercial space and a tight lid on federal public works were enough to prevent further expansion of total construction after 1987, while supportive demographics and workable credit conditions, in an environment of sustained economic growth, let single-family housing and institutional building flourish.

It wasn't long after passage last fall of FIRREA, the Financial Institutions Reform, Recovery, and Enforcement Act, that contracting for new construction lost its balance and fell hard. Over the next three quarters the Dodge Index plummeted from its peak of 175 to its current 152.

Cause and effect? Perhaps, as long as it is understood that the 1990 credit crunch was not the whole cause of the collapse of the construction boom of the 1980s. Rather, it was one more handicap to an already troubled market.

For small-and medium-sized builders, the consequences of a decade's abuse of deregulation of the thrift industry go beyond the loss of more than a thousand failed S & Ls as their major source of ADC (acquisition, development, and construction) loans—the upfront money that gets projects started. It is worth noting, however, that "lack of financing" was the reason most frequently cited by far by Dodge reporters for the failure of projects to advance from planning to foundations during the early part of this year.

To make matters worse, the disposition of the assets of the defunct thrifts by the Resolution Trust Corporation at drastic writedowns is discouraging construction by depressing residential and commercial real-estate markets, particularly in the economically shaky Northeast. And for the surviving majority of savings institutions,

re-regulation of the industry via FIRREA now means tougher lending standards and tighter solvency requirements. A dollar of deposits doesn't support as much lending as it used to.

With construction contracting stabilizing at midyear, it appears most of the adjustment to the S & L crisis—in the form of reduced building—has by now been made. However, replacement of the discredited S & Ls as a source of ADC lending will be a gradual process.

Why little further decline is expected

After three successive quarters of declining contracting, is it safe to say that the worst is over? And if it is, what will a revised set of 1990 estimates look like?

Every decline has its limit, and this one seems to be settling, in terms of the Dodge Index, somewhere in the low 150s. Each of four major categories of construction offers its own reason why little, if any, further decline should be expected:

- *Commercial construction* (office building, in particular) is down sharply this year, the expected continuation of an established trend. But after more than four years of reduced building, commercial starts have shrunk to a level that is finally low enough to enable the absorption, over the next couple of years, of the surplus left over from the mid-1980s boom. Whereas commercial building is usually at its peak at the onset of a construction downturn, and therefore highly vulnerable, this time most of the cutback has already happened, leaving this category close to bottom.

- *Public-works construction*, which has been capped at approximately \$44 billion per year ever since the Gramm-Rudman deficit targets took effect, now faces the risk of a secondary setback as the impending budget crisis is (or isn't) resolved. But with 1990 budget authorizations largely committed by now, the stress being caused by the suddenly ballooning deficit will be greatest in 1991 (not in 1990) when state governments will find themselves unable to offset the deeper cuts that lie ahead for federal infrastructure programs.

- *Institutional building*, on the other hand, remains a source of support for the foreseeable future, albeit just about alone.

1990 NATIONAL ESTIMATES
DODGE CONSTRUCTION POTENTIALS

Second Update
July 1990

	1989 Preliminary	1990 Forecast	Percent Change 1990/89	
NONRESIDENTIAL BUILDINGS				
Floor Area (millions of square feet)	Office Buildings	230	165	-28
	Stores and Other Commercial	559	490	-12
	Manufacturing Buildings	151	130	-14
	Total Commercial and Manufacturing	940	785	-16
	Educational	138	141	+2
	Hospital and Health	71	68	-4
	Other Nonresidential Buildings	147	136	-7
	Total Institutional and Other	356	345	-3
	Total Nonresidential Buildings	1,296	1,130	-13
	Contract Value (millions of dollars)	Office Buildings	\$ 21,755	\$ 16,850
Stores and Other Commercial		25,419	22,800	-10
Manufacturing Buildings		10,653	8,125	-24
Total Commercial and Manufacturing		\$ 57,827	\$ 47,775	-17
Educational		\$ 14,336	\$ 15,325	+7
Hospital and Health		8,744	8,675	-1
Other Nonresidential Buildings		14,552	13,825	-5
Total Institutional and Other		\$ 37,632	\$ 37,825	+1
Total Nonresidential Buildings		\$ 95,459	\$ 85,600	-10
RESIDENTIAL BUILDINGS				
Dwelling Units* (thousands of units)	One-Family Houses	969	900	-7
	Multifamily Housing	412	325	-21
	Total Housekeeping Residential	1,381	1,225	-11
Floor Area (millions of square feet)	One-Family Houses	1,674	1,598	-5
	Multifamily Housing	442	351	-21
	Nonhousekeeping Residential	74	56	-24
	Total Residential Buildings	2,190	2,005	-8
Contract Value (millions of dollars)	One-Family Houses	\$ 93,811	\$ 90,900	-3
	Multifamily Housing	22,426	18,050	-20
	Nonhousekeeping Residential	6,557	4,825	-26
	Total Residential Buildings	\$122,794	\$113,775	-7
NONBUILDING CONSTRUCTION				
Contract Value (millions of dollars)	Transportation Construction	\$ 24,859	\$ 24,750	—
	Environmental Construction	19,506	19,250	-1
	Total Public Works	\$ 44,365	\$ 44,000	-1
	Utilities	\$ 4,349	\$ 3,700	-15
Total Nonbuilding Construction	\$ 48,714	\$ 47,700	-2	
ALL CONSTRUCTION				
Contract Value (millions of dollars)	Total Construction	\$266,967	\$247,075	-7
	Dodge Index (1982 = 100)	170	157	

*F.W. Dodge basis.

• *Residential construction.* With nonresidential construction behaving much as expected in 1990's opening half, it was the loss of support of housing that was the catalyst for the bottom-line collapse of construction. This leaves housing as the make-or-break category during the second half.

Unless this year's total of housing starts falls short of 1,225,000 units (the current Dodge estimate for 1990, consisting of 900,000 single-family units and 325,000 apartments/condos), residential building in the second half of the year will be having a neutral rather than the depressing effect on total construction it had during the first half of the year. At midyear, starts of both single-family and multifamily units were at rates below their expected totals for all of 1990, and are more likely to improve slightly than to weaken further in the remaining two quarters of the year.

A mid-1990 appraisal of the strengths and weaknesses of several major categories of construction suggests that the Dodge Index of total construction-contract value is now reaching equilibrium in the low-to-middle 150s. And for the time being, stability—not recovery—is the most that circumstances have to offer. The combination of a first-half decline followed by firming in the second half will leave total 1990 construction-contract value at \$247 billion, down 7 percent from the 1989 high.

Compared with the last cyclical trough (1982), the 1990 decline will bottom out at a level 15 percent above its predecessor in constant dollars, and 60-percent higher in current dollars.

How it plays in Peoria

A *Regional* comparison of contracting in the first half of 1990 with the same period of 1989 gives the impression that the decline of construction activity since last fall has been mostly an Eastern event. Through midyear, when the national total of newly started construction read -8 percent, three regions accounted for all of the shortfall, though with varying degrees of decline. While the Northeast, with its gap of -24 percent was capturing the headlines, the Southeast, at -13 percent, was also down in double digits and the South Central ran 7 percent behind 1989 contracting. The other two regions would seem to be unaffected. The West held virtually even with its year-ago level of contracting at midyear, and the North Central was ahead of 1989 by 5 percent after the first six months.

A look at seasonally adjusted rates of construction gives a different and more meaningful interpretation of the major regional markets. Some were experiencing more difficulty than others at mid-1990, but by this measure, *all five* regions have turned down since the start of the year.

By any measure, the Northeast is the hardship case. For this region, in which financial-services and computer industries

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1990 REGIONAL ESTIMATES
DODGE CONSTRUCTION POTENTIALS
Second Update
July 1990
 Contract Value (millions of dollars)
NORTHEAST

	Percent Change			Percent Change			
	1989 Preliminary	1990 Forecast	1990/89	1989 Preliminary	1990 Forecast	1990/89	
CT, ME, MA, NH, NJ, PA, RI, VT							
Nonresidential Building							
Commercial and Manufacturing	\$10,824	\$8,350	-23	\$13,319	\$10,500	-21	
Institutional and Other	8,136	7,675	-6	5,778	3,525	-39	
Total	\$18,960	\$16,025	-15	\$19,097	\$14,025	-27	
Nonbuilding Construction	\$11,399	\$10,250	-10	Total Construction	\$49,456	\$40,300	-19

NORTH CENTRAL

	Percent Change			Percent Change			
	1989 Preliminary	1990 Forecast	1990/89	1989 Preliminary	1990 Forecast	1990/89	
IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI							
Nonresidential Building							
Commercial and Manufacturing	\$13,926	\$13,175	-5	\$17,974	\$18,750	+4	
Institutional and Other	8,026	8,650	+8	5,635	5,325	-6	
Total	\$21,952	\$21,825	-1	\$23,609	\$24,075	+2	
Nonbuilding Construction	\$10,302	\$10,350	-	Total Construction	\$55,863	\$56,250	+1

SOUTH ATLANTIC

	Percent Change			Percent Change			
	1989 Preliminary	1990 Forecast	1990/89	1989 Preliminary	1990 Forecast	1990/89	
DE, DC, FL, GA, MD, NC, SC, VA, WV							
Nonresidential Building							
Commercial and Manufacturing	\$12,033	\$ 8,775	-27	\$22,688	\$21,875	-4	
Institutional and Other	8,040	7,725	-4	7,509	5,275	-30	
Total	\$20,073	\$16,500	-18	\$30,197	\$27,150	-10	
Nonbuilding Construction	\$ 8,541	\$ 8,200	-4	Total Construction	\$58,811	\$51,850	-12

SOUTH CENTRAL

	Percent Change			Percent Change			
	1989 Preliminary	1990 Forecast	1990/89	1989 Preliminary	1990 Forecast	1990/89	
AL, AR, KY, LA, MS, OK, TN, TX							
Nonresidential Building							
Commercial and Manufacturing	\$ 7,274	\$ 5,425	-25	\$10,488	\$11,200	+7	
Institutional and Other	5,520	5,125	-7	1,549	1,525	-2	
Total	\$12,794	\$10,550	-18	\$12,037	\$12,725	+6	
Nonbuilding Construction	\$ 8,161	\$ 7,925	-3	Total Construction	\$32,992	\$31,200	-5

WEST

	Percent Change			Percent Change			
	1989 Preliminary	1990 Forecast	1990/89	1989 Preliminary	1990 Forecast	1990/89	
AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY							
Nonresidential Building							
Commercial and Manufacturing	\$13,770	\$12,050	-12	\$29,342	\$28,575	-3	
Institutional and Other	7,910	+ 8,650	+9	8,512	7,225	-15	
Total	\$21,680	\$20,700	-5	\$37,854	\$35,800	-5	
Nonbuilding Construction	\$10,311	\$10,975	+6	Total Construction	\$69,845	\$67,475	-3

were already slumping, last year's national economic slowdown amounted to a local recession. Construction contracting, still booming through 1989's second quarter, collapsed in the second half. A new equilibrium, at roughly 75 percent of last year's exceptionally strong first-half rate, will leave 1990's contract value for the year some 15-to-20 percent below the 1989 total.

The 5-percent "improvement" in the North Central region at the end of six months of 1990 is illusory and is not likely to survive the second half for two reasons. Most of the 1990 gain is owed to weakness in the early part of last year. And the rate of contracting through the first half of 1990, though stronger, was clearly on a downward course. When the weakening second half of 1990 is matched against the best that 1989 had to offer, the North Central's full-year total for 1990 will finish with only a nominal gain.

The Southeast and the South Central regions offer an interesting contrast with the former coming down from a boom and the latter struggling out of recession.

For the short run (1990 and 1991), most of the risk is in the Southeast where commercial/residential building has outlasted its welcome. Contracting in Florida, the region's bellwether, has trailed off significantly in 1990, as it also has in the D. C./Virginia area. This leaves only Georgia and the Carolinas as the region's remaining source of support. In this second-most-vulnerable market, a 1990 decline of between 10 and 15 percent is indicated.

In the South Central, the outlook is for "more of the same," or perhaps a little less than last year's total of newly started construction. After five years (1984 through 1988) of decline following the oil patch's 1983 boom, and one more (1989) of consolidation, there isn't much downside risk left. Recovery could take hold in 1991, but for 1990, a further small decline of about 5 percent—still concentrated in commercial building—is the outlook.

Like most other regions (the Northeast being the exception) the West has been slipping from a peak of construction activity since 1989's third quarter as the 1990 credit crunch compounded earlier overbuilding. Further weakening of commercial and multifamily residential building during 1990's second half will tip the balance in this key region from where it was at midyear, holding even with 1989, to a small (less than 5 percent) decline of total contracting for the year as a whole. □

*Prepared by the Economics Department
Construction Information Group
George A. Christie
vice president and chief economist*

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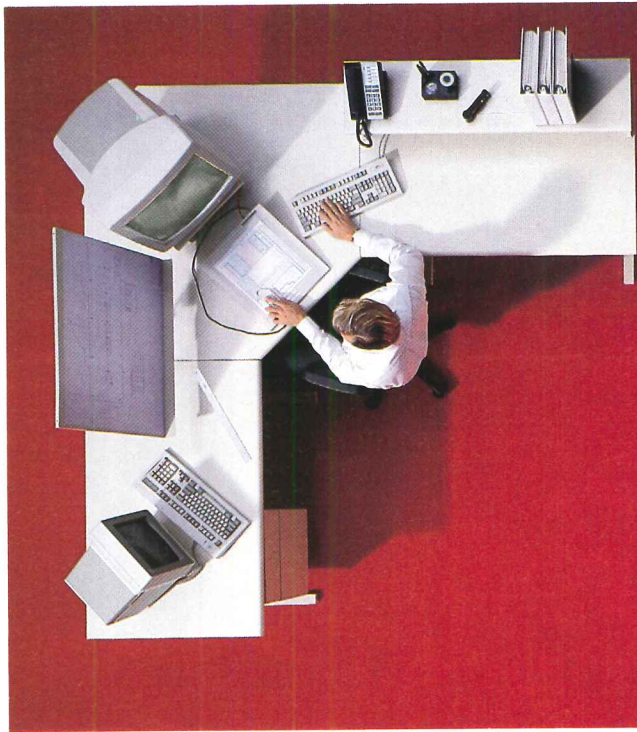
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MAKING IT IN A CHANGING ECONOMY

What do you do when you find business-as-usual more difficult?
Expand your horizons, say four experts.

Expand geographically, in new building types, and in new services you offer," says Charles Thomsen. His firm, 3D/I had one branch office in 1982 when home base, Houston, was at the bottom of the local slump. Now it has 19—many of them in the Middle and Far East, and in Europe. Indeed, expanding services beyond U.S. boundaries is turning out to be one of the most-popular current management techniques [PRACTICE NEWS page 17].

Kohn Pedersen Fox is doing work in some 10 foreign countries—including New Zealand. "But you have to be there," cautions Eugene Kohn. For him, this means up to a week every month abroad and a new branch office in London, staffed by two full partners, where costs are almost prohibitively high. "Especially the Europeans want you within easy reach."

The Stubbins Associates has been doing work for 10 years in the Pacific Basin—Japan, Taiwan, Singapore—and principal Easley Hamner observes that "design in the 'traditional-modern' idiom seems to be the key factor in landing commissions."

He finds research laboratories a current "hot market," with seven in the works.



LePatner: "To be viable, one must plan and react quickly to change."

KPF is expanding the types of buildings it designs and is currently working on university buildings, hotels, retail buildings, a ferry terminal, an embassy (Cyprus), and even a house.

All three firms are focusing on strengthening or expanding services. Thomsen

points to environmental services, including asbestos abatement, as a recently developed capability and Kohn to building renovation and feasibility work with brokers.

But, cautions attorney Barry LePatner, you need an analysis of the market before you decide to take any of these routes. Factors to consider: current-client roster, what you expect the market to do in the future, and whether the current climate has really changed enough to warrant the investment. Still, "in business, as with all else in life, to be viable, one must plan and react quickly to change," he says.

Kohn: "You can't expect that what's getting built most now will continue to be in the future. Predict what will happen."

Knowing the best untapped possibilities "Find a niche," says Thomsen, "areas where the locals are weak." He sees any type of technical facilities, hospitals, and prisons as a good bet almost anywhere.

"Research, hospitality, and correctional work are niches we already see as a success for us," says Hamner. Suburban planning is one field he finds successful in specific locations—for Stubbins, New Jersey.

Kohn points to the aging population and medical facilities. "The [office-building] developers' best friend has been community resistance to growth, because it's usually strongest before a downturn." That is why he is targeting renovation, including office buildings. "It gets less resistance."

"The firms that review the periodicals on health care, high-tech, and research will find numerous opportunities for new business," says LePatner.

Positioning to tap new possibilities

"In good times, you consolidate your operations for greater efficiency," observes Thomsen. "But when the going gets rough, you nurture the people in your office with the strongest entrepreneurial spirits and send them out of town to beat out the locals." How is this done? "By offering something they don't have." In Hong Kong, 3D/I sold half interest in a subsidiary and its expertise to a local firm. "Each situation is different." Still, Thomsen keeps people with a Texas network. "You have to remain established on your home base for when things come back."

An initial problem for KPF in moving into new building types was getting around a high profile as high-rise, office-building architects. "Most architects are capable of a broader range of buildings than they're given credit for," says Kohn. The willingness in Europe to overlook stereotypes is one of the reasons the firm focuses so much attention there. A current project in Europe is a "very-advanced" industrial building. Especially for work in



Thomsen: Nurturing staff members having entrepreneurial spirit.

the U.S., Kohn is looking hard at what it takes to break into such specialized fields as medical facilities. He has yet to decide on association or hiring the expertise in-house. He is confident of getting such work without first making the decision.

One route to new building types is to team up with a contractor, recommends Hamner. Hyman-Stubbins, Inc. was formed to pursue one design/build project, the Suffolk County Jail [pages 148-151]. The partnership has produced a second such facility and is looking for more. Whether for partnerships or clients: "You must be adept enough to convince a prospect that, even without relevant experience, your handling of unusual assignments has been successful." What about associations with other architects? "We have found them to be uniformly helpful in expanding our network of leads."

Says LePatner: "Defining your firm's strengths and rebuilding them into a busi-

ness-like marketing approach is more critical than ever." Among other means: combining your marketing with your clients' [RECORD, August 1990, page 37].

Approaching clients in new areas

"You do it directly," says Thomsen. "Join local business and civic organizations. Get to know the people." Of course, he acknowledges, you may need persistence.

For getting new building types, Kohn advises: "Convince clients that good design is transportable. Having a reputation for being easy to work with doesn't hurt."

"Principals who are highly marketing oriented should be out of the office nearly full time," says LePatner. Especially in hard times, he reminds, "your competitors" are also doubling and redoubling their marketing efforts. Your extra efforts mean the opportunities to expand your [permanent] client base are at a height." It is all that much more important to familiarize yourself with prospects. "When a client's annual report indicates an increasing percentage of projects overseas, be prepared to identify services your firm can offer to take advantage—e.g., an overseas office or a principal in your firm who speaks the language." In the current situation: "Firms that geometrically increase their marketing efforts when business is

rain." "Under many circumstances, even good fees don't mean profitability."

Thomsen's firm will take marginally profitable commissions. "But, you have to cut out your favorite extras—new techniques, new ways of doing things," he says. "It takes the fun out." In Houston, at the bottom of the recession, he recalls, some firms took jobs at 1.7 multiples—meaning, of course, they lost money.

On the other hand, Hamner's attitude is firm: "We don't do loss-leader work," he declares. "One loss will lead to a second one. Why would a client give a higher fee for a second commission if you did an acceptable job on the first at a low fee?"

LePatner agrees: "Taking projects under such circumstances merely to keep a staff busy will serve to carry losses forward long after firm profits have resumed in good years." But, like Kohn, he does see the point if the result is a truly long-term client with financial stability. He recommends a particularly careful analysis of production costs and the client to see if the commission justifies the risks involved.

Reducing costs in tight times

None of those interviewed saw a way to keep fees up when the competition is keen. The alternative: "Some Houston firms did away with all fringe benefits for staff—even paid holidays," recalls Thomsen. But he was not able to cut costs piecemeal. He put together a plan affecting all overheads and presented it to the whole firm. "Everyone knew they were being treated equally and not being singled out for pain and abuse."

Speaking of Stubbins' last trimming in the latter '70s, Hamner recalls: "Discretionary payments of profit sharing and bonuses were the first to go." Payroll was reduced by giving all staff unpaid alternate Fridays off.

LePatner: "In some instances, utilizing temporary staff, instead of hiring full-time employees, will dramatically reduce costs of a project. All areas of a firm's practice that are not profitable or as profitable as others should be dropped summarily."

Cutting staff

Many architects are reluctant to do this for both humanitarian and practical reasons; it may not be that easy to find experienced people when all firms are busy again. Kohn: "We try not to let people go. Remember, KPF was born in hard times, has thrived through downturns, and we don't see volume down now." The implication: Good management prevents layoffs. Similarly, 3D/I tries to avoid them.

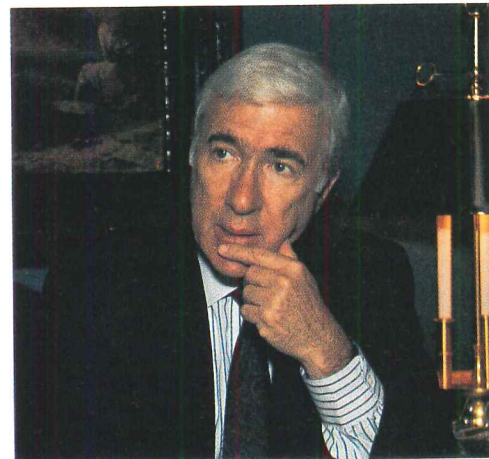
But Hamner disagrees. Despite the other cost-reduction measures Stubbins had taken, there were also three waves of layoffs in the '70s. "Cost reduction is exclusively a function of staffing. A well-run business will pay attention to overhead

costs on an ongoing basis and have limited [other] flexibilities."

LePatner recommends forgetting firm culture, friendships, and saving face. "Restructure for survival in a tight economy. Well-managed firms in every area of business regularly adopt these techniques." Here, Kohn and LePatner clearly disagree on what well-managed means.

Stirring up work in a down market

"Advertising always works if you can convince them you have something to sell," says Thomsen. Use public-relations consul-



Kohn: Staying in closer touch with clients and being hands-on.

tants for only what they know how to do. They all have specialties—whether placing articles in financial journals or design journals, or organizing events for the press or clients." Obviously, in down times, selectivity becomes critical.

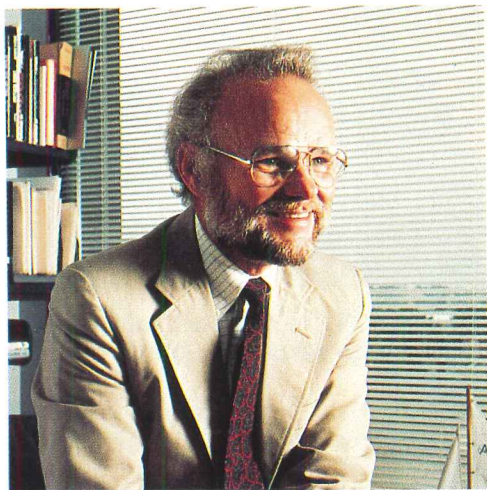
KPF never advertises and Kohn tends not to work with public-relations consultants. "In a down market, you may be wasting time. Just stay in closer touch with clients." He doesn't let down this hands-on approach in good markets—not to get specific projects, but to make sure there are contacts to call when he needs them. Tight times build a stronger firm, he says. "Other people here market and this pulling together brings them together."

Hamner: "Client development and public relations are two key defenses in a down market. Spend what you can carefully." He does not step them up in good times. "We have no desire to double our size."

"Increase marketing, even while cutting staff and expenses," advises LePatner. "By being highly visible, you project much more positively and help morale." He advises not letting marketing down in good times. "All during the '80s, we advised clients not to live off their backlog. That policy has proven well-founded now."

Thomsen again: "Don't try to repeat past successes by using the marketing techniques you know. In down times, that's like wolves returning to a burnt-out forest."

CHARLES K. HOYT



Hamner: Getting new building types by being known for unusual work.

slow will reap the benefits as the economy turns around in late 1991."

Taking on marginally profitable projects

This is a technique used by many firms in slow times to maintain staffs and volume. Does it pay?

"Profitability has never been number one," says Kohn. "The right client is." To get and keep the right clients, KPF will pass up other clients who offer higher initial profits. "Especially with a new building type, you will not make much if you do the extra work to get it right." KPF has sometimes not made any money (or lost it) to establish credentials on unfamiliar ter-

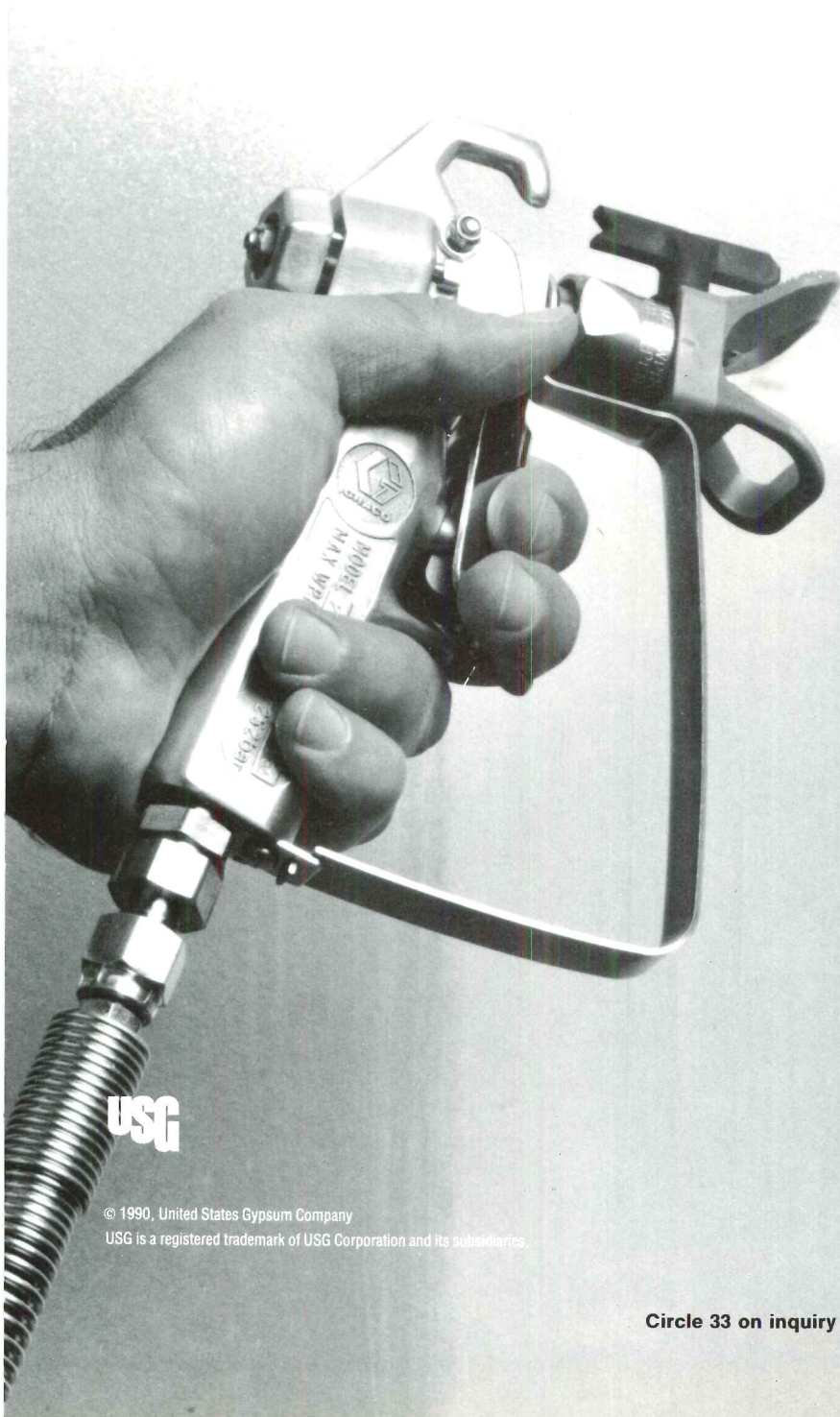
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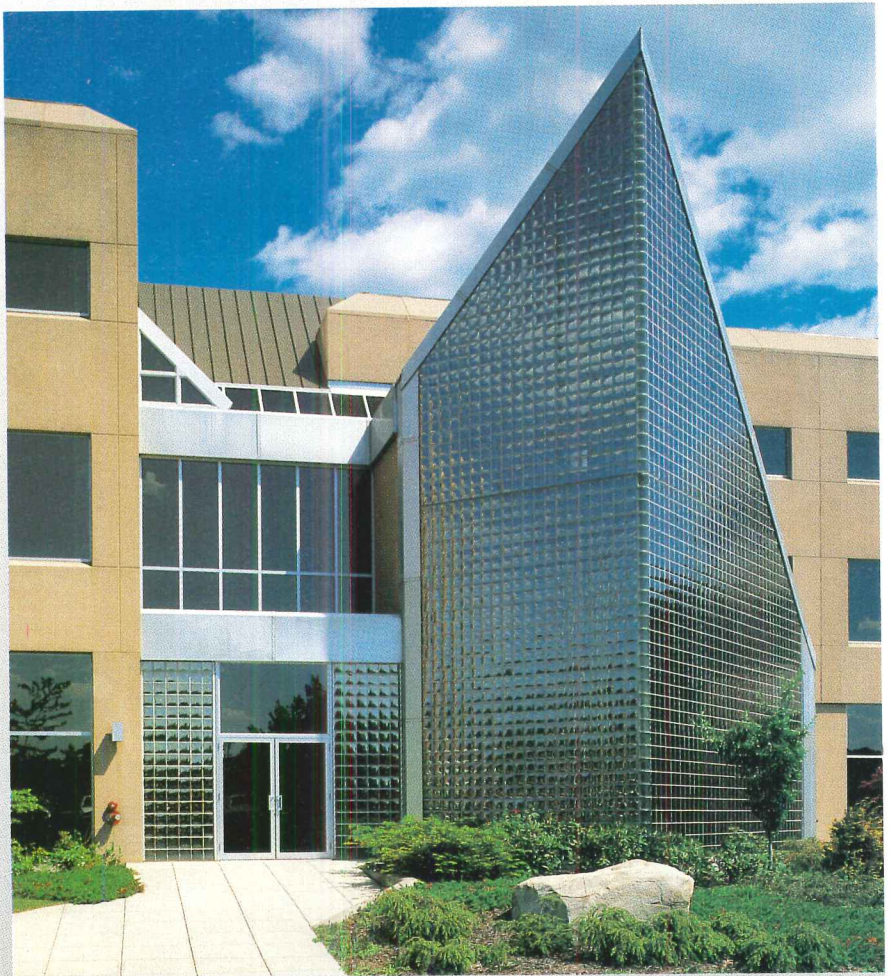
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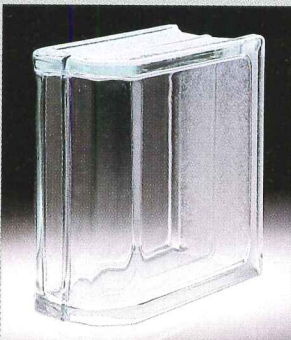
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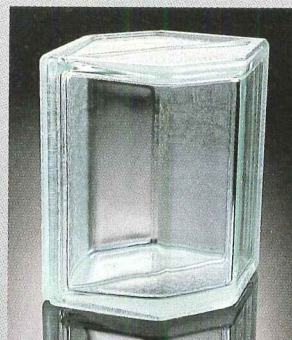
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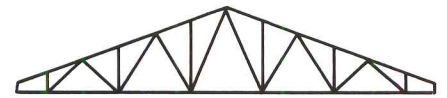
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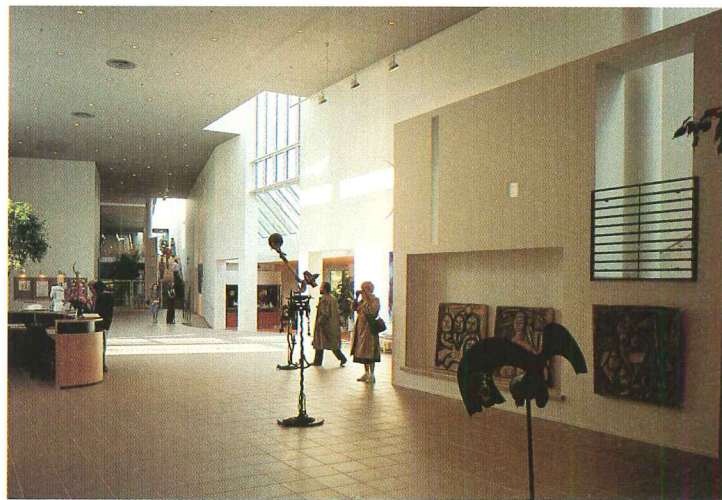
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FINLAND AFTER AALTO

With roots in vernacular sources and Bauhaus Modernism, Finnish architecture reconciles opposing tendencies.

By Gerald Moorhead



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Since its cultural awakening in the mid-19th century, Finland has continually sought a single artistic expression for its developing nationalism. By the turn of the century, architects such as Eliel Saarinen and Lars Sonck had blended native folk-art motifs with foreign influences from the English Arts and Crafts movement, the Viennese Jugendstil, and the Richardsonian Romanesque to form Finland's first unified architectural movement—the National Romantic Style.

After a brief period of Neoclassicism in the 1920s, Modernism came to dominate Finnish culture. As in few other countries, Modernism established itself here as the symbol both of progress and the practical esthetics of the nation's rural heritage. Bringing these seemingly opposed ideals together into a uniquely Finnish Modernism was the genius of Alvar Aalto. It was Aalto who first combined the white geome-

try of Le Corbusier and Gropius with wooden elements from the rural vernacular and made it work.

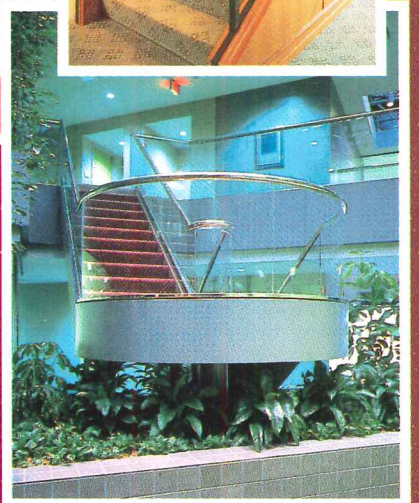
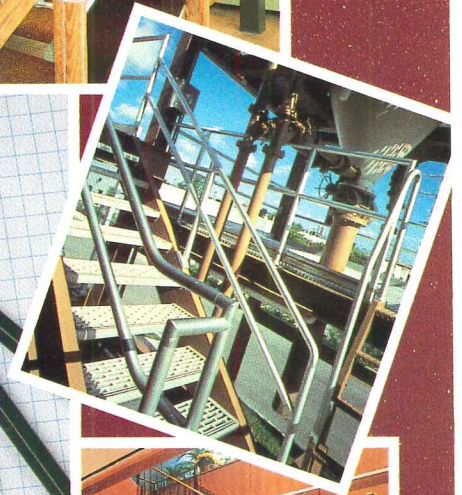
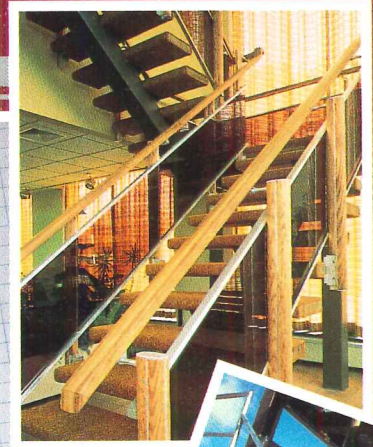
Modernism in Finland, however, is neither as homogenous nor as dogmatic as this brief history might suggest. Two major trends—rationalism and expressionism—exist side by side, frequently overlapping, and form the background for today's various factions. While the rationalists seek a universal language through technology and process, the expressionists emphasize individual form and overt symbolism.

Three examples of Finnish rationalism Rationalist buildings emphasize structure, function, and systems of assembly, revealing the influence of Russian Constructivism and British High-Tech. A good example is the new Landmark Tower, a 16-story constructivist spike in Helsinki's northeast

Reima Pietila's Multipurpose Center in Hervanta (top left) exemplifies Finnish expressionism, while the Pieksamaki Cultural Center (top right), Peraseinajoki Town Hall (above left), and Landmark Tower (above) represent the rationalist style.

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suburb of Itakeskus. Designed by Erkki Kairamo, Heikki Mäkinen, Timo Vormala, and Aulikki Jylhä, it sits in a dense civic complex that recalls Gunnar Asplund's Stockholm Exhibition of 1930. The tower's varying facades pinwheeling around a square plan allude to Frank Lloyd Wright's Price Tower in Oklahoma, but its crystalline transparency ties it to Finland's northern climate where sunlight is so highly prized. The architects reinforce the jewel-like quality of the building by skillfully illuminating it at night, and they contrast a vertical stair tower with the horizontal thrust of an attached shopping center.

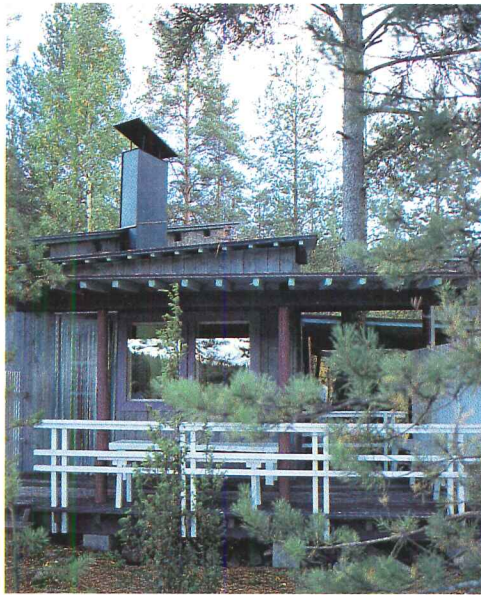
By contrast, the Peraseinajoki Town Hall, designed by Antti Katajamäki and completed in 1987, is pure high-tech. Given that the main industry in this town of 4,200 is a steel plant, the citizens take pride in the image of this all-steel building. Exposed structure and ductwork, a metal cladding system, and expressed joinery unify the variously shaped elements organized along a T-shaped spine. Such mechanical clarity and functional separation recur in Katajamäki's work, which includes the Valio Dairy Co-op's Computer Center in Helsinki (1985) and its Maikkula Production Plant in Oulu (1982), two projects marked by industrial logic and high-tech styling.

The Pieksamäki Cultural Center (1989) by architect Kristian Gullichsen represents another facet of the rationalist side of Finnish Modernism. This long building, set beside a park extending to a lake, is an urban design that features walls forming spaces—some formal and contained, others meandering and open. The center is a symbol for the character of the town itself, a place whose "townscape is horizontal and loosely built. . . developed around a railway junction, lacking any topographical accents," according to Gullichsen.

Loosely planned as an indoor street with a library at one end and a concert hall at the other, the Pieksamäki Cultural Center is encroached by the closed forms of an exhibition gallery and meeting rooms, and expanded by open spaces for a café and reading room overlooking the park. Gullichsen softens the smooth planes and undulating walls of the complex with touches of stone and wood and an all-pervasive natural light. The subtle blend of Corbu-white surfaces with natural materials and a sure sense of space suggests that Gullichsen has learned from Aalto. As it turns out, Gullichsen literally grew up on Aalto: he is the son of Maire and Harry Gullichsen, for whom Aalto designed the Villa Mairea in the late 1930s.

Derived from nature

At the other end of Finland's design spectrum is the expressionist school, which stresses individual form and overt symbolism. While classic European expressionism in art draws from abstract geometry and



Georg Grotenfelt's Ararat cabin was inspired by rural vernacular design.

metaphysics, its Finnish counterpart recognizes that uniqueness of place may produce images derived from nature.

For several decades the leader of Finnish expressionism has been Reima Pietila. The Multipurpose Center (1989) in Hervanta New Town outside of Tampere is Pietila's third building here and is a veritable medieval bazaar of open and covered alleys teeming with life. It recalls images of castles, factories, the local train station, and the surrounding forests in its use of crenelated walls, red industrial brick, and unusual window shapes. Rounded corners, vertical slit windows, and a meandering

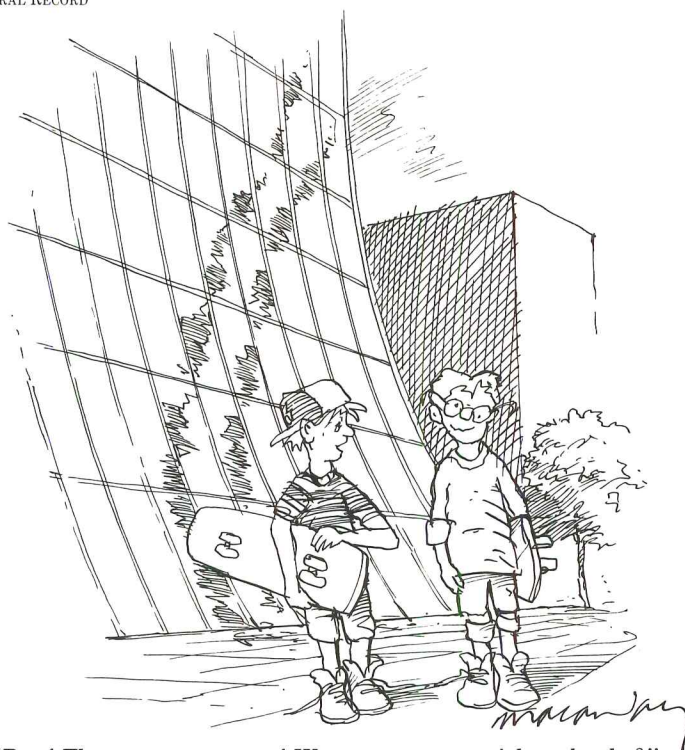
pedestrian way evoke medieval towns, but the startling, hovering curved brick cornice is beyond all time or place. In the adjacent Congregational Center, which Pietila designed in 1979, flared windows reminiscent of fir trees and leaf-green colors reveal Pietila's fascination with nature.

Another architect working this vein is Georg Grotenfelt. Inspired by the rural vernacular and traditional life in the forest, Grotenfelt designed the Ararat Holiday Cabin near Juva in 1985. A hand-crafted compound sited on a narrow peninsula jutting into a lake, the project connects its various elements (sauna, cabin, and outbuilding) with a covered boardwalk that also functions as an outdoor gathering place. Vertical board siding is used throughout—left natural on the inside and stained pale blue-gray on the outside. Simple shed roofs, occasional splayed walls, and angular porch-framing imply the time-forgotten presence of old barns settling into the earth.

As these five projects show, the latest generation of Finnish architects thrives on the tension between the industrial and the traditional, the modern and the vernacular, reflecting the ongoing transformation of the pre-World-War-II Finnish agrarian culture into the more complex urban economy of today.

This article was based on a trip to Finland last year to attend the International Conference on Architecture, Urban Planning, and Design sponsored by the Finnish Association of Architects and the AIA Committee on Design. □

Drawn for ARCHITECTURAL RECORD
by David Macaulay



"Boy! That was awesome! Wanna try one with setbacks?"

New Chicago Architecture, presented at Union Station, Washington, D.C., by Metropolitan Review and The Chicago Athenaeum: The Center for Architecture, Art, and Urban Studies. Curated by Christian K. Laine and Francis K. Portrey, installation design by Ioannis Karalias.

Reviewed by Roger K. Lewis

Washington, D.C.'s, magnificent Union Station, beautifully preserved and brought roaringly back to life after years of neglect and deterioration, was the setting for an exhibition of corporate and commercial projects entitled "New Chicago Architecture." How appropriate to display buildings from America's great midwestern architectural laboratory, the city of Adler, Sullivan, Root, Wright, and Mies van der Rohe, the host city of the 1893 Columbian Exposition that spawned the turn-of-the-century Beaux Arts revival, in Daniel Burnham's vaulted, neo-Roman 1908 transportation terminal.

Disappointingly, the idea for such an exhibition is better than its realization. "New Chicago Architecture" consists of several dozen projects, both built and proposed. Most are office-building towers shown in photographs, renderings, and models, and designed by mostly well-known archi-



AT&T Corporate Center, designed by SOM, rises in Chicago.

tects—Skidmore, Owings & Merrill, Philip Johnson and John Burgee, Murphy/Jahn, Kohn Pedersen Fox, Cesar Pelli, Hammond Beebe Babka, Perkins & Will, Kenzo Tange, Ricardo Bofill. Except for the United Airlines terminal at O'Hare International Airport, all the projects are in or near downtown, including the new public li-

brary, the Rookery, and SOM's AT&T Corporate Center (left).

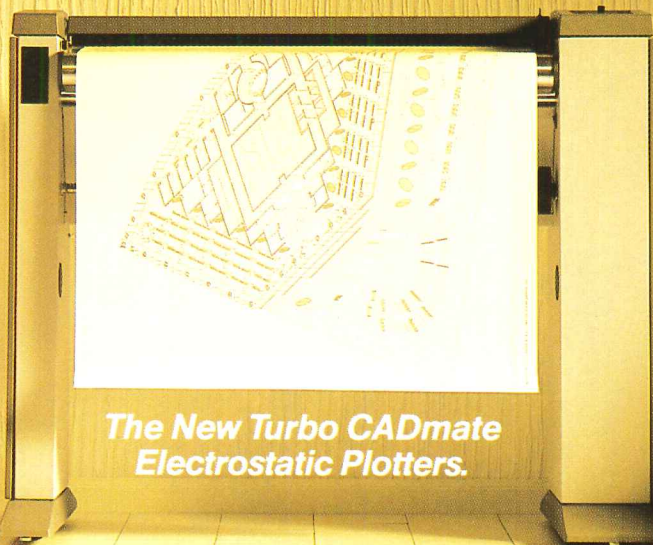
The installation takes the form of a glade of stubby, rectangular, freestanding kiosks arrayed in a grid pattern in Union Station's West Hall. Photos and renderings of building facades are mounted on the faces of the kiosks along with a small label identifying the project, owner, and architect. A couple of video displays are included.

Unfortunately, the exhibition's background milieu and lighting are less than ideal. A strongly patterned floor underfoot and a visually busy set of storefronts on either side of the hall distract considerably from the exhibition, which itself is fragmented and lacking in continuity.

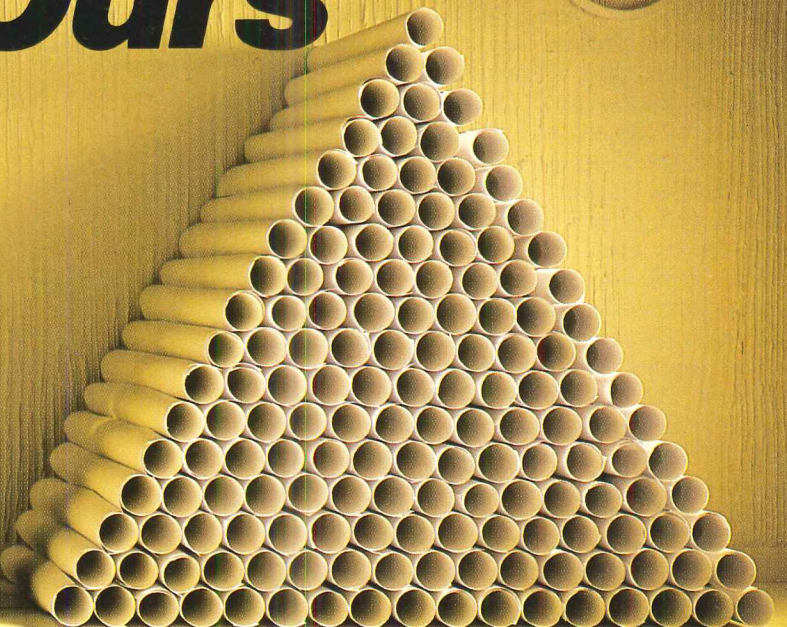
Also lacking is depth of content. There are no city plans, no site plans, no building plans, no illustrations or descriptions of city history and city context. The exhibition clearly highlights the esthetic elaboration of the tower form, its composition and materials, but offers no explanation of why these buildings look the way they do, how they relate to one another, or even what they are made of. Withholding information about the buildings, about their sites, about adjacent buildings and streetscapes, and about the city of Chicago, the exhibition becomes little more than a kind of giant archi-

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tectural postcard rack. For some visitors, the variety of graphic techniques represented, rather than the designs themselves, may prove to be the show's most interesting aspect.

Considering where this exhibition is located and its probable audience—few seeing it will know much about architecture or Chicago—its creators missed an opportunity to offer the general public a fascinating and informative lesson on American design.

Roger K. Lewis teaches architecture at the University of Maryland and writes a column, "Shaping the City," for The Washington Post.

The Independent Group: Postwar Britain and the Esthetics of Plenty, an exhibition at The Museum of Contemporary Art's Temporary Contemporary, Los Angeles. November 4 through January 13, 1991. Recreations of full-scale installations and exhibits from the 1950s developed by the innovative group of British artists, critics, and architects that included Reyner Banham, James Stirling, and Alison and Peter Smithson. The exhibition travels to the University Art Museum, Berkeley (February 6 through April 21, 1991) and The Hood Museum of Art, Dartmouth College (June 8 through August 18, 1991).

A Philosophy of Interior Design, by Stanley Abercrombie. New York: Harper & Row, 1990, 180 pages, \$25.

The author attributes to architect and former Columbia University dean James Polshek the view that interior design cannot be considered a true profession because it lacks a body of theory. The aim of this book is to refute this view, and it is indeed a valiant attempt.

While architecture, in the words of Raimund Abraham, is "a monument to the eternal, commemorating the absence and presence of man," interior design, acknowledges Abercrombie, is "something less grandiose... a monument not to the eternal but to the transient, a celebration of a very particular time, place and situation, commemorating the presence not of man but of specific men and women."

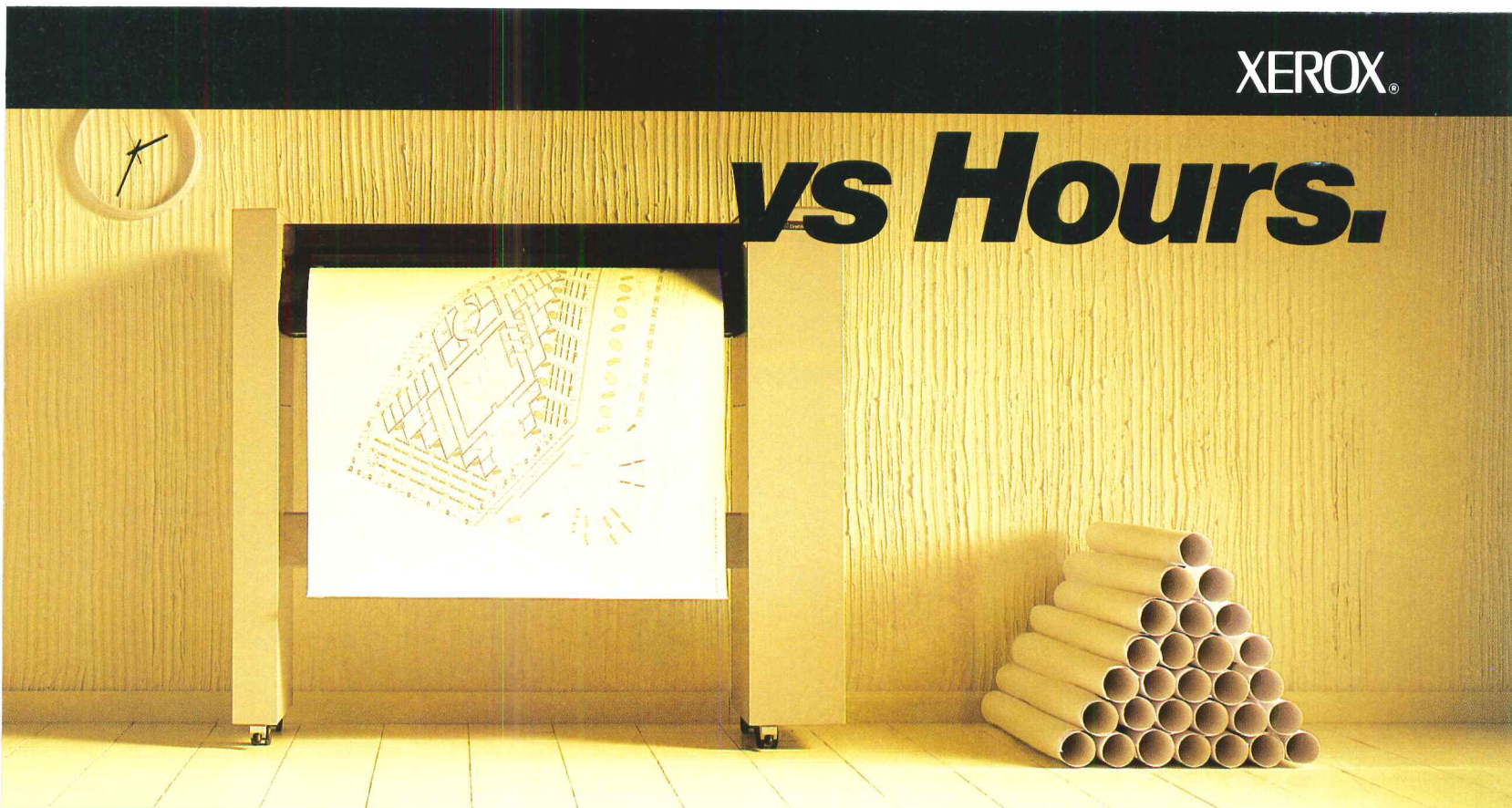
Nonetheless, the author—with the aid of non-interiors props such as architecture, philosophy, and social studies, and through his own attitudes developed over a long career as designer, author, and editor—does forge such a philosophy. He does it by breaking the field into chunks—such as the transition from outside to inside, the plan, the room, planes of the room, changes in floor levels, ornament, furniture, color and light, sound, smell, art, de-

tails, and plants.

Students and fledgling designers will find much to guide them in evolving a theoretical backdrop to making design decisions. The serious layperson also will find this book helpful in appreciating an interior. The author's insights into what makes an interior work or not work—and why—are superb, and the photographs (all black-and-white) are well-chosen and set in the right places.

One would wish certain subjects had also been covered. Surely physical comfort, via a well-designed and functioning mechanical system, are part of one's response to an interior. So too are such conveniences as the electric system and communications. And what about scale, a key part of anyone's perception of an interior? More time spent on nonresidential interiors also would have helped create a fuller understanding of the field.

In the end, one is left with the feeling that coming up with a philosophy of interior design separate from architecture cannot be done, for the simple reason that interior design cannot really be separated from architecture. Abercrombie has gone about as far as one can go. The result is a highly readable work that raises the current level of intellectual discourse about interior design a solid notch. **S. A. K.**



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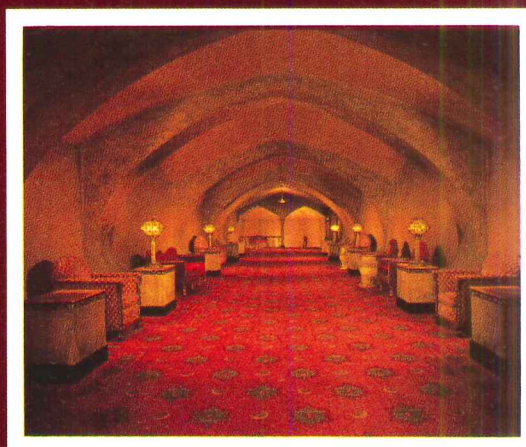


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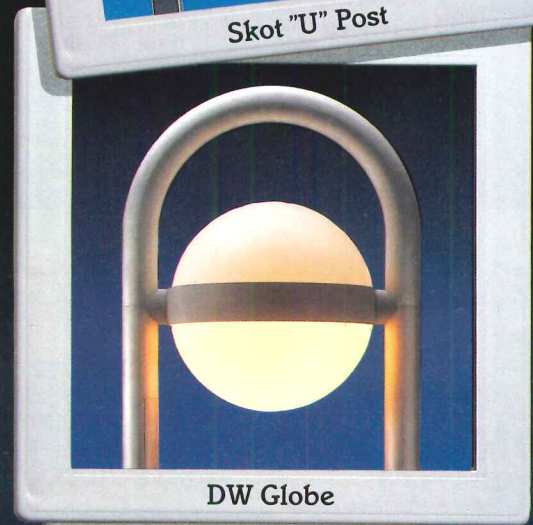
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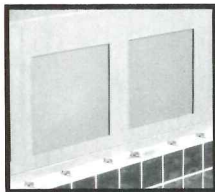
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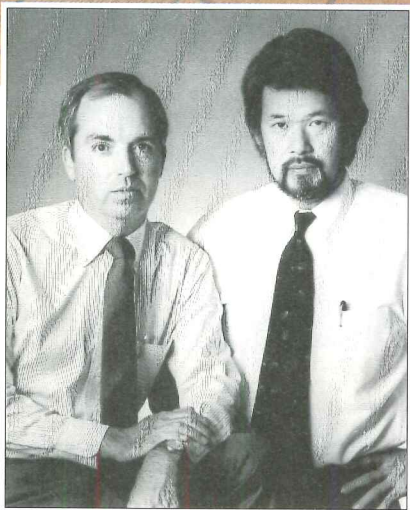
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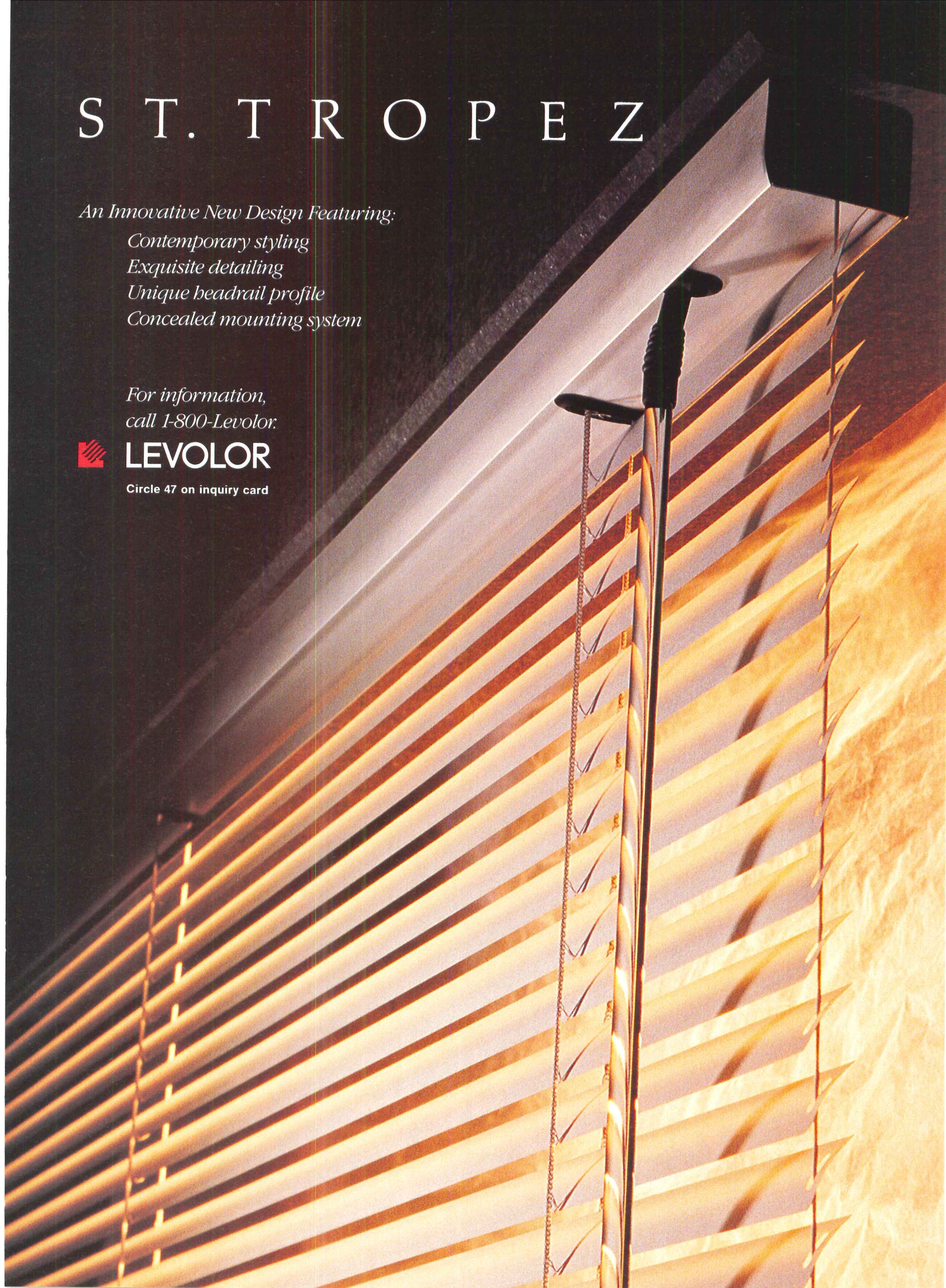
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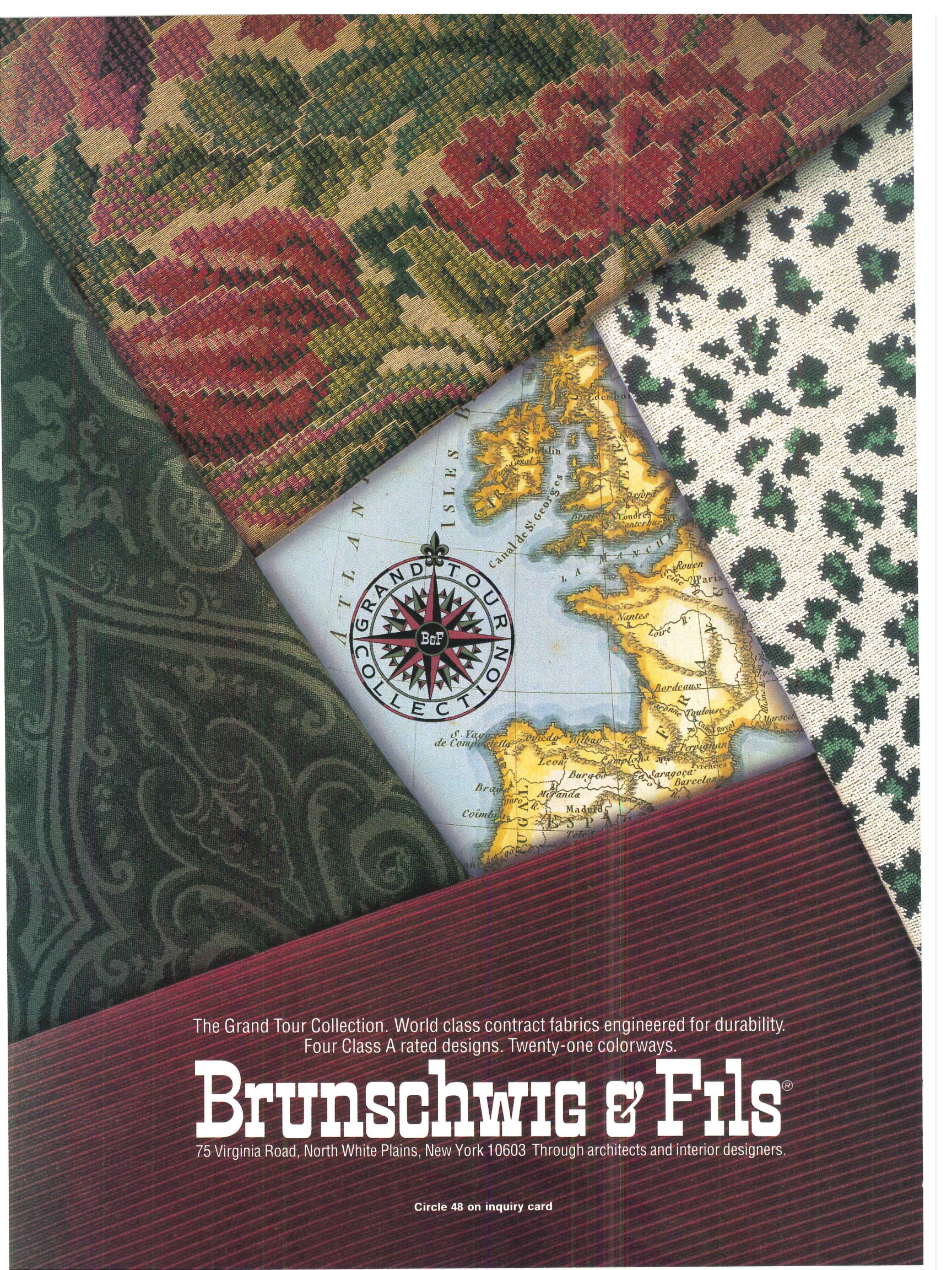
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Record Interiors 1990

RECORD INTERIORS was conceived in 1970 as an expanded feature within a regular issue of the magazine. Over the years, as interiors came to occupy a growing percentage of architects' work, RECORD INTERIORS grew into an issue of its own. This year, we return to our original format, which allows readers the chance to examine interior design within the broader context of architecture.

As in the past, this year's featured projects include a variety of interior types—a hotel, a private residence, corporate offices, a performance hall/exhibition center, a product showroom—executed in an increasingly global architectural arena.

In Los Angeles, for example, Craig Hodgetts and Ming Fung describe their renovation of offices for the Hemdale Film Corporation (pages 104-109) as “an arrangement of objects within an envelope,” an assessment that might apply to *all* the interiors shown in this issue. Los Angeles critic Aaron Betsky calls Hodgetts and Fung's particular technique “scenography”—the building of “working sets for working lives.” Though the overlap of old and new building parts seems casual, there's nothing random, for example, about the way the architects interwove air-conditioning ducts with existing steel trusses.

In Amsterdam, Pieter Zaanen also faced the task of reconciling old and new. In his case the “old” was a landmark commodity-exchange building by the early 20th-century architect H. P. Berlage (pages 80-87). Zaanen's all-glass chamber-music performance hall is both an artistic and a structural tour de force—a startling contrast to the existing masonry building that ingeniously solves the complex acoustical requirements of his client, the Netherlands Philharmonic Orchestra. Zaanen's bold approach sounds a cautionary note for the profession: visual fire-works are only as successful as the program that inspired them. Zaanen's work, like all accomplished interiors, is a three-dimensional puzzle where the client is the all-important piece that lets the designer bring the image into focus.

KAREN D. STEIN



**Hemdale Film Corporation
Hodgetts and Fung
Design Associates**

Plain and Fancy

The Zimmer Gunsul Frasca Partnership's skillful use of ordinary materials makes the headquarters of a Portland, Oregon, advertising agency sophisticated but not slick.

© RICHARD BARNES PHOTOS



The seventh-floor reception desk is made of ribbed steel and glass.

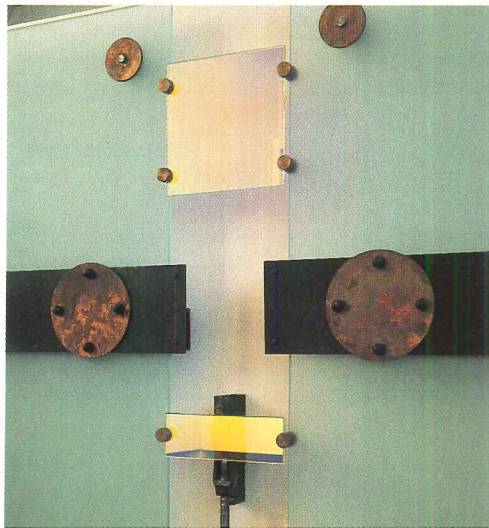
Borders, Perrin & Norrander, Inc.
Portland, Oregon
Zimmer Gunsul Frasca Partnership, Architects

Downtown Portland has an impressive stock of late 19th-century buildings that have found favor as offices for designers, advertising agencies, and other creative enterprises. A few architects have elected to cloak the interiors of these appealingly rugged structures with slickly generic office suites. The Zimmer Gunsul Frasca Partnership, however, decided to take the opposite tack in their recent renovation of the top three stories of the historic Director Building into the headquarters of Borders, Perrin & Norrander, a leading Portland advertising agency. Influenced by the robust masonry-and-wood architecture of the host building, located in the Yamhill Historic District, ZGF has produced an elegant set of office interiors

marked by a straightforward use of prosaic materials.

The architects' design is sophisticated but not at all effete. "We decided that the building was strong enough to take an aggressive use of materials," says project designer Sharron Duggan. The underlying theme begins decisively in the seventh-floor entrance area, where a gently curving receptionist's desk has been fabricated of ribbed stainless steel, plastic laminate, and glass. The canted wall behind the desk shows an unusual combination of split-face concrete block—dry-stacked to avoid mortar joints—and slate bands. Floors are the original (refinished) fir, and timber columns were sandblasted to remove years of accumulated layers of paint.

ZGF also received leads from the 56-person agency itself, which believes in collaboration and a free interchange of ideas. It is an informal place: on warm days it seems as if half the staff is in shorts, and irreverent graphics appear on

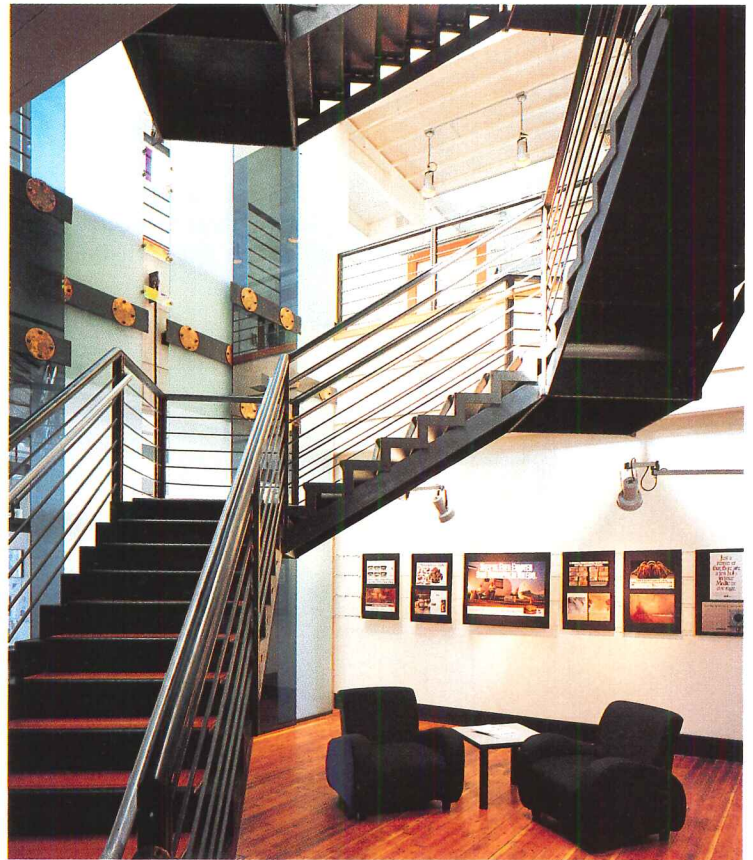
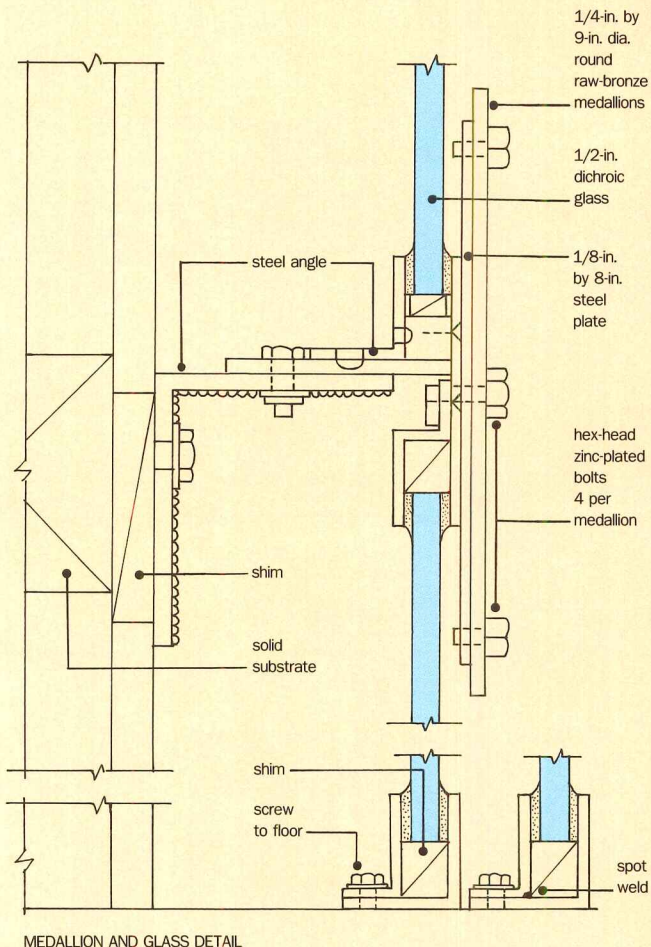


Bronze medallions set into a translucent wall of sandblasted gray and dichroic glass enliven a three-story-high atrium. The stairway is built of mill-finished steel with fir treads.





The most distinctive feature of ZGF's work is a sandblasted-glass wall rising three floors through the atrium. Section below reveals construction detail, which combines 1/2-in.-thick glass plate, L-shaped steel members, and 9-in. bronze medallions.



Above: agency-produced art adorns the seventh-floor reception area, located beneath the spiraling metal stair. Below: the eighth-floor reception desk is made of perforated steel and galvanized sheet metal.

Opposite: timber columns line a seventh-floor corridor. Offices have sliding doors with barn hardware.



every exposed surface. The company's casual attitude suggested spatial openness, expressed most dramatically in a three-story atrium containing an angular black, mill-finished metal stairway with fir treads and neoprene rails and nosing.

The stairway was lowered through the roof in six sections. On the seventh floor and rising to the eighth, it is attached to the original heavy-timber structure. From the eighth to the ninth floors, the stair is attached to the glulam structure of the two penthouses that were appended to the seven-story structure. In both cases the connection is by large metal plates bolted to the wood. Left exposed, they make burly, almost sculptural, accent pieces.

Behind the seventh-floor reception desk, the main conference room is set at roughly the same angle as the stairway. Tables are made of copper tubing and bird's-eye maple, with steel legs on casters so that they can be easily moved. Overhead is a brace of stage lights salvaged from a former Portland theater. The baseboard is black-painted steel, and projection and sound equipment is housed in an enormous ribbed, galvanized-metal pipe made into a cabinet. A segment of the original brick wall has been left exposed, adding to the interplay of materials. A second, smaller conference room can be used separately or joined to the large one.

Although the Director Building originally rose just seven stories, the architects extended the structure with a pair of progressively smaller penthouses (plans below) set back from the building line. Thick gypsum-board

partitions create semiprivate offices in the eighth-floor production area (below left). The agency's upper penthouse features a conference room enclosed by walls made of perforated steel, glass, and exposed metal studs

(top opposite), and a light-filled waiting room adjacent to the executive offices (bottom opposite).

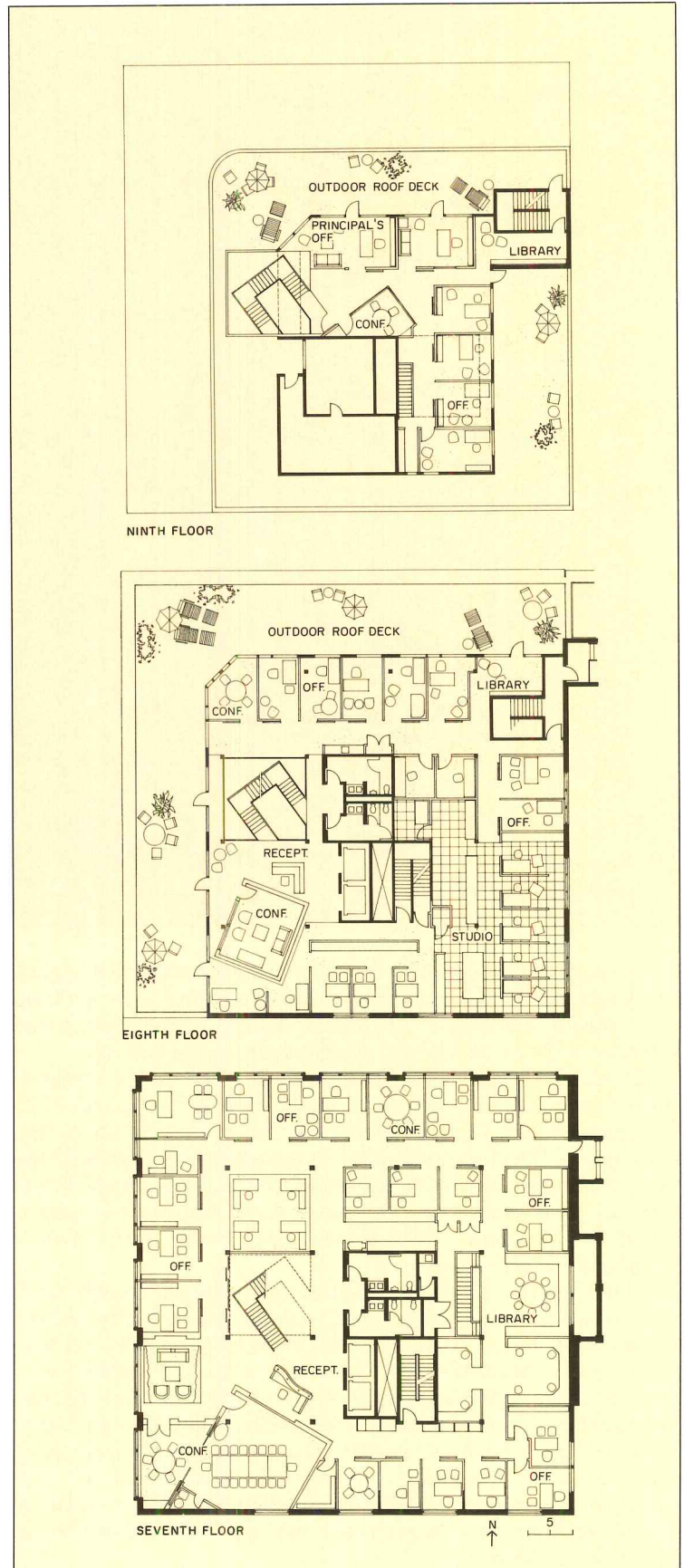


Perimeter offices required a balance between the openness that is the agency's style and the need for privacy in dealing with clients. The solution was sliding barn doors on a metal track; the hardware came out of a barn catalog.

Industrial lighting fixtures are used throughout the 17,500-square-foot space. Fixtures in the corridors, turned upside down for indirect lighting, are fitted with fluorescent octron lamps that meet the city's stringent energy code. Next to the stairway on the seventh floor, docklights play on a wall display of the agency's artwork, held in steel turnbuckles and heavy-gauge wire.

Given ZGF's decision to make the most of the original structure, it is hardly surprising to find mechanical systems exposed. Ceilings are an intricate composition of light fixtures, copper pipes, and gleaming galvanized ducts. According to the architects, when the fabricator was told that the ducts would be exposed, he promised to take special care with them. He delivered on his promise.

The seventh-floor waiting area outside the main conference room features a black Italian-made sofa and two Saarinen "womb" chairs upholstered in a striped wave pattern. The room's carpet was custom designed, and a constructivist table was built by a member of the agency staff. A pair of antique

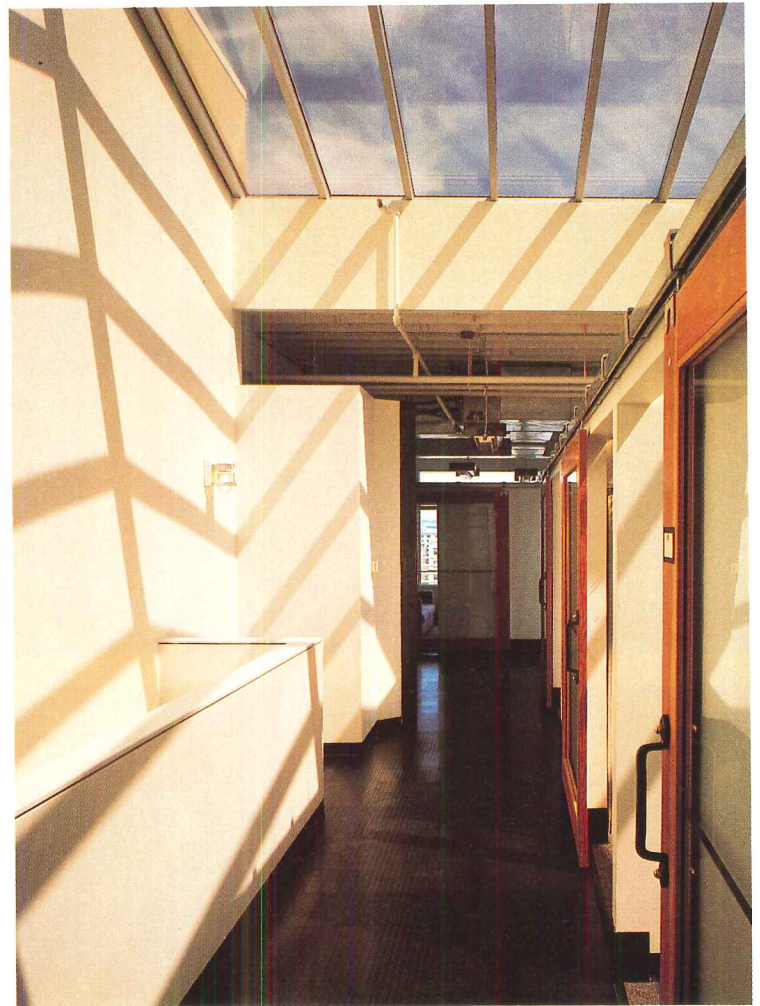






Classic Modern furniture and a whimsical pair of illuminated clocks enliven the seventh-floor reception area (left). The lighting system of the agency's main conference room (below left) incorporates backstage fixtures from a

former Portland theater. A ribbed galvanized-metal pipe houses projection equipment and sound sources. Daylight floods the upper penthouse (below) through existing skylights, which have been modified to reduce heat.



neon-trimmed wall clocks are from the collection of the agency's creative director.

The eighth and ninth floors are located in two penthouses added before the agency leased its space. Because the building is on the National Register, the penthouses had to be set back in order to preserve a period appearance from the street. This created generous roof terraces that are well used by agency personnel.

The eighth-floor reception counter is made of perforated galvanized-steel panels fastened with oversized bolts. "We weren't shy about showing how we put things together," observes Duggan. The conference-room wall behind the counter is a combination of plywood, steel, and concrete block. A custom acrylic display system holds certificates of awards won by the agency.

The agency library overlooks a roof terrace, and the production department has eight-foot-high partitions built of gypsum board to avoid what the designers considered the "temporary" look of most office landscape systems. ZGF placed partitions away from the wall, allowing a second semiprivate means of circulation and communication between spaces. Where workstations are without windows, openings are cut in side partitions to share the light.

The ninth floor, reached only by the stairway, is a light-filled aerie. At the top of the stair is a small, cagelike conference room enclosed by glass-covered perforated-metal sheets. The executive office opposite has large areas of glass opening onto the roof terrace. Along with a second library and a set of small offices, there is room for this growing agency to expand.

DONALD J. CANTY

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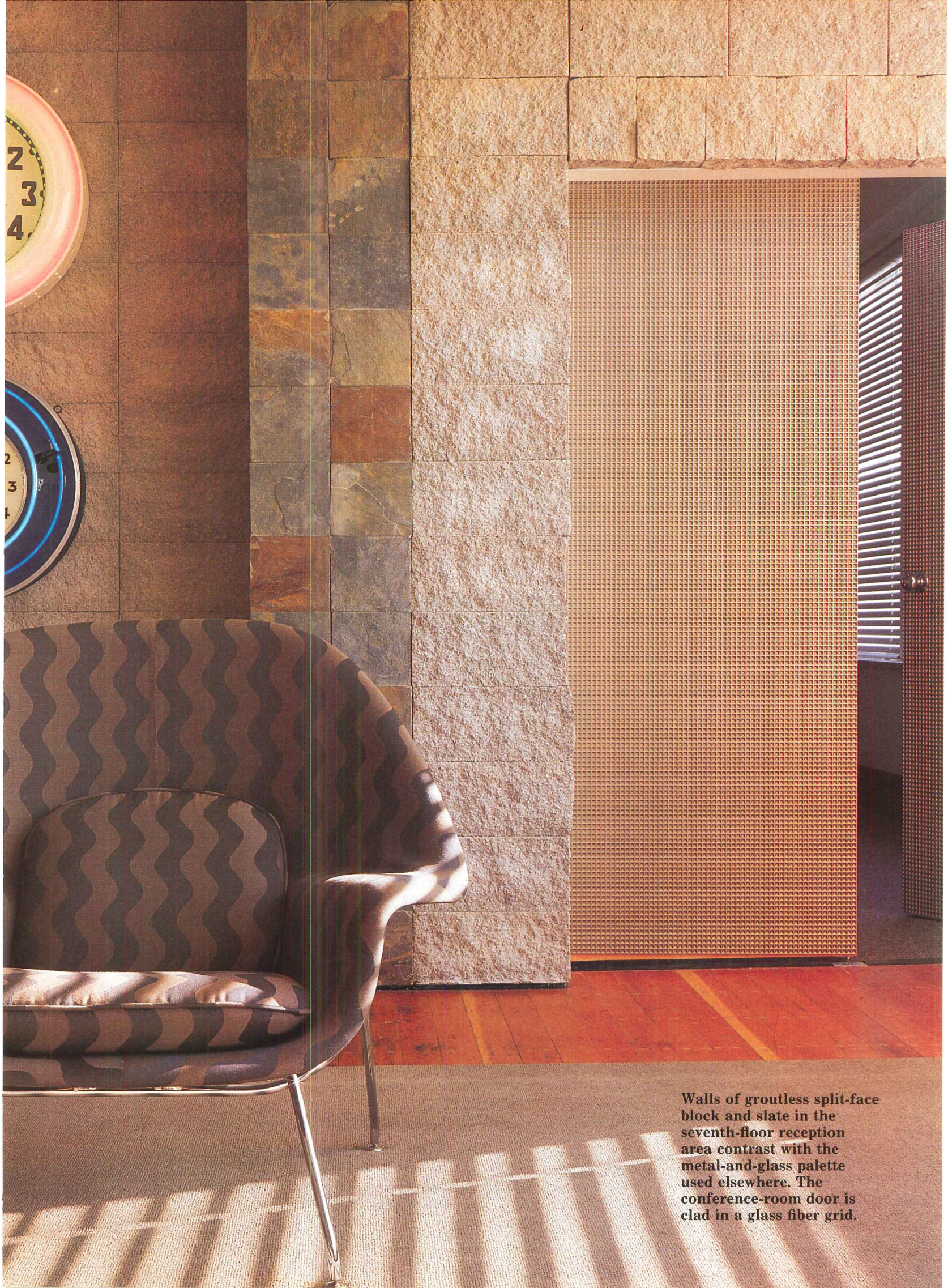
CLIENT: *Borders, Perrin & Norrande, Inc.*

ARCHITECT: *Zimmer Gunsul Frasca Partnership (ZGF Interiors)—Brooks Gunsul, partner-in-charge; James N. Van Duyn, director of interior design and project manager; Sharron Duggan, project designer; David R. Brown, job captain; Craig S. Norman, Kitty Myers, project team; Molly Haatia, administration*

ENGINEERS: *James G. Pierson (structural); Long Engineering (mechanical)*

CONSULTANTS: *Ramsby, Dupuy & Seats (lighting); Tom Coffey (custom furniture)*

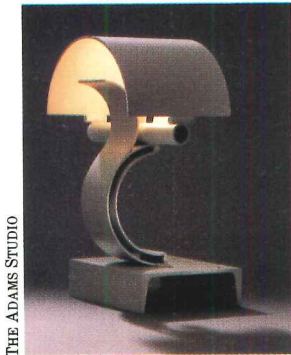
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Walls of groutless split-face block and slate in the seventh-floor reception area contrast with the metal-and-glass palette used elsewhere. The conference-room door is clad in a glass fiber grid.

Throwing a Curve

Though Arthur Cotton Moore says his collection of furniture is inspired by the elaborate shapes of Baroque architecture, the metal ingredients are the stuff of mass-production.



THE ADAMS STUDIO

To many, "Industrial Baroque" is a contradiction in terms, but not to Arthur Cotton Moore. In fact, the architect likes the incongruous sound of his newly coined style—"Industrial Baroque" points out what is missing in the architecture of today: an esthetic that is based on curved, mass-produceable shapes," he explains.

Moore's unlikely union of two distinct approaches was on view for the general public last spring in a one-man show at the Barbara Fendrick Gallery in New York City. Included in the exhibition were Moore's water-color, acrylic, and ink paintings of such Baroque building parts as pediments, columns, capitals, and cornices, which he "industrialized" with exposed bolts, rivets, and fastener plates (right and opposite). Also on display was furniture that the architect initially designed for his own home—a collection of side tables, dining chairs, floor lamps, fireplace mantles, and flower-pot holders now being mass-produced under license with New York City-based Dennis Miller Associates (photos above and opposite).

Like his paintings, Moore's furniture has the elaborate curves often associated with 17th-century Baroque architecture, but in this case they are made from cut and welded steel elements. For example, the S-shaped base of an 18-inch-wide, 21-inch-high glass-topped side table (photo bottom right opposite) is fabricated of 8-inch steel pipe that is split into two 4-inch-wide rings and then welded and molded into shape. Before the base is painted, it is primed and sanded several times to achieve a seamless satin finish.

Industrial Baroque on an urban scale

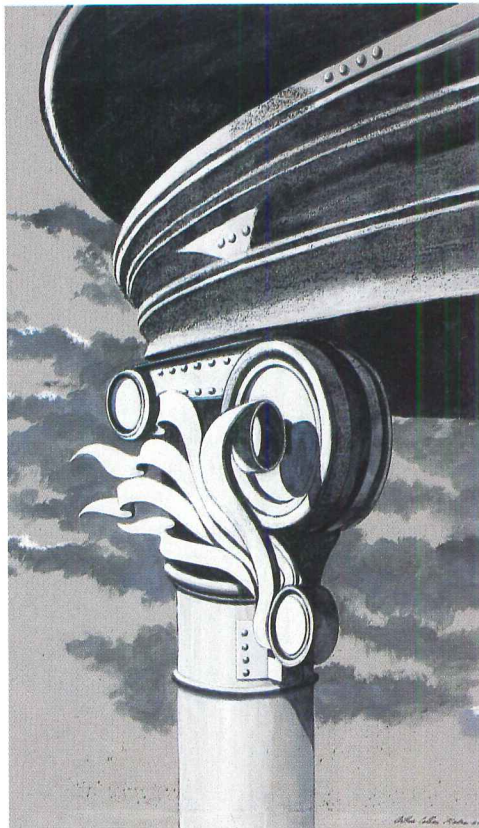
Moore's self-styled "exploration in curvilinear form" is, to some, simply curlicues added onto otherwise ordinary metal furniture. Yet the architect's domestic-scale work has larger-scale implications. Referring to such completed urban schemes as Washington Harbour, a mixed-used waterfront complex of apartments, offices, shops, and restaurants [RECORD, January 1987, pages 84-93], Moore explains, "I have been using tubular shapes in my buildings for some time now to give the compositions a sensation of flowing space."

Moore may find the response to his preoccupation with the Baroque more favorable outside of

his home town of Washington, D. C., a city known for watchful architectural advisory boards and preservation-minded community groups that prefer deferential background buildings to more ambitious artistic statements.

Yet it is in this heavily scrutinized community that Moore has built his successful practice, largely on infill, renovation, and adaptive-use projects. His firm is currently at work on the \$80-million interior restoration of the John Adams and Thomas Jefferson buildings of the Library of Congress—a complex undertaking which reaffirms Moore's belief that a Baroque flair for detail is essential not only in enlivening old monuments, but also in creating new ones.

KAREN D. STEIN

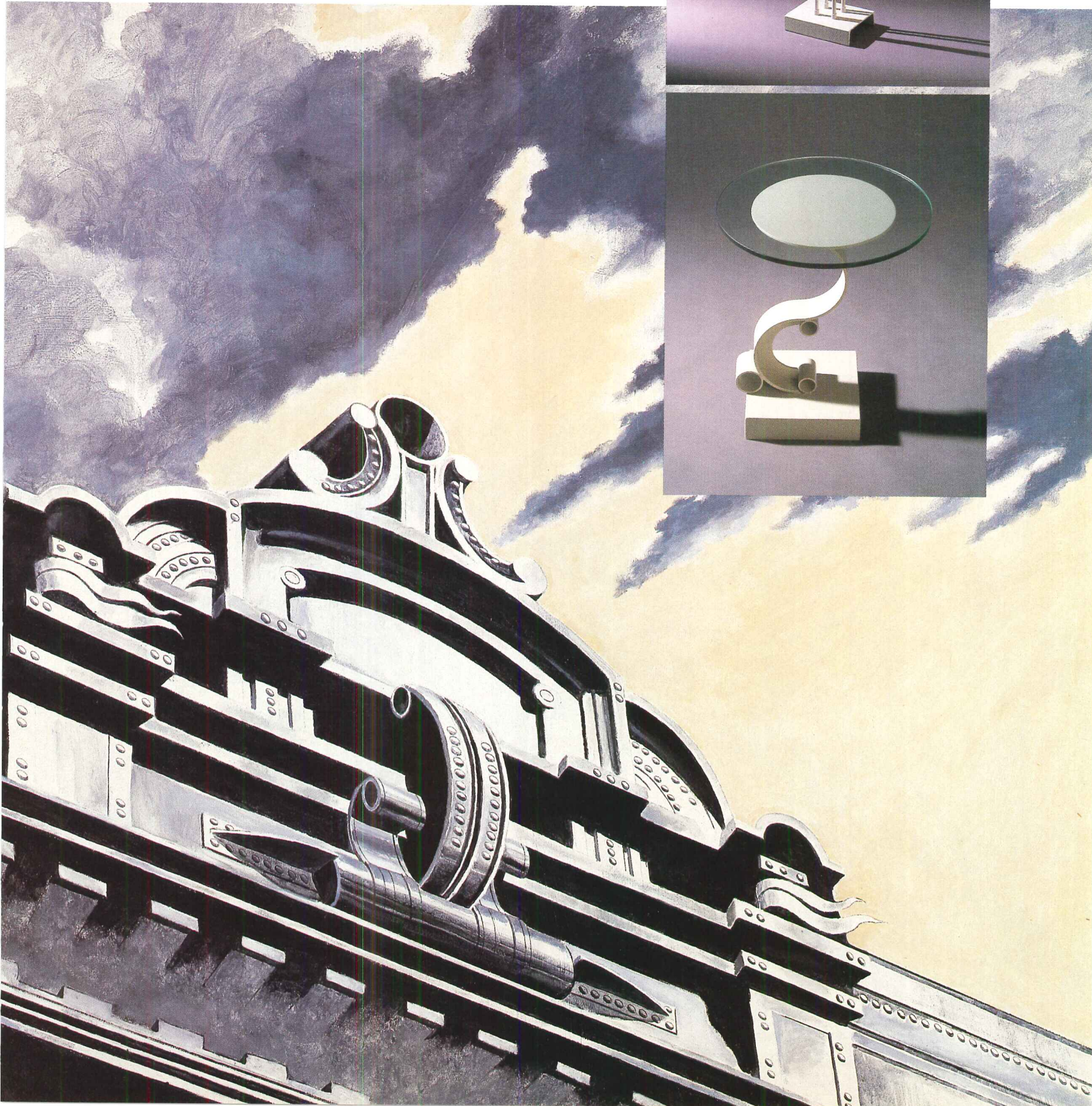
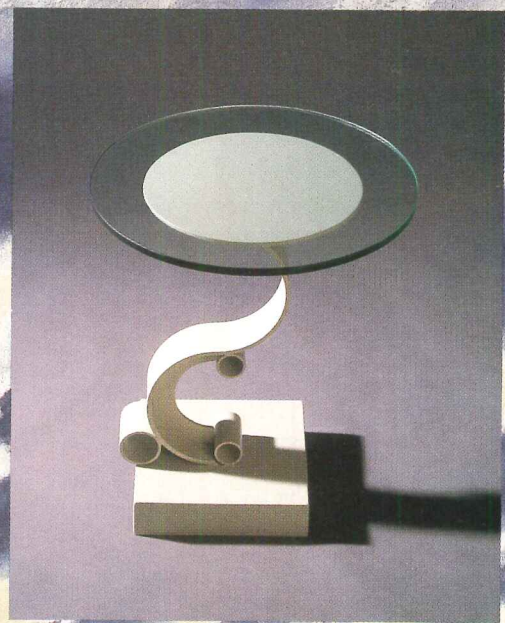
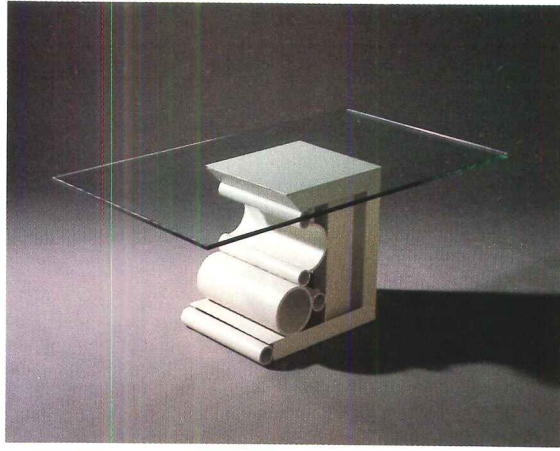


For further information, contact:

Barbara Fendrick Gallery, 568 Broadway, New York, N. Y. 10012.

Dennis Miller Associates, 19 West 21st Street, New York, N. Y. 10010.

Arthur Cotton Moore has rendered his vision of Industrial Baroque in ink, watercolor, and colored pencil—"Drum and Sheet Metal Ribbon Capital" (opposite center) and "Arched Metal Pediment" (below)—and in aluminum and glass. Different models of lamps (opposite left and far right) and side tables (near right and below) are part of his collection.



Pieter Zaanen converted the former goods-exchange hall into exhibition space for the Foundation Beurs Van Berlage. Velvet banners were installed to improve acoustics.



Cultural Exchange

The concert halls, exhibition space, and café created by Amsterdam architect Pieter Zaanen inside H. P. Berlage's 1903 Exchange Building are as innovative as the original building.

© RICHARD BRYANT/ARCAID PHOTOS



The south facade of Berlage's Exchange faces Beursplein Square.

Beurs Van Berlage
Amsterdam
Pieter Zaanen, Architect

The completion of H. P. Berlage's Exchange Building in the historic heart of Amsterdam in 1903 marked not only the turn of the century, but also the arrival of a new epoch in European architecture. Berlage resolutely turned his back on then popular historical styles and anticipated the direction architecture would take in the 1920s and '30s. Today, with a new century at hand, 58-year-old architect Pieter Zaanen has deftly and respectfully adapted Berlage's monument for contemporary use.

Amsterdam-based Zaanen—who studied with a varied group of Modern masters that includes Frank Lloyd Wright, Le Corbusier, and Gerrit Rietveld—specializes in adaptive use. In addition to remodeling local theaters and cafés, he was recently commissioned to renovate the city's oldest artists' society, *Arti et Amicitiae*, which, by coincidence, was last refurbished by Berlage. Zaanen and his staff of 12 are also responsible for a master plan to convert a 19th-century jail into a complex of housing, shops, offices, and restaurants.

The renovation of the Exchange was surely one of Zaanen's more daunting assignments. The building now has three principal tenants: the Netherlands Philharmonic Orchestra, the Foundation Beurs Van Berlage, and the Grand Café Berlage. Zaanen's original commission was from the Philharmonic, which required rehearsal and performance space. The orchestra's plan

to move into the Exchange was timely: the building had just been rejected as the home of the Architecture Institute, and the city's powers-that-be were relieved to find a cultural use for it.

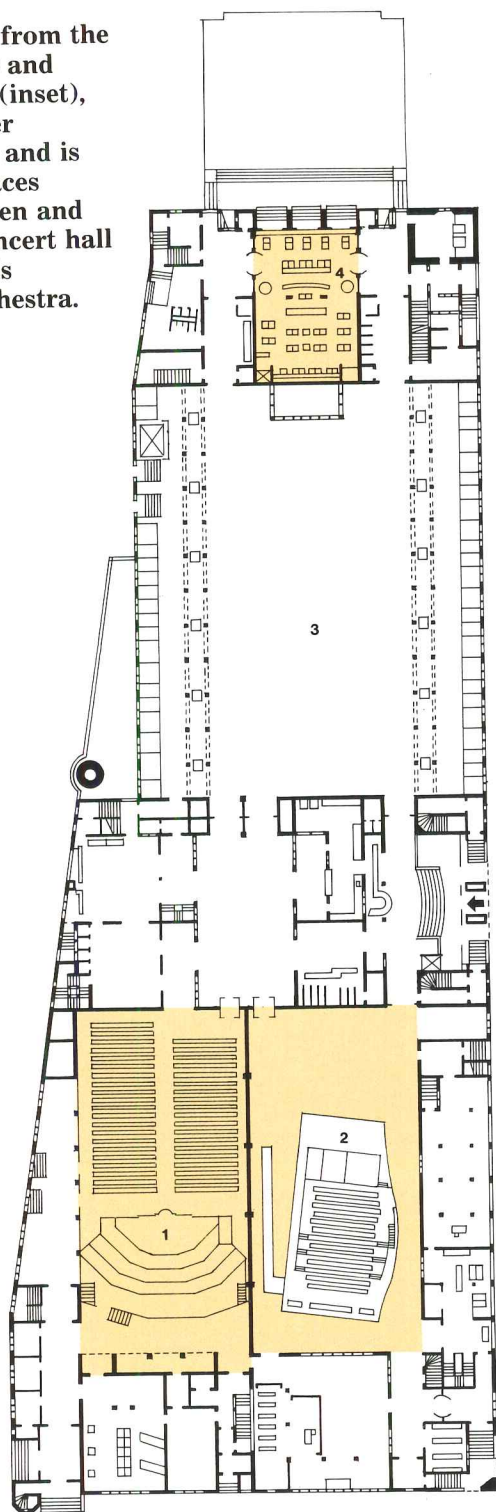
Although the ventilation and heating system and the glass roofs were in need of modernization, the building was structurally sound. Some of Zaanen's alterations were prompted by new functional requirements: he reopened a closed-off entrance on one side of the building for the orchestra and around it made room for the Grand Café Berlage (the basement was converted into a kitchen), which is adorned with existing tile tableaux by Jan Toorop—rather stark allegories of past, present, and future. Zaanen wanted to move one of Toorop's works to the back hall—in accordance with Berlage's original design—to make a connection between the Café and the former goods exchange, but landmark groups objected. The goods exchange, located behind the Café, is now used by the Foundation Beurs Van Berlage for design exhibitions. To improve the hall's acoustics, Zaanen hung a chevron of banners from roof trusses—3,600 square feet of blue, green, and yellow velvet.

The conversion of the former shipping exchange room into the 600-seat Wang Concert Hall, which opened in May 1988, was largely a question of introducing enough acoustic absorption to reduce the reverberation time.

The second performance space, AGA Hall, was a more complex undertaking. It is located in the adjacent grain exchange, and its proximity to Wang Hall resulted in acoustic leakage—a problem further exacerbated by the noise of outside traffic—

Wang Hall, shown from the stage (large photo) and from the entrance (inset), occupies the former shipping exchange and is the first of two spaces converted by Zaanen and his team into a concert hall for the Netherlands Philharmonic Orchestra.

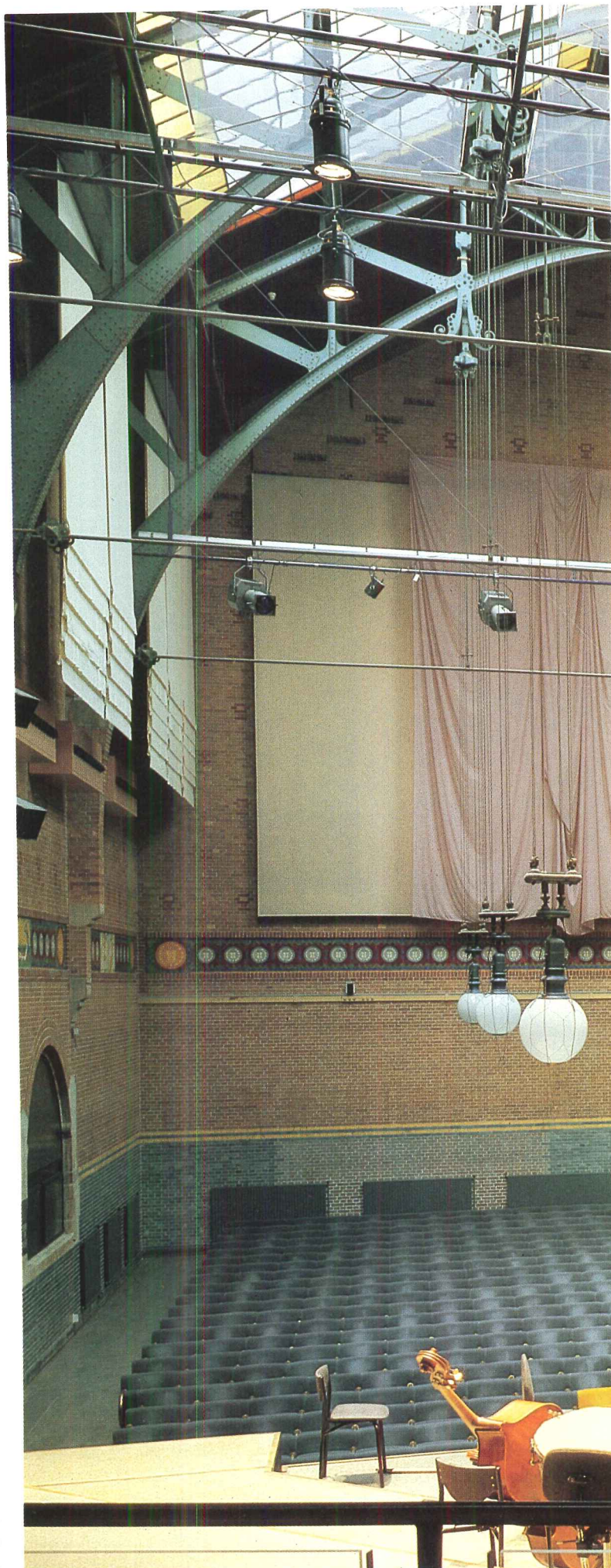
1. Wang Hall
2. AGA Hall
3. Exhibition Hall
4. Grand Café Berlage

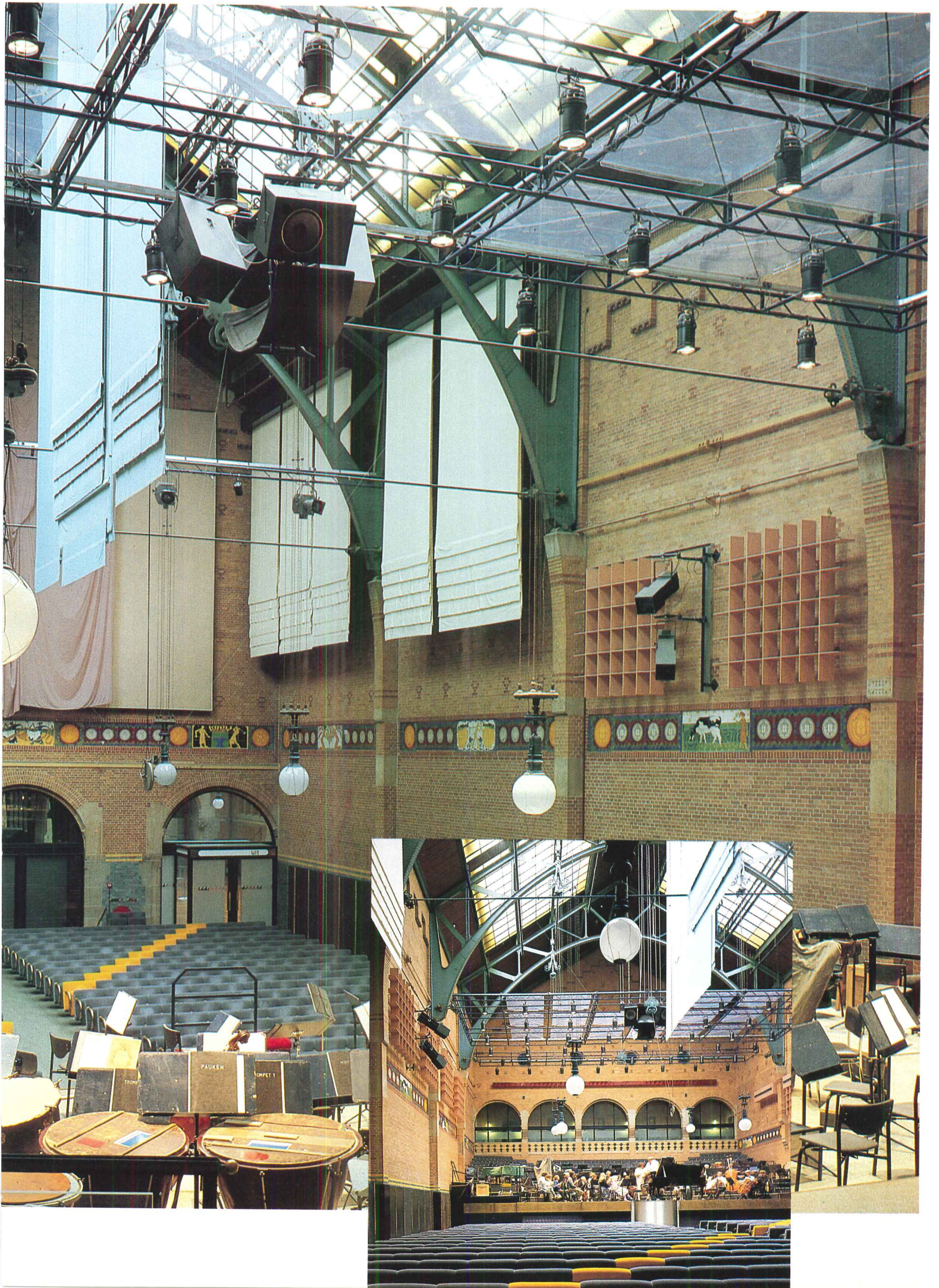


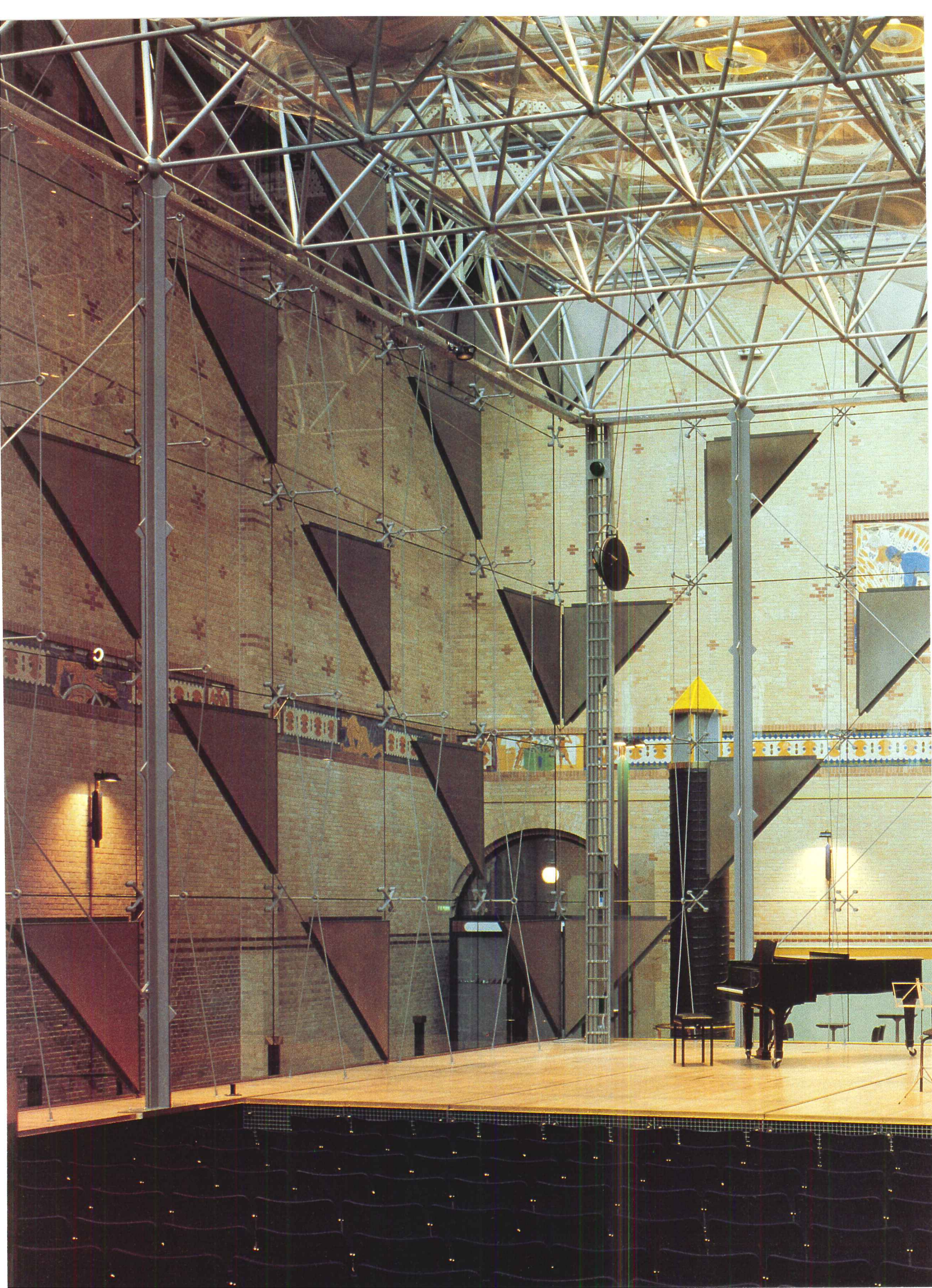
and insulation would have obscured the brickwork and polychromed tile friezes. The approach Zaanen chose was an acoustic envelope: a box within a box.

Zaanen first looked into the use of 27-foot-high ribbed glass panels, but this proved too costly. The solution he eventually devised with structural engineer Mick Eekhout proved more economical: a 6,000-cubic-foot box of 5.5-foot-square tempered-glass panels that rests on a concrete base. (The design required foundation reinforcement in the form of some 20 new concrete piles alongside the original wood piles.)

Even though the panels are just 0.32 inch thick, they provide sufficient noise reduction. The panel at the top bears the dead weight of those suspended from it. On three of the four walls the glass panels are tinted gray and are arranged flush on the outside; inside they are connected by X-shaped "Quattro Nodes" at the corners and stabilized and stiffened by cross

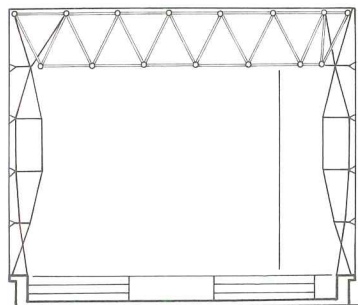




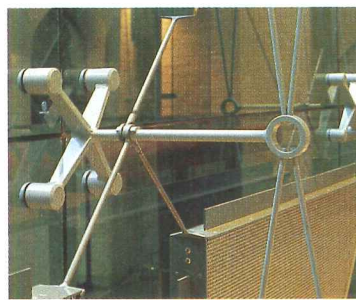




The all-glass AGA Hall, which is used for chamber-music concerts, is in the former grain exchange. Tempered gray-glass walls permit views of Berlage's yellow-brick structure and Jan Toorop's tile friezes depicting agricultural themes. Zaanen's metal triangles and fabric "kites" improve acoustics.



Above: the entrance ramp to the AGA Hall (black "pencils" with yellow tips are part of the ventilation system). Middle right: "Quattro Node" panel connectors developed by engineer Mick Eekhout.



Middle left: section of AGA Hall showing space-frame ceiling. Far right and below: the glass box's "cello belly," the only clear glass wall. Bolt holes in glass panels were cut with a water laser jet.

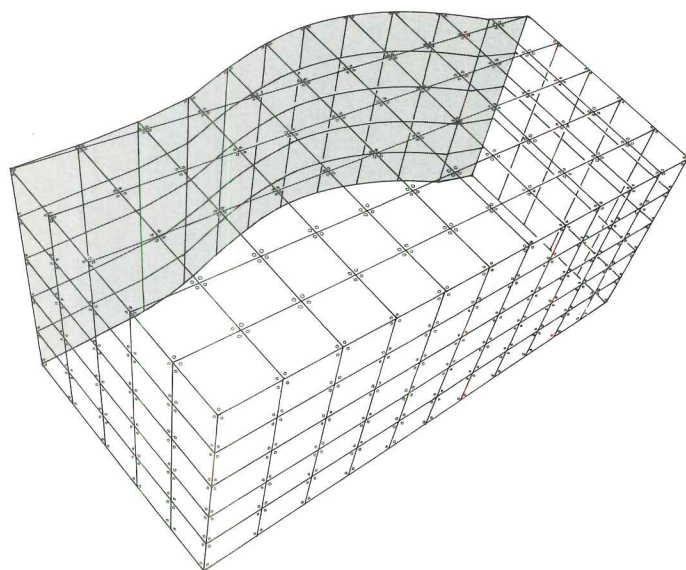
bars and tensile rods. Bolt holes were cut with a water laser jet by Swiss glass manufacturer Securit.

Although the Ministry of Economic Affairs provided a subsidy for technological innovation, Eekhout wanted to go one step further. "We were working on a system of loadbearing glass panels for the roof," he says, "which we have since realized elsewhere, but at that stage it was too costly and time-consuming. Instead, the roof area is a space frame supported by six columns." Lighting is hung above the roof, along with a sliding bridge for window-washers.

Zaenen originally designed the rehearsal hall as a rectangle, but later gave one wall a bulge he calls a "cello belly" that mutes flutter echoes. This curved wall, the structure's only clear-glass surface, also has a different support system: 13 columns the architect dubs "organ pipes." Perforated metal triangles hang along the orthogonal walls; the white "kites" hovering above the stairwell retract sound from the hard front, while the curved glass back wall diffuses it.

Since glass walls did not provide enough support for doors, Zaenen anchored two steel columns to the concrete base to serve as freestanding doorposts. For door handles he selected the bright yellow plastic grips with suction cups typically used for transporting glass sheets—a playful reminder, he says, not to take all the hall's structural virtuosity too seriously.

Though it had been intended only for chamber-music rehearsals, the glass box has proven so successful since it opened last April that it is now used for performances. A surreal sensation of visual weightlessness is heightened by the fact that musicians enter the hall from subterranean dressing rooms. Once



inside the box, the sleek walls seem to dissolve, and the structure disappears like a soap bubble. Careful to keep all new elements literally separate from the original structure, Zaenen has achieved the near-impossible—an architectural intervention that both defers to, and stands apart from, Berlage's fin-de-siècle masterpiece.

TRACY METZ

*Beurs Van Berlage
Amsterdam*

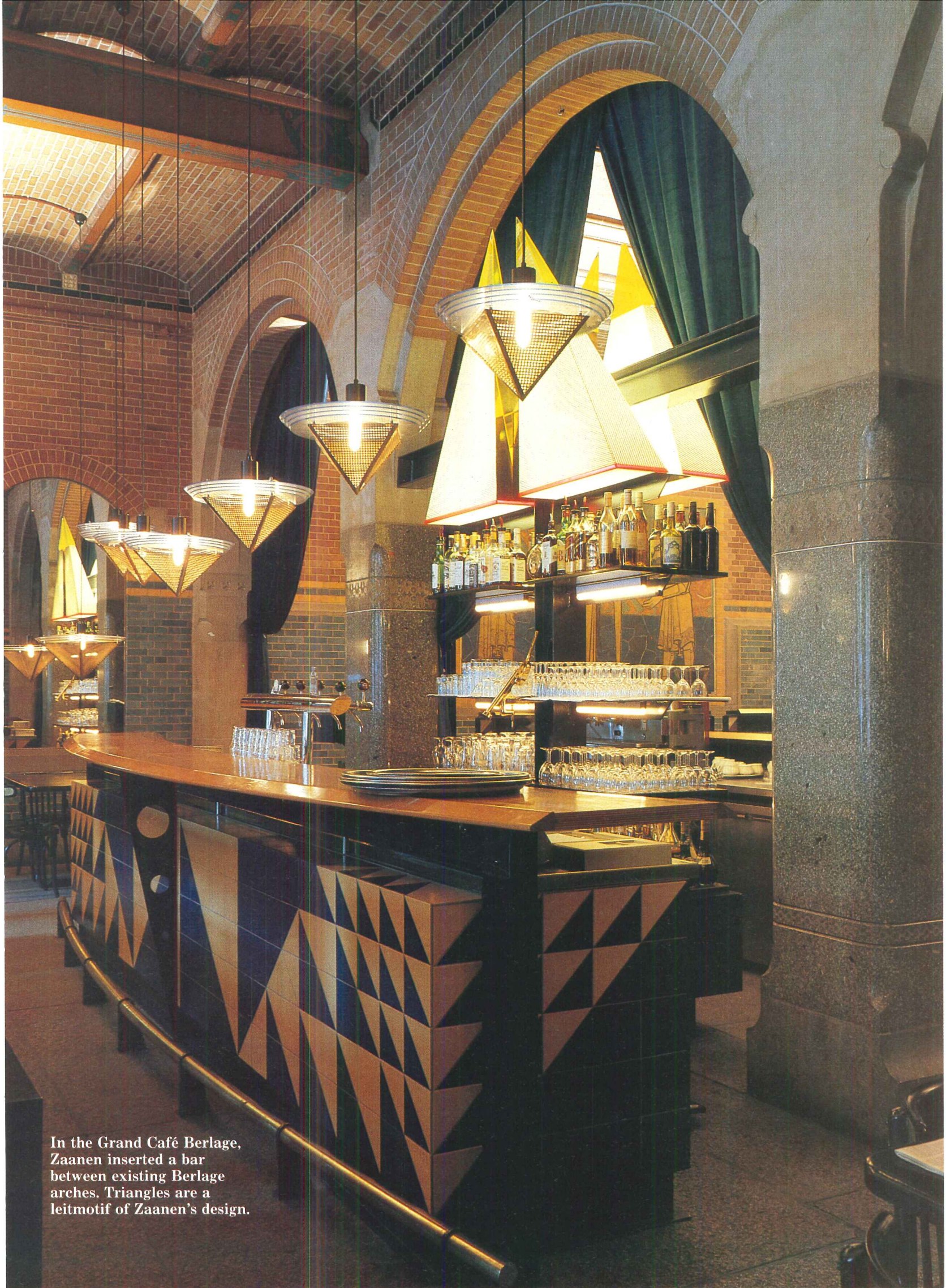
OWNER: *City of Amsterdam*

ARCHITECT: *Office of Pieter Zaenen—Pieter Zaenen, principal-in-charge; Kees Spanjers, project architect*

ENGINEERS: *Octatube Space Structures, Inc.—Mick Eekhout, principal-in-charge*

CONSULTANTS: *Peutz (acoustics)—Rob Metkemeyer, principal-in-charge*

GENERAL CONTRACTORS: *Hillen & Roosen (frame, finishing, AGA Hall); Octatube Space Structures, Inc. (glass, AGA Hall)*



In the Grand Café Berlage, Zaanen inserted a bar between existing Berlage arches. Triangles are a leitmotif of Zaanen's design.

Company Manners

Classical deportment and understated ease tune a financial firm's corporate offices to its low-keyed suburban surroundings.

Dean Witter Financial Services Group
Riverwoods Corporate Place
Riverwoods, Illinois
Lohan Associates, Architects

The first building of an office park set in a low-density residential area on Chicago's northern outskirts, the new Dean Witter corporate offices rise above the typical suburban office building despite the low profile dictated by local zoning.

To reduce its intrusion on the surrounding community, the 600,000-square-foot building was kept to three stories (stepped up to four at the rear slope), and its immense floor areas scaled down by dividing them among the four wings of a cruciform. This created a natural hub for the building's common areas, chief among them a four-story rotunda. Although the atrium reinforces the image of stability and substance embodied in dignified facades of glass and granite, it also exemplifies the architects' search, on behalf of the

client, for public and executive spaces that meet—and signal—conformance with a “sensible” budget, avoiding ostentation.

As a bridge between indoors and out, the rotunda echoes the exterior by means of a colonnade of faceted columns and patterned spandrels across the balconies. Both are precast concrete clad in a granite



Disengaged exterior columns and flamed and honed granite cladding herald the rotunda interior.

chosen for the marked contrast between the gray-green of its flamed surfaces and the intense Nile green it reveals when polished, a palette augmented by walls of Tinos marble and a spoke-patterned floor of granite and limestone.

In keeping with its additional roles as public entrance and internal connector, however, the atrium also displays a lighter touch in the deep russet-red of the balcony's metal balustrades and in the sleek oval of the reception desk, which boasts corrugated stripes modeled, confesses interior architect Michael Heider, on the grille of his father's old Cord automobile. Blue and blue-green upholstered seating groups scattered “like confetti” across the russet rug may be moved to make way for receptions and other large gatherings.

Employees approaching from parking lots bypass the central rotunda, arriving at side entrances linked to it by flanking skylit galleries. Furnished with seating areas and, on the ground floor, such conve-

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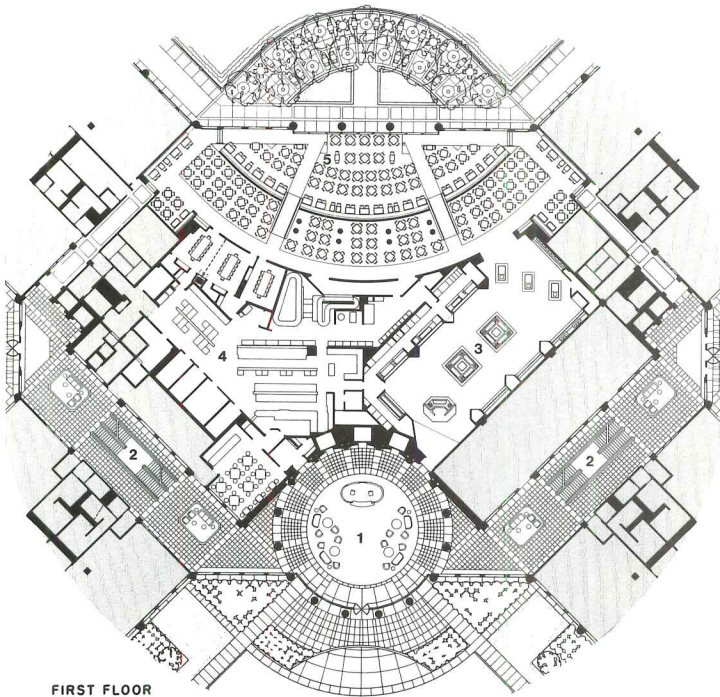


The rotunda's size is scaled down by means of complementary color and form.

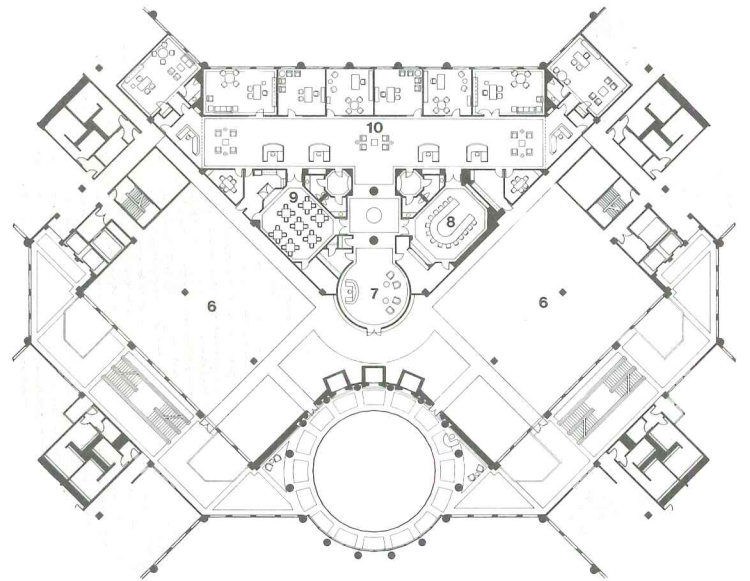




The servery linking the atrium and dining room (plan and photo below) is a muted passage where simple forms in rich russet and deep blue are relieved by the brightness of accent lighting and signage. In the semicircular dining room (right), which is naturally lit by broad windows overlooking a terrace and lake, neutral and wood tones are added to the palette. The amphitheater's sweep is accentuated by the curve of its banquette and coffered ceiling.



FIRST FLOOR



SECOND FLOOR

At either side of the atrium, skylit galleries with open stairways (left) provide vertical and horizontal passage among office floors.

1. Atrium/reception
2. Gallery
3. Servery
4. Kitchen
5. Dining
6. Offices
7. Reception
8. Conference
9. Dining
10. Executive offices

niences as banking machines and shops, these extensions of the atrium serve as internal streets with gently pitched open stairways whose railings duplicate those of the rotunda's balconies. Gallery walls mimic in paint the patterning of facades visible through large end windows.

The architects' ability to wrest rich results from slender means is apparent too in the employee dining facility that occupies the broad angle at the rear of the building. Entered from the rotunda by way of a connecting servery, the daylit expanse of the dining room echoes its curve in a tiered amphitheater focused on a glass wall that overlooks an outdoor dining terrace and landscaped man-made lake. In addition to breaking the 700-seat space into more intimate seating areas, the bowed and stepped form also encourages its use as an auditorium for public functions and company training sessions. The reinforcing arc traced by the fat paired columns is illusory, however: the true columns parallel the outside wall; the doubles suggesting radial lines are fakes.

The modified palette introduced in the food-service area—blues and neutrals with accents of wood—comes to the fore in the second-floor executive area. From

the mini-rotunda of a reception lobby, a central enfilade follows a row of outsize columns that leads past flanking conference and dining rooms to the long secretarial hall guarding executive offices.

Again, the elegance is achieved with modest means. Neutral carpeting and two-toned fabric-covered walls set off the African mahogany used sparingly but tellingly for such fittings as chair rails, baseboards, and file banks. In the meticulously detailed

horseshoe-shaped secretarial workstations and ceiling-high office doors, inlays and overlays of a darker-toned burl-grained mahogany stand in for rare woods and costly cabinetry.

MARGARET GASKIE

*Dean Witter Financial Services Group
Riverwoods Corporate Place
Riverwoods, Illinois*

OWNER: *Dean Witter Financial Services Group*

DEVELOPER: *Homart Development Company*

ARCHITECT: *Lohan Associates—Dirk Lohan, principal-in-charge; Jack Bowman, design principal; George Halik, project manager; Greg Williams, project designer, architecture; Michael Heider, project designer, interiors; Karen Lindblad, design coordinator; Thomas Bair, on-site representative*

ENGINEERS: *Chris P. Stefanos (structural); Jaros, Baum & Bolles (mechanical/electrical); Bollinger, Lach & Associates (civil)*

CONSULTANTS: *By Design (landscape); McCabe & Co. (food service); Schirmer Engineering Corp. (life safety); Walter Anderson (hardware)*

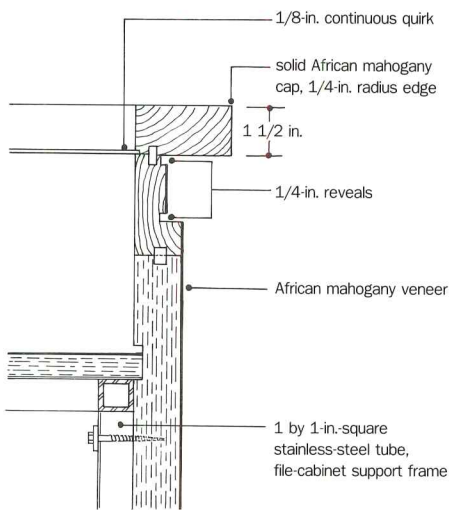
GENERAL CONTRACTOR: *Morse-Diesel, Inc.*



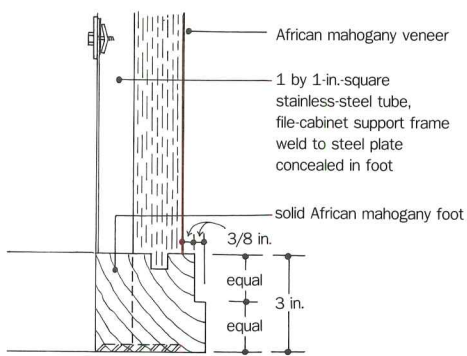
Flanking dining and conference rooms (above) introduce executive offices.



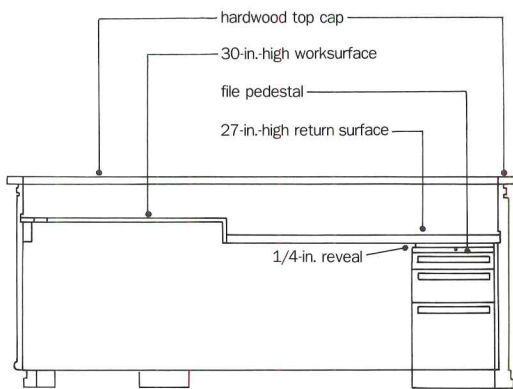
In the executive suite's long reception hall (bottom opposite), islands of seating are interspersed with secretarial workstations (details this page). Like miniature offices, the horseshoe-shaped stations are equipped with word processors and files which augment file banks set into the walls (background in photo right). All fittings are of African mahogany.



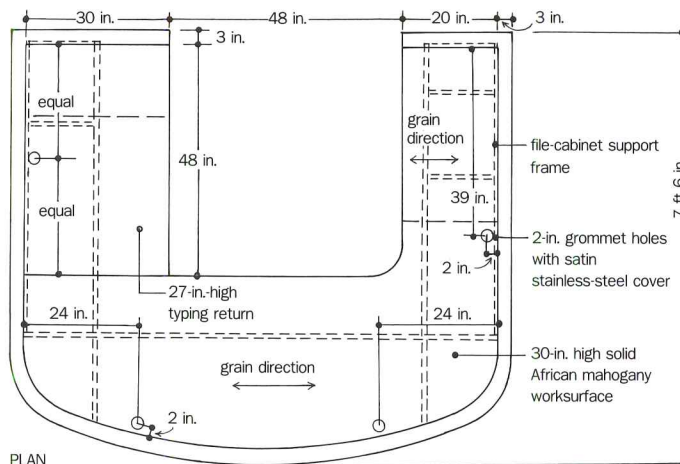
TOP OF TYPICAL LEG



FOOT OF TYPICAL LEG



SECTION/ELEVATION



PLAN
EXECUTIVE SECRETARY WORKSTATION



Behind an aluminum and ceramic-tile storefront (top opposite), American Standard faucets sit atop copper piping attached to metal walls. The faucets run all day, filling the showroom with the sound of splashing water.

Anything But Standard

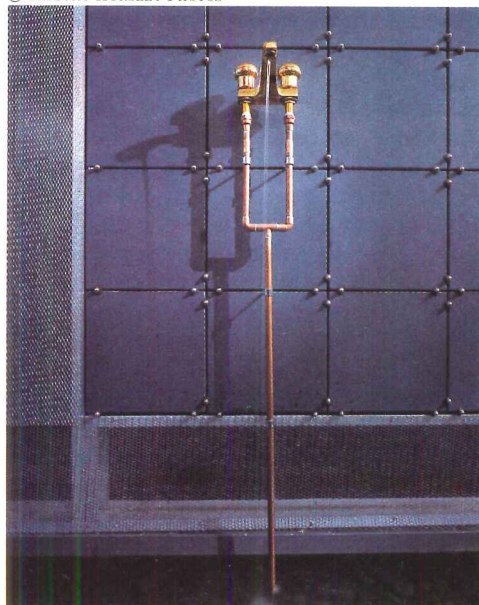


A maze of cubes and the sound of running water set the tone for Tigerman McCurry's bathroom-fixture showroom in New York City.

American Standard Showroom
Long Island City, New York
Tigerman McCurry Architects

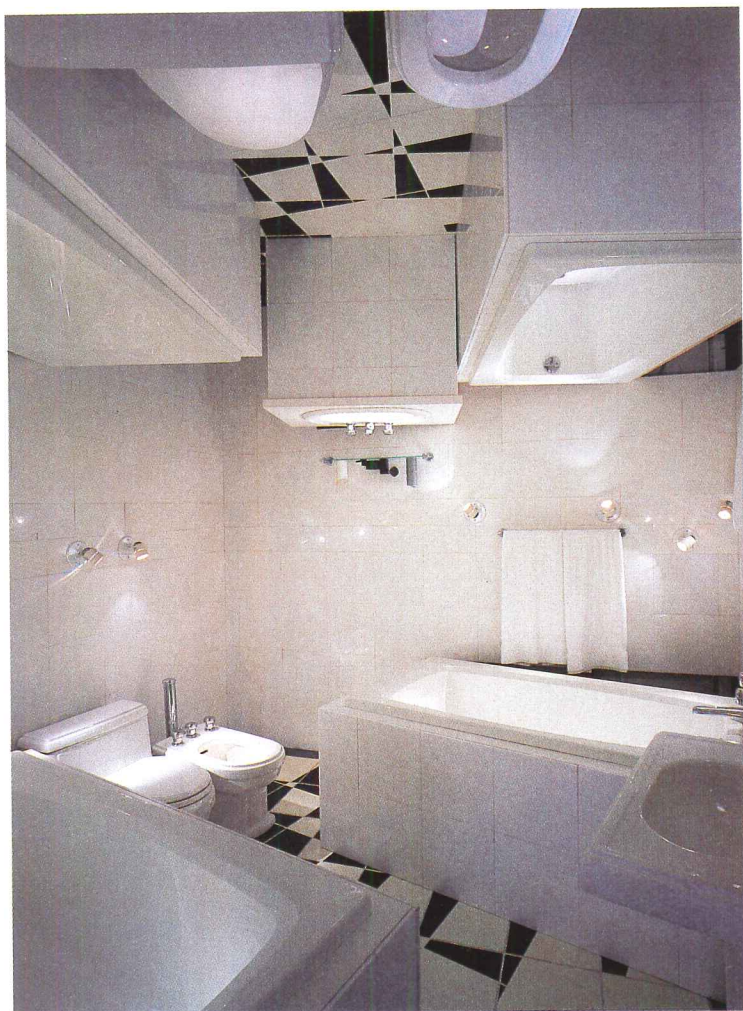
No project so clearly exemplifies Tigerman McCurry's longstanding effort to marry logic with whimsy than the Chicago firm's new showroom for American Standard at the International Design Center New York. Like many manufacturers, American Standard had previously exhibited its line of bathroom fixtures in elaborate model rooms, located on the ground floor of the company's midtown Manhattan headquarters. By moving its showroom across the East River to IDCNY, American Standard sought not to abandon totally its

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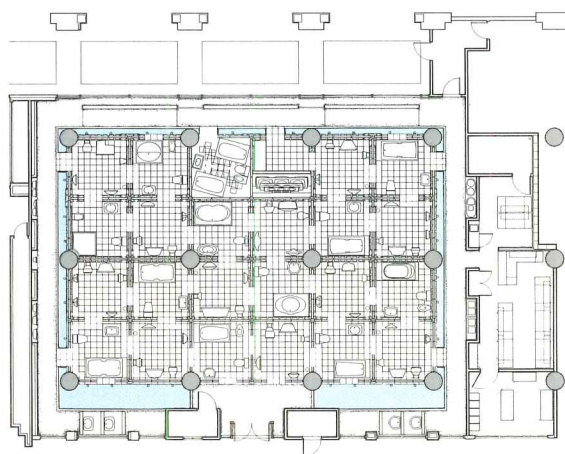


time-honored bathroom-suite displays, but to embellish tradition with something that would attract the attention of New York-area architects and interior designers.

Tigerman McCurry responded by dividing up American Standard's 6,000-square-foot space into a three-dimensional structural-steel checkerboard comprising 24 10-foot cubes—alternately finished in black and white—that fit neatly into IDCNY's existing 20-foot-on-center concrete column bays. The white cubes showcase the manufacturer's fixture lines the old-fashioned way, in settings that mimic real bathrooms; the black cubes, by contrast, spotlight the same products with a special Tigerman McCurry twist—fixtures are



Two showrooms have been set aside for rotating exhibitions of invited designers' work. In one (above left), Stanley Tigerman hung a bathroom suite from the ceiling, skewed wildly off the axis of a similar floor-mounted group. In the second (above right), Margaret McCurry created a fountain out of 11 sinks and 15 taps that drip softly under a canopy of forest-green bath towels.



mounted on the wall or, in a few cases, suspended from the ceiling. The goal, says Stanley Tigerman, is "a maze that will amaze by subsuming the architecture of the whole to product."

The exhibit portion of the showroom is set above raised access flooring laid over a 10-inch-deep pool. Aside from the obvious implied link between water and bathroom fittings, the pool forms the base of a perimeter fountain composed of company-made faucets installed atop exposed copper pipes. Filtered recirculating water runs continuously from the taps into the pool below, noisily animating the space.

Inside the cubes, the architects specified a cleverly varied palette of materials,

ranging from honed white marble and black granite walls to perforated metal floors. (They also used more traditional glazed ceramic tile, but only sparingly.) One cube, for example, is sheathed in anodized aluminum tiles supported by cantilevered stanchions (top opposite), while another has plywood walls laminated in clear aluminum sheets (bottom opposite). All walls, whether metal, tile, or stone, are finished with neoprene washers and acorn caps that form a consistent diamond-shaped pattern throughout the showroom. Lighting is a combination of low-voltage pool lights that cast an eerie glow through black-glass and perforated metal floor tiles in the black cubes, and pendant or track-

mounted halogen fixtures that provide more conventional display illumination in the white cubes. PAUL M. SACHNER

*American Standard Showroom
Long Island City, New York
CLIENT: American Standard, Inc.
ARCHITECT: Tigerman McCurry
Architects—Stanley Tigerman and
Margaret McCurry, partners-in-charge
of design; Karen Lillard, project
architect; David Knudson, Chris
Gryder, Mark Lehmann, project team
ENGINEER: Kyong Andy Kim
CONSULTANT: Paragon-Paddock (pools)
GENERAL CONTRACTOR: Visual
Communications, Inc.*



Nouvel Hotel

Behind the rusted metal awnings of Jean Nouvel's Hôtel Saint James, located in the picturesque French town of Bouliac, are guest suites minimally appointed in shades of white.

Jean Nouvel is one of France's leading architects. His Institut du Monde Arabe in Paris [RECORD, March 1990, pages 76-83] and the Némausus low-income housing in Nîmes [RECORD, June 1988, pages 128-137] have won him praise and world renown. Recent projects include the proposed Tour Sans Fin (endless tower) for the La Défense district of Paris, a redesigned opera house for Lyons, and the future French pavilion at the Venice Biennale, which was approved last May. In the same month, Nouvel's design for a cultural center in Lucerne beat out 117 other international applicants for the commission. Benjamin Ivry, a Paris-based correspondent for Newsweek, spoke with Nouvel about his newly completed Saint James Hôtel and Restaurant, near Bordeaux.

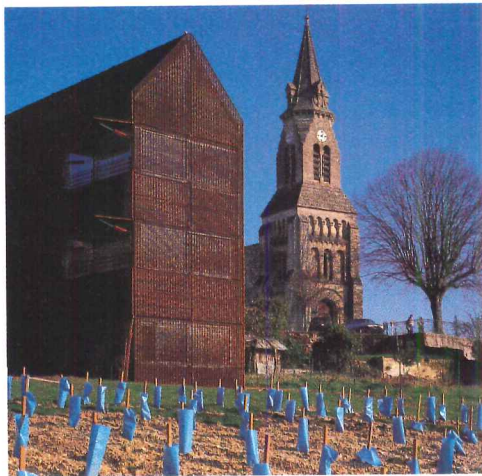
Benjamin Ivry: In Patrice Goulet's book about your work, you are quoted as saying that you have been "traumatized by competitions." How did you get the commission to design chef Jean-Marie Amat's Saint James Hôtel and Restaurant? Was it another trauma?

Jean Nouvel: Not at all, it was a direct commission. Amat started out by holding a competition among local architects in Bordeaux. As you know, Amat is considered one of the greatest chefs in France. He had a restaurant in the center of Bordeaux that was world famous. But then he discovered the site at Bouliac, which dominates the city, with a beautiful view of the surrounding landscape. I guess he decided that he had enough of Bordeaux, or rather that it would be even more beautiful to be at Bouliac. But there was only a single large building there. When he asked some local architects to [renovate the building and] design a new restaurant and hotel, the results did not please him at all. Each of the local architects placed the project in the middle of the site and didn't show enough care for the terrain. So Amat declared the competition null and void (as you can imagine, the local architects were not at all happy about that) and instead asked a small number of nationally based architects for ideas. I was the second one he asked, and I was very interested in the project.

BI: I understand that you like to talk over projects with your team in restaurants.

JN: My main hobby is gastronomy, and I have always been horrified by the décor in even great restaurants—all of the chichi and folksy ornament. For me, the way most great restaurants look spoils a part of the pleasure of the cuisine. This

S. COUTURIER/ARCHIPRESS PHOTOS



Surrounded by vineyards (top), the hotel boasts a restaurant (above) and bistro (opposite) designed by Nouvel.

point of view fit in well with Amat, who also has an interest in contemporary art. For the Saint James project, we did a lot of brainstorming in restaurants—sessions that lasted for hours. It is well-known that a few glasses of wine can loosen the tongue and stir wells of creativity.

BI: What was the building like before the renovation began?

JN: Amat had a big old house that presided over the valley of the Garonne River. But the old building had a kitchen that did not suit his purposes, and a restaurant space that was no good either. He wanted to add hotel rooms for guests, which he didn't have space for, as well as a completely new kitchen and cellar.

Mind you, Amat is interested in the local traditions of Bordeaux, but he didn't want to make additions in a kind of archaic local or rustic style. In his cooking, he is very inventive and contemporary, incorporating new elements from North African cuisine. He wanted the newly designed building to be equally adventurous and contemporary. Before, he simply had a country house. When I first visited it, I was struck by the charm of the place. The terrain descends gently and then suddenly plunges as it approaches the river. There are trees just at the line marking the deep plunge, so there is a first horizon in the view and then another one further on. I wanted to preserve this virgin character of the landscape. So we broke up what was the big house into four separate houses, extending it from what was already there. It's all


based according to a strict geometric system.

BI: What is the physical situation of the town? What sort of people visit the hotel and restaurant?

JN: Bouliac is a little village with a belltower, much like the one on the Presidential seal of François Mitterrand. Bouliac is an agricultural place, and I feel strong ties to it because I was born nearby, in the Dordogne region. The area is noted for its tobacco hangars, where the leaves of tobacco are hung up to dry, and I drew on this tradition for part of my design. The hotel became a sort of extrapolation of the local tobacco hangars.

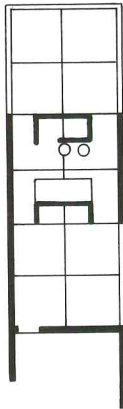
As for the guests, they are sometimes still a problem. The hotel isn't as full as it could be. That's because Amat insisted on not compromising to fulfill what might be the expectations of some guests. The rooms, for example, were designed to be very spartan and bare. But sometimes guests arrive who haven't been warned about what to expect, and they say, "Oh, I see you haven't had time to install the carpets yet." There are even a



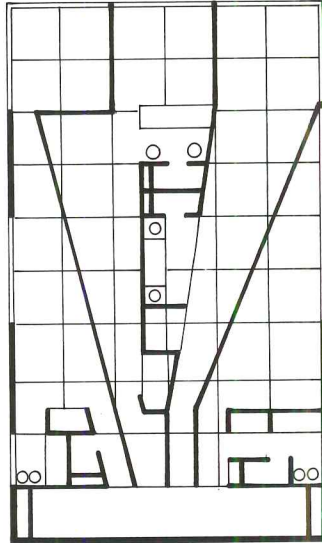


Nouvel designed three-foot-high beds of bleached ash to exploit views of the rolling hillside. Incorporated in the headboard cabinetry are electronic controls that operate adjustable metal window shades and halogen light fixtures. The material palette of the interior includes wax-treated plaster walls and polished concrete floors.

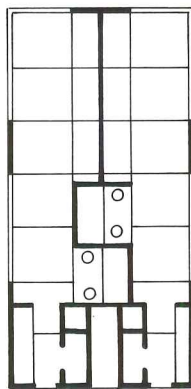




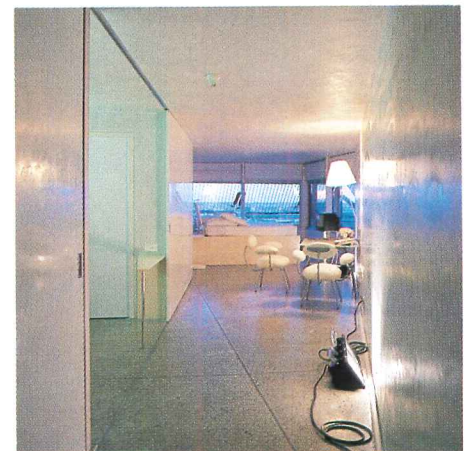
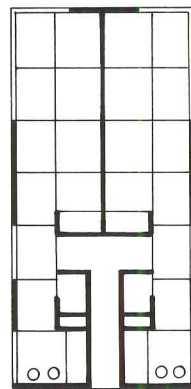
BUILDING E



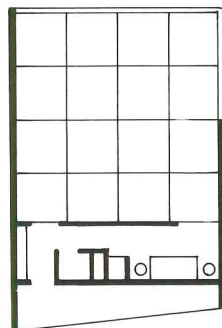
BUILDING B



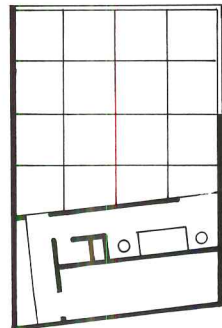
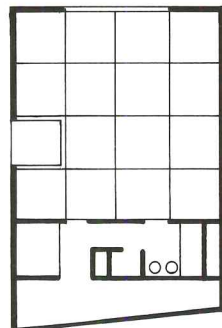
BUILDING D



The floor plan of each of the hotel buildings has a different configuration to accommodate owner Jean-Marie Amat's requirement for guest suites in a range of prices. For example, in Building B (plan top right), beds are located in an alcove at the end of a foreshortened corridor. In Building E (plan top left),



BUILDING C



the bathroom occupies the core. Building D (plans middle) offers two variations of the more standard rectangular room. In Building C (plans bottom), the bed is treated as a sculptural object placed in the center of the space. In addition to the beds, Nouvel designed tables and chairs.

few guests who get mad and say, "I don't want to sleep in a prison, or morgue, or hospital." They find the minimal design offensive. They would rather be cozy. You see, we French were invaded by the English centuries ago, and at least one result has remained with us: the obsession with coziness. Of course, some guests are open-minded and they are deliciously surprised. Amat feels that a hotel should not be a home-away-from-home. For him, a hotel is part of the voyage. A guest should feel slightly displaced, in a universe where he might want to stay for a day or two, but not necessarily where he would want to pass his whole life.

Throughout the project, Amat was courageous. We made some errors, and tried to do everything too quickly, in only six months. We opened the hotel before it was completely finished. The local people of Bordeaux are very tradition-minded. They are not enthusiastic about the hotel. But by contrast, it is full whenever there is an art show or music festival in Bordeaux. And people visit from other areas. Bordeaux's Modern Art Mu-

seum is famous, and attracts many visitors who can appreciate Amat's hotel. But the usual travel-agency clientele, business people, or vacationers are not always sent there, because they might not like it. I warned him about it, saying, "Remember, you have a traditional clientele." He replied, "Never mind, let's go ahead. Just do as you like." Yes, he was courageous.

BI: Did you plan any more structural changes, apart from making four buildings where there was only one?

JN: We still want to add more rooms under the roof, and a heated swimming pool 35 meters long but only 3 1/2 meters wide, enough for two lanes of swimmers.

BI: How about the rusted metal awnings?

JN: They have an ambiguous quality, picking up on the color of many roofs in the village. The real walls of the hotel are behind the metal awnings, which are worked electronically, raised and lowered to let in sun or to create shadows. Inside the rooms, everything is white, which encourages the play of light and

Continued on page 207



In some rooms, the bathtub is separated from the bedroom only by a glass partition to promote "conversation," according to the architect.

Change In Scene

For a chaotically creative film company in Los Angeles, Craig Hodgetts and Ming Fung assembled a Constructivist open-office landscape out of workaday components.

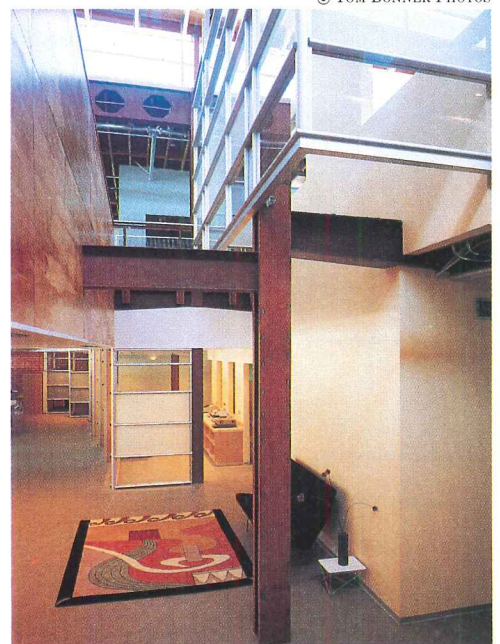
Hemdale Film Corporation
West Hollywood, California
Hodgetts & Fung Design Associates, Architects

Craig Hodgetts and Ming Fung aren't interested in making heroic architecture. They don't want to waste money on a grandiose facade, entrance, staircase, or applied ornament. They are interested in scenography—how to create working sets for working lives. In designing the new offices of the fast-growing Hemdale Film Corporation on Beverly Boulevard in West Hollywood, Hodgetts and Fung developed a flexible palette of technology-derived elements and, in the process, produced an elegant machine for working, all at the modest cost of \$57 a square foot.

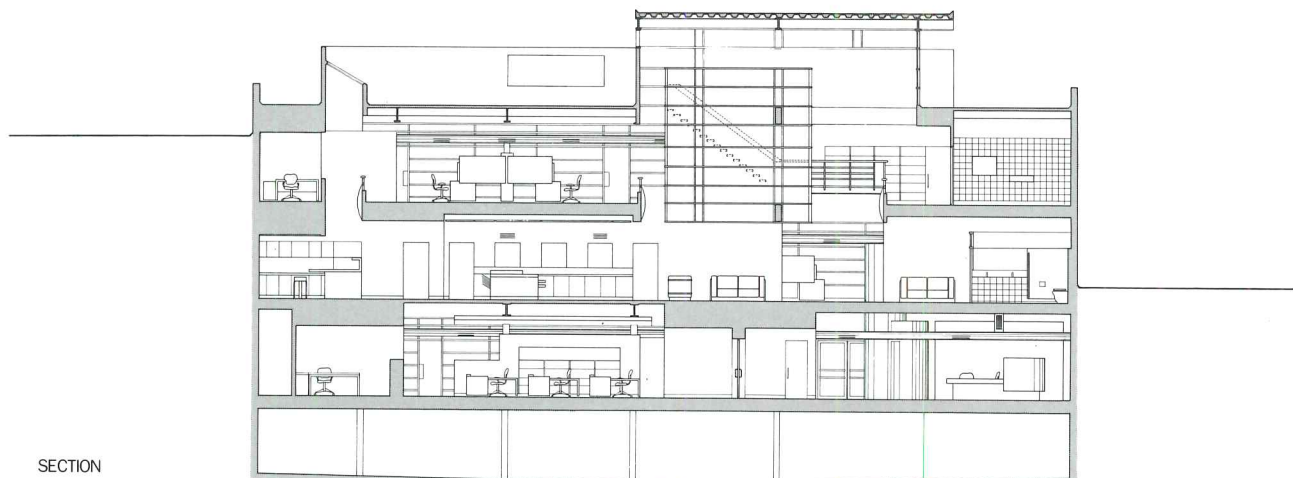
The architects sandblasted existing glass block, which at night gives a translucent glow to the screenlike portion of the facade—an appropriate symbol of the Hemdale Film Corporation's new offices.

Though a fascination with adapted mechanical gadgets has marked the work of the Santa Monica-based firm Hodgetts & Fung Design Associates since its founding in 1981, in this case the design approach was suggested by the client. "They wanted something that looked like the set of the movie *Brazil*," recalls Fung. But the architects felt that the science-fiction atmosphere had to be humanized to accommodate "a company of creative types hiding away in nooks and crannies." What's more, the independent movie producer faced a real-life dilemma: how to handle the vast volume of paperwork necessary to supervise its various film projects.

Hodgetts and Fung found the solution to these problems in their design of a workstation of off-the-shelf components, which they expanded on with "architectural elements that could be extended all of the way through the building," according to Hodgetts. Beginning with ample shelving units, desktops, and computer-support returns, the architects devised their own no-nonsense structure: computer-wire raceways, which double as modesty panels, metal extrusions whose rounded aluminum shapes mimic custom-made



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SECTION



A two-story atrium brings light into center offices (above and opposite, right), while creating a dramatic visual focus for executive offices on the top floor.

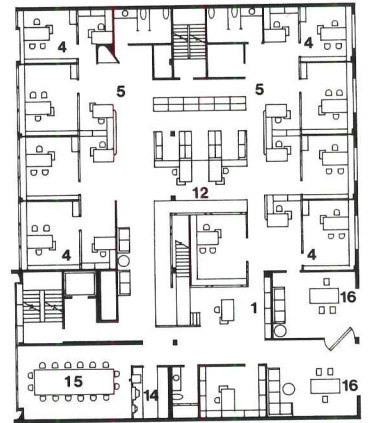
air-conditioning ducts suspended overhead, and colored plywood panels (drawings page 108).

Once the design of the workstations was determined, Hodgetts and Fung had to arrange them within an existing four-story, 100-foot-deep building with elevators and staircases located along the perimeter. The architects gave a derelict facade a much-needed facelift (small photo page 104) and in order to bring light into the dark core, they carved a rectangular void into the second through fourth floors that pops out of the roof as "a lantern to light the whole building." Frosted glass and aluminum partitions around this light well (page 105) echo the materials of the workstations and form translucent screens around the central open space.

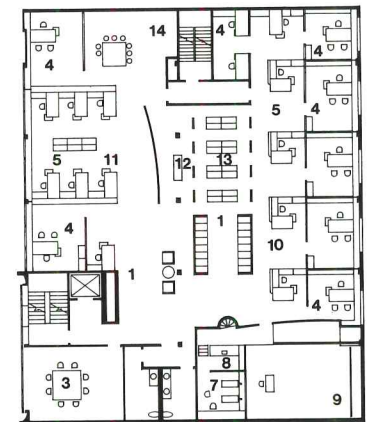
Hodgetts describes the result as "layers of shrouding—a luminous envelope placed over a structure that can be straightforward and crude, since it is screened by an elegant enclosure." Because this designed incision reveals the metal and wood of the existing structure, the overall effect is to exhibit the structure of the 1961 building, down to the spotwelds and exposed joists, while bringing this architectural "display" into the present with the addition of more up-to-date technology. In addition to the kit-of-parts workstations and the layers of translucence, Hodgetts and Fung added elements to underscore certain spaces: a curved soffit that follows the stepped configuration of private offices on the third floor (page 108), and red and yellow objectlike rooms on the second and third floor for copy machines, file cabinets, and additional office equipment have walls and ceilings painted in saturated tones.



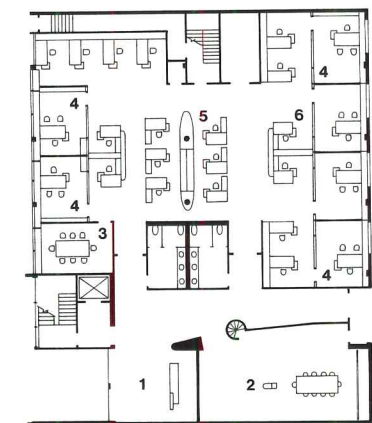
Hodgetts and Fung bridged time and space by revealing the old structure and inserting new elements in overlapping patterns. Plywood panels mimic original wood flooring (below), and Hodgetts and Fung's aluminum ducts weave through existing raw steel beams (above).



THIRD FLOOR



SECOND FLOOR



FIRST FLOOR

- 1. Reception
- 2. Dubbing room
- 3. Conference
- 4. Office
- 5. Open office
- 6. Marketing/sales
- 7. Projection
- 8. Editing
- 9. Open
- 10. Legal
- 11. Accounting
- 12. Reproduction
- 13. Files
- 14. Kitchen
- 15. Board room
- 16. Executive office



Private offices are located around the perimeter of the building. Aluminum-framed partitions of clear and frosted glass give privacy while permitting sunlight to filter to open-office workstations in the core.

Detailing throughout the office enforces the architects' notion of components assembled inside an envelope. Interior walls are notched back from exterior walls, and horizontal and vertical planes overlap, allowing lines from one wall to continue in the next. Taking cues from the movie industry, Hodgetts and Fung composed a sequence of enclosed rooms and overlapping spaces, whose sum total is more than just a stage set.

AARON BETSKY

*Hemdale Film Corporation
West Hollywood, California*

OWNER: *Hemdale Film Corporation*

ARCHITECTS: *Hodgetts & Fung Design Associates—Craig Hodgetts and Ming Fung, partners-in-charge; John Trautman, project architect; Rachel Vert and Bill Molthen, project team*

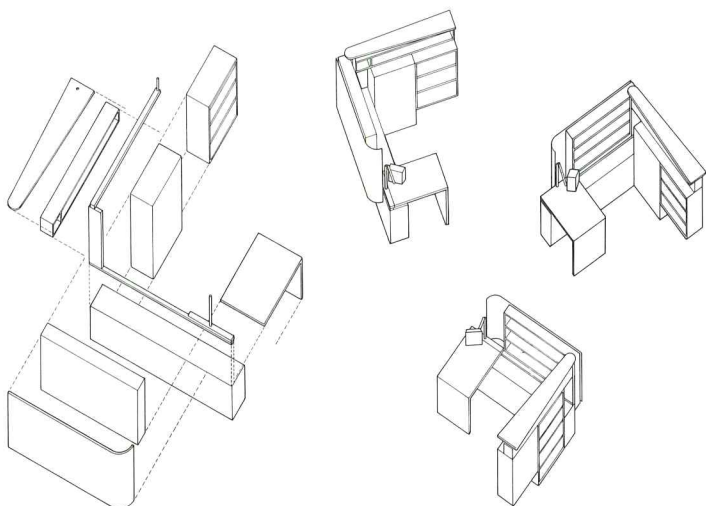
ENGINEERS: *Robert Lawson (structural); The Sullivan Partnership, Inc. (mechanical); Nikolakopus & Associates (electrical)*

CONSULTANT: *S.O.T.A. Design (furnishings)*

GENERAL CONTRACTOR: *Pacific Southwest Development, Inc.*



Workstations combine custom-designed elements and off-the-shelf components.



Angled yellow-and-white soffits help diffuse natural light that filters into perimeter offices. Plywood and painted surfaces of open offices echo the colors of existing brick, wood, and steel.



Penthouse Suite

Steven Forman has renovated a triplex apartment in midtown Manhattan into an urban house for a couple with a growing family. His solution: a calm backdrop for busy lives.

Manhattan Triplex Apartment

New York City

Steven Forman, Architect

In the early 1980s, the overheated housing market in New York City fostered the development of a residential building type dubbed the “sliver”—a tower shoehorned into a town-house site. Although permitted by city zoning regulations in effect since 1961, many of the resulting tall, skinny structures were considered unwelcome intrusions by their more venerable low-rise neighbors—they obscured desirable views and cast long shadows—though from their occupants’ perspective, they provided all the amenities of an apartment building and the charm of a low-density block.

It is in just such a building in midtown Manhattan—one of the last slivers erected before changes in zoning regulations put an end to their construction—that 35-year-old architect Steven Forman was commissioned to renovate a trilevel penthouse vacant since its completion in 1982. Looking beyond the awkward existing layout and standard finishes provided by the building’s developer, the apartment’s new owners—a jewelry manufacturer and his wife, a jewelry designer—recognized that with the appropriate renovations, the 2,900-square-foot space could approach their ideal of an urban house.

Forman’s clients were equally concerned about the kind of high-style entertaining one often associates with a Manhattan penthouse *and* the more mundane daily requirements of a growing family. In order to deal with this seemingly conflicting agenda, Forman devised what he calls a “theme of simultaneity.”

The physical form of Forman’s chosen theme

called for a “both/and” approach—sleek and ordered public rooms with surfaces durable enough to withstand constant abuse by young children. It also demanded a carefully worked out vertical organization of the space, since horizontal space was restricted by the 25- by 100-foot floor plan of the building, with nearly one quarter of the footprint given over to two elevator shafts and a service stairwell (see axonometric drawings page 114).

Organizing the space, Forman made the top-most floor a “public” level of living room, dining room, and kitchen (opposite and top page 115), the middle floor a “private” level of bedrooms and bathrooms (bottom page 115), and the lower floor a “semi-private” level consisting of a family room/media center and two terraces totaling 750 square feet (page 117). Forman kept the apartment’s main entrance on the middle level, and added a new layer of security: an oversize front door, whose perforated stainless-steel panels allow you to see and speak with arriving visitors (inset left). To further screen the elevator from the foyer, Forman formed an entrance vestibule of curved glass block, with room for coat closets.

Inside, Forman made the apartment’s panoramic views of New York City the focus of his design. As if to underscore the vertical nature of the skyline, the architect designed a vertical beacon of his own—a 6-foot 9-inch-high column of sandblasted Pyrex rods, bundled together by metal rings, and forming a softly luminescent accent mark at the living room’s perimeter (opposite and page 112-113).

Contrast of solid and transparent

Built-in ebonized ash cabinetry lines living-room walls, hiding stereo equipment and a fully equipped wet bar, and acts as a solid foil to the transparent surfaces. According to Forman, the cabinetry is an inversion of Georges Braque’s use of black as a background color in his paintings. Claims Foreman, an avid student of Mod-





The entry foyer of the three-level apartment is on the second floor, behind the living room.

ern art: "Black is typically perceived as a visually negative background or framework in a composition, much like the early paintings of Braque. In this case, however, the cabinets are the positive foreground elements of the composition."

A red-leather club chair and red piping on the sofa's muted gray cushions are the only vibrant colors in the room; Forman selected a muted palette as a backdrop for the owners' growing art collection. Here, as throughout the apartment, Forman mostly maintained existing 9-foot ceiling heights, dropping down to 7-foot 6-inch soffits in some areas to accommodate spotlights, and to 6-foot 9-inch soffits that conceal hvac equipment. To differentiate the layers, Forman color-coded ceilings in three subtle shades of what he calls "bridge" gray.

Forman's scheme of overlapping spaces interrupted by sculptural partitions recalls other Modernist floor plans, especially those of the architect's previous employer, Gwathmey Siegel and Associates. For example, the architect recast an existing powder room into a capsule-shaped object that occupies a central position in the foyer/picture gallery (axonometrics page 114). A compact kitchen is separated from the dining room by a serving window that can be closed for formal gatherings. Inside the kitchen,

The perimeter of the living room (photos opposite and left) is marked by Forman's custom light column of sandblasted Pyrex rods held together by stainless-steel rings. Built-in cabinetry of ebonized ash lines walls in solid contrast to the transparency of generous south- and west-facing windows.

Forman transformed 72 square feet of terrace space into an eating alcove.

To connect the entry level to the den above and bedrooms below, Forman replaced existing wood banisters with custom-made brushed stainless-steel tubes whose curved corners echo the arc of the stairwell (photo page 114). On both landings, frosted-glass panels serve as lightbox diffusers and create a vertical stripe that spans the three floors.

Privacy below

With limited views of the outside, the 1,110-square-foot "private" level seems much smaller

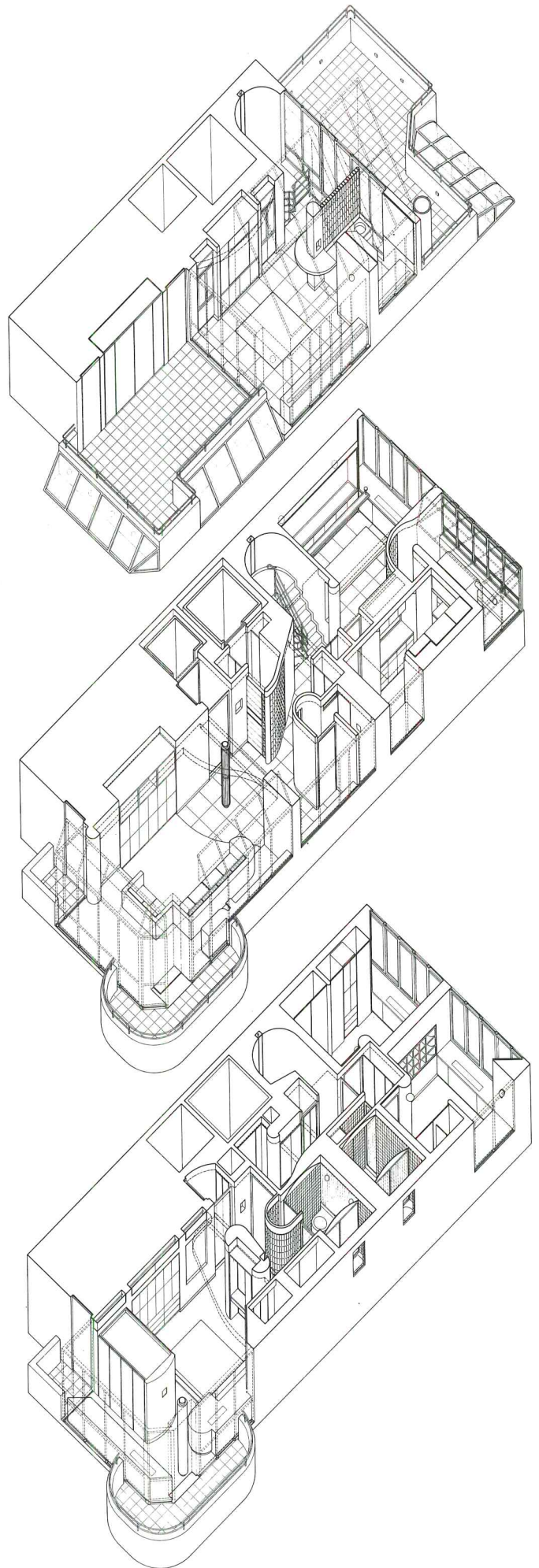






Custom-made brushed stainless-steel handrails wind around the stairwell that connects the triplex's three floors (above). A curved powder room (photo below and axonometric middle) stands as a free-floating object within the entrance foyer. Forman inset a small mirror at the end of the dining-room table to give an illusion of infinite space (opposite top).

A curved glass-block partition screens the dining room from the 72-square-foot breakfast alcove, which occupies a former terrace. An oversized door separates the master bedroom suite (opposite bottom) from the rest of the lower level. Built-in cabinetry hides the bed from the bathroom on one side and from views outside on the other (axonometric bottom).





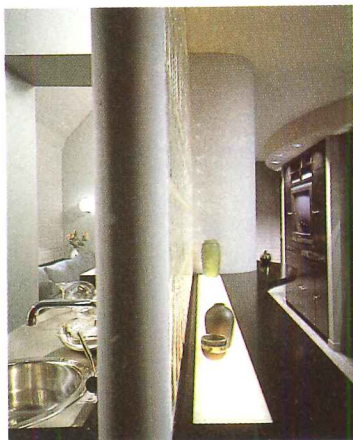
than the main level, but is in fact the same size. The master-bedroom suite occupies most of the floor and is separated from a narrow hallway and two smaller bedrooms by an oversized steel door befitting more ceremonial use. Inside, a built-in curved oblong vanity separates the sleeping area from a large bathroom, and massive closets screen views of the outside.

Drama above

The 600-square-foot top level contains a family room/media center and a semienclosed study with a bar. With ceilings rising to 18 feet, this 24th-floor aerie is the most dramatic space in the apartment. Large terraces flank the family room, which is outfitted with an imposing array of audio-visual equipment, all painstakingly placed within ash cabinetry.

Predictably, Forman's clients demanded a jeweler's precision, not only in the blending of many diverse elements into a seamless whole,

On the triplex's top floor, where the ceiling height rises to 18 feet, is a family room/entertainment center (right and opposite) and adjacent study/wet bar (below) flanked by large east- and west-facing terraces (axonometrics page 114). Motorized screens control the sunlight. The architect's subdued material palette of ebonized ash cabinetry, gray stone, gray carpeting, stainless steel, and frosted glass is brightened by pastel blue leather and fabric upholstery on club chairs, an ottoman, and a built-in sofa.



but also in the project's construction. "They were relentless about details," says Forman, whose liking for architectural precision found a pair of kindred spirits. **KAREN D. STEIN**

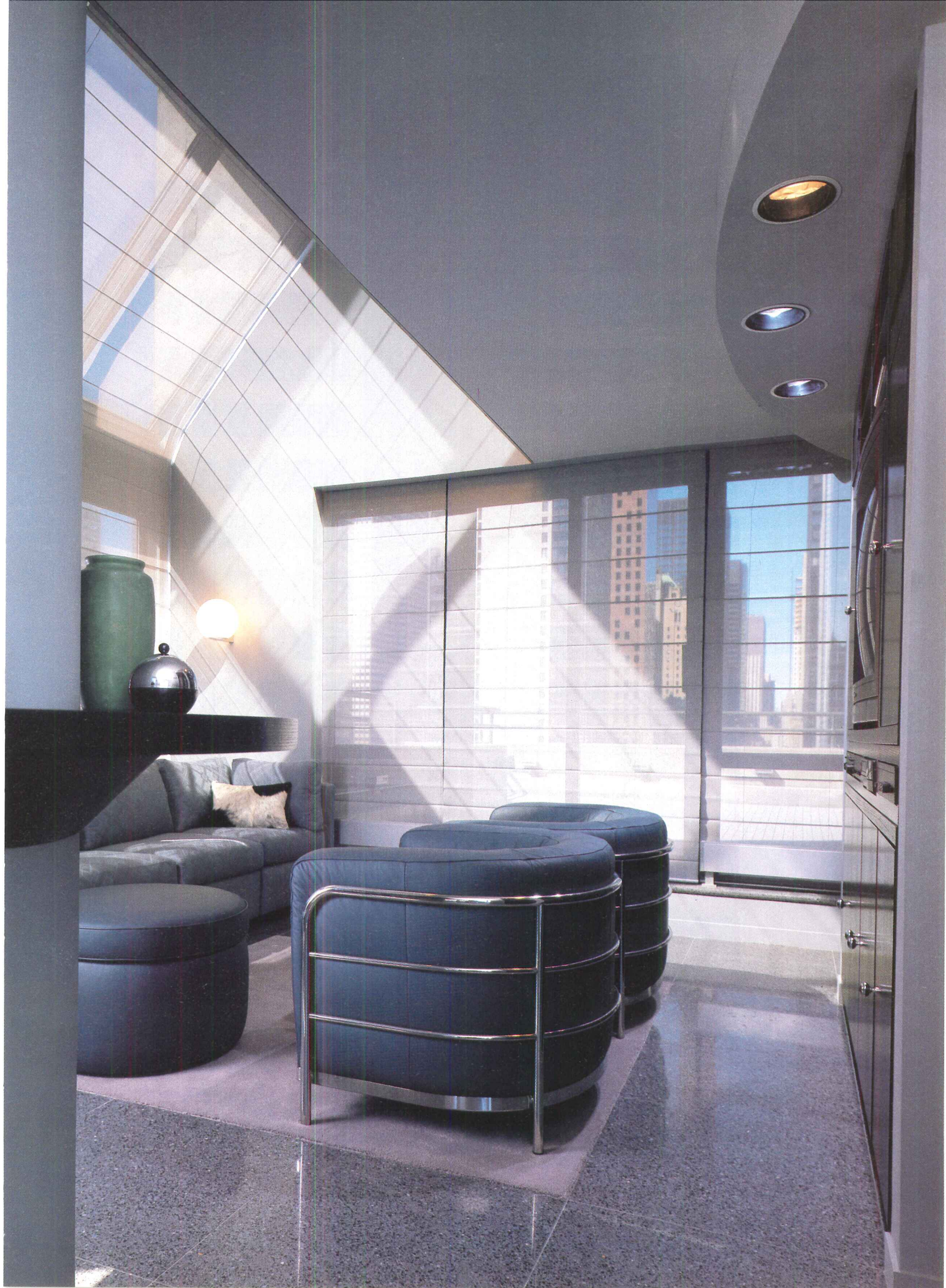
*Manhattan Triplex Apartment
New York City*

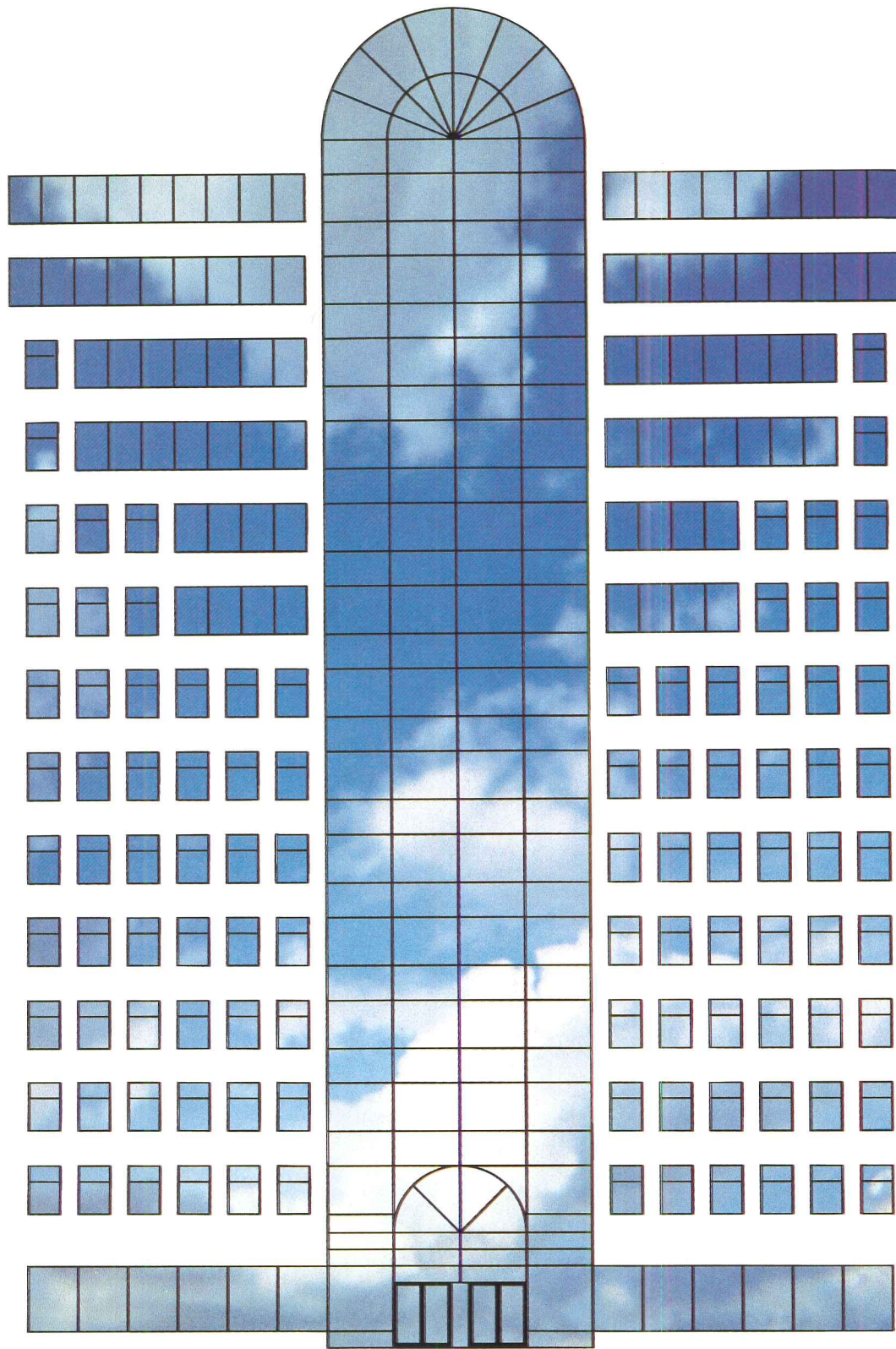
ARCHITECT: Steven Forman Architect—
Steven Forman, principal-in-charge

ENGINEERS: Cawsie Jijina Consulting
Engineers (structural); C. T. Vogel, P. E.
(electrical/mechanical)

CONSULTANTS: Sandra Forman Architect
(interior design); Carl Hillman Associates,
Inc.—Donald Leithauser (lighting); Audio
Interiors, Inc. (audio-visual)

GENERAL CONTRACTOR: Herbert Construction
Company—James Stumpf, Evan
Ertrachter, Philip Strina





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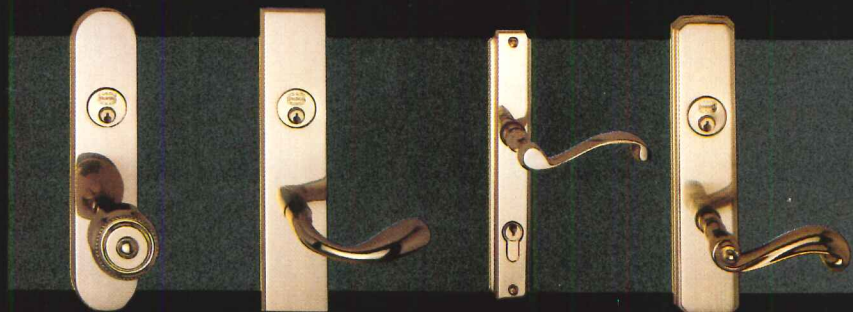
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LOOKING UP

Ceilings don't need to be
the Cinderellas of building design.

Having recently had occasion to review several hundred submittals to various award programs, and with a sharp eye for building detail as I travel about the country, I feel I must share an impression (which, by the way, I have in common with other observers).

I refer to ceilings. With all the design thinking that goes into a building's siting, massing, texture and color; all the effort to achieve fresh interior space sequences and appropriate ceiling, wall and floor treatments, the ceiling itself all too often reads like an afterthought—a place into which you have to cram a pot-pourri of ambient and task lighting fixtures, air supply and exhaust registers, burglar and smoke alarms, sprinklers, public address system outlets, partition holding channels, acoustic absorption, and more.

A major reason that many submittals failed to make this RECORD INTERIORS issue is ceilings so poorly designed that they brought down the quality of the entire project.

It's not as though the products aren't here to do the job. Even a cursory look at the product literature reveals a broad range of tools to help carry on. Rather, it's a matter of doing better when thinking through the program requirements, and coming up with a fresh solution that integrates all those ingredients into a coherent, attractive whole.

Consider, for example, the sea of possibilities in 3-D ceiling configurations. What about vaults of different shapes and diameters, the coffered effect of ribbed concrete, the suspended lighting grid, the exposed wood beam or truss, greater use of natural light, more ingenious configurations using off-the-shelf acoustic ceiling units, switching some subsystems currently in the ceiling to a raised floor, suspended reflective polished metal slat systems, even a contemporary version of the good old stamped tin ceiling—all of these and more are grist to a more sparkling approach to ceiling design.

There's also room for more creative connections between ceiling and walls, using cornices, notch details or other devices, reinforced by lighting.

The technical tools are there. The rest is design.

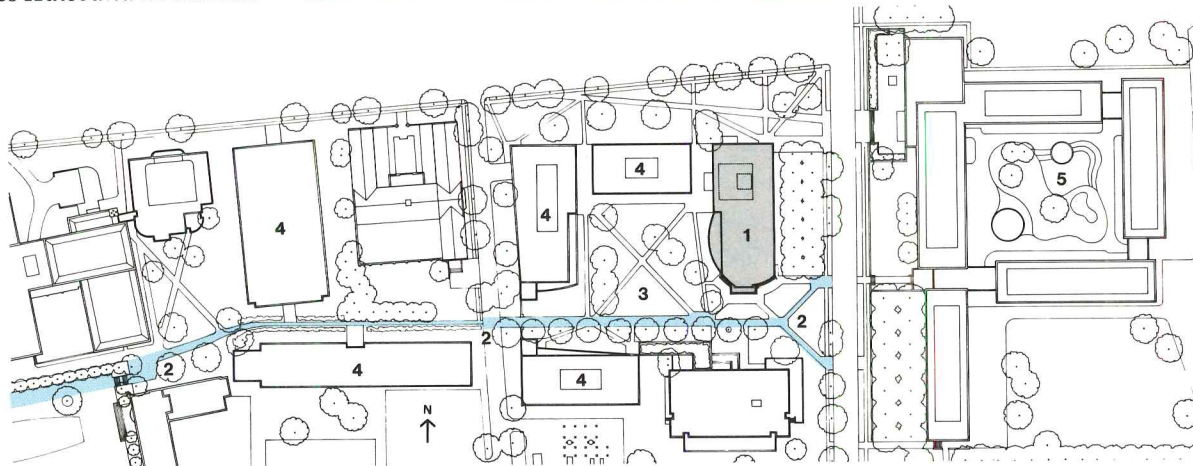
STEPHEN A. KLIMENT

Computer Talk

**Computer Science Building,
Princeton University**
Princeton, New Jersey
*R. M. Kliment &
Frances Halsband Architects*



Despite organizational ties to the adjacent engineering college (site plan below), Princeton's new computer science building turns its most striking face (opposite and detail left) to a pedestrian link with the original campus core.



1. Computer science building
2. McCosh Walk
3. Future quadrangle
4. Future construction
5. Engineering school

Even at Princeton, where the dialogue between old buildings and new is more civil than on many campuses, Kliment & Halsband's year-old computer science building shows unusual regard for its surroundings, going so far as to address neighbors not yet built. Its posture answers both to a pivotal site and to the outlook of the computer science department, which though organizationally a part of the engineering college perceives itself as a discipline that bridges to the "purer" sciences and the humanities as well. So while the new building is located directly opposite the engineering complex at the far eastern fringe of the campus, it also asserts its bonds with the larger institution.

In plan, massing, and materials, the computer center is composed around three portals expressed as towers. The most predictable is a slender shaft at the northeast corner, open to the main entrance of the engineering school and a secondary street to the north. The primary entrance, however, is on the south (opposite), where the entire end of the building shapes a

broad bay looking up and down McCosh Walk, the loosely delineated but heavily travelled footpath that is the major east-west route through the campus. From the bay a glazed colonnade curves around to the third portal, which defines the corner of an as-yet-phantom courtyard framed by the sites of three future buildings that will replace an existing parking lot.

The implied hierarchy reflects a four-story plan that places generous common spaces for scholarly colloquy in the encompassing curve of the building-wide bay, and deploys the adjoining colonnade at ground level to serve as the combined lobby for a formal lecture hall and a tiered demonstration classroom wired for workstations. The remainder of the ground floor and part of the basement contain additional classrooms and workstations, while the upper floors house offices for faculty, research staff, and graduate students along with seminar rooms and laboratories. The main computer room and administrative offices are on the second floor, as is a tea room that is the scene of daily afternoon gatherings.

In opening a dialogue among distinct campus neighborhoods and styles, Kliment & Halsband's computer science building for Princeton University speaks to the future as well as present and past.

© 1990 CERVIN ROBINSON PHOTOS



The computer science building's external form and materials reflect not only its internal organization but its regard for near neighbors. The composition is based on three entrance towers distinguished by limestone

base portals and window casements as well as limestone headers in their Flemish-bond brick cladding. Of the three the most prominent is the limestone-faced building-high bay on the south (top right), where a porch opens

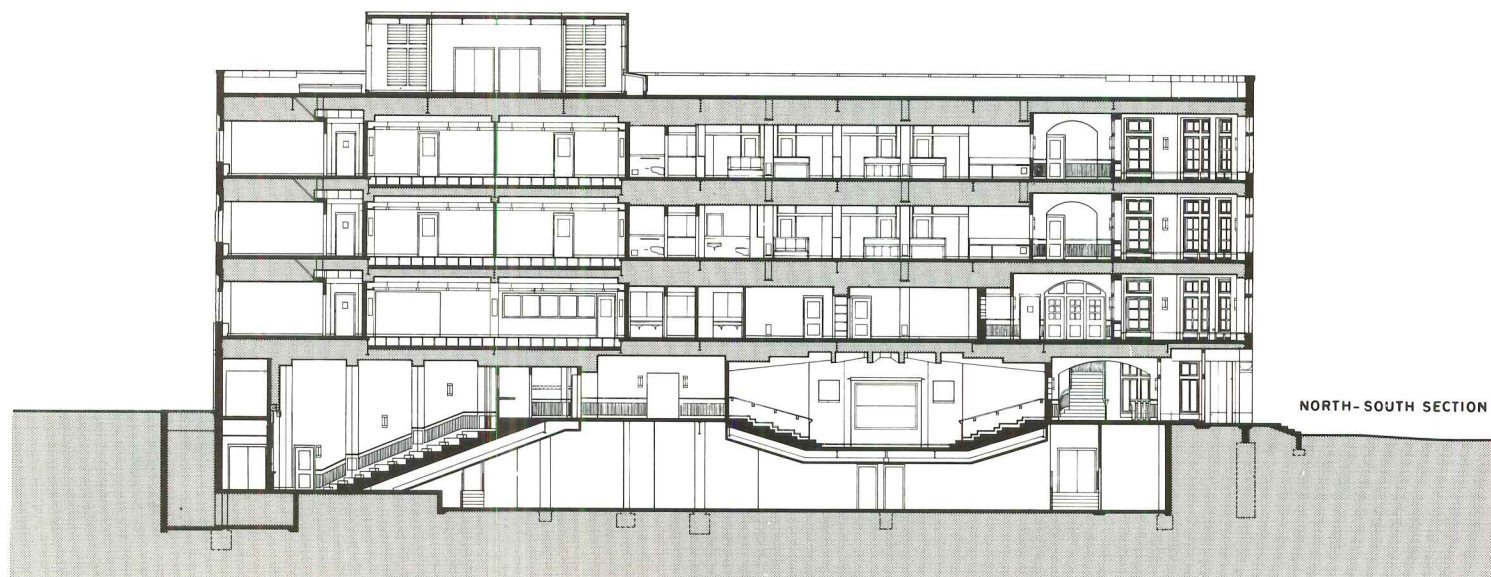


The building's inner organization, like its three-way orientation, is also marked by varying surface treatment and fenestration. Each entrance tower, for example, raises from its limestone base a tapestrylike cladding of red Flemish-bond brick lightened by limestone headers and window casings. The south front's more candid link to the broader campus is further defined by a full-height limestone frontispiece over the main portal, where a porch and broad steps provide a hospitable gathering place for students traversing McCosh Walk. Flowing seamlessly from the porch, the colonnade's curve of broad windows overlooking the quadrangle-to-be is surmounted by a modulated pattern of brick and limestone that smooths the transition to solid brick at the north end and west front. These are broken by the shallow reveals of gray-painted aluminum windows in which upper "panes" of opaque metal substitute for glass, indicating the lowered ceilings that accompany the shift from the communal spaces of the south bay and secondary entrance towers to more workaday offices and labs.



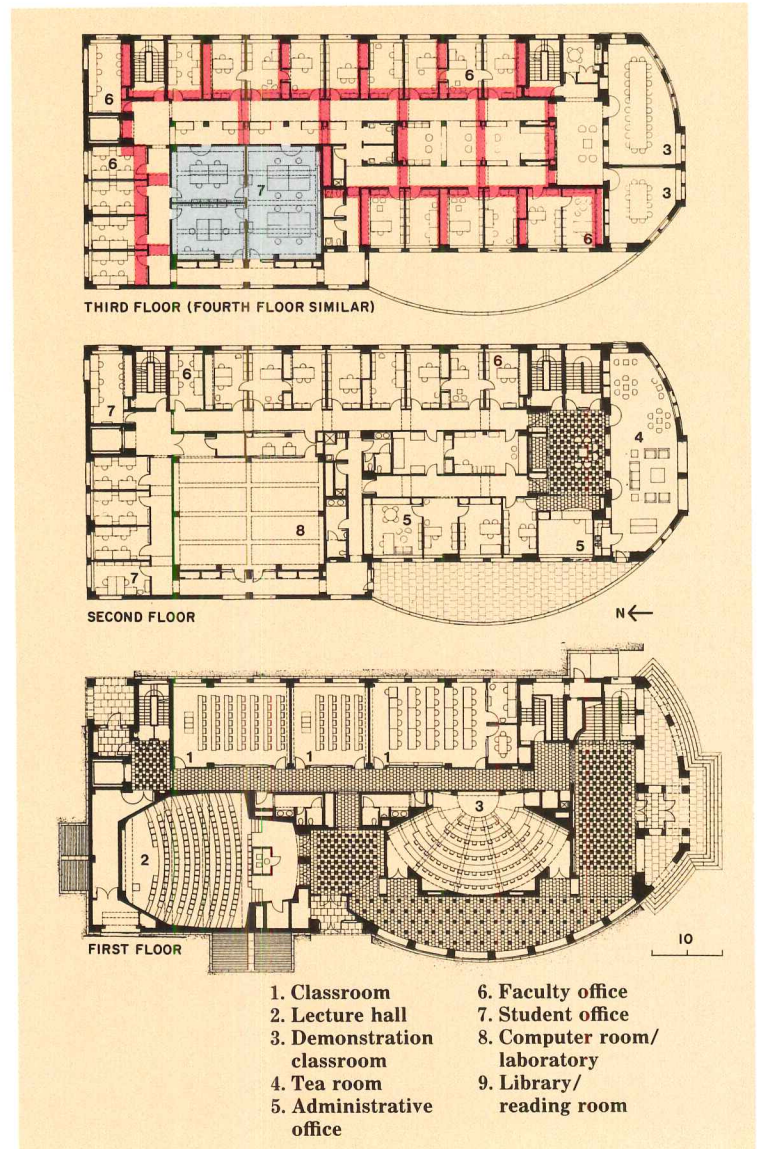
to a major pedestrian path through the campus. The glazed limestone colonnade and corner entrance on the east (below and bottom interior detail) will edge a future quadrangle, while the third tower ends a west facade keyed to the

unadorned face of the adjacent engineering complex. The three-high stack of major computer laboratories that dominates the building's northeast segment (left in section and photo below) is marked by a mechanical penthouse.

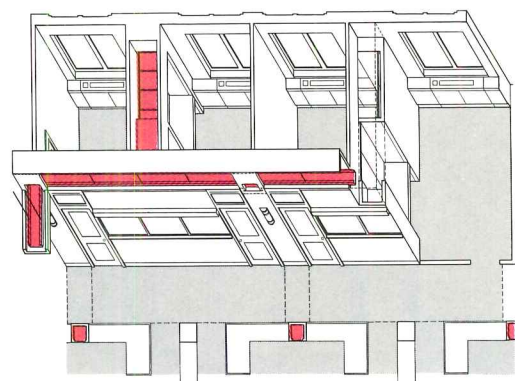


Within the computer center's four stories, the first and basement floors house spaces used by undergraduates: standard classrooms and workrooms (below left) as well as more specialized spaces such as the large lecture theater

(top right opposite), a small tiered amphitheater for demonstrations, and the sweeping glazed colonnade that is lobby to both. A grand vaulted and paneled staircase (left opposite)



Although the principal computer rooms and special classrooms are served by raised access flooring, the wiring needed for offices and work areas travels through cable trays that run along nine-foot-high ledges in the corridors and feed into interstitial walls (see axonometric at right and third-floor plan top right), where it can be tapped at will.



leads to the upper three floors, which contain the principal computer rooms, offices for graduate students, research staff, and faculty, and, on the second floor, administrative offices overlooking a roof terrace above the

colonnade. The south bay is reserved for such communal spaces as the tea room and adjoining anteroom (bottom left opposite and bottom right, respectively), seminar rooms, and a small library.



By extending but respecting the vocabulary of the campus environment, the computer science building's several faces also help to establish a congenial model for the evolution of the future quadrangle. This role is particularly marked in the interiors, where the department's unabashedly 21st-century apparatus mingles comfortably with the well-worn, well-mannered traditions of the Ivy League. From the weathered white-oak entrance doors to old-fashioned red-oak classroom chairs, handsomely detailed wood warms otherwise neutral backgrounds, approaching the caliber of fine cabinetry in such gentleman's-club fittings as wainscoting and paneling. Craft of another order controls the building's formidable electrical circuitry with a flexible cable network that feeds power to offices and labs as needed. Throughout, the balance between highly technical and quasi-social spaces is reinforced by inner windows that visually unite the two, while outward views bring in the wider world of the campus as a whole.

MARGARET GASKIE

*Computer Science Building, Princeton University
Princeton, New Jersey*

OWNER: Princeton University

ARCHITECT: R. M. Kliment & Frances Halsband Architects—
R. M. Kliment, Frances Halsband, Alejandro Diez, Michael
Nieminen, Karin Robinson, Martin Brandwein, Mark
Caligiuri, project team

ENGINEERS: Robert Silman Associates (structural);

Ambrosino, DePinto & Schmeider (mechanical/electrical)

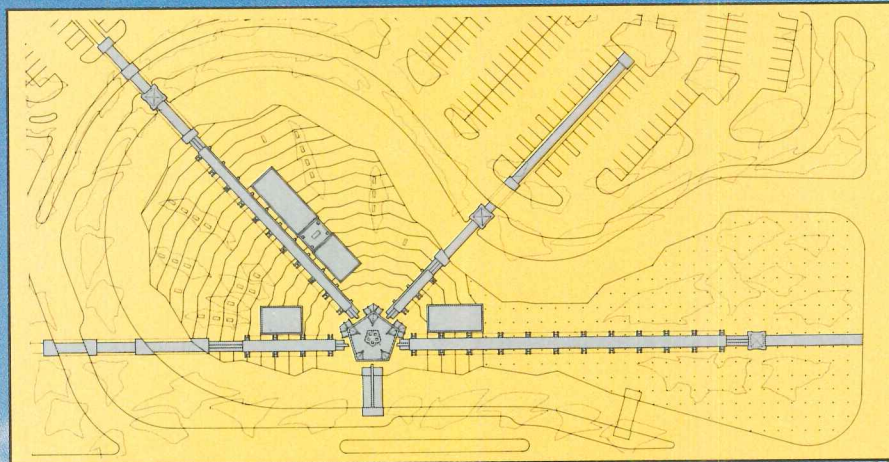
CONSULTANTS: H. M. Brandston & Partners (lighting); Robert
A. Hansen & Associates (acoustics)

LANDSCAPE ARCHITECT: Peter G. Rolland & Associates

GENERAL CONTRACTOR: Turner Construction Co.

Regional Transit

Rob Quigley's Escondido Transit Center embraces its Southern California setting with outdoor "rooms" organized around monumental tilt-slab structures. By Dirk Sutro





Escandido's current architectural direction was set in 1988 with the opening of a new City Hall, designed by the San Diego firm Pacific Associates Planners Architects in a distinctive vernacular style [RECORD, January 1989, pages 104-107]. In commissioning a new regional transit center a few blocks away, local officials hoped to strengthen the sense of place established by City Hall's courtyards, arched openings, delicate grillwork, and Deco-style stucco patterning.

In the past, San Diego architect Rob Quigley's quirky, personal design language has tagged him as a regional cousin of such strong-minded Los Angelenos as Frank Gehry, Eric Owen Moss, and Morphosis. So the Escondido Transit Center, with its direct references to another building, marks something of a departure. "I wanted to buy into a scheme of organizing the architectural chaos of Escondido," Quigley explains. Green fiberglass grilles with ziggurat patterns and vertical fluting on towers mimic elements on City Hall. He borrowed such images sparingly, though, and he calls the transit center a masculine partner to the more ornate and feminine City Hall.

Situated about 20 miles north of San Diego, Escondido (population 104,000) is hot and arid. The transit center takes full advantage of the weather with a series of outdoor rooms organized around an open-air atrium, three clock towers, and four low buildings, all constructed of tilt-up concrete panels.

Although Quigley had used tilt-up concrete in the past for industrial warehouses, the transit center marked the first time he tried it on a civic project—or on structures taller than one story. The largest of the 70 panels rise 36 feet and weigh 40 tons. They were formed and poured on site, lifted into place by crane, and welded together with metal tabs embedded during the pours. Thick reinforcing bars tie the panels to deep concrete footings.

The center directs the movement of hundreds of cars and buses each day. Buses travel a peanut-shaped loop road, arriving and departing from 15 curbside stops. The center's main colonnade runs parallel to Valley Parkway and makes a strong civic gesture along this busy street. Two pedestrian axes extend deep into the parking lots, their towers serving as guideposts for arriving travelers. Shaded by trees, trellises, and steel-and-plastic awnings suspended from steel cables, passenger areas are spread generously across the 11-acre site.

Chromatic tile adds splashes of color to concrete benches beneath the towers and atrium. Copper downspouts, gradually turning green, accent the bare concrete walls of small structures housing transit offices, restrooms, a locker room for bus drivers, a ticket and information office, and a fast-food outlet.

The transit center is one of several recent Quigley projects emphasizing practical solutions rendered in a newly restrained style. As projects like Escondido reflect a more ordered yet playful regional vision, Quigley seems to be thinking more and more like another San Diego architect, Irving Gill, whose spare stucco and concrete buildings merged so gracefully with the local landscape earlier in this century. "The older I get," Quigley confesses, "the more impressed I am with Gill's ability to do things simply."

Escondido Transit Center
Escondido, California

OWNER: County of San Diego

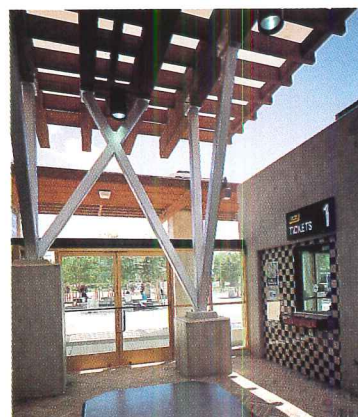
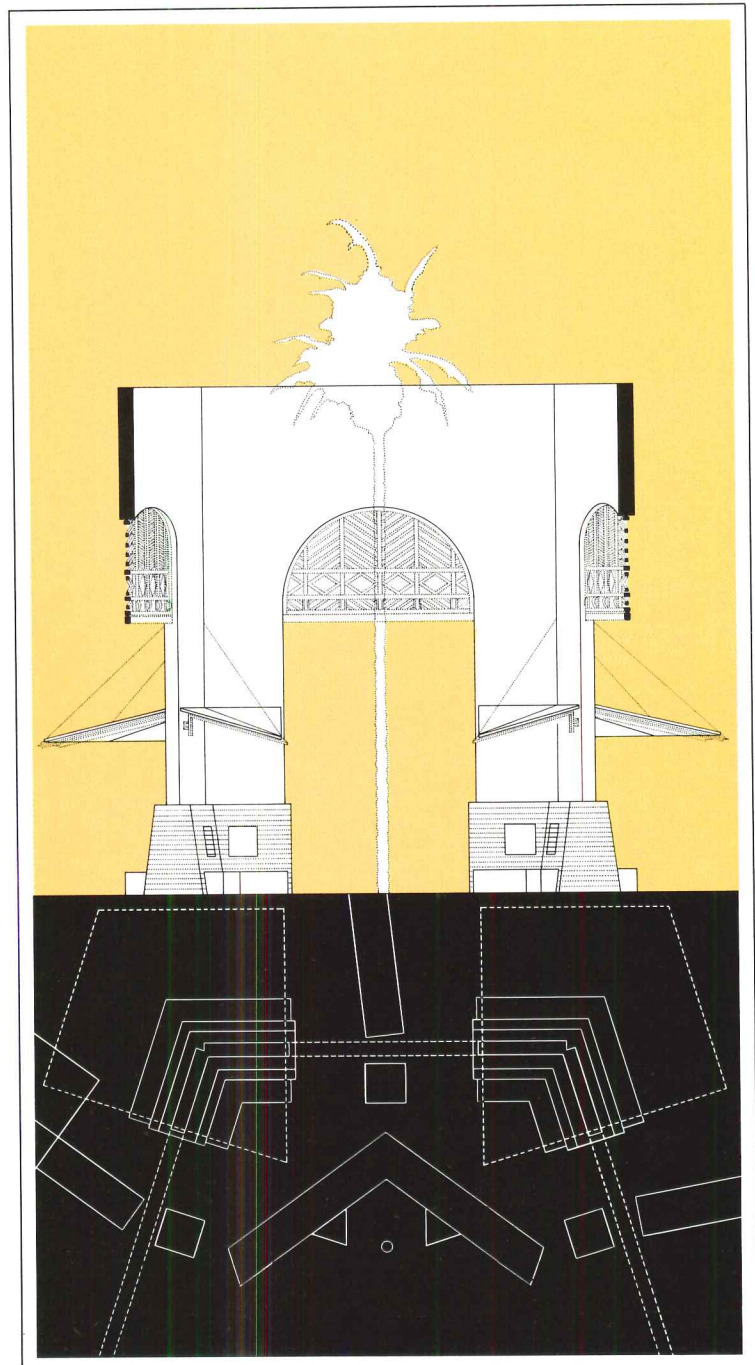
ARCHITECT: Rob Wellington Quigley, AIA—Melvin Dalton McGee, Guillermo Tomaszewski, project architects

ENGINEERS: Flores & Ng (structural); EC Engineering (mechanical); Pountney & Associates (civil); Mattson-Beaudin (electrical)

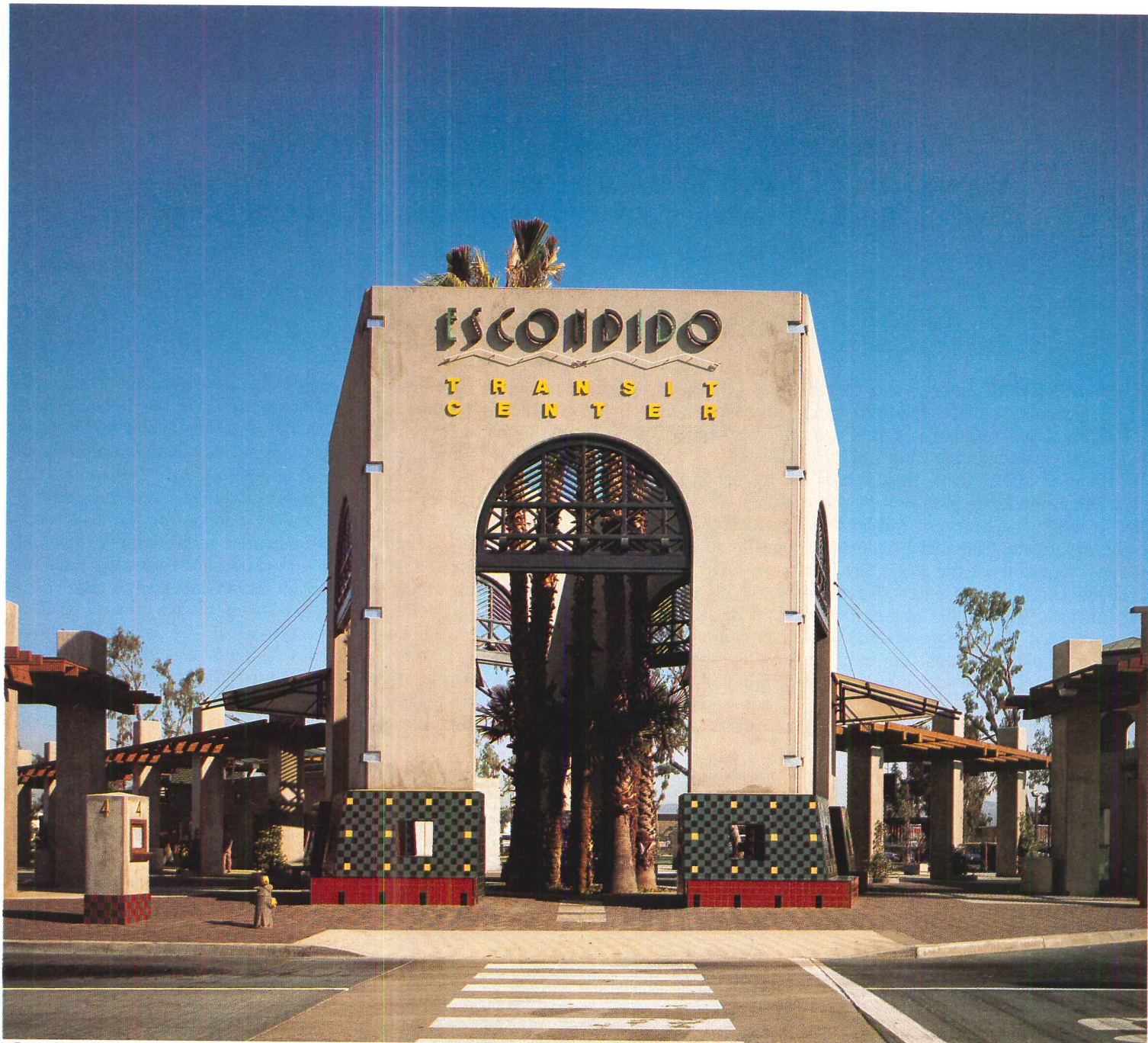
CONSULTANTS: Marian Marum (landscape architect); David Robinson (signage); Kathleen McCormick (colorist)

GENERAL CONTRACTOR: Douglas E. Barnhart, Inc.

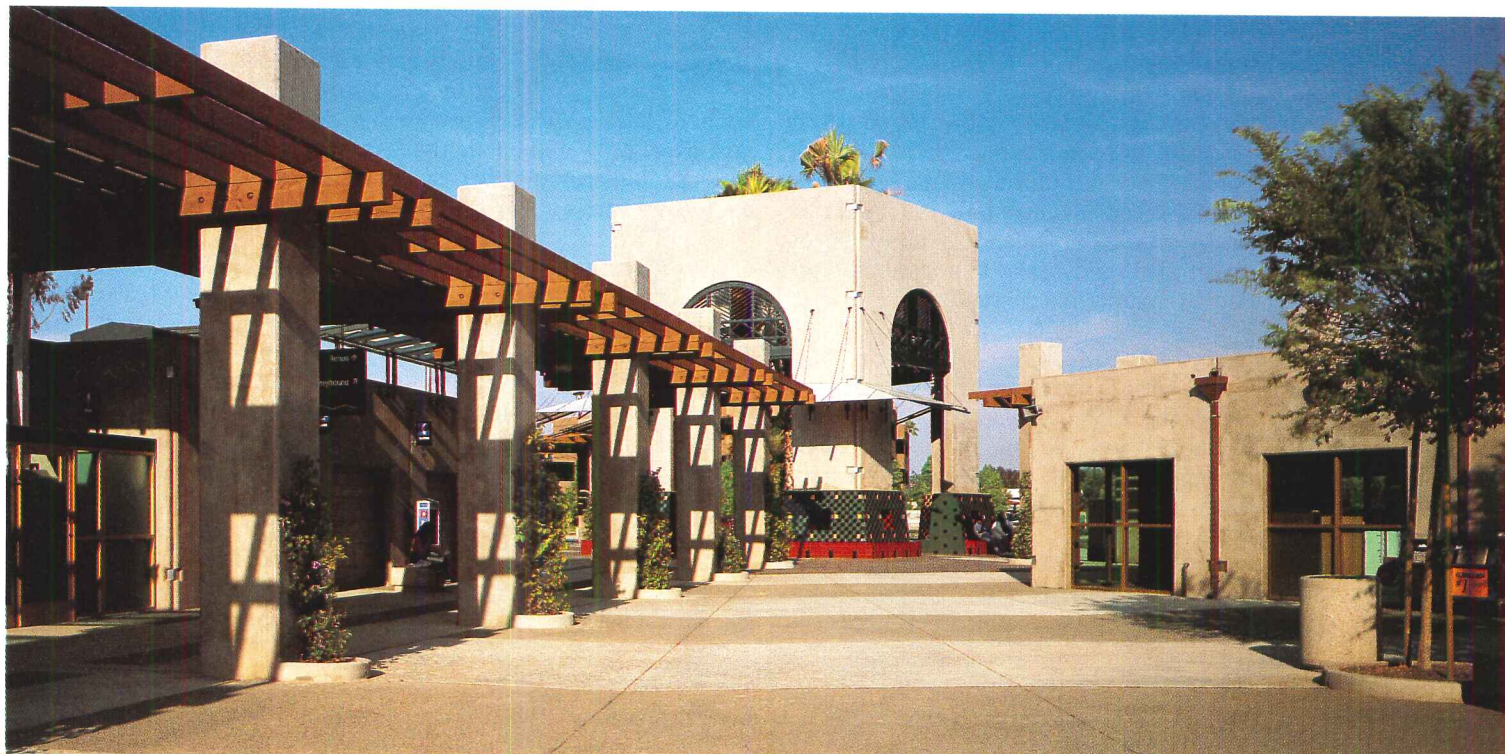
Dirk Sutro is a San Diego-based freelance writer.



The transit center's roofless five-sided atrium (drawing above and top photo opposite) serves as the hub for spokelike pedestrian axes. Even the ticket office (left) is open to the elements. Steel beams extend from four concrete footings to support a beamed shelter. Floor tiles are made from tire rubber—a highly durable material and a not-so-subtle symbol of transportation. Low buildings (left and right in bottom photo opposite) were assembled from 12-by-12-foot concrete panels, poured on site and tilted into place.



© DAVID HEWITT/ANNE GARRISON PHOTOS



At Home in San Jose

Although downtown San Jose all but died during the post-war development of Silicon Valley, an architect-directed redevelopment program, fueled by an ingenious mode of financing, has brought new life to California's third largest city.

Marketers of cities in our increasingly privatized urban economy equate new with good, and their lavish promotional brochures burst with tales of reborn downtowns and revenue-generating public facilities.

In the case of San Jose, their talk is not hyperbole. Virtually every major building pictured on these pages was built since 1980, including a brace of public facilities designed by well-known architects. The aerial panorama opposite reveals two of the most imposing of the city's new structures: MGA Partners' San Jose Convention Center (foreground), which opened last year [RECORD, March 1990, pages 100-103], and Ricardo Legoretta's children's discovery museum (lavender-colored building, lower left in photo), which was completed earlier this year. The arcade adjoining Legoretta's building is a light-rail transit station that will connect the museum to a proposed technology museum, also designed by the Mexican architect.

The small photo on this page shows the core of downtown San Jose, located just north of the convention center. Significant buildings include, clockwise from lower left, the San Jose Art Museum, a Romanesque Revival former post office with a sleek addition by Skidmore, Owings & Merrill; a plaza and tower by SOM that is the first phase of Silicon Valley Financial Center, an eight-block redevelopment project; and Hellmuth, Obata & Kassabaum's gable-roofed Fairmont Hotel. Fronting the Fairmont is Plaza Park, one of many open spaces woven through the new downtown.

To be sure, there are many gaps in the aerial views, and downtown San Jose has yet to attain commanding density or height. But the point is that a "before" view taken three decades ago could easily have been mistaken for a scene of wartime devastation. The city's turnaround has been swift and purposeful, even if its planners' vision is still only half realized. Renewal has been guided by a political leadership and redevelopment agency with a keen strategic sense and genuine concern for design, all fueled by innovative financing.

From market town to high-tech bedroom

San Jose, situated at the southern end of San Francisco Bay, is the state's oldest city. Until the 1950s, it was the capital of a rich farming region, the Santa Clara Valley. It was a settled, slow-paced place with a benign climate and a sure sense of identity. And its downtown was the undisputed shopping and financial center of the valley.

Then came the whirlwind that transformed the region into Silicon Valley. Mile after mile of orchards was replaced by the bland facilities of the aerospace industry and other high-tech

companies. The process changed San Jose forever. Though its population doubled in the 1950s and again in the 1960s, growth was all at the perimeter of the 160-square-mile city and beyond. Shopping followed the outward ooze of development, and downtown was left behind, drained and decaying. "Downtown San Jose had no place in the new order of things," recalls a redevelopment-agency history. "No longer a focus for the area's economic activity, it had become instead a fiscal liability, demanding resources to hold back deterioration but returning little tax revenue to meet the needs of an expanding community."

The San Jose Redevelopment Agency was created in 1956 and at first behaved in ways typical of the period. Its initial effort, begun in 1961, cleared a 13-block area downtown for a mixed-use project called Park Center Plaza. If the name has the ring of early urban renewal, so does the architecture. The project (behind the convention center in the aerial view opposite) is a bleak, inward-turning island of concrete. It did create some new open spaces, however, and became the site of a performing-arts center designed by Taliesin Associates (also a period piece but of a more interesting sort).

Although the agency had other plans in addition to Park Center Plaza, its resources were limited and thinly scattered. The breakthrough came in the mid-1970s, when the city decided to take part in the action that was producing Silicon Valley. It turned 4,667 acres into the Rincon de Los Esteros industrial redevelopment project, which soon began attracting firms such as Hewlett-Packard, Ford, Atari, and McDonnell Douglas. A later 2,045-acre project, Edenvale, became the

home of IBM's Western production center. The agency invested just over \$100 million in these areas (the private sector well over \$2 billion) and began receiving a steady flow of tax-increment funds from the increase in property valuation.

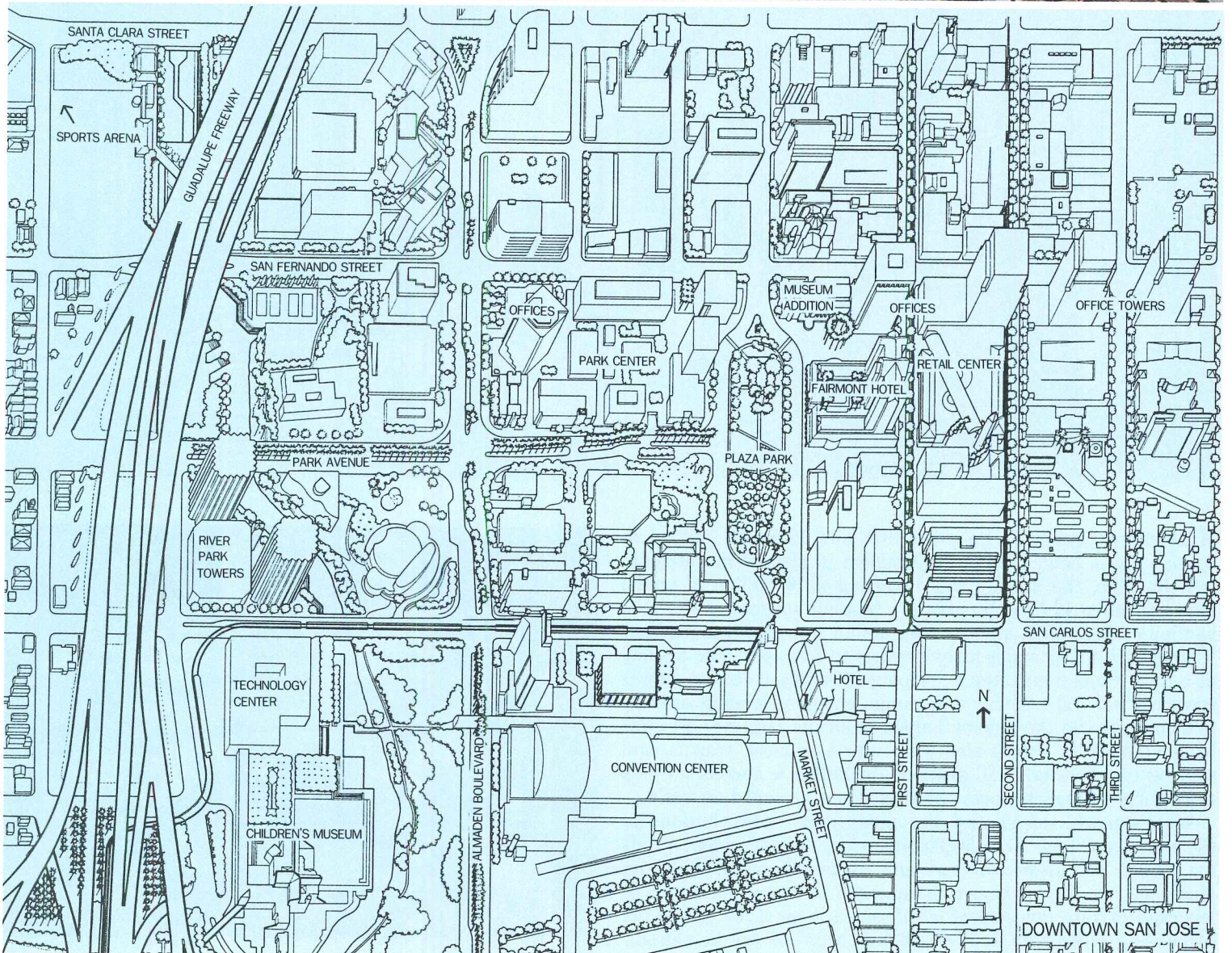
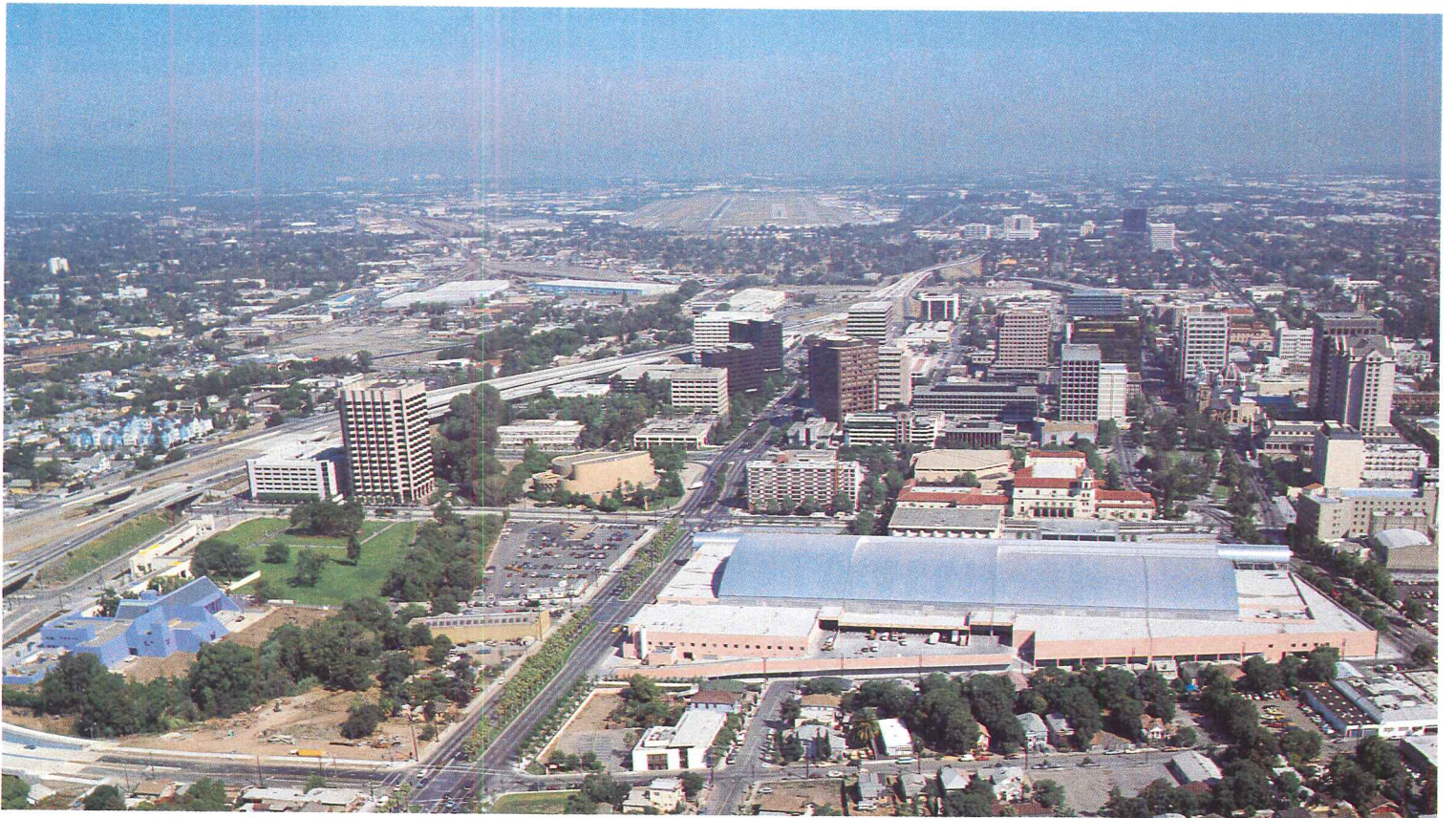
A new director and an innovative fiscal engine

In 1979 the agency hired as executive director Frank Taylor, an architect from Cincinnati who had headed that city's redevelopment effort. The following year the agency and the city persuaded the state legislature to take the final fiscal step in making possible downtown San Jose's rebirth.

Tax-increment financing normally can only go for redeveloping the area in which the funds are generated. The legislature allowed San Jose to merge all of its redevelopment areas, including downtown, for purposes of funding, giving Taylor the wherewithal to leverage private investment in a city without the glamour or natural market of San Francisco or Los Angeles. This leverage was particularly important in the early years

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Skidmore, Owings & Merrill's addition to the Romanesque Revival San Jose Art Museum fronts on a generous plaza (below), the first of a series of open spaces in SOM's master plan for the Silicon Valley Financial Center. The plan

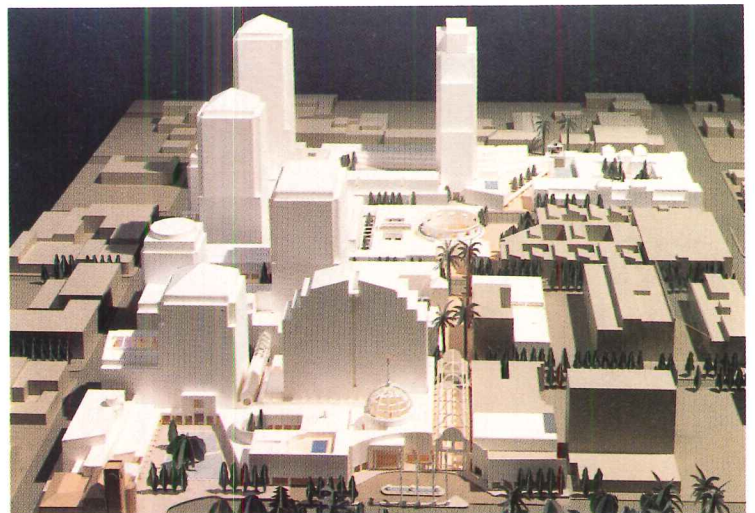
(model photo bottom) calls for a procession of trellises, towers, and other small "landmarks" leading to a new gate at the San Jose State University campus.



of downtown renewal. Between 1978 and 1988, \$31 million in agency funds helped bring \$400 million in private investment.

Meanwhile, the agency was investing \$276 million in public improvements. It was the primary funding source for the convention center and is underwriting a new downtown arena that it hopes will bring major-league sports to San Jose. The agency also took the unusual step of helping to fund a freeway. Downtown had several freeway exit ramps but none leading directly into the core. So the agency helped build the Highway 87 spur to downtown. Its funds also went into a 14-block transit mall serving bus and light-rail systems (including a downtown loop employing vintage trolleys collected from around the world).

What's more, the agency has made major contributions to the new museums. And 20 percent of its tax-increment funds have been set aside for low- and moderate-income housing. Here, too, the Taylor approach has been to use public funds to leverage private investment, resulting in over 2,000 new units of housing downtown and 300 shelter beds for the homeless.



© GERALD RAITTO PHOTOGRAPHY

Mexican architect Ricardo Legoretta's vividly hued children's discovery museum (below) is situated just southwest of the downtown core, across Almaden Boulevard from San Jose's new convention center. Inside the museum,

high spaces and a simulated city street with working stoplights entertain youthful visitors.



In economic terms the results have been impressive: 90,000 new jobs in the industrial areas and some 15,000 downtown ones have been created, turning the central business district from a tax-eater into a generator of \$20 million in tax revenues each year. In urban-design terms the result has been a well-knit core with an unusually high level of public amenity.

San Jose's unwritten rules of urban design

Over most of the past decade, Taylor's right hand has been Tom Aidala, an architect with wide experience in urban design in the public and private sectors. Aidala, the agency's chief architect for the past eight years, speaks of the "window of opportunity" created by the natural death of the old downtown and San Jose's bringing Silicon Valley inside the city limits. Moreover, he praises Taylor as a pragmatist not merely interested in planning for planning's sake. In 1982, the agency did adopt the so-called "1995 plan," many of whose provisions have been put into effect, but there is no overall urban-design

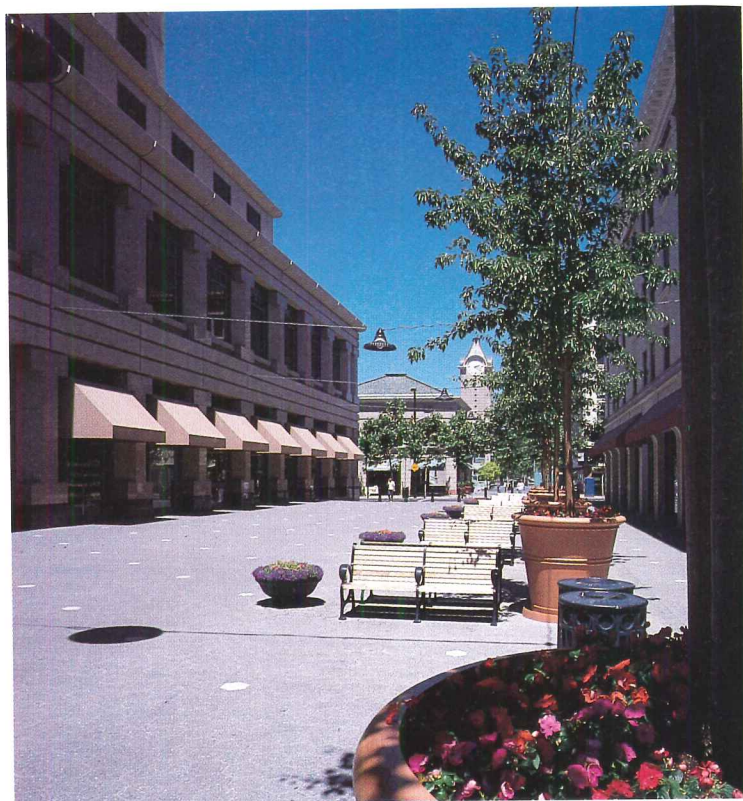
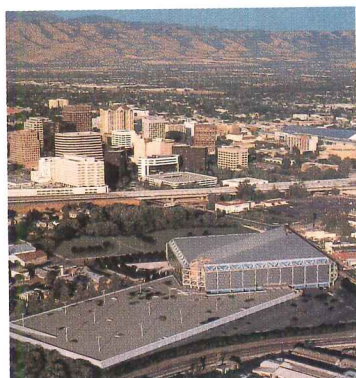
scheme, just plans for individual sectors of downtown, such as SOM's for Silicon Valley Financial Center.

Taylor believes in "day to day quality control," again relying on the use of leverage—in design terms the leverage given the agency by its subsidy of private development. He uses it to influence selection of architects and building materials.

Aidala says that while there are no written design guidelines, there are certain "laws" that the agency imposed on downtown development. Among them: "build to the property line, use clear glass at street level, no mansard roofs or really dark glass." Aidala presides over a design staff of 13 who exercise a first level of design review over downtown projects, with appeal to the city council, which is also the agency's board. So far the council has always followed staff recommendations.

But the agency relies less on formal design review than tight programming and ongoing collaboration in the design process. It was the agency, for example, that convinced MGA Partners to make the convention center's long gallery a public "street,"

Right: the redevelopment agency's newest major project, an indoor arena designed by Sink Combs Dethlefs. Below: a midblock pedestrian arcade. Bottom: a segment of the transit mall, which winds through downtown and serves the city's bus and light-rail systems.



Opposite top: HOK's Fairmont Hotel extends a low-rise wing that meets the street and matches the scale of adjacent buildings. Opposite bottom: The Jerde Partnership's pavilion of shops and restaurants adjoins the Fairmont.

A tower of SOM's One Silicon Valley Financial Center rises in the background.

and it likewise recommended the four entrances that link the Fairmont to its surrounding open spaces. Agency staff skillfully designs downtown's street furniture and other small-scale items, while Aidala himself has designed a park that will be one of four "gateways" into downtown bearing major works of art.

"In 100 years, it is the parks that will be remembered," Aidala claims. The largest is Guadalupe River Park, which will wind for three miles along the edge of downtown and represents the first major public use of the river in the city's history. Landscape architect is Hargreaves Associates, with affectionate input on the treatment of the river banks and bridges from Aidala, whose staff has produced a frieze of the river's flora and fauna for a set of bridge rails.

There is clear emphasis in the agency on connections. Says Taylor, "We have a great deal of concern with the spaces between buildings, the movement of people from place to place." Aidala says that the transit mall, with its wide pedestrian ways and artful street furniture, "is what ties downtown together," joining old and new.

This concern is evident in the plan for Silicon Valley Financial Center. It will feature, says SOM, "a sequence of courtyards identified by landmark architectural elements and linked by a continuous pedestrian arcade, and by ground-level uses that activate streets." Already in place is part of the Paseo Mall, one of many midblock passages in downtown San Jose that soften the effect of its huge "Spanish" blocks. SOM has designed the first tower, along with the museum addition; other firms, however, will do the center's next two buildings.

Redevelopment-agency director Frank Taylor: "We have a great deal of concern with the spaces between buildings, the movement of people from place to place."

"That's how cities are built," says Aidala, "by many hands."

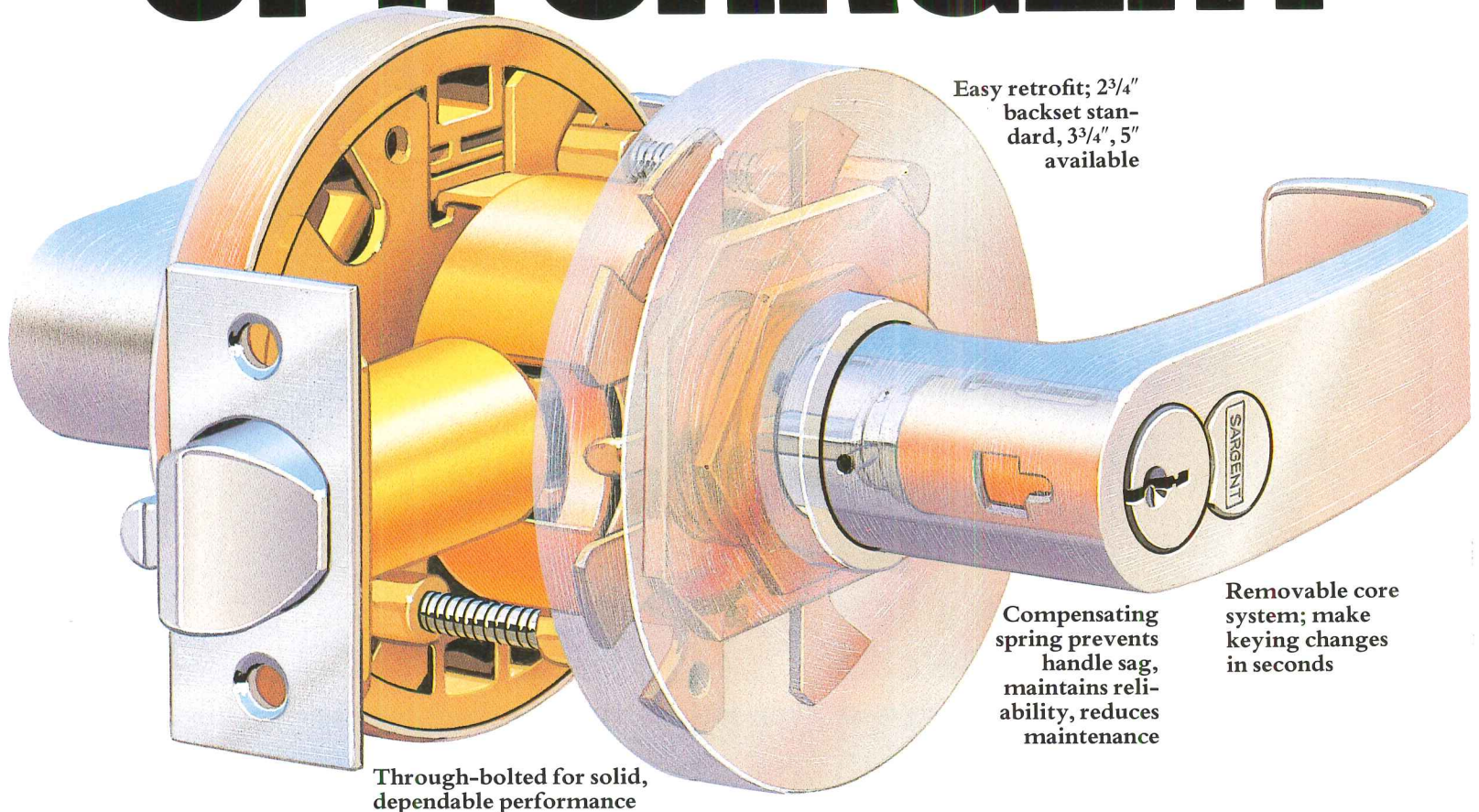
One of the center's projected towers will be entirely residential, the other partly so. Getting more people to live downtown is clearly Taylor's next priority, partly because of his belief in "daytime-nighttime urban design" that keeps downtown alive after dark and on weekends. It also has to do with the need to increase downtown's retail vitality. Competition from peripheral centers remains intense, and The Jerde Partnership's pavilion of shops and restaurants behind the Fairmont has been slow to lease (though sitework is underway on a second phase). More shoppers-in-residence nearby would clearly help.

Taylor is counting on the new cluster of cultural facilities and hotels around the convention center to encourage visitors to spend time in San Jose rather than just pass through. He is especially keen on the projected technology center. While the children's discovery center may influence parents to stay, a 175,000-square-foot technology center, which he describes as a "Smithsonian of the West," would be a more powerful draw. The city has committed \$30 million to the project, and a committee including Silicon Valley executives is raising private funds.

In the end, Taylor's principal aim for San Jose is that it once again become a "hometown," a place for children who grow up with an awareness of the urban core. He is encouraged by the number of people "proud to say they live here" and would like to see San Jose a larger-scale version of the regional center it used to be. He does *not* want it to emulate San Francisco. "We should be ourselves, not envy other cities. This can be a truly beautiful city if we believe it can." **DONALD J. CANTY**



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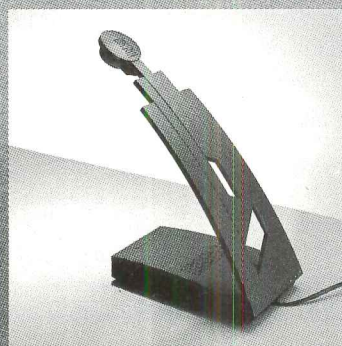
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Prison Explosion

Amidst an unprecedented boom in the construction of correctional facilities, architects are working on designs that look and feel less like prisons.

The numbers are staggering. After spending more than \$2 billion a year building prisons and jails for three years in a row, federal, state, and local governments are set to shell out another \$3 billion in 1990. Flush with an extra \$1 billion from President Bush's crime initiative, the federal government alone has earmarked \$1.4 billion for new facilities this year, nearly triple what it appropriated in 1989. The figures translate into 120 new institutions with 76,000 more beds. According to the National Council on Crime and Delinquency, the number of inmates nationwide will more than double to two million by 1995.

Ironically, while governments are getting tougher on crime, the institutions built to hold criminals are getting softer. Bleeding hearts, however, are not the reason. Pragmatism is. The less harsh, less restrictive prisons being built today dramatically reduce assaults against both guards and other inmates. The credit for this improvement goes to a model of inmate management known as "direct supervision," first used by the federal authorities in the Chicago House of Detention designed by Harry Weese in 1975.

In direct-supervision facilities, cells are arranged around dayrooms where corrections officers are in constant contact with inmates. By grouping inmates into such "pods" (usually comprising about 50 cells in two levels) and giving officers the ability to see all prisoners at all times, these prisons put officers in control. In the past, guards patrolled corridors and periodically

checked cells where inmates often held the upper hand. "Prisoners behave differently in direct-supervision facilities," says Ken Kerle, managing editor of *American Jails* magazine. Better behavior means less need for nearly indestructible (but very expensive) fixtures such as stainless-steel toilets and anchored furniture. As a result, dayrooms look and act more like lounges than fortresses.

Direct supervision is the hallmark of what experts refer to as "third-generation" prisons. Although they require better-trained guards, these facilities reduce staffing requirements by maintaining clear sightlines into cells and dayrooms. And by bringing services such as dining, visiting, and sometimes even recreation into dayrooms or adjacent spaces, they minimize movement of prisoners from one area to another. The bottom line is that these prisons are more efficient, more humane, and less expensive to operate.

While the Federal Bureau of Prisons has fully endorsed the direct-supervision model, many state and local authorities have accepted only certain aspects of it. So-called "second-generation" or "remote-surveillance" prisons adopt the podular configuration of cells around dayrooms, but keep guards in control booths outside the housing units. "First-generation" or "intermittent-surveillance" prisons employ linear designs in which cells are lined up along corridors without benefit of any smaller, organizing element. Limited contact between officers and inmates has led many experts to condemn this model as dangerous.

Architects designing new prisons are now working on ways to bring more sunlight into dayrooms ringed by cells and are increasingly using laminated polycarbonate glazing (instead of bars) to create better environments for correctional officers to supervise inmates.

Just as they are humanizing the interior environment of prisons and jails, moreover, architects are also designing exteriors that harmonize better with their neighbors. Attention to massing, materials, and fenestration at the Suffolk County Jail in Boston (page 148), for example, helped The Stubbins Associates create a building that adds to its downtown location rather than tearing it apart.

Not long ago, few prisons held more than 500 inmates; today several house close to 2,000. In the future, prison and jails will continue to get bigger, forcing ever greater efficiency in plans.

CLIFFORD A. PEARSON

© EDWARD JACOBY



Security is tight at the Suffolk County Jail.

FRONTIER JUSTICE REDEFINED

Federal Correctional Institution
Sheridan, Oregon
The Zimmer Gunsul Frasca
Partnership, Architects

If ever a prison could be considered a good neighbor, this is it. And if ever a prison could be considered a bearable environment in which to spend 5 to 15 years of one's life, this is the place.

Located 50 miles south of Portland in one of Oregon's beautiful (but economically depressed) agricultural valleys, the \$46-million prison was seen as a major contributor to expanding local employment. But a 190-acre complex housing upwards of 1,000 federal prisoners is a lot for a rural community to absorb. As a result, the architects and the Federal Bureau of Prisons, who worked together closely on the design, searched for ways to soften the facility's impact. For example, 90 acres of the site was reserved for lease-back farming, and landscaped buffer zones were created using local vegetation.

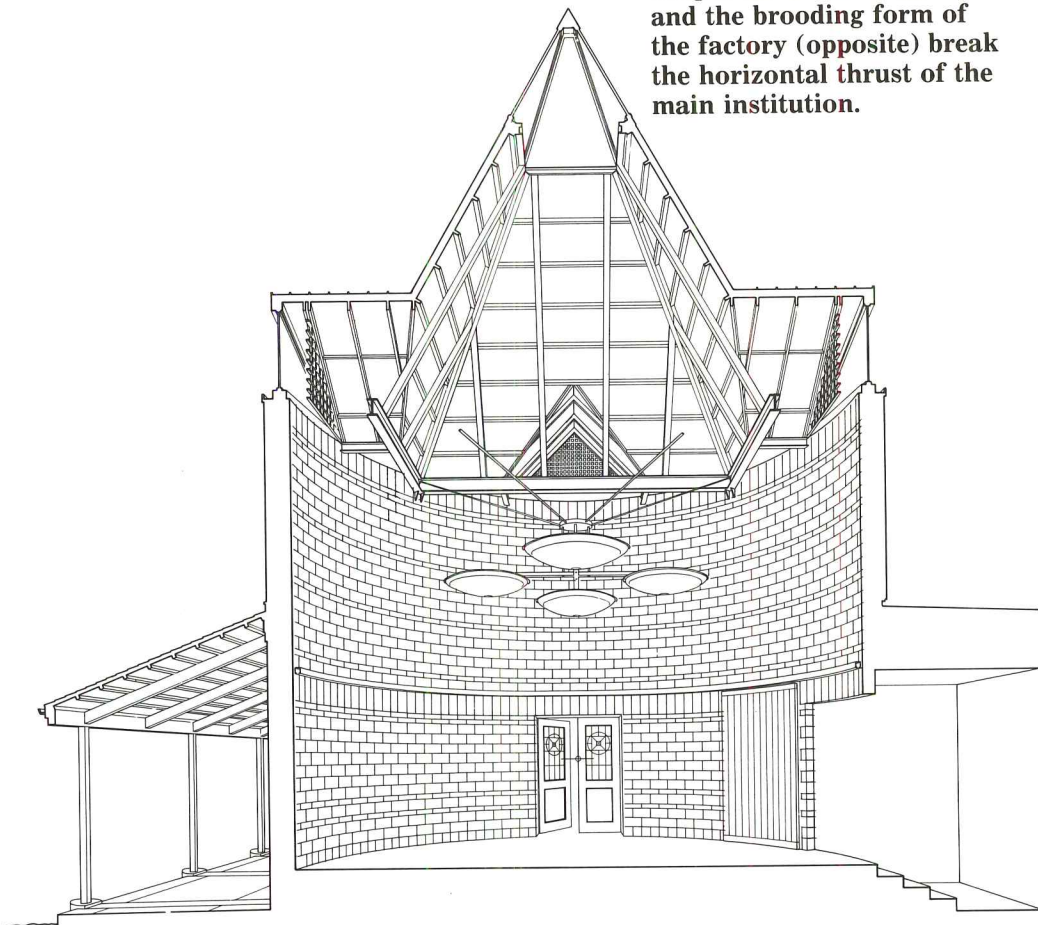
Split into two distinct parts—a medium-security main institution and a low-security "satellite camp," the prison is a collection of one- and two-story structures arranged in a campus setting. The buildings' profiles were deliberately kept low and fragmented. From a distance only eight tall light standards mark the project as an institution (and these could serve a college as well as a prison). Indeed, the comparison between the two building types keeps recurring as the buildings come closer into view. Principal design architect Robert Frasca also had agricultural buildings in mind while working on this project. The form and massing of the structures, the roof lines, the colors, and the materials all reflect (without literally repeating) those of the valley's farms.

At an early stage of the design process Frasca considered cladding the buildings in wood shingles to emphasize the connection with their rural neighbors, but decided this would be too heavy for such a large complex. Instead he chose white-painted wood for the walls and split-face concrete block for the base of the buildings.

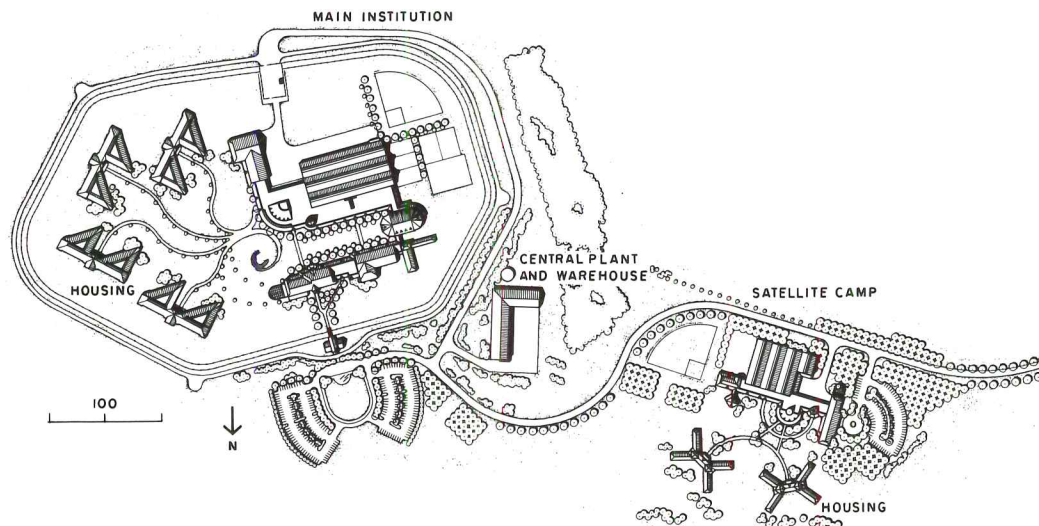
Frasca was also influenced by some of the West's old military installations. The plan of the prison's main institution, with administration and common-use facilities ringing a central quadrangle, resembles that of a military base organized around a parade ground.

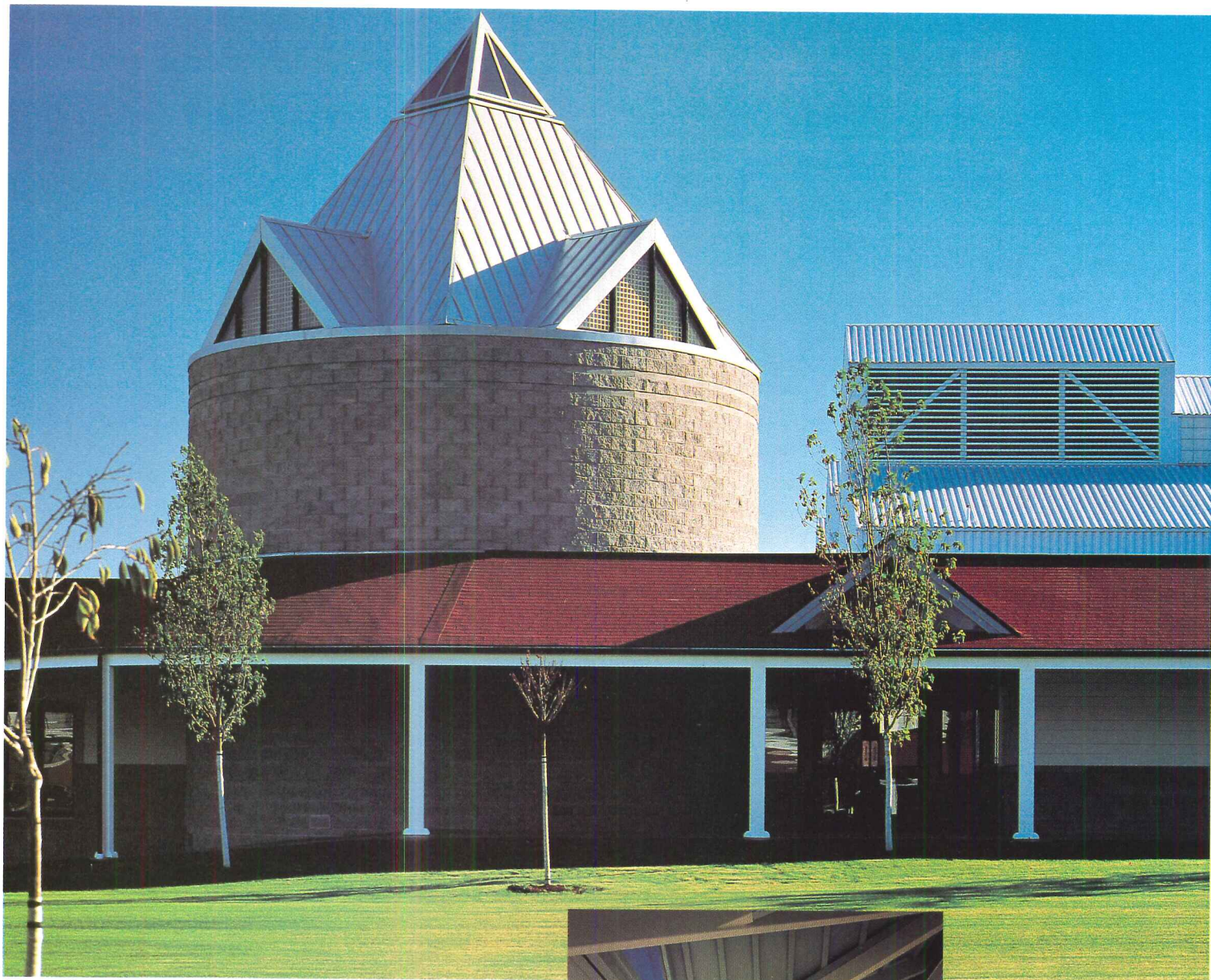
The buildings along the quad are joined

The peaked roof of the chapel (below and opposite) and the brooding form of the factory (opposite) break the horizontal thrust of the main institution.

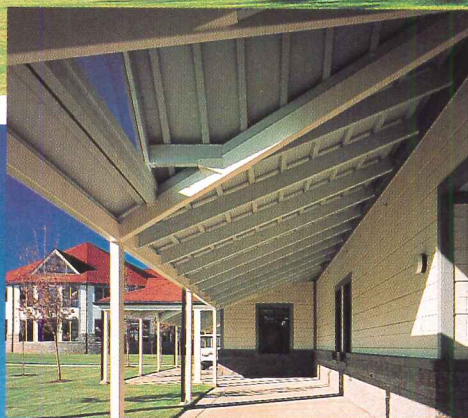


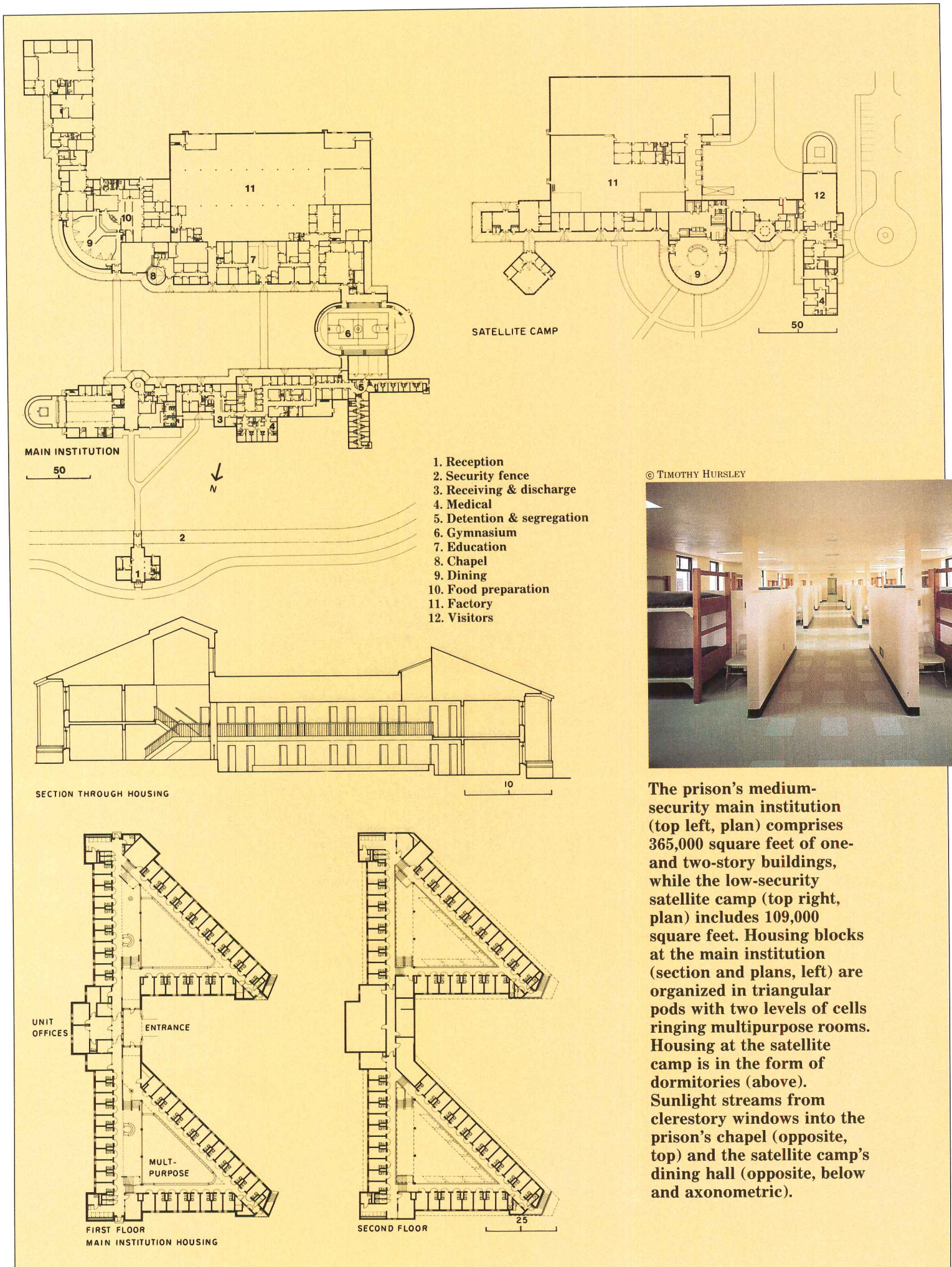
As in the main institution, the dining hall at the satellite camp (left) is linked to other common-use buildings by a covered walkway. At the main institution, the quadrangle (opposite, bottom) runs 450 feet long and is anchored by an impressive gymnasium at one end and housing at the other.





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1. Reception
2. Security fence
3. Receiving & discharge
4. Medical
5. Detention & segregation
6. Gymnasium
7. Education
8. Chapel
9. Dining
10. Food preparation
11. Factory
12. Visitors

© TIMOTHY HURSLEY



The prison's medium-security main institution (top left, plan) comprises 365,000 square feet of one- and two-story buildings, while the low-security satellite camp (top right, plan) includes 109,000 square feet. Housing blocks at the main institution (section and plans, left) are organized in triangular pods with two levels of cells ringing multipurpose rooms. Housing at the satellite camp is in the form of dormitories (above). Sunlight streams from clerestory windows into the prison's chapel (opposite, top) and the satellite camp's dining hall (opposite, below and axonometric).

by arcades punctuated by gables and three more prominent landmarks: a large, sun-filled cafeteria, a small sculptural chapel, and a brawny gymnasium that is the prison's most imposing building. The gym is a single large volume framed by wide flange trusses with colorful tie rods, exposed ductwork, and clusters of double-hung windows supplemented by clerestories.

Rising behind the quadrangle complex are the metal sheds of the prison factory, looking much like sophisticated grain-storage bins. The housing, a short walk from the quad, is in two-story buildings that are twin-triangles in plan. Cells are set around central multipurpose rooms where the prison employs direct supervision.

On the Bureau's one-to-six scale of minimum to maximum security, the main institution ranks a three, necessitating a double security fence with knife-sharp barbed tape encircling the facility and a well-patrolled perimeter road beyond that.

In the satellite camp (rated a one on the Bureau's security scale), inmates roam freely, and housing is in dormitories with low partitions. More intimate in scale than the main institution, the camp includes a semicircular dining hall and a chapel-like multipurpose building.

D. J. C.

*Federal Correctional Institution
Sheridan, Oregon*

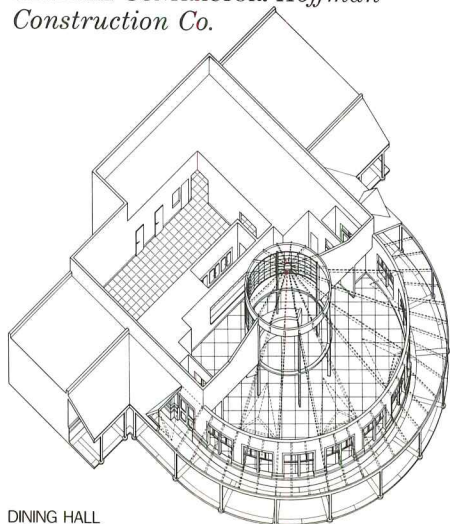
OWNER: Federal Bureau of Prisons

ARCHITECT: The Zimmer Gunsul Frasca Partnership—Brooks Gunsul, principal-in-charge; Jack Cornwall, project architect; Robert Frasca, principal designer; Evett Ruffcorn, senior designer; Ernest Grigsby, Ken Mouchka, Renee Kajimoto, Dennis Destefano, Robert Furusho, William Maxwell, Ronald Gronowski, Jane Clark, Kathryn Krygier, Mark LaFarge, James Smith, Robert Zimmerman, Steve Adams, Richard Brown, Linda Muerle, Gary Douglas, design team

ENGINEERS: KPFF Consulting Engineers (structural); PAE Consulting Engineers (mechanical and electrical); David Evans & Associates (civil)

LANDSCAPE ARCHITECT: Jones & Jones

GENERAL CONTRACTOR: Hoffman Construction Co.



DINING HALL



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COURTS HELP SHAPE JAIL DESIGN

Sonoma County Detention Facility
Santa Rosa, California
The Ehrenkrantz Group, San Francisco,
Architects

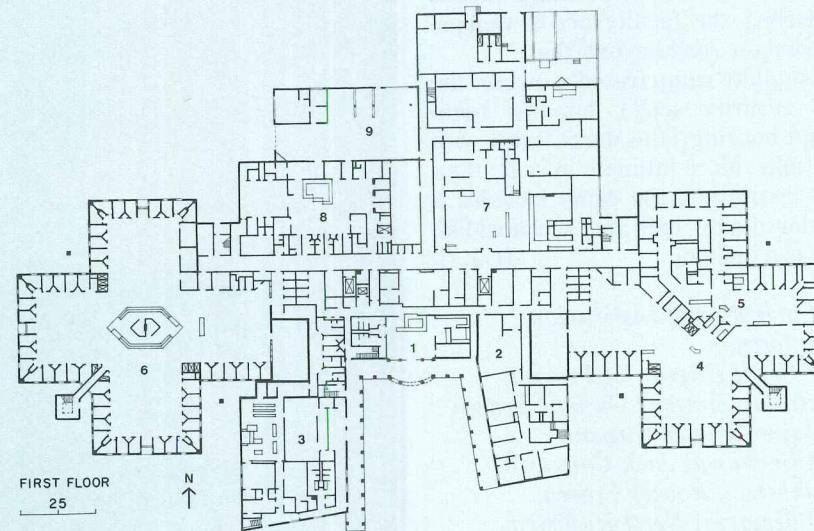
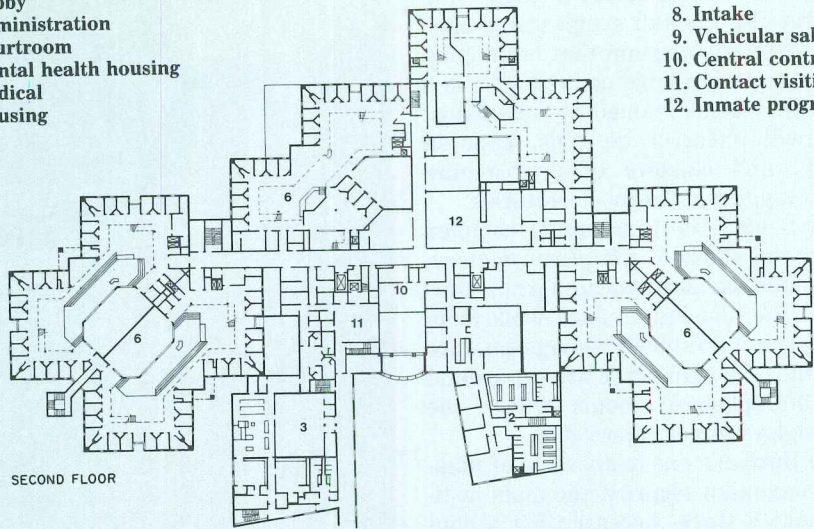
Designed explicitly to respond to court decisions defining inmates' rights (down to the level of noise the hvac system is permitted to make), the Sonoma County Detention Facility is a prime example of the so-called "constitutional jail."

A 404-bed pretrial facility, the building is organized into housing pods for direct supervision of inmates. As in other direct-supervision jails, officers are stationed directly in the pods and are trained to act as much as counselors as guards. A major factor in making this arrangement work is a classification system that separates dangerous from well-behaved inmates.

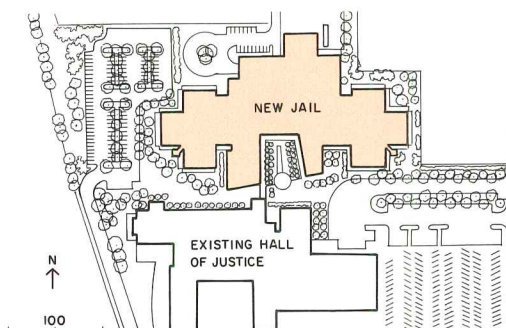
The new facility is linked to an existing justice center and provides extra courtrooms. Built of heavily textured load-bearing concrete block, the jail has the look of an old Western fort. While small recessed windows mark the building as a jail, the architect varied the fenestration (clustering some windows behind painted grids) to add interest to the exterior. **D. J. C.**

OWNER: *Sonoma County, California*
ARCHITECT: *The Ehrenkrantz Group, San Francisco—Ezra Ehrenkrantz, principal-in-charge; Christ Kamages, director of design; Curtis Pulitzer, director of criminal justice; Mark Sharp, Fakoor Popal, Robin Burr, Gary Marshall, Mark Creedon, Jane Marshall, Jesus Corpus, Ted Schuster, Virginia Yang, Laura Maiello, Tara Lamont, Rob Gayle, project team*
ENGINEERS: *Zucco Associates (structural); Brelie & Race (civil); Marion Cerbatos Tomasi (mechanical/electrical)*
LANDSCAPE ARCHITECT: *POD*
GENERAL CONTRACTOR: *Dillingham*

- 1. Lobby
- 2. Administration
- 3. Courtroom
- 4. Mental health housing
- 5. Medical
- 6. Housing
- 7. Food service
- 8. Intake
- 9. Vehicular sallyport
- 10. Central control
- 11. Contact visiting
- 12. Inmate programs



© JANE LIDZ PHOTOS





The entry courtyard to the \$30.6-million jail (opposite) faces the existing justice center. The architects succeeded in bringing plenty of sunlight into a dayroom (top) where inmates eat and spend most of their time. The main lobby (above) is a two-story space.

ROOMS WITH A VIEW OF THE CHARLES

Suffolk County Jail
Boston, Massachusetts
The Stubbins Associates, Architects

Jails are rarely welcome additions to the urban landscape. Their very function—to isolate dangerous people from the rest of society—works against any easy blending into their surroundings. The Suffolk County Jail has proved an exception.

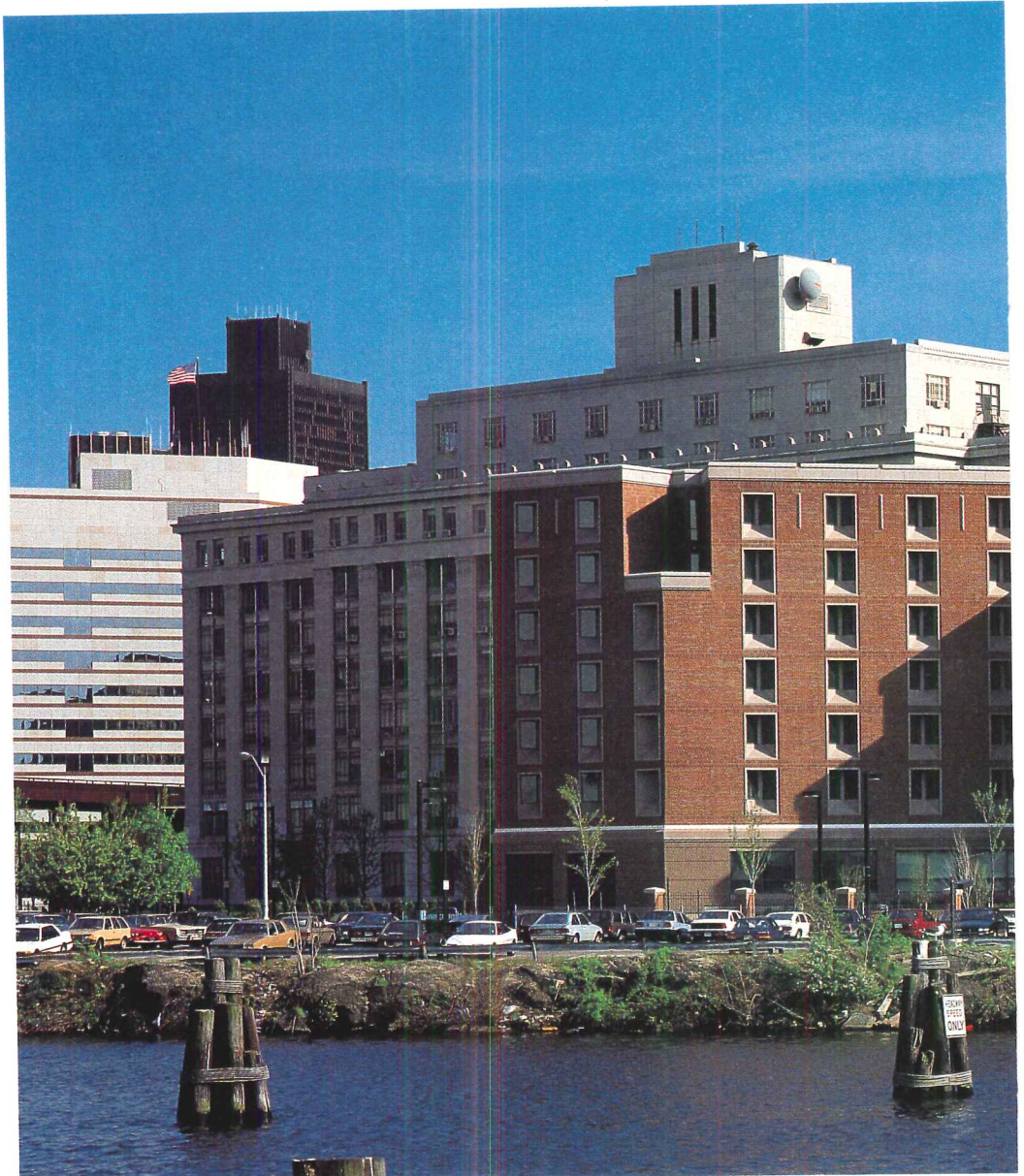
The product of a design/build competition won by a team comprising The Stubbins Associates, Voinovich Monacelli, and the George Hyman Construction Company, the jail graces its site on the Charles River in Boston with a civic presence that is formal but never overwhelming. A three-story portico clad in granite opens the building to the water, while brick-faced wings housing inmate cells gracefully step down from a central hipped roof. A river-front esplanade and park eventually will add to the project's outgoing nature.

The building's plan is both simple and effective. Shared functions—including visiting rooms, counseling services, health facilities, a library, and a top-floor gym—are located in the building's central section, while prisoners are housed in the two wings. Though the jail follows the direct-supervision model in terms of organizing inmate cells into two-level "pods" around common dayrooms and placing officers in direct contact with prisoners, it supplements this system of management with control booths located between pods.

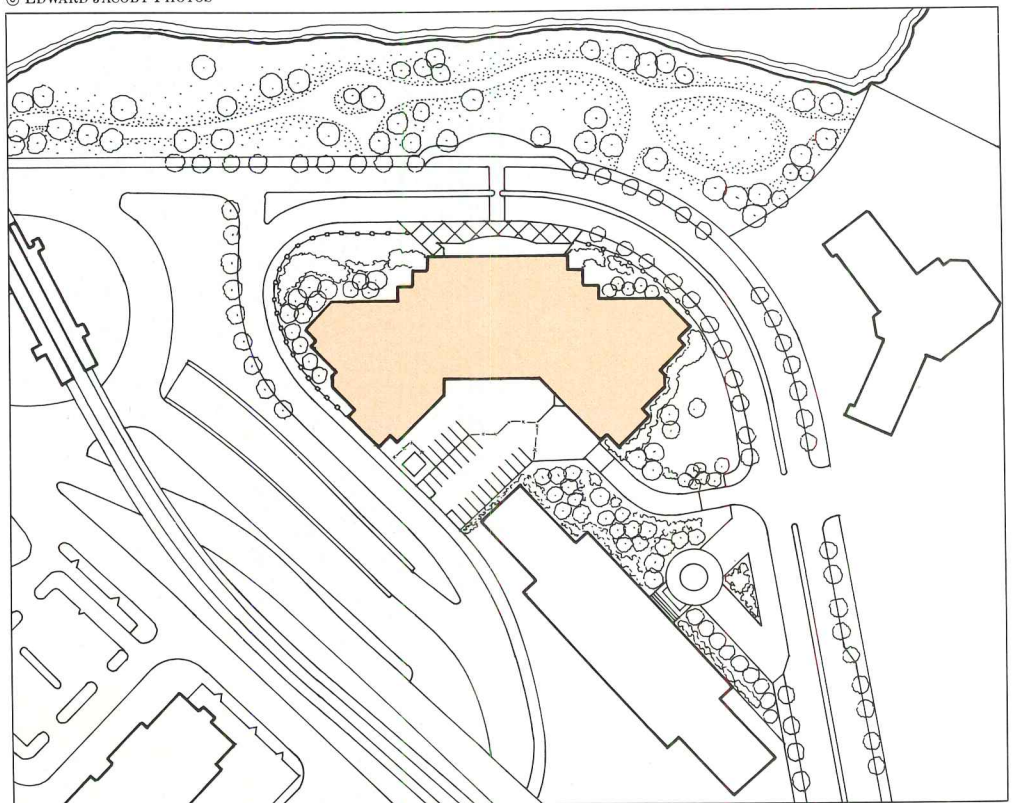
Bringing light into dayrooms

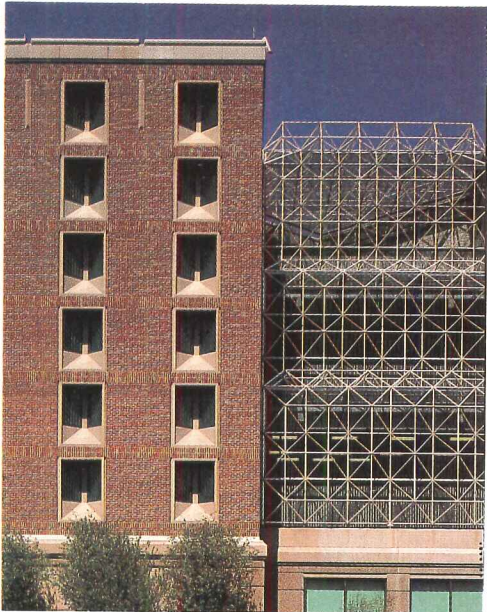
To minimize the number of officers needed to supervise inmates, the architects set two pods off each control booth. And by inserting space-framed outdoor areas between pods, the architects brought recreational activities closer to the inmates. Such a device not only reduces the need to move prisoners from one part of the facility to another (always a security risk), but also helps solve the problem of bringing light into dayrooms that are ringed by cells. To maximize sunlight to each level, the recreation spaces step back as they climb up the side of the building, diminishing in size from 2,000 to 1,600 and finally to 1,200 square feet.

Because the small cell windows required in prisons and jails can give a facility the look of a fortress, The Stubbins Associates designed a precast unit that pairs two windows together and gives the impression of one large opening. Each window is angled

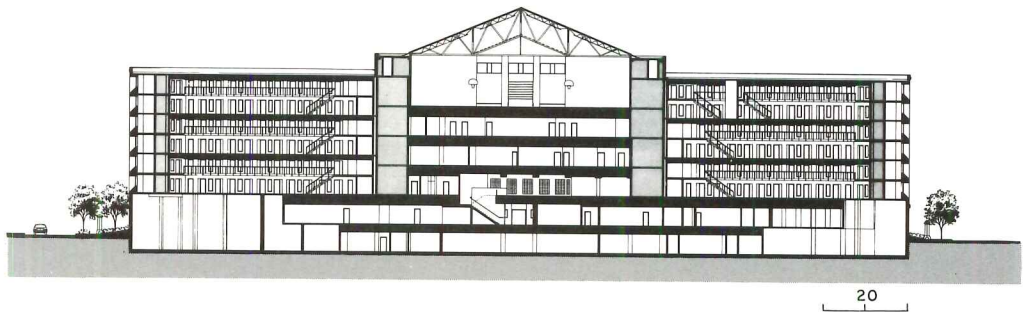


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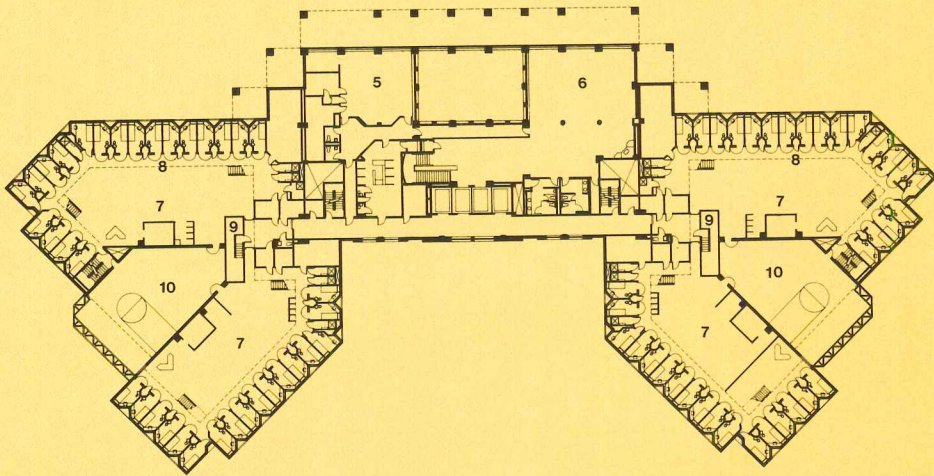




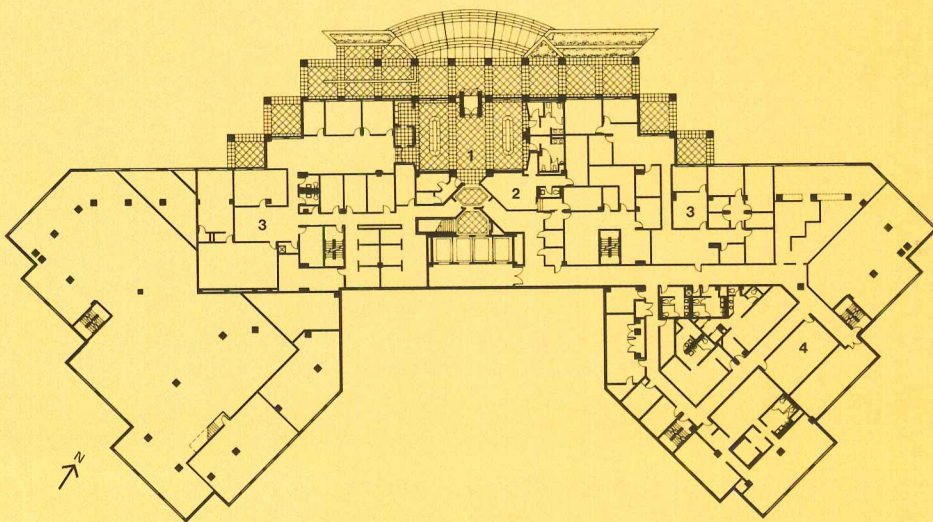
Constructed in just 30 months for \$52.4 million (\$150 per gross square foot), the steel-frame, concrete-slab jail on the Charles River accommodates 453 inmates in single-bunk cells. Outdoor recreation areas enclosed within space frames are located between paired housing "pods" (left and far left).



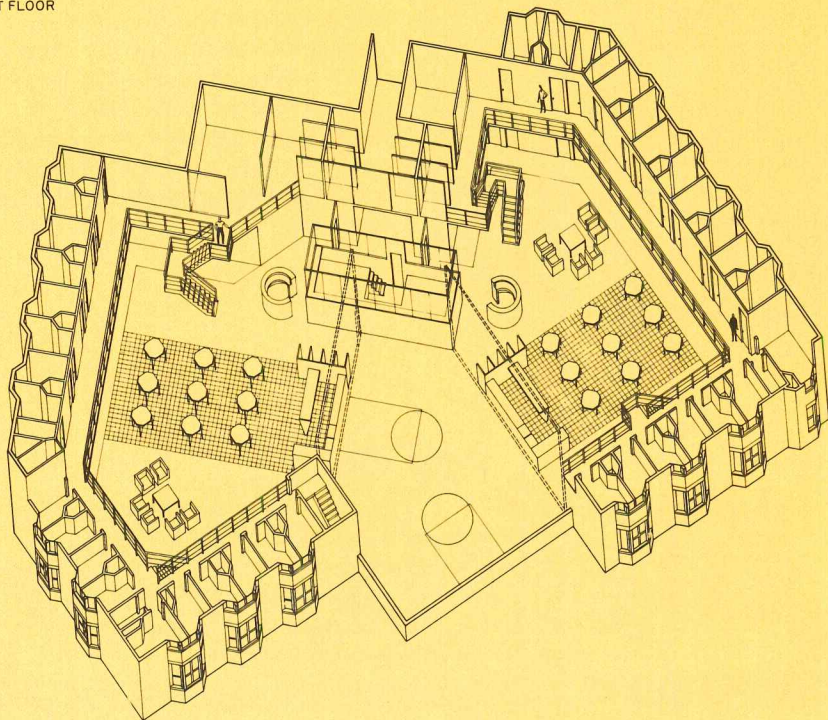
- | | |
|--------------------|------------------|
| 1. Lobby | 6. Visiting |
| 2. Central control | 7. Dayroom |
| 3. Administration | 8. Cell |
| 4. Staff support | 9. Control booth |
| 5. Chapel | 10. Recreation |



SECOND FLOOR



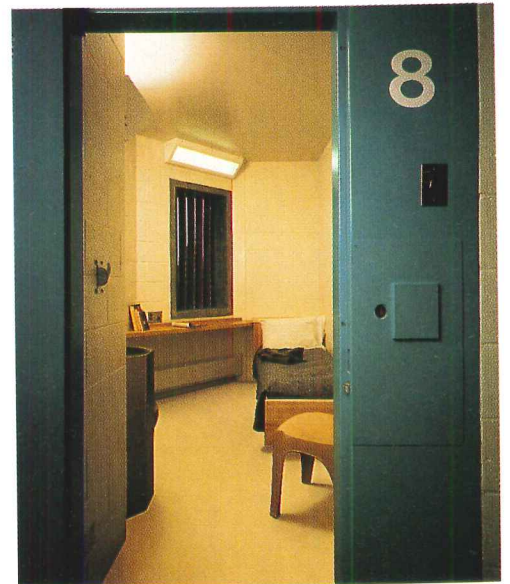
FIRST FLOOR



45 degrees from its mate to prevent visual contact between cells.

Although all areas beyond the lobby are secured, the level of security increases as the floors go up. The architecture reinforces this hierarchy, explains W. Easley Hamner, the Stubbins partner in charge of the project. Well-behaved inmates are rewarded with greater access to areas with movable furniture and softer materials, while more dangerous prisoners are restricted to harder spaces on upper floors.

To maintain tight security, each of the building's four sets of elevators is dedicated to a particular type of user: visitors, inmates, employees, or service personnel. Lateral movement is also regulated by restricting corridors on every other floor to either inmates and staff or visitors. C. A. P.



Each 70-square-foot inmate cell (above) has its own toilet and sink.

Suffolk County Jail

Boston, Massachusetts

OWNER: Commonwealth of Massachusetts

ARCHITECT: The Stubbins Associates—
W. Easley Hamner, principal-in-charge;
Theodore Nolte, project designer; Roy
Pedersen, project director; Russell
Ames, project architect; Emmett F.
Glynn, field coordinator; Desmond
McAuley, David Paoletta, Steve Sivak,
Dorwin A. J. Thomas, Dan Thomas,
Tetsuo Takayanagi, Richard Murphy,
Michael Gilligan, Charles Hayter,
Jeanne Zilligen, project team

ASSOCIATE ARCHITECT: Voinovich
Monacelli

ENGINEERS: McNamara/Salvia
(structural); Syska & Hennessy
(mechanical/electrical)

CONSULTANTS: Cerami & Associates
(acoustical)

GENERAL CONTRACTOR: The George
Hyman Construction Company



Between 36 and 40 cells ring each 1,200-square-foot dayroom (above). While an officer is stationed at a desk in the dayroom (left in photo above), he is supplemented by an officer in a control booth who oversees two sets of housing units.



KIDS BEHIND BARS

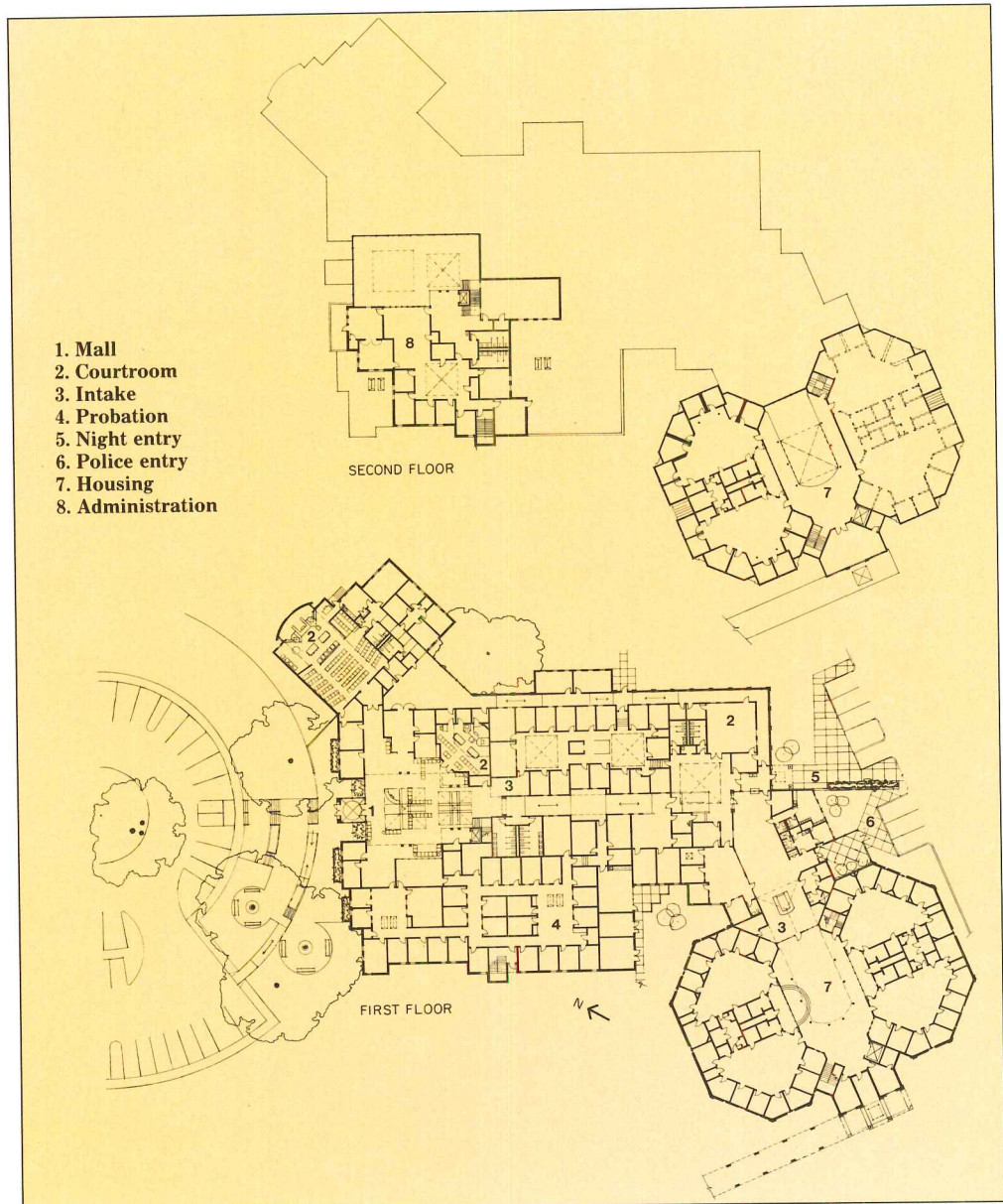
Gardner/Betts Juvenile Justice Center
Austin, Texas
Cox/Croslin and Associates

Faced with the special needs of children accused of crimes, Austin architects Cox/Croslin designed a justice center that downplays the institutional while encouraging relations between families and government authorities. "We wanted to bring families into the process as much as possible," explains Chuck Croslin, partner-in-charge of the \$8.2-million project.

To this end the architects organized public areas, such as courtrooms and social services, around a two-story, light-filled mall. "Everyone is familiar with malls, so we felt this form would be less intimidating," says Croslin. A glass curtainwall serves as a welcoming facade for the public portion of the building and is topped with a pyramidal metal roof to give it a civic presence. Inside the mall, a large monitor brings sunlight into the lobby, while clerestory windows do the same for the arched corridor leading to the secured detention and residential sections.

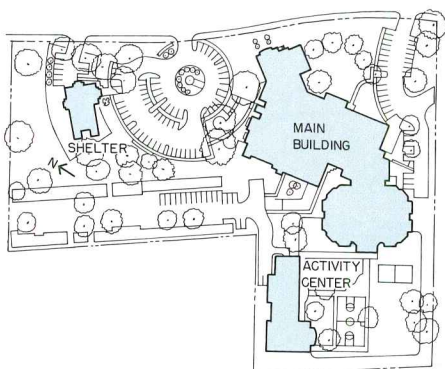
Although spacious and well-lighted, the secured areas are clearly stamped with the imprint of authority. As in most new adult prisons, housing is organized by pods with small living rooms ringed by seven or eight cells. The pods, in turn, encircle a large dayroom observable from a central control booth. A separate activities building with classrooms, cafeteria, and gym stands behind the residential block and helps define a secured courtyard. C. A. P.

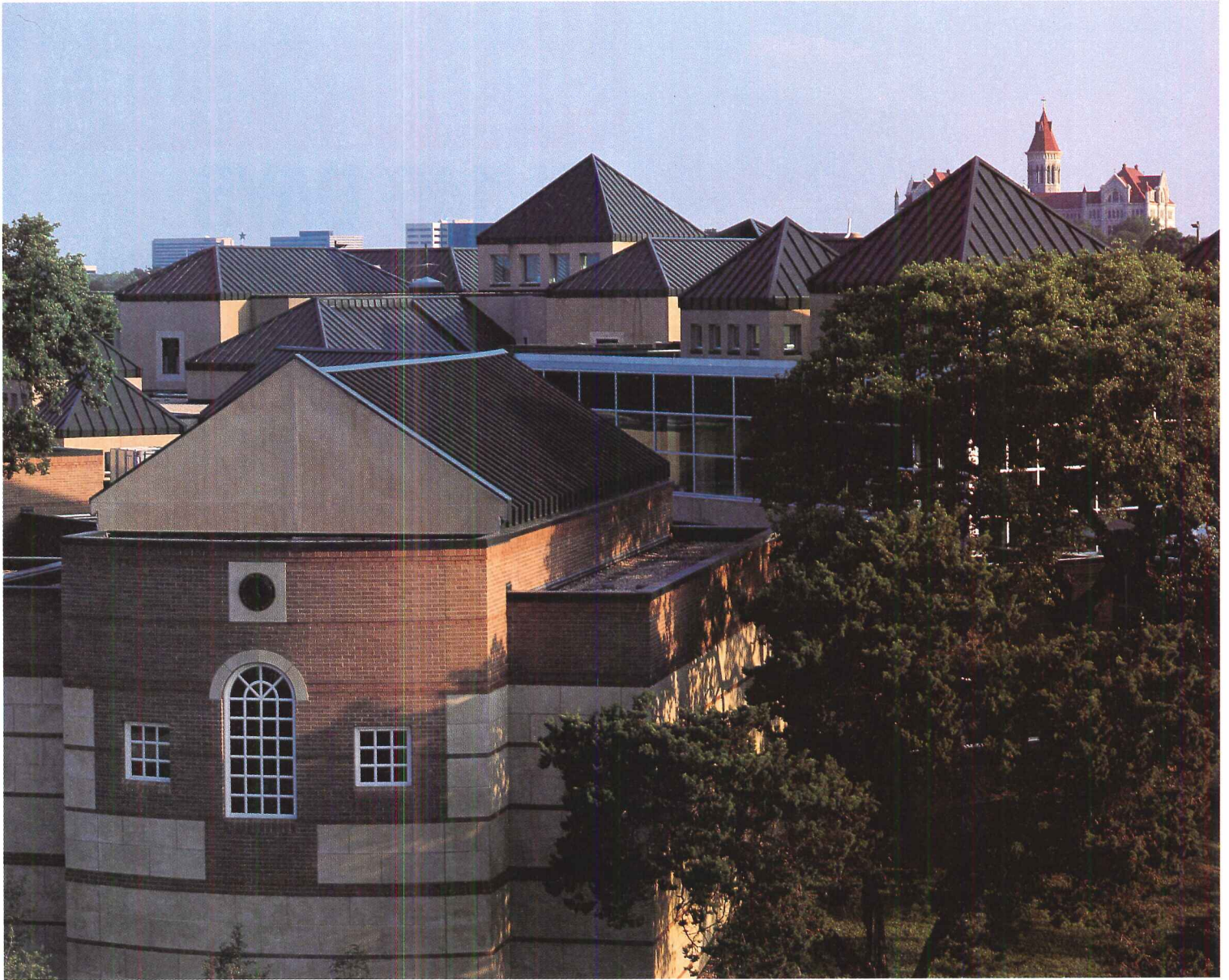
OWNER: Travis County, Texas
ARCHITECT: Cox/Croslin and Associates—Chuck Croslin, principal-in-charge; Larry Miller, project manager
ENGINEERS: Jose I. Guerra (structural); HMG and Associates (mechanical); KIW Engineering (civil)
GENERAL CONTRACTOR: Spaw-Glass Construction Services



The 82,000-square-foot detention center encompasses three buildings: a main structure (plans above and photos opposite), an activities building (left in photo below), and a shelter for runaways and abused children (not shown). The facility currently can house up to 45 children in single-

bunk rooms and has been built for future expansion. The shells of two pods on the second floor of the housing block can be easily built out when needed. Public spaces, including a toplit corridor (opposite, lower left) and two-story lobby (opposite right), were designed as light-filled malls.





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CAMP
HILL,
PA

THIS MAXIMUM SECURITY FACILITY

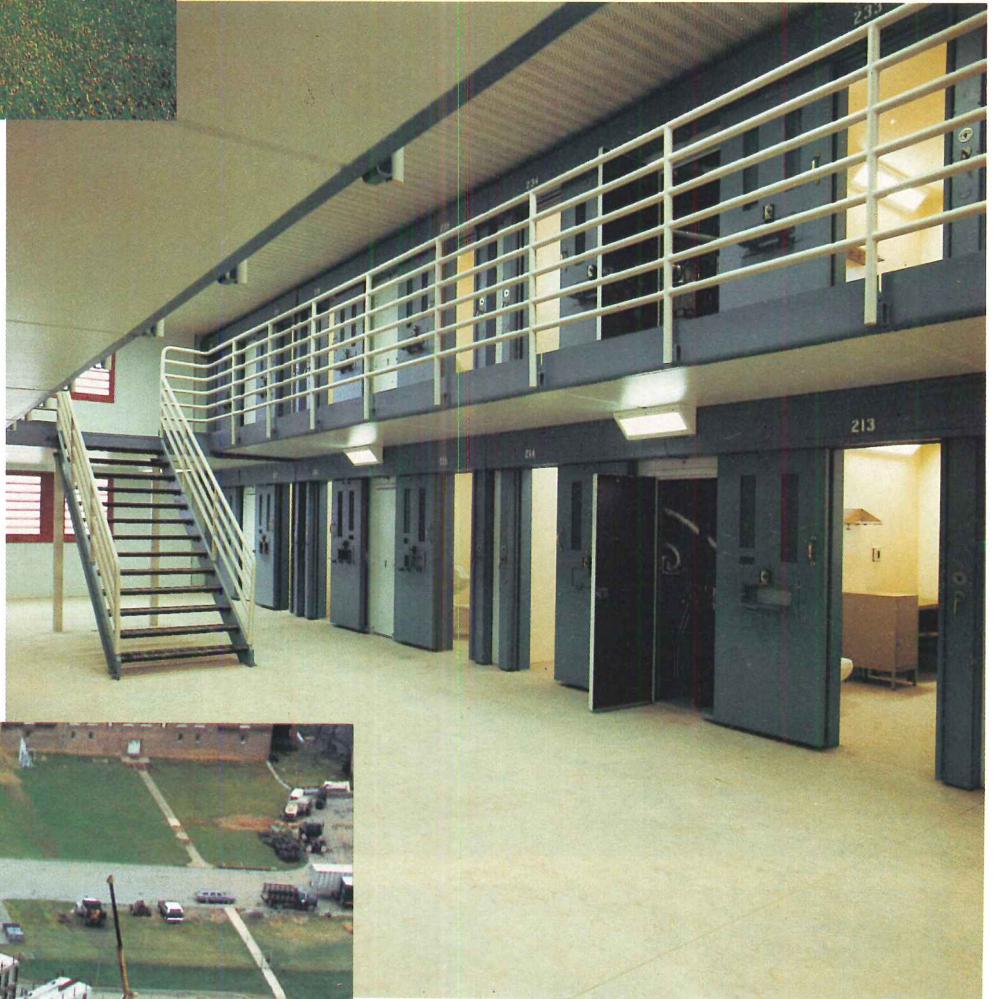
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ACCESS FLOORS: A WAY TO HANDLE THE CABLING MESS

Computers and telecommunications media are proliferating, but cable size is shrinking. *Wire management* is the issue.

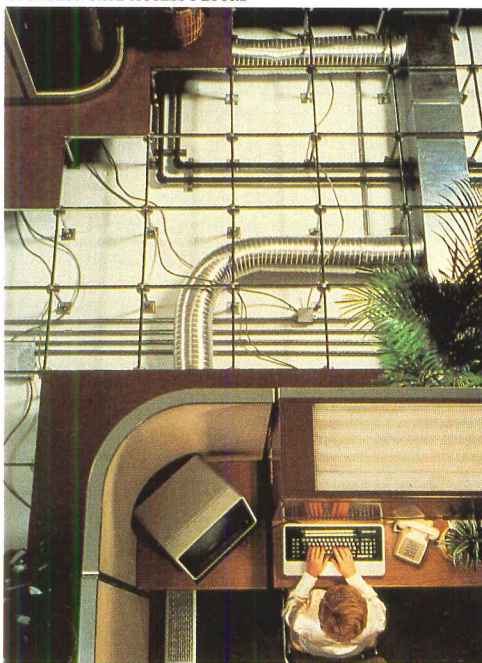
A vacant skyscraper is a dispiriting sight. In most cases it's a matter of too much supply, too little demand. But there is talk in telecommunications circles of a high-rise office building in New York City that remained empty for two years after construction, not because the market went slack, but because the building lacked the infrastructure to accommodate an up-to-date communications system.

In many offices cabling capacity has become a significant issue. The communications revolution of the last decade has crowded the workstation with sophisticated machines, and obliged the office building to house prodigious lengths of cable. As an unwelcome result, businesses often find their distribution systems insufficient. RECORD spoke with several facilities managers of large corporations, each of whom told similar stories of cellular floors "chock-full" of cable, of "saturated" underfloor ducts. How is the architect to cope with these leapfrogging changes? The obvious answer is an access floor, a pedestal-supported secondary floor system with easily removed panels.

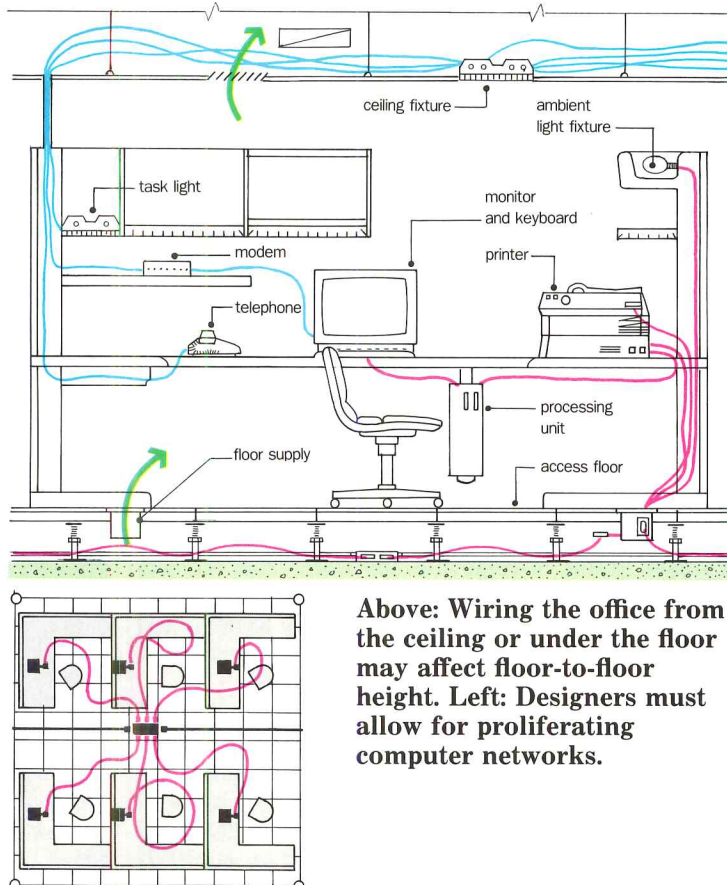
Though access floors were once used almost exclusively in computer rooms, architects, engineers, telecommunications planners, and facilities managers are increasingly finding the system to be the most flexible and roomiest way to handle the proliferating cable needs of open-plan general-office areas. (See page 159 for discussion of the other most popular cable-management options.) Theodore York, of the Software Productivity Consortium in Virginia, is just one of several facilities managers who told us how pleased he is with the system. "With access floor, I have 60,000 cubic feet of electrical closet beneath the floor."

Access flooring's flexibility is as important as its capacity. This is not surprising, since an office's occupancy can change as fast as its technology. According to the International Facilities Managers Association,

COURTESY TATE ACCESS FLOORS



Both cable and supply air can be located under accessible panels.



Above: Wiring the office from the ceiling or under the floor may affect floor-to-floor height. Left: Designers must allow for proliferating computer networks.

the annual "churn rate"—the frequency with which employees and equipment are rearranged—is typically 30 percent and in some industries, notably insurance and financial services, much higher. Even relatively stable offices frequently add or upgrade computer equipment—with resulting changes in cable.

"The flexibility of access floor is without parallel," says Anthony Nuciforo, a telecommunications consultant in New York City, and most building managers we spoke with agreed. To Jim Smith, Director of Interior Design at the United States Automobile Association in San Antonio, raised floors are essential to the workings of their headquarters. "We've been using access floors since the mid-1970s and probably have more than a million square feet of them. Our churn rate is about 60 percent, so for us no other system would be worthwhile—access floors do a lot to facilitate change."

Despite its advantages, there are obstacles to the widespread acceptance of access flooring. The chief of these is budget. It is never easy to compare costs definitively, as there are so many variables beyond the actual outlay for the product. For access floors, these factors include size of the installation, height and configuration of the floor, and the system selected. (Most manufacturers offer several systems, varying in panel construction, connection detailing, and price.) It is generally accepted that access flooring, ranging in installed price from \$4.50 to \$5.50 per sq ft, is the most expensive distribution system to install. Not surprisingly, developer clients usually balk at paying for what is essentially a second floor. Another important cost consideration is that raised floors may increase the cost of a new building by requiring greater floor-to-floor distance. Even a 6-in. raised floor, if used throughout (6-in. to 8-in. is typical for offices, but 12-in. to 14-in. is not

uncommon), adds significant costs if it leads to an increase in the height of a multistory building.

Construction costs alone, however, can be misleading. Again, the issue is "churn." For many users, the flexibility afforded by access flooring—the relative ease and economy of changing office layouts, of removing old and installing new cable—justifies the system's upfront expense. "Access floor pays for itself almost as soon as it's installed," says Scott Hill, an architect with Shearson Lehman Hutton in New York. "Even as we move in, we're making changes in plan."

Executive material?

There are esthetic objections to raised floors. The sheet-steel panels typically used in computer rooms were found to be unsuitable for offices. Employees complained that panels sounded hollow and felt wobbly. Manufacturers have addressed these problems by designing denser panels and stronger panel-to-pedestal connection details. Most offices today use metal flooring filled with cementitious material or panels made entirely of concrete, to which replaceable carpet tiles are adhered. "The panels have gotten a lot better," says Mark Regulinski, an architect at Skidmore, Owings & Merrill in New York City, "but you still know you're walking on a raised floor." USAA's Jim Smith offers this appraisal: "In general, an access floor with carpet tile won't match a heavy-pile broadloom on a concrete base. The more rigid systems with high-quality tile come close, but it's not yet executive-suite material."

Until a few years ago, the industry lacked testing standards. With each company designing its own product tests, it was hard for designers to compare the manufacturers' claims. This situation improved in 1987, when the Ceiling & Interior Systems Construction Association (CISCA) published a voluntary standard test procedure (see "further information" page 203). While acknowledging this standard's usefulness, Richard Harz, of USG Interiors/Donn Access Floors, points out that "unfortunately it is not yet universally adhered to. The next step is to establish performance-based design criteria and then proceed to adoption by ASTM."

Retrofitting raised floors

Raised flooring's compatibility with both concrete and steel structural systems

makes it a good choice for renovations, and it is indeed often retrofitted, but ingenious solutions are sometimes required. In new construction, for instance, the slab is depressed to allow for the height of an access floor. In renovations, the change of level between the floor and a building's core must be bridged with ramps and stairs, which, no matter how thoughtfully designed, can be intrusive. Moreover, conditions at the exterior wall may determine the suitability of a raised floor retrofit. As Randall Gerner of Kohn Pedersen Fox Conway noted, "you wouldn't want to see raised floors in the Seagram Building," with its floor-to-ceiling glass.

Key to the system's use in a successful renovation is the building's floor-to-floor height. "It is often quite difficult to put a raised floor in office buildings of the '60s and '70s, with their lower ceilings and lighter structure," observes Walter Cooper, Director of the Communications Technology Group at

Flack + Kurtz. But older loftlike commercial buildings often provide attractive conditions for a retrofit. Joyce Polhamus, an architect with HOK in San Francisco, says of a recent renovation for a high-tech company in the Bay Area, "we were converting manufacturing to office space, and found

that the large floor plates and high ceilings made it easy to install a raised floor."

Underfloor air distribution

Given a minimum height of 12-in., raised floors can serve as a supply-air plenum. Proponents of underfloor air distribution—which has been used in computer rooms for years—believe it offers both economic and environmental advantages. Manufacturers emphasize the reduced cost of ductwork, and note also that incorporating hvac into a raised floor may reduce the depth of the suspended ceiling, thus compensating for the added height of the floor.

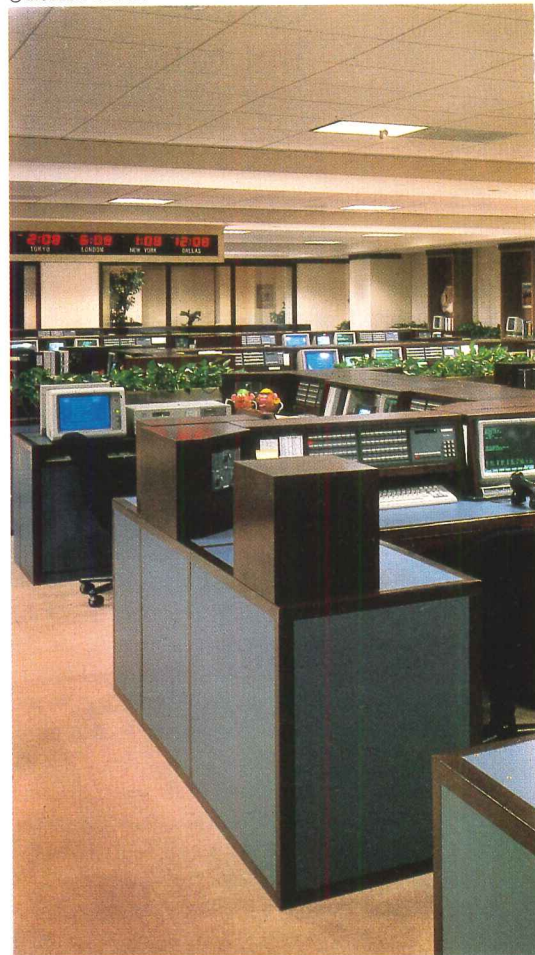
Underfloor air distribution is beginning to intrigue designers. "It's exciting to think of removing ductwork from the ceiling," says Opie Athwal, a principal at Cosentini Associates. "With only lighting and sprinklers, the office ceiling could look quite different than it does today."

There is as yet little widespread acceptance of underfloor ventilation. Floor plenums would require the use of costly fire-rated cables and—in certain conditions in some jurisdictions—smoke detectors and

Continued on page 203

Communications designers don't agree on how much cabling capacity will be required by the office of the future.

© ROBERT MILLER



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Open-plan general office areas lacking cable-intense uses may be suitable for access floors. A lightweight concrete-filled panel is shown.

Access floors have become popular for trading rooms, such as the office below, designed by HOK for a Texas firm, in which each workstation may have a computer, several monitors for the display of network- or telephoned data, and one or more telephones. With rapidly advancing hardware and

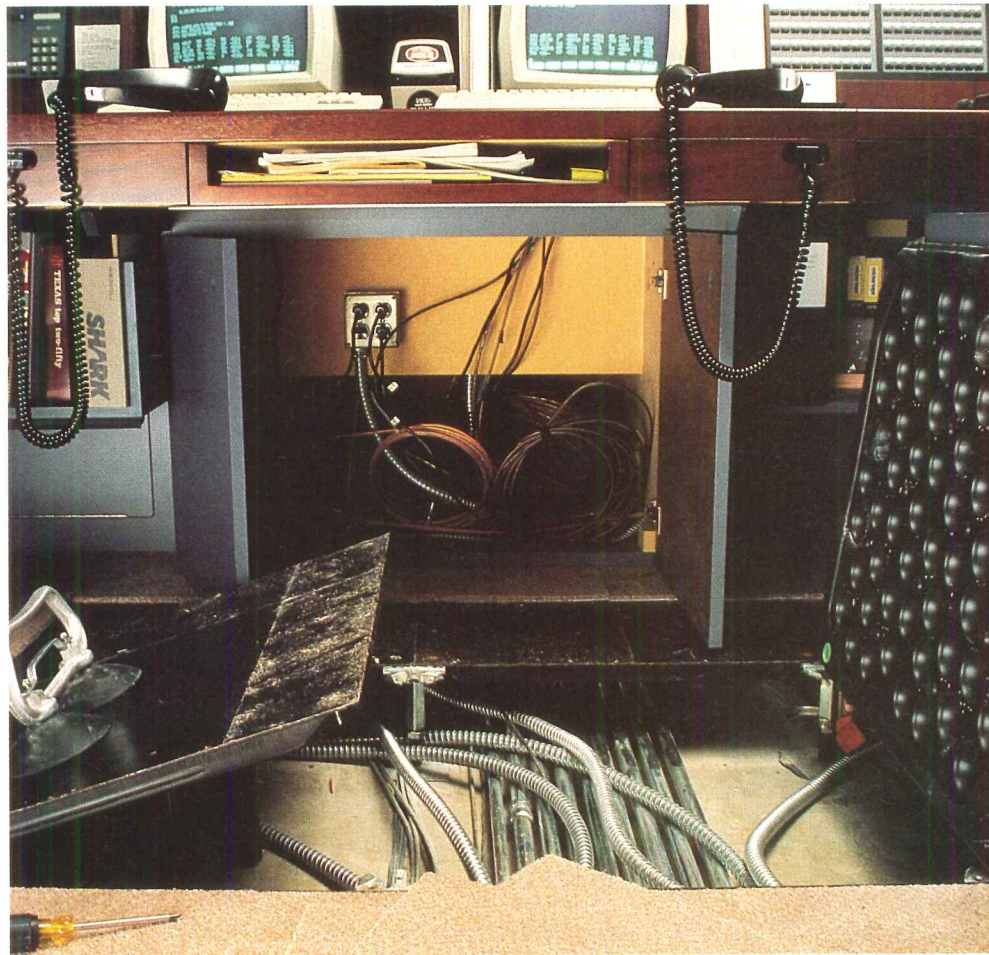
software, change is frequent.

Systems with this complexity require well-organized wire-management databases. One financial firm had such intense cabling needs that it has filled a 2-ft deep access floor with cable. Access flooring is less secure than systems embedded in the

floor deck, but the choice of cables can defeat tapping efforts and interference.

In environments with fewer electronic and networked devices, raised floor is suitable where systems furniture is widely used.

© ROBERT MILLER



OTHER PLACES TO PUT CABLES

Pros and cons of the most popular wire-management options.

Poke-through

In this system, developed in the mid-1970s, cable is placed in the ceiling plenum and fed to the floor above through fire-rated inserts. Used in most speculative construction. *Advantages:* least expensive to install; *Disadvantages:* the most expensive to alter; potential conflicts with structure, ductwork, and lighting; code limitations on slab penetrations; less secure.

Cellular floor

Cables for voice, data, and power are placed in separate cells formed for this purpose in the structural metal deck. Developed in the 1930s, it was until recently the distribution method used in most high-quality steel-framed buildings. *Advantages:* Still considered a good system for static office environments. More secure than access floor or poke-through. *Disadvantages:* Cell spacing may not match office layouts; long cable runs may be needed.

Underfloor duct

Metal troughs for cable are embedded in the structural slab during construction. Developed about 75 years ago for use in concrete buildings. *Advantages:* Still considered a good system for small, static environments. Because ducts readily run in two directions, outlet modules may be smaller and cable lengths may be shorter than for cellular deck. *Disadvantages:* A dense system may require a thicker slab; requires careful coordination with slab reinforcement.

Flat cable

Cable that is 1/16-in. thick and several inches wide is applied directly to the floor under carpet. Developed by NASA and marketed commercially in the 1980s. *Advantages:* Requires no raceway. In some retrofit applications, the only solution. *Disadvantages:* Until recently considered promising for office use, flat cable is now regarded as too fragile for all but the most limited applications.

WHEN THERE'S NO PLACE TO GO BUT UP

How architects and engineers are working together to build over, around, and through existing buildings.

The collaboration between architects and engineers—particularly structural engineers—is less glamorous than it once was. There's been some handwringing over this, reflecting a hankering for the good old days when technological virtuosity was idealized—the fabric roofs of Frei Otto, the intricate concrete structures of Pier Luigi Nervi—and the engineer lionized. Nowadays, though, the two disciplines often have to work closer together than ever. Even in the 1970s, time of the celebrated collaborations between various SOM design partners and Fazlur Khan, the quest had moved toward a subtle efficiency in the use of materials rather than an acrobatic expression of technology.

Collaboration today is likely to be for different reasons altogether. It's not just that fire codes mitigate against the exposure of structural steel, or that we are looking at solutions for ever larger or ever taller buildings (although there *is* renewed interest in surpassing the Sears' Tower). We call on the engineer to help us do more with less, wrestling with grittier, tougher issues. In this first of a two-part examina-

tion of recent engineering trends, the three case studies shown are projects that bridge or cantilever over—or gingerly penetrate—existing structures on tight urban sites. In October, we'll examine the design of a new crop of tall, extremely slender buildings.

Squeeze play

One could argue that the confluence of specific zoning rules and an (until recently) overheated real-estate market are the only reasons a developer would even consider erecting a hotel on a site where only one-third of the land area could be built upon (page 163), or an office building where 20 percent of the floor area must hang over a four-story landmark theater (page 162).

Such schemes may seem crazy. But the expensive and nerve-racking problem of packing more square footage into a difficult site is being faced by many institutions—particularly large urban medical centers—for which the replacement value of existing construction is too high, and the proximity to other facilities or institutions too important to consider less costly

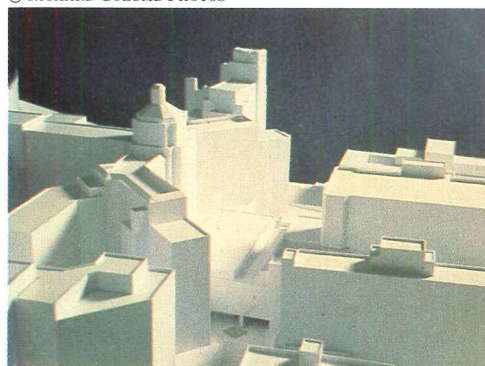
structures on distant but more readily buildable land. (Acute-care patients, for example, cannot easily be transported across town for needed diagnostic or therapeutic services.)

Keeping the client up and running

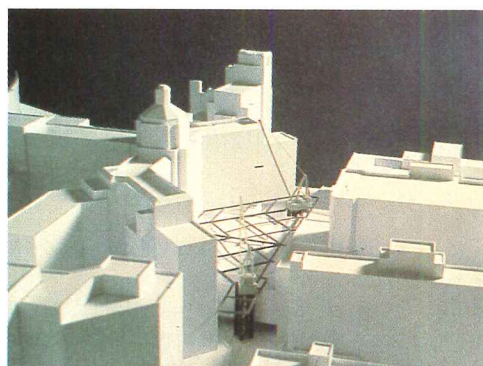
For projects where land is limited, design problems can be compounded by logistics: there is rarely an off-street construction staging area, and critical functions (from fire-department access to vibration-sensitive operating rooms) must often be maintained throughout construction. Ingenuity is needed to understand the issues, design for them, sequence construction properly, and communicate effectively with the client (this page and opposite). Though construction scheduling is typically the province of the contractor, architects and engineers are often locked into the timing of complex procedures, because construction techniques and the demands of temporarily displaced functions may otherwise dominate the design process, to the long-term detriment of the project.

JAMES S. RUSSELL

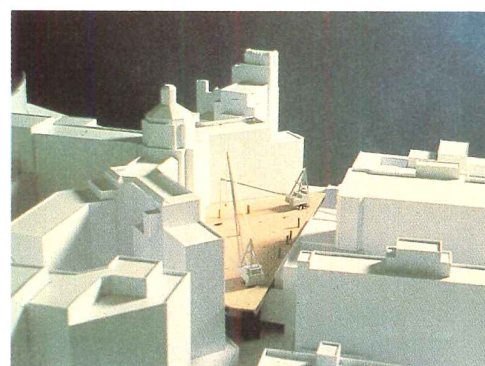
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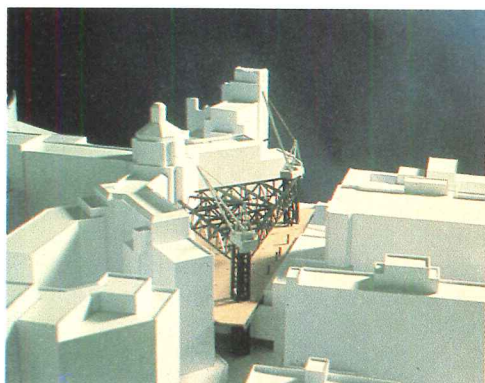
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2



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4



5

For the Presbyterian-University Tower, the architects built models showing the construction sequence. Because cranes and building material will share the street with emergency and nonemergency vehicles the client could visualize the required relocations and traffic rerouting. Photos show installation of protection system over roof (1, 2), construction of transfer trusses (3, 4), and erection of tower (5).

INTERFERENCE MATRIX—P.U.H. TOWER

FLOORS	COLUMN NUMBERS																			
	C1	C2	C3	C4	C5	C6	C7	C16	C18	C19	C1a	C2a	C3a	C4a	C5a	C6a	C7a	C16a		
4th	← Column towers beyond the front wing →			← Roof penetrations →						← Column towers beyond the front wing →										
3rd					Roof penetration	R3 Conf & Exam Corridor Patient Rooms 3435 & 3436 100 S.F.	R3 CT Scan/ Cardiology Offices 100 S.F.	Roof penetration	R3 Physicians Lounge/ Study 100 S.F.	Roof penetration					Roof penetration	R3 Head Nurse Patient Rooms 3417 & 3418 110 S.F.	Roof penetration	Roof penetration		
2nd					R1 O.R. 100 S.F.	R2 Ortho O.R. #1 100 S.F.	R1 Corridor/ Sub-sterile Prep 100 S.F.	R3 CLSI Lab Darkroom 100 S.F.	R3 Scrub Room for O.R.'s 5 & 6 100 S.F.	R2 Relocate Hood 280 S.F.					R2 Office Elec. for O.R. #12 100 S.F.	R3 O.R. Office Corridor 150 S.F.	R3 Chart Lounge/ Entry Corridor 100 S.F.	R2 O.R. Storage 240 S.F.		
1st					R2 Radiology 230 S.F.	R1 Chapel/ Main Corridor 100 S.F.	R2 Central Sterile 100 S.F.	R1 Radiology File Rm. 100 S.F.	R1 Radiology Chest Rm. 40 S.F.	R2 Radiology Reading Rm. 100 S.F.						R2 Radiology Entry/ Storage 330 S.F.	R3 Physicians Dietation 100 S.F.	R2 Radiology Toilets 100 S.F.		
LOBBY	← Existing parking and driveway affected →				R1 Sidewalk outside 100 S.F.	R2 Radiation Safety 110 S.F.	R3 Corridor 170 S.F.	R1 Lobby Entry/ Driveway 100 S.F.	R3 Admitting Bed Schedule area 175 S.F.	R1 Lobby Entry/ Driveway 260 S.F.	← Construction will affect Emergency Dept. →						R3 Trauma Room Entry 100 S.F.	R3 Corridor 145 S.F.	R1 Lobby Entry/ Driveway 100 S.F.	
GROUND	← Existing parking and driveway affected →				R1 Mech. Equipment 100 S.F.	R3 Plant Services/ Foundation wall 330 S.F.	Unexcavated area	R1 Mech. Equipment 240 S.F.	R3 Corridor/ Bank Machine 340 S.F.	R3 Corridor 380 S.F.	← Existing fuel tank must be removed →						R1 Mech. area 100 S.F.	R2 Mech. Rm. Corridor 380 S.F.	Unexcavated area	R1 Mech. area/ Plant Serv. 100 S.F.

KEY

PRE-CONSTRUCTION WORK BY OWNER →



RELOCATION REQUIREMENT
 R1 Minor Remodeling—Previous Function Maintained
 R2 Remodeling Affecting Adjacent Spaces
 R3 Permanent Relocation Required

← Department
 ← Total Area Affected

● PREVIOUS FUNCTION MAINTAINED
 ● TEMPORARY MOVE REQUIRED
 ● PERMANENT RELOCATION REQUIRED

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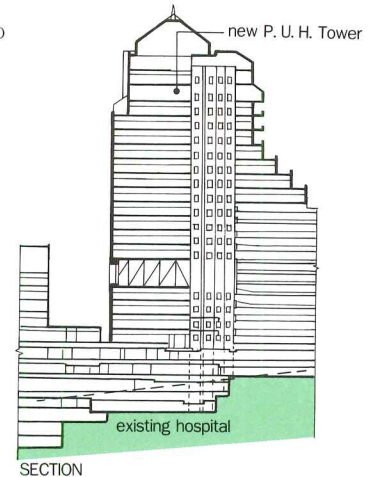
Presbyterian-University Hospital Pittsburgh

After three hospitals merged, Burt Hill Kosar Rittelmann was brought in to design a phased, \$250-million, five-building redevelopment. Equally thorny but different issues arose on each project.

- The first phase, a recently completed eight-story Biomedical Science Tower, was erected over an existing eight-story parking garage. Though the garage had been designed to accept an anticipated 10-story addition, loads had to be transferred through a 22-ft high, 115-ton truss (bottom right) because the Tower's research laboratories required spans of 36 feet. Some existing columns were reinforced to pick up eccentric loads from a cantilevered bay.
- A Magnetic Resonance Imaging Center, soon to go into construction, will rise over an electrical vault. Three-in.-thick steel plates surround the Center, protecting it from magnetic interference.
- The Diagnostic and Treatment Center, scheduled for occupancy in 1991, will be

erected on a site encumbered only by an existing loading dock.

- The hospital's main wing, the final phase, will be renovated, with removed functions initially occupying the Diagnostic and Treatment Center.
- The hardest phase will be the construction of the Presbyterian-University Tower, a 21-story acute-care center rising over an existing four-story hospital wing (middle right). A pattern of columns, stairs, and elevator shafts was designed to minimize disturbance of the existing structure. Each disruption of activities was carefully accounted for (matrix above). Foundations of each penetration were hand excavated, and sealed enclosures—called dog-houses—were built and placed under negative air pressure so existing functions can continue. Above the existing wing, three floors will be hung from a three-story-deep transfer truss that supports a different column grid suited to the plan of the 15 uppermost stories.



The Presbyterian-University Hospital Tower (middle) rises 21 stories. Installation of transfer trusses at the Biomedical Sciences Tower (above).

**1675 Broadway
New York City**

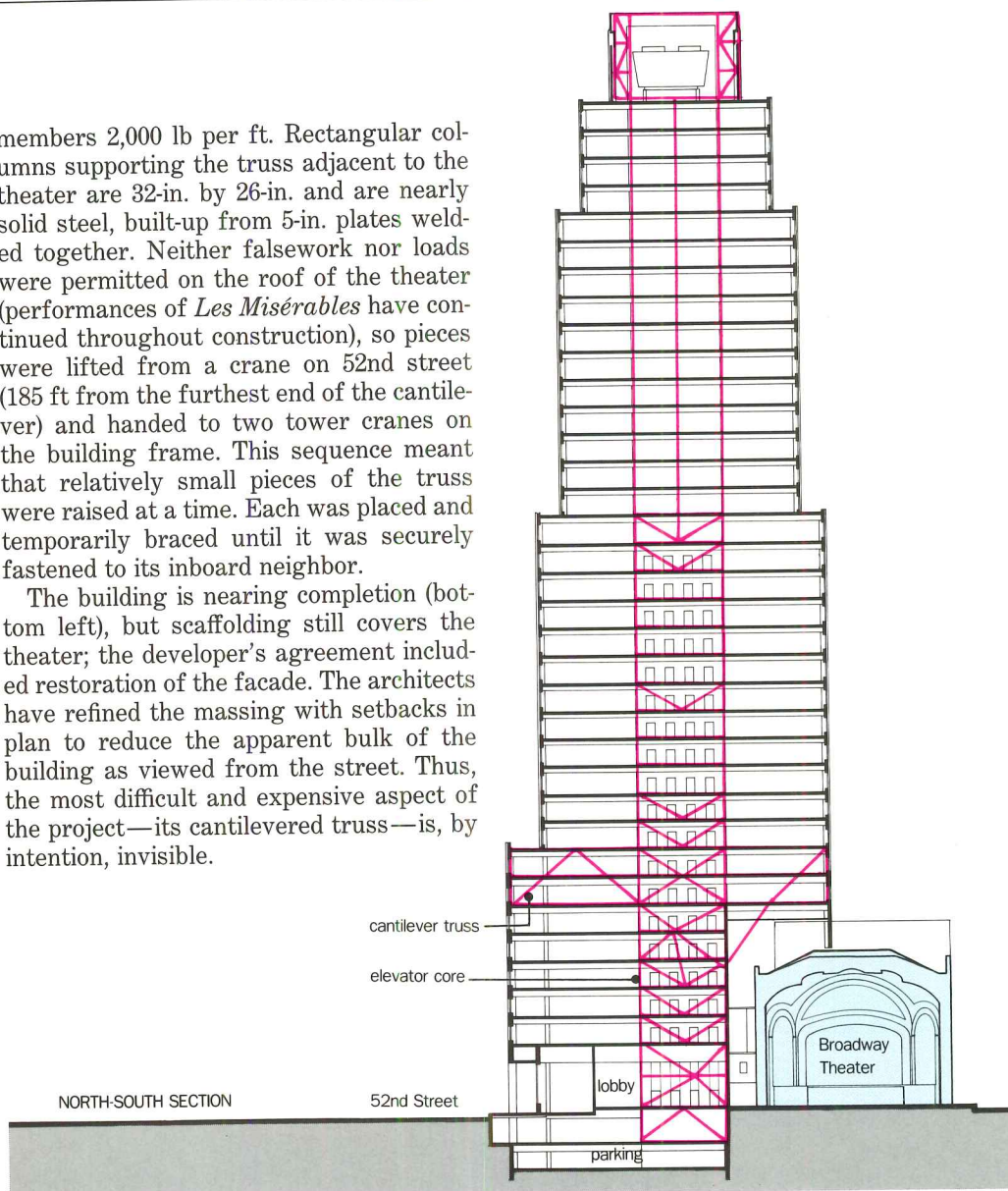
For those unfamiliar with New York's real-estate market, the economic justification for this 750,000-sq-ft office tower and the Embassy Suites hotel (opposite) must be baffling. In the mid-1980s, New York City planners created incentives to shift development west from the overbuilt center of midtown Manhattan. While desirable sites in a "preservation" district were downzoned, the low-scaled blocks along Broadway and Seventh and Eighth avenues were upzoned, including this site a few blocks north of Times Square. (The up-zoning strategy was so successful the incentives were repealed. See RECORD, June 1989, pages 81-85).

The site, however, was not large enough to allow the square footage and floor size desired by owner/builder Rudin Management. Having purchased air rights over the adjacent Broadway Theater, a 1924 landmark, Rudin brought in the team of Fox & Fowle Architects and the Office of James Ruderman, structural engineers. Their solution: a 35-story building with six north-south trusses that project as much as 45 feet over the existing theater. Four of the trusses extend through the elevator core to the south side of the building which counters the weight of the cantilevered side (section right). Though truss struts penetrate parts of two floors, the scheme does not require columns between core and exterior on upper floors.

Not surprisingly, lower-floor columns and the truss members are very large. The biggest trusses weigh 200 tons, some

members 2,000 lb per ft. Rectangular columns supporting the truss adjacent to the theater are 32-in. by 26-in. and are nearly solid steel, built-up from 5-in. plates welded together. Neither falsework nor loads were permitted on the roof of the theater (performances of *Les Misérables* have continued throughout construction), so pieces were lifted from a crane on 52nd street (185 ft from the furthest end of the cantilever) and handed to two tower cranes on the building frame. This sequence meant that relatively small pieces of the truss were raised at a time. Each was placed and temporarily braced until it was securely fastened to its inboard neighbor.

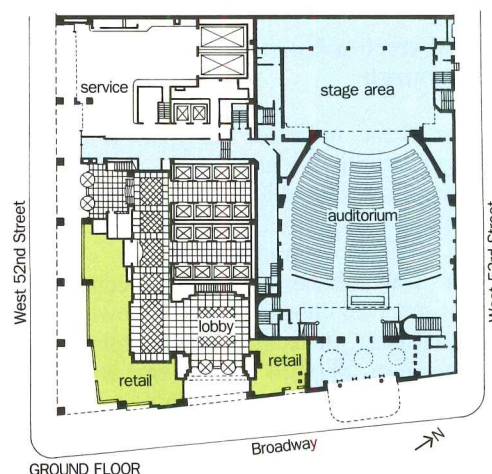
The building is nearing completion (bottom left), but scaffolding still covers the theater; the developer's agreement included restoration of the facade. The architects have refined the massing with setbacks in plan to reduce the apparent bulk of the building as viewed from the street. Thus, the most difficult and expensive aspect of the project—its cantilevered truss—is, by intention, invisible.



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The weight of the building's south side counters gravity forces bearing on the truss cantilevered over the Broadway Theater (top). Pieces of the truss were lifted into place over the auditorium from the framework of the new structure (left).

Embassy Suites New York City

Problem: how do you put a 384,000-sq-ft, 460-room hotel on a 21,700-sq-ft site encumbered by a landmark theater occupying 13,500 sq ft? Then, to achieve owner-requested zoning bonuses and meet mandated requirements, relocate an existing subway entrance to within the building line, place as much retail space as possible along the street, and apply several thousand sq ft of electric signs. (Only 1,200 sq ft was left for a ground floor-lobby-plan.) This tall order was met with aplomb in Fox & Fowle's Embassy Suites Times Square.

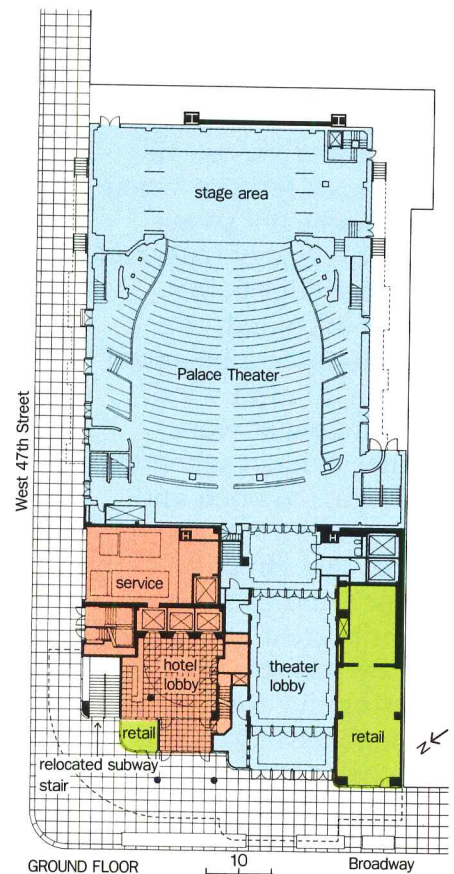
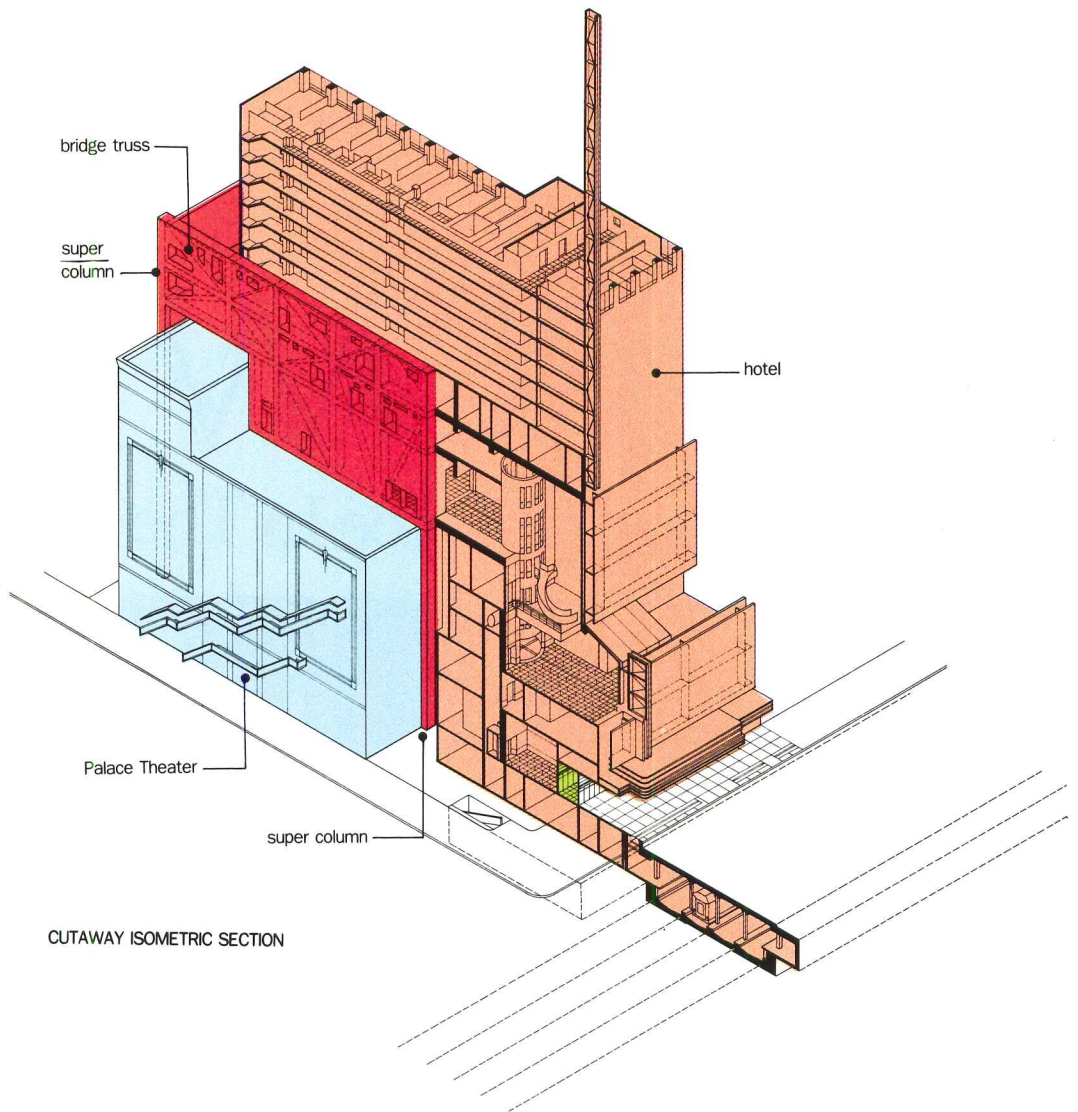
Luckily, there is a narrow alley behind the theater, so Carlos M. Dobrin, partner with structural engineer DeSimone Chaplin & Dobrin, was able to avoid placing columns within the volume of the Palace Theater (1913), instead supporting two 130-ft-long, 57-ft-deep composite-steel-and-concrete trusses on four "super columns"—two to the east and two to the west of the auditorium. Smaller trusses—17 of them—transfer loads from the bridge trusses to the cast-in-place flat-slab concrete framing of a tower containing guest suites. Public spaces (including a third-floor skylobby) are squeezed into the area in front of the auditorium and between the bridge trusses, which are three ft thick.

To assemble each truss without disturbing the theater, a "stiff-leg" derrick was set up in the street and, using temporary braces and tension rods, members were placed from the street side eastward, each truss temporarily a cantilever, until bolted to the columns behind the stage house.

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Steel bridge trusses (later encased in concrete) span the landmark interior of the Palace Theater (above) and support 36 floors containing 460 two-room suites. A new theater lobby has been incorporated into the ground floor (right) replacing one that was removed. The hotel is to begin receiving guests this month.



THE BALANCE OF POWER

Ellison Doors Put Force In The Hands Of The People

Before Ellison there was no balanced door. So the act of opening a door was a one-sided contest which invariably left people on the losing end. But rethinking the weighty principles of how a door swings changed the balance of power and put physical forces where they belong — in the hands of the user.

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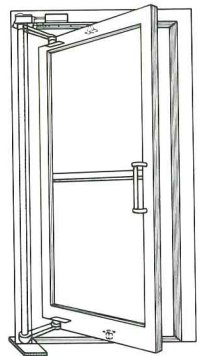
The balanced door is a convenience for most of us. It can represent



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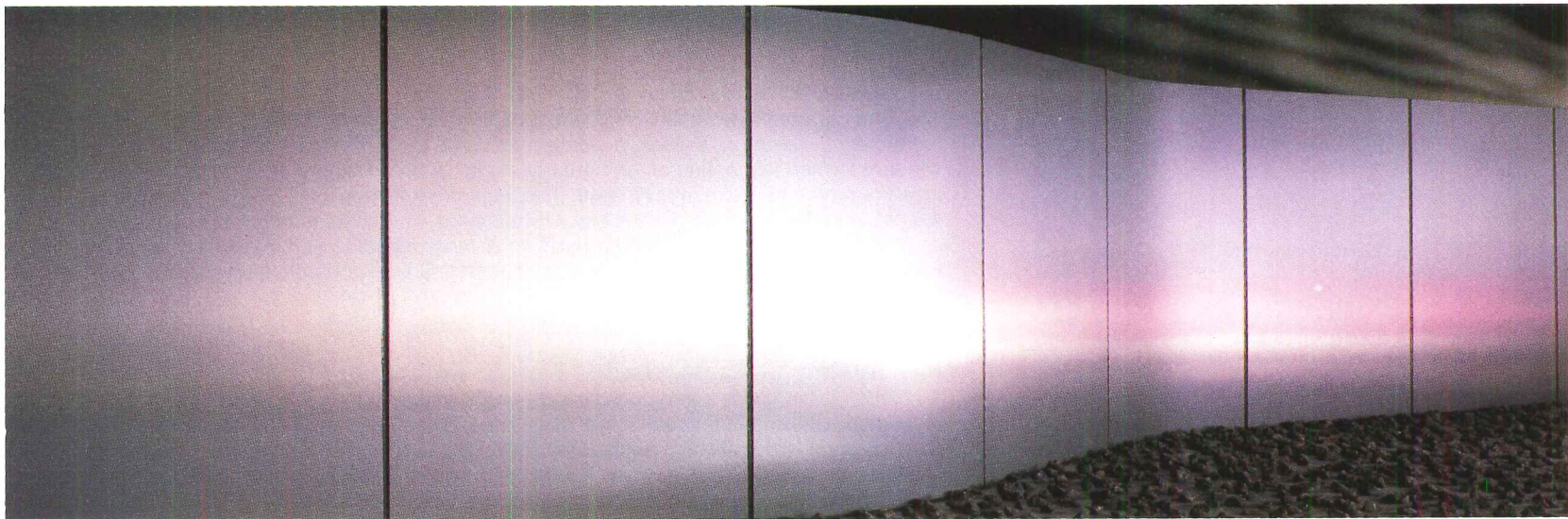
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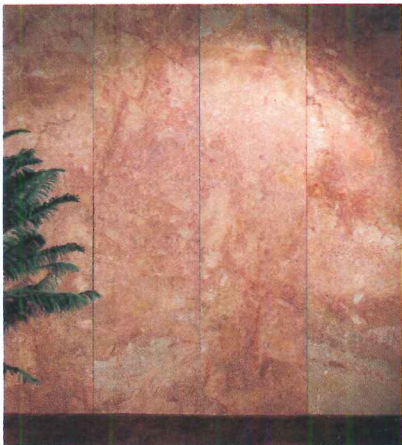
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RS1 Granite Wall Panels



PAT Prefabricated Bathroom

THE STONE REVOLUTION

This phrase embodies the recent dramatic increase in the use of natural stone in the USA. A significant part of this "Stone Revolution" is the remarkable new technology developed by the Italian company Tecnomaiera of Turin Italy wherein a block of natural quarried stone—marble, granite or limestone—is sliced into thin 1/4" (7mm) full block-size sheets reinforced with epoxy and glass fiber or steel mesh. This technology spawns a number of new and revolutionary products some of which are described below.

GL Marble 1/4" 2' x 2' 2' x 4'

Thin, lightweight (3.7 psf) and strong, these large standard size tiles of 1/4" GL Marble with their fiberglass-epoxy reinforcement offer significant advantages over the traditional heavier slab marble in economy and ease of installation over both new or existing surfaces. Ideal for renovation, they can be installed with thin-set adhesive over any sound level surface, floor or wall. A wide range of colors is carried in stock.

ISO Marble Wall Panel System 1/2" 2' x 8' 4' x 8'

The full-size sheet of 1/4" stone becomes the facing veneer of a thin laminated composite panel with a cementitious core and backing sheet of bonderized steel. Available in many different varieties of stone, these 1/2" thick panels come in sizes 2' x 8' and 4' x 8' and weigh only 6.7 psf. They can be hung on walls like conventional paneling. They are also available with an aluminum honeycomb backing with an ultralight panel weight of only 3.2 psf.

RS1 Granite or Marble 5/16" 4' x 8' 5' x 10'

The latest dramatic development in Tecnomaiera's continuing marriage of high technology with nature's oldest building material is the RS1 Panel, a patented vacuum formed lamination of 1/4" natural stone, granite or marble with a thin steel mesh reinforcement and epoxy resin. The total panel thickness is 5/16", the weight is 4.5 psf, and the sizes are the full block dimensions—in the case of granite as large as 5' x 10'. The RS1 Panels will be used for exterior cladding and interior wall and floor coverings in large dimensions with both mechanical and adhesive attachment methods.

PAT Systems—Prefabricated Marble Bathrooms

A solution for modular luxury marble bathrooms primarily for hotels both new and renovated. Utilizing its accumulated technology Tecnomaiera will engineer and fabricate the complete bathroom enclosure, package it in a single crate and deliver to the jobsite where it is usually installed in one or two days. This turnkey approach offers significant cost advantages in both construction time and materials.

ABOUT MARBLE TECHNICS

Marble Technics, a division of Tecnomaiera, is a full-service stone company equipped to answer any needs of the design community regarding natural stone in any shape or form. In addition to the advanced technology thin stone systems, Marble Technics is a supplier of traditional cut-to-size projects throughout the USA and carries a large inventory of tiles and slabs. Marble Technics is the exclusive USA representative of Guinet-Derriaz a major French stone company specializing in the unique French limestones. A complete sample program of marble, granite, and limestone is available to aid the designer and specifier.

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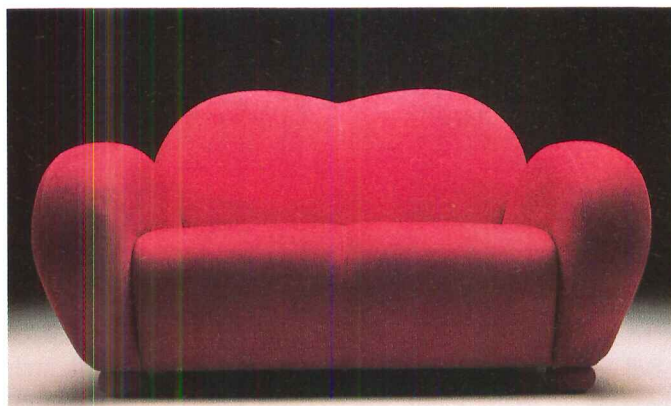
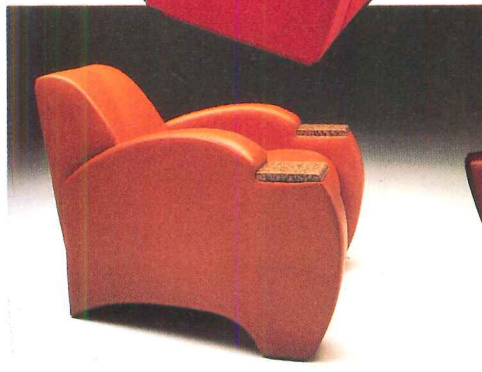
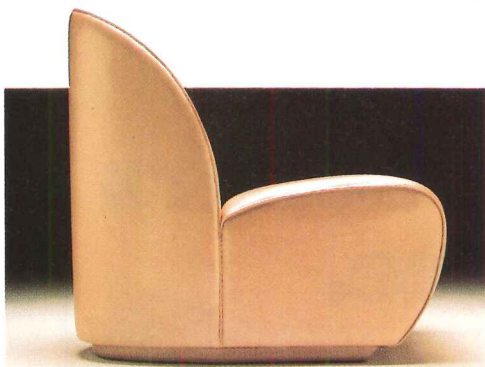
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AERODYNAMIC CURVES

Florida start-up firm makes chairs the way they used to in the Golden Age of Lounge.



Chairs from a new Florida firm would be right at home on the set of *The Fountainhead* or *Flying Down to Rio*, and are meant to recall an authentic American style, Streamline Moderne. Jim Young, founder of Design America (he is also president of Spinneybeck Leather, a well-established source of contract leather upholsteries now owned by Knoll International), grew up during the Great Depression entranced by the glamour of Hollywood's vision of High Style, and became an enthusiastic collector of Moderne—toasters, pocket lighters, chairs, and airplane models—objects whose smooth shape and horizontal parallel lines accentuate a form adapted to speed.

Spearheaded by the self-taught industrial designers Norman Bel Geddes, Raymond Loewy, and Walter Dorwin Teague, Moderne became a copywriter's dream in the '30s, and was found in the design of ev-

erything from pencil sharpeners to locomotives for the Pennsylvania Railroad. In furniture, Young feels that the Moderne style was best represented by Paul T. Frankl, whose designs were much admired by no less a critic than Frank Lloyd Wright.

Determined that these forms not be confused with Art Deco—there are no zig-zags, angles, or Frenchified inlays on *these* chairs—Young sees the franchise of his new firm as the rescue of this exuberant American style from its undeserved limbo.

Even though Frankl himself was an immigrant from Austria, Young considers the streamlined style to be uniquely American, and as appropriate to the economics of

the '90s as it was to the back-to-work challenges of the Depression. His all-American design team includes Cranbrook alumnus Martin Linder, San Francisco-based Kenneth Gilliam and Daniel Friedlander, and Luis Henriquez, who trained at Louisiana State University's Graduate School of Environmental Design.

The initial nine-chair collection includes a lounge (2) and sofa (7) designed by Frankl in the '30s, subtly re-engineered for contemporary production requirements. Brand-new are Martin Linder's Mayfair (1), Rollback Coupe (3), and Broadway Limited (6), and New York, New York, by Luis Henriquez (4). Gilliam and Friedlander collaborated on the Zephyr Love Affaire sofa (5). Built for the contract market, the seating ranges in price from \$1,800 to \$2,950, plus the cost of upholstery. Design America, Coral Gables, Fla. Circle 300

Products continued on page 171

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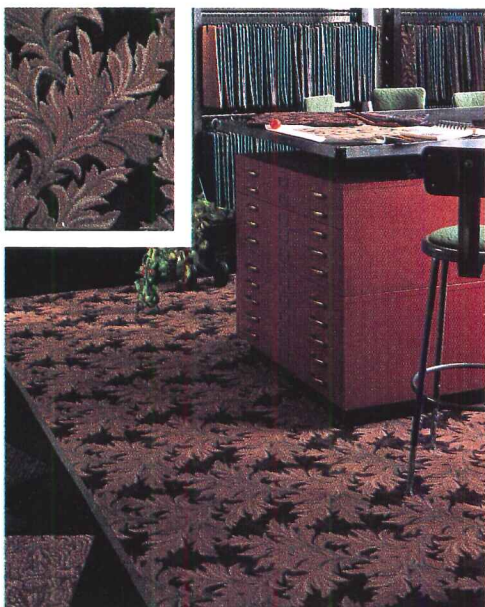
all, including a fire rated wall and a system which integrates with Haworth partition and wall furniture . . . plus effective alternatives to "Ready Wall" and "Design Option" walls. When you're ready to move to a floor to ceiling system that's truly easy and economical to move, Dowcraft distributors and engineers will help you make the choice that makes sense for you. For complete catalog and design information, just call, write or FAX.

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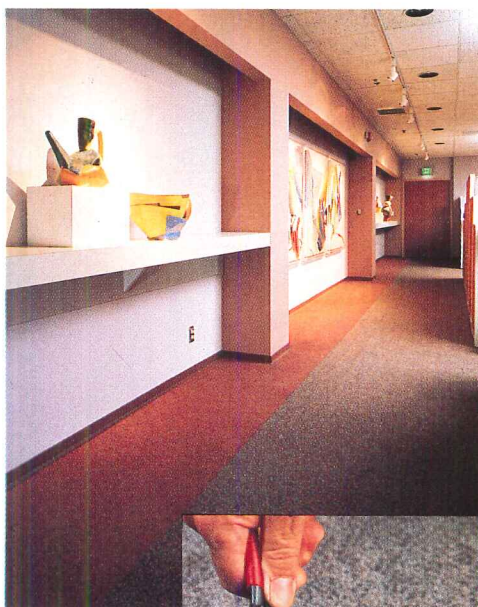
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UNDER THE RUG

Bolder patterns, brighter colors, and more elaborate textures add new flair to three carpet lines designed for accessible floors.



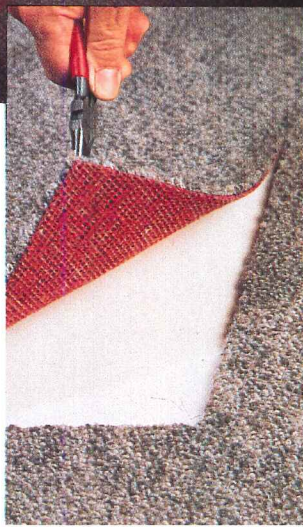
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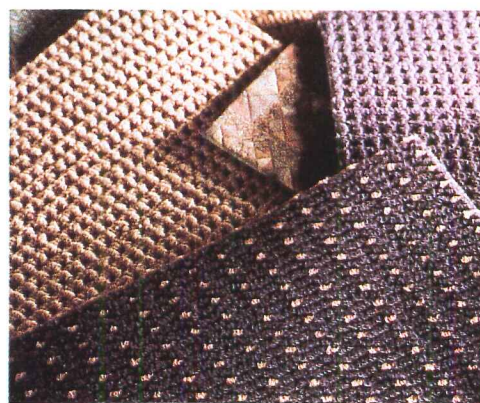
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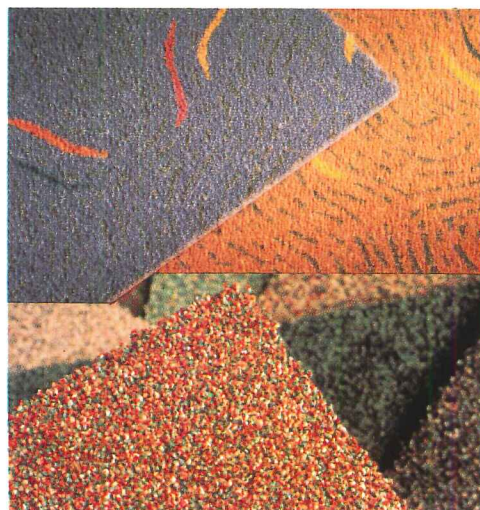
2



3



4



5

Carpeting for the electrified office has come a long way from the "any color as long as it's a solid" stage. Beyond comparing pitch, stitch, and pile heights, carpet for active floors must meet a unique in-use standard: it has to be capable of being lifted and replaced often without cupping or distorting. Now graphics printing and multiple-level tufting technologies give designers many new, bold choices for covering raised-floor or trench power-distribution systems.

Integrated colors, textures, and patterns
Interface offers Ideas in Pattern/Creative Options, an ambitious systematic approach that has 200 selections created from a standard range of patterns, base constructions, and colors. The odds are that a speci-

fier's choice of each design component will be truly unique. (1) This large-leaf pattern is one of the boldest in the new range; a selection kit contains 3- by 9-in. samples of each of 40 patterns. Carpeting in the Standard Federal Bank, Troy, Mich., Lord & Earl, architects (2), illustrates one way patterns disguise the grid: they overwhelm it. Interface Flooring Systems, Inc., LaGrange, Ga. *Circle 301*

Accessible backing system

Prince St. developed Access Back (3) to combine the economies of broadloom construction with the flexibility of carpet tile. The high-strength backing allows the carpet face to be cut into flaps or removable pieces anywhere under-carpet access is needed, using only a carpet-cutting knife.

Cut sections will lie flat and smooth when folded back onto the floor, with no delamination, curling corners, or unraveled edges. SculptureWeave (4), a new multiple-level dimensional texture offered with Access Back construction, comes in styles from tweeds to dramatic, large-scale patterns. Prince St. Technologies, Atlanta. *Circle 302*

Bright colors, deep texture

Milliken has enhanced its already extensive patterning capability with Illuminations (5, top), a new printing technique that allows a boldly colored pattern (Bright Rhythm is shown) to be placed over even the darkest background without losing the vivid contrast of the color. A new high-twist, tufted texture, Rainbow Twist (bottom) is the first frieze construction to be offered in Milliken's modular carpet line. Milliken and Co., LaGrange, Ga. *Circle 303*

Products continued on page 173

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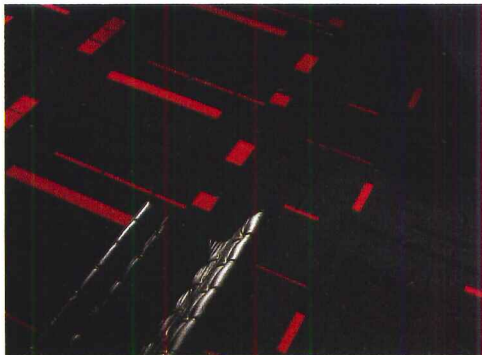
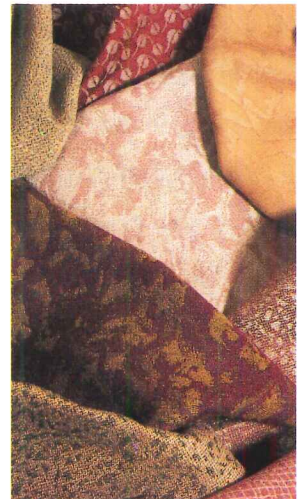
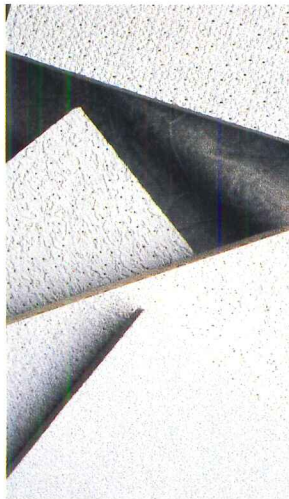
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NEW YORK MARKET

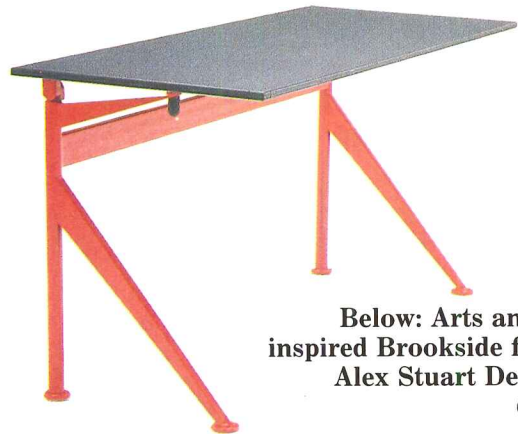
Autumn in New York for architects, designers and facilities managers: speak internationally, and carry a sharp pencil.

A competitive spirit is producing a top-notch lineup of design stars for programs scheduled to be held in New York October 10 through 13. Registration packets are now available for Designer's Saturday; contact Alexia Lalli, International Design Center New York, 29-10 Thomson Ave., Long Island City, N. Y. 11101, (718/937-7474). For activities connected with Design New York, the residential-interior furnishing market, contact Leslie Martin, (212/751-5110), or Mark McIntire (212/679-9500). Showrooms all over the city will be open; some of the new products to be exhibited are previewed here. **J. F. B.**



Left: fire-rated Orion ceiling panels from USG Interiors, Inc. *Circle 307*
Middle: Stanley Jay Friedman's Jonathan Chair, molded of springy fiberglass resin. Brueton Industries, Inc. *Circle 308*

Right: new upholstery and panel fabrics from GF Office Furniture. *Circle 309*
Below: Douglas Ball's foldable Ballet training-style table. Vecta. *Circle 310*



Below: Arts and Crafts-inspired Brookside furniture. Alex Stuart Design, Inc. *Circle 311*

Made by Vorwerk in Germany, carpet line includes designs by Richard Meier (top) and Arata Isozaki. Prestige Mills, Inc., Div. Stark Carpet. *Circle 304*

Right: The Sugar Chair, designed by Alan Buchsbaum. Dennis Miller Associates. *Circle 305*
Top: Triuna Collection furniture for the smaller office, designed by Manfred Petri. Geiger International. *Circle 306*



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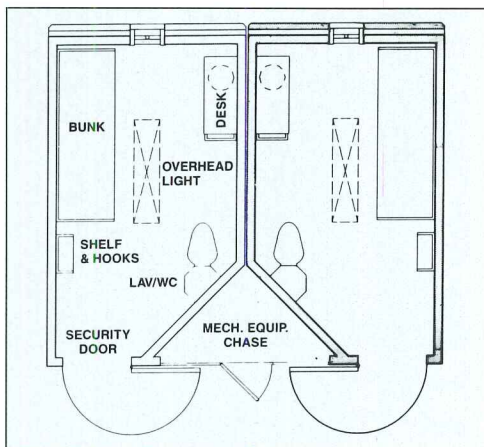
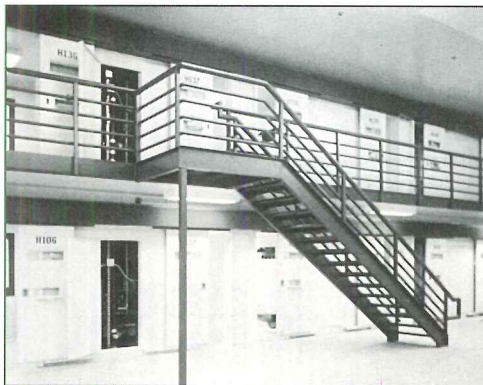
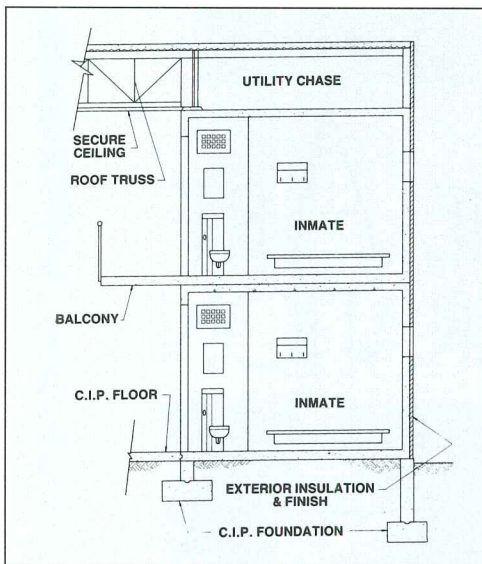
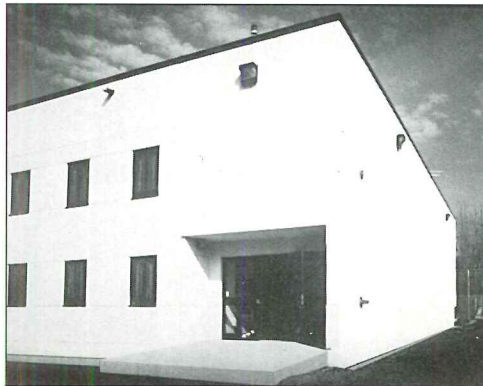
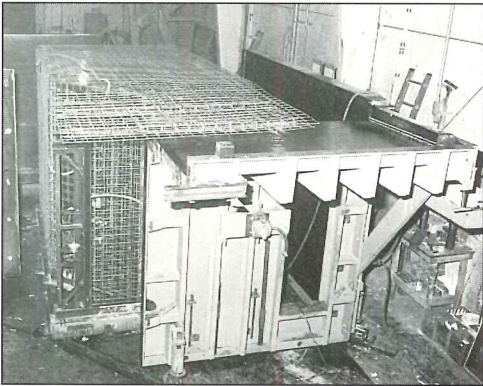
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TESTA PELLA ROSSETTI

MODULAR CELLS A LA CARTE

Now that prison construction time is often counted in months instead of years, precast-concrete cell modules may be the answer.



Top: utilities are among items that are installed as units are cast.

Our times are such that the need for prison space is far outstripping the supply. Several jurisdictions are under court order to reduce overcrowding; in some cases, newly convicted criminals cannot be incarcerated until another prisoner is released. Thus, all too often, speed is of the essence in bringing new prison facilities on line. The Rotondo Company, of Telford, Pennsylvania, has responded by offering a variety of factory-built, modular prison cells.

Each cell separately cast

The basic unit, which can be stacked as high as eight stories, is a single cell comprising precast-concrete walls, floor, and roof. In plan, each unit is rectangular with

In a typical two-level project, a separate roof structure protects the units and provides duct space (section left). Lower-level cells are fed by a chase between units (plan). The weather surface of the assembled units is treated onsite with an exterior insulation and finish system (top).

one corner deeply chamfered to leave room outside for a mechanical chase (plan left). Upper-level units may be cast with a projected deck, which, when linked with adjacent units, becomes the access mezzanine (section left). Other cell configurations are offered to meet local standards and the manufacturer has the capability to fabricate to custom requirements. The company will also build cells to separately house mechanical equipment.

Fully equipped in the factory

Depending on staffing and supervisory requirements, the units may be aggregated in a variety of patterns to form courtyard-like day rooms, the roof and floors of which are built on site.

Specifiers may choose to have the hvac, lighting, electrical fixtures, and plumbing supplied by Rotondo or by others, and may order built-in bunks, flooring, windows, and desks. Prefabricated stairs and rails for dayroom-facing cells can also be supplied (middle and above).

Onsite time savings

According to the manufacturer, many new prison facilities require occupancy within a year of contract award, a schedule that can be readily met through the use of off-site-fabricated units. While the cells are being cast in a factory, the site can be prepared, utilities laid, and foundations poured. Once this infrastructure is completed, as many as 20 cells a day may be installed. In one case, a 128-unit addition was constructed in under five months.

J. S. R.

Rotondo/Penn-Cast, Telford, Pa.
Circle 312



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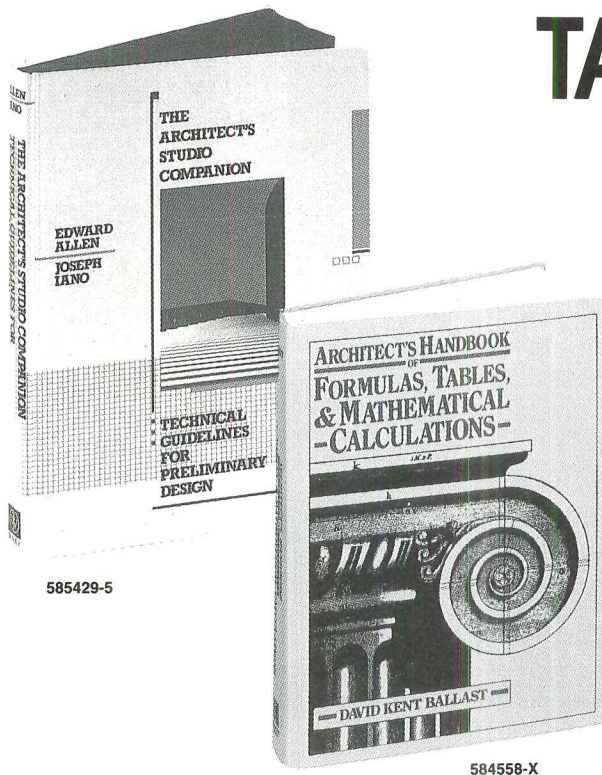


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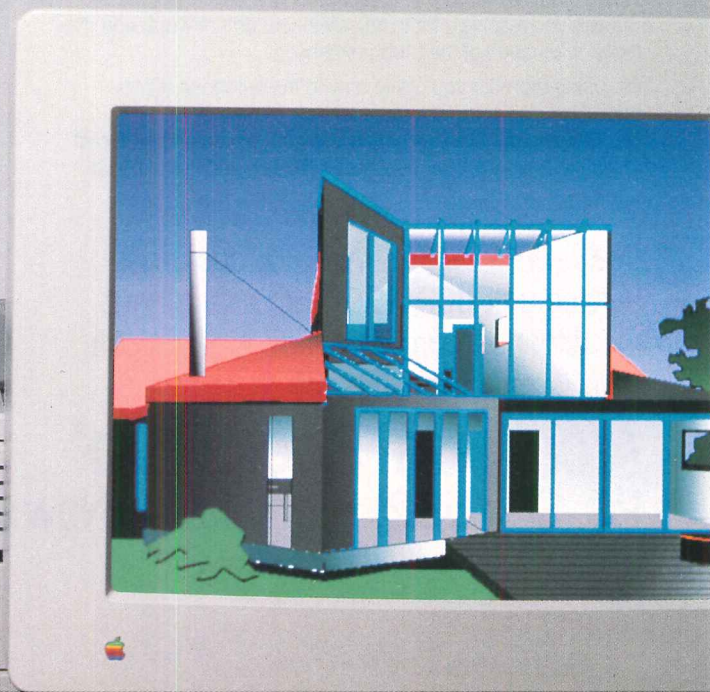
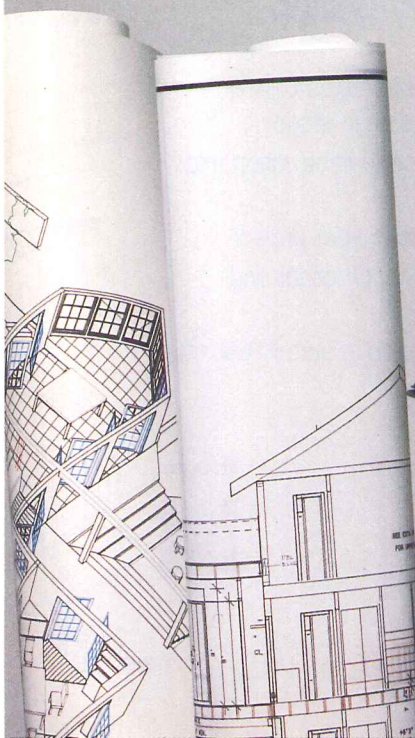
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FAST GRAPHICS FOR AUTOCAD

Display list processing software can handle very large files by mimicking more-costly graphics accelerator boards.

It's too good to be true: Inexpensive software that mimics graphics accelerator boards costing \$1,000 to \$6,000—and that, unlike the boards, are compatible with non-CAD software.

But true it is. The biggest problem you are likely to find with these so-called "display list processor" packages is that they are so cheap dealers have little incentive to stock them and to learn them well. Thus, you will have to do your homework. In a sense, this article is your study guide. The four packages we reviewed this month cover the range of features available. They range from bare-bones (AutoBOOST) to duplicating features available up to now only on accelerator board (AutoPLUS and GT Express). All can handle large files. With AutoCAD/386 and emerging versions that work with "protected mode" memory, there's no software limit to maximum file size.

The most easily measured of all variables is speed of redraws and zooms. All did about the same when operated in the same way on our review equipment. And all did very well indeed. Speedups were five- to tenfold over standard VGA displays. Redraws and zooms were about half the speed we've come to expect from specialized graphics accelerator boards. But we reviewed these software packages on a slow, 16 MHz IBM PS/2 Model 80. On a 25 MHz computer, the software speeds will be comparable to those of all but the most expensive new accelerator boards for redraws and zooms.

Note that some accelerator boards also do regens. Display list processing software cannot speed regens, although it does reduce the number of situations regens are required. If your situation requires many regens, an accelerator board would probably be best for you.

Now for your study guide:

How they work

All true CAD programs keep track of entities in your drawing, as if they were physical objects. That is, a line placed between two points in the drawing will have a finite length described by the coordinates of its endpoints. So will an arc or other shape. Your drawing is, in reality, a "list of these objects to display." When your drawing is first loaded from your fixed disk or net-

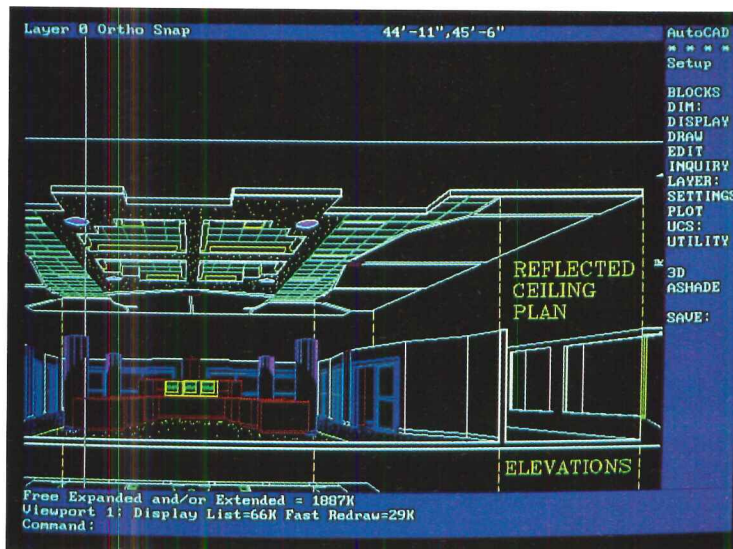
work, your CAD program goes through this "display list" and "generates" corresponding images made up of pixels—dots that your screen shows. In general, the CAD software has room for generating more than one version of the image, so you can resize or pan, within limits, and the CAD software will "redraw" the pixels on-screen.

If you change the size or position of the drawing on-screen more drastically, the display list must be re-generated. This dreaded "regen" takes a long time for complicated drawings on most computers. As screen resolutions have improved, the CAD software must keep track of more pixels. Thus, users who were able to avoid regens in the past, must now endure them.

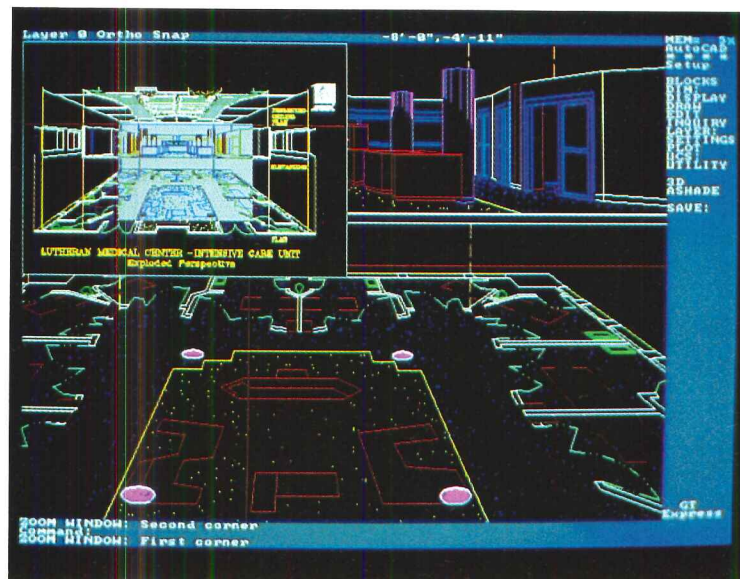
Display list processing software speeds redraws by keeping more "versions" of the drawing in memory. This is not quite the same as using graphics accelerator boards. With the boards, redraws (and usually regens as well) are calculated much, much faster than the computer itself would have been able to handle them. Newer computers, equipped with fast 80386 and 80486 processing chips, lots of memory, and display list processing software, can handle redraws about as fast as can the accelerator boards.

How is AutoCAD tied to the display list processor? Through a "driver" that intercepts the signal to the screen. One such driver is AutoCAD's ADI. When a drawing is first loaded from disk or the network to be in a drawing session, the display list processor tells AutoCAD that the screen is 32,000 pixels across, which is as large as AutoCAD can handle.

The default AutoCAD ADI "interception point" or interrupt vector is designated 7A hex. This is the default for all the display list software we re-



Panacea's Display List Driver tells how much memory the display list is using—only 95K of 2 MB available.



Within GT Express's bird's eye window, the gray area demarks the main-window view in relation to the drawing.

viewed, too. But if you have another piece of software that already uses 7A, you'll have to change it, or change AutoCAD and the display list. Most versions of the popular Novell network software use 7A as a default.

Why only AutoCAD?

Some other popular CAD software comes with display list processing. VersaCAD/386 is the best example. Judging from talk at the A/E/C Systems show in June, most vendors with CAD software using the Phar Lap DOS extender for memory management will be supplying display list software as well. These built-in processors tend not to be as feature-laden as the packages available as AutoCAD add-ons.

Vendors of add-on packages say they will have their hands full satisfying demand for more sophisticated AutoCAD versions in the months ahead. Thus, no one is willing to announce versions for other CAD software at this point.

Memory matters

There are four ways to use memory in an IBM-compatible computer using MS-DOS or PC-DOS. The various kinds of memory can cause difficulties setting up display list software. Memory is cheap these days—\$100 to \$150 per MB—so install plenty for your display list to work efficiently.

- Normal DOS memory. This is the "first 640K" of memory. AutoCAD, network software,

and ADI drivers compete for this scarce space. Plain-DOS AutoCAD 10 relies upon it, so display list drivers are a tight fit. The Phar Lap version of AutoCAD 10 (AutoCAD/386) uses only about 20K of this memory itself, however, leaving plenty of room for network software and for display list drivers.

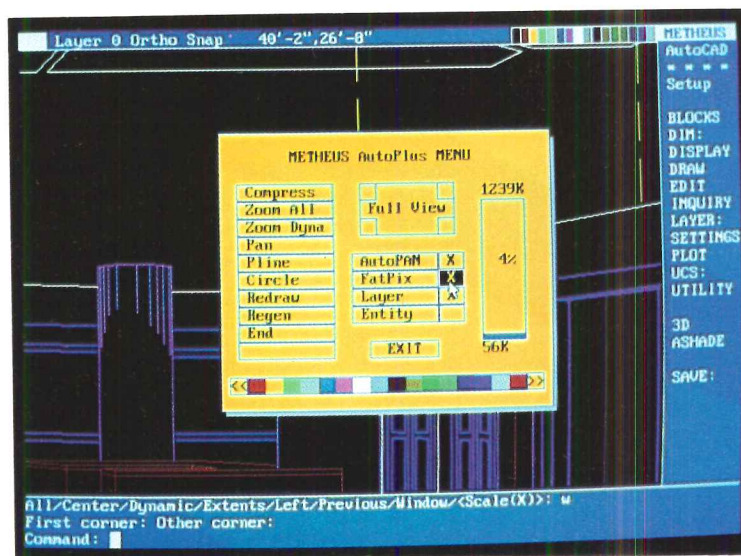
- Expanded memory. Also called EMS or LIM (for Lotus/Intel/Microsoft) memory. This memory is allocated in 16K "pages." Display list processors work fastest if they can store the list in expanded memory. Normally, such memory is carved out of the rest of the memory in your computer with an "expanded memory driver" that is invoked in your CONFIGSYS file. AutoCAD plain-DOS versions (AutoCAD 9 and 10, for instance) seek out expanded memory

and fill it when available. This does not leave any for the display list unless the ACADLIMEM command is invoked in your AUTOEXEC.BAT file. Display list software that runs in expanded memory needs to take a small amount of normal DOS memory as well—29.5 to 43K in the systems we looked at.

- Just being released now are packages that run specifically with AutoCAD/386 in "protected mode." Protected-mode display list processors do not use any normal DOS memory, and they have no software limitation on how big a display list can be. But they do require that an AutoCAD utility, DSPADI, be invoked along with what AutoCAD calls a "P386" driver. There's a P386 driver packaged with each protected-mode display list processor.

- Extended memory. This memory is available in computers using the 80286, 80386, and 80486 processors. It is most commonly used with AutoCAD/386. For the display list to run best, some extended memory is turned into expanded memory. AutoCAD/386 does not need ACADLIMEM to stay away from expanded memory, so installation of display list processors that work with AutoCAD/386 are easy.

- Virtual disks. The VDISK option is built into all versions of DOS starting with 3.3. Most display list processors allow the use of VDISK instead of expanded memory for storing the list. VDISKS can be created in either expanded or extended



Metheus menu box pops up with ?L or by issuing the MENU command at the AutoCAD command line.

Four Display List Processing Packages

AutoBOOST

Foresight Graphics, 60 C Jonspin Rd., Wilmington, Mass. 01887. Original AutoBOOST for AutoCAD 9 and 10, \$450. AutoBOOST I, protected mode and ADI for AutoCAD 10/386, no bird's eye, \$195. With bird's eye, AutoBOOST II, \$450 (promised for September).

Key features: Versions for AutoCAD 9 as well as AutoCAD 10, ADI 3.1 and higher. For EGA, standard VGA (640 by 480 pixel, 16 colors) and "super" (800 by 600) VGA. AutoBOOST II allows 1024 by 768 pixel VGA. Bird's-eye window size and position can be modified at installation. So can font size for menus. Display lists as large as 4 MB for original AutoBOOST, no limits on later versions. Fills can be enabled or disabled. AutoCAD 10-only version due soon will allow multiple viewports. Fills can be enabled or disabled without forcing re-

gen. Version promised with tablet/icon overlay capability.

Needs 39K of normal DOS memory (60K for fixed or RAM-disk operation). Protected-mode drivers for 80386-equipped computers allow all of AutoBOOST I and II to be placed above normal DOS memory. Protected mode version with bird's eye for AutoCAD/386 due Sept. 1. Install program for Version I only recognizes drive A. Install does not set DSPADI environment variable. A more-sophisticated installation program due in September.

Display List Driver VGA

Panacea, Inc., Londonderry Square, Suite 305, 50 Nashua Rd., Londonderry, N.H. 03053. (603) 437-5022. Versions priced from \$149 (for EGA) to \$199 (TIGA 34010, 34020, and 8514/A versions).

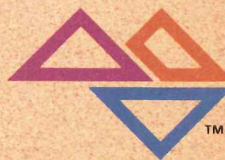
Key features: For AutoSketch, AutoShade, AutoCAD 10 or AutoCAD/386, ADI 4.0 or above. Resolutions up to 1024 by 768. Uses any memory you set aside for it, plus any memory not in use by AutoCAD itself (or by other programs). Display list overflows to extended memory and to fixed disk. Can display 16 or 256 (dithered) colors. Can support separate display list for each of four viewports. Removed entities can be deleted from display list, or overwritten. Version for TIGA boards offloads pans and zooms onto the TI 34010 or 34020 processor. Single or dual screens.

Version 2.0 DLD-VGA has new setup utility, context-sensitive help, better color figuration utility simulates AutoCAD screen, instead of numbers. Can modify physical colors as well as drawing colors. Supports 256 colors without

continued on page 190

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memory. VDISK storage runs more slowly, but is often already set up on your computer. Most display list software will also allow the use of your fixed disk to store lists. But that, unfortunately, slows things down considerably.

Compatibility with video cards

EGA cards are standardized. So are VGA cards with resolutions up to 640 by 480 pixels. But VGA cards at higher resolutions (800 by 600, 1024 by 768) have some subtle differences. All display list software packages can be adjusted to work with many cards, but not all. Before buying, call the supplier for the latest list, to make sure your card is on it.

The IBM 8514/A video standard uses 1024 by 768 resolution as well, but 8514/A is not compatible with VGA at the same resolution. If you are using an 8514/A-compatible graphics card, you need a display list processor that matches it. As of this writing, only Panacea offers one.

How much memory?

There is not a one-to-one relationship between drawing file size and display list size. A drawing with only straight lines and little or no text generates a display list about half the size of the file.

Text and arcs vastly increase the size of the display list. This is because the display list calculates everything at maximum resolution, so each curve is made up of more chords than

would be necessary at lower resolutions. One 350K file we looked at, of a building with curved walls, on a sloping site with lots of contours, and with lots of on-screen text, generated a display list of over 800K. That's over twice the file size.

You can minimize display list size by reducing the resolution of the display list the same way you would reduce the resolution of an on-screen view—with the AutoCAD VIEWRES command.

Changing your drawing

Display lists handle deleted or changed entities two ways. One is to remove the old entity from the list. That works best with smaller drawings, perhaps up to 200 or 300K display list size (even larger if you have a very fast system, say 25 MHz or

faster). The other way is to overwrite deleted or changed entities with the background color. This adds to display list size, but saves the need to recalculate the entire display list. It may be faster for you if you have very large files.

Some packages allow "automatic" clean-up after a user-specified number of changes. To be informed that a regen will occur, use the AutoCAD REGENAUTO OFF command.

Lots of changes coming

The features of four vendors' packages are in the accompanying box.

As reviewed in RECORD August 1990, page 106, Metheus and GT Graphics were the clear winners for plain VGA; their installation programs were easy to use, documentation (especially for Metheus) was excellent, and on-screen controls exceptional.

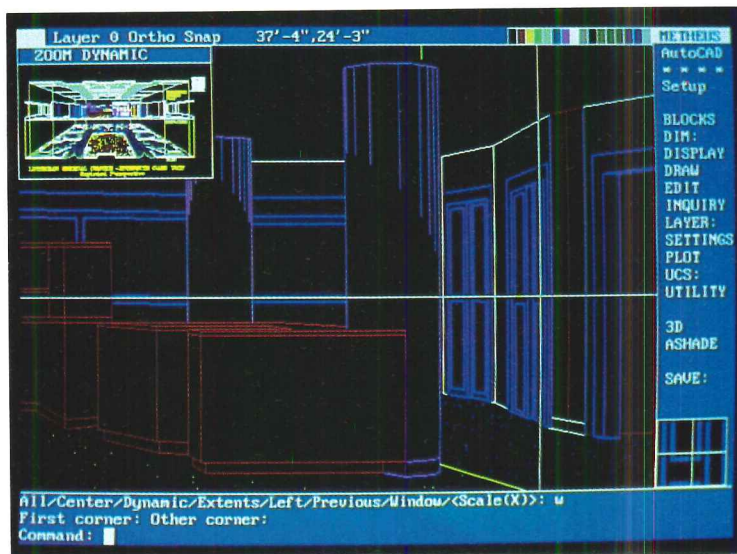
Panacea's offerings work with the most graphics cards, especially non-VGA cards. And they are attractively priced. By the time you read this, the installation program will have been improved.

Foresight, the first firm to make display list processing software widely available, is not standing still, either, with AutoBOOST II (protected-mode, bird's-eye, and so forth) due this fall. And Foresight is designed to work with AutoCAD 9.

All these packages are good. And truly, they are getting even better.

STEVEN S. ROSS

Circle 313



Metheus version includes bird's eye view, fat pixel display. Crosshairs are to right of purple pillar, near top of wall.

dithering, if your system can. Display list clean-up command DODCLEAN available at AutoCAD command line.

Needs 43K of regular DOS memory. Easy installation and setup utility.

GT Express 1.00

Artist Graphics, 675 Patton Rd., St. Paul Minn. 55113. 800-6ARTIST or (612) 631-7800. \$595, \$295 for additional units.

Key features: For EGA and VGA systems, Auto-Shade, AutoCAD 10 or AutoCAD/386, ADI 4.0, single screens only. Uses on-screen menu that does not preempt top-of-screen AutoCAD menus. Bird's eye view. VDISK or expanded memory. Automatic cleanup of deleted entities. Resolutions to super VGA (800 by 600). Maximum display list is 8 MB, unlimited size in protected mode. No overflow to disk from RAM (although you can specify that the en-

tire display list be kept on a fixed disk). Bird's eye can be repositioned and resized with drawing on-screen. Pans are directed from bird's eye. Update due in September for 1024 by 768 and will include new GT Flexicon interface for AutoCAD.

Memory: Uses 29.5K of normal DOS memory with AutoCAD ADI 4.0 driver, none with AutoCAD/386 in protected mode version promised soon.

Metheus AutoPlus

Metheus Corp., OGC Science Park, 1600 NW Compton Dr., Beaverton Ore. 97006. (503) 690-1550 or 800-METHEUS. \$399 (no charge with Metheus UGA graphics adaptor).

Key features: Works with any AutoCAD ADI 4.0 (and higher) application, such as AutoCAD 10 and AutoCAD/386, AutoSketch and AutoShade, at resolu-

tions up to 1024 by 768. Deleted entities are marked so they will not be drawn on the screen. Can maintain a number of separate palette files (good for working with drawings from many sources). AutoPAN pans the image automatically as the cursor reaches the edge of the screen. Display fonts can be changed, depending on resolution. Bird's eye view can be moved to any corner, but not resized. Fat pixel command magnifies 16 by 16 pixel area under cursor. Menu exists apart from AutoCAD pulldown menus. Allows 33 zoom levels at 1024 by 768 resolution. By far and away the most complete installation guide. Supports multiple viewports. Maximum display list size: Roughly 15 MB.

Memory requirements: Appears to be under 50K. Protected mode version, due in September, will require no normal DOS memory.



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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

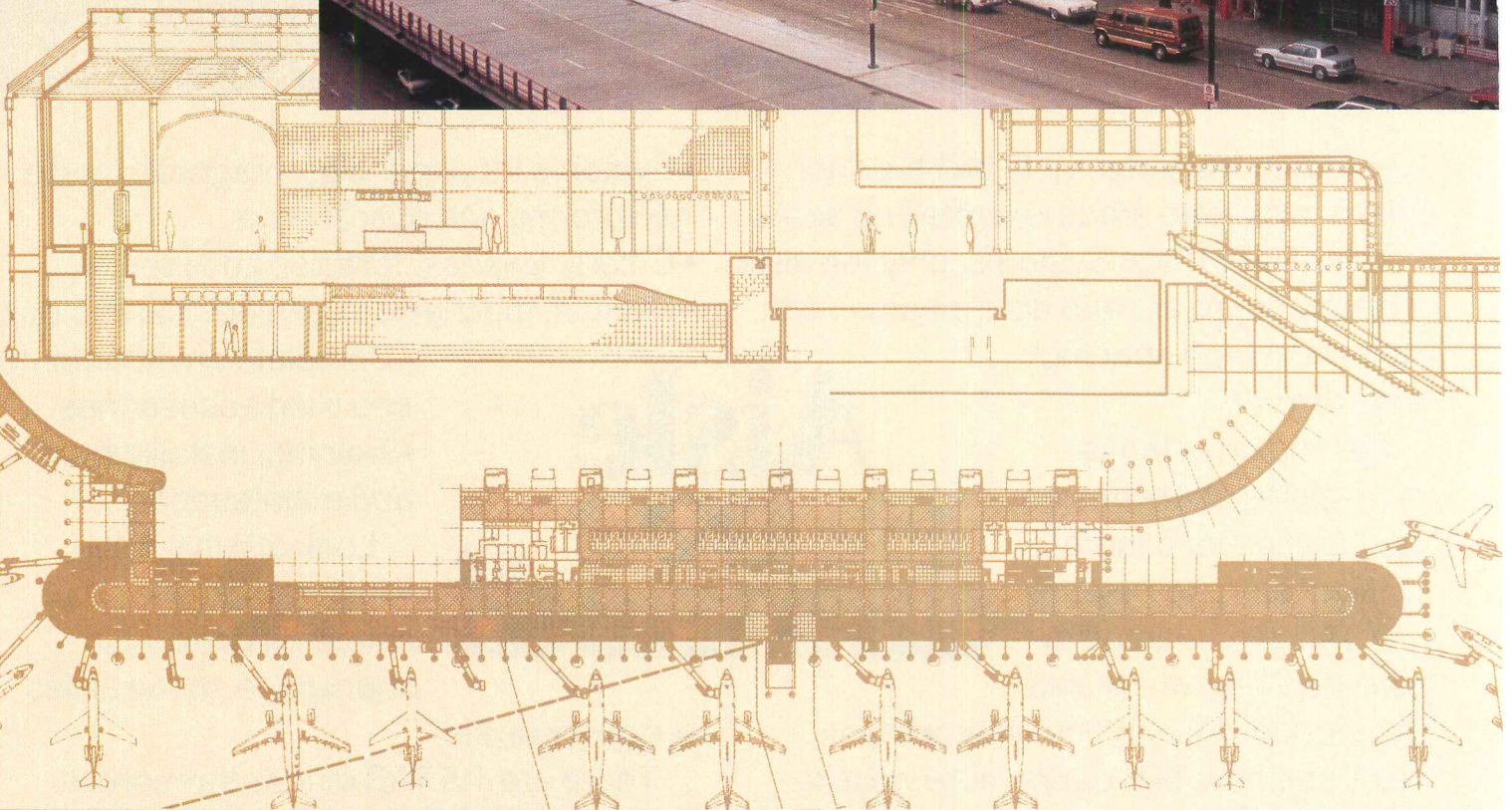
weathered to an attractive, warm gray, TCS quietly contributes to the overall beauty of the terminal's total visual eloquence.

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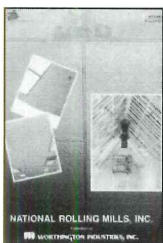
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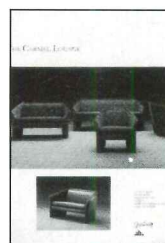
Hospitality furnishings / A four-volume set of new product catalogs illustrates hotel and restaurant furnishings, conference-center, function-room, and banquet seating and tables, and banquettes and other designs for fast-food installations. Shelby Williams Industries, Morristown, Tenn. *Circle 400*



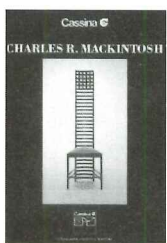
Ceiling suspension systems / A brochure supplies specifications and installation details on two new fire-rated ceiling suspension systems. Metal Gridlock board protectors give the appearance of a 2- by 2-ft ceiling to more economical 2- by 4-ft panels. National Rolling Mills, Frazer, Pa. *Circle 405*



Wood-detailed furniture / A full-color catalog introduces the Carmel line of wood-framed one-, two-, and three-place contract seating. The design comes in two upholstery styles and a choice of over 200 leathers and textiles. Gunlocke, Wayland, N. Y. *Circle 406*
continued on page 197



Mackintosh furniture / A lavishly illustrated catalog shows a range of furniture designed by Charles R. Mackintosh now offered as part of Cassina's Master's Collection. Text describes each item, giving dimensions and production details. Atelier International, Long Island City, N. Y. *Circle 401*



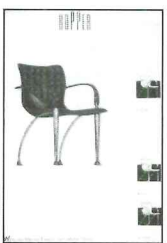
Systems furniture / A new brochure, subtitled "a catalog of office habitats," includes in-use photos of panel systems, files, and work surfaces, with design details including upholstery fabrics, recessed pull treatments, and worktops shown close-up. Shaw-Walker, Muskegon, Mich. *Circle 402*



Vinyl floorcovering patterns / Toli International, formerly Toli-Matico, offers a color brochure on a wide line of resilient floorcoverings for commercial and residential use. Realistic patterns include deeply textured granite, sandstone, and terrazzo designs. Toli International, Commack, N. Y. *Circle 403*



German whimsy / A color folder shows the Hopper Family, playful chairs produced in Germany by the MDZ Design Studio. Each made with curved-metal back legs and rigidly vertical wood front legs, the chairs have nicknames like Woody and Hippity. Kinetics, Toronto. *Circle 404*



PPG Place, Pittsburgh, PA.
Architects:
Philip Johnson & John Burgee.

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For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.

Pages 70-77

Borders, Perrin & Norrander, Inc.
Zimmer Gunsul Frasca Partnership, Architects
Door facings and pulls: Forms + Surfaces. Glass: Libbey-Owens-Ford. Reception desks: Tom Coffey. Conference table: L&Z Specialties. Laminates: Nevamar. Rubber flooring: Pirelli. Custom area rug: Prince St. Technologies. Special coatings: Ford Automotive; Hammerite. Side and conference chairs: Knoll International. Sofa: Palazzetti. Fluorescent pendants: Zumtobel. Track lighting: Capri. Metal-halide fixtures: Day-Brite.

Pages 88-93

Dean Witter Financial Services Group
Lohan Associates, Architects
Modular carpeting: Interface. Custom rugs: Edward Fields. Railings: Chicago Ornamental Iron. Paints: Glidden. Rotunda and board room seating: ICF. Tables: Charles McMurray. Torchieres: Les PrismaTiques. Dining tables: Rudd. Chairs: Thonet. Upholstery: Architex; Knoll Textiles. Scones and ceiling fixtures: Poulsen Lighting. Executive-floor reception desk: Bernhard Woodwork. Lounge chairs: Donghia. Tables: Stendig.

Pages 94-97

American Standard, Inc., Showroom
Tigerman McCurry Architects
Entrance and storefronts: Kawneer. Concealed hardware: Grass. Hinges and locksets: Stanley. Paints: Benjamin Moore. Laminates: Formica. Low-voltage lighting: Artemide. Raised floor: custom frosted glass and perforated aluminum tiles placed on Donn pedestals, USG Interiors. Metallic laminate surfaces: Chemetal.

Pages 104-109

Hemdale Film Corporation
Hodgetts & Fung Design Associates
Curtainwall and entrance system: U.S. Aluminum. Glass: Ali Harati, Venice Glass. Grilles: Broadway Sheet Metal. Paints: Frazee. Carpeting: Bigelow. Resilient flooring: Forbo North America. Filing cabinets: Harpers. Office seating: Herman Miller. Tables and workstations: custom by architects. Task light: Artemide. Track lighting: Halo. Fluorescent fixtures: Lithonia. Molded plywood chair: Thonet. Sconce: Norbert Belfer.

Pages 110-117

Manhattan Triplex
Steven Forman Architect
Glass brick and block: Pittsburgh-Corning. Stainless-steel entry and countertops: Treitel-Gratz. Composite-stone flooring: Armstar. Light column: custom by architect, fabricated by Winona Lighting. Light-control devices: Lutron. Pocket doors and pass-through: Arcadia/Architectural Aluminum + Glass Products. Wet plaster and drywall: U.S. Gypsum. Paints: Benjamin Moore. Downlighting: Lightolier. Custom cabinetwork: Narona Woodcraft. Decorative hardware: Baldwin. Pivot hinges: Rixon-Firemark. Window shades: Casteec.

Page 111—Chair: Atelier International.

Pages 112-113—Club chair: Casaform. Leather: Spinneybeck. Carpeting: Harbinger. Lamps: George Kovacs. Low-voltage light trough: Norbert-Belfer. Coffee table: Atelier International.

Page 114—Stainless-steel railing: fabricated by Pro Welding Alloys. Stair light: Cole. Faucets: Speakman. Sink: Elkay. Bath lighting: Alinea. Brackets: Kroin.

Page 115—Chairs: Melodrom. Table pieces: Swid-Powell. Countertop: Corian. Pendants: Dichrolite.

Pages 116-117—Chrome-framed chairs: ICF. Leathers: Unika Vaev. Fabrics: Schumacher.

Pages 122-129

Princeton Computer Science Building
R.M. Kliment & Frances Halsband Architects
Brick: Glen-Gery. Stone: Indiana Limestone; Granit Bussiere. Membrane roofing: Hyload. Pivoting windows: Wausau Metals. Oak entrance, doors, paneling, and casework: Valley City Mfg. Paints: Conlux; Benjamin Moore. Architectural metalwork and railings: Miles T. Weaver & Son. Acoustical tile: Celotex. Raised floor system: Donn. Laminates: Wilsonart. Lounge seating: Bernhardt. Upholstery: Unika Vaev. Tables: Metropolitan. Seminar seats: Jasper Chair. Tables: Rudd. Lecture-hall seating: JG Furniture. Carpeting: Lees. Tile: Emser. Pendants and sconces: Louis Baldinger & Sons.

Pages 128-131

Escondido Transit Center
Rob Wellington Quigley, Architect
Roofing: Manville. Windows: Kawneer. Glazing: Ford Glass. Special lighting: Gardco.

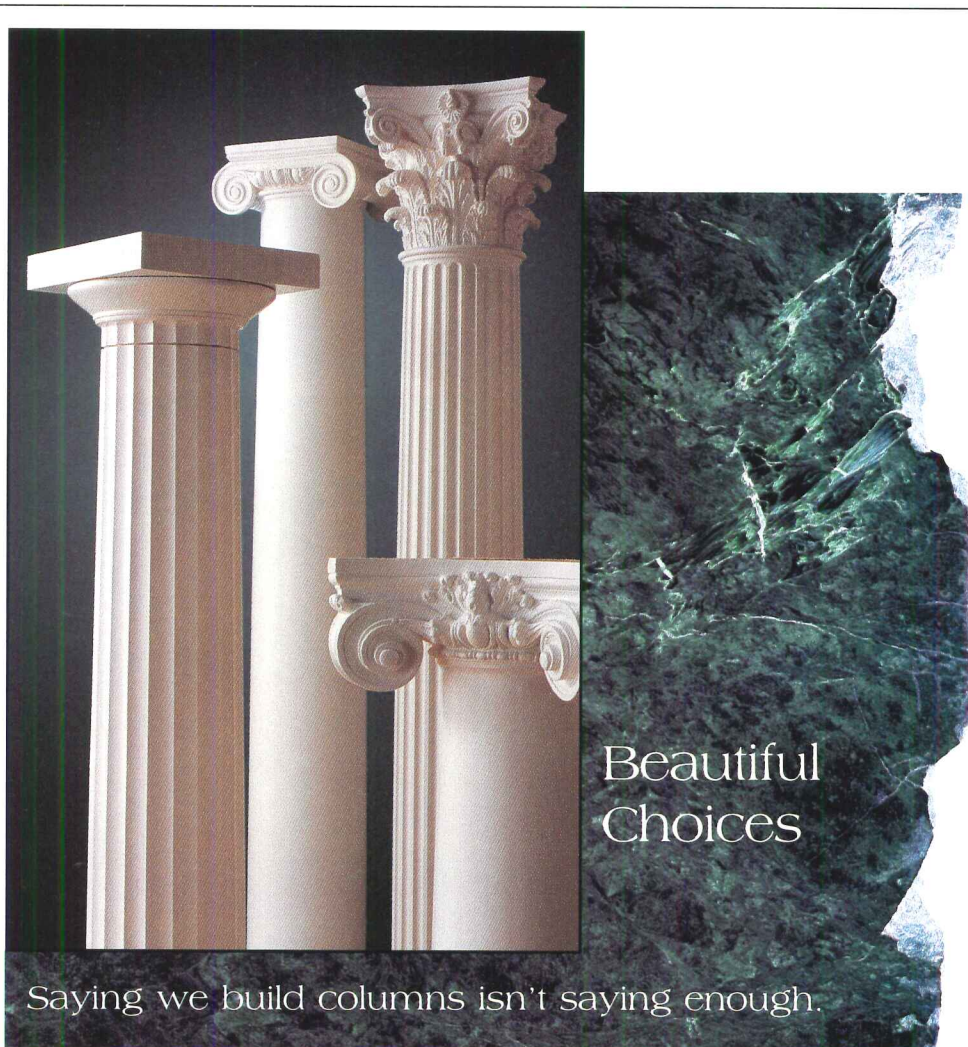
Pages 142-145

Federal Correctional Institution/Sheridan
Zimmer Gunsul Frasca Partnership, Architects
Metal siding and roofing: ASC Pacific. Translucent panels: Kalwall. Windows: Alenco. Security glazing: Globe Amerada Glass. Metal security doors: Johnson Fireproof Door. Solid-core wood doors: Weyerhaeuser. Ceiling tile and resilient flooring: Armstrong. Acoustical panels: U.S.G. Interiors. Epoxy paints: Rodda Paint. Stains and enamels: Fuller O'Brien. Special flooring: Surfacing Systems. Cafeteria sconces: Elliptipar. Site lighting: Holophane.

Pages 146-147

Sonoma County Adult Detention Facility
The Ehrenkrantz Group, Architects
Curtainwall: Kawneer. Security glazing: Sierracin/Transtech. Wood doors: Weyerhaeuser. Paints on CMU: Zolatone. Acoustical paneling: Maharam. Concrete colorants: L.M. Scofield.

Sources continued on page 197



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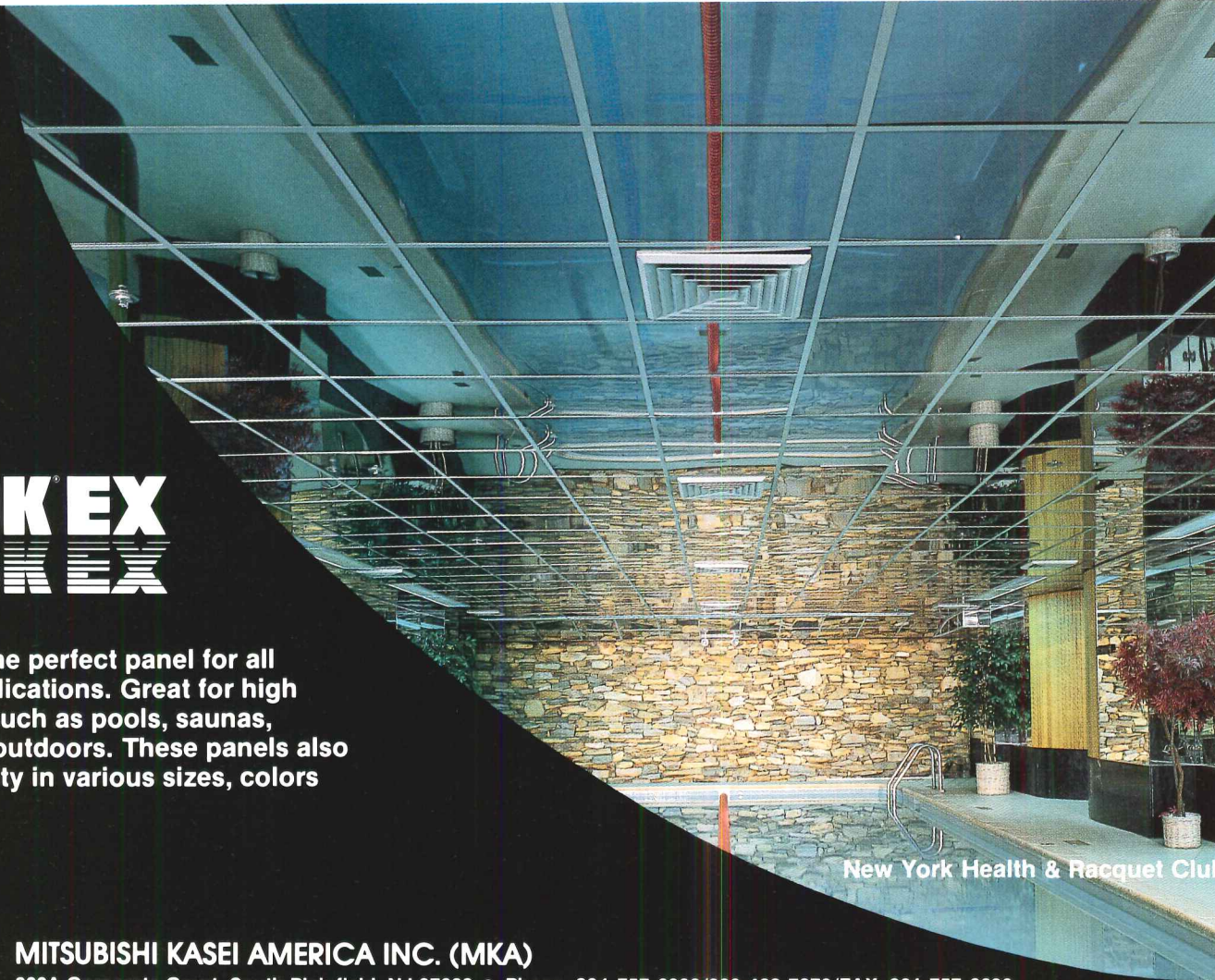
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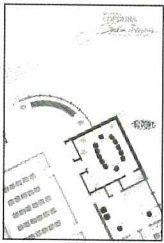
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Continued from page 193

Durable fabric / A folder holds data sheets describing upholsteries and wall-coverings woven with Cordura nylon, showing the fabrics used in schools, hotels, offices, and other high-traffic applications. Photos illustrate textures, and test results are given. DuPont Co., Wilmington, Del. *Circle 407*



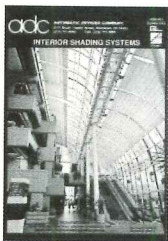
Preserving the past / Authentic architectural details are illustrated, including door, window, and wall treatments; cornice moldings; and stair brackets. The literature introduces Fabucast and fire-rated Classacast, two new lightweight, durable materials. Focal Point, Atlanta. *Circle 412*



Kid-size chair / The ball-footed Bola chair, an IBD Gold Award winner, has been downsized for three- to six-year olds, with a 21-in.-high table to match. A binder page shows the line in several color combinations. Fixtures Furniture, Kansas City, Mo. *Circle 408*



Motorized shades / Fold-up and roll-up shading systems are made for manual or motorized operation. Fabric options include light-diffusing fiberglass mesh screens and light-proof blackout material. A brochure details vertical and curved installations. Automatic Devices Co., Allentown, Pa. *Circle 409*



Modular work-walls / The Spec-Wall Collection has expanded into a new category of modular work-wall configurations. A range of possible assemblies as well as sample office layouts are illustrated, and a 16-page selection guide is included. Dar/Ran Furniture Industries, High Point, N.C. *Circle 410*



Office furniture / A three-volume catalog features integrated contract furniture by Panel Concepts and PCI/Tandem, and explains the company's single-source capability to the designer and facility manager. All products are listed by function. Panel Concepts, L.P./PCI Tandem, Santa Ana, Ca. *Circle 411*



Continued from page 195

Pages 148-151

Suffolk County Jail
The Stubbins Associates, Inc., Architects
Precast: Schokbeton. Brick: Styles and Hart. Membrane roofing: Firestone. Steel security windows and bunks: Ryan Iron Works. Glazing: Falconer. Security doors: Trussbilt. Wire mesh ceiling: Riverdale Mills. Security devices: Folger Adam. Paints: Themec. Cell lighting: Fail-Safe. Plumbing unit: Acorn. Dayroom furniture: ModuForm.

Pages 152-153

Gardner/Betts Juvenile Justice Center
Cox/Croslin and Associates, Architects
Storefronts: Kawneer. Glass: Libbey-Owens-Ford. Detention windows, doors, and hardware: Southern Steel. Security glazing: Globe Amerada. Wood windows: Marvin. Metal roofing: Berridge. Built-up roof: Manville. Ceiling: Armstrong. Wire-mesh seating: Plexus. Wall tile: American Olean. Floor tile: Marrazzi. Corridor fixtures: Peerless. Paints: Sherwin-Williams; Themec.



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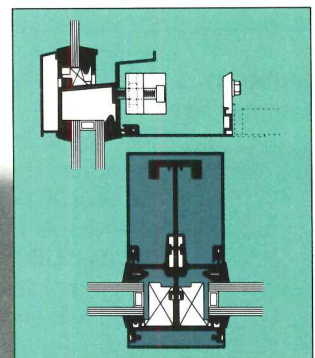
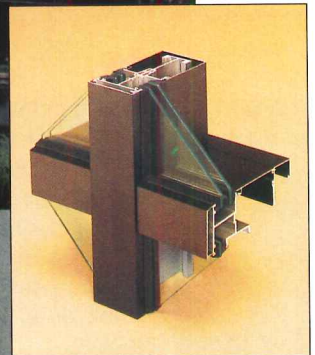
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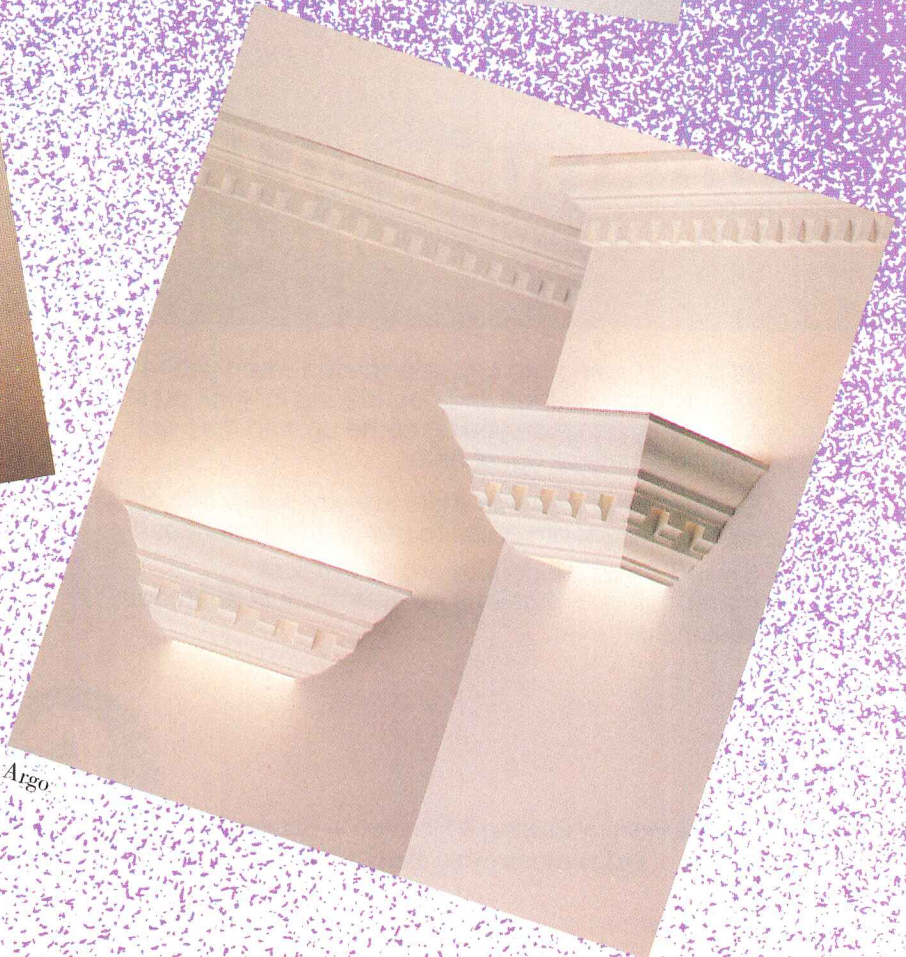
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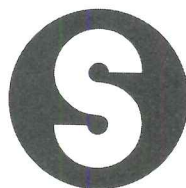
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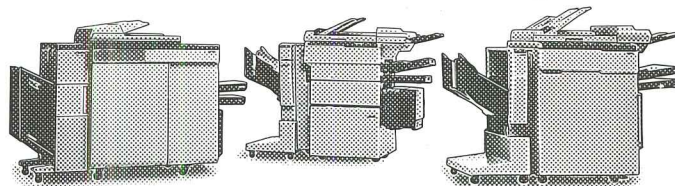
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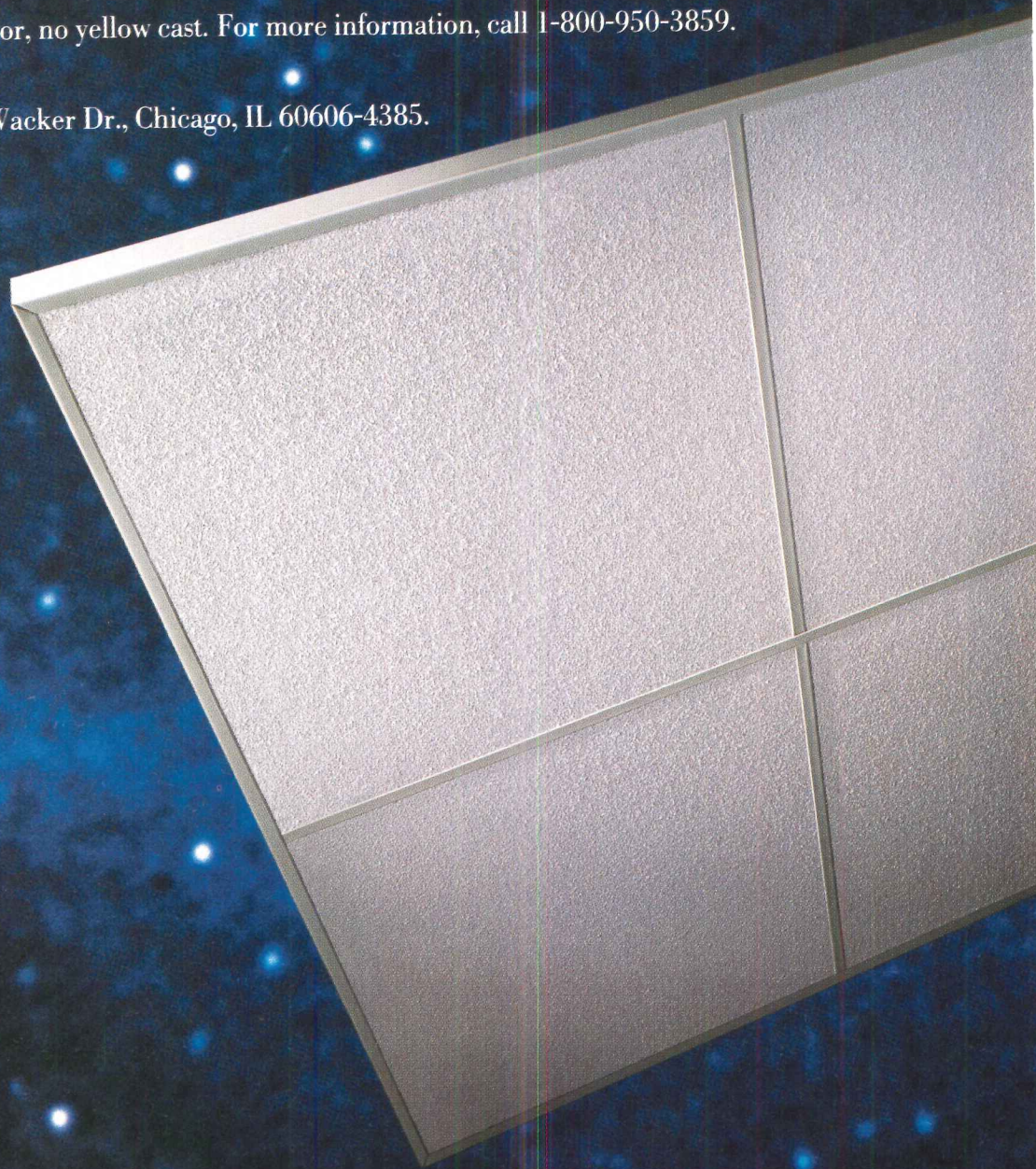
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ACCESS FLOORS . . .*Continued from page 158*

sprinklers. Others worry that fans and diffusers will interfere with cabling.

Both designers and users emphasize that access flooring works best when considered as an aspect of a cable-management strategy. Without thoughtful management, raised floors may actually complicate telecommunications. It is tempting to just toss cable under the floor and hope that the generous space will make up for lack of order. But this can lead to a telecommunications nightmare: floors clogged with active and abandoned cable, one indistinguishable from another, and faulty devices that can't be found. As Walter Cooper says, "In terms of cable, it's not out of sight, out of mind."

Cable management

To maintain cabling discipline, consultants often advise clients to run wire under their access floor in cable trays. Experienced companies, such as USAA, have developed their own wire-management programs. Merrill Lynch tracks cabling through a proprietary computer database.

Whether or not access flooring becomes an essential component of the American office depends largely upon the telecommunications technology that put it there in the first place. Communications designers do not agree on how much cabling capacity will be required by the office of the future. Cables are becoming smaller and more standardized—fiber-optic is replacing copper, and multimedia cable, such as twisted pairs, is replacing wiring "native" to each device. The need for raised floors may thereby be reduced. Other experts contend that any reduction in cable variety or size will be offset by an increase in their quantity, and point out that the turning radius required by fiber-optic, for example, and its fragility may influence the decision to choose raised flooring.

What do architects need to know about telecommunications cabling and distribution? "Not much," according to Paul Kreager, a communications planner and teacher at Washington State University in Pullman. "Architects ought to ignore today's specific technology and focus on designing a good, adaptable telecommunications infrastructure. That means adequate entry facilities, vertical risers, closets, and horizontal pathways." Kreager is one of the authors of a new international standard—the "Commercial Building Standard for Telecommunications Pathways and Spaces"—recently adopted in Canada and due for U.S. adoption soon. It was developed by the Telecommunications Industry Association to help both architects and users.

Whether access floors fit into a given building's wire-management scenario is still a decision to be made on a case-by-

case basis. Clients will increasingly call upon the architect to develop an architecture that supports their wiring strategy—or help them to devise one.

NANCY LEVINSON

Further information

Commercial Building Standard for Telecommunications Pathways and Spaces; Commercial Building Wiring Standard; Residential and Light Commercial Telecommunications Wiring Standard, by the Telecommunications Industry Association. Available from The Electronic Industries Association, 2001 Pennsylvania Avenue N.W., Washington, D. C. 20006 (202/457-4900).

BICSI Telecommunications Distribution Methods Manual, by The Building Industry Consulting Service International (BICSI), which is based at the University of Southern Florida, in Tampa, and is available from GTE TestMark Laboratories, Publications Department, 3050 Harrodsburg Road, Lexington, Ky. 40503 (813/974-2695).

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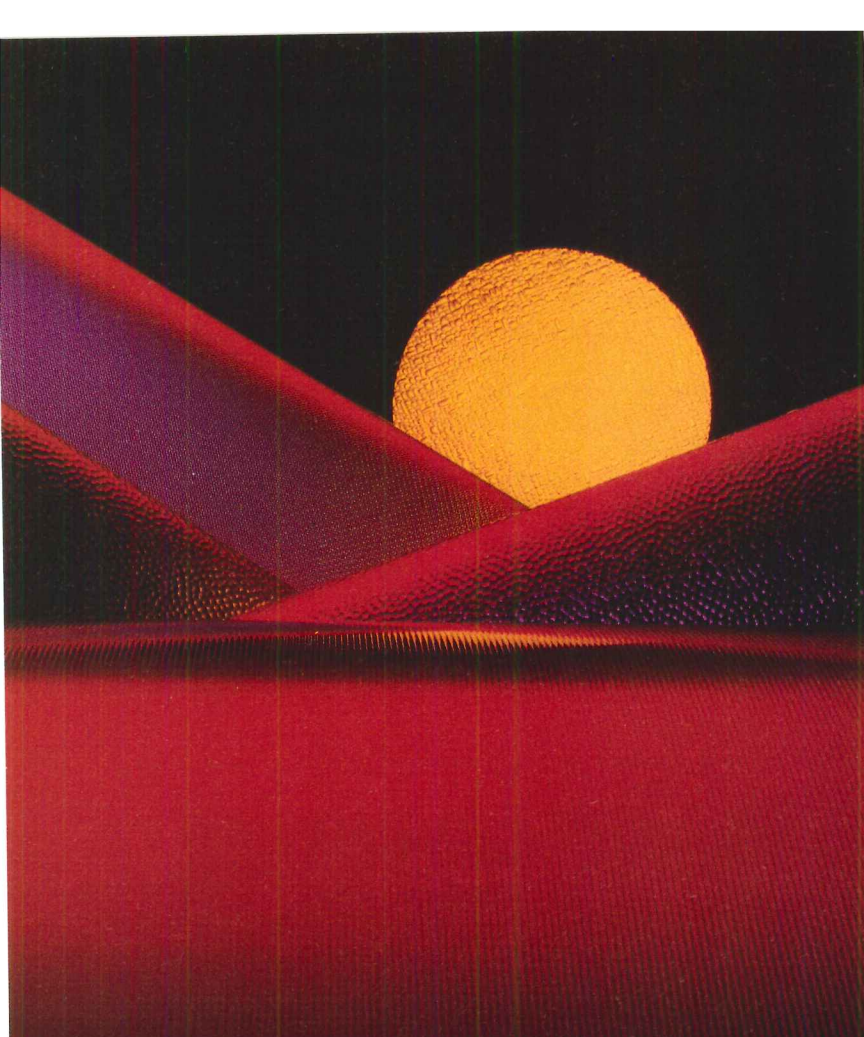
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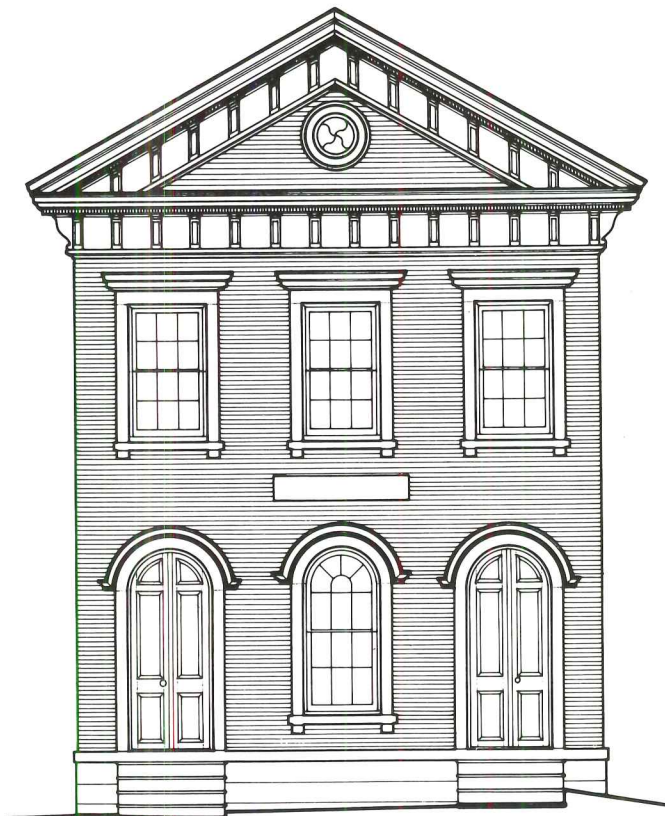
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TAMCADD
ROOFING DETAIL & SPECIFICATION SYSTEM

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System developed by Architectural Synthesis Inc., Nashville, TN.

Circle 89 on inquiry card

NOUVEL HOTEL . . .

Continued from page 103

shade. When I thought about the exterior, I knew I wanted a kind of industrial effect, and I thought of rust right away. My initial idea was a mixture of rust and brass as a way of being nice to the clientele, because brass can give a sense of self-esteem, while the presence of rust seems like a criticism of the guest. But Amat told me to go ahead and just have rust. The rust on the awnings is not controlled in any way. The awnings will last 15 years and then we will have to change them. It's like in Japan where they change the panels of paper houses. When the awning rusts completely, it will be very lovely, sort of lacelike. Right now the awnings are a beautiful orange-rust shade, but they will be even better when they evaporate into the air.

BI: How are the awnings fixed to the facade?

JN: The elements are placed in a kind of cruciform. They are worked by electronic levers from the inside.

BI: Are any light-filtered louvers mounted on the inside?

JN: Usually in hotels curtains are massed by the sides of the windows. At first we didn't want to have blinds or curtains, but we found that people expected them, because they like to sleep in absolute darkness. Also, the curtains help insulate heat, and some of the beds are fairly close to the windows. The curtains are canvas and white, like all the other textiles in the room.

BI: What materials were used for the interior?

JN: Cement, light colored wood . . . the ultimate goal was to have everything in white, a biblical kind of simplicity, a monastic effect. But we plan to change that very soon when we will add something artistic in each room, as a kind of marking of the place. The already existing white backgrounds will serve as a visual support to the added new works.

BI: And the furniture?

JN: I designed it myself especially for the hotel. Perhaps the most noteworthy item is the high bed in each room [page 100-101], which, like old country beds, is a meter off the ground. It shocks some guests that they have to lift up their backsides to get into bed. Another innovation is the furniture for the restaurant [bottom, page 98], where the design is based around the table. I imagined a room where the only décor was the tables with table covers, linen, everything in white. The chairs and other furniture are made in steel with foam cushions, covered in white fabric. The fabric covers on the chairs are changed regularly, just like the covers on the bed. One of the chairs I designed for the hotel may be mass-marketed soon in America. The furniture is not meant to be farmlike. The only part of the design that is farmlike is the character of the building; the rest is

not very rustic.

BI: Is there any painted decoration in the restaurant?

JN: No, but I'd like to add some neon letters, just something to add a sense of vibration, but unfortunately that would cost a lot. The director of the Center for Contemporary Art in Bordeaux, Jean-Louis Froment, said that he would take care of that for us. I have in mind not something that's already been done—a phrase like *Coca-Cola*—but rather something minimal, more conceptual. For me, the word minimal is not at all pejorative. Minimal art is one of the most difficult arts that exist. Mies van der Rohe was one of the best minimal architects, and we see from his work that it wasn't as easy as some people may think. I am seeking to create a place that marks its own existence, and also a

place that asks questions. A place that will select its own clients, those who choose to frequent it.

BI: Why are some of the hotel rooms irregularly shaped?

JN: Each room was designed to optimize the view. I treated it as a sort of game. Some of the rooms, like those above the restaurant, are very narrow. Some are 15 meters long, and you don't even see the bed, which is hidden in an alcove. The beds are always in a strategic position, high off the ground, so that the guests can appreciate the view while lying down. Another bed is right against a window that is 10 meters long. I wanted to exploit the view in the different floor plans, and also to have a variety of room shapes, so that

Continued on page 222

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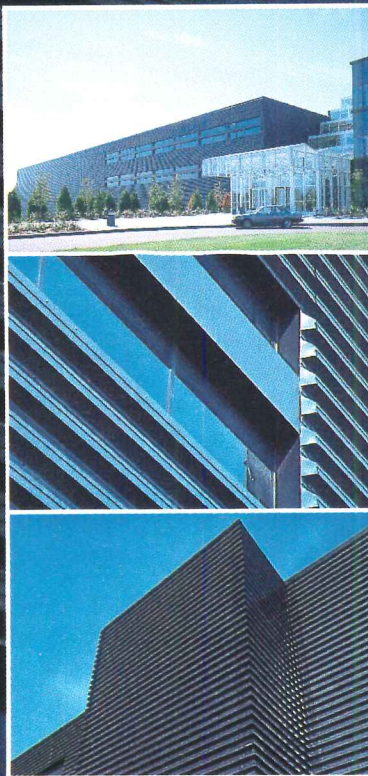
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PRODUCT LITERATURE SHOWCASE

Here are some building products' catalogs, brochures and technical literature available in the architectural market today. To receive your copy of any of them, just fill out and return one of the special Reader Service Cards bound into this Product Literature Showcase.

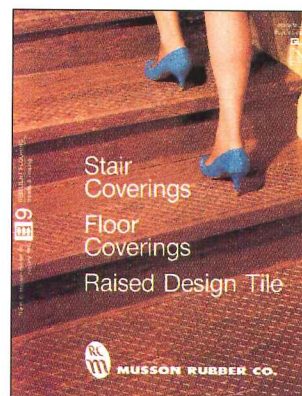


Stop Wall Damage

A 24-page catalog describing newly reformulated Acrovyn® is available from **The C/S Group** of Companies. Acrovyn wall protection is offered in 48 standard colors, 22 of which are coordinated to Formica® brand laminate. The Acrovyn corner, wall and door protection system carries a U.L.® Classified, Class I Fire Rating. The C/S Group: 800-233-8493. FAX: 717-546-5169.

The C/S Group

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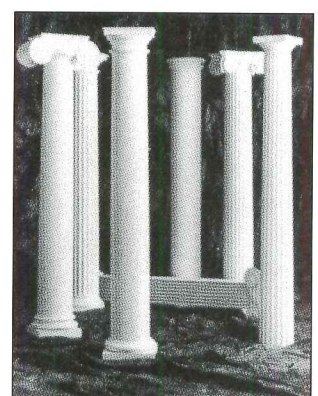


Floor and Stair Coverings Brochure

Contains helpful illustrations and specifications on fire safety and other rubber floor and stair tread systems featuring many different marbled or plain raised and surface designs in all decorator colors. Included are rubber landing and riser materials, vinyl treads and risers, fluff cord and traffic tiles along with recommended adhesives. Musson Rubber Co., P.O. Box 7038, Akron, OH 44306.

Musson Rubber Co.

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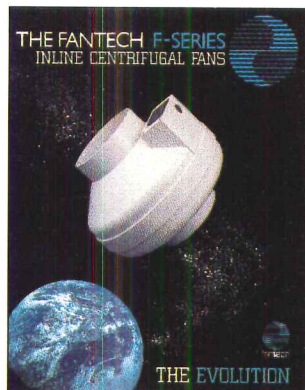


Chadsworth Incorporated

Authentic Replication Columns follow the specs derived from the fifteenth century Renaissance master architect, Vignola. Architectural Stock Tuscan, Contemporary and Art Deco columns in pine, redwood and other wood species. Diameters-6"-36". Heights to 40'. CHADSWORTH - Expect the Best! Catalogs or information Box 53268, Dept. 9, Atlanta, GA 30355. Ph. 404-876-5410. Fax 404-876-4492.

Chadsworth Incorporated

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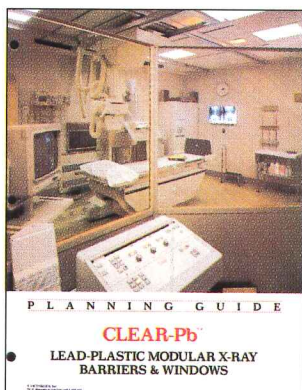


Fantech F-Series Inline Centrifugal Fans

The Fantech inline Centrifugal F-series fan is the answer to many residential, industrial, and light commercial air movement problems. It's state of the art design puts it in a league by itself. It's designed to move air efficiently, handle static pressure, and operate very quietly. This combination is far superior to all other "tube" type fans. The applications are limitless and Fantech backs it all up with a 3 year warranty.

Fantech, Inc.

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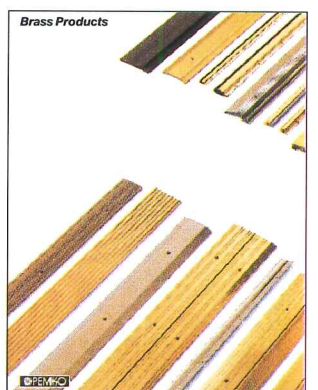


CLEAR-Pb® Lead-Plastic X-Ray Room Shielding

CLEAR-Pb modular barriers and windows solve shielding problems in hospital x-ray, CT and special procedures rooms. CLEAR-Pb is a lead-impregnated transparent plastic that is shatter-resistant. Available in 200 stock sizes up to 6 x 8 ft. and in lead equivalences from 0.3 to 2.0 mm. FREE Planning Guide showing x-ray room installations available on request.

Nuclear Associates

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Weatherstrip & Thresholds

Since 1952, Pemko has been manufacturing thresholds, weatherstripping and gasketing products for commercial and residential door openings. This 6-page catalog covers our extensive line of solid brass products; including floor closer thresholds, automatic door bottoms, interlock thresholds, astragals and rigid door gasketing. Pemko, Ventura, CA and Memphis, TN.

Pemko

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PRODUCT LITERATURE SHOWCASE

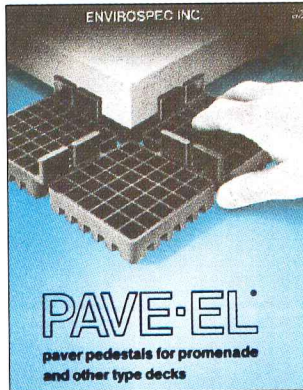


New! Grani/Rapid

Grani/Rapid is a two-component fast-setting latex dry-set mortar for the installation of natural, agglomerated marbles and granite, and impervious porcelain tiles. Grani/Rapid is specially designed for setting all those tiles over all kinds of substrates, indoors and outdoors, on walls, floors and ceilings. Grani/Rapid is available in a convenient 15 kg kit. For more information, please call 1-800-42-MAPEI.

Mapei

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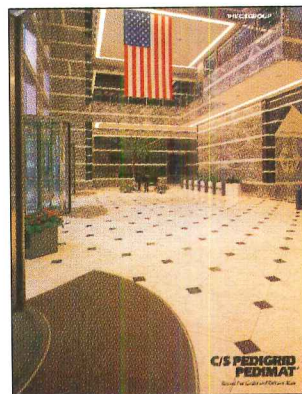


A Practical Solution to Roof Paver Stone Applications

New bulletin shows a better way to transform a roof into a patio, terrace, balcony, walkway, plaza podium, promenade, or just plain roof deck, using the Pave-El Pedestal System. Designed to elevate, level, and space paverstones for drainage in any weather, Pave-El reliably protects roof, paver stone, membrane and insulation. Ellicott Station Box 119, Buffalo, NY 14205. 416-252-2090.

Envirospec, Inc.

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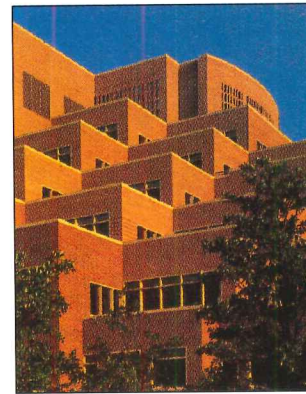


Elegant Entrances

The C/S Group has an 8-page brochure describing their improved Pedimat® entrance mats. Pedimat has all aluminum hinged tread rails with plush 100% nylon carpet treads in 25 designer hues. And now your carpet Pedimat can easily be personalized with your logo or trademark. The C/S Group: 800-233-8493. FAX: 717-546-5169.

The C/S Group

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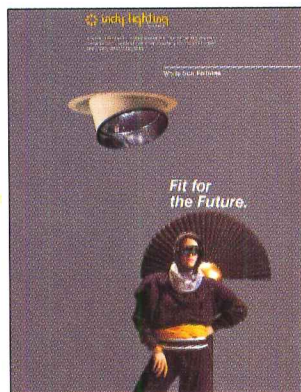


General Shale Brick

The General Shale Catalog features 92 face brick produced by this leading brick manufacturer. Also included are special shapes, patio brick, fireplace brick and flue liners, brick sculpture, landscaping products and concrete masonry units. To order your free copy, write: General Shale Products Corporation, P.O. Box 3547 CRS, Johnson City, TN 37602.

General Shale

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Indy Lighting Offers New White Son Fixture Line

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Indy Lighting, Inc.

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The World of Kitchens Programme Summary

ALNO, Europe's largest manufacturer of cabinetry, is known for quality of workmanship and attention to detail. ALNO has a wide range of cabinet styles for the kitchen, bath, bedroom, family room and office, available through a national network of dealers. ALNO KITCHEN CABINETS INC., 196 Quigley Boulevard, New Castle, DE 19720, 800-233-5218.

Alno Kitchen Cabinets Inc.

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Solve Roof Drain Problems With RetroDrain®

RetroDrain® allows you to replace a broken existing roof drain entirely from the roof top. No access required to the building's interior and installation is completed in minutes. Interior ceilings are not damaged and work inside the building is not disrupted. An easy cost effective method of replacing roof drains.

Uflow Roof Drain Systems

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With IRON-A-WAY ironing centers, quality, versatility and modern convenience are built right in. That's why IRON-A-WAY is chosen more often than any other ironing center. Each one is safe, practical and functional - the perfect addition to your home and to your lifestyle.

Iron-A-Way, Inc.

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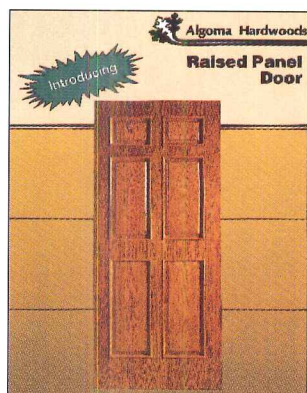


Closet Maid® Systems Offer Storage Solutions

6-page brochure features product specs, 17 four-color photos and 7-line drawings of storage systems for closets, laundry, pantry, linen, cabinetry, garage and light commercial storage areas. Nationally distributed through authorized installers, Closet Maid® line cost-effectively maximizes accessible storage capacity without increasing square footage devoted to traditional storage areas. 25 year ltd. warranty.

Clairson International

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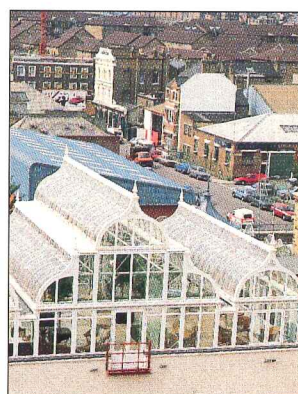


New: Algoma Hardwoods Raised Panel Door

Algoma brings new style to a traditional look as it introduces the Raised Panel Door (SLC-5-RP). Grain all runs vertically, resulting in cleaner lines and a more pleasing appearance than the ordinary stile and rail construction. It begins with a hardwood lumber core. High quality architectural grade faces and crossbands are hot-pressed to the core to provide both strength and beauty.

Algoma Hardwoods, Inc.

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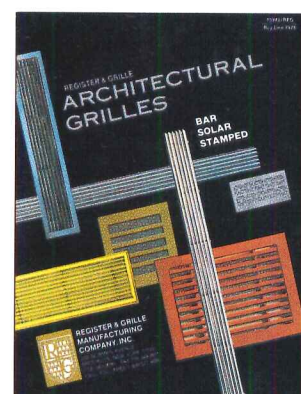


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Sheffield Plastics HYZOD® SolarShield glazing has all the impact strength of standard polycarbonate with the U.V. resistance of acrylic backed by a five year warranty against excessive yellowing, loss of light transmission and breakage. Typical applications include skylights, covered walkways, canopies and other areas subjected to extreme sunlight exposure.

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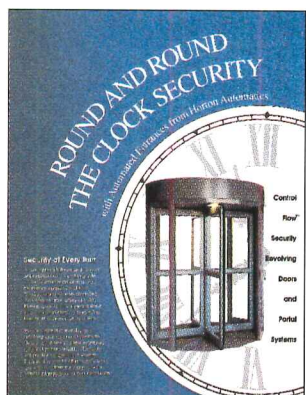


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Register & Grille Mfg., Co.

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Security Revolving Doors and Portal Systems

Horton's automatic revolving doors and portal systems combine security with reliable, efficient performance, reducing the need and cost of security personnel. Described in this full-color brochure are Control Flow™ Revolving Doors—Card Access for two-way traffic security, Directional Control for one-way traffic security, and Security Portal Systems for low volume traffic areas.

Horton Automatics

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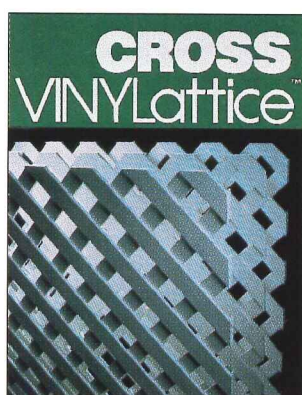


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New and complete, a fully illustrated 4-color catalog of Hanger Rods, Picture Moldings, with Hooks, Clips and Holders for framed, matted or unmounted paintings, prints, posters, drawings, foamed core presentation boards and more. New—Clips, Rods and Bars for hanging quilts, weavings and tapestries. Write for catalog and samples. 250 South Lake Ave., Duluth, MN 55802.

Walker Systems, Inc.

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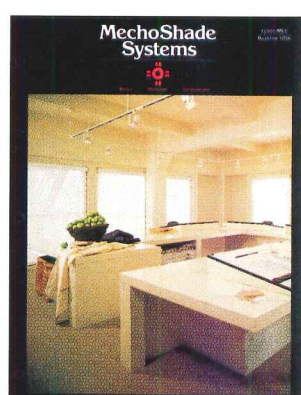


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Cross Industries Inc.

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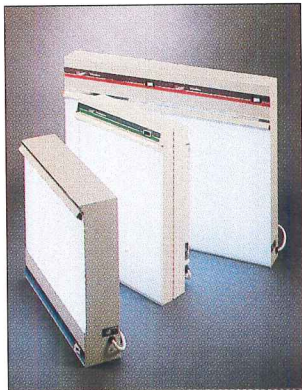
Window Management:

The MechoShade System—the original—is operated manually, electrically, and by computer and used as a building-standard window-shading system by the foremost developers, designers, and architects. High, wide, inaccessible windows are easily fitted. Reduction of summer heat and winter heat-loss with energy savings. Literature available: Dozens of new shade cloths and fabric/glass selection chart.

MechoShade Systems, Inc.

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PRODUCT LITERATURE SHOWCASE

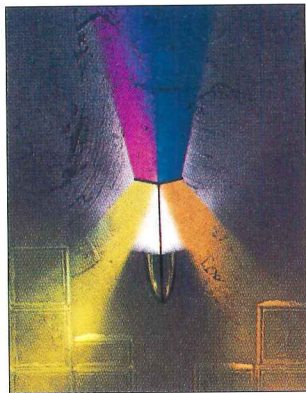


Radiological Illuminators Over 150 Styles & Sizes

Wolf X-Ray Corp. is the largest manufacturer of illuminators used in hospitals for x-ray film viewing...specifically designed for the unique needs of the radiologist. Free 100 page catalog has extensive information on illuminator features, installation, measurements, etc. and Wolf has trained sales people, including draftsmen, to assist health care architects in planning reading rooms. 800-356-9729.

Wolf X-Ray Corporation

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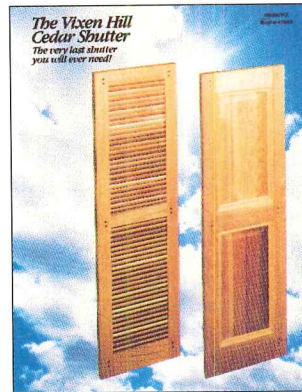


Artup Lighting Introduces Rainbow

The Rainbow wall sconce is made of two dielectric spectral glasses which are positioned within the vertical beam of a halogen bulb located in the base of the fixture generating a 4-color prism effect. Made in the U.S.A. UL Listed, Patent Pending.

Artup Lighting

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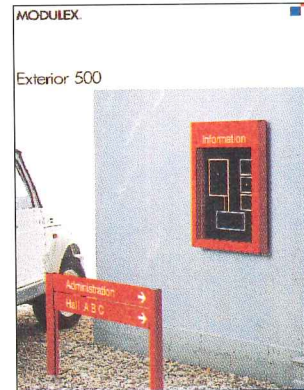


Authentic Vixen Hill Cedar Shutters

Full color brochure features traditional working shutters for interior and exterior applications. Cut-away photographs show authentic teak-pegged mortise-and-tenon joints, separate interlocking trim and extra thick louvers for extended product life. Shutters are constructed with clear western red cedar to a final thickness of 1 & 5/16. See Sweet's section 08668/VIX or call 1-800-423-2766.

Vixen Hill Manufacturing

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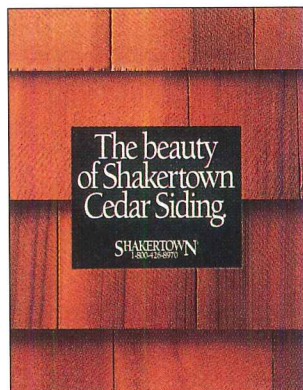


Architectural Signage For The Outdoors

MODULEX Exterior 500 offers a sturdy and contemporary system of signs based on aluminum extrusions. Sizes range from small wall-mounted signs, up to 8'x8' free-standing units. The cabinets are available with the unique interchangeable text by MODULEX. Finishes: Anodized and baked enamel in 50 standard colors. 1-800-632-4321. MODULEX Inc. — a company of the LEGO Group.

Modulx Inc.

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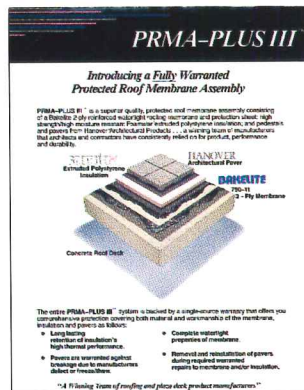


The Beauty of Shakertown Cedar Siding

The beauty and the benefits of Shakertown western red cedar sidings are shown in their new catalog. The 8-page, color brochure features many photos of actual product applications. Close-up product photos show the many options available such as face, exposure, shingle spacing, and butt line. Available free—1200 Kerron St., Box 400, Winlock, WA 98596. 206-785-3501. Outside WA 800-426-8970.

Shakertown Corporation

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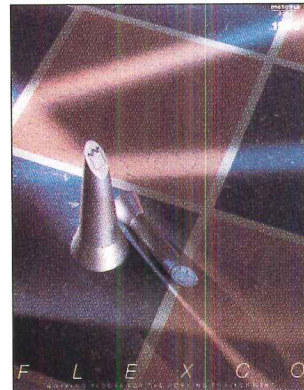


Fully Warranted Membrane Assembly

PRMA-PLUS III™ is a fully warranted protected roof membrane assembly consisting of a Bakelite 2-ply reinforced roofing membrane and protection sheet; high strength/high moisture resistant Foamular extruded polystyrene insulation; and pedestals and pavers from Hanover Architectural Products. Single-source warranty covers material and workmanship of the membrane, insulation and pavers.

Bakelite/Hanover/UCI

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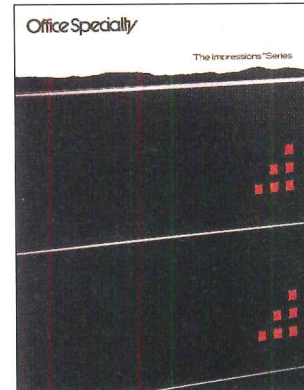


Flexco Company Resilient Flooring

Flexco produces outstanding rubber & solid vinyl flooring products for a wide variety of commercial uses. Sold through an int'l. network of over 125 distributors, Flexco products combine beauty & functionality. Their unique color palettes & styling offer high design potential for environments with even the heaviest traffic. This catalog features all 18 Flexco products. Catalogs or info. 1-800-933-3151, Fax 404-454-9435.

Flexco

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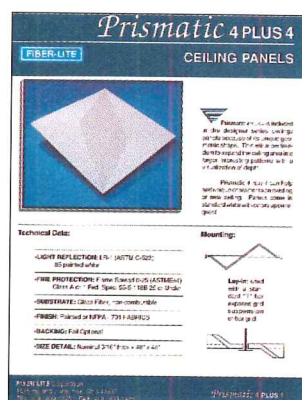


A Unique Look in Filing Cabinets

The Impressions Series from Office Specialty allows an unlimited number of geometric patterns to be created by "knocking-out" material from a metal file front. This exposes a painted metal liner positioned slightly behind the front. The result is a dramatic three dimensional effect, that can be created in virtually any color combination.

Office Specialty

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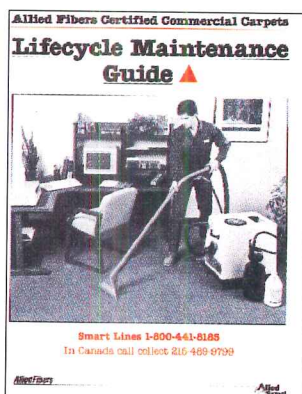


Designer Ceilings

Up grade your open area whether it be a shopping mall or large office with "PRISMATIC 4 PLUS 4", a newly introduced ceiling panel. Panel fits into a standard 4' x 4' lay-in grid. Base material is acoustical fiberglass. Made in U.S.A. Phone: 419-893-1225; Fax: 419-893-1421.

Fiber-Lite Corporation

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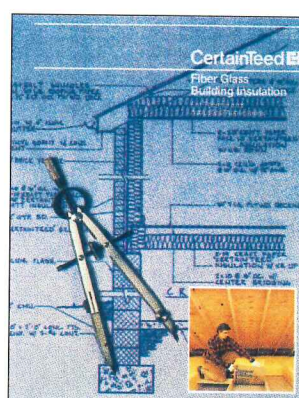


Allied Fibers Lifecycle Maintenance Guide

This guide is Allied Fibers' official maintenance manual for commercial carpets made of High-Performance Anso IV® HP, Anso IV® and Anso® brand nylon. It features spot and stain removal procedures for over 70 of the most common commercial stain problems, as well as other important information for extending the life and appearance retention of commercial carpeting.

Allied Fibers

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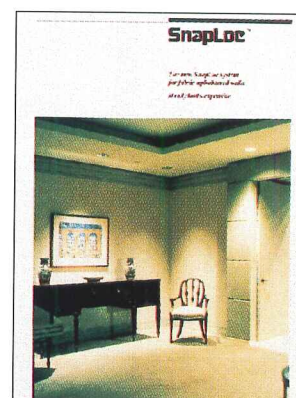


Thermal & Acoustical Insulation Catalog

CertainTeed Corporation is offering a new catalog describing its complete line of fiber glass insulation products for residential and light commercial applications. Contains important data on availability by size and R-Value, latest energy standards and code information.

CertainTeed Corporation

Circle 532 on the PRODUCT LITERATURE SHOWCASE inquiry card.

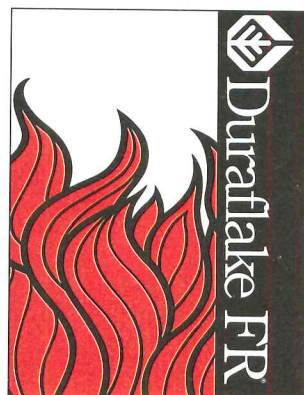


It Only Looks Expensive:

Innovative SnapLoc™, the medium-tension fabric-mounting system for walls, offers aesthetic beauty, rigid code compliance, and custom features. Luxurious fabric-covered walls can be economically created on site. Holding fabrics taut and square, SnapLoc™ offers sophisticated architectural details: butt-joints, sound-absorbing infill, mitered corners. New from StretchWall, SnapLoc™ only looks expensive.

StretchWall Products

Circle 533 on the PRODUCT LITERATURE SHOWCASE inquiry card.

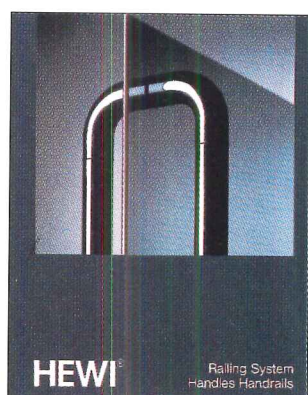


Duraflake FR

DURAFLAKE FR is a smooth, grain-free, Class I fire-rated particleboard panel designed to meet fire code regulations. It is an excellent substrate for fine wood veneers, high and low pressure laminates and vinyls in all wall systems, furniture and fixtures applications where fire codes and public safety are critical. Contact Willamette Industries, Inc., P.O. Box 428, Albany, OR 97321 or call (503) 928-5866.

Duraflake

Circle 534 on the PRODUCT LITERATURE SHOWCASE inquiry card.

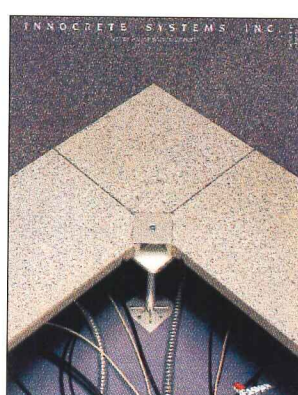


Handles Handrails Brochure

HEWI, Inc. has published a new brochure which offers design suggestions, full color illustrations and descriptive information about custom handles which are available using the HEWI railing system. Custom designs are achieved through combinations of components which are made in two diameters and 13 colors. Handles are easily installed with fasteners suited to various requirements.

HEWI, Inc.

Circle 535 on the PRODUCT LITERATURE SHOWCASE inquiry card.

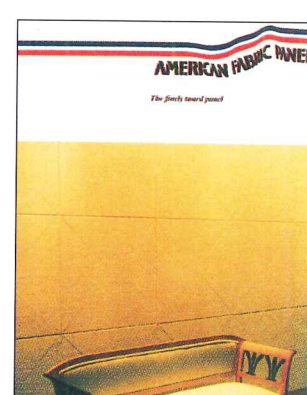


Access Flooring

Innocrete Systems, Inc., a member of The C/S Group of Companies, has recently developed a new 8-page brochure outlining its revolutionary access floor panel...S-Floor. Manufactured from reinforced concrete, S-Floor was exclusively developed for use in offices and performs exceptionally well under concentrated and rolling loads. Innocrete Systems, Inc.: 800-225-2153. FAX: 201-272-1870.

Innocrete Systems, Inc.

Circle 536 on the PRODUCT LITERATURE SHOWCASE inquiry card.



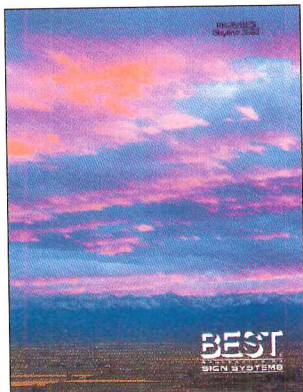
Innovations in Noise Control:

Fabric-covered panels for walls and ceilings with a wide range of noise-control characteristics in an array of compositions, thicknesses, and finish details. The economical frameless, upholstered panel system includes fiberglass, mineral board, plywood, super padded, geometric grids, and FabTiles™ for ceilings offering acoustical, tackable, nailable, and reflective/absorptive properties. N.R.C. ratings from .25 to 1.10.

American Fabric Panel Co.

Circle 537 on the PRODUCT LITERATURE SHOWCASE inquiry card.

PRODUCT LITERATURE SHOWCASE

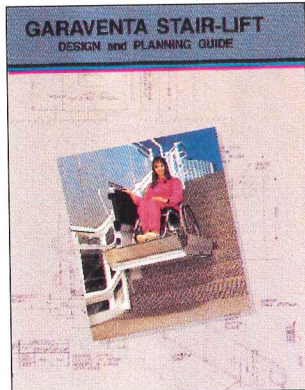


Signs, Plaques and Emblems

Identify the premises with our superior line of indoor and outdoor signs, directories, plaques, memorials, desk plates. Our unique Graphic Blast® process allows us to carve copy and artwork into virtually any material, wood, marble, tile, metal, tough thermoset plastics. Best® Manufacturing Sign Systems, 1202 N. Park Avenue, Montrose, CO 81401-3170. 303-249-2378.

Best Manufacturing

Circle 538 on the PRODUCT LITERATURE SHOWCASE inquiry card.

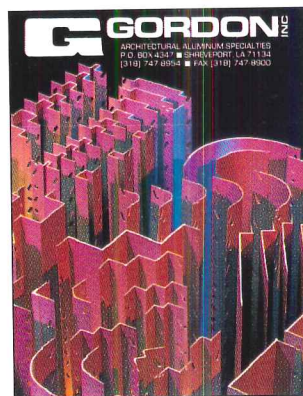


Grand Entrances For Disabled People

Garaventa Stair-Lift provides graceful, effective solutions to building access problems. This inclined wheelchair lift is installed along straight or turning stairways up to three storeys. Saves floor space and requires no building modifications. Stair-Lift is cost-effective, code-compliant, customized for retrofit or new structures, proven safe and reliable in 2500 installations.

Garaventa

Circle 539 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Drywall and Plaster Trim

Extruded aluminum trims for the ultimate drywall and plaster details. Over 230 shapes in stock—or custom designed for unique applications. Our 35-page catalog is full of ideas and also outlines our ceiling grid, baffle, curtain pocket and column ring products. Fax Toll Free: 1-800-877-8746.

Gordon, Inc.

Circle 540 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Audio/Visual Displayers and Modular Storage Systems

Gressco offers one of the nation's largest selection of stock and custom built multi-media displayers. And our modular storage system - Modula S - gives you unlimited flexibility in designing unique and attractive storage environments. Catalogs or information P.O. Box 7444, Madison, WI 53707. Phone Toll Free 1-800-345-3480. Fax 608-244-7212.

Gressco Ltd.

Circle 541 on the PRODUCT LITERATURE SHOWCASE inquiry card.

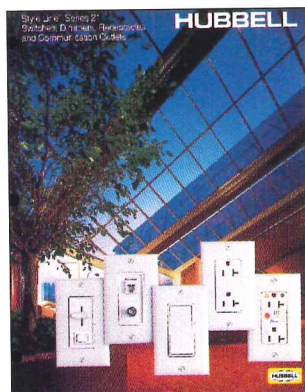


Natural Stone Fireplaces

Bring the romance of a fire and the breathtaking character of stone into your customers homes with unique fireplaces. An internal contraflow design from Finland, combined with nature's finest material for retaining heat: soapstone - provides a highly efficient, emissions-free fireplace. Call our new US sales office at 1-800-THE-FIRE (800-843-3473) to receive a free color brochure on TULIKIVI Fireplaces, Bakeovens, Cookstoves, Countertops, and the Dealer nearest you.

Tulikivi Group

Circle 542 on the PRODUCT LITERATURE SHOWCASE inquiry card.

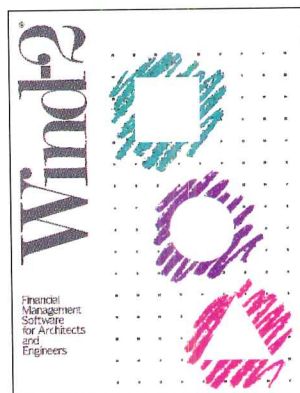


Sophisticated Styling... Reliable Performance

Hubbell Style Line Series 21 switches, dimmers, receptacles, communications outlets and wall plates is the complete line of wiring devices offering sophisticated styling, state-of-the-art engineering and reliable performance...all under the name of the company synonymous with quality for more than a century.

Hubbell Inc., Wiring Div.

Circle 543 on the PRODUCT LITERATURE SHOWCASE inquiry card.

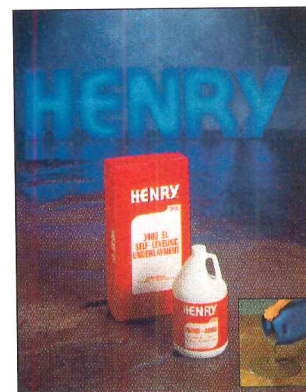


Office Productivity Software For Engineers / Architects

The Wind-2® Financial Management system includes four integrated modules: Business Management with Accounts Receivable, Payroll, Accounts Payable, and General Ledger. Custom Reporting Query and Financial Indicator Reports add reporting options. Total Trak™ is project tracking and financial management software for firms of eight or fewer employees, priced at \$695. Also A/E Marketing Manager™. Call 1-800-77WIND2 for information.

Wind-2 Software, Inc.

Circle 544 on the PRODUCT LITERATURE SHOWCASE inquiry card.

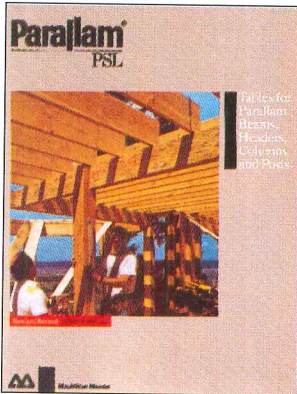


W.W. Henry Self-Leveling Underlayment System

Repair damaged or uneven floors quickly and easily with Henry 3400SL Self-Leveling Underlayment. This pourable, cement based compound dries in a matter of hours to provide a smooth, flat surface ideal for the installation of virtually all types of floor coverings. 3400SL is just one of Henry's innovative tile setting and floor preparation products.

The W. W. Henry Company

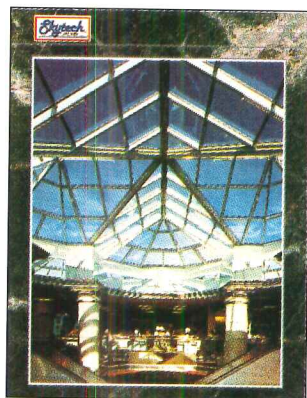
Circle 545 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Parallam® Beams & Posts
Newly revised tables for high strength engineered wood beams, headers, columns & posts for builders & specifiers. Dependability of steel, workability of wood. Square & non-square columns up to 7"x7", 66' long. Beams & headers in standard & non-standard sizes to 7"x18", 66' long. Available throughout US & Canada. Full code approval, specifying software.

MacMillan Bloedel Limited

Circle 546 on the PRODUCT LITERATURE SHOWCASE inquiry card.

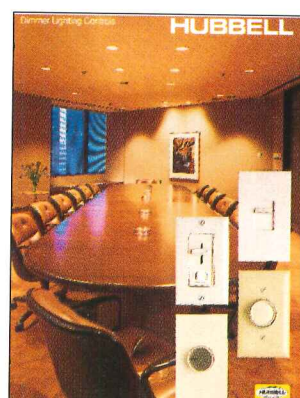


Skytech Commercial Skylights

New 12-page color brochure provides detailed architectural drawings, design specs, details and photographs of custom skylight solutions for a variety of new and renovative commercial application problems. Skytech Systems offers state-of-the-art computer design engineering, top quality products, and exceptional technical service support nationwide. Skytech Systems, Box 763, Bloomsburg, PA 17815, (717) 752-1111.

Skytech Systems

Circle 547 on the PRODUCT LITERATURE SHOWCASE inquiry card.

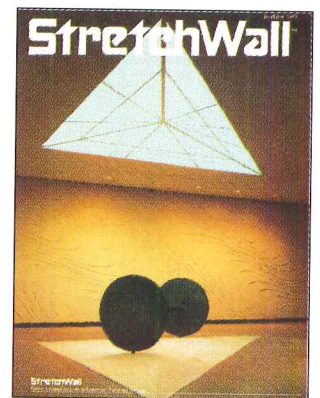


Hubbell Quality to Meet All Your Dimmer Needs...

Available in two grades - Architectural and Specification - in two styles - Slide Control and Rotary - make Hubbell dimmers the smart choice. All are UL listed with contemporary styling to enhance any incandescent or fan speed motor control application. All models feature RFI filtering to reduce interference from electrical equipment.

Hubbell Inc., Wiring Div.

Circle 548 on the PRODUCT LITERATURE SHOWCASE inquiry card.

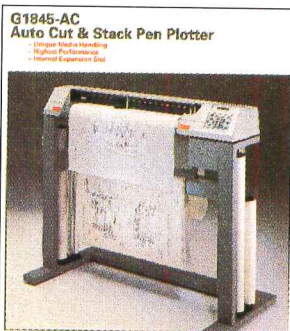


Tackless Wallcovering System:

The original concealed tackless system for installing fabric as an architectural finish. For more than 25 years, StretchWall™ systems have molded, shaped, curved, delineated, and given texture to walls and ceilings through the suppleness of fabric. MatrixPanels™, TAC™ Panels, SofTouch™, Classic StretchWall™, and SnapLoc™; all part of an extensive program perfect for any wallcovering project.

StretchWall Products, Inc.

Circle 549 on the PRODUCT LITERATURE SHOWCASE inquiry card.



G1845-AC Auto Cut & Stack Pen Plotter
- Highest Media Throughput
- Highest Performance
- Minimal Operator Size

Data Sheet Describes Cut & Stack Plotter

The Océ Graphics G1845-AC is designed for maximum operator-independence. Plotting begins with hands-off roll-feed media input, and after completing plots at pen speeds as high as 55 inches per second (ips) and pen acceleration as high as 6 g's, the machine cuts the finished plot from the roll, stacks it for easy retrieval, and begins the next plot.

Océ Graphics USA Inc.

Circle 550 on the PRODUCT LITERATURE SHOWCASE inquiry card.

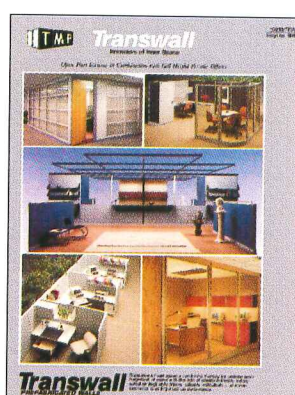


ISOLATEK. The answer to your passive fireproofing questions.

Not all passive fireproofing or thermal-acoustical needs are the same. That's why ISOLATEK is the only company that offers you a wide choice of sprayed and cementitious products. From commercial buildings to industrial complexes, retrofit to new construction, ISOLATEK has the right solution, worldwide.

Isolatek International

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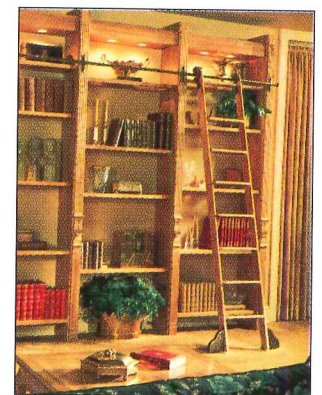


Open & Private Offices A Single Source

Transwall combines these two basic wall requirements for today's high tech office with its Sounddiver® open plan system and the full height Corporate series. The two systems offer complete interchangeability of wall mount components, as well as compatibility in design and appearance. Modular furniture blends with panel mounted work surfaces. Electrical and electronic support is system integrated.

Transwall Corporation

Circle 552 on the PRODUCT LITERATURE SHOWCASE inquiry card.



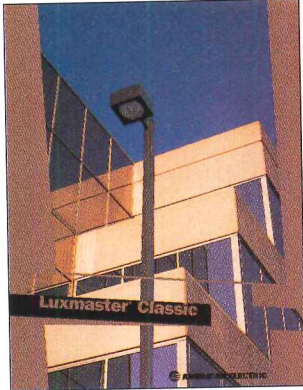
Custom Made Oak Rolling Ladders

Putnam Rolling Ladder Co. has been manufacturing rolling ladders since 1905. Great for homes, home libraries, offices, stores and lofts. Each ladder is custom made in oak, ash, maple, cherry, Honduras mahogany or birch, other woods and finishes available. Track and hardware come in four finishes including black, brass plated and chrome plated.

Putnam Rolling Ladder Co.

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PRODUCT LITERATURE SHOWCASE

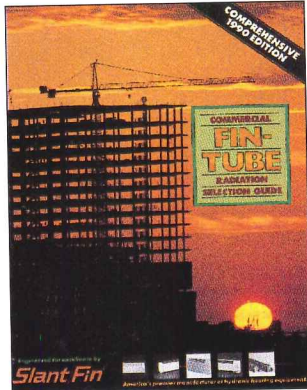


See The Difference in Design and Performance

The Luxmaster Classic provides illumination in the most efficient manner currently possible from a luminaire designed to enhance contemporary architectural styles. American Electric products have set the standard for roadway lighting for over 35 years. Now everything that we've learned has gone into the new Luxmaster Classic.

American Electric

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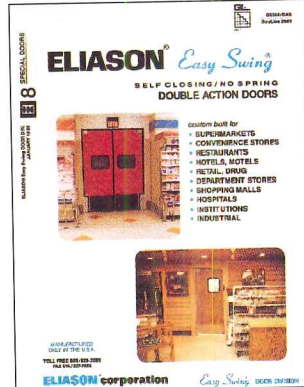


Fin-tube Radiation Selection Guide

Slant/Fin's full line of commercial fin-tube is described in this 28-page catalog. Includes slope top, flat top, pedestal mount, 2-piece "in-stock" enclosures and other models for hot water and steam heating systems. Many available with architectural aluminum grilles. Specifications, ratings and illustrations included.

Slant/Fin

Circle 555 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Eliason Easy Swing Double Action Doors

Easy Swing double action interior doors are described and illustrated in a free color, price/spec catalog. Detailed information and color photos cover the many features, decor and design options. Doors are sold direct at wholesale and a bound price catalog will be sent to all architects and spec writers.

Eliason Corporation

Circle 556 on the PRODUCT LITERATURE SHOWCASE inquiry card.

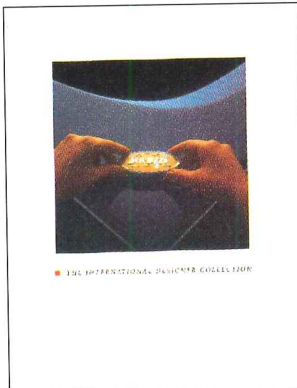


Residential Drinking Water Purifier

Drinking water is one of our most frequently discussed environmental concerns. Last year Americans reportedly spent over \$2 billion on bottled water and on drinking water improvement products. You can tap into this market with General Ecology's Seagull® IV purifier - the most comprehensively effective drinking water purifier available. IT WORKS! Made in USA. 800-441-8166; FAX 215-363-0412.

General Ecology

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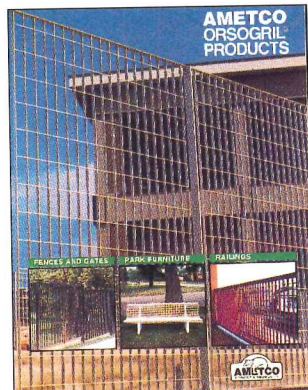


Jacuzzi Whirlpool Bath

Jacuzzi Whirlpool Bath offers a 26-page, full-color catalogue featuring the International Designer Collection of whirlpool baths. Luxurious one, two and multi-person baths are shown in bathroom settings to give you decorating ideas. A wide range of styles, sizes and colors are available.

Jacuzzi Whirlpool Bath

Circle 558 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Fencing and Gates Security with Beauty

Orsogrill® fencing, railings and gates are constructed from electro-forged welded steel. After fabrication, Orsogrill® is hot dip galvanized then finished with a powder polyester coating. It is this combination of coatings that will give you years and years of maintenance free beauty. Send today for your copy of our new full-color catalog.

Ametco Mfg. Corp.

Circle 559 on the PRODUCT LITERATURE SHOWCASE inquiry card.

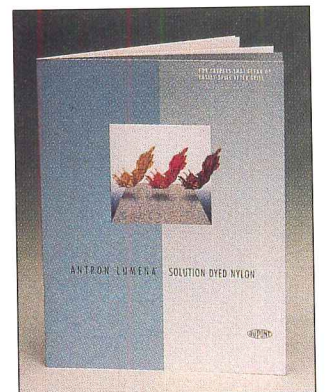


Interior Acoustical Products by Essi

This full-color brochure describes a wide range of interior acoustical products for applications from industrial plants to board rooms. Included is the entire Silentspace™ product line of wall panels, baffles, banners, ceiling panels and encapsulated masks and pads.

Essi Acoustical Products

Circle 560 on the PRODUCT LITERATURE SHOWCASE inquiry card.

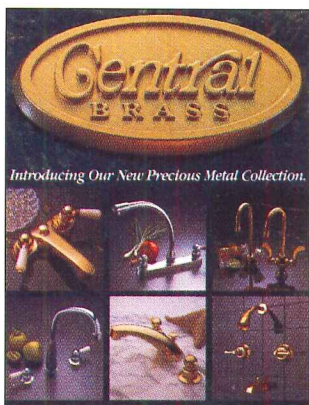


ANTRON LUMENA™, Du Pont's new solution dyed fiber

ANTRON LUMENA™ solution dyed nylon. The newest offering from Du Pont, specifically designed for environments that require frequent cleaning due to spills and stains. Provides the ultimate in cleanability plus outstanding colorfastness and wearability.

Du Pont

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Introducing Our New Precious Metal Collection

In homes where details make a difference, Central Brass makes perfect sense. Now in an exciting new collection of "Precious Metals" for the kitchen, bath and bar, you'll find precisely what you're looking for. The "Precious Metal Collection" features ceramic disk valves for unparalleled resistance to corrosion and wear. Central Brass, 2950 E. 55th St., Cleveland, OH 44127. 216-883-0220.

Central Brass Mfg. Co.

Circle 562 on the PRODUCT LITERATURE SHOWCASE inquiry card.

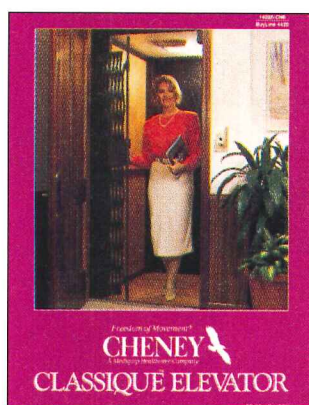


Micro Processor Based Lighting Control System

LifeTouch 2000 is an innovative, microprocessor based control system capable of switching and dimming incandescent, fluorescent, neon, cold cathode, and low-voltage loads as well as switching outlet and motor loads. Menu driven programming allows even the most "computer shy" client to easily program and reprogram his control system.

LifeTouch, Inc.

Circle 563 on the PRODUCT LITERATURE SHOWCASE inquiry card.

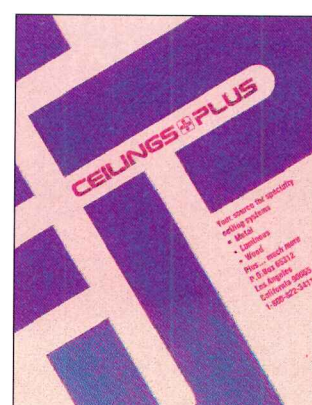


Cheney Classique™ Elegant and Affordable

Ideal convenience for homes, condos, and low rise office buildings. Takes no more space than a normal closet. Vertical travel up to 40 ft. Platform up to 12 sq. ft. Custom designed cab with optional openings and sizes. Oak paneling with Natural Oak, Pennsylvania Cherry or antique Walnut finish.

The Cheney Company

Circle 564 on the PRODUCT LITERATURE SHOWCASE inquiry card.



We Are Now The Choice... For "Feature" Ceiling Systems

A lifetime of accumulated experience in engineering metal, luminous and wood materials has made Ceilings Plus the desired choice. Also "Featured" are wood and metal wall panels with column enclosures fabricated on a project basis. Let Ceilings Plus assist you with planning on your next project.

Ceilings Plus

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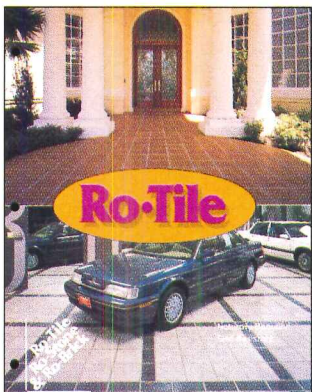


THE REPORT...the monthly newsletter for building product sales reps and distributors

News briefs and reports, building products, law, marketing, management, selling tips, news of companies and people, employment listings, new lines available, and sales leads on major construction projects... everything the successful rep or distributor needs to know...from McGraw-Hill. \$69/year (12 issues). Call 212-512-3442.

The Report

Circle 566 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Slip Resistant Ro-Tile is Naturally Beautiful

Ro-Tile is a cement-bodied tile that combines beauty and durability in a low maintenance floorcovering. This 12-page full color catalog contains design ideas and technical data, together with available colors, sizes and shapes. Ro-Tile is ideal for both residential and commercial projects, new construction or remodeling.

Ro-Tile, Inc.

Circle 567 on the PRODUCT LITERATURE SHOWCASE inquiry card.

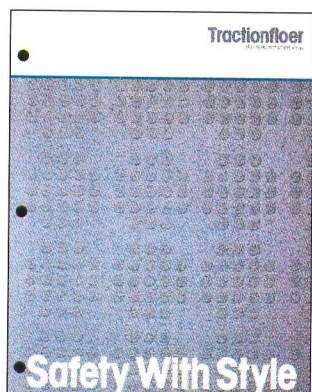


Create a Masterpiece Everytime with KPT Tile

KPT's 1991 Sweet's catalog presents four unique series of ceramic tile. From the new Davinci Series, a marble look tile, to the versatile Traditions and Heritage Series, you will see tile selections in the colors and sizes you want. And, KPT ceramic tile is known for its exceptional quality, so you know it is eminently suitable for commercial and residential applications. Send for product information.

KPT USA Mastering the art of tile

Circle 568 on the PRODUCT LITERATURE SHOWCASE inquiry card.



Tractionfloor Slip-Resistant Vinyl

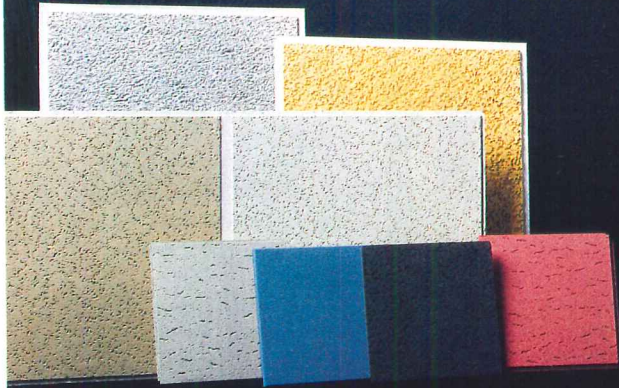
When safety underfoot is desired, Tractionfloor delivers. 16 UV-safe colors, smooth or studded. Chemical/heat resistant (up to 572°F.). Dimensionally stable. Easy to maintain. Heat welds and flash coves for watertight installation. For Forbo's collection of Linoleum and Vinyl floor coverings call (800) 233-0475 or fax (804) 346-2015.

Forbo Floor Coverings

Circle 569 on the PRODUCT LITERATURE SHOWCASE inquiry card.

RESURFACE & RESTORE ACOUSTICAL CEILINGS

with **Coustic-Coat®**
from **Coustic-Glo®**



Coustic-Coat® is a cosmetic, acoustical, non-bridging, resurfacing material—not a paint. It's available in any color and has been certified as an effective flame and smoke retardant coating.*

Call 1-800-333-8523 For the Office Nearest You.
WE MAKE YOUR CEILINGS LIKE NEW AGAIN.

*Flame & Smoke test data available upon request.

Circle 92 on inquiry card

this publication is available in microform



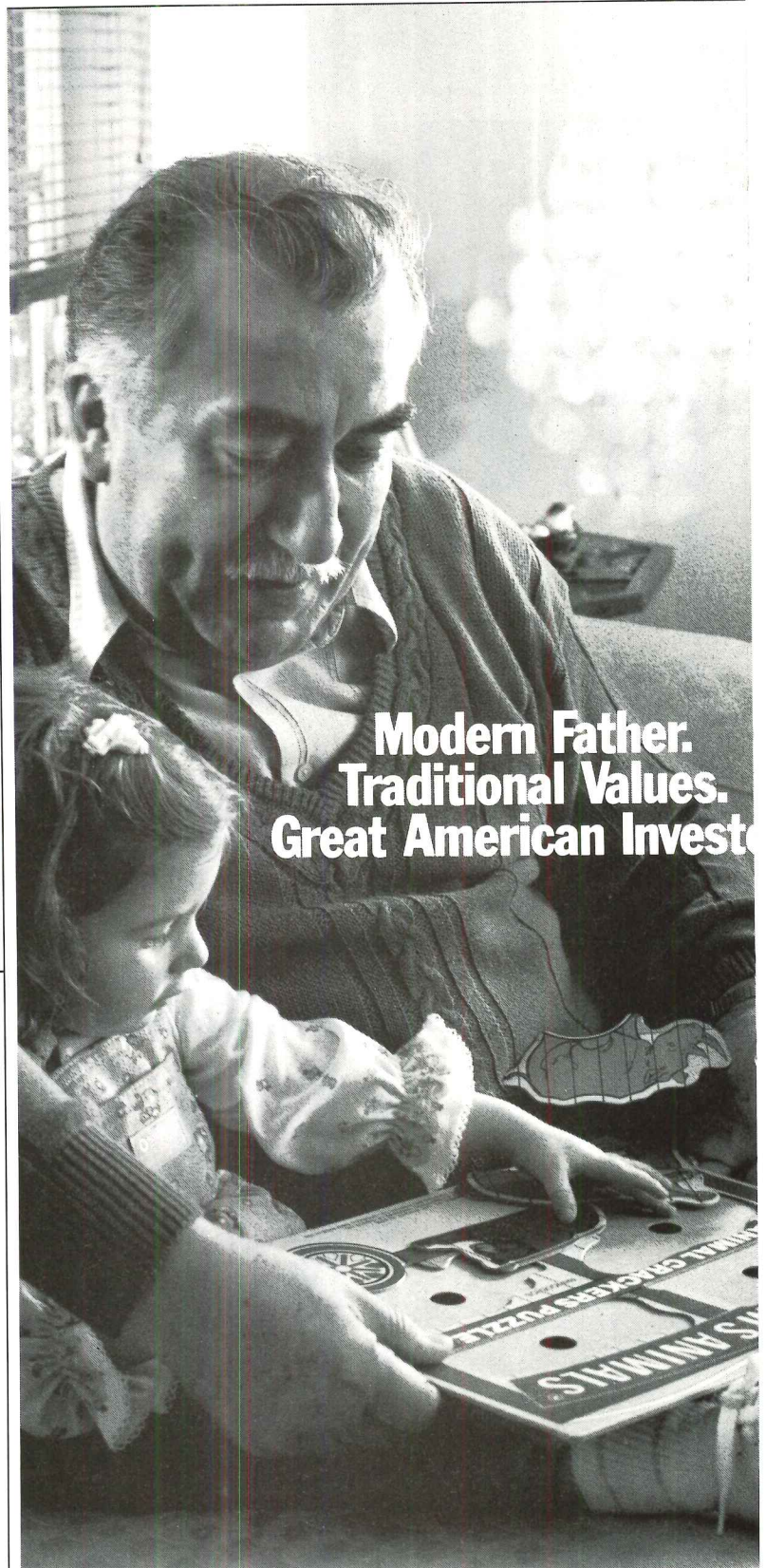
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Modern Father. Traditional Values. Great American Invest

Accountant Rene Oliver works out of his home so he can be there while his daughter Windy is young. And he buys her U.S. Savings Bonds when she grows up. "As an accountant I know that Bonds are the best to save for Windy's college," he says. Today's Bonds pay competitive rates, and now can be completely tax free when used for higher education. To find out more about the Great American Investment, call 1-800-US-BONDS.

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THE GREAT AMERICAN INVESTMENT
A public service of this publication



Scalamandré

BASICS 1

A coordinated collection of wool and wool-blend fabrics that work brilliantly in every contract setting.

Circle 93 on inquiry card



**Just \$39.50,
it holds everything
but board meetings!**

Honestly, our Original Lands' End Attache has a capacity for paper work even workaholics can't exhaust.

Made of sturdy, yet flexible cotton canvas, this is the thinking manager's attache—with interior pockets that hold all the makings of a working plane trip, or a night at your desk at home.

Consider, an interior space that's 17 $\frac{3}{8}$ by 13 $\frac{3}{4}$ by 3 $\frac{3}{4}$ "—and you can see yourself stuffing it with more than it was ever meant to hold. It can take it, and it will. **GUARANTEED. PERIOD.***

So, take a moment right now to fill in the coupon. Or, order by phone. The toll-free number is **1-800-356-4444**, and an order in today is on its way to you tomorrow. While you're at it, have us send you our latest catalog. You'll find it crammed with Lands' End values in clothing, shoes, accessories, and other soft luggage—because neither man nor woman can manage to live on work alone! You deserve to look good doing it, too!

LANDS' END
DIRECT MERCHANTS

Please send free catalog.

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Dodgeville, WI 53595

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State _____ Zip _____

Please send information about your new international service.

Write or call toll-free:

1-800-356-4444

Circle 94 on inquiry card

NOUVEL HOTEL . .

Continued from page 207

guests who returned could experience different aspects of the hotel.

One of the four buildings, for instance, is quite small, with only one room per floor. The guest has windows on all four sides of the rooms around the bed. In the bed a meter high, the guest is seemingly at the prow of a ship. The rooms vary in size from 25 square meters to 70 square meters. This was partly due to Amat's suggestion, as he wanted a wide variety of rooms, some more modestly priced than others. Other rooms are enormous, and the bed is a kind of big stage, with white linen. These are the rooms that some unkind people called "hospital-like."

BI: I notice that the bathrooms aren't closed off from the rest of the room.

JN: In one of the room types, the bathtub is parallel to the bed, which is good for conversation. The bathroom plays its part within the room. Of course, the toilets are separated and closed, not a part of the bathroom as they are in American hotels. I cannot tolerate that. But the tub being close to the bed is good for communication. I designed open bathrooms for the sake of pleasure.

BI: Did any architect's work in particular inspire your design for the hotel and restaurant?

JN: We can be inspired by work, even if our design does not particularly resemble it. I have eclectic tastes, but my absolute favorite is Pierre Chareau, the French architect who designed a glass house in Paris in the 1930s. He was the greatest French architect, in my opinion. He did a house for the painter Robert Motherwell that was recently demolished. We tried to get the French Cultural Minister Jack Lang to buy the Chareau house and transport it to France in order to save it. After all, Americans buy other countries' houses and do the same thing. But our plan was not accepted. For me, Chareau's Glass House is much more important than Le Corbusier's Villa Savoie. Chareau was first and foremost an interior designer. He designed everything from armchairs to bookshelves. His was the exemplary modern style of the 1930s. □

*Hôtel Saint James
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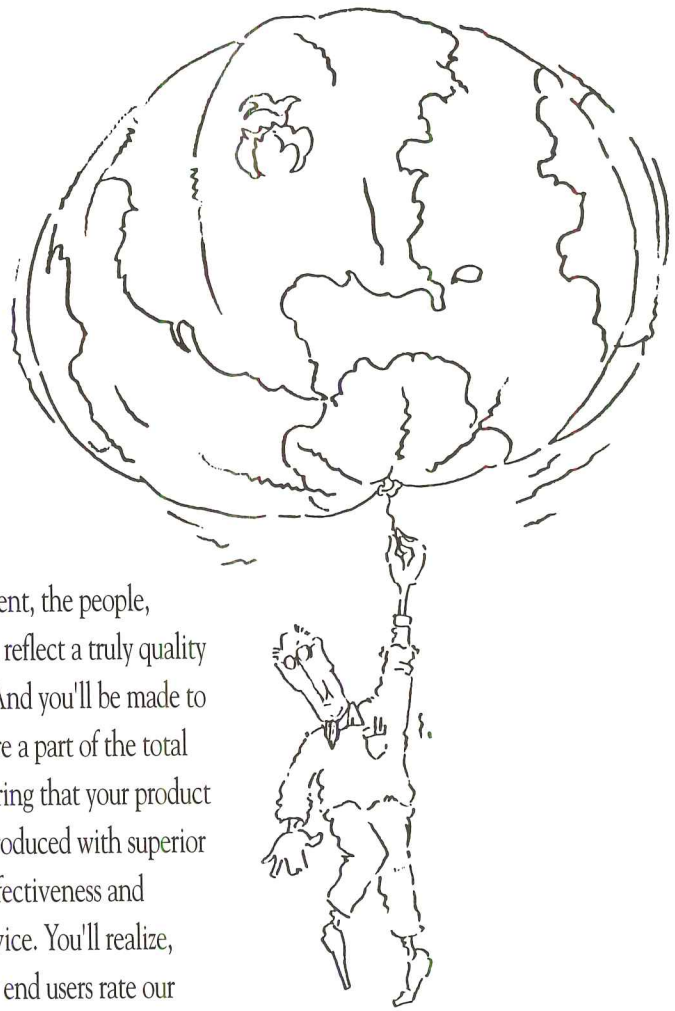
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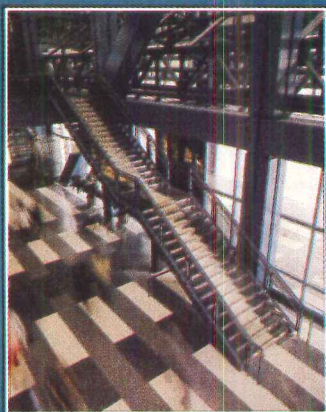
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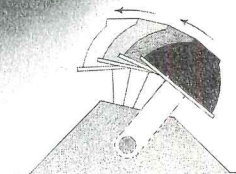
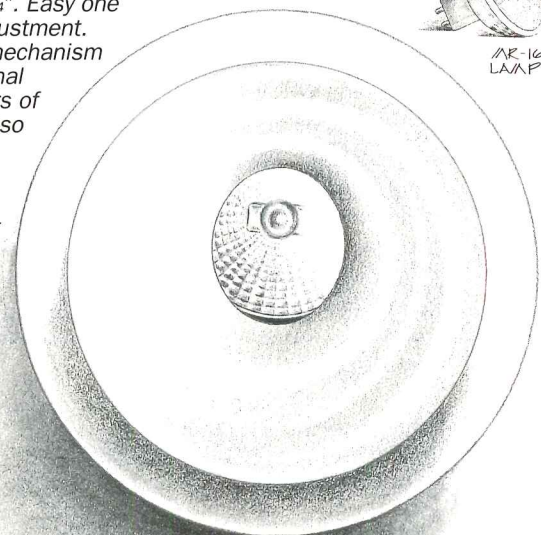
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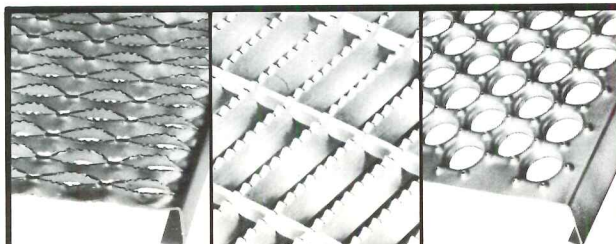
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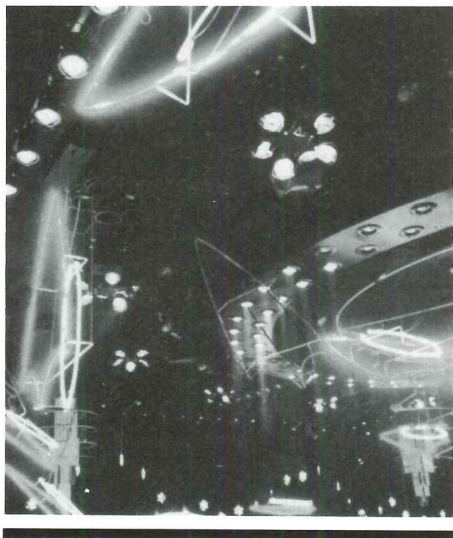
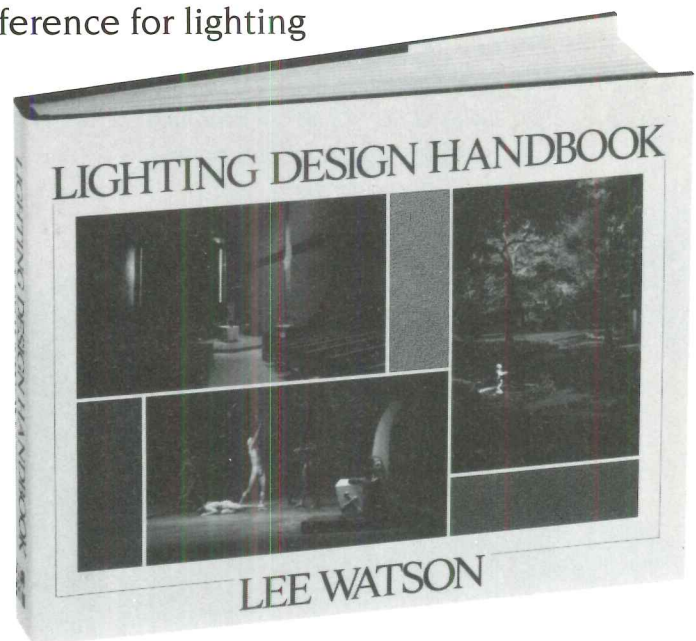
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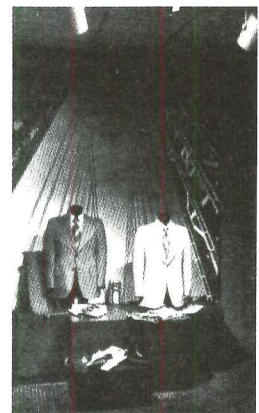
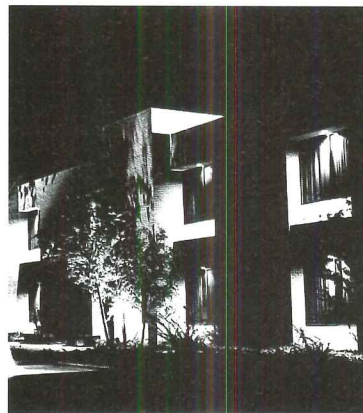
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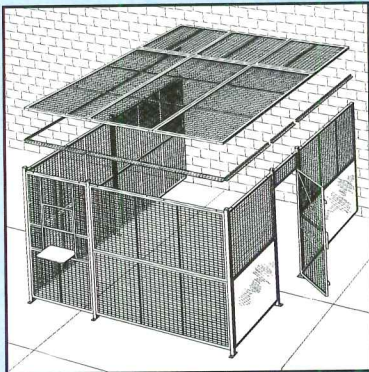
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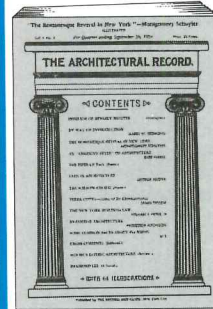
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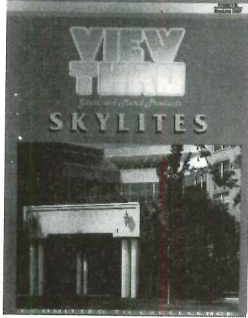
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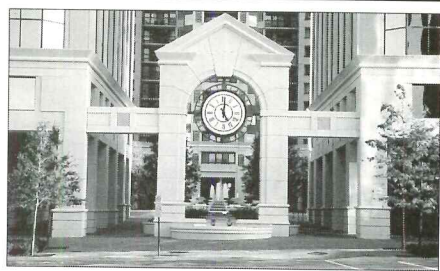
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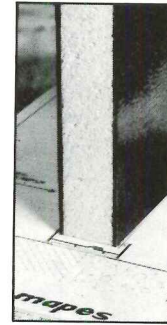
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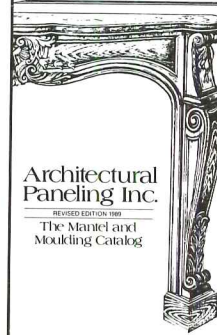
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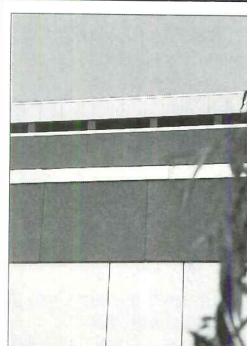
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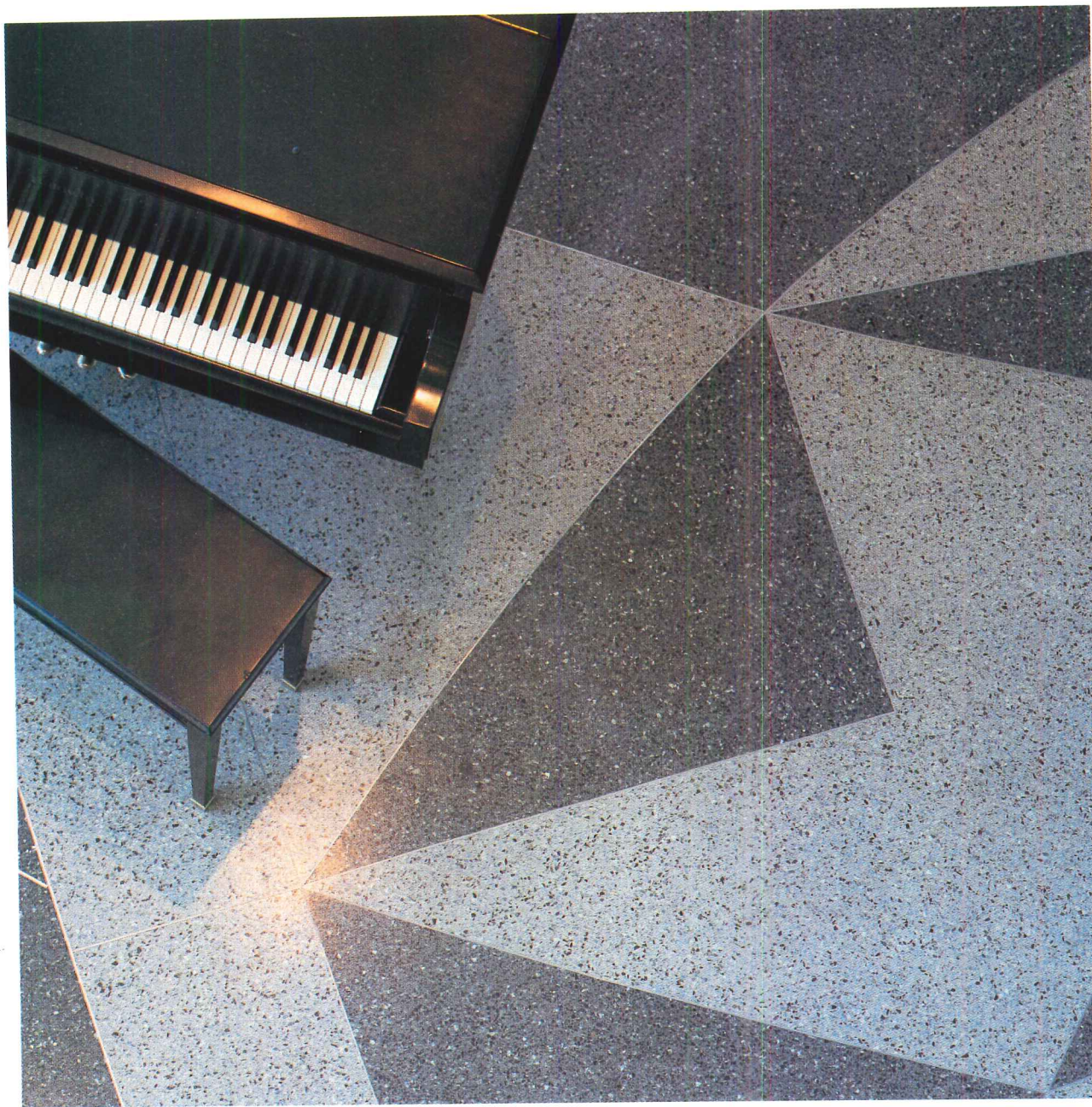
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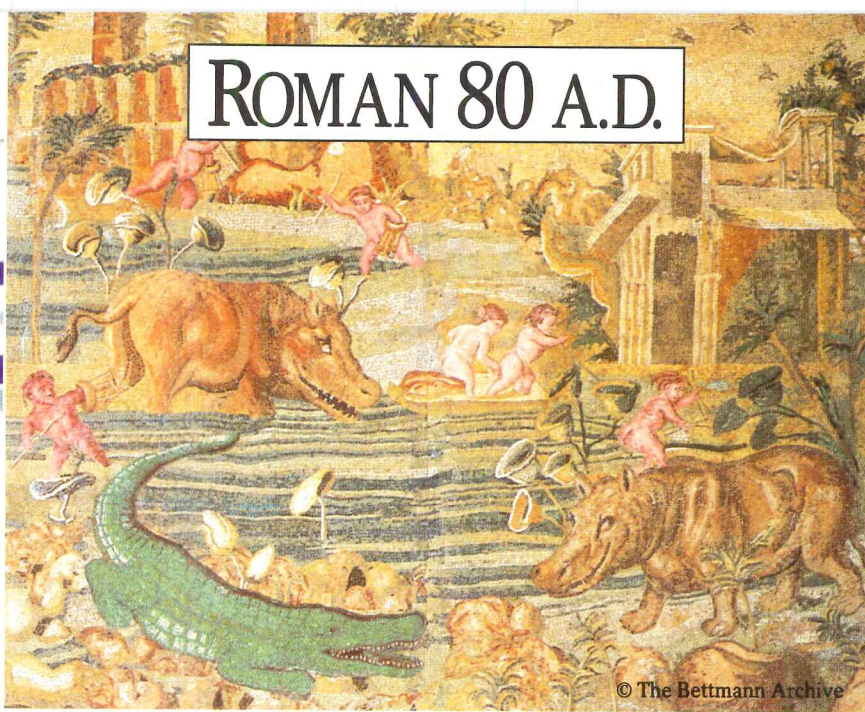
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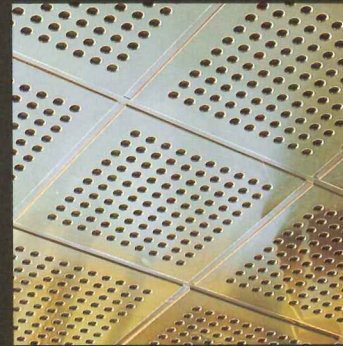
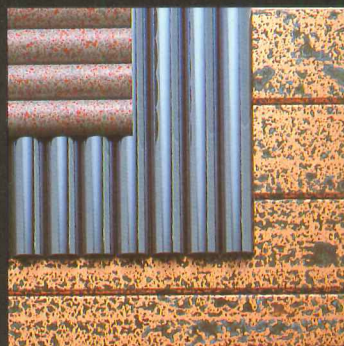


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