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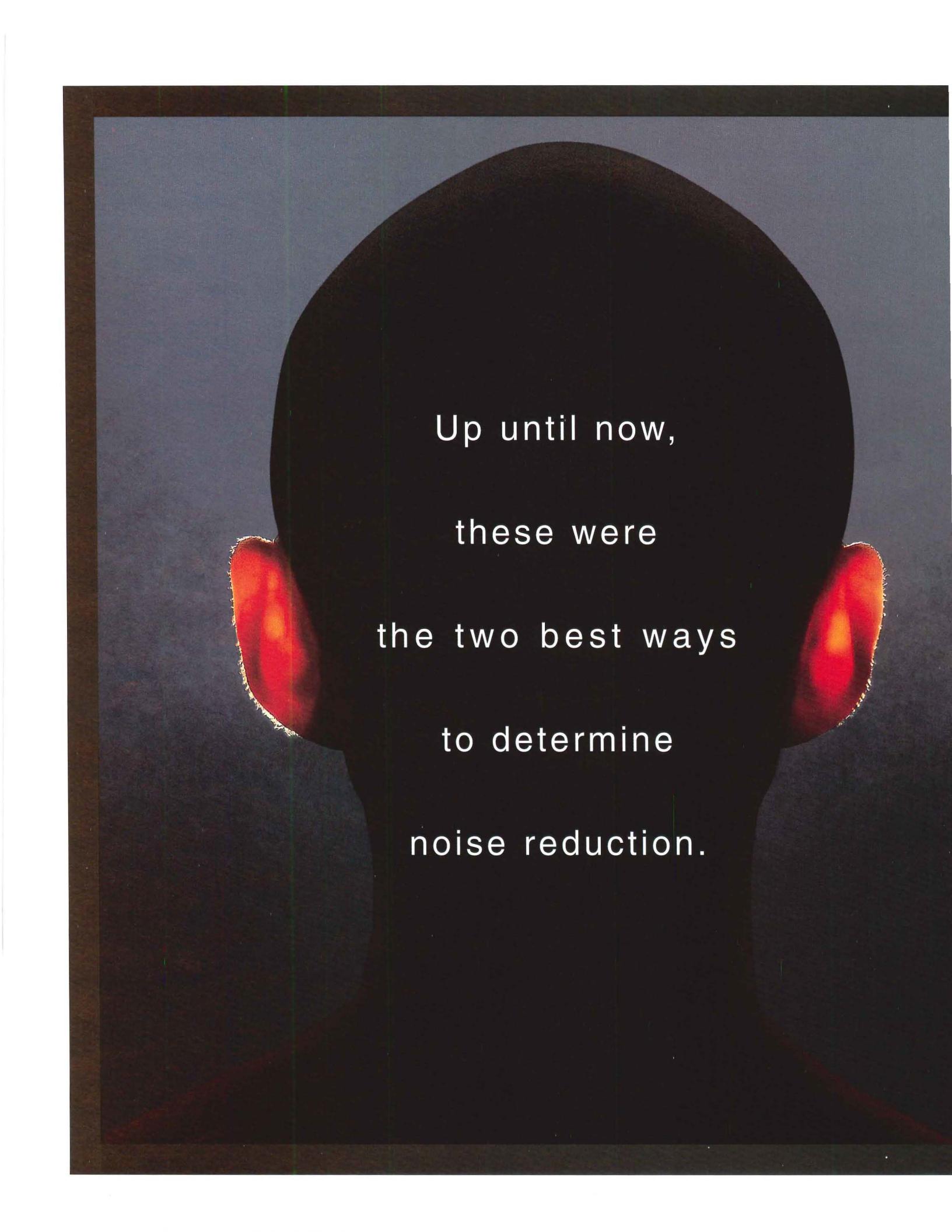
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NEW VINTAGE

Herzog & De Meuron's
American Debut

Why MoMA Matters: A Debate
Moneo in Stockholm



Up until now,
these were
the two best ways
to determine
noise reduction.

Last month's annual meeting of the American Institute of Architects (AIA) was the biggest in years, with over 16,000 attendees according to AIA estimates. Perhaps it was the free admission. Perhaps it was the location: Who can resist San Francisco in the spring? Perhaps it was the robust state of the architectural economy.

I suspect continuing education had much to do with it. The Institute is in a bind of its own making: AIA has given current members until the end of 1998 to amass 72 Learning Units (LUs) in its Continuing Education System (CES) or face suspension of membership. This deadline includes a one-year grace period for architects to complete the annual 36-LU requirement for

Members can amass LUs simply by reading magazine articles and then completing a quiz, for which the answers are provided on the back of the test form. "I get my secretary to fill them out for me each month," one architect told me recently. More LUs await the dedicated scholars who master the advertorial, an industry-written advertisement that masquerades as educational material (and carries the AIA seal of approval). Canny architects can have this cake and eat it too—literally—by attending lunch seminars on new products, then putting in for CES credits.

This is not to say that staying abreast of new product information isn't important. It is. So is reading professional journals. The issues here are credibility and consistency: It's the rare advertisement that can qualify as purely educational, and legitimate tests do not come with the answers

Educational Conventions

Continuing education must be improved if architects are to embrace it.

1997. Without the extension, mass suspensions surely would have followed. AIA endorses continuing education; it isn't ready to fall on a sword for it.

The jury's still out on member compliance, but anecdotal evidence suggests another extension may be necessary: As of this March, nearly one-third of the membership had yet to complete its 1997 requirements, let alone the 1998 LUs. If the AIA were to enforce its deadlines and actually begin suspending people next year, any significant reduction in their membership would be financially—to say nothing of politically—crippling.

The program is unpopular. Some architects reject the notion of continuing education altogether. Others feel it is not the place of their professional organization to enforce it. Still others fret that CES is just another scheme to soak them for money.

Certainly there are problems with AIA's continuing education efforts, the most evident of which revolve around the quality of "instruction." Nearly anyone can be designated an "official" continuing education provider, subject to cursory review.

printed on the back. Education must challenge, and it must be impartial.

AIA's continuing education efforts need work. But at least they are a step in the right direction. Equally important is the Institute's recent hiring of Janet White to head up their education programs. White's 20 years of experience in private practice and achievements in education, including running an architecture school and serving on the board of the National Council of Architectural Registration Boards (NCARB), give her the credibility to dish out the medicine to the rank and file.

The real problem is getting them to swallow it. So far, the Institute has failed to convince its members that continuing education is not simply a requirement, but the right thing to do: Architects, like doctors, must stay well informed if they want to take responsibility for other people's lives. Like practice and licensure, continuing education is an important part of that process. AIA and other education providers must make their offerings challenging and credible if they are ever to be compelling.

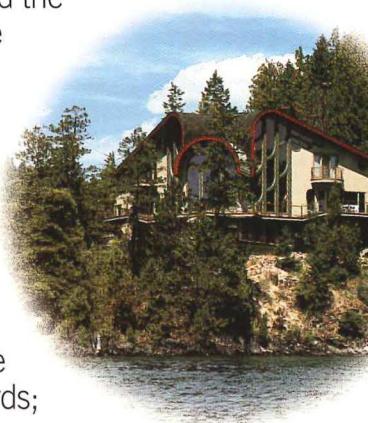
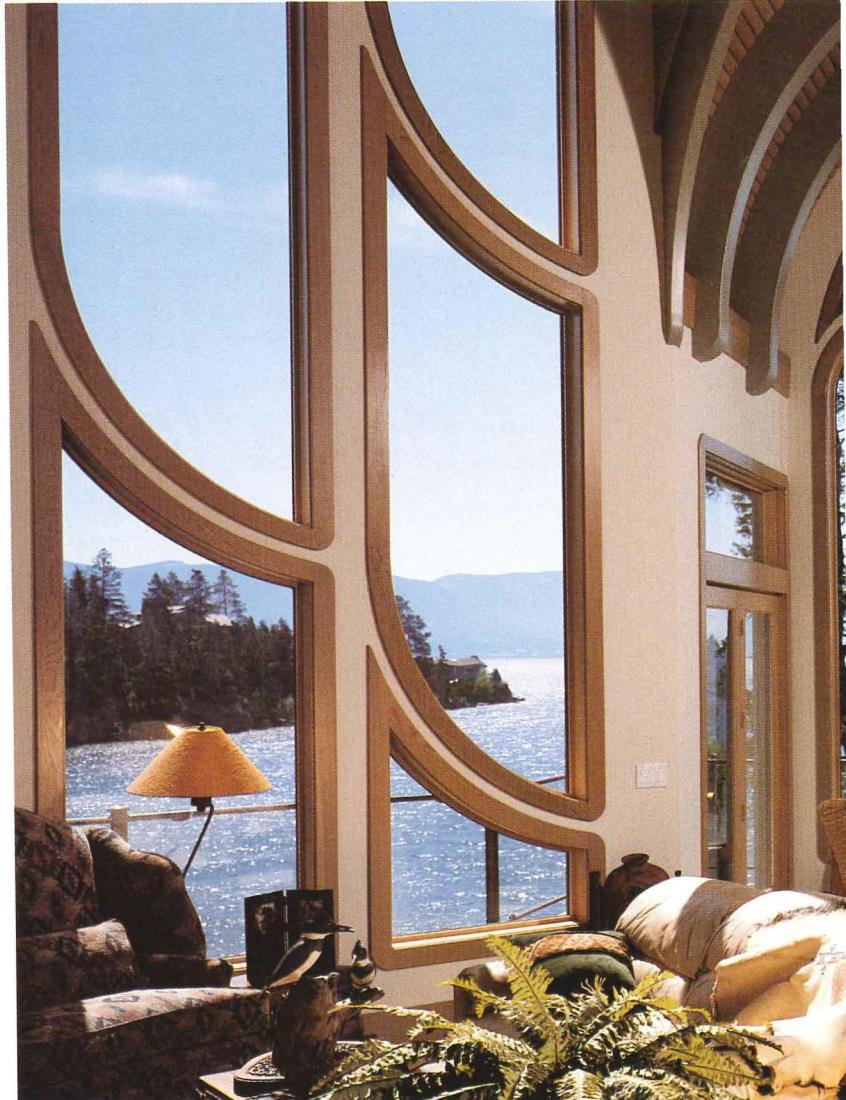
Reed Kroloff

AND TO THINK OTHER WINDOW MANUFACTURERS SAID I

Architect Richard Smith grew up in Montana's Flathead River valley, exploring its forests, paddling its lakes and streams and marveling at the abundance and variety of its wildlife. So when he was asked to design a home perched above the waters of Flathead Lake, his inspiration was the majestic bird that makes its home in the same idyllic setting: the osprey.

Since the windows would be the key element in creating the look of a bird in flight, Richard spoke with all of the top manufacturers. More than one claimed they were impossible to build. Others were eliminated from consideration because their solutions compromised the design. Still others, because they couldn't provide the low maintenance finish the owner requested. Only one company rose to the challenge. Marvin Windows & Doors.

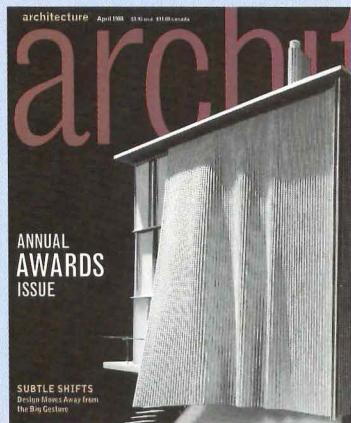
True to Richard's vision, yet mindful of builder Len Ford's timetable, Marvin's architectural department began designing the windows and creating the necessary production specifications. But a change in plans became necessary when the owner brought up his concerns about the frequent high winds coming off the lake. So Richard designed a special steel framework for the window openings and Marvin produced 24 direct glazed units with custom radii. Clad in the company's exclusive extruded aluminum, the windows conform to A.A.M.A. 605.2-92 standards;



Keep it up!

I just finished reading your April issue—superb format, beautiful design, attractive layout, smart color choices, and yes, intelligent articles. Keep up the excellence!
Rafael E. Pizarro

*University of Southern California
 Los Angeles*



Alleged illegibility

Your April editorial (page 11) declares that you have "launched a bold design [with] graphics that say design ... directed at intelligent readers." But in "Problem Solved?" (*Architecture*, April 1998, pages 106-108), key paragraphs are printed in blue on a dark gray background, making them totally illegible. Typically, your designers use whole pages of reversed-out text (white on black), which is extremely difficult to read. The goal seems to be to grab attention rather than convey information. The judges who gave *Architecture* design awards may have looked at the magazine, but they certainly didn't try to read it.

*Henrik Bull
 BSA Architects
 San Francisco*

Stylish magazine design is fine, unless it renders parts of an article illegible. On page 106 of your April 1998 issue, parts of two paragraphs were "highlighted" in a way that made it impossible for my 59-year-old eyes to make them out. Too bad, too, because presumably they were the key thoughts on the page.

Please remind your art directors that no matter how clever, elegant, or beautiful a page is, if your readers can't make it out, it is a failure!

*Allen C. Hill
 Winchester, Massachusetts*

Editor's note: Point taken. Unfortunately, the vagaries of the printing process distorted the contrast between the gray background and the cyan text.

Post-awards show

Taking this year's Annual Awards as pace-setters in architecture would establish wasteful and questionable design standards, which we can hardly expect the public to put up with, let alone finance.

Doing everything different, avoiding the tried-and-true, becomes an act of desperation in asserting their individuality. In this sense, their questionable artistic experiments are a profound compliment to previous generations. The desperation to be different may now lead young professionals to try mere competence.

*Peter Keleti
 Kansas City, Missouri*

I always appreciate statistics. In unbiased hands, they can illuminate a particular subject. In reading the introduction to April's Progressive Architecture Awards (pages 61-93), I came across some juicy numbers: Five awards and four citations were awarded from 400 submissions. That is rather impressive. Only one out of 80 entries received an award—a select group from an anonymous pool of possibilities.

Being a statistics sleuth, I examined the jurors and the winners for any possible statistical connection. Here's what I found: Of the five jurors, four have taught at Harvard University's Graduate School of Design (GSD). One of the jurors (Sheila Kennedy) and two of the award winners (Office dA Principal Monica Ponce De Leon and Preston Scott Cohen) currently teach full-time at the GSD.

Again, statistics are just unbiased tools. Conclusions deduced from them, however, can be full of bias. In the context of a progressive awards program, it's nice to see some things remain the same: The old boys' network (girls are now included) is as strong as ever. You scratch my back; I'll scratch yours.

*Robert Rosamilla
 Miami*

I seldom read editorials in architectural magazines, but recent events led me to read yours as the word "new" was in the subhead twice. I was encouraged by what you said

and turned to the issue to be impressed and surprised. Surprise! It's the same old P/A—same old melange of useless awards for unbuilt work—not interesting.

I subscribe to see what my peers are doing. We are blessed with some superb photographers who can show their work in all their glory, and my money will go to those magazines who publish them. I've even recently subscribed to *Architectural Digest*! At least when they do a contemporary house, the pictures are full-page, well done, and illuminating. I can leaf quickly past the plaid wallpaper houses.

*William Simpson
 wsimpson@dnai.com*

Office dA's Zahedi House (*Architecture*, April 1998, pages 66-69) purports to be about tectonic skins and the poetic essence of material in architecture. Instead, I find it to be a project consumed with itself—a contrived conglomeration of material intensely wishing it was not architecture. It merely proves that we can, if we desire, make a wall of corrugated copper appear as if it were a drape. Worse yet, this drape is attached to something resembling a bad aquarium addition found in most American cities.

I know that everyone is entitled to their opinion, but the jury's statements about this project confirm that they were cognizant of this project's preoccupation with image. Does this project embody the progressive personality of *Architecture*? Truly progressive architecture is concerned with the behavior of a building and its parts. Please promote progressive architecture, not progressive representation.

*Robert Benson
 Chicago*

Steamrolling

The phenomenon described by Aaron Betsky in "Form + Deformation" (*Architecture*, April 1998, pages 62-63) has a significant 200-year-old precedent in music. Betsky writes: "[The winners'] architecture is no longer dedicated to finding new shapes, but about registering, making us aware of, or exploring what already exists."

That's exactly what took place in the mid-1700s when Mannheim, Germany, became a major musical center. Averse to inventing new forms, composers instead took to reviving up existing forms. The

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Mannheimers, as they were called, employed, in the words of musicologist Alfred Einstein, "a wealth of tone-gradients between extremes of *fortissimo* and *pianissimo* [plus] abrupt dynamic contrasts ... which they exploited to the point of abuse and deliberate disregard of the natural accent of music."

This stylistic device was known as the Mannheim steamroller, and has been adopted today by a Nebraska-based group of the same name with a wide and devoted international following.

*Stephen A. Kliment
New York City*

Buying ethics

The annual tuition for Archeworks, the "ethics-minded" Chicago School founded by Stanley Tigerman and Eva Maddox (*Architecture*, April 1998, pages 53-57), is an unbelievably small price to pay for the education that its students seem to be receiving. Speaking of several recent graduates, Tigerman notes, "They hoped to learn about ethical behavior when they came in [to the program], and they sure knew it when they got out of here." Finally, someone has found the answer to that pesky dilemma we encountered on our way out of the Garden of Eden. And it only costs \$5,000.

*Joseph Chronister
Chicago*

Spirit of St. Louis

I was disturbed by Bradford McKee's fatalistic pseudo-tome "St. Louis Blues" (*Architecture*, April 1998, pages 35-41). He would have packs of mad dogs roaming the derelict avenues, the populace wailing and rubbing ash on their faces, and spectral elitists formulating civic policy with malevolent disregard. This is a stark and unwarranted take on the very real inner-city challenges faced by many mature American cities.

St. Louisans at every social and administrative echelon are quite aware of the ethnic disparity and urban degradation that scars the city. However, they are also encouraged by the efforts large and small to renew the city fabric, celebrate its charm and history, and profit from the diversity that flavors its civic character.

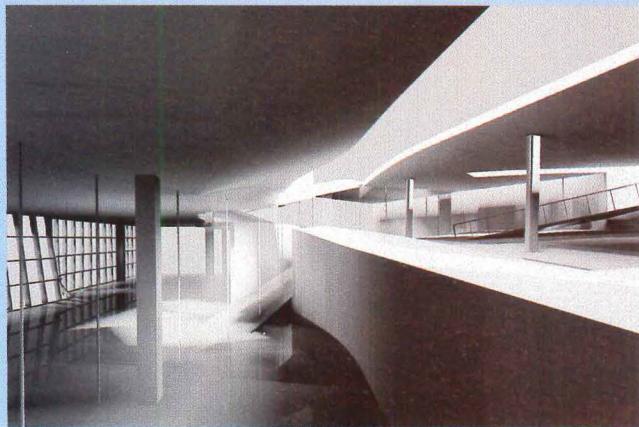
*Steven E. Beebe
Michael F. Twichell Inc.
Dallas*

CORRECTION

Michael Samra created the computer rendering of the interior of Preston Scott Cohen's House on a Terminal Line (right) on page 76 of the April 1998 issue.

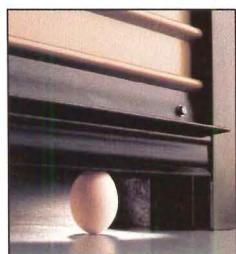
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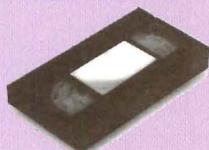
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exhibitions

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Boston	through August 31	Art by Architects at the Boston Society of Architects	(617) 951-1433
New York	through August 29	The Inflatable Moment: Pneumatics and Protest in '68 at The Architectural League of New York	(212) 753-1722
San Francisco	July 17-October 20	Do Normal: Recent Dutch Design at the San Francisco Museum of Modern Art	(415) 357-4000
Washington, D.C.	through July 5	Architecture in Perspective 12 at the Octagon	(202) 638-3221
	through January 3, 1999	Building Culture Downtown: New Ways of Revitalizing the American City at the National Building Museum	(202) 272-2448

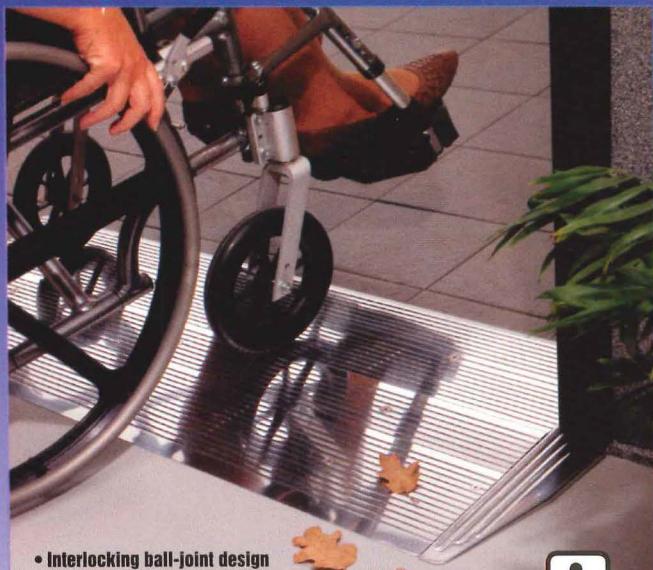


Austrian designer Johanna Nalbach in inflatable armchair she created with husband Gernot in 1967.

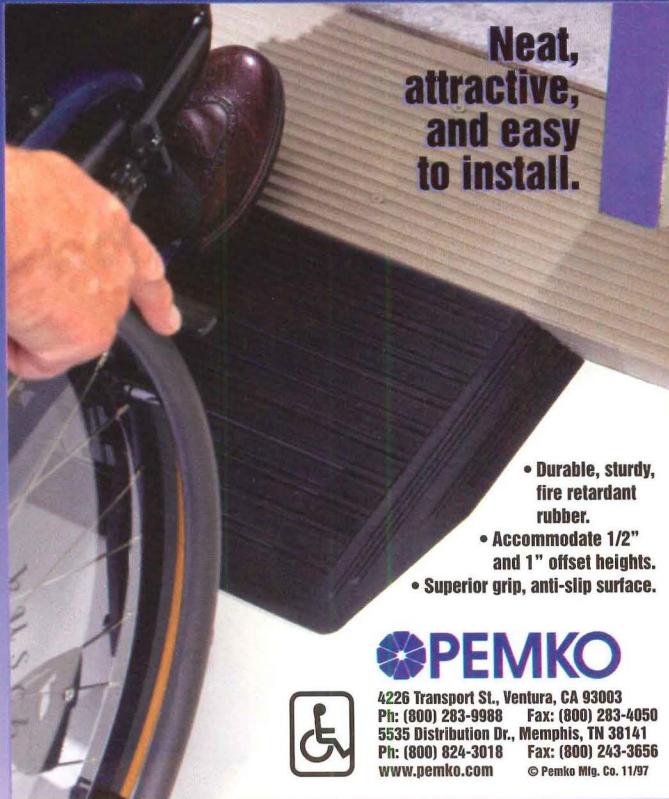
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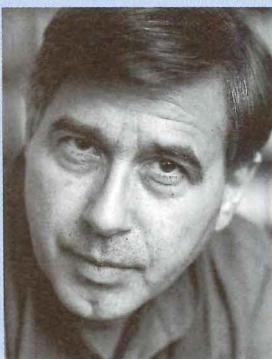
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conferences

city	dates	conference	contact
Baltimore	June 25-28	Construction Specifications Institute Convention and Exhibit	(800) 689-2900, ext. 4772
Boston	June 15-17	Entrepreneurship, Innovation, and Design Conference, sponsored by the Corporate Design Foundation	(617) 350-7097
Havana and Miami	July 20-August 2	Borders/Las Fronteras: An International Summer School, organized by the College of Architecture at Texas Tech University	(806) 742-2855 fax
Philadelphia	June 21-23	The Building Owners and Managers Association International Convention	(202) 326-6331
Washington, D.C.	June 25	Do It Yourself: Home Improvement in 20th Century America Panel Discussion at the National Building Museum	(202) 272-2448



New York City architect Bernard Tschumi will deliver keynote address at Borders/Las Fronteras.

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competitions

competition

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deadline

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(registration)

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Johannesburg, South Africa, Constitutional Court Competition

August 25
(registration)

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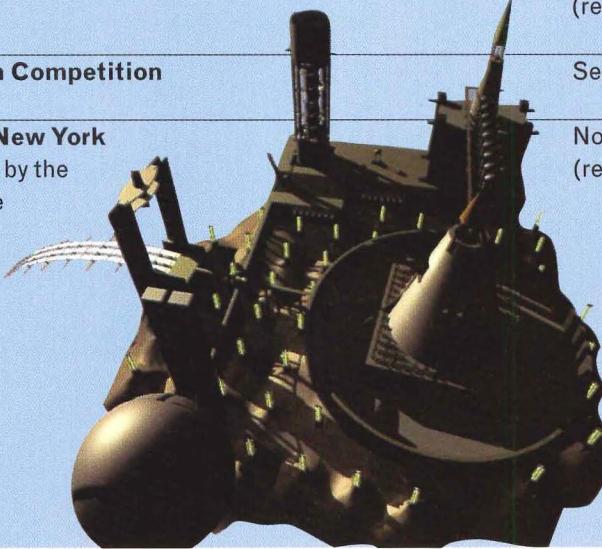
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WORLD WAR II MEMORIAL UNVEILED—AGAIN

The last bitter battle of World War II took a new turn in May. Architect Friedrich St. Florian arrived in Washington, D.C., to unveil his radically overhauled design of the World War II Memorial on the National Mall, nearly a year after his original competition-winning scheme was shot down by two eminent design-review bodies.

St. Florian, based in Providence, Rhode Island, won the secretive competition to design the memorial in late 1996. When the design was first shown to the public in January 1997, it drew immediate opposition for its heavy-handed profile on the 7.4-acre site that surrounds the reflecting pool between the Lincoln Memorial and the Washington Monument (*Architecture*, March 1997, pages 62-63). The design called for a pair of 50-foot-high earthen berms framing the Mall's monumental east-west axis, each fronted by an overscaled colonnade. The berms were supposed to house exhibits, but opponents argued that a museum had no place in the middle of the Mall—that, more-

over, nothing should be built on its sacrosanct open space.

St. Florian seems to have taken the criticism of his opponents to heart: The new solution removes nearly all of the troublesome elements of the first design. The new scheme calls for a subtly terraced, oval-shaped plaza straddling the main east-west axis with the small Rainbow Pool at its center. "We wanted not an object, but a room," St. Florian explained just before the unveiling.

The plaza would be marked on the north and south by two ceremonial stone arches standing 36 feet high. These would be raised on podiums above the plaza, with curving ramps and walls extending out to either side. The walls would be topped by simple fencing representing shield patterns. Another wall, approximately 6 feet high, would line the plaza's perimeter to the west and frame the Lincoln Memorial through a carved-out center. Most significantly, the new scheme preserves the allées of large—although sickly—elm trees on the north and south

sides of the site that would have been removed in the original scheme.

St. Florian was scheduled to reintroduce his design to the Commission of Fine Arts and the National Capital Planning Commission late this spring. He and his client, the American Battle Monuments Commission (ABMC), are likely to prevail on their second try, which keeps little of the overblown allegory of the first proposal. The huge reductions to St. Florian's design provide a convincing answer to his critics.

But there remains the problem of building anything on the hallowed site, which was given by an act of Congress to the ABMC in 1995. "There will be people who sincerely feel the Mall should be left as it is," concedes F. Haydn Williams, the ABMC commissioner in charge of the project. "But it's a barren, neglected place." In other words, the memorial's principals intend to build there, like it or not, which is a political problem bigger than St. Florian or any design he may propose. *Bradford McKee*

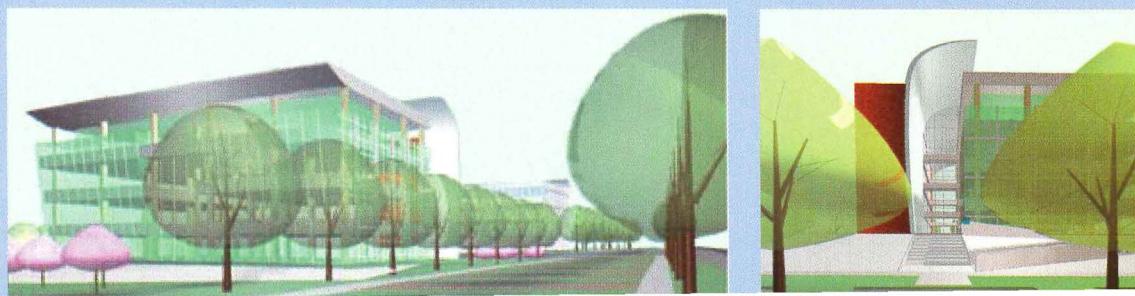
FEDERAL BUILDING REVITALIZES OKLAHOMA CITY

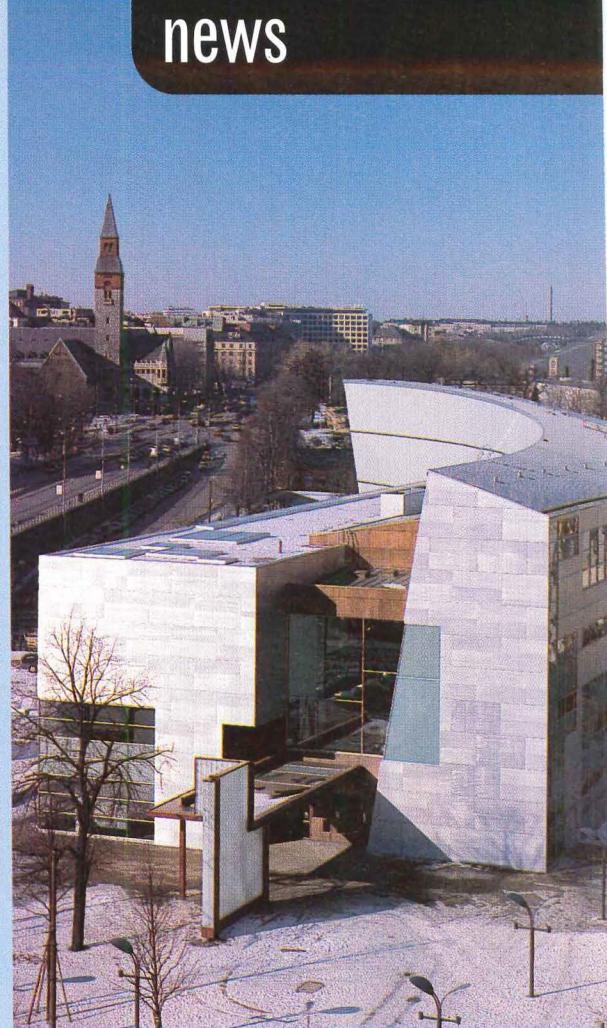
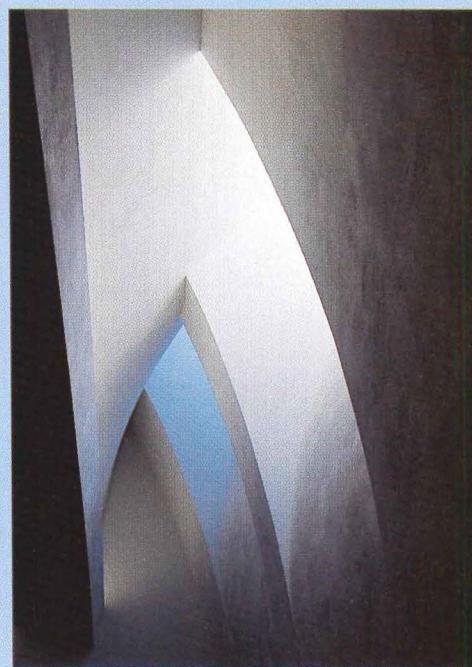
Oklahoma City is banking on a new federal office building to restore the struggling inner-city neighborhood brought to its knees by the April 19, 1995, bombing of the Alfred P. Murrah Federal Building. To attain this goal, architect Ross Barney + Jankowski takes some surprising steps with its newly released design. The building breaks ground next year on three blocks catercorner from the Murrah site, which is now being developed into a memorial (*Architecture*, August 1998, page 27).

Rather than proposing traditional urban buildings that would reinforce the street edge, the Chicago-based firm designed one building for each of the three blocks, set back 100 feet from the road. "Some people have called our solution 'suburban,'" explains Principal Carol Ross Barney. "But there were only 185,000 square feet of program, which we had to spread across three blocks. The Murrah Building was on half a block."

To compensate for this isolated siting, Barney located most employee parking in the street and routed pedestrians along the edge of the blocks.

All three buildings feature a full-height atrium separating a masonry-clad service block on the north from glazed offices on the south. To promote a sense of community within the complex, which will house 600 employees from as many as 12 agencies, Barney created a "secret handshake"—secondary atriums aligned to create an axis through the buildings. Each of the four-story buildings sits on a wedge-shaped plinth, eliminating the need for security bollards and reconciling a 24-foot grade change across the site. The building is scheduled to open in 2001. *Ned Cramer*





HOLL'S KIASMA COMES TO LIGHT

Five years after Finland broke precedent and awarded a major public commission in its capital to a non-Finnish architect, the Museum of Contemporary Art, designed by New York City's Steven Holl Architects (*Architecture*, January 1998, pages 76-81), opened in Helsinki on May 29.

From Holl's first take on the awkward site (wedged between one of Helsinki's principal squares and Töölö Bay) as a crossroads of culture and nature came the notion of *chiasma*, a Greek word that suggests "intertwining." The term defined the selection committee's expectations so well that the moniker stuck. With transliteration, the museum was officially dubbed Kiasma.

Despite its philosophical name, Kiasma had all the makings of an architectural—as well as foreign relations—disaster. The project's Helsinki-based associate architect Juhani Pallasmaa described Kiasma as "probably the most controversial building in the history of Finland." A nation proud

of its architectural heritage resisted importing design talent. In addition, the client encouraged a conception of the building as a vanguard for urban planning in an underdeveloped area of Helsinki.

Yet through the museum's conception, design, and construction, Holl's initial vision stayed its course. Instead of attempting to out-shout his building's well-established neighbors—Alvar Aalto's Finlandia Hall (1971) to the north, J. S. Sirén's Finnish Parliament (1931) to the west, and Eliel Saarinen's railroad station (1914) to the east—Holl set a quiet new form onto the site. Praised by the selection committee as "mysteriously sculptural," Kiasma is a simple weaving of two shapes. One is a long rectangular volume that serves as an extended entrance; the other, containing the galleries, is an enveloping torus of a vault.

The flowing gallery rooms are different sizes, with curved walls and seamless, scratch-coat plaster surfaces animated by

shifting light patterns. Holl's decision to forego the "intermediate scale"—to work on the overall volume and the details, letting art dominate the realm in between—has proven popular with the public and the staff. Explains museum Director Tuula Arkio: "Art requires a neutral space. This does not mean Kiasma is devoid of spirit. Instead, the space operates on a perceptual and sensory level, giving us an extraordinary vehicle for art."

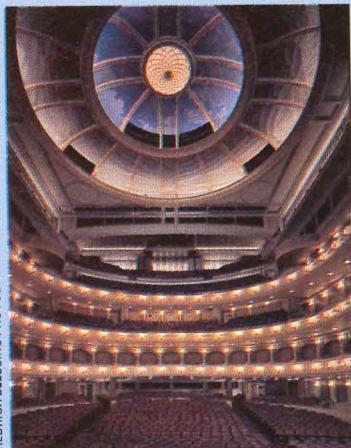
Kiasma works because it's a bigger idea, a stronger visual poem, than even the highly critical Finns imagined possible. No tricks, no grandiosity, no imperialist posturing. Holl silenced his critics with silence. *Roberta Lord*

Roberta Lord is a New York City-based writer.

Interlocking volumes of museum join in ramping, skylit atrium (top left). Soft northern light washes vaulted galleries (above center). Hooded north facade (top center) and fractured south facade (top right) confront urban site.

LONE STAR RISING

With its sprawling new cities, Texas is about the last place you'd expect to find serious acolytes of Jane Jacobs, the journalist and urban activist who railed against Modernist architecture and urban renewal

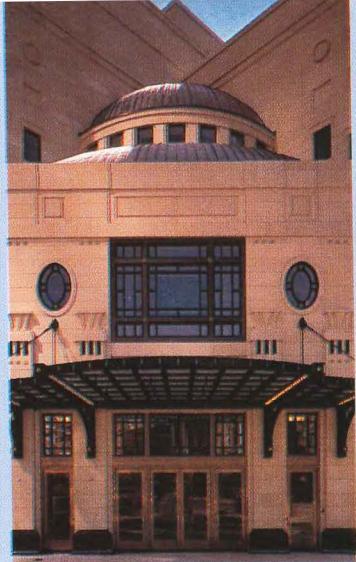
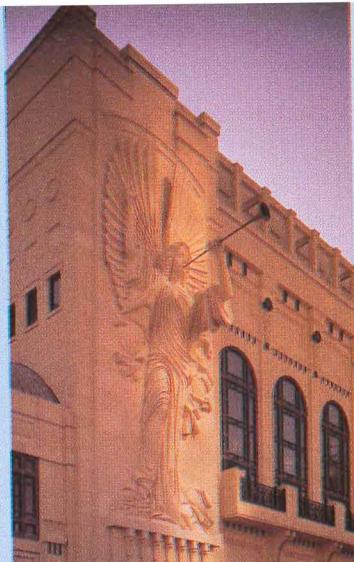


HEDRICH BLESSING PHOTOS

in her famously influential 1961 book, *The Death and Life of Great American Cities*.

But in many ways, Jacobs is godmother to the rebirth of downtown Fort Worth, which is hell-bent on reinventing the pedestrian-centered urbanism of the early 20th century, with the help of the billionaire Bass brothers—Sid, Ed, Bob, and Lee—and the street-friendly, retro-style architecture of Washington, D.C.-based architect David M. Schwarz, who has designed nearly two dozen buildings in the city since the early 1980s.

Bass Hall, a \$60 million, 2,000-seat arts facility whose stylistically convincing details are modeled on the turn-of-the-century architecture of the Vienna Secession, epitomizes Schwarz's



desire to create a rich, evocative urban architecture through traditional streetscapes and imagery. The building, which opened on May 8, is the polar opposite of I.M. Pei's icily elegant Meyerson Symphony Center in Dallas, set apart from that city's glitzy skyscrapers on a plaza north of the central business district.

Bass Hall's triumphal gesture

is a pair of 48-foot-tall winged angels carved by sculptor Marton Varo from limestone blocks mounted on the building's main facade. They blast 12-foot horns toward the sky, as if to announce the coming of high culture to downtown. *Steven Litt*

Behind overscaled iconography of Bass Hall's entrance facade (above left and right) is grand auditorium (far left).

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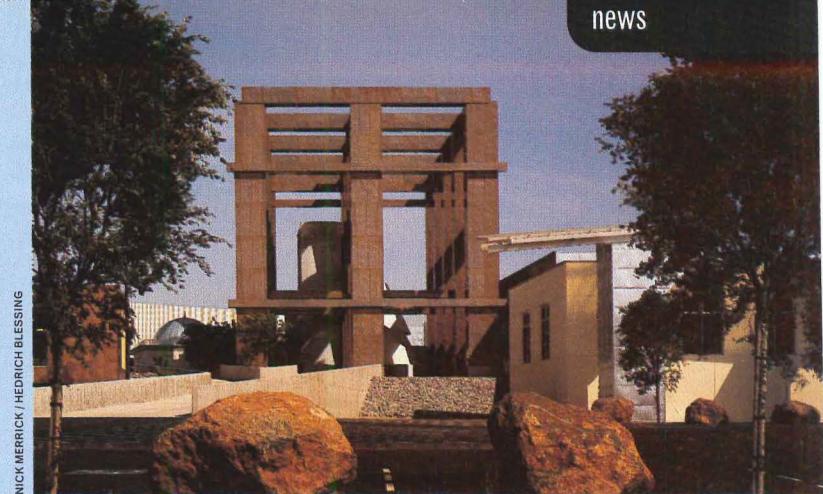
GEHRY COMING AND GOING

Nine years after critics heralded Frank Gehry's manufacturing and distribution plant for Herman Miller as a masterpiece, two major components of the Rocklin, California, complex (right) are being razed and replaced with designs by another architect. The centerpiece of the scheme—a 70-foot-tall, copper-clad steel trellis—has been leaking for years, corroding the steel. Furthermore, rust has infiltrated the cone-shaped employees' cafeteria, which sits beneath the trellis, ruining the carpet and staining the cream-colored walls.

Herman Miller executives tried to find a solution to the problems that would not

require demolishing the structures. Concerns over structural integrity eventually convinced the owners that restoration was not a prudent option. Herman Miller spokesman Mark Schurman explains, "We have a great love of good design and no one is more disappointed that we couldn't save the trellis and cafeteria."

English Harper Reta Architects, a Sacramento, California-based firm, was chosen to design replacements for the trellis and cafeteria. The new scheme retains four columns from Gehry's trellis, reduced in height and reclad with galvanized sheet metal to match the manufacturing and assembly buildings. The columns will support a roof made of steel and translucent corrugated plastic to shade the outdoor eating area and resemble the brise-soleil in front of the



offices. The new 40-foot-high copper-clad cafeteria will have three times the square footage of Gehry's cone-shaped dining room.

"We've taken Gehry's kit of parts and created elements we believe tie the buildings together while appearing to have always been there," explains English Harper Reta Partner Edward English. He expects construction to be completed by the end of the year.

Meanwhile, last month Gehry released designs for a new 140,000-square-foot school of management at Case Western Reserve University in Cleveland (left). *Sara Hart*



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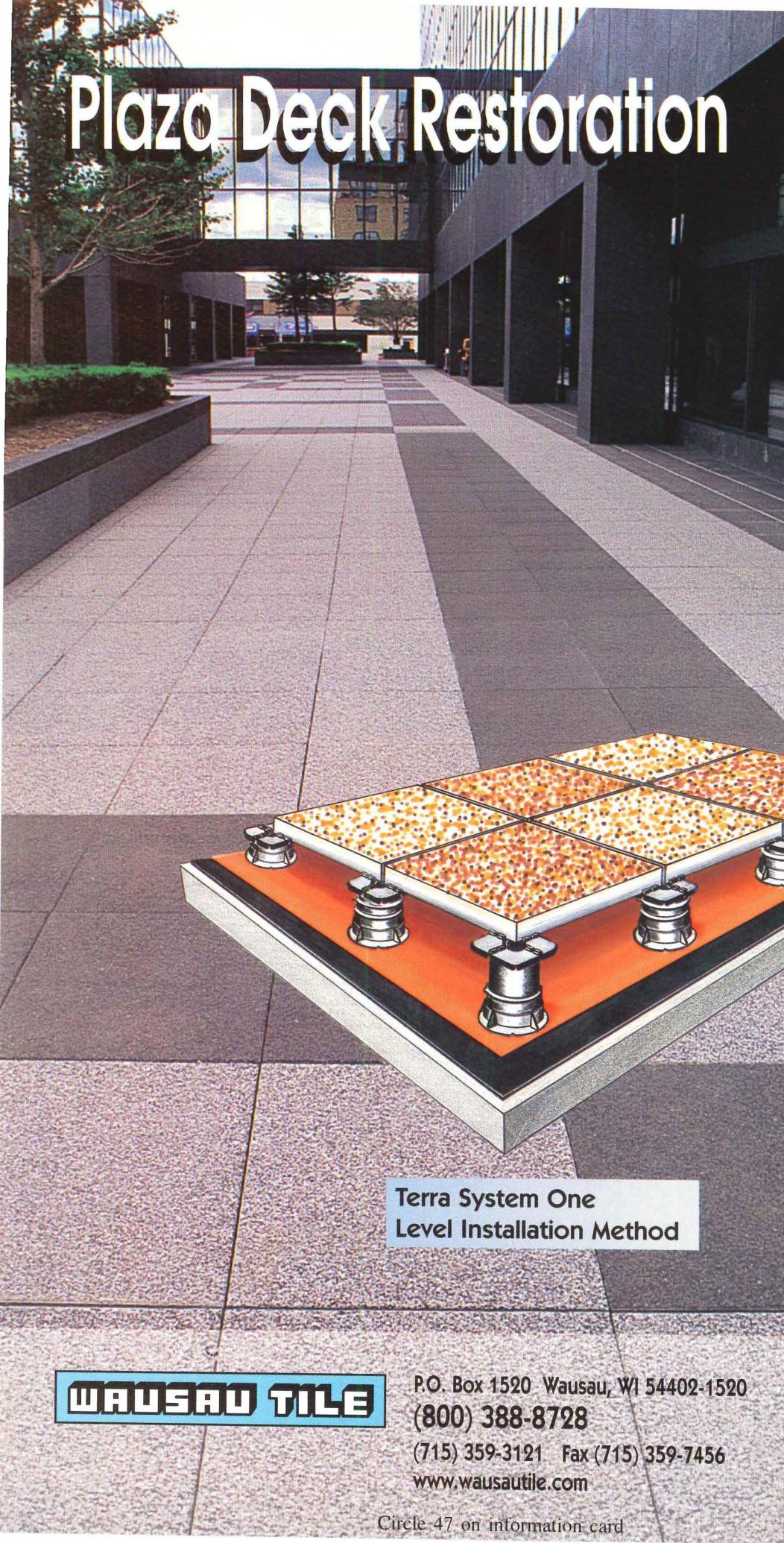
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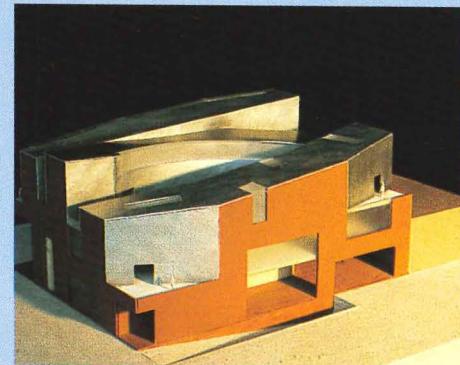
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THE BUZZ

Everyone at last month's American Institute of Architects Convention in San Francisco was talking about Mexican architect **Enrique Norten**'s expected jump to **The Hillier Group**'s Philadelphia office. While Hillier would neither confirm nor deny the rumor, spokesperson **Rosemarie Fabien** did note that Norten would be teaching at the University of Pennsylvania next fall. "And we look forward to seeing him in the office frequently," she teased. Whether Norten would last longer than Hillier's previous short-duration star hire, San Francisco-based architect **Wes Jones**, remains to be seen. Norten could not be reached for comment.



The American Academy of Arts and Letters recently announced the winners of its architecture awards: Portuguese architect **Alvaro Siza** received the Brunner Prize and landscape architect **Laurie Olin** received the Academy Award in Architecture. Meanwhile, the Friedrich Kiesler Foundation inaugurated its new \$60,000 architecture prize, named after the iconoclastic Austrian Modernist, awarding it to **Frank O. Gehry**. In May, while **Steven Holl** celebrated the opening of the new Kiasma Museum (page 27, this issue) in Helsinki and receiving the **Alvar Aalto** medal, Finland's highest architectural honor, the Bellevue Art Museum in Bellevue, Washington, unveiled the New York City architect's design for a new 36,000-square-foot building.

Holl is one of three architects on the now-shortened shortlist for the Jack S. Blanton Museum of Art at the University of Texas in Austin. The other two contenders are New Mexican **Antoine Predock** and **Herzog & De Meuron** of Switzerland. Up-and-coming designer **Joan Soranno** of Minneapolis-based **HGA** recently



completed designs on another cultural center, an 18,200-square-foot dance center at the University of Minnesota. HGA, with Alaskan firm **GDM**, received the commission to design a 27,000-square-foot expansion to the art and natural history museum at the University of Alaska in Fairbanks. The Ann Arbor, Michigan, office of **Quinn Evans/Architects** is converting Nashville, Tennessee's Art Deco Post Office (1934) into a visual arts center.

While Boston Mayor Thomas Menino pushes to abandon **Kallmann, McKinnell & Knowles'** City Hall (*Architecture*, May 1998, page 43), its successor firm, **Kallmann, McKinnell & Wood**, is getting a far warmer reception in Philadelphia, having been chosen to design the \$24 million Gateway Visitor Center at Independence Mall with local architect **MGA Partners**. New York City graphic designer **Donovan & Green** will design the building's exhibits.

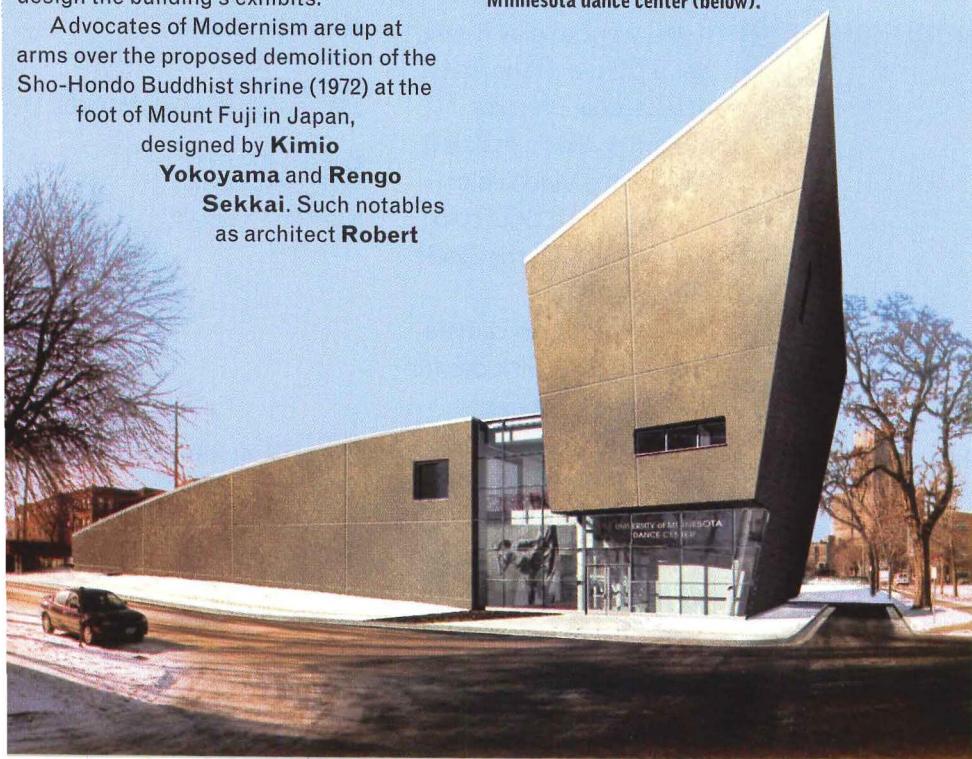
Advocates of Modernism are up at arms over the proposed demolition of the Sho-Hondo Buddhist shrine (1972) at the foot of Mount Fuji in Japan, designed by **Kimio Yokoyama and Rengo Sekkai**.

Such notables as architect **Robert**

A.M. Stern, architectural historian **Kenneth Frampton**, and Museum of Modern Art Curator of Architecture and Design **Terence Riley** have written letters to protest the decision by the temple's high priest to raze the structure.

San Francisco's Exploratorium recently selected local architect **Esherick Homsey Dodge & Davis** to renovate its home in **Bernard Maybeck**'s landmark Palace of Fine Arts. Esherick bested the team of **David Robinson, Jim Jennings, and Todd Sklar** and **Tanner Leddy Maytum Stacy Architects** in an invited competition. The \$15 million to \$20 million renovation will add two theaters, a new entrance, and 53,000 square feet of exhibition and support space.

Holl's Bellevue Art Museum (facing page); **Yokoyama and Sekkai's** endangered Buddhist shrine (top); **HGA's** Minnesota dance center (below).



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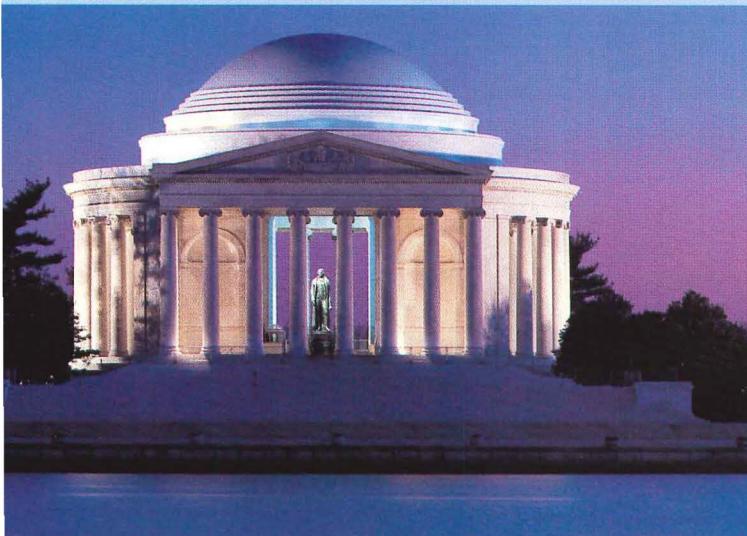
In 1937, a pack of upstart Modernists publicly attacked venerable architect John Russell Pope's Classical proposal for the Jefferson Memorial in Washington, D.C. As a result, a cowed Congress withdrew funding for the project, and a few days later Pope died. While his memorial scheme was eventually built, albeit at a reduced scale, Pope's reputation never recovered.

Considering Pope's central role in transforming Washington, D.C., from a provincial backwater into a capital of Augustan scale—as designer of not only the Jefferson Memorial, but also the National Archives, the National Gallery of Art, and a host of other prominent public and private buildings—it's astounding that he wasn't among the Beaux-Arts practitioners redeemed by Postmodernists in the 1980s. Finally, architectural historian Steven McLeod Bedford gives Pope the attention, if not the treatment, he deserves in *John Russell Pope: Architect of Empire* (Rizzoli).

As the first monograph written about Pope since 1930, *Architect of Empire* holds some real surprises, including a look at the architect's long-forgotten residential practice. Bedford does an admirable job of outlining Pope's career with a brief biography

Last of the Romans

A new monograph on John Russell Pope fails to defend the Classicist's sullied reputation.



Modernists opposed Pope's Classical design for Jefferson Memorial.

followed by chapters organized by building type. Unfortunately, Bedford applies a formalist critique to Pope's work, ignoring the social and cultural issues that make the architect relevant today.

Recounting the selection of a suitable design for the Jefferson Memorial, Bedford shortchanges the project's underlying ideological debate: In a country where esthetics and government infrequently and uncomfortably mix, it is remarkable that the mid-century struggle between Modernism and Classicism actually reverberated through the halls of Congress. It's disappointing that Bedford only provides a narrative of the events, and not an assessment of their broader implications.

Unlike his contemporaries Bertram Goodhue and Paul Cret, Pope never progressed toward abstract Classicism. This unwillingness to compromise clearly makes Bedford uncomfortable: "At his best, Pope produced brilliant schemes, but his continuous reliance on precedent may indicate that he was never able to control the feelings of insecurity...observed while he was still a student...." Underlying this simplistic Freudian analysis is Bedford's belief that Pope was a *retardataire* heretic, who failed to further the developments of his proto-Modernist mentor Bruce Price.

That Bedford cannot accept Pope on the architect's own Classicist terms, choosing instead to disparage him as a deviant from the great progressive fiction of Modernist history, displays the biographer's remarkable shortsightedness. Bedford is right to call Pope "the quintessential American classical architect of the first part of this century"—a distinction that even the architect's detractors can't deny. But it's ludicrous, in this pluralistic age, to upbraid Pope for failing to conform to the tyranny of Modernism. *Ned Cramer*

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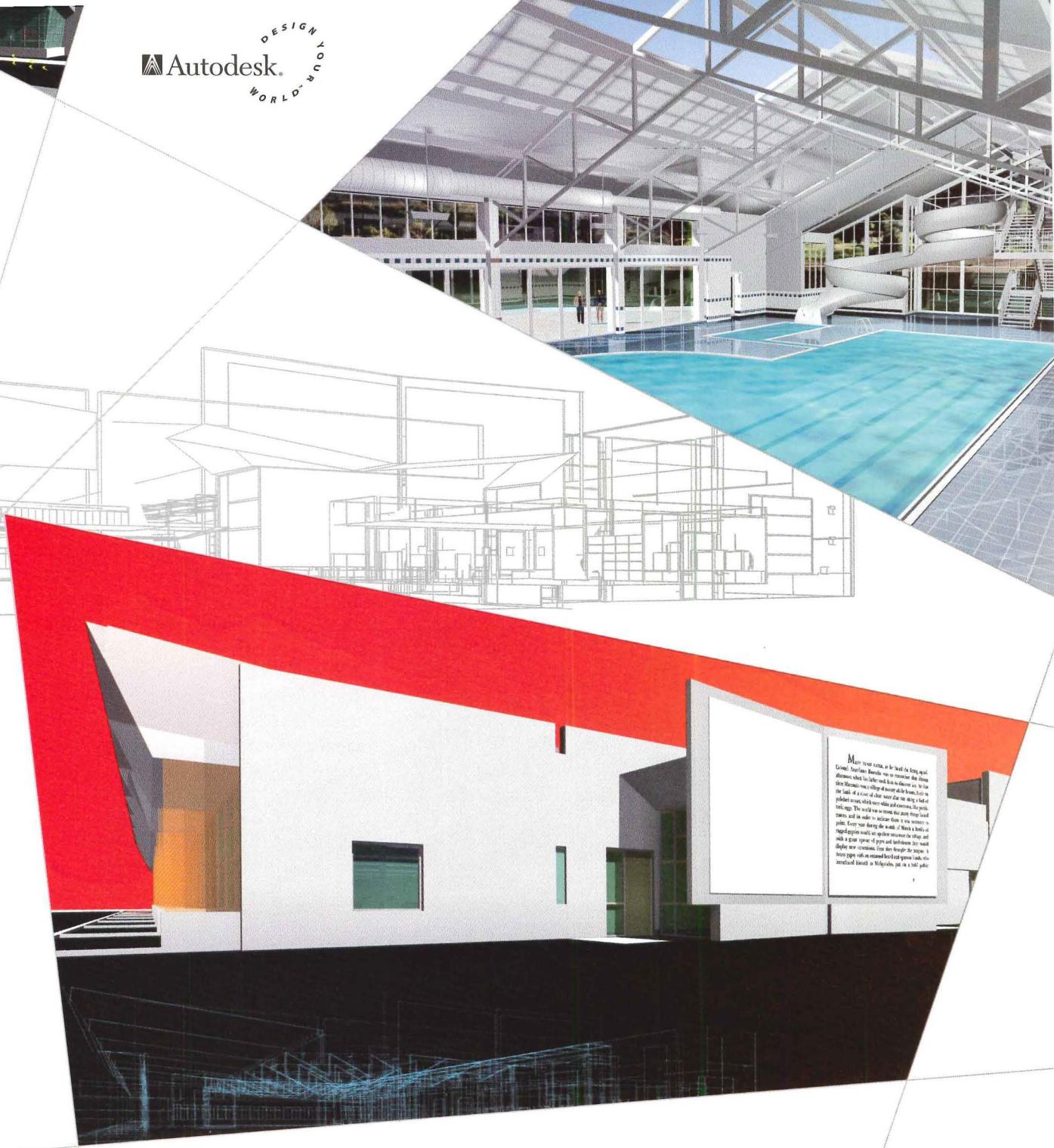
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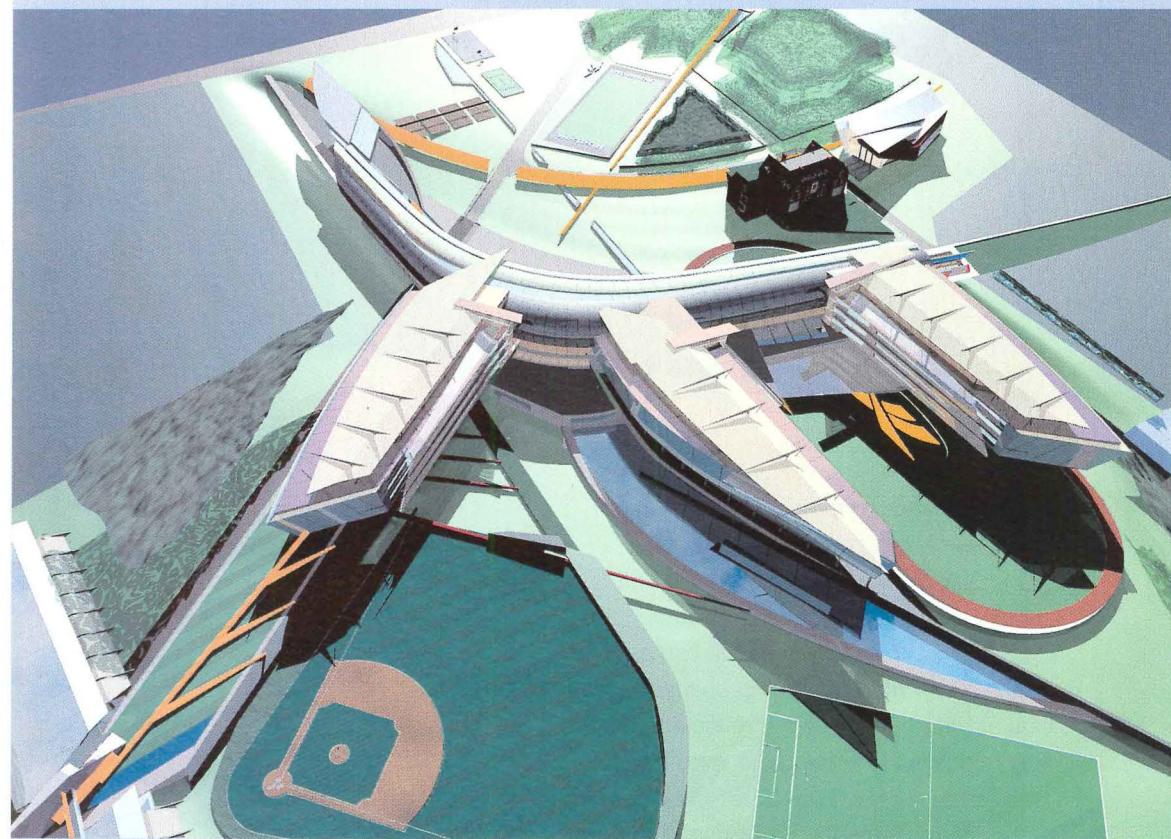
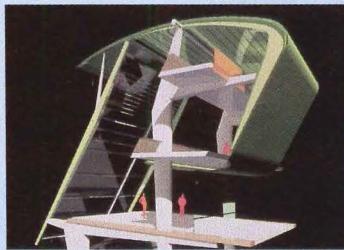
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Circulation spine (above) of Reebok headquarters mimics stadium structure (right) and links three office wings (below).



Project Portfolio, NBBJ: Reebok World Headquarters LG Twins Seoul Dome

NBBJ has always positioned itself as a service-oriented operation—a strategy that helped it become one of the largest architectural firms in the U.S. But in a bid to distinguish itself from the herd of service-based leviathans, Seattle-based NBBJ is adopting a more design-oriented profile and has been busily recruiting top designers from leading design firms. This shift in focus is largely the handiwork of Partner David Hoedemaker, whose recent hires include noted Ellerbe Becket alumni Jonathan Ward, Daniel Meis, and Peter Pran. Despite the design talent NBBJ is attracting, Hoedemaker insists that there is no dominant artistic presence at the firm. "There is no single star, rather a galaxy of stars. All the partners agree that the goal is to hire people better than we are in order to improve the quality of the work," Hoedemaker maintains.

Two new sports-related facilities designed by NBBJ suggest that the strategy may be paying off. The Reebok World Headquarters in Canton, Massachusetts, is a project guided by Principal Steven McConnell (who came from the office of Japanese architect Arata Isozaki in 1990) and Design Partner Richard Buckley (whom Hoedemaker lured from Venturi, Rauch and Scott Brown in 1984). Under this group's guidance, the Reebok scheme was produced in an eight-day charette by at least 10 designers.

The sportswear manufacturer's corporate self-image influenced NBBJ's design process: Independently functioning components collaborate to achieve maximum performance as a whole. "The notion of performance design implies continual development and change to achieve a better product," says Ward of the Reebok philosophy NBBJ attempted to incorporate in designing the 876,000-square-foot campus.

Four wings will house the primary corporate functions—executive offices, corporate and international operations, Reebok North America,



and product design. Shared functions, including auditoriums, conference areas, a fitness center, and showrooms, will divide these individual office blocks. The office blocks will be organized along a sinuous circulation spine, curved to resemble the sweep of a stadium bowl. A suspension and tension cable system will support the curtain wall of the spine. Primary steel columns will stand 30 feet on center and rise 45 feet. A cable truss spanning the columns supports a thin metal-tube frame with 5-by-10-foot glazing units. The spine will command panoramic views of the nearby track, soccer and baseball fields, and tennis courts.

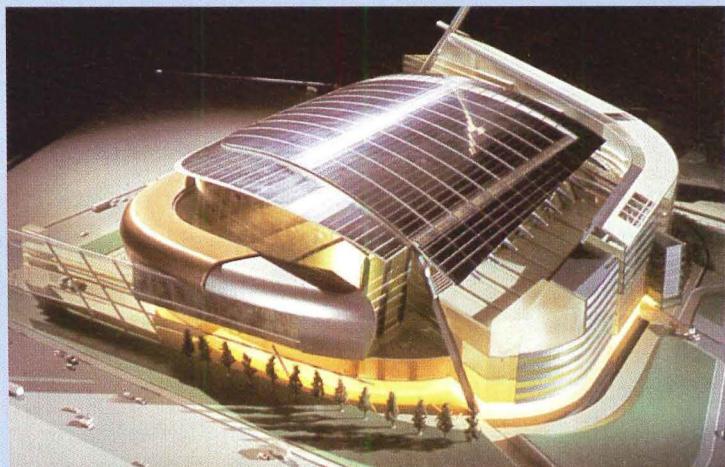
In 1997, NBBJ's specialized Sports and Entertainment division in Los Angeles bested Toyo Ito, Helmut Jahn, and Nicholas Grimshaw in a competition to design the LG Twins Seoul Dome, a 43,000-seat baseball stadium with an adjacent 2 million-square-foot retail and entertainment complex for the South Korean technology company LG Group. The stadium will be located between Seoul's central business district and the 1988 Olympic stadium and park and will be Korea's first domed stadium. It is scheduled for completion in time for Korea to host the World Cup Soccer Games in 2002. The design team—led by Pran and Meis—has created a sports center, broadcasting facilities, and a science and exhibition hall profiling LG's products that will wrap the stadium.

The sweeping stainless steel-and-glass dome will appear to hover over the stadium. The glazing will provide views of the Han River and the Ugbong Mountain and allow natural light onto the playing field. This openness, says Meis, is an innovative alternative to the more familiar model of a sealed domed object imposed on the landscape.

When Meis arrived in 1996, NBBJ Sports and Entertainment had no track record and just eight employees. Now, a staff of 85 competes for major projects in the U.S. and abroad. The division recently secured the coveted commission to design the new home for the San Francisco 49ers, a 75,000-seat football facility with a 1.4 million-square-foot retail and entertainment center. The \$240 million stadium, south of San Francisco, is scheduled for completion in time for the 2000 season. *Sara Hart*



Mixed-use complex (above) wraps stadium. LG Group logo tops canted spire. (left) Extensive glazing (below) allows views of nearby river and mountains.





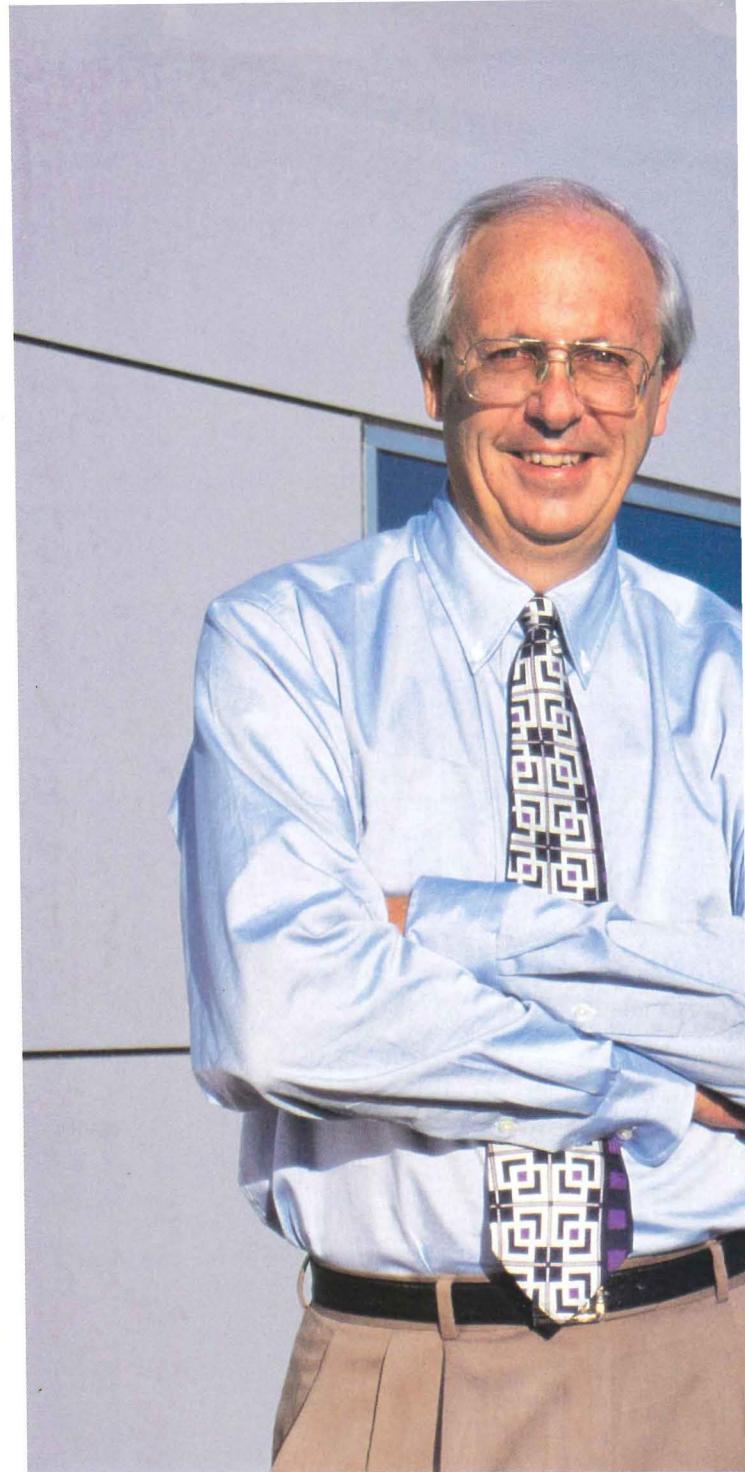
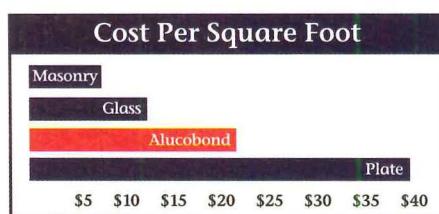
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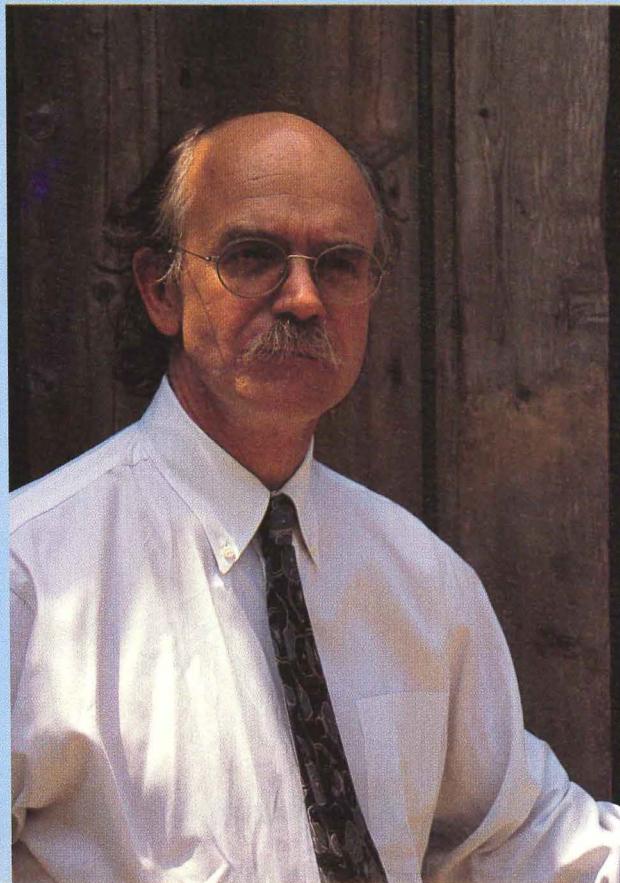
Pliny Fisk III lives and breathes green. Since 1975, the peripatetic ecological guru has headed the Center for Maximum Potential Building Systems (CMPBS) in Austin, Texas. A pioneer of sustainable design and planning in the U.S., CMPBS's development of the City of Austin Green Builder Program was honored by the United Nations at the 1992 Earth Summit in Rio De Janeiro.

The 53-year-old Fisk's list of clients reads like a who's-who of top government and industry leaders: Apple Computer, the Department of Energy (DOE), the Environmental Protection Agency, and the World Bank. He has also advised the White House, Congress, and the United Nations on environmental issues and lectures regularly at leading universities.

Fisk also builds. He's designed housing in Nicaragua, a demonstration farm in Laredo, Texas, and a green demonstration building in Austin, which doubles as the CMPBS offices. He has formulated a variety of eco-friendly building materials as well.

Pliny the Greener

Eco-design pioneer Pliny Fisk III charts a course for sustainability through green research, teaching, and building.



ARCHITECTURE: What's your background?

PLINY FISK: I studied at the University of Pennsylvania from 1963 to 1970, receiving M.Arch and M.L.Arch degrees. I left the Ph.D. program in energy to work for Ian McHarg in Philadelphia, who started the discipline of ecological land planning. Afterwards, I taught at Ball State University in Muncie, Indiana, for a year, then taught at the University of Texas at Austin.

In 1975, the Menil Foundation provided seed money for the Center for Maximum Potential Building Systems. Dominique [De Menil] was quite amazing. She quickly realized, "This [work] is going to have a profound influence on design in the future."

How is the Center organized?

PF: CMPBS is a nonprofit education, research, and demonstration organization committed to bridging the public and private sectors and linking policy initiatives with practice. We've worked with universities and public agencies in developing curriculums, research programs, sustainable building guidelines, and specifications.

The Center hosts interns from universities throughout the U.S. and presents lectures and seminars on what I call a "meta-design" model for sustainable design and planning. But I'd go nuts if I didn't keep my hands busy. So I spend about one-third of my time carrying out the production of new prototypes.

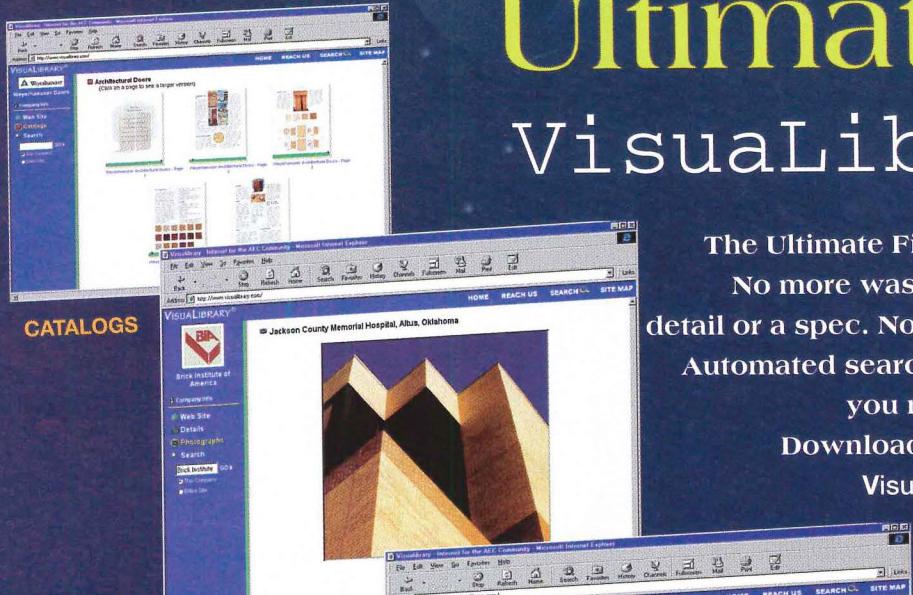
What has been your involvement with public policy issues?

In 1989, my wife and CMPBS Codirector Gail Vittori and I developed the original framework for what evolved into the city of Austin's Green Builder Program, the first sustainability rating program for new residential construction in the U.S. We revised

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the Texas General Services Commission's architectural and engineering guidelines in 1993 to incorporate considerations of energy use, indoor air quality, solid waste recycling, and environmentally sensitive materials. As far as we know, this is the first effort on a state level to adjust boilerplate specifications this way.

We've continued our collaboration with the state by coordinating the Texas Sustainable Building Professional Training seminars. Now in their third year, the seminars bring in some of the leading national experts to provide a stronger platform for Texas architects, designers, engineers, and other building-related professionals to support sustainable practices and procedures in their projects.

What programs have you realized at the national level?

There are four right now: designing and engineering an innovative industrialized housing system for the Build America Program; cochairing the AIA's Environmental Resource Guide; leading a research effort with EPA and DOE to develop a national procedure to better specify materials according to environmental impact and job-productivity considerations; and developing a planning tool to guide land-use decisions for communities that is organized around sustainability.

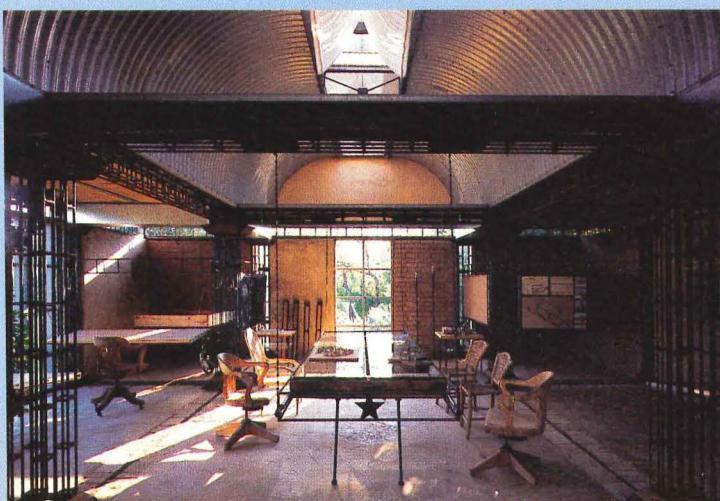
Tell us about the work you're doing for the Environmental Protection Agency (EPA).

The EPA provided funding to formalize a process in which we illustrate graphically the economic, geographic, and ecological aspects of building performance. This is a sophisticated program, which we call Total Quality Building. It geographically displays the environmental impact of a typical bill of materials for 11 different building types. For example, we can chart the ecological impacts of residential construction by tracking the life cycle of the materials used to build them, from manufacture to transportation to processing. It's very dramatic. One can go into the model and identify where the biggest negative impacts are and what caused them. One ends up with a good idea of how to adjust your bill of materi-



PAUL BARDAGJY PHOTOS

CMPBS (above and bottom) integrates environmental concerns and design. Researchers at CMPBS study ecological impact of building materials and types.



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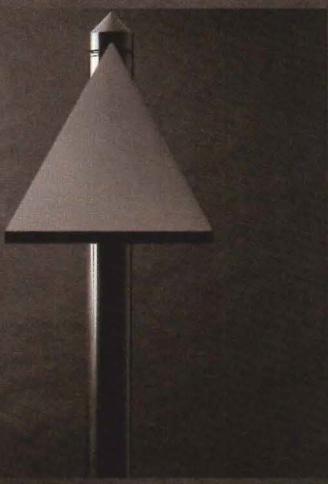
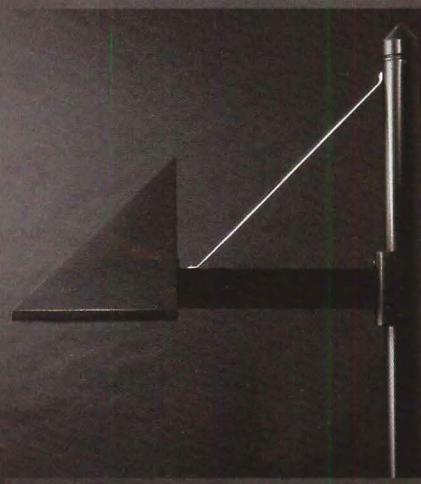
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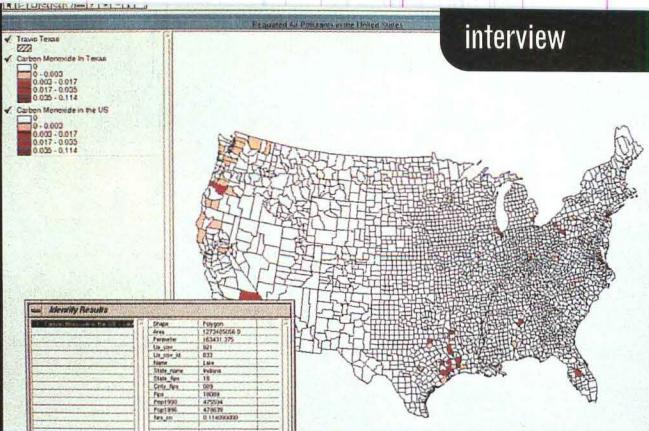
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fresh water is used throughout the world to flush toilets along coastal regions where two-thirds of the world's population resides.

Tell us about your research into alternative materials.

I've been developing a series of innovative new materials as well as reviving traditional ones, such as caliche, a soil found in arid climates, such as Texas. CMPBS developed a building block from caliche, which not only passed building-code tests, but exceeded code requirements with only a fraction of the resources of brick or concrete block. We've also been working with straw and built the first straw buildings in the Southwest. The goal of this work is to develop strategic processes that create jobs locally, that support industrial ecology, and that lower the ecological impact of manufacturing building products.

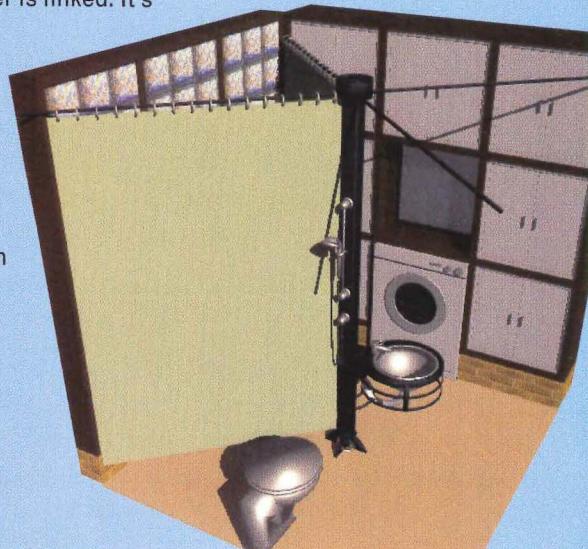
The Center is developing other new materials such as ashcrete, a concrete composed of 97 percent recycled content and no portland cement. Recent estimates indicate that the manufacture of portland cement represents about 10 percent of greenhouse-gas emissions worldwide, thus making it a major contributor to global warming. Surprisingly, the recycled content does not compromise performance. The ashcrete actually has a higher compressive strength—up to 7,000 pounds per square inch—than regular concrete and a higher strength-to-weight ratio, and it uses recycled materials as aggregate.

People often limit their discussions of sustainability to energy concerns. Acknowledging the role of building materials is long-overdue. These factors are more difficult to quantify, but their use is far more complex and has far-reaching consequences.

How do you think your work is perceived by other architects?

Our designs are gaining respect, which is good, since that's how designers influence people. As evidence, we'll be included in Taschen Press's upcoming Contemporary American Architecture series. On the other hand, people are beginning to understand our design-planning methodology as equally important.

All the work we do at the Center is linked. It's a very multifaceted approach. We believe that, too often, problems are approached as a series of discrete tasks to be solved. Our whole-system design alternative involves putting everything in the same language and thinking in terms of life-cycle performance. In the end, I think our work will be known for its general approach to problem-solving, rather than for specific solutions.



Mobile kitchen units (top) and partitioned bathroom compartment (below) are residential prototypes from Green Builder program.

the Designer is in



Neil Frankel
Carpet and Rug
Industry Master
Designer and
President-elect of
the International
Interior Design
Association
(IIDA)

Architecture is proud to feature "The Designer Is In," a column on the latest design trends, written by Carpet and Rug Industry Master Designer Neil Frankel.

In addition to sharing design advice, Frankel invites you to submit your design questions. The answers may appear in a future column.

Q: How has the convergence of home and office decor had an impact on your commercial designs?

A: We're not trying to replicate residential design in commercial spaces, we're simply incorporating the sense of warmth and comfort that you feel in your own home to support the cultural goals of commercial clients. The modern era requires us to work for greater productivity and effectiveness, both at home and at the office. The notion that our home and office are converging is an amalgamation of our wanting to accommodate both lifestyles. If you consider the emerging move toward home offices, you'll see that our homes today look different, too. Designers today can choose from more individualized, high-fashion products—from rich carpet to warm lighting—that are even more functional than older, sterile building products. It seems only logical that we're decorating with the employee in mind and opting for the most comfortable approach.

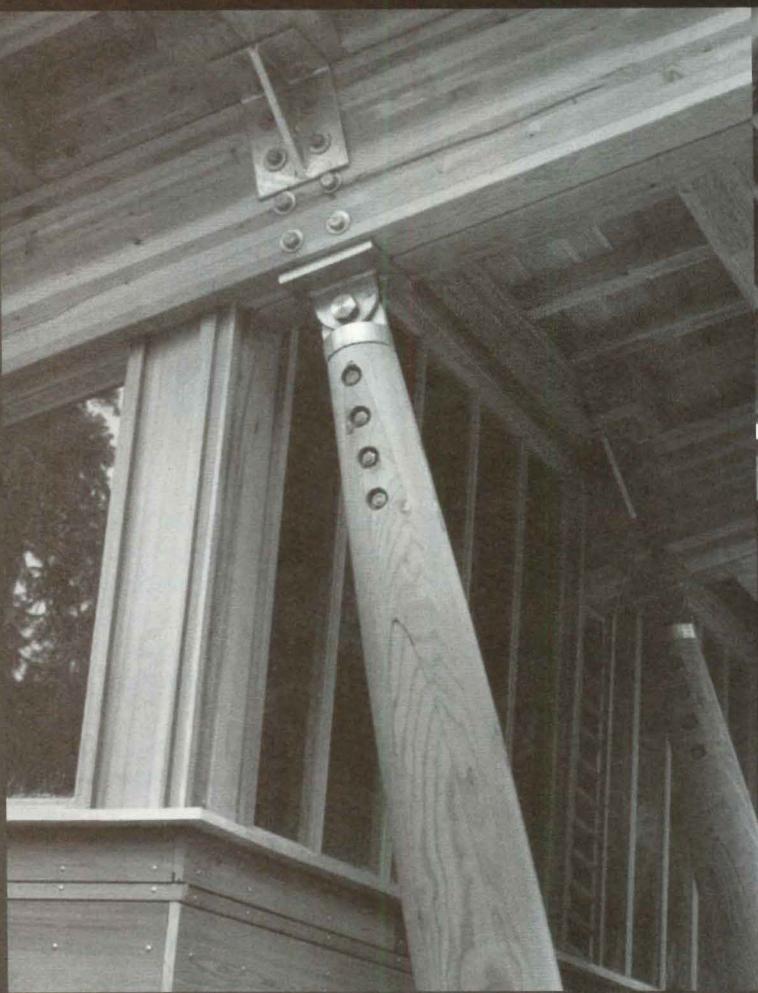
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18TH ANNUAL WOOD DESIGN AWARD PROGRAM



Left: Kelbaugh, Calhoun & Associates, architect, photo: Peter Corhan, Doug Kelbaugh. Right: Samela Architect, photo: Peter Kerze

1998 "CALL FOR ENTRIES"

THE WOOD DESIGN AWARD PROGRAM HAS ANNOUNCED A "CALL FOR ENTRIES" FOR THE 1998 COMPETITION. NOW IN ITS 18TH YEAR, THE PROGRAM HONORS OUTSTANDING WOOD PROJECTS IN TWO CATEGORIES: COMPLETED WOOD BUILDINGS AND ARCHITECTURAL WOODWORK INTERIORS.

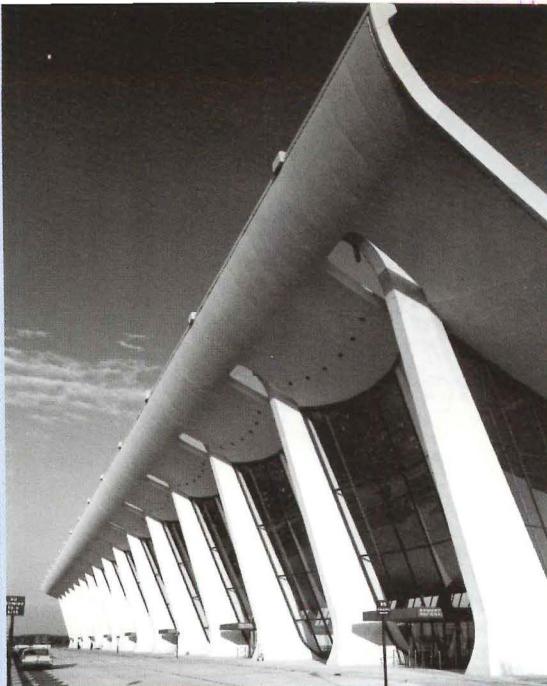
Judges are John M. Dixon, FAIA, Architectural Writer; George E. Hartman, FAIA, Hartman-Cox Architects; and Julie Eizenberg, Koning Eizenberg Architecture.

Entered projects, whether new or remodeled, must exhibit high quality design employing traditional, engineered or custom wood product applications. Winning designs will demonstrate a thorough understanding of the properties of wood and display

appropriate applications in building programs. All projects must have been completed since 1995 to be eligible for entry.

Submission deadline is September 18, 1998. Entry materials can be obtained from Judy Durham at the Architectural Woodwork Institute (AWI), 1952 Isaac Newton Square West, Reston, Virginia 20190. Direct contact can be made with AWI by telephone: 703/733-0600, by Fax: 703/733-0584, or e-mail: jdurham@awinnet.org. 1997 *Wood Design Award Program* Brochures are available upon request from AWI.

The 1998 Wood Design Award Program, formerly known as the American Wood Council Wood Design Award Program, is now sponsored by the Wood Products Promotion Council (WPPC). Participating associations include the American Wood Council/American Forest & Paper Association, APA—The Engineered Wood Association, Architectural Woodwork Institute, Canadian Wood Council, Southern Forest Products Association, and Western Wood Products Association.



What constitutes plagiarism in architecture? Is Philip Johnson's Glass House a Ludwig Mies Van Der Rohe knock-off, an homage, or the logical development of an idea? Whatever the inspiration, the resemblance is unmistakable.

The new terminal at San Diego International Airport, which opened in January, poses the same difficult questions due to its resemblance to Eero Saarinen's iconic Dulles Airport (1962) outside Washington, D.C. Given the typical banality of contemporary airport design, San Diego is lucky to have this sleek new building, which was designed by Gensler with local architect SGPA. Expansive glazing provides plenty of Southern California sunlight, as well as views of the Pacific Ocean and downtown San Diego. Concrete and metal forms and detailing appropriately recall aeronautical themes.

Yet in an unmistakable reference to Dulles's signature structural tour de force, San Diego's terminal features canted columns marching down the length of the main facade, with a roof boldly

Copy Cat

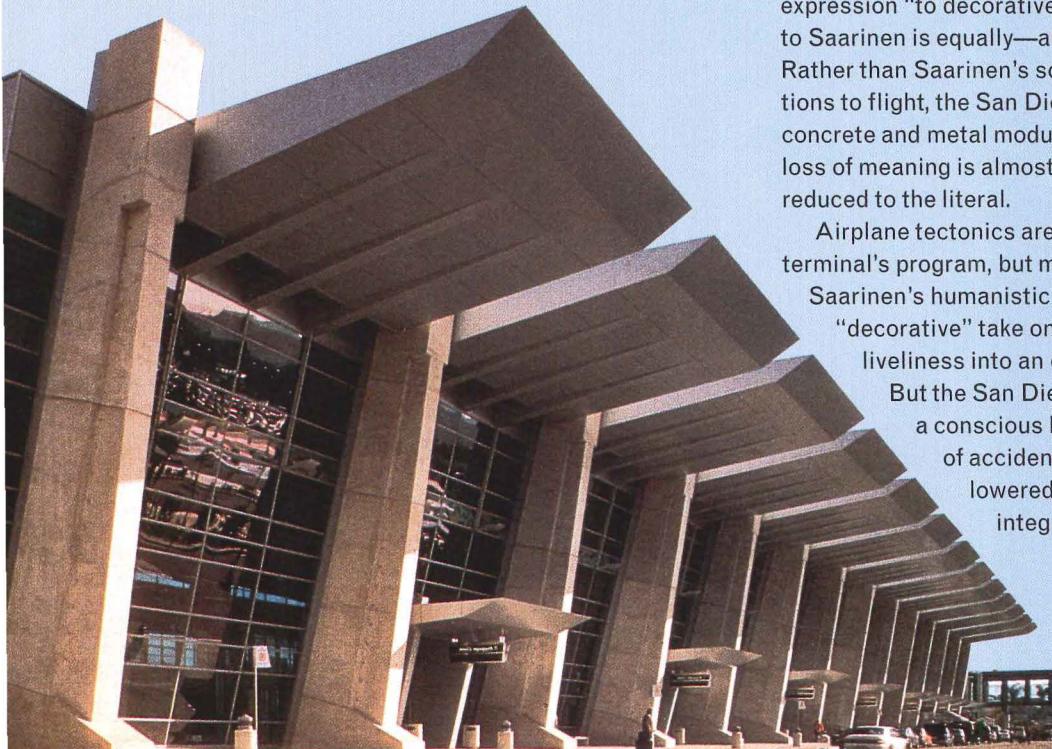
Gensler's new San Diego airport terminal is a pale imitation of Eero Saarinen's Dulles.

projecting overhead. In this case, however, Saarinen's anthropomorphic evocations of sinew, bone, and tendon are supplanted by a hard-edged machine esthetic, with piers that recall airplane rudders and canopies that resemble tail flaps. In San Diego, Dulles's rounded concrete surfaces become flattened and faceted and its expressive curved roof is just a taut plane.

Architectural historian Kenneth Frampton—hedging between reserved approval and veiled criticism—notes that Johnson's Glass House "willfully departed" from Mies's sense of structural expression "to decorative ends." At San Diego, the reference to Saarinen is equally—and more problematically—decorative: Rather than Saarinen's soaring metaphor for humanity's aspirations to flight, the San Diego terminal's similarly configured concrete and metal modules merely imitate airplane parts. The loss of meaning is almost total—a poetic structural metaphor reduced to the literal.

Airplane tectonics are a suitable reflection of the San Diego terminal's program, but more worthy of film set design than Saarinen's humanistic vision. It can be argued that Johnson's "decorative" take on Mies Van Der Rohe actually injected liveliness into an otherwise easily exhaustible vocabulary.

But the San Diego terminal's jumbo-jet esthetic, whether a conscious homage to Saarinen or merely the result of accidental influence, undoubtedly represents a lowered standard of architectural invention and integrity. *Ned Cramer*



Gensler's San Diego terminal (left) replaces Saarinen's organic forms (top) at Dulles with aeronautic esthetic.

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June 1998

ighting focus



a quarterly supplement of

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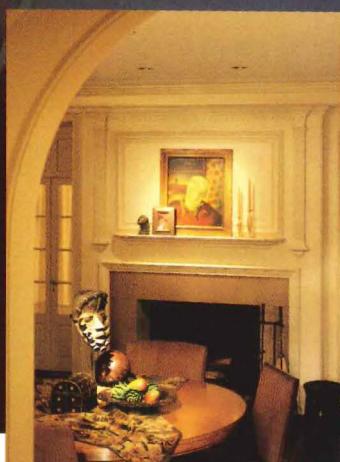
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on the cover
PRODUCT La Trave
LIGHTING DESIGN Matteo Thun
LIGHTING MANUFACTURER Zumtobel Staff
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Lighting focus volume 1, number 2

june 1998

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HONORAIL by Tech Lighting
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lighting editorial consultant

Mitchell Kohn, IALD, FIES

resident of Mitchell B. Kohn Lighting Design in Highland Park, Illinois, Kohn specializes in interior illumination for commercial, institutional and industrial environments and is a frequent lecturer on lighting at universities and professional organizations. He is a member of the Board of Directors of the International Association of Lighting Designers and a fellow of the Illuminating Engineering Society of North America, for which he serves as chairman of the Office Lighting Committee.

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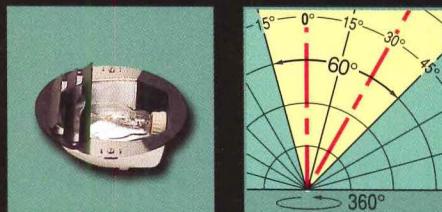
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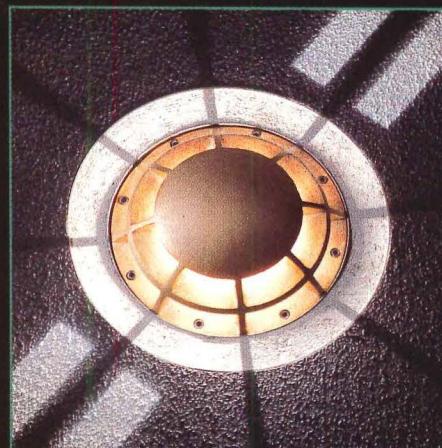
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NEW PRODUCT

plugged in

mitchell kohn, IALD, FIES

European design influences our culture across diverse disciplines—cars, fashion, haute cuisine, and, of course, lighting. From technology to style, the European lighting industry leads the way in innovation in lamps and fixtures. From the influence of Italian and Scandinavian architects on the way lighting fixtures look to the optical design of German and Austrian engineers, new ideas in lighting seem to come from abroad.

Ask American designers or their European counterparts why this occurs and you are likely to receive myriad explanations. Cultural differences may explain Europeans' greater sensitivity to light—natural and artificial. Perhaps as a result of this increased awareness, individual European building codes actually require better lighting conditions than we in the U.S. seem to be able to afford. Many countries show more concern for human well-being within the built environment than merely cost per square foot. However, as European building is typically more costly, an equal percentage applied to lighting results in more dollars—or deutsche marks—for better quality fixtures and more innovative designs.

Americans benefit as these innovations find their way across the ocean. Whereas the latest fashion from Milan may be embraced by the next season's wardrobe, in general we are not quick to grab new lighting concepts or to apply new technologies. Luckily, European innovation stimulates U.S. manufacturers into action with concerns of lost market share to foreign invaders or a race to U.L. listing by foreign companies selling and producing products domestically.

Whatever the reason, what's new in lighting here was new in Europe two or three years ago. Lamp development plays a major role in establishing new product directions, and for at least the last five or 10 years, lamp innovations have come from the parent companies of U.S. producers located in Holland and Germany.

So, the value in recognizing this enlightenment is our ability to learn of new approaches to design, how to maximize the use of new technologies, and how to benefit from a broader range of creativity and new ideas. If truly new concepts do originate elsewhere, let's be smart and look abroad for a peek into the future.

ORBITER by Siteco
Circle number 265 on information card.

STADTTOR LUMINAIRE by Hoffmeister
Circle number 263 on information card.

lighting focus

by mitchell kohn, IALD

i hannover

The Hannover Fair, the largest trade show in Europe, contains the largest lighting exhibition in the world. The World Light Show occupies three of the 26 buildings at the Hannover Fair, and includes 938 exhibitors, occupying 500,000 square feet. To put this in perspective, it has twice the number of exhibitors as Lightfair, and is almost 10 times larger, but the show also includes lighting components, accessories, and many nonessential lighting products, unrelated to the building industry. However, for technical and design innovation, Hannover is the place to be.

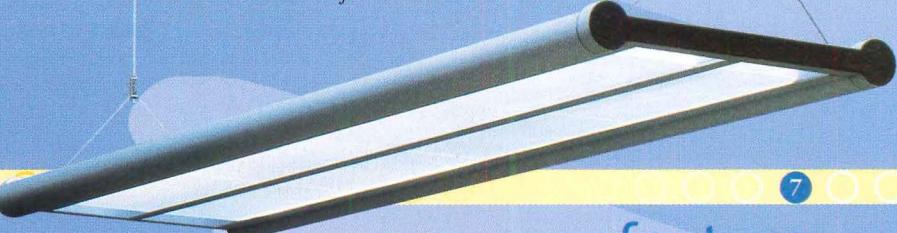
Because Osram and Philips have their corporate headquarters in Europe, these lamp manufacturers typically introduce new products at Hannover and make these new light sources available first to their European counterparts in fixture development. The availability of these new sources often leads to rapid advancement in fixture development. For technical reasons and market conditions, European luminaire manufacturers are more accepting of new technologies, therefore these technologies are incorporated into widespread application much quicker than in the U.S. At the Hannover Fair, lighting companies show their latest design inventions and innovations in permanent display areas. For several decades, Hannover has offered a window to our lighting future. Concepts and applications previewed at the fair usually show up here three to five years later.

Whether it's just economic opportunity or a real quest for new approaches in lighting, U.S. manufacturers are looking abroad. One of the topics in the aisles was the acquisition of European lighting manufacturers by U.S. companies. Siemens Lighting, Hoffmeister, and Concord have recently been purchased by U.S. conglomerates, forming several marketing alliances. Many European companies also seem to be eyeing the U.S. market, often the last area in the world for lighting companies to choose to do business. All have product lines that would be considered "high-end/high-quality" in the U.S. market. Whether their style and approach to lighting will be introduced here remains to be seen. However, the opportunity to quickly advance the state of the art in lighting in the U.S. certainly bodes well for a brighter future.

fair

feature

AERO by Zumtobel Staff
Circle number 261 on information card.



Several new directions are apparent when viewing the European lighting scene. Foremost is the use of T5 fluorescent lamps. Because electricity costs more in Europe, there is a greater need for efficiency in both lamps and fixtures. This provides substantial energy savings compared to T8 lamps. The European nominal 48-inch T8 is a 36-watt lamp (versus 32 watts in the U.S.), and the T5 equivalent is only 28 watts. This 8-watt difference, a 20 percent energy savings, has lead to the widespread use of T5 lamps and new fixtures that take advantage of its small diameter.

In addition to its small size, the T5 lamp is also offered with the choice of two lumen packages. The standard output of 2,900 lumens compares to typical T8 lamps, but the new high-output, 5,000-lumen lamp (at 54 watts) is a new concept that allows for much better optical control than any previous lamp configuration offering as much light. Although some manufacturers have adapted existing luminaires to use T5 lamps, its high surface brightness can be a problem in fixtures designed for T8 lamps. However, many emerging concepts take advantage of this new and exciting light source.

Using the small size of the T5 lamp, many thin fixtures were shown this year in Hannover. Indirect luminaires were very lightweight with ultra-thin profiles. Several manufacturers displayed surface-mounted 2- to 3-inch-thick parabolic fixtures using sloped sides rather than the conventional box approach. These luminaires used highly specular (mirrorlike) aluminum louvers for optimum luminance control. Surface and recessed parabolics were also displayed in slender one-lamp versions, often as narrow as 4 to 5 inches.

SURF SYSTEM by Artemide
Circle number 259 on information card.



WIDE by iGuzzini
Circle number 257 on information card.



lighting focus

8

feature hannover fair

Direct/indirect lighting is an increasingly popular approach, especially for office lighting applications. Companies that previously specialized in direct parabolic luminaires are now preaching the virtues of direct/indirect lighting from pendant fixtures. T5 lamps have again provided small-scale fixtures with high light output. Often direct/indirect fluorescent light is produced from a linear system that may include low-voltage downlights, or tracklike adjustable accent lights. Extrusions in a variety of shapes created linear forms or gridlike patterns.

Perhaps the most innovative products at Hannover were indirect/direct pendants offered by Siteco (formerly Siemens Lighting) and Zumtobel. These unique products used a new technology developed by Allied Signal. The technology allows light to be transmitted through a flat wave guide, such as a clear acrylic panel, and extracted at very precise angles from the surface of the wave guide. This results in optical control that totally conceals the light source and distributes direct (downward) light with very low luminance for glare-free lighting. These ultra-thin luminaires had a very lightweight, low-mass quality. The efficiency of this new technology currently appears limited, and the indirect component, consisting of exposed lamps, barely salvaged the overall fixture efficiency.

Another trend was the use of new louver designs in creative shapes and new materials. Louver and reflector designs have advanced, partially a result of trying to control the high brightness of T5 lamps and partially because of the desire for a new esthetic. Textured aluminum with ridges or slots was seen from several manufacturers. Louvers with

colored edges, or integrated with plastic components, were debuted at the fair. Some louvers used perforated metal in formed shapes for good brightness control, but with a softer appearance than traditional aluminum finishes. Germany's demanding VDT standard still requires office luminaires to be very low brightness, but by adding an indirect component, some creative flair to the louver design, or more styling to the fixtures, technically precise lighting looks new and dynamic.

The Hannover Fair offers a wonderful glimpse into the future of lighting. As U.S. designers and architects become aware of the value of good lighting, more high-quality, innovative luminaires will hopefully find their way to our shores.

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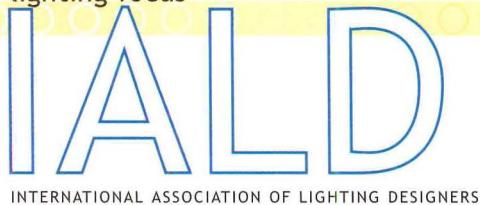


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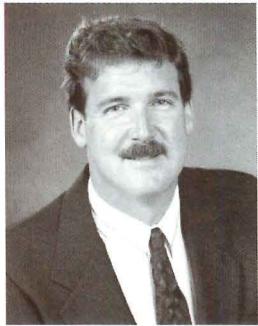
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To master the intricacies of manipulating light, lighting designers need intimate knowledge of the vast variety of lighting hardware available to execute their design concepts. At the behest of architects and clients, lighting designers increasingly must show a broad awareness of both domestic and foreign lighting manufacturers and technologies. Fortunately, imported products are becoming more accessible as they grow in popularity. As world markets become more integrated, an increasing number of luminaires designed in Europe are available in the United States, and have been modified or redesigned to meet our electrical codes. More than two dozen European companies now manufacture or assemble their products in the U.S. or distribute them through domestic manufacturers. European lighting fixtures often reflect a different approach to lighting design: They generally represent a very high degree of design integrity and performance. This allows the lighting designer an opportunity to meet specific client needs for better-detailed, high-quality products. Three professional members of the IALD select their favorites, and talk about why these European-designed fixtures are unique.

lighting focus



designers



Chip Israel, IALD
Lighting Design Alliance,
Long Beach, California

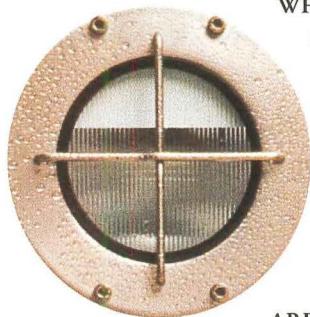
FAVORITE IMPORT: [Bega 1120/1121 Recessed Wall Light](#)

WHAT IS THE PRODUCT?

This Bega product is one of the smallest recessed wall step lights available. It measures just over 4 inches in diameter. A low-voltage halogen lamp sits in a brushed stainless steel case with a ribbed glass lens and an asymmetrical reflector, making it both functional and attractive.

WHAT ARE THE UNIQUE FEATURES OF THE PRODUCT?

Its design, size, and durability of materials combine to make it one of the best fixtures available for a wet environment. In addition, several engineering features—such as an 11.6-volt transformer, which insures long lamp life, and a capped lamp that controls surface brightness to guarantee optimal light distribution—make it easy to maintain. As an added benefit, architects and clients always like the clean details and overall appearance.



WHERE HAVE YOU USED THIS PRODUCT?

Since we're based in California, I use this fixture quite often in both indoor and outdoor applications. It works well to light outdoor walkways and steps and can be set easily into concrete walls. Although the fixture was intended to light floors, we have used it in an inverted position to illuminate the ceilings and walls of spas and saunas. The stainless steel construction really stands up to the harsh environment of a beachfront residence as well.



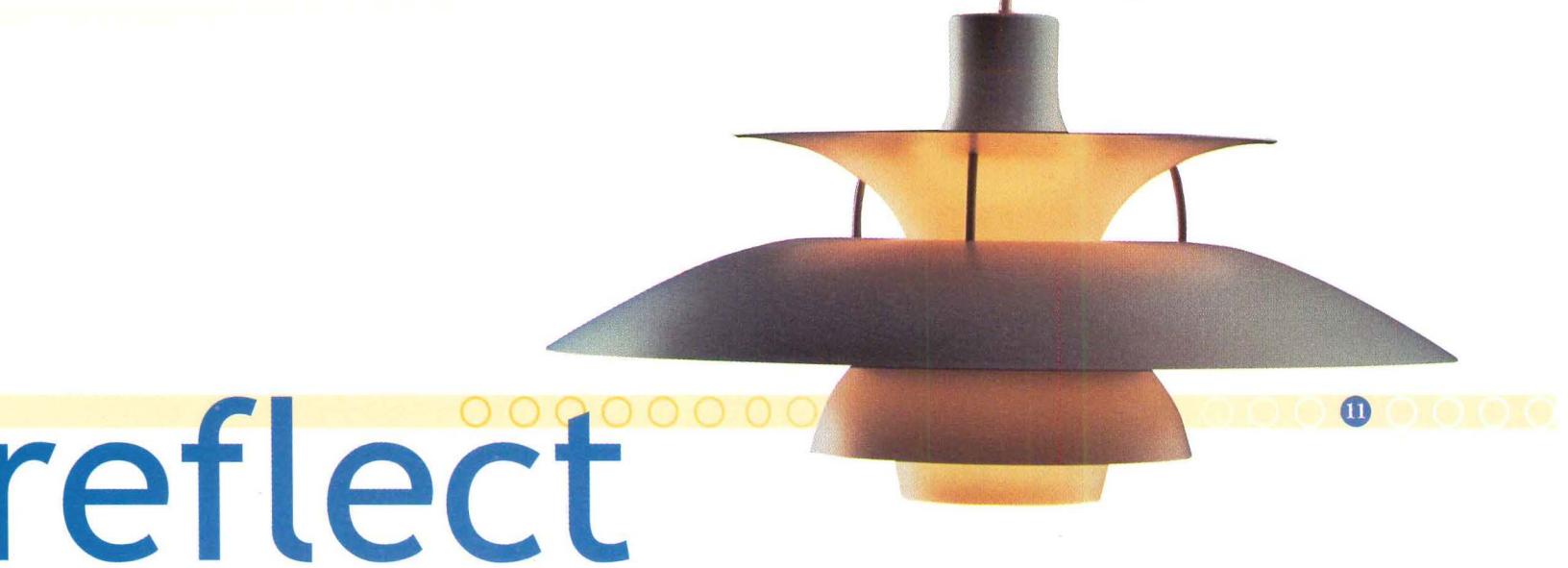
ARE SIMILAR PRODUCTS AVAILABLE FROM U.S. MANUFACTURERS?

There are many step light designs on the market, but there is no domestic equivalent for this product, with its refined detail and well-proportioned look.

HAVE YOU ENCOUNTERED PROBLEMS WITH THE PRODUCT?

Not really. The product is approved for use in the United States and is usually readily available.

Circle number 255 on information card.



11

what is your favorite import?



Janet Nolan, IALD
JS Nolan + Associates
Lighting Design, San Francisco

FAVORITE IMPORT: Louis Poulsen PH5 Pendant Light

WHAT IS THE PRODUCT?

The PH5 is a 24-inch decorative pendant lighting fixture in white sheet metal, with slight accents of purple and red, suspended by a power cord. Designed by Poul Henningsen, a legendary Danish designer, it comprises four layers of metal reflectors, which combine to create its unique, but classic shape.

WHAT ARE THE UNIQUE FEATURES OF THE PRODUCT?

This luminaire is beautifully designed and built. Henningsen has created a product with ideal proportions, one that works well in both contemporary and transitional decor.

WHERE HAVE YOU USED THIS PRODUCT?

I have used the PHs in commercial and residential spaces and even have it in my own breakfast room. It is extremely versatile. It works well in office settings, as a decorative accent, or as task lighting over a work surface. In cafés, it can be the perfect table light.

ARE SIMILAR PRODUCTS AVAILABLE FROM U.S. MANUFACTURERS?

Although some manufacturers have tried to replicate the design concept, a practice that we do not advocate, no one has done so successfully. The look-alikes are inferior in their construction quality; they lack the details of the original product.

HAVE YOU ENCOUNTERED PROBLEMS WITH THE PRODUCT?

The PH5, as originally designed, did not provide much direct light because of a solid plate at the bottom of the fixture that blocked the downlight component. With a recent modification replacing the metal plate with a transparent plate, the fixture is much more effective and just as beautiful. The PH5 is probably more expensive than other metal pendants, but it is a unique and classic design, and I would consider it a good value for the design statement it can help achieve.

Circle number 253 on information card.

IALD designers reflect what is your favorite import?



Randy Burkett, IALD
Randy Burkett Lighting
Design, St. Louis

FAVORITE IMPORT: Hydrel/Sill Compact Flood Light Model 7800

WHAT IS THE PRODUCT?

This compact (less than 1 foot square) floodlight in Eurostyle housing shows high precision. A wide range of accessories, including optional shields, glare-control louvers, mounting options, and color filters make this one of the most versatile, high-quality floodlights available.

WHAT ARE THE UNIQUE FEATURES OF THE PRODUCT?

There are several. First, the optical control of the luminaire is very exact, allowing the light to be narrowly focused even over a long distance. In addition, the variety of accessories available allows fine tuning of the floodlighting to meet specific application requirements. The product is exceptionally well-built and attractive, and is housed in a weather-resistant, die-cast frame. Finally, the manufacturer is willing to make modifications to the product for custom situations.

WHERE HAVE YOU USED THIS PRODUCT?

We use this product when we need exact control of light. For example, we use it to light architectural elements. When illuminating a column, we want to ensure the tight distribution of a narrow beam only on the column's thin surface area. The size of the floodlight also allows us to use it when space is limited, such as in a small area near a cornice. It is perfect for any situation in which you want to avoid glare or spill light.

ARE SIMILAR PRODUCTS AVAILABLE FROM U.S. MANUFACTURERS?

Sterner Infranor does make some similar high-quality products. However, there are virtually no other domestic floodlights of the same material quality, optical control, or with as many standard accessories available.

HAVE YOU ENCOUNTERED PROBLEMS WITH THE PRODUCT?

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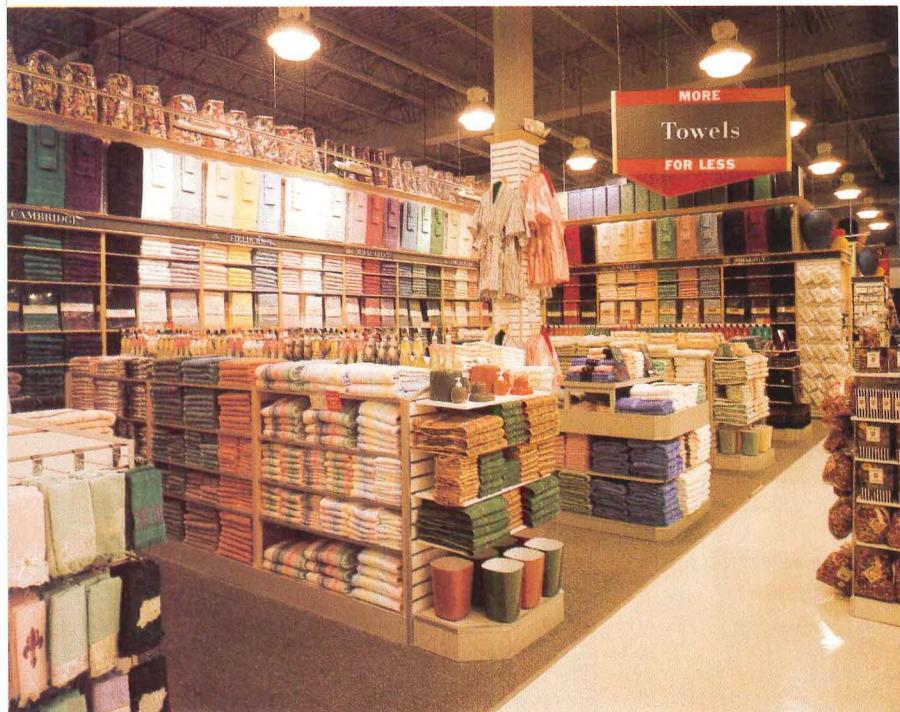
lighting case study

a warehouse store takes an
energy-conscious approach to lighting

The Lighting Research Center designs and evaluates lighting through its demonstration program known as Demonstration and Evaluation of Lighting Technologies and Applications, or DELTA. The project sites are either retrofit projects or new construction, and are evaluated for energy use, cost, human response, how well the technologies work, and how easy they are to maintain. Architects and interior designers can light their own projects guided by DELTA program examples and the conclusions drawn by their evaluations.

One of the DELTA sites was a 25,000-square-foot Patchogue, New York, Linens 'n' Things retail store that sells popular-priced bath, bed, and table linens as well as other home furnishings. The facility has an open "warehouse" look, and the floor area is broken into departments by shelves that line the perimeter walls and also function as partitions between departments. These shelves are very tall, 12 feet or higher, and are used for display as well as merchandise storage. The DELTA team evaluated several store areas: vertical storage and display, floor racks, the center aisle, and the checkout area.

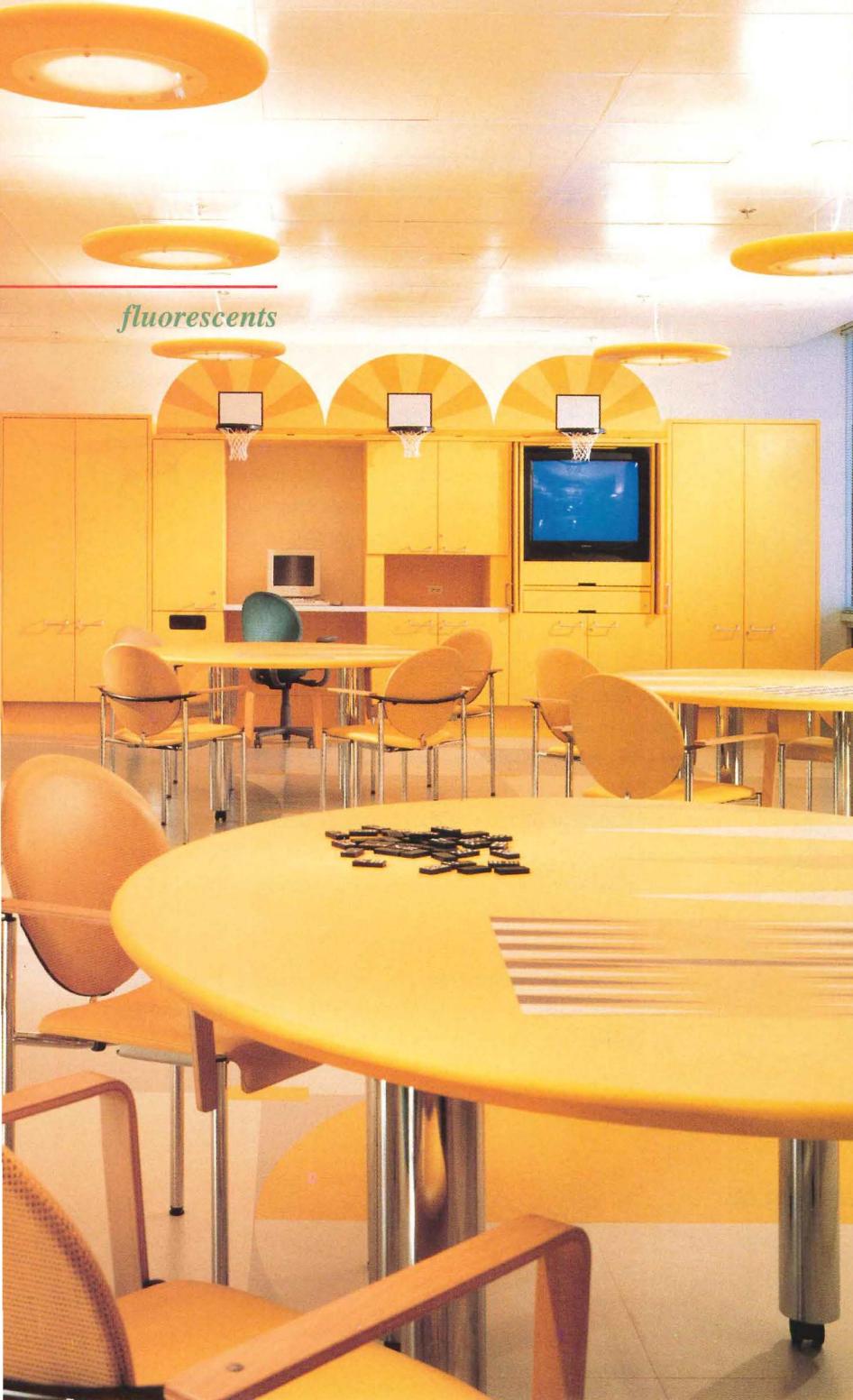
Among older stores in the chain, and also typical of many similar retail stores, the lighting approach employed fluorescent sources for general lighting and incandescent sources for accent lighting. In this particular Linens 'n' Things, the lighting design focuses on energy efficiency, ease of maintenance, reduced operating costs by minimizing the number of fixture types. The goal is also to create a clean, appealing, and attractive look for the merchandise. Warm-color metal-halide lamps are used for general lighting, and T8 and long twin-tube compact fluorescent lamps are deployed for aisle and wall displays. Halogen infrared spotlights draw attention to special focal points in the store. The lighting system provides good visibility and color rendering of products, and at the same time it saves energy and streamlines maintenance.



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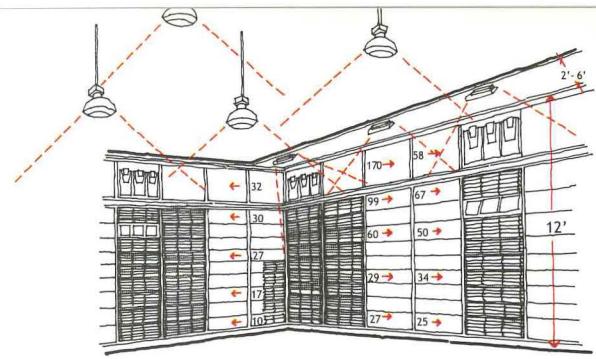


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lighting case study

The connected lighting power density for the Linens 'n' Things store was reduced to 2.4 watts per square foot, a significant reduction from what the client considered to be standard practice across the country. In general, both customers and employees are pleased with the improved lighting in the store, and find it to be not only a more pleasant space, but also more visually comfortable.

Many warehouse-style stores are lighted with ceiling-mounted fluorescent striplights, recessed lensed luminaires, or HID downlights that produce uniform lighting on the merchandise below. Wall displays receive no special emphasis. In this Linens 'n' Things, designers paid special attention to the lighting of wall units. Track lighting, using long twin-tube compact fluorescent lamps, provides high vertical illuminances. The higher brightness attracts the eye and allows the customer to evaluate color and textures. High brightness on the perimeter walls also



Illuminance values of towel shelf display

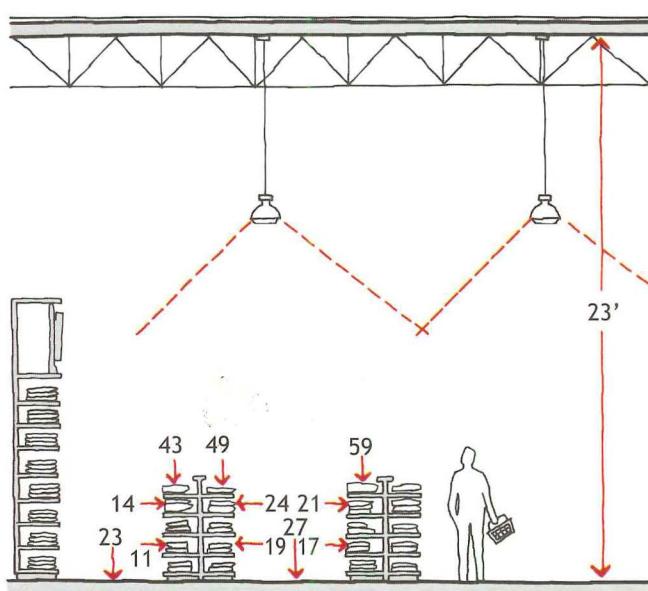
serves to make the store look more spacious.

Towels are displayed on three 12-foot-high walls of shelving units arranged in a U-shape and on five floor racks that measure 4 feet high. Low-bay metal-halide luminaires are spaced in a rectangular grid 12 to 14 feet on center and provide general illumination. Track-mounted long twin-tube fluorescent lamps, spaced 8 feet apart, illuminate the products on the rear wall, from 2½ feet away. The light pattern could have been more even by spacing the track 3 feet to 3½ feet rather than 2½ feet from the edge of the display units.

On the side of the wall shelves, there is no dedicated track lighting, and the merchandise looks noticeably dim. The ambient light from the low-bay luminaires ranges from 33 to 10 fc and averages 24 fc. Adding track lighting to the side wall shelves would remedy the situation.

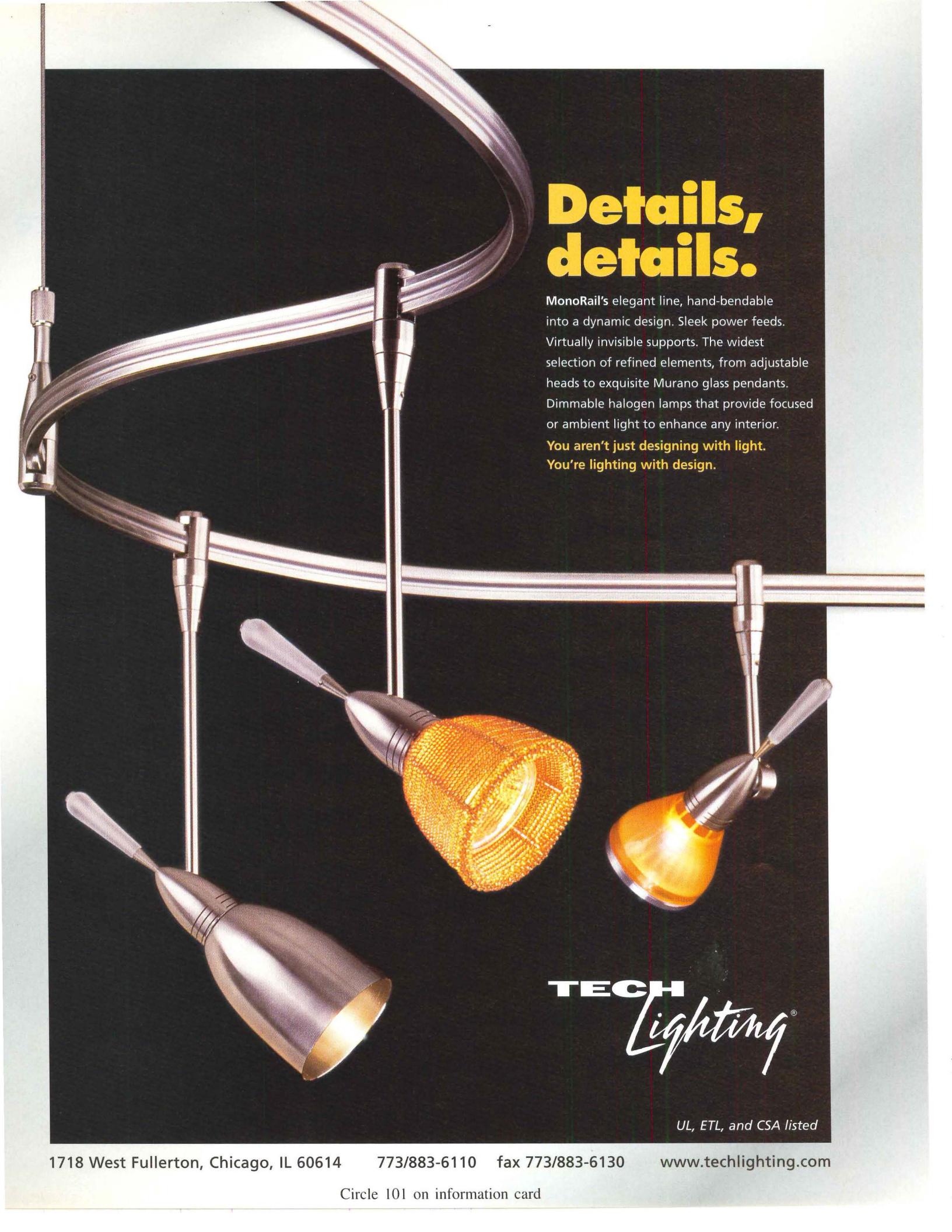
The floor racks display merchandise that is easy to see near the top of the rack, but more difficult to see nearer the floor, where some general lighting is blocked. This is a common problem in retail lighting, where the luminaire may not be directly above the rack.

Efficient technologies were used throughout this Linens 'n' Things for everything from general illumination to wall washing to accent lighting. This case study demonstrates that even popular-priced retailers can have good results and long-term benefits from an energy-conscious approach to lighting.



Towel floor rack section (illuminance values in fc)

For more information about the DELTA program, its projects, and its publications, contact the Lighting Research Center, Rensselaer Polytechnic Institute, Troy, N.Y. 12180.



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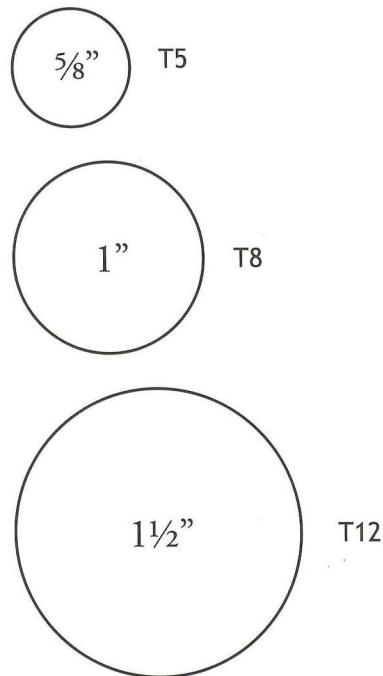
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Early Application Deadline: August 20, 1998

Final Application Deadline: September 18, 1998

Examination Date: November 7, 1998

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lighting focus

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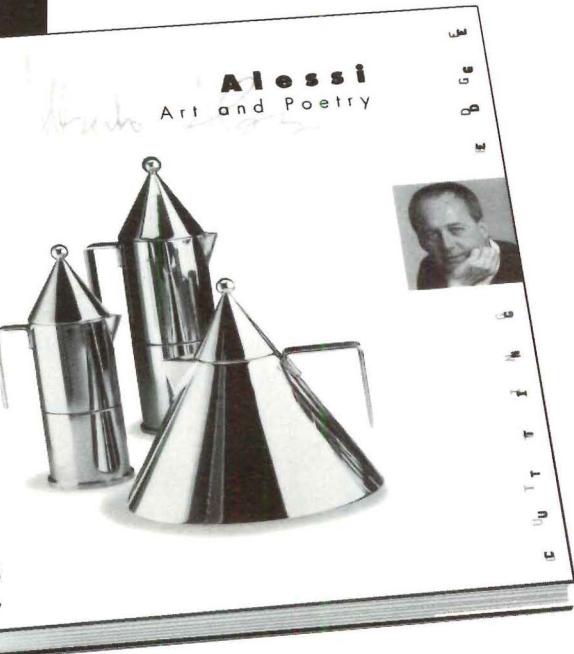


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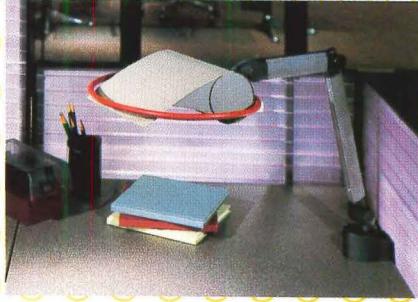
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bright ideas

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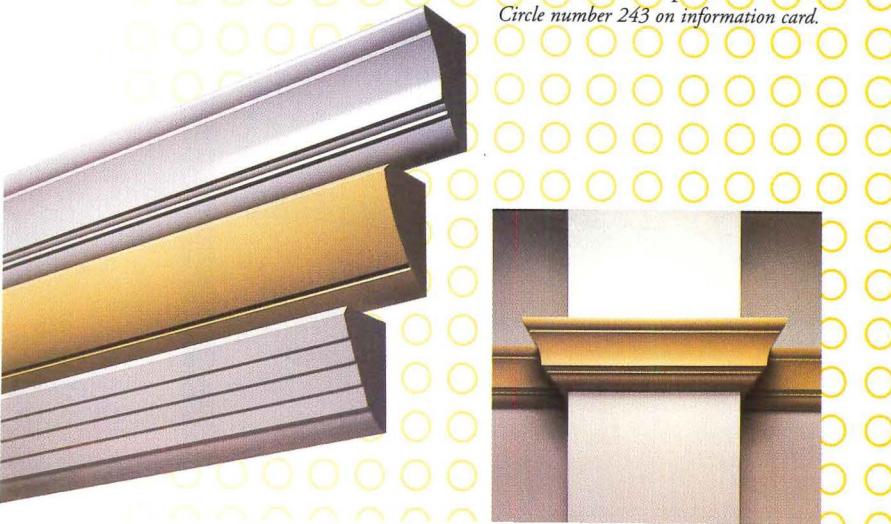


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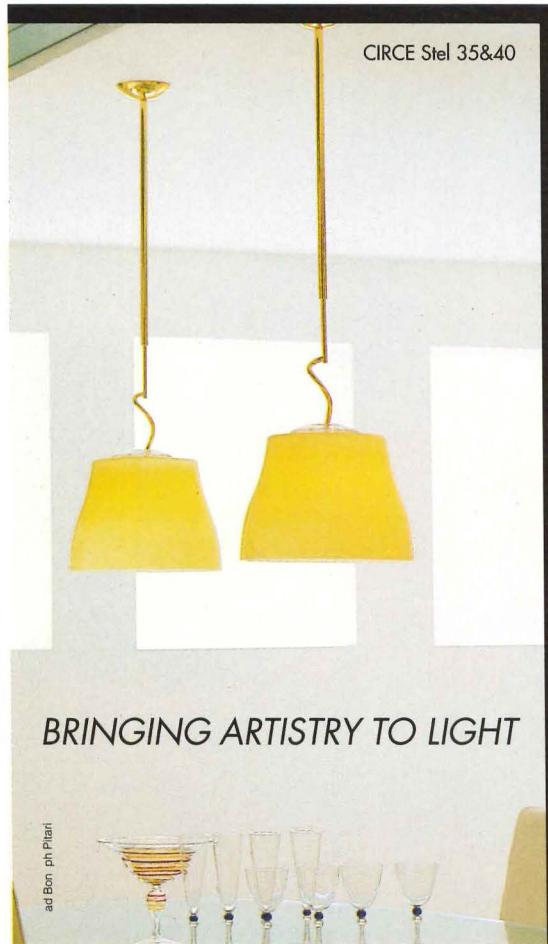
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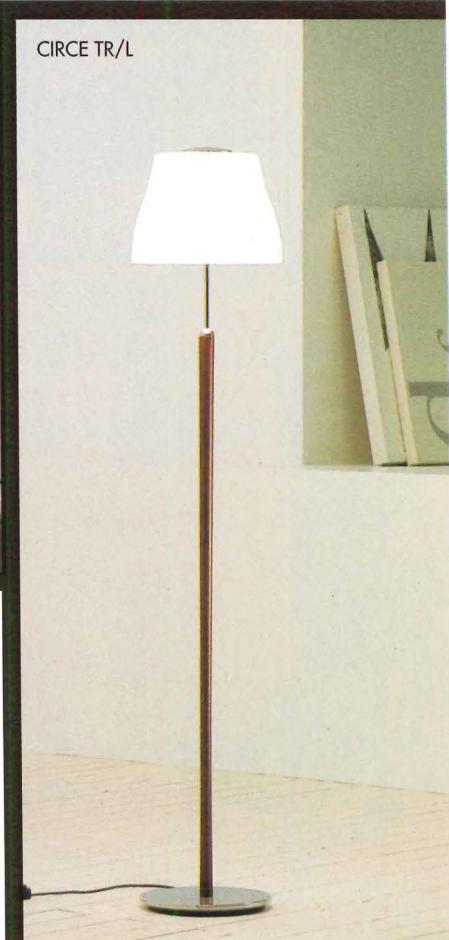


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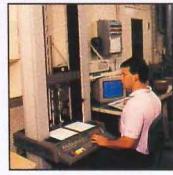


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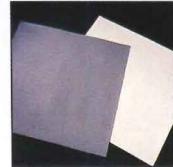


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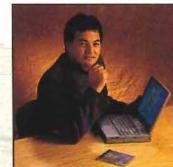
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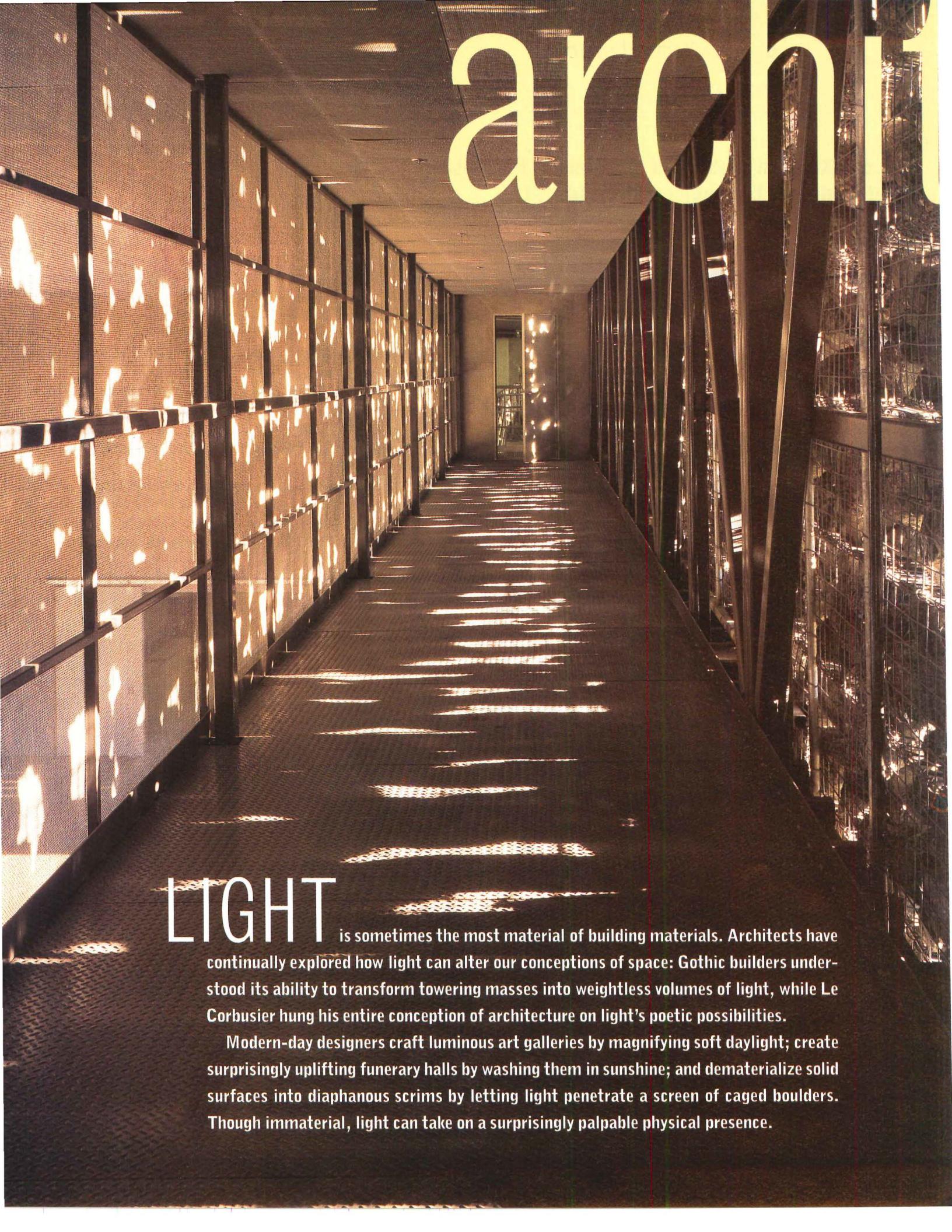
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LIGHT

is sometimes the most material of building materials. Architects have continually explored how light can alter our conceptions of space: Gothic builders understood its ability to transform towering masses into weightless volumes of light, while Le Corbusier hung his entire conception of architecture on light's poetic possibilities.

Modern-day designers craft luminous art galleries by magnifying soft daylight; create surprisingly uplifting funerary halls by washing them in sunshine; and dematerialize solid surfaces into diaphanous scrims by letting light penetrate a screen of caged boulders. Though immaterial, light can take on a surprisingly palpable physical presence.

By Allan Schwartzman

WHY

Long America's arbiter of Modernism, the Museum of Modern Art struggles with its identity.

When the Museum of Modern Art looked past the list of seasoned American and European museum architects for its upcoming expansion, many people mistakenly thought the preeminent institution of its kind was seeking a more dynamic relationship to architecture. Indeed, the process of inviting 10 primarily younger practitioners to submit their vision for a refueled MoMA made the museum appear courageous. But the move proved more an expression of dissatisfaction with the usual suspects than a desire to be cutting-edge. In the end, the museum's leaders chose Yoshio Taniguchi, a 60-year-old Classical Modernist little known outside his native Japan, who proposed an elegant, pragmatic version of what its much-maligned previous expansion, designed by Cesar Pelli in 1984, should have been all along.

Then again, why would it have seemed appropriate for MoMA to be experimental? With the world's most revered collection of Modern masterpieces, MoMA exists to make historical judgments, to bring the big picture into focus. Other museums engaged in "the new" on the micro level, like the Whitney Museum of American Art, are expected to risk the belly flops. Still others, like the Guggenheim, with its once-radical Frank Lloyd Wright building in New York City and its newly radical Frank Gehry counterpart in Bilbao, Spain, are expected to be the architectural activists. For better or worse, it is MoMA's role to be papa.

Founded in 1929, the Museum of Modern Art was the world's first—and for a long time only—museum of contemporary art. Initially housed in various residential buildings, MoMA's first permanent home, designed by Philip L. Goodwin and Edward Durell Stone in 1939, set a standard for modern museum architecture. The fabled intimacy that has since been MoMA's special character resulted from galleries that were based on the domestic scale of the bourgeois home. Philip Johnson's expansion in the early 1960s maintained that intimacy while accommodating a greatly expanded collection and audience.

But that tradition was broken the last time MoMA expanded—a little more than a decade ago. Pelli's addition seemed to say that MoMA's collection of Modern art was complete, symbolically transmitted by the single mazelike design of the galleries. The point was to immerse the viewer in the spectacular separate reality of Modern art, to tell the story from the Impressionists' revolutionary examination of perception more than a century ago to what appeared to be the epoch's natural terminus with the highly reductivist abstraction of the 1960s Minimalists. New art was a cozy afterthought granted little space at a social distance.

However rich that journey, the routing turned out to be tactless. There were no options: just a long march with no departure from the canon. Gone were the days when you could slip serreptitiously into MoMA and go straight to your favorite Brancusi.



Taniguchi plan removes Pelli greenhouse (left), reconnecting residential tower and sculpture garden (above). Signage demarcates current 53rd Street entrance facade (facing page, left). New galleries sit in vertical expansion to west of residential tower (facing page, right).

DOES MoMA MATTER?



In the short time since then, much has changed. New art, hitherto a specialized interest, has become big business. The paternalistic notion of a definitive history that was MoMA's stock-in-trade has lost its validity. Ambitious art impresarios and their patrons have arisen to challenge MoMA's canon. Adrift on an island of its own making, MoMA's vitality was threatened.

Shortly after completing Pelli's soulless expansion, MoMA changed too. Instead of telling the story of Modern art, today the museum's younger leaders speak of multiple stories. Assuming that its unparalleled collection will remain a big draw, once again MoMA is hitching its future

to contemporary art. The museum is mounting more retrospectives of living artists and buying new art with renewed vigor. And so MoMA's next expansion involves more than adding 230,000 square feet. MoMA is attempting to restate its authority in an antiauthoritarian age.

In the Taniguchi expansion, made possible by the museum's acquisition of a contiguous hotel and expected to open in 2004, the relationship between history and the future will be reversed. The space devoted to contemporary art will be vastly expanded and located more prominently in the museum's most accessible galleries. The proven masterpieces will be on upper floors, along with temporary exhibitions. But the key to the next MoMA is that it will offer viewers options. Historical chronologies will be enterable at multiple points, with a central spine of galleries and smaller byways radiating from it meant to more closely explore individual moments, or particular media, or both.

Equally significant, the Taniguchi plan is intended to restore the special intimacy the museum's devotees savored and Pelli destroyed. Gone will be the department-store escalator that heralded one's entrance to the museum and blocked the view to the beloved sculpture garden. (What were they thinking?) Indeed, Taniguchi uses the garden, designed by Philip Johnson in 1953, as his spiritual fulcrum. The original garden will be restored, visually extending indoors with sculpture in the lobby. A new glazed stair overlooking the garden will open the museum to the city and the garden to the Pelli-designed residential tower that sits atop MoMA. Taniguchi designed the expansion to architecturally mythologize the Museum of Modern Art, while enabling the museum to move forward artistically and intellectually. Those hoping for a truly invigorating piece of architecture will have to look elsewhere. MoMA has decided to leave the Bilbaos to others.

The new MoMA will not be exciting, but it will be appropriate. And it may be great at honoring the art for which it is being designed—and that's far more than most new museums have been able to achieve.

Allan Schwartzman has written about art for *Art & Auction*, *The New York Times*, and *The New Yorker*.

Critic Joseph Giovannini and Curator Terence Riley square off on Yoshio Taniguchi's controversial MoMA addition.

Critique

By Joseph Giovannini

FISTI

No one is saying it loudly, but when it comes to Japanese architect Yoshio Taniguchi's scheme for the expansion and renovation of New York's Museum of Modern Art (MoMA), the emperor is wearing no clothes.

The model that stands before museum fans offers two bland boxes—one large and one small—that bracket the cherished garden in a dumbbell scheme of no conceptual subtlety or formal interest. The high-profile design amounts to an embarrassment for the museum and the city, and it is a provincializing setback for the profession.

The approximately 150,000 square feet of gallery space easily could have been accommodated in a horizontal three-story scheme offering promenades embracing the garden. But in Taniguchi's plan—an eight-story box with a piecemeal vertical layout—stratified verticality undermines the possibility of any continuous narrative in the collections. Curators may have visions of Kyoto serenity in their heads, but what the sections show is basically an American department store with a shifted doughnut plan. Think JCPenney's on a bad escalator day.

At eight stories, the tower is necessarily dependent on elevators, escalators, and staircases, which the architect organizes loosely around a glorified light well. The surrounding galleries are a vertical rabbit warren. The two-story contemporary collection is accessed off the ground floor; three stories of Classical Modernism start farther east on the fourth-floor landing, each floor with a different relationship to the circulation core. A jog in the escalator bank leads to the seventh floor's temporary exhibition, and another escalator in yet a different position within the temporary galleries leads to the eighth floor. The tower will force herds of people headed for the blockbuster shows to the most distant upper reaches of the museum. ("They'll take the freight elevator," says Taniguchi blithely.)

Taniguchi fails to solve the circulation problem that his own verticalizing necessitates, creating an organization that gathers rather than disperses crowds, largely containing them in a single volume rather than urbanizing the whole site. The architect claims he wanted to give visitors a choice in which circulation pattern to follow, but the result is a garbled, congestive sequence that will foil the art narratives. Inexplicably, he extends the base of the MoMA tower down through the atrium and into the garden, occluding the already-fragile almost-atrium on the inside and dividing the museum from itself on the outside.

It has always been presumed that Yoshio Taniguchi's proposal for the new Museum of Modern Art would be controversial; it simply takes too strong a position for it to be otherwise. Inasmuch, the inability of Joseph Giovannini—who has made criticizing MoMA a virtual cottage industry over the past decade—to appreciate the proposal or its

vision is hardly unexpected. Even so, he manages to bestow a backhanded compliment. As philosopher Martin Heidegger described it, art is not made but "unconcealed." At its best, Taniguchi's unconcealed proposal demonstrates that the emperor needs no clothes.

In framing the program for the new museum, we asked the competing architects to consider the unique urban situation of Midtown Manhattan. Taniguchi's response is an affirmation of the vitality that exists within this environment and promises to be the most exceptional new building in this city in a generation. It embraces Manhattan's density and verticality with ease. It introduces a more public dimension to the institution as well as rethinking the museum's various components—the original Goodwin and Stone building, the East Wing and Sculpture Garden by Philip Johnson, and the West Wing and Tower by Cesar Pelli—and renders them a coherent urban assemblage. Taniguchi's regard for Manhattan's urban qualities seems to be lost on Giovannini. He describes the architect's scheme as "hardly distinguishable from the rest of Midtown architecture," as if there was something wrong with integrating the new museum with the most magnificent architectural environment of the 20th century.

The way the museum presents its collection will be greatly improved with Taniguchi's plan. It responds to the curators' wishes that the museum be able to express a more subtle narrative history of modern art. Rather than the traditional, single-track march of galleries, the new museum will be able to express parallel, alternate, and oppositional histories. It will also, for the first time, allow for a presentation that crosses over traditional media boundaries. Perhaps most radical, Taniguchi proposes to invert the sequencing of the galleries, placing contemporary art in the most prominent position. Giovannini's continued defense of the straight-line single narrative, and the orthodoxy it implies, is not only old-fashioned, but leads him to mistake a more subtle presentation of the collection for problems with circulation.

response

By Terence Riley

CUFFS on 53rd STREET

The garden is marginalized and distanced from the museum's main body, now shifted west.

From the beginning of its architectural search, MoMA seemed intent on creating the un-Guggenheim. Museum Director Glenn Lowry declared puritanically that "the site does not allow for a signature building to be successful." But by confusing ego for geometry in resisting signature, the museum limited the choices of architects and proposals. It is precisely in tight sites that liberated geometries are most opportunistic. Wright's Fifth Avenue parcel was small, but he solved the sequencing on eight floors effectively with a curvilinear ramp backed up by stairs and an elevator: The ramp is a continuous loop unfolding in light, and its continuous linearity supported visual histories.

Restricted to a conservative kind of Modernism, the competition eliminated any architects who might play on the complexity and heterogeneity of the site. Curator of Architecture and Design Terence Riley famously said the museum didn't want anybody three steps ahead, just one. "You can argue that being radical in museum design is the most conservative way to go," he stated in a pretzel of counterintuitive logic that landed MoMA with flat-footed plans, inert masses, and blank facades superficially masked as serenity and simplicity.

The Modern hasn't been cutting-edge in a long time, at least not in architecture. With this status quo building, the museum is looking at a reflection of its transformed institutional soul: The MoMA that engaged Modernism in its early years has emerged as a deeply conservative institution unable to be contemporary. This is comfort Modernism—practiced in a safe realm that was already familiar by the late 1950s.

With this design, MoMA abdicated its leadership position and failed its own stated mission: to affirm the importance of contemporary art, and to remain a vital force in the field engaged with the present. Not incidentally, the winning scheme, whose lack of spirit must sadden anyone who wants MoMA to stay relevant, damages the design and architecture department, which has put itself in the dubious position of nursing a selection process that yielded a substantial new construction project that would never deserve its own show.

The challenge of building a vertical museum is daunting and will require great care on Taniguchi's part. To shrink from this challenge, however, is to contradict the logic that has driven Manhattan's architectural innovations over the decades. Giovannini's fretting about circulation through a six-story space in a city of towering skyscrapers is perplexing. The only solution to his fear of heights seems to be to include a ramp like the one at Frank Lloyd Wright's landmark Guggenheim Museum. However, if a spiraling ramp for circulating through a multistory museum was as efficient as Giovannini would have us believe, you would think it would have been imitated—at least once—in the half-century since it was first proposed.

Giovannini's criteria for judging the success of a museum have varied over time. Even as he praised the architectural merits of the Wexner Center for the Arts at Ohio State University in Columbus, he blithely reports that "curators who have worked in the space report that conventional paintings do not hang there easily or well." Another museum that drew his accolades, the Groninger Museum in Groningen, Netherlands, was photographed for publication without any art in it at all for obvious reasons: Both the art and the architecture would have looked terrible together. Taniguchi's proposal reaffirms the obvious: A museum can have great art and great architecture.

Finally, I don't know how to respond to Giovannini's negative comments about the proportions, forms, and composition of Taniguchi's solution. Perhaps it should simply be attributed to differences in taste. Nevertheless, I am more inclined to listen to someone who has spent their entire career developing an architecture that approaches the sublime, as Taniguchi has, than hitch our wagon to the now—mercifully—dead horse of Deconstructivist fashion.

Giovannini declares that we did not want a "radical" design. In truth, Taniguchi's scheme is not radical, at least not in the sense the media craves and depends on. Nor is it as radical as many of MoMA's programs. Even so, let's introduce another definition of radical—Frank Lloyd Wright's: "Radical means 'of the root' or 'to the root'..." The key to Taniguchi's design is the extent to which he is able to reach and express the root forces that created, transformed, and continue to sustain not only the Museum of Modern Art, but Modernism itself.

Taniguchi's design sets the clock back. MoMA's decision-makers opted for the traditional, not for a museum of the 21st century understood in freshly defined contemporary terms. Perhaps the museum is faring better in other departments, but in its architecture, MoMA has chosen not to face the millennium.

By Joseph Giovannini

Terence Riley's primary defenses for a dismal scheme are evasion, spin, and slur. The facts, however, lie in the plans, and they simply do not substantiate his platitudinous claims about urban vitality, public character, sublimity, innovative exhibition planning, and effective vertical organization. The glaring mediocrity of this scheme is what makes it controversial.

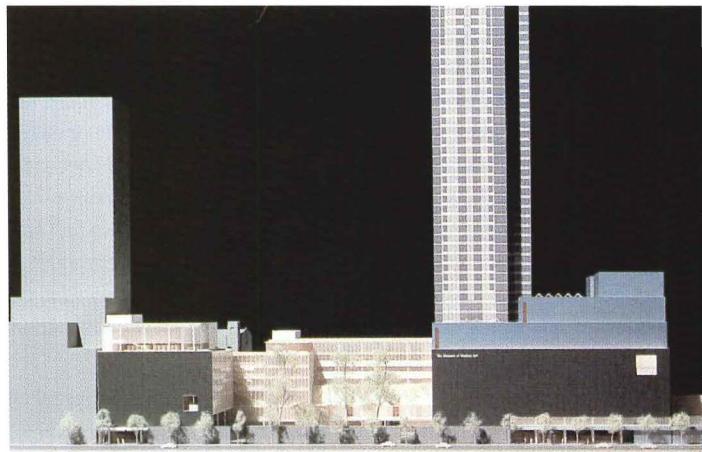
It was Riley who wrote in the MoMA catalog: "Visitors should be able to move between the principal floors of the museum in a manner that reinforces the continuity of the narrative sequence." Yoshio Taniguchi's overly verticalized scheme and stretched circulation, then, undercut Riley's own "old-fashioned" demand for narrative, forcing visitors onto a mechanized eight-story treadmill (not six, as Riley misstates) of staircases, elevators, and escalators. Smart visitors will simply take the elevator to the top (if they find room in the two overworked cabins) and filter down the pancake, defeating Taniguchi's "radical" inversion of visiting the Modern collection before the contemporary.

That Taniguchi—and so many architects in the competition's first round—produced weak schemes resulted from the program's restrictive ideology. Riley's brief encouraged normative, right-angled conventions that undercut Modernism's traditions of invention. Forget the compass, the computer, and other exploratory tools. Ignore too Manhattan's other languages—the episodic downtown street pattern, the irregular waterfront edge, and Broadway's slashing diagonal. New York's contexts are plural and complex, not single and unified. For today's MoMA, the only Modernism is the mainstream descendant of the Bauhaus, via the International Style. This is a regime of orthodoxy.

Taniguchi's Modernism—acquired at Harvard in the early 1960s and parked in Japan since—is conceptually unevolved. The new building perpetuates Goodwin's shallow original structure. It reaffirms what we have known since the 1920s and uncritically mimics the surrounding corporate high-rises. The scheme's slim atrium reiterates the tired terracing in the nearby Trump Tower. Taniguchi's design may deliver good light, but the sublime will have to come superficially, via surfaces: It simply cannot be located in the space, form, program, or structure.

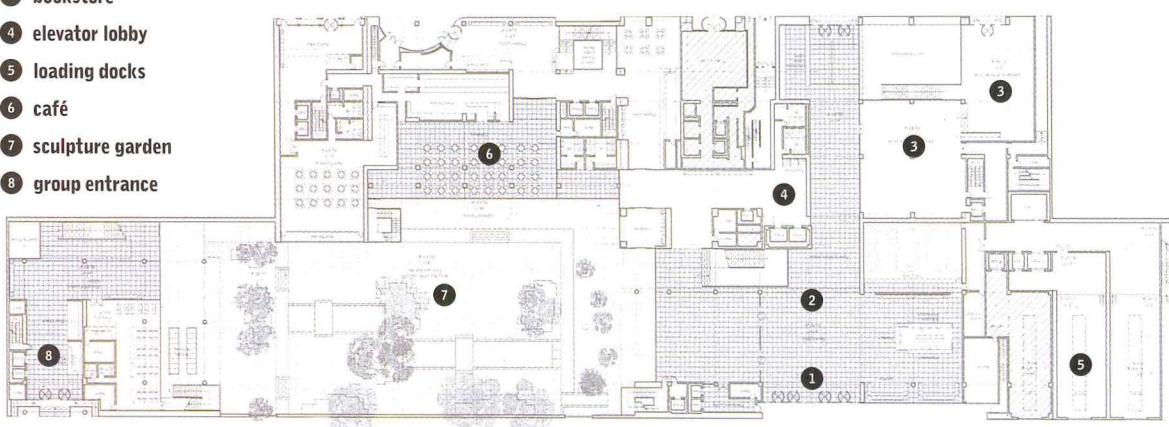
With its hairshirt restrictions, MoMA pre-empted architectural imagination and outsmarted itself. Muzzled architects, including

Taniguchi, produced what the nonprofessional trustees (who held votes) wanted—a portrait building painted in the unchallenging way the institution sees itself and wants to be seen. The architectural subject of our time is how to reinvent Modernism. MoMA's dull, functionally compromised building makes no contribution to the progressiveness MoMA purports to represent and support.



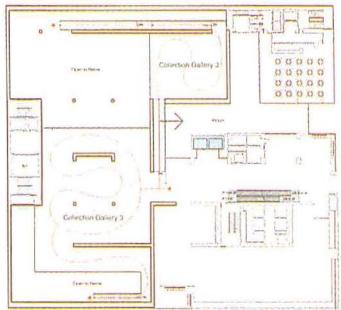
Taniguchi's proposed expansion shifts main entrance sequence to 54th Street (right) and includes expanded lobby that connects with outdoor sculpture garden (plan, below). New galleries (plans, facing page) stress simplified, linear circulation. Sculpture garden and enlarged public circulation areas bridge offices to east and galleries to west (section, facing page).

- ① entrance
- ② lobby
- ③ bookstore
- ④ elevator lobby
- ⑤ loading docks
- ⑥ café
- ⑦ sculpture garden
- ⑧ group entrance

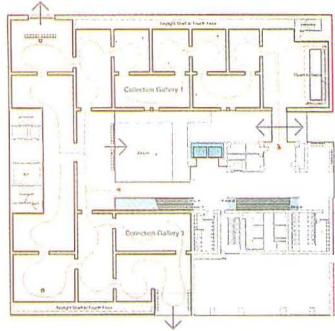


First-floor plan

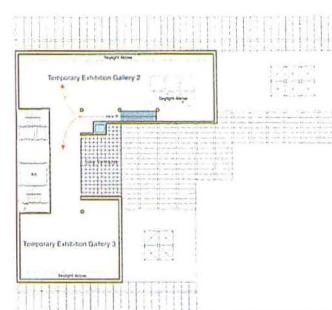
60'/18m



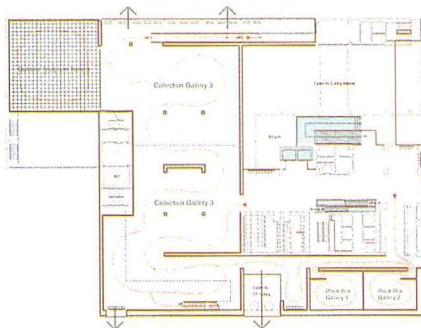
Third-floor plan



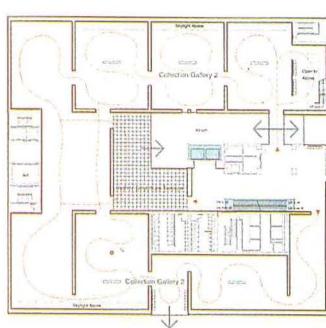
Sixth-floor plan



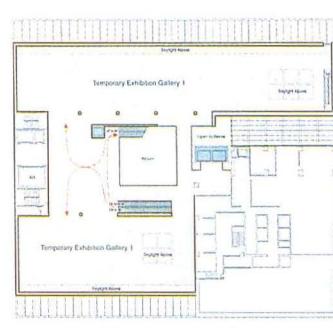
Eighth-floor plan



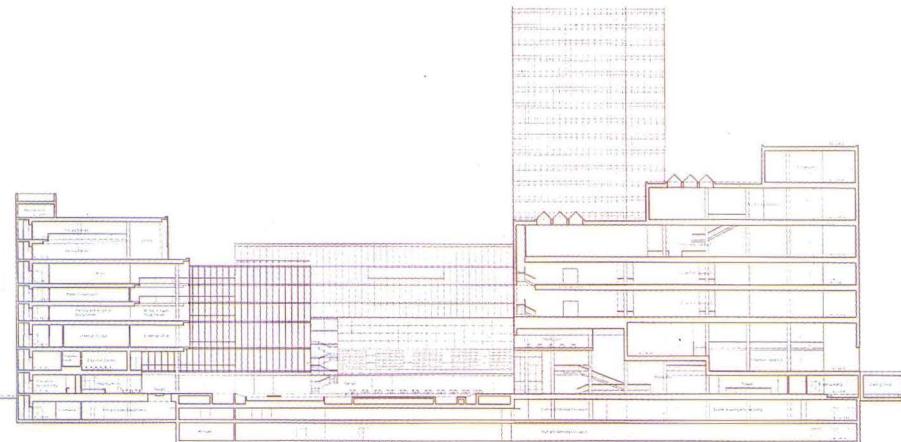
Second-floor plan



Fourth-floor plan



Seventh-floor plan



East-west section

By Terence Riley

I must further question the logic of Joseph Giovannini's critique and its implications on architecture. But first—in the current proposal, there are six levels of public space. Above a portion of the third floor is a split-level mezzanine. This does not equal eight levels of galleries.

While Giovannini's observation that Manhattan com-

prises many urban contexts is obvious, must I point out that the Museum of Modern Art (MoMA) is not situated on Broadway, the waterfront, or downtown, but smack in the middle of Midtown's landmark grid? His advocacy for a relationship between the geometries of a site and its architecture is laudable and correct. Yet, in singling out the right angle for demonization, Giovannini contradicts himself and undercuts his own rhetoric about heterogeneity.

To see the right angle as representing a "regime of orthodoxy" is to submit to a formalist determinism that has also no place in contemporary theoretical debates. Taniguchi's scheme can be seen as not only embracing its specific urban context but retheorizing an environment that is largely built. Recognizing the paucity of contemporary architectural strategies for dealing with sites that are themselves constructions, Taniguchi provides an alternative to the amnesia of tabula rasa demolition or the timidity of strict preservation.

If dealing with the built environment will be a hallmark of 21st-century architecture, then dealing with complexity will be more so. Taniguchi's scheme rebukes those who see architects as fainting artistes who can deal with complex form but not complex programs. His scheme's persuasiveness lies in its ability to dissolve a Gordian knot of technical, legal, and functional issues as a matter of course, subsuming them far below the masterful material and spatial qualities that rise to the surface.

In expressing his dismay that MoMA's "nonprofessional" trustees had the temerity to select Taniguchi, Giovannini furthers the defeating notion that architects can only speak to other architects. This attitude damages architecture, creating a marginalized and insular profession, as well as clients who respond by limiting the architect's role. Five hundred years of architectural history testify to the critical importance of the engagement of an enlightened client and a visionary architect, from Julius II and Michelangelo to Edgar Kaufman, Sr., and Frank Lloyd Wright. The new MoMA reaffirms the role of the architect as a partner in the conceptualization of the program and a leader in designing a solution and planning its realization.

rebuttal

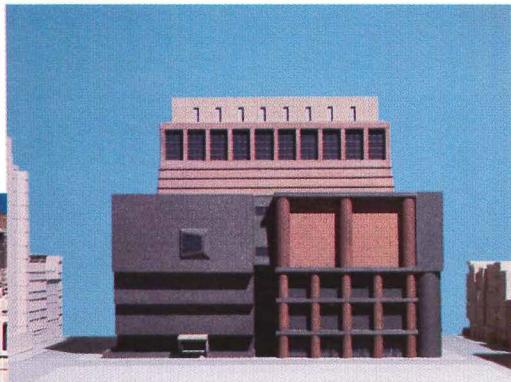
EXPANDING



A N I C O N

After years of controversy, the Whitney Museum finally settles on a quiet expansion.

By Allan Schwartzman



Marcel Breuer's Whitney Museum (facing page) once raised eyebrows for its domineering presence along Madison Avenue. Michael Graves proposed series of addition schemes (above left and right) in late 1980s, but public opinion favored preserving Brutalist building's integrity over new, subsuming addition.

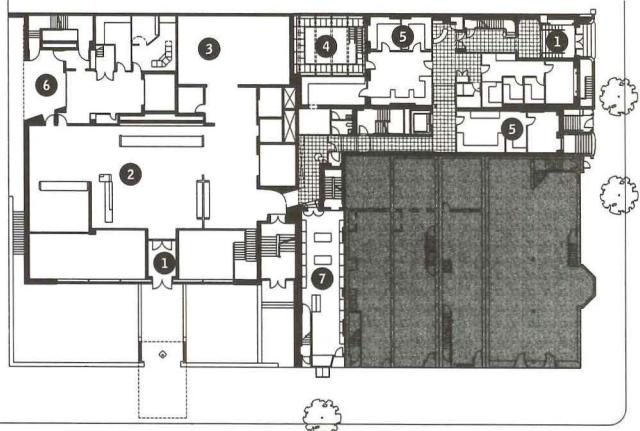
cal presence concealed a space much too small for its permanent collection, making expansion essential and inevitable. In anticipation of this squeeze for space, the Whitney acquired the adjacent Madison Avenue lots over a period of many years.

In 1985, the museum unveiled an expansion scheme by architect Michael Graves. The museum hired Graves because of his reputation as one of a handful of architectural innovators challenging the status quo of Modernism. What they got was a proposed second sculptural block beside the existing Whitney whose mass mimicked Breuer's. Graves chopped off the Breuer building's staircase and replaced it with a jutting, rounded "hinge," connecting the new half to the old. He also suggested a multilevel "mantel clock" spanning both masses that would effectively double the height of the building by adding a top equal in height to Breuer's building. In keeping with Graves's characteristic style, the new construction was to be highly detailed, colorful, even flamboyant—bursting with unabashedly decorative ornamentation. One of the most disfiguring acts of artistic cannibalism of our time, Graves's plan was essentially to appropriate the Breuer building into his own design, destroying the integrity of the original in the process.

Initially, the plan was embraced by critics, but community groups were outraged by the scale of the project. Some 600 arts professionals signed a petition calling for the protection of the Breuer building. Graves returned to the drawing board several times. But in the end, neither the museum nor the architect were able to quell the community opposition or gain the support of the Whitney's board of directors, who were expected to raise the \$37 million for the expansion. In the process, Whitney Director

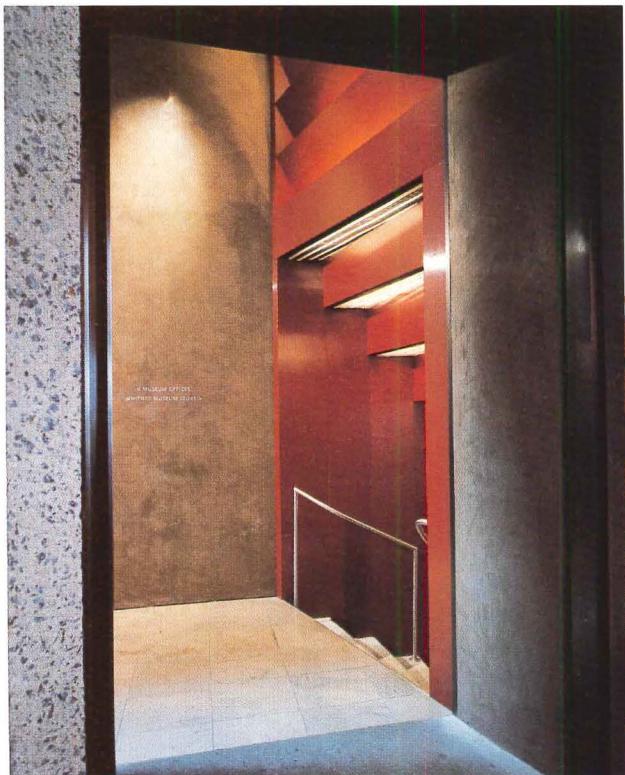
The Whitney Museum of American Art was never a loved building until the museum tried to destroy it. Aloof, dark, and foreboding, this sculptural granite fortress, designed by Marcel Breuer in 1966, looms over New York City's posh Madison Avenue. Ironically, the Whitney's imposing physi-

- 1 entrance
- 2 lobby
- 3 gallery
- 4 reading room
- 5 offices
- 6 loading dock
- 7 museum store



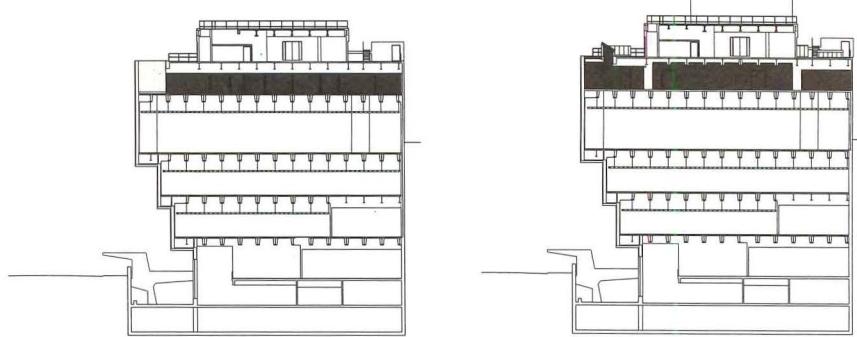
First-floor plan

30'/9m



Stair connecting ground-floor lobby to museum store (above) marks transition between Breuer's original and Gluckman Mayner's addition. Skylit library reading room (right) occupies former courtyard of row-house adjacent to museum.





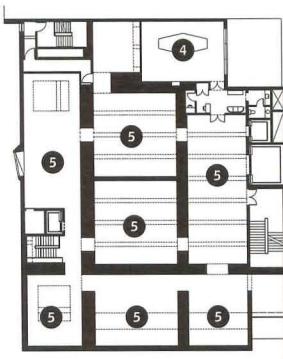
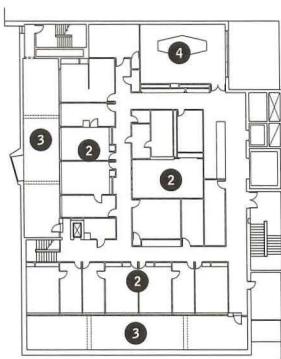
East-west section (before and after)

Tom Armstrong lost his job and the board underwent a shake-up.

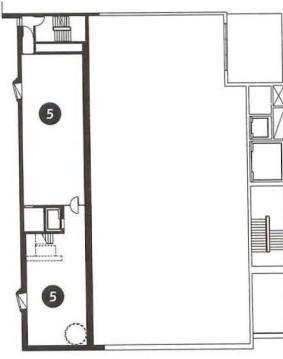
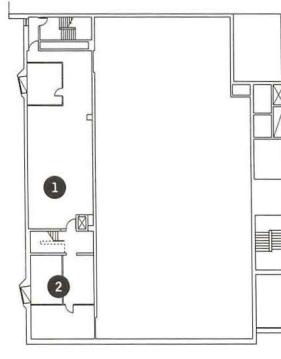
By the time the Whitney abandoned any kind of Graves expansion in 1994, a recession had stifled both New York City real estate development and a formerly bullish art market. Furthermore, the Whitney's special position was diminished: Both the Guggenheim and MoMA were intensifying their commitment to contemporary art; the Museum of Contemporary Art in Los Angeles had opened two impressive new facilities; and museums across the country had joined the contemporary art bandwagon and planned ambitious expansions. Moreover, a burgeoning global art world threatened to cast a once-pioneering Whitney into a provincial minor league.

These shifts convinced the Whitney to change course. Instead of tearing down the adjacent townhouses it owned, the board decided to renovate several of them. This plan would enable the Whitney to expand its offices and library in contiguous structures that would not change the streetscape visibly, while freeing up the fifth floor of the Breuer building for galleries devoted to the permanent collection. For the renovation and office expansion, the museum hired Gluckman Mayner Architects, the New York City-based firm known for their Minimalist gallery work such as New York City's Dia Art Foundation and the [Georgia] O'Keeffe Museum in Santa Fe, New Mexico (*Architecture*, August 1997, page 27). The firm's "no architecture" architectural style positioned them as Graves's polar opposite and the ideal choice to honor Breuer.

The new fifth-floor galleries were created to look as if they had always been there, continuing the same flagstone-paved foyer seen on other floors. The architect increased floor space by enclosing a surrounding terrace and gave the new exhibition floor a unique, but not inconsistent, character by adding skylights. "Originally, we thought of placing the galleries on axis with the elevator, but decided that wasn't an appropriate image for the display of the permanent collection, nor was it right for circu-

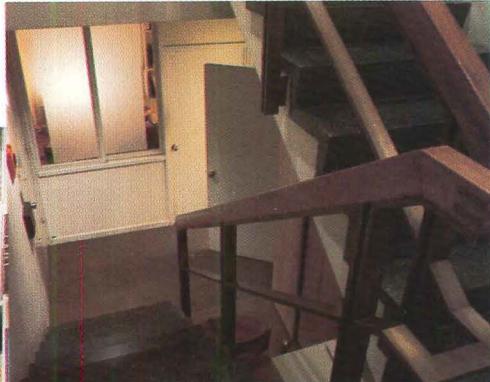
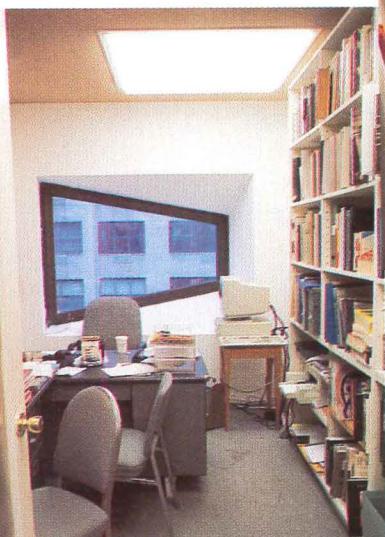


Fifth-floor plan (before and after)



Fourth-floor mezzanine (before and after)

- ① library
- ② offices
- ③ terrace
- ④ conference room
- ⑤ gallery



JERRY L. THOMPSON PHOTOS

Original stair (left) led to mezzanine library and offices (far left), which Gluckman Mayner converted into galleries.

of thin skylights running near the galleries' outer edge. The sequence changes at the first corner gallery, with a more dominant, boxier skylight at the center of the room. This gallery is devoted to the work of Edward Hopper and nowhere before has the importance of light in Hopper's paintings been so exquisitely highlighted. In the next fifth-floor gallery, light is an even greater presence as a relationship is created between one of Breuer's original faceted trapezoidal windows and an added skylight that is even more prominent than the original.

"We wanted to use light as a primary architectural element," explains Gluckman. In doing so, he and Principal David Mayner have found a way to gently impose their esthetic without compromising Breuer's. It's as if the humanizing presence of light has been brought in to lead the visitor through the telling of the story of American art. In the process, the new galleries finally enable the Whitney to permanently honor the extraordinary collection that distinguishes this museum from all others.

The expansion yielded other benefits as well. First, the building's deteriorating facade was restored. Second, by opening access to the fifth floor, the architect finally reveals the logic of the staircase that Graves wanted to lop off, making clear one of the key architectural features of Breuer's original design.

In the end, the Breuer building's aloofness was its salvation, its fierce defensiveness justified. Indeed, the Whitney's rocky recent history brought attention—and a renewed appreciation—to Breuer's landmark. Today, it stands as a reminder that Modernism's isolation was in many ways the very definition of its artistic integrity.

New York City-based critic Allan Schwartzman has written about the art world for Art & Auction, The New York Times, and The New Yorker.

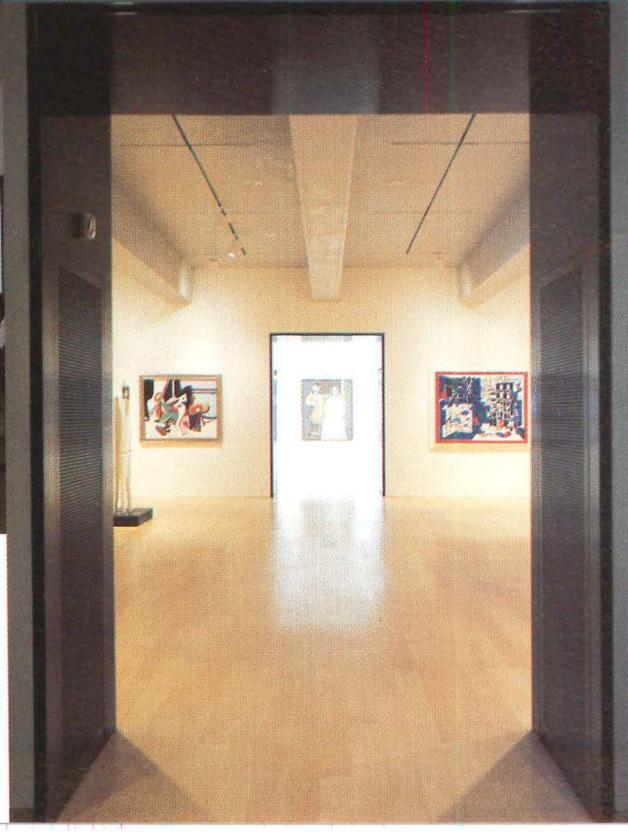
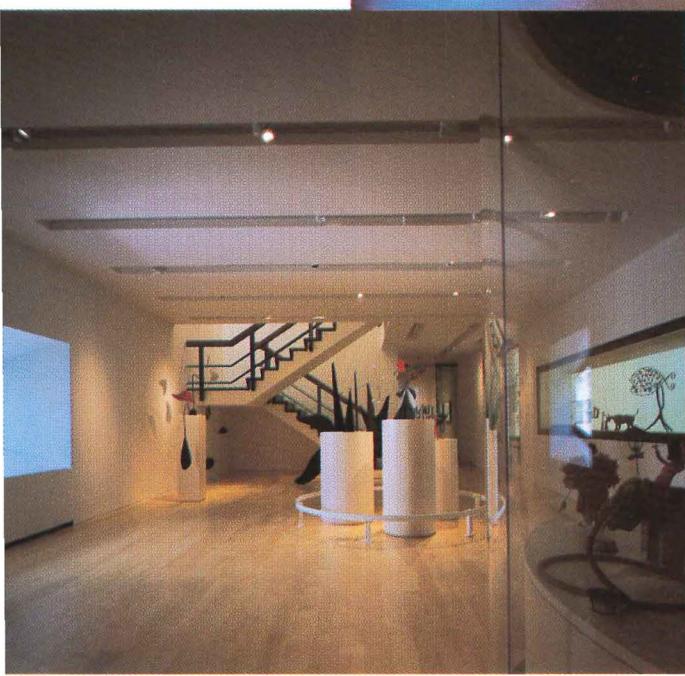
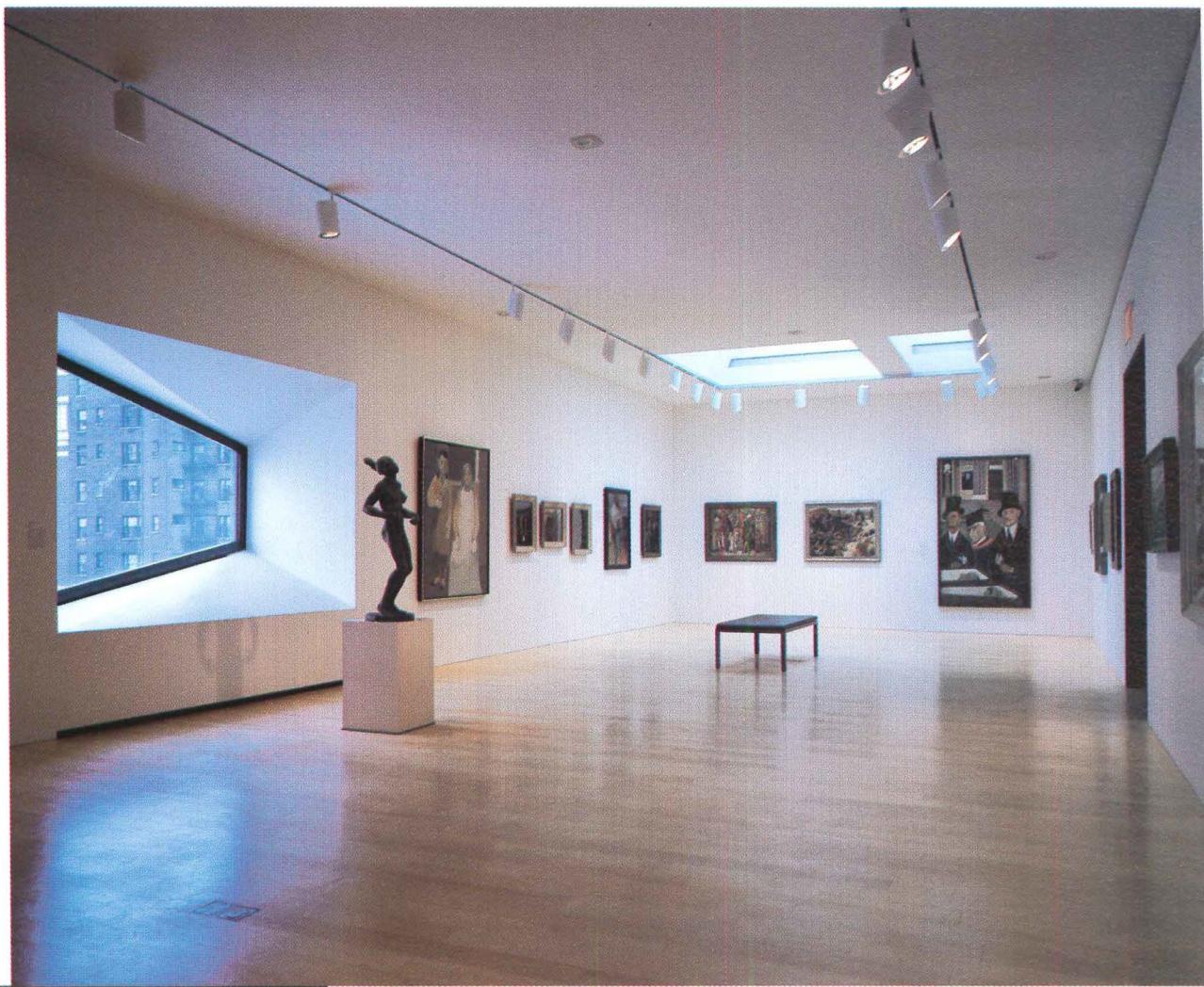
lation," explains Principal Richard Gluckman. "Instead, we used light to guide the visitor through the galleries. There's nothing telling you that the chronology begins to the left, but the light leads you there."

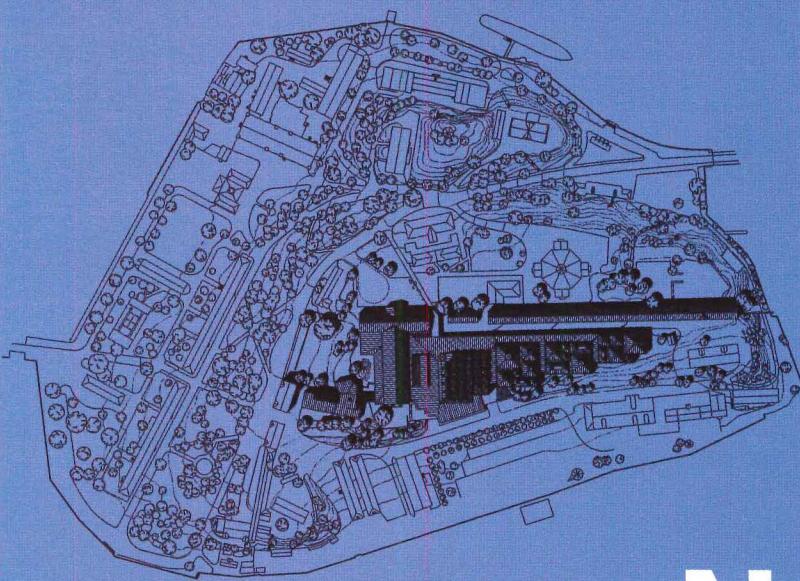
In the first sequence of fifth-floor galleries, light enters subtly in a band

WHITNEY MUSEUM OF AMERICAN ART RENOVATION NEW YORK CITY

CLIENT: Whitney Museum of American Art
ARCHITECT: Gluckman Mayner Architects, New York City—Richard Gluckman, David Mayner (principals-in-charge), Martin Marciano (project architect), David Adler, Mark Fiedler, Patrick O'Brien (project team)
ENGINEER: Ove Arup & Partners (structural, mechanical, electrical) **CONSULTANTS:** 2x4 (signage) **GENERAL CONTRACTORS:** AJ Contracting; York Hunter Services
PHOTOGRAPHER: Paul Warchol, except as noted

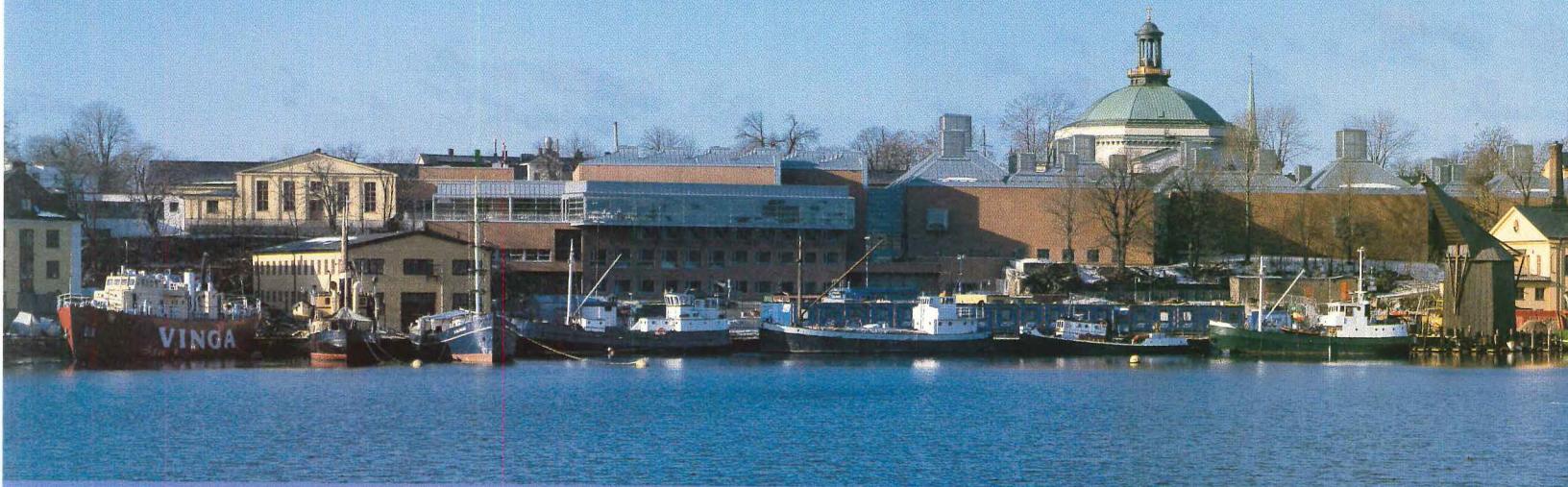
New fifth-floor galleries (right and below right) replace terraces and offices. Mezzanine-level gallery (below left), formerly the museum library, houses sculptures by Alexander Calder.





Skeppsholmen Island

NORTHERN



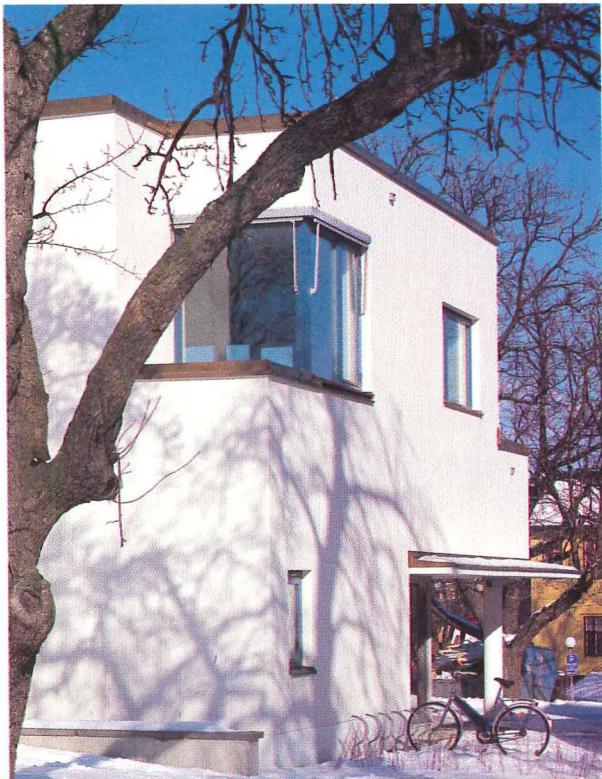
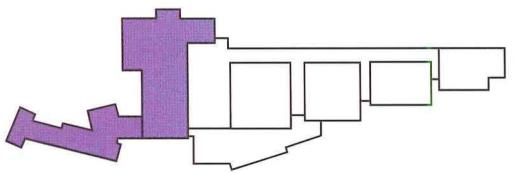
Museum's picturesque forms (above) harmonize with small-scale waterfront buildings. Despite dramatically cantilevered canopy (facing page, top), simple entrance (facing page, bottom) relates to Neoclassical context.

Rafael Moneo adapts his Iberian Modernism to Scandinavia.

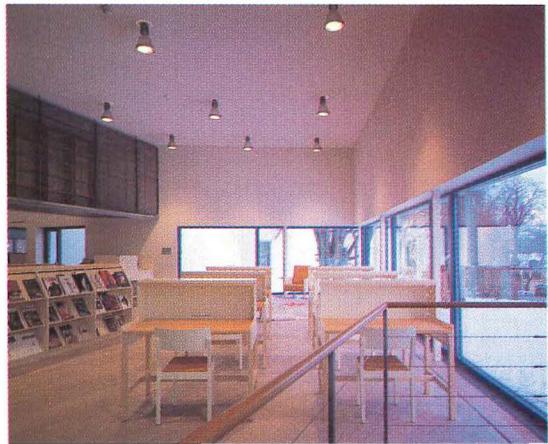
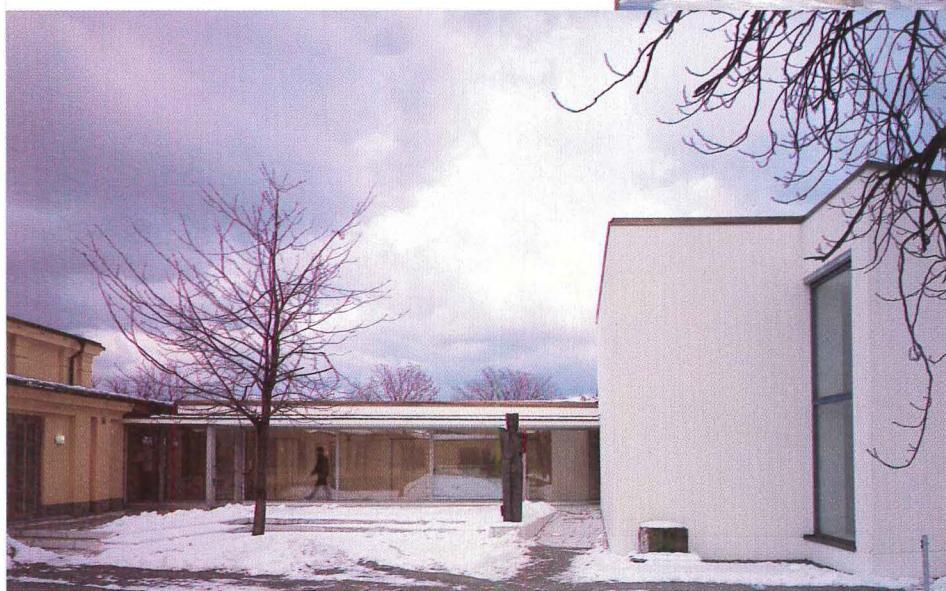


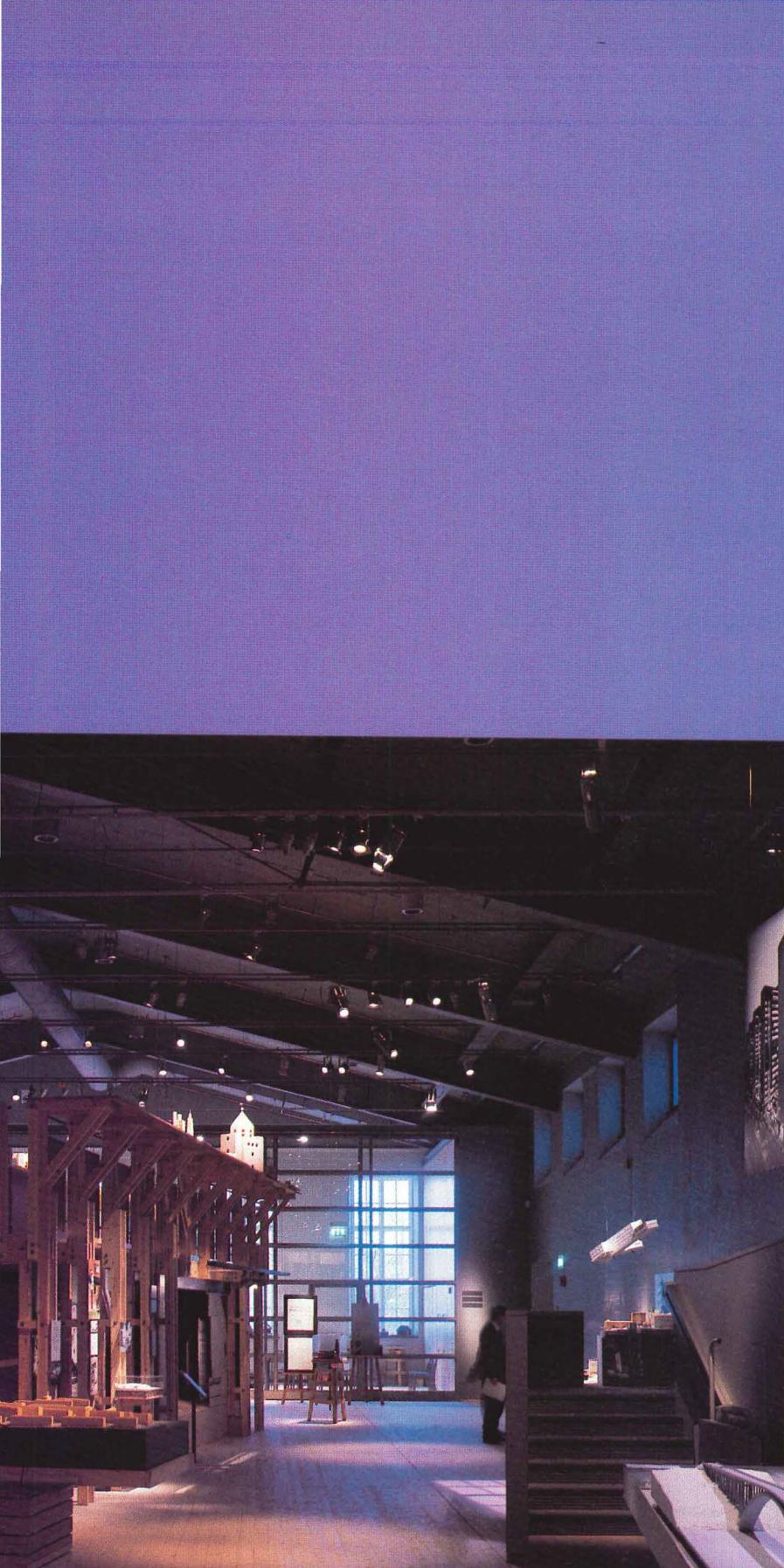
LIGHTS

By Catherine Slessor



Simple white concrete wing (left) is home to new architecture museum. Spare library interior (bottom) and low glazed exterior (below left) reveal Moneo's background in studying Scandinavian Modernism. Former drill hall (these pages, right) accommodates architecture exhibitions.





Once a strategic Swedish Navy base, the small island of Skeppsholmen, one of the smallest and most picturesque islands in Stockholm's sprawling archipelago, has retained a strong maritime aspect, despite its gradual reinvention as a cultural enclave. Since the 1950s, the Navy's austere, Neoclassical barracks, stores, and admiralty buildings have been converted into cultural facilities, including a school of fine arts, a theater, and a dance school. Rendered in a traditional Swedish palette of soft yellows and ochers, the functional relics of naval occupation are set among tall trees and rocky outcrops.

Sweden's national Modern Museum (*Moderna Museet*) began life in 1956 with a showing of Picasso's *Guernica*. Back then, the museum's modest home was improvisational, a former naval drill hall on Skeppsholmen. During the 1960s and 1970s, the museum amassed a distinctive collection of 20th-century art, then added an architecture museum in 1962 and a photographic collection in 1973.

Though such additions reflected the institution's burgeoning clout, they also induced mounting logistical problems: By the beginning of this decade, the museum had outgrown its original premises. In 1990, the Swedish government organized an international competition for a new building that would provide an additional 20,000 square meters of space, quadrupling the museum's size and allowing it to display 50 percent of its collection (Before the expansion, only 10 percent was on view.)

The competition was open to all Swedish architects and five invited foreigners—Japan's Tadao Ando, Kristian Gullichsen of Finland, Danish Modernist Jørn Utzon, Frank Gehry (who did not participate), and Rafael Moneo of Spain. Over 200 proposals were submitted. Although the brief was highly detailed—designs were to include a large hall for temporary exhibitions, a museum of contemporary art, and a museum of architecture in a combination of existing buildings and a new structure—the exact location of these functions on the Skeppsholmen site was left unspecified. With only three non-Scandinavian architects invited to participate, the competition seemed destined to elicit a Scandinavian winner. Nevertheless, first prize went to Moneo.

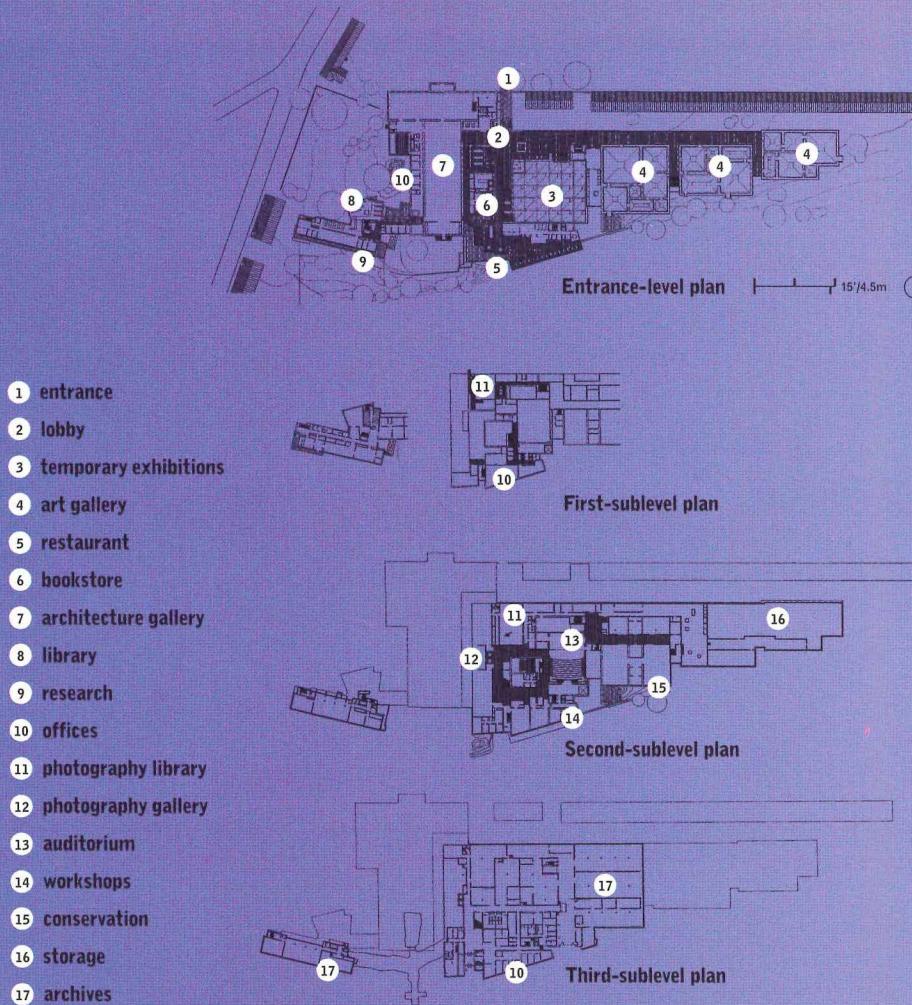
During his prolific 37-year career, Moneo has undertaken only occasional projects abroad. But the 61-year-old architect's projects in Spain have earned him a reputation for discreet, responsive architecture—an elegant Mediterranean Rationalism tempered by a powerful streak of Nordic Romanticism. This unlikely combination developed during Moneo's apprenticeship under Utzon in the early 1960s. As a young architect, Moneo traveled throughout Scandinavia exploring the buildings of Gunnar Asplund and Alvar Aalto, savoring the powerful Nordic landscape and clear northern light.

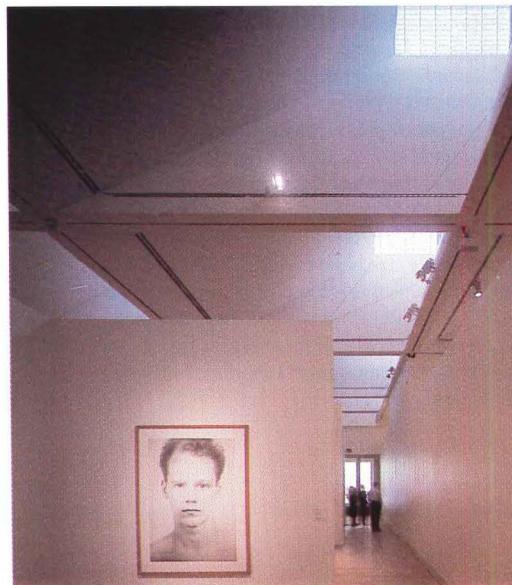
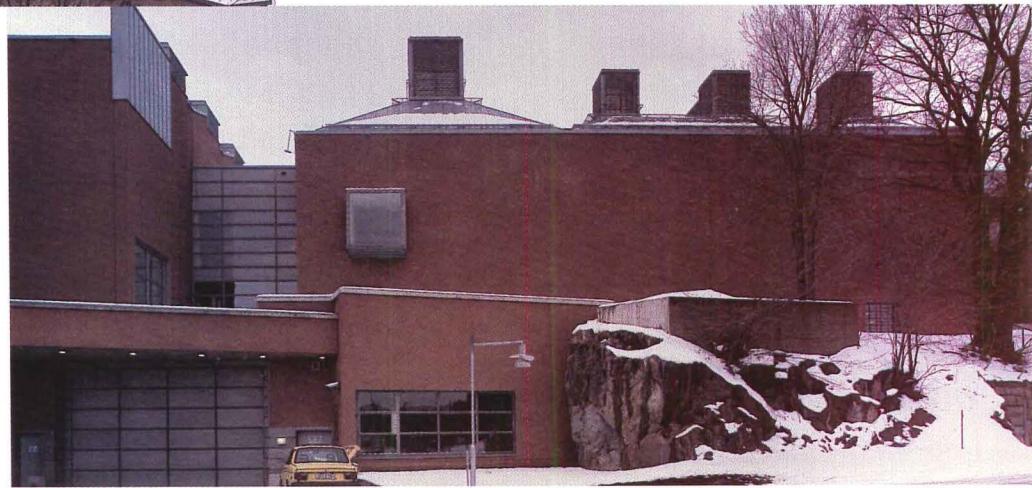
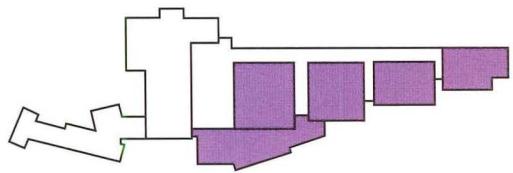
Moneo's addition to the Modern Museum makes a strong formal statement, yet its unconscious anti-monumental collection of pavilions poised on the hillside responds to both the island's rocky landscape and Stockholm's fragmented urban character. The new museum is an aggregation of old and new elements gently eased into its surroundings. Moneo arranged disparate parts containing the galleries, architecture museum, and architecture library and archive on a north-south axis along the backbone of Skeppsholmen, positioned between the existing ropery and drill-hall buildings. The museum's rendered concrete walls extend eastward in a series of toplit pavilions with angular, zinc-clad roofs. The dominant (but less publicly accessible) east facade is embellished by strategically placed windows. Otherwise, the wall surface is almost uninterrupted, like an ancient Spanish alcazar.

The more public west side is a finely honed understatement. The most prominent element is the old museum building, the 19th-century drill hall, which Moneo reconfigured into the new architecture museum. The T-shaped hall is linked to the new Modern Museum to the north and a two-story volume to the south, which houses the architecture collection's library, archives, and offices. White-rendered concrete volumes are punctured by narrow bands of glazing, evoking the pristine geometries of Scandinavian Modernism. Despite its quiet beauty, this wing is clearly of secondary importance.

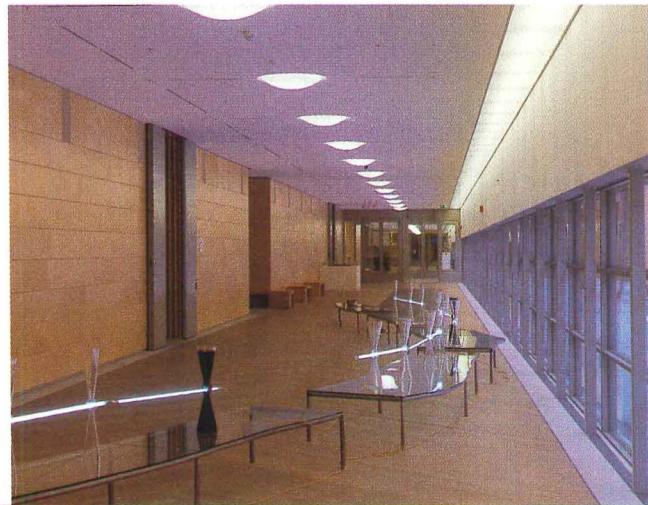
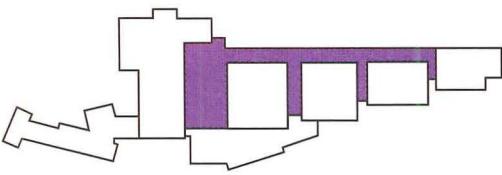
Slotted in beside the drill hall, a simple portico leads to the museum's main entrance, revealing the length of the Modern Museum stretching along the site. The single-story horizontal volume lies parallel with the ropery, which houses the Museum of Oriental Antiquities, creating an elongated external courtyard, its scale and flat planes of color suggestive of a De Chirico painting. Four clusters of galleries are linked by a broad spinal corridor overlooking the courtyard. The lantern-topped galleries are of varying sizes, based on a 6-square-meter module, aggregated to form a compositional matrix.

The largest gallery is a cavernous 18-square-meter hypostyle hall for temporary exhibitions, adjacent to the entrance foyer. There are also two additional temporary exhibition spaces on the floor below, along with an auditorium, cinema, library, and activity rooms. These are reached by a broad limestone staircase leading down from the fulcrum of the entrance hall. A glazed lantern brings daylight into the subterranean library through a double-height void running up through the entrance hall. The entrance hall itself is a fluid, generous space, wrapped around fixed islands of a bookshop and ticket desk. It connects the museum's main elements—the spinal boulevard corridor, the entrance to the architecture museum, a luminous, elevated restaurant on the east side of the building, and the staircase to the lower levels.





Glazed north facade (facing page), which houses permanent collection galleries, steps down hillside. Zinc louvers clad lanterns over galleries (top). Glazed cantilevers above offices built into hillside. Terra-cotta-stained concrete (above) contrasts with cool-gray natural stone. Strips of spotlighting supplement natural daylighting in galleries (below left).

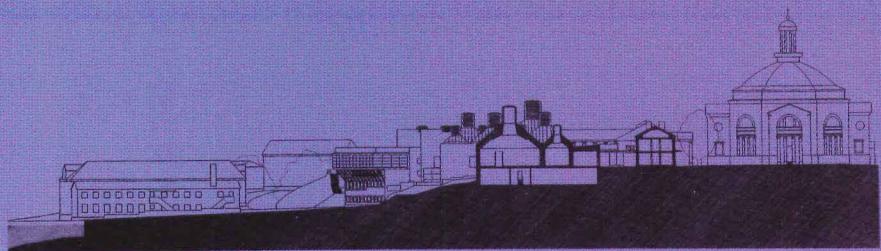


Corridor lining galleries
(these pages, below) forms museum's inland face and serves as additional exhibition space outside permanent galleries (left) and in lobby of temporary gallery (below left).

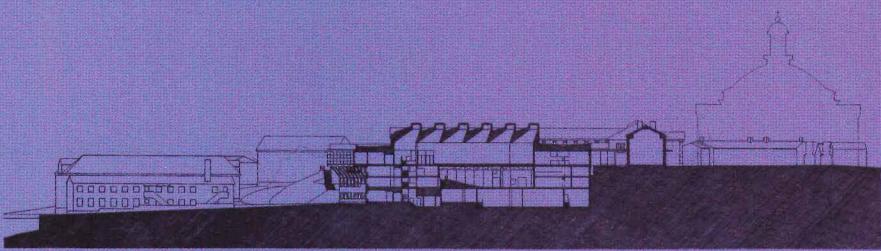


**MODERN MUSEUM
STOCKHOLM, SWEDEN**

CLIENT: National Property Board **ARCHITECT:** José Rafael Moneo Architect, Madrid, Spain—José Rafael Moneo (principal), Jeff Brock, Belén Moneo (project architects), Max Holst (assistant site architect), Eduardo Belzunce, Michael Bischoff, Fernando Iznola, Lucho Marcial, Ignacio Quemada, Robert Robinowitz (project team)
ASSOCIATE ARCHITECT: White Coordinator, Stockholm, Sweden—Ragnar Uppman (principal-in-charge), Mats Anslöv, Magnus Croon, Anna Karin Edblom, Lars-Erik Karlsson, Louise Masreliez, Björn Norén, Viljar Päss (project team) **ENGINEERS:** Tyréns Consulting (structural); Energo (mechanical); WO Consultants (electrical)
CONSULTANTS: Jan Ejhed; Fisher Marantz Renfro Stone (lighting); Ingemansson Acoustics (acoustics); Arteno Architecture & Theater (theater) TSP Team Consultants (security); Brandskyddslaget (fire security)
GENERAL CONTRACTOR: Nordic Construction Company
COST: \$61 million



North-south section through temporary exhibition hall



North-south section through permanent collection galleries



Placed on the east side of the spinal boulevard, the other three gallery clusters contain the Modern Museum's permanent collection. Each group of galleries has its own labyrinthine internal order, combining both freedom and rigor: Certain rooms are axially connected, but unexpected changes of angles and culs-de-sac generate a remarkable spatial complexity and richness. David Elliot, the museum's English-born director (former director of the Museum of Modern Art at Oxford University) compares the informal conglomeration and massing of the galleries to that of an Arab souk. The maze of cabinetlike rooms allied on a Classical axis aptly reflects the ambiguity of Skeppsholmen—wild island topography overlaid with elemental Neoclassical architecture.

Originally, Moneo wanted to create the impression of a building growing organically from the ridge by matching the gray of the rock with gray-rendered walls. However, gray was considered too somber by local officials in a cold northern climate, and Moneo replaced it with a rich terra-cotta, another color found in Stockholm's buildings. The warmth of the terra-cotta creates a satisfying foil to the gray zinc cladding of the angular roof forms.

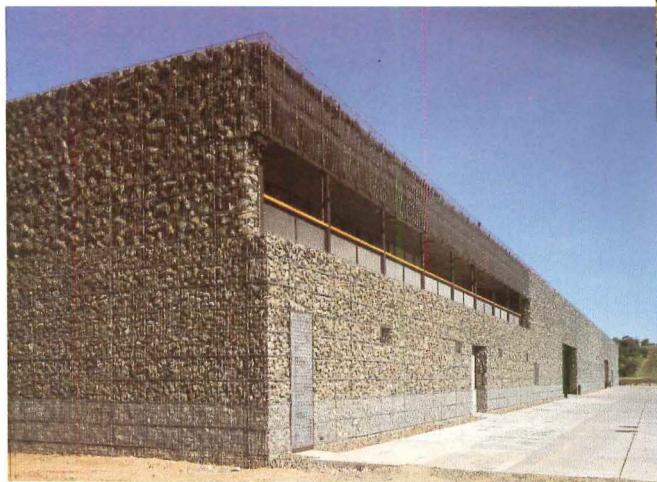
From the city and sea, the assemblage of pyramidal roofs over the galleries echoes the forms of preindustrial boatbuilding cranes and wharfs. At night, the illuminated roof lanterns create a new landmark in the city, gleaming like a cluster of lighthouses across the water. Moneo describes the lanterns as "fruits of the Swedish weather: They are both lamps and helmets." Such precisely articulated roofscapes tend to be a direct expression of internal organization, but at the Modern Museum, the roof also assumes a larger emblematic role in that the tight position of the new building makes it hard to get an overall sense of the museum, apart from distant views from across the harbor.

The forms of the galleries were tested and refined by full-scale models. Curators required low lighting levels, but Stockholm's latitude means that there is either too much or too little daylight in the winter. Balance is achieved through a combination of green-tinted glass and fixed zinc louvers in the lanterns. This building is characterized by consistently elegant detailing and discerning use of natural materials in the Scandinavian tradition. A place for both contemplation and stimulation, Moneo's Modern Museum joins a succession of distinguished civic monuments by Asplund, Ragnar Östberg, and others in Stockholm's panorama of light, landscape, and architecture. As Moneo observes of his new museum, "The architecture is discontinuous, broken, as is the city, always respecting and incorporating a geography rich in accidents."

Catherine Slessor is the deputy editor of The Architectural Review in London.

For their first American building, Herzog & De Meuron Architects build a serene monolith in a California vineyard.

S W i S S



Forms and materials of winery's east (above) and south (facing page, top) facades evoke humble stone farmhouse of owners' winery in France. Opening (left) reveals building's internal structure that sits behind freestanding stone wall.

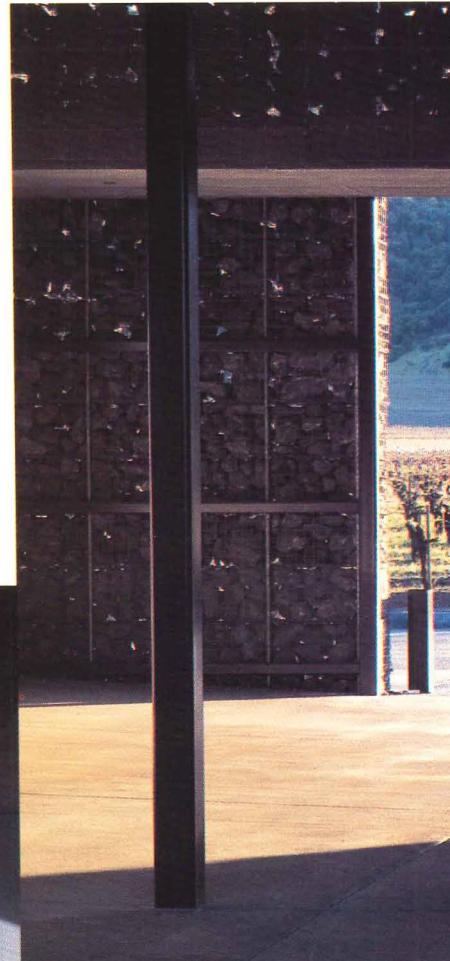
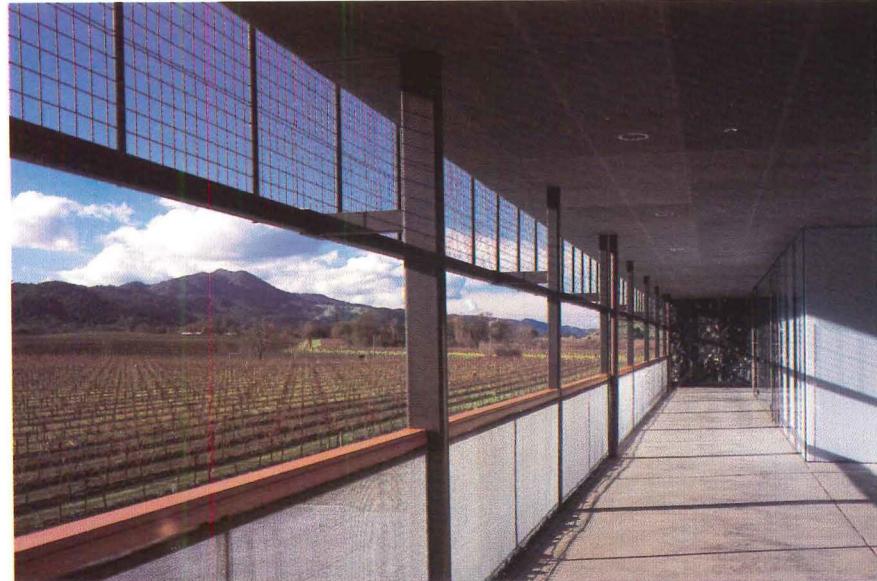


By Aaron Betsky

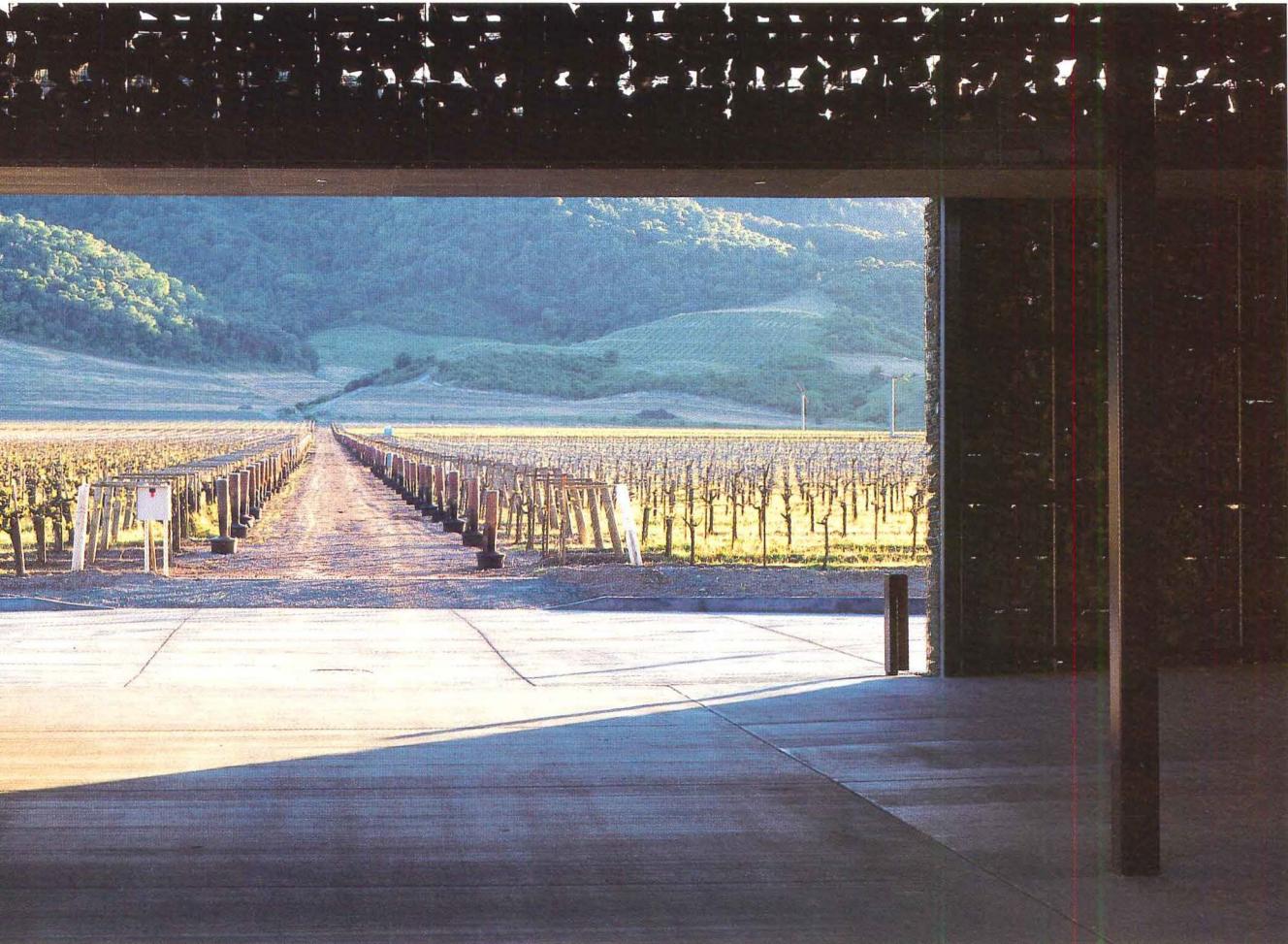


r e s e r v e

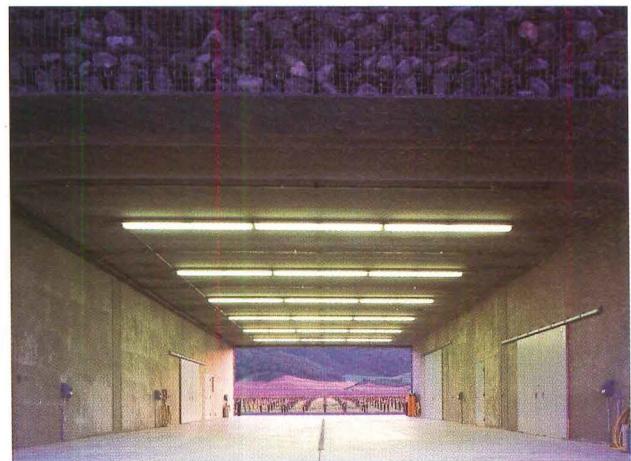
Rectilinear openings in porte cochere (these pages, right), hallway outside offices (below), and delivery area (facing page, bottom) frame views of surrounding vineyards and hills.



When is a stone not a stone? A shed not a shed? A winery not a winery? When architects perform the particular alchemy on base buildings that transforms them into high architecture. Though such an operation may sound grand, it can be accomplished: Through modest transformations, the Swiss firm Herzog & De Meuron Architects turned their first American commission, the 50,000-square-foot Dominus Winery in Northern California's Napa Valley, into an essay on the strangeness of seeming simplicity. The architect has made a utilitarian structure into a monument. As in all their work, Herzog & De Meuron eschews the Modernist delight in clarity in favor of the beauty of the blur, where both one thing and its opposite are constructed in the same place. ■ The Dominus Winery, located near the small town of Yountville, 50 miles north of San Francisco, is a modest structure that one barely notices from the adjacent highway that runs through the valley. Herzog & De Meuron has been working on the design since 1995, and it gives Americans their first stateside opportunity to see the ascendant firm's work. It may, in fact, be the harbinger of more to come, as the firm has another house and gallery commission in the valley and is competing for several U.S. museum projects. In the complexity Herzog & De Meuron has built into this 300-by-80 foot, two-story box, one can sense their development of what might be called an enigmatic Modernism. ■ Principals Jacques Herzog and Pierre De Meuron's odd monuments replace the shards of Deconstructivism as the major mode of expression for the European avant-garde. They use abstraction not as a tool to edit out complexity, but rather as a way of assembling programmatic and siting contradictions into singular and strong forms. By finding a coherent shape that contains, rather than replaces, program and context, as well as the architects' own biases, they make buildings that do not refer directly to the past, the surroundings, or a particular style, but shape them into images that seem both familiar and strange at the same time. With cantilevers, contortions, and camouflage, Herzog & De Meuron frustrates our assumptions that all Modern architecture is clear and clean, instead making something highly elusive. ■ Dominus Winery continues the firm's play with scale, material, and solidity in the design



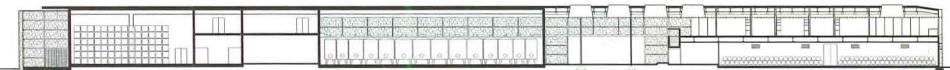
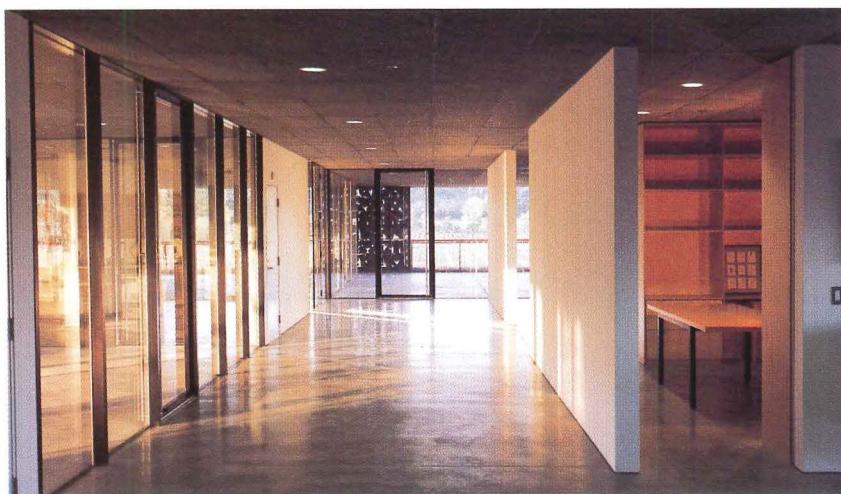
of a seemingly diaphanous stone building—a 300-foot-long box containing storage tanks, cask rooms, a tasting room, and offices. It also follows a line in the landscape and is a gateway to the vineyard whose produce it processes. To fulfill this dual role as both container and marker, Herzog & De Meuron has created a building that is at once a grand structure and an industrial shed. The winery's owners, Christian Moueix and Cherise Chen-Moueix, sought a building that would remind visitors of Chateau Petrus near Bordeaux, the glorified farm building where Christian's family has made wine for several hundred years. ■ Herzog & De Meuron's building does as little harm to the land as possible, preserving the maximum amount of land for growing grapes. "They designed a winery that is prisoner to the vines," Christian Moueix says admiringly. Unlike I.M. Pei, who had drafted an earlier scheme for the project, Herzog & De Meuron created a compact building that sits at the point where the slightly sloping terrain meets the foothills of the Mayacama Hills to the west. The firm thus marked the transition from the vineyard where grapes for less expensive wines are grown to the upper slopes that produce grapes for the *grands crus*. ■ On a pragmatic level, the building's form—an elongated box



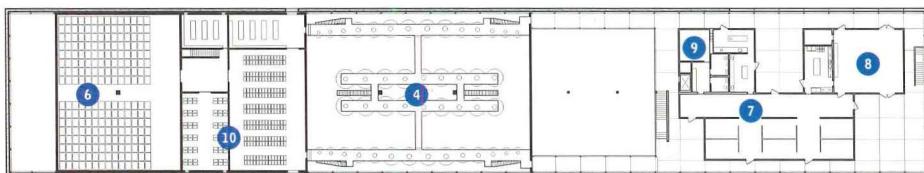
Gaps between rocks and openings in exterior wall provide light and views to windowless offices (below). Spartan wine-tasting room (these pages, bottom) overlooks rows of barrels in storage room.

that runs north-south parallel to both the highway and the hills—"has a loose fit for the functions," as Herzog puts it. From the outside, one cannot sense the wine-making process that goes on inside. Two archways that cut through the form at roughly one-third points are the rectangle's only inflection: The void to the north serves as a porte cochere and frames a view of the upper vineyards and the hills beyond. A second cutout to the south allows trucks to access the building for pickups and delivery. "We felt it was very important to cut the symmetry in this way," says De Meuron. ■ In the execution of this simple box, the architect has worked its magic. The four outer walls consist of piles of rocks quarried from nearby American Canyon. The stones are held in place with gabions, steel-mesh screens usually used to prevent stones from falling onto cars following excavation of hillsides during highway construction. It's a situation familiar to Herzog and De Meuron from their native Switzerland, but also one common in California. The size of the mesh and the stones it restrains becomes larger further up the building's walls. Thus the monolith appears to stand solidly on the ground, while dissolving at its top. From certain angles, the walls become transparent, their monolithic appearance becoming more like

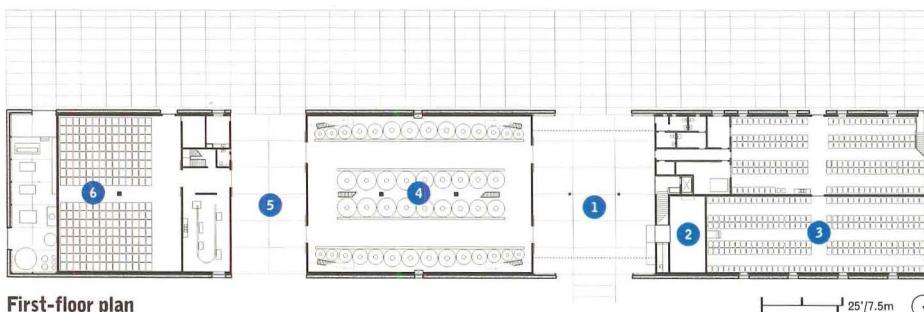
- 1 porte cochere
- 2 tasting room
- 3 barrel room
- 4 tank room
- 5 delivery area
- 6 bottled wine storage
- 7 offices
- 8 dining room
- 9 laboratory
- 10 library



North-south section



Second-floor plan

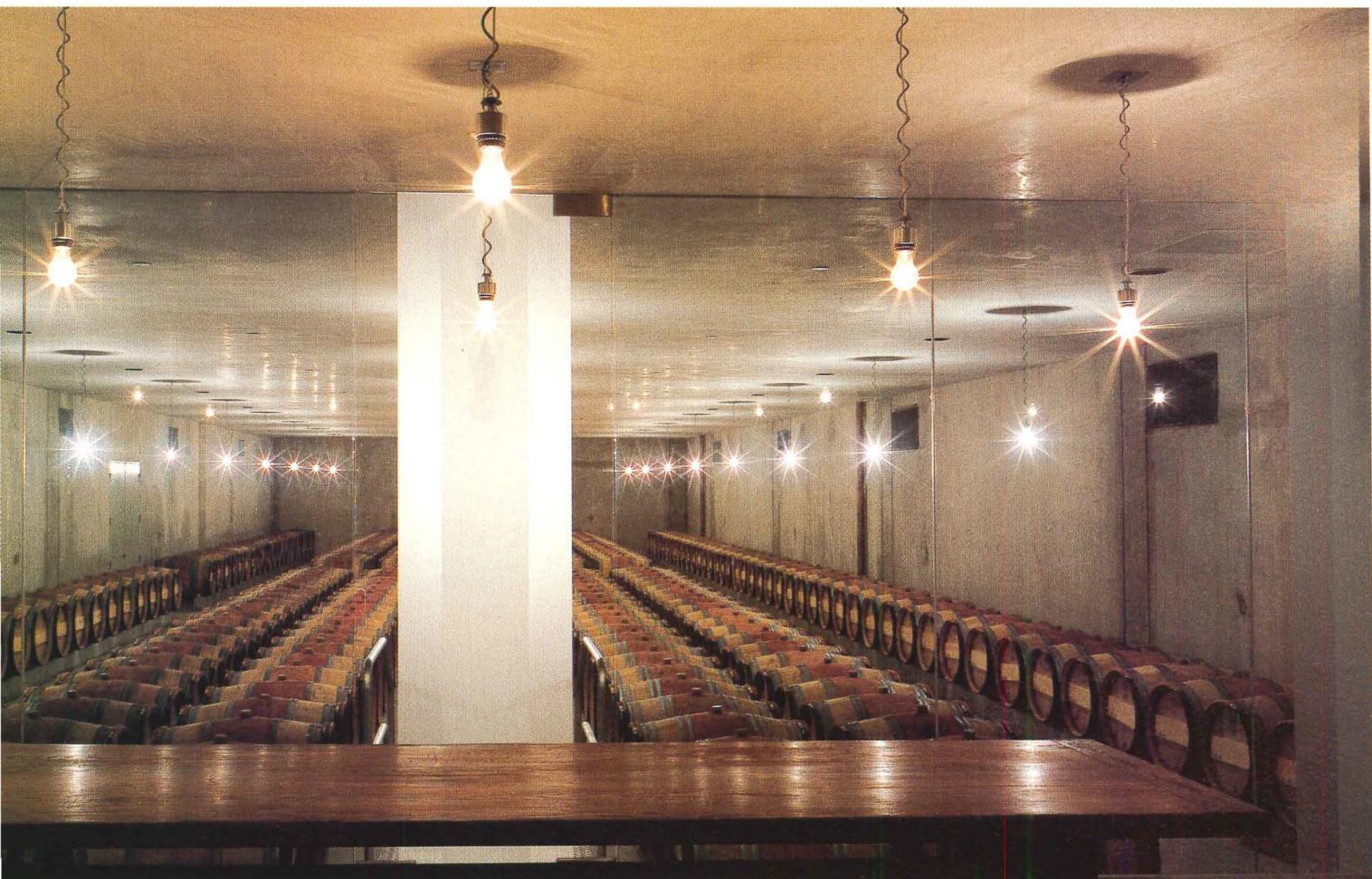


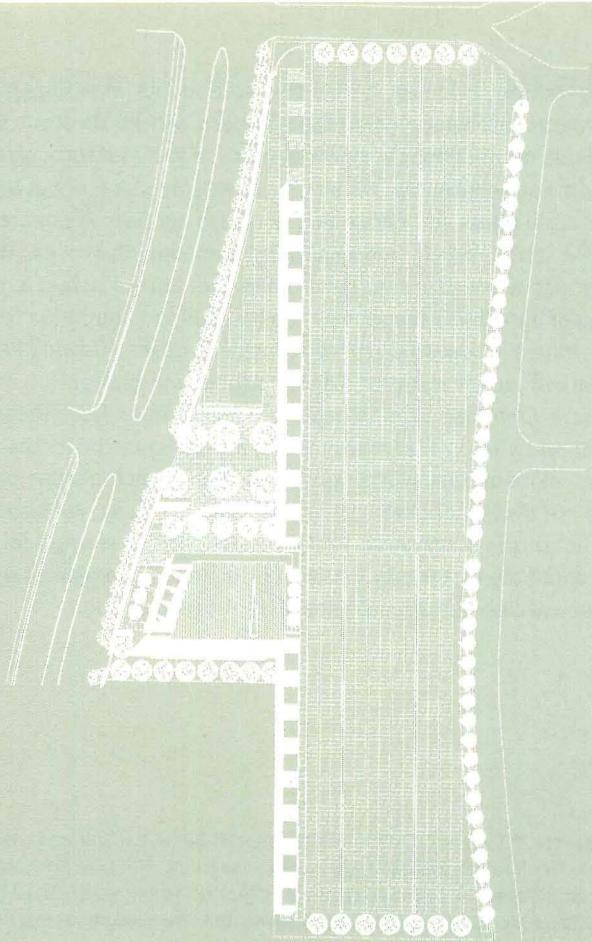
First-floor plan

the screen porches that shade regional buildings against the strong California sun. ■ Within this self-supporting stone jacket, the architect built a box inside the box: Tilt-up concrete walls in a completely separate structure inside the southern two-thirds of the building house the fermentation rooms and tank storage areas. Openings from the inside of most spaces allow visitors to look out through the gaps between the stones at the Napa Valley landscape. The barrel and tasting rooms are contained in a similar one-story structure at the north end of the building. An open suite of administrative offices sheathed in structural glass sits above this northern section. A concrete-paved balcony rings the offices, turning the space between the glass walls and the stone curtain into a pergola shaded by the rocks. ■ The heart of the building is the tasting room, accessible from the porte cochere through a set of green glass doors that part to reveal a monastic concrete room, adorned only by a single wooden table. Flip a switch and a sea of light bulbs that hang from the ceiling illuminates the barrel room that stretches north beyond a partially frosted glass wall. There, the wine ages in row after row of French oak casks. Viewing this treasury of viniculture from the minimal tasting room is a revelation: All extraneous influences are edited away to focus one's attention on the wine. ■ The contrast between this dark heart and the diaphanous stone skin of the Dominus Winery could not be stronger. Both the inside and outside use minimal means to create grand effects in response to program and site. In the tasting room, a warehouse becomes a treasure house. From the outside, the architecture makes no concessions to its site, yet its presence at a right angle heightens the slope of the land, the hills beyond, and the road curving away in front of the property. It does not evoke specific vernacular building types, yet because of its resemblance to the stone barns in Napa Valley, one senses immediately that this is an agrarian structure—one that turns agriculture into art. From these forms emerges a monument, but not one that tells us directly about the historic forms of architecture. It is a blurred mastaba that oscillates between mundane manners and grand gestures, between gauzy veiling and a solid assertion of construction.

DOMINUS WINERY
YOUNTVILLE, CALIFORNIA

CLIENTS: Christian Moueix and Cherise Chen-Moueix **ARCHITECT:** Herzog & De Meuron Architects, Basel, Switzerland—Pierre De Meuron, Jacques Herzog (partners-in-charge), Jean-Frédéric Luscher (project architect), Uli Ackva, Ines Huber, Nathalie Kury, Mario Meier (collaborators) **ASSOCIATE ARCHITECT:** Valley Architects, St. Helena, California—Tom Faherty (partner) **ENGINEERS:** Zucco Fagent Associates (structural); Larkin Associates (mechanical); Hansen & Slaughter (electrical) **GENERAL CONTRACTOR:** Wright Contracting **COST:** \$5.4 million
PHOTOGRAPHER: Richard Barnes

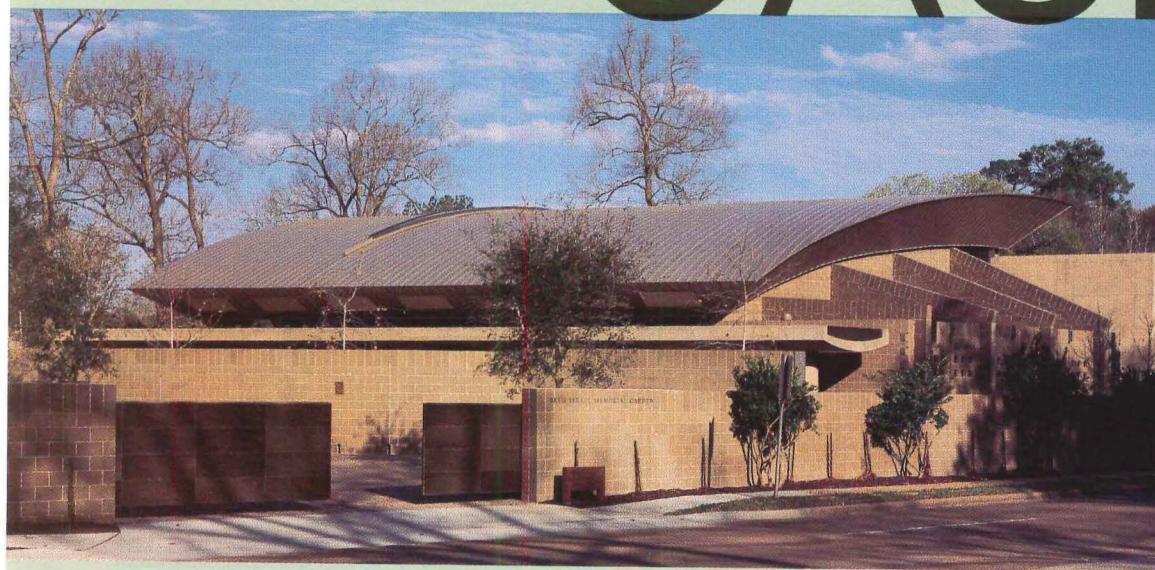




Site plan



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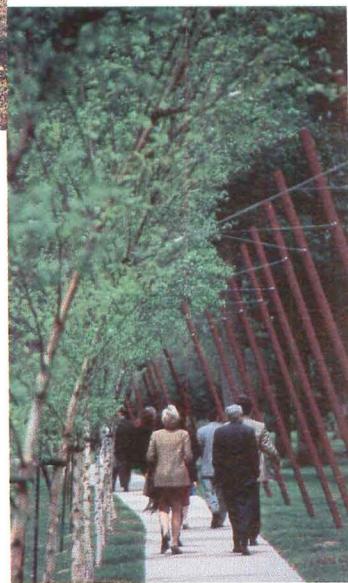


By Joseph Giovannini



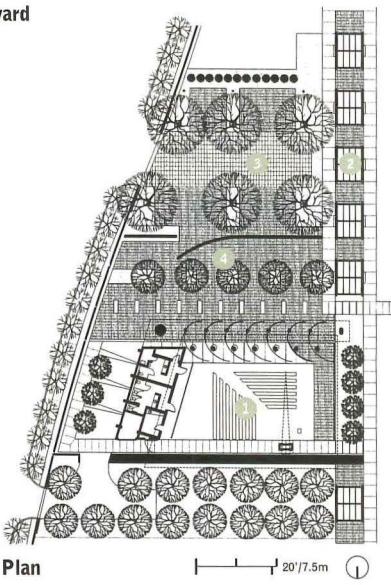
Dan Solomon and Gary Strang build a funerary chapel from light and mass.

Concrete-block wall (facing page, bottom) follows curve of street and separates chapel from surrounding residential neighborhood. Soaring perforated metal panel roof encloses open-air chapel (above). Tethered birch tree-lined path (right) directs mourners from parking to cemetery.





- 1 sanctuary
- 2 crypts
- 3 family parking
- 4 courtyard



From their air-conditioned ranch houses to their air-conditioned cars to their air-conditioned offices, many Houstonians never feel the humid-blast furnace that is their environmental lot much of the year.

San Francisco-based architect Daniel Solomon and San Francisco-based landscape architect Gary Strang, designers of the Congregation Beth Israel Memorial Garden, were determined to crack the hermetic seal of this cool sequence of vacuums that removes Houston residents from the elements. "There is probably no other city in which tactile experience of the natural world is more completely remote from people's daily experiences," says Solomon. "Our chapel and garden are intended to be a respite from this condition and a setting for redemptive reunion with physical phenomena."

The commission—to upgrade an unkempt existing cemetery, adding a chapel, five mausoleums, a meditation garden, and courtyard—might have been interpreted simply as a mandate to sculpt a crisp chapel in the Houston light and manicure the cemetery grounds. But Solomon and Strang—working closely with local Rabbi Samuel Karff, who suggested the idea of an outdoor chapel—expanded the program and opened the building and landscape to each other, conceiving the entire 3-acre parcel at the east edge of Woodlawn Cemetery as a sacred garden. "The commission presented the occasion to eradicate the boundary between landscape and building," says Solomon.

Inspired by readings in Jewish scripture, texts of contemporary Reform theologians, and discussions with Rabbi Karff, the designers created a suggestive and interpretative site that would provoke the contemplation of humanity, community, and divinity. It is a precinct in which the dead can be entrusted to nature, one that reflects God's work. Paramount among the congregation's concerns was fostering a sense of community among mourners and building a path that allowed the living to escort the dead from the chapel: According to a Jewish saying, "It is a great mitzvah [blessing] to accompany the dead to the grave."

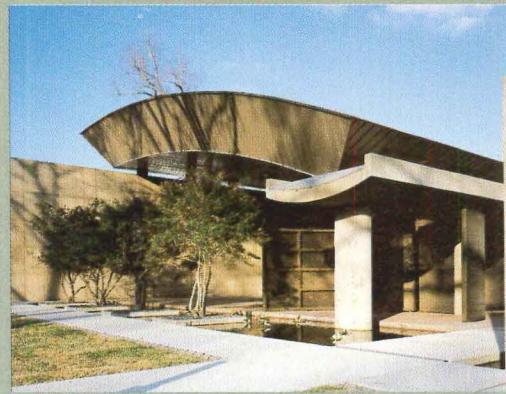
The corollary of extending the chapel into the ground and bringing the outside in was to make architecture permeable to the elements, to structure the landscape, and to make manifest the site's infrastructure of water. The collection, display, and disposal of rain in troughs, gutters, spills, pools, and rills was both text and subtext, integral to a design that makes liquid into architecture. The architects also decided to reveal the character of the materials, which—according to Jewish belief—reflect God's work: Their choice and deployment of materials had a spiritual agenda.

To create a *gesamtkunstwerk* of many different, equalized parts, the designers overlaid several independent landscape and architectural systems. With its entrance courts and parking and service areas, the chapel was made up of a set of loosely organized elements within a site plan structured with plantings, paths, waterways, and roads. Solomon and Strang have created a separate, enriched world within boundaries they have simultaneously affirmed and kept open. Along the road on the west side of the cemetery, a walkway shaded by birch trees, which are tethered so that they will grow together in a wooded arch, defines the precinct of the dead, but its permeability allows the area to flow into the larger cemetery—and give a sense of the larger community in which the deceased once played active roles.

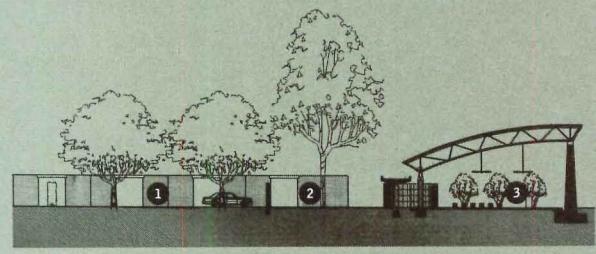
To join the building to the site, Solomon opened form and volume by creating independent elements—a hovering roof, separate walls, partial-height partitions, and a colonnade of crypts—that did not come together in a closed volume. The trussed roof, surfaced in an inexpensive standing-seam sheet metal, rests on columns on the south side; on the north face, the roof sits atop a sandblasted, poured-in-place battered concrete wall, with rain and recirculated water streaming down its surfaces into a rill. Among the columns, the designers inserted curved, perforated metal wall panels that allow mourners to pass between an outdoor gathering court and a small, shaded parking area intended for the family. The court and parking lot are finished in concrete pavers and cell pavers that allow the seepage of rainwater.

Mourners who are not part of the family of the deceased park along a road

Curved metal panels and concrete canopy separate chapel from courtyard; reflecting pool creates serene landscape (facing page, top). Egg-crater pavers, concrete block, and granite impart rich textures to courtyard. Landscape architect Gary Strang chose yaupon trees because they attract birds (facing page, bottom). Concrete canopy echoes form of arched chapel roof (below).



- 1 parking
- 2 courtyard
- 3 sanctuary



North-south section

in the cemetery and walk through the birch arbor, then across the cemetery lawns and a bridge over a shallow pool to the entrance court adjacent to the chapel. The chapel's L-shaped plan, which accommodates 125 seated and 125 standing, allows mourners to see and hear one another as they are oriented back to the landscape they just traversed. Shaded from the sun, they look out past a row of yaupon trees set in the reflecting pool to the parklike setting.

After funeral services, the immediate family accompanies the bier beyond this pool to the grave. On Antoine Road, which borders the eastern side of the cemetery and serves an adjacent residential neighborhood, the chapel forms a solid, somewhat monumentalized architectural facade made of concrete block designed with enough weight to have a civic presence.

Passive technologies inform the building and landscape. The chapel's perforated panels create a beguiling moiré pattern and allow the passage of prevailing breezes while reducing noise from a nearby freeway. Shade trees protect the congregational spaces and parking, and the chapel's arched "icehouse roof," insulated between two light-metal membranes, has an interstitial air-circulation space that reduces heat buildup. The difference in height between the north and south sides of the chapel and the prevailing winds cause convective breezes under and through the roof.

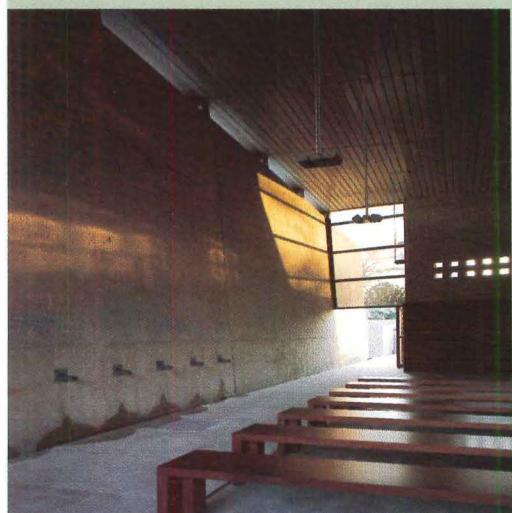
Large overhead fans in the chapel agitate the air and help sustain the convection currents. A swale next to the arbor walk ties drainage into the larger water system, which is designed to handle Houston's diluvial torrents. A large concrete gutter, an entrance canopy reminiscent of the expressive concrete rain trough in Le Corbusier's Legislative Assembly building (1964) at Chandigarh, India, collects Houston's heavy rains, spilling water into a reflecting pool in front of the chapel. The design heightens awareness of the elements—rain, sun, and breezes—as well as vegetation, the seasons, and the passage of time.

In opening their design to the realm of ideas and spirit, the architects have greatly enriched it with meaning, but their philosophical and esthetic intentions sometimes outstrip their budget. The concrete block along Antoine Road perhaps draws on Louis Kahn's precedent in designing religious spaces with simple materials, but the forms and materials are too rough and aggressive to survive the comparison and to complement the delicate residential context west of the cemetery. The architectural expression of the ceiling's curve is also compromised by such visually intrusive details as the fans under the roof and the hanging metal uplights. The roof itself has an awkward profile that should have been more elegantly streamlined. The metal seams also have an unresolved relationship to the overall form. The ecological imperative may be wise, but Solomon and Strang have not sufficiently refined the design esthetically.

Unlike the symbolic and representational ecclesiastical architecture of the classical Greco-Roman and Christian tradition, Jewish architecture is based on abstraction—"an architecture of qualities: tactility, light, coolness, silence," according to Solomon. "Intensification of the properties of the physical world can bring us closer to God," he maintains.

The architect compares this architecture of phenomenology to the modern condition bred by the technology that attempts to conquer nature: "This Jewish idea—gaining access to God through an intensified experience of the physical has particular poignancy in Houston and a special significance at the end of the 20th century," says Solomon, referring to the Modernist optimism that has given the city and the world air-conditioning, better machines, and the notion of continuous progress through technology.

Solomon and Strang have not simply imposed a nostalgia for a simpler time on people in no position to object. Their design is a critique of everyday life at the end of the 20th century. The design dispels the myth of technology: The cemetery is not a cryogenic repository that denies death, but a cemetery that communicates its acceptance of death through a poetic building and landscape. The chapel and cemetery grounds are designed to bring out the elements and elicit an understanding of God's world through the senses and the mind. Even as they entrust a loved one to the earth, friends and relatives feel more alive as they occupy Solomon and Strang's cultivated work.



Rill (above) runs along concrete wall and through chapel entrance. Curved screens (facing page, top) act as vestibules between courtyard and chapel. Slit in roof (facing page, bottom) casts shaft of light over lectern.

BETH ISRAEL MEMORIAL GARDEN
HOUSTON

CLIENT: Congregation Beth Israel **ARCHITECT:** Daniel Solomon, Gary Strang (designers), Philip C. Rossington (project architect), Marcos Ancinas, Owen Kennerly, Thai Nguyen, John Winder (project team) **ENGINEERS:** Matrix Structural Engineers (structural); Walter P. Moore and Associates (civil) **CONSULTANTS:** Charles Benton (environmental); Charles M. Salter Associates (acoustics); James Goodman (color); Auerbach + Glasow (lighting) **GENERAL CONTRACTOR:** W.S. Bellows Construction Corporation **COST:** \$2.6 million **PHOTOGRAPHER:** Timothy Hursley



silence +

A mausoleum outside San Francisco creates an uplifting counterpoint to a somber function.



By Cathy Lang Ho

Projecting volumes of entrance hall and courtyards (above) rise above travertine-clad south facade. Entrance sequence centers on granite fountain (facing page).

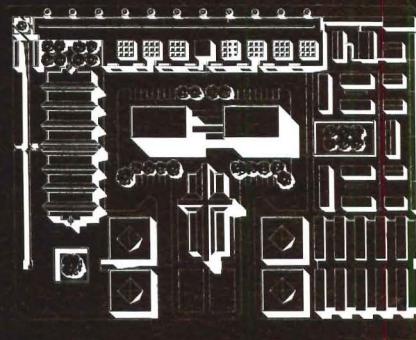
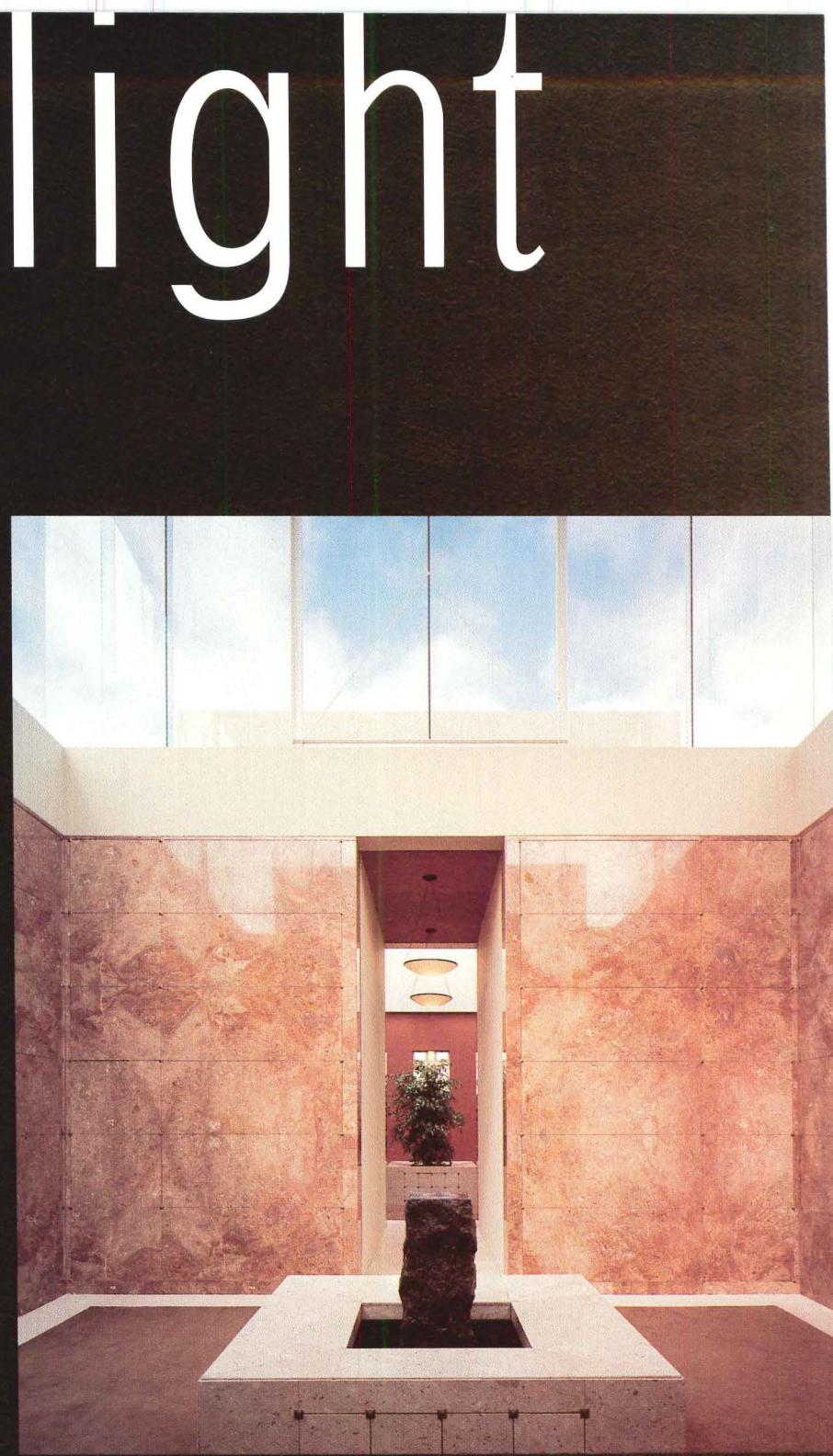
Colma, California, holds the dubious distinction of being the Bay Area's necropolis. Laws passed early this century banished the dead from land-constrained San Francisco and most of its cemeteries were moved to this small town on the city's southern outskirts. Colma's rolling landscape, rich with a century's accumulation of elaborately carved tombstones, funerary monuments, outdoor garden crypts, and mausoleums, has recently received its latest addition, a mausoleum for the Italian Cemetery designed by San Francisco architect Jim Jennings.

Like much of Jennings' architecture, his design for the mausoleum derives serenity from its simplicity. Elemental geometries, unadorned surfaces, a minimal color palette, and generous sunlight work together to impart a tranquil, dignified demeanor to the work.

Because the small, narrow site abuts a row of single-story suburban tract houses, Jennings' mausoleum could boast none of the grandeur of more seminal cities of the dead, such as those designed by Aldo Rossi and Carlo Scarpa. Jennings' project is modest, more of an enclave.

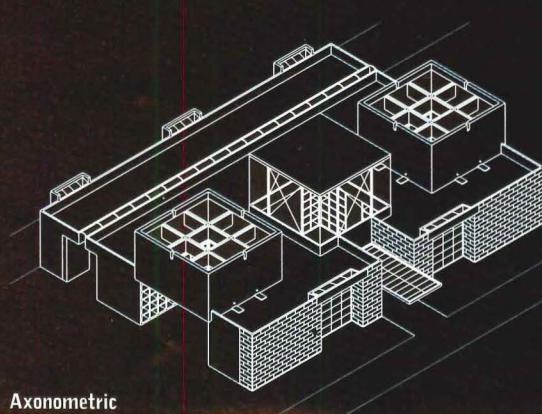
In plan, his scheme departs from the typical mausoleum arrangement, in which crypts line the walls of long corridors. Instead, Jennings' building is a series of 24-foot-square courtyards, each crowned with a protruding square light well that renders each bay a near-perfect cube. The courts create more walls, and hence more crypt space, than a double-loaded corridor and also allow incremental expansion at both ends of the building—one courtyard at a time—without making it appear unfinished. At build-out, there will be a total of seven courtyards bracketing the entrance foyer. Presently, only two courts and the entrance have been completed.

The courtyards are suffused with rosy natural light reflected off the polished red marble veneer of the crypts.



Site plan

Row of cypress trees (below) symbolizes death in Italian tradition. Ribbon skylight (facing page, left) lights hallway lined with crypts. Structural glass (facing page, right) supports clerestory at entrance.



Jennings makes light a dominant element, not only for its uplifting, spiritual dimension, but because "the mausoleum is a daylit building and the interiors should be bright when people are paying their respects."

While the crypt courts are topped by glazed lanterns, the entrance is distinguished by a clerestory with 14-foot-high plate glass and structural glass mullions that lift a steel-braced roof slightly higher than those of the neighboring light-filled boxes. A central fountain anchors the entrance, where water quietly gurgles from a rectangular granite column into a square basin cut of the same dark gray stone. Similarly proportioned planters lined with ficus trees center the crypt courts.

A second layer of crypts, organized as a skylit hallway interrupted by intermittent shallow alcoves, stretches the length of the building beyond the row of courtyards. Distilled to its simplest components, the building reads as three long parallel slabs with cantilevered roofs bridged inconspicuously by glass.

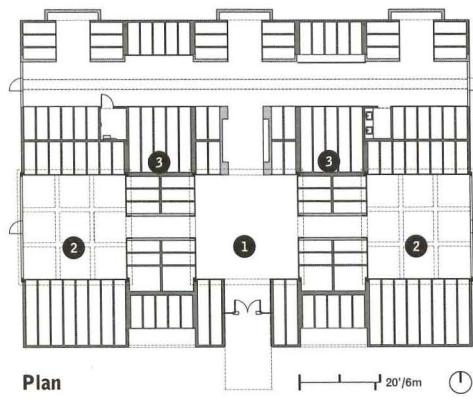
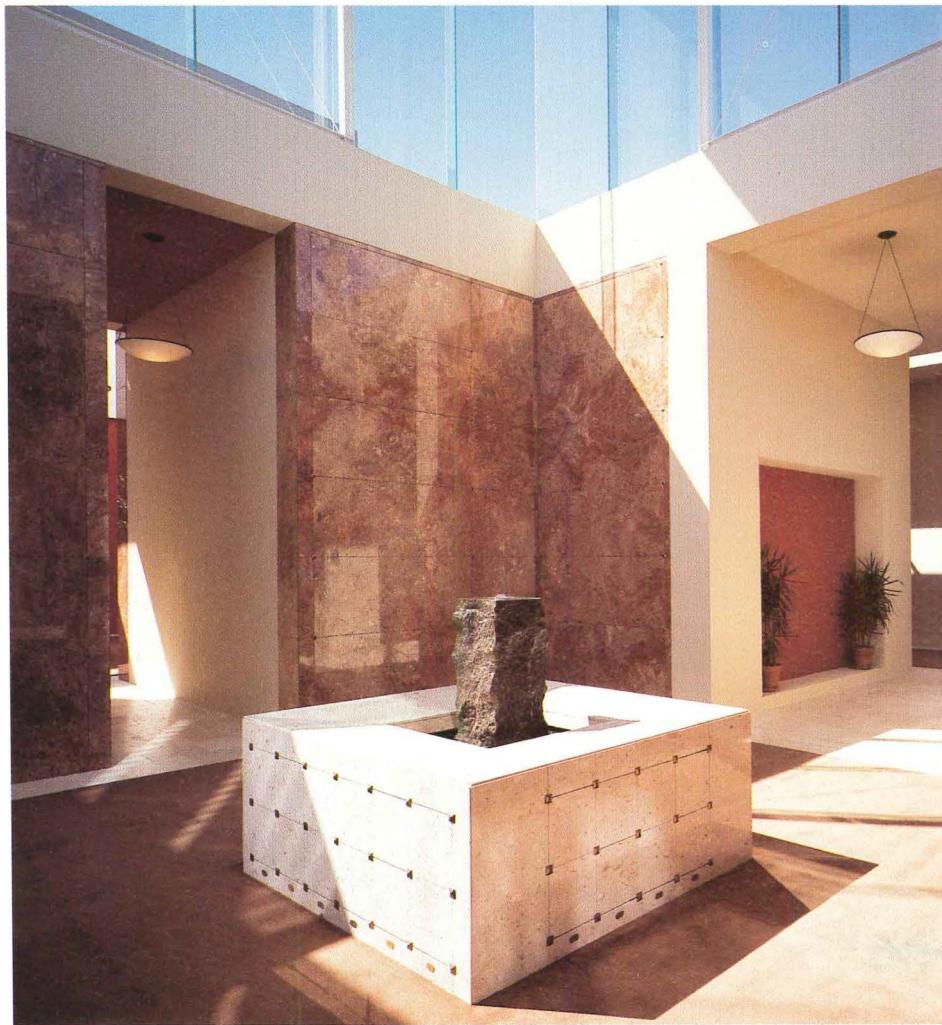
Although Jennings attempts to create ambiguity between interior and exterior space, the building's material finishes work against him. Carpeting covers most of the interior, despite Jennings' preference for pale Adriatic stone. The clients also deemed the unfinished white concrete walls Jennings specified to be too cold and stark for visitors seeking warmth and comfort, opting instead for plaster and paint.

Jennings manages to achieve a rich range of spatial and material effects with minimal moves. By keeping his material list simple and the building's luminous volumes crisp and spare, the architect conveys a sense of serenity, helping a small building quietly approach grandeur.

Cathy Lang Ho is editor of Design Book Review.

COURTYARD MAUSOLEUM
COLMA, CALIFORNIA

CLIENT: Italian Cemetery ARCHITECT: Jim Jennings Architecture, San Francisco—Jim Jennings (principal), Russ Beaudin, Bruno Sarret, Erik Tellander (project team) LANDSCAPE ARCHITECT: Dan Tuttle ENGINEER: A.J. Miller & Associates (structural) GENERAL CONTRACTOR: Oliver & Company COST: Withheld at owner's request PHOTOGRAPHER: Benny Chan

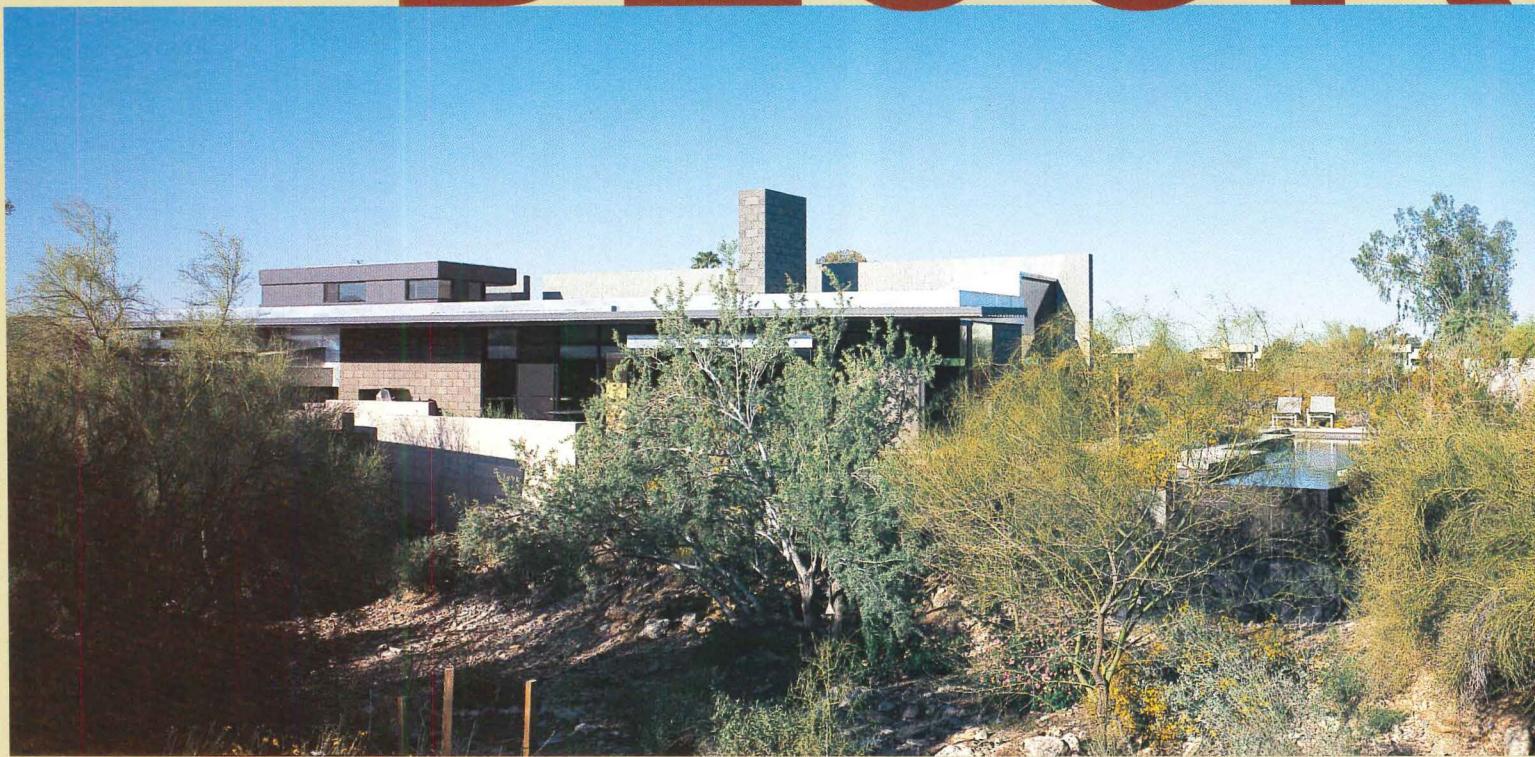


- ① entrance hall
- ② courtyard
- ③ crypts

**A new house by Tod Williams and Billie Tsien bridges
its eroded desert site with simple, sun-washed forms.**

By Richard Ingersoll

BLOCK



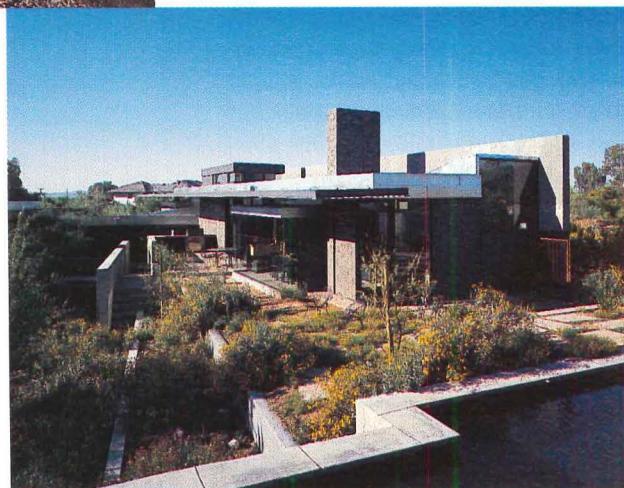
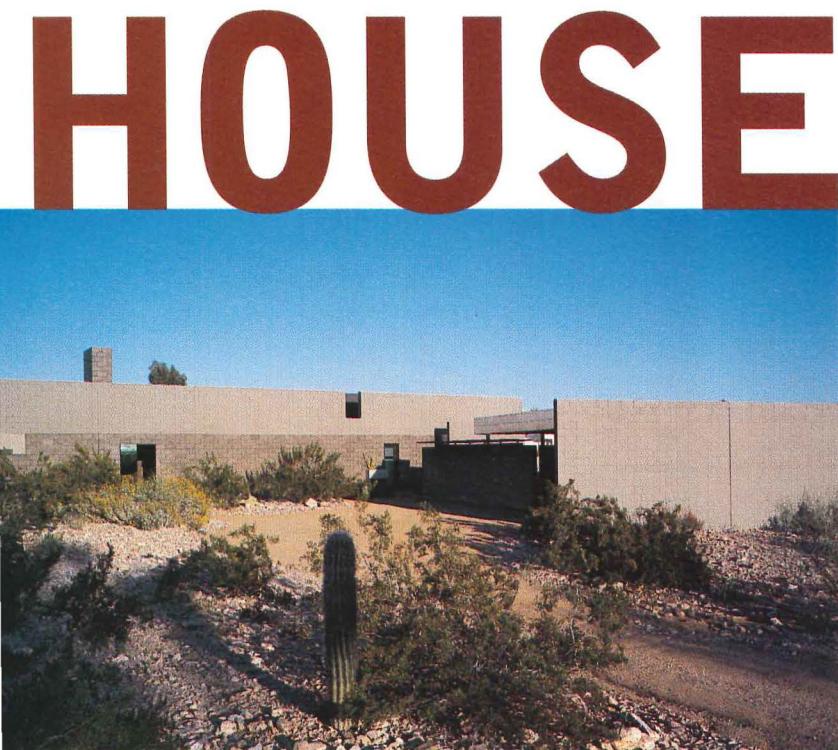
Modest massing and materials contrast with grandiose homes of neighborhood (facing page). Monolithic west facade (below) re-creates sense of enclosure of owners' previous 1960s Modern house. Courtyard (below right) preserves natural arroyo populated by jackrabbits and scorpions.

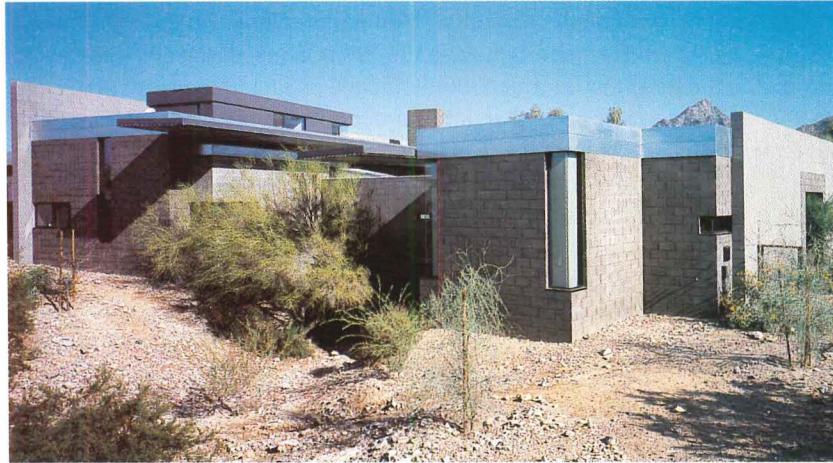
It might be more of a compliment to praise the Freeman-Silverman residence as a good house rather than a great one. Designed by New York City-based architect Tod Williams Billie Tsien and Associates, the project sits near the Arizona Biltmore Hotel in an area of Phoenix that boasts houses by Frank Lloyd Wright, Antoine Predock, and Will Bruder. Williams and Tsien's house, while showcasing luxurious details and the novelty of an enclosed bridge that connects two separate wings, requires neither the vanity nor promotional effort of its great neighbors. Its architectural quality defers to the modest events of daily life for a busy couple with two children living in a desert climate. "This house is about their lives, not someone else's idea of their lives," explains Principal Billie Tsien.

The clients previously owned a Minimalist Case Study-style house designed by Alfred Newman Beadle in the 1960s. Some of the spirit of the old permeates the new: the treatment of the facade as an independent plane and the clustering of rooms around an interior court. From the road, the Freeman-Silverman House seems small and unassuming: The gray tones of its concrete block meshes with the desert gravel and underbrush like the skin of a dusty rattlesnake.

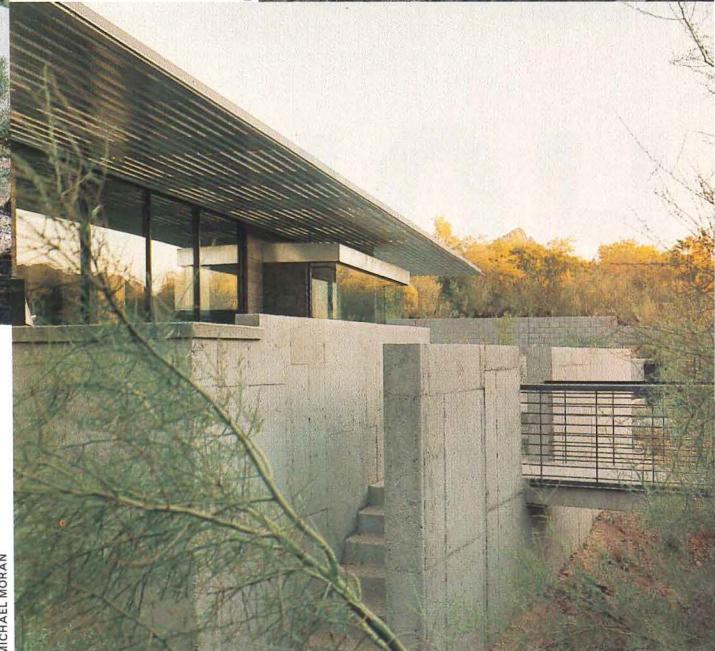
The west entrance facade is at once defensive and alluring in its understatement. This facade's wall plane stands 2 feet in front of the volume of the house on either side, masking the vertical irregularities of the roofline like a parapet. A series of digressions artfully erode its monolithic integrity: A chunk of concrete frames a long window slot on the northern edge of the facade; a squared-off chimney peeks over the top wall; a 4-by-8-foot gap reveals a skylit entrance court; a lone crenellation at the top of the wall is the inverse form of the chimney; and a concrete planter ledge sits next to the narrow slot of the glazed service entrance. In the foreground, a perforated steel awning caps a lower wall that hides a politically incorrect patch of grass for the family's dog and shelters the walkway to the carport.

Williams and Tsien organized the plan into two narrow rectangular volumes that sit seemingly unhinged on opposite sides of an arroyo. On the rare occasion of hard rains, runoff swirls through the arroyo at a depth of several





MICHAEL MORAN



MICHAEL MORAN

feet, necessitating the two bridges—one closed and one open—to connect the opposing wings. The smaller east wing, comprising the main bedroom, guest bedroom, and an office for Gretchen Freeman's art consulting practice, flares 10 degrees from the west wing, opening the U-shaped court to a view of the foothills of Squaw Peak Mountain to the north. The maturity of several paloverde trees and the deep shadows of the folded perforated-steel canopies that cantilever from the long sides of the court create a cooling microclimate and an animated visual focus for family life. While this new space recalls the enclosed court of the clients' old house, Tsien explains, "the box needed to be broken for their lives to expand."

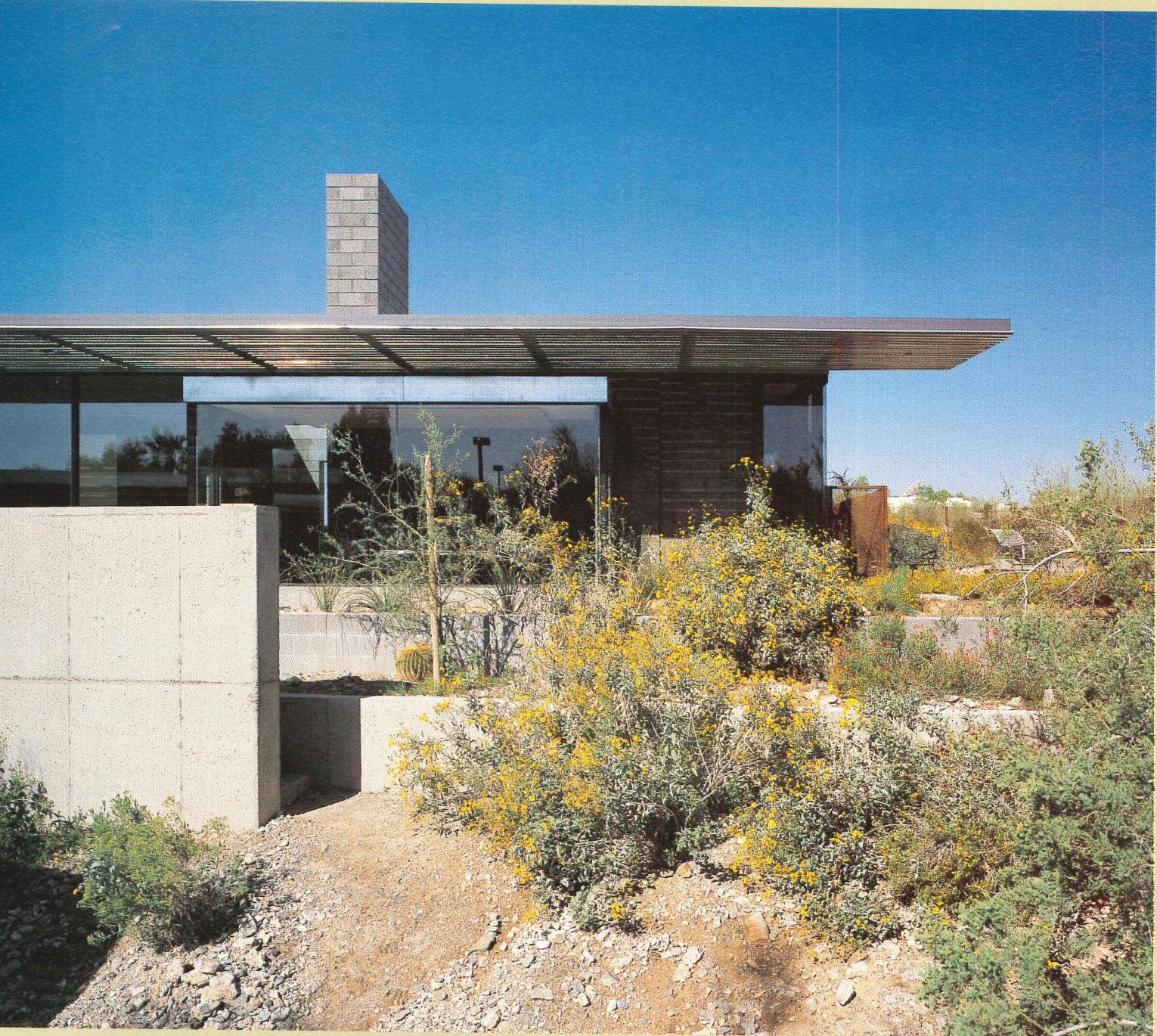
The west wing, containing a living and dining space separated from a kitchen and den by the glazed entrance court, steps down to two children's bedrooms. Above these is a small play loft, from which the kids can peek out of the notch in the parapet. A terrace spills from the sliding glass doors of the kitchen toward the cool arroyo court, then wraps around the northern flank to terminate in a small trapezoidal swimming pool lined with black tiles.

Williams and Tsien has massaged the geometric rigidity of the twin parallelepiped wings by pulling out a nook for the dining table and another for a child's bed, while pressing in an entrance court in one wing and a light court for the bathrooms in the other. At each rupture of the box, custom gaplike windows admit diffused light. Wood fins that encase coved ceiling lights parallel each source of natural light, and every room has at least two sources of daylight and natural ventilation. Almost every room has an angled corner window to eliminate the dark heaviness of converging masonry—the living room even has an angled glass door that opens to the pool terrace. Little inventions of craft are found throughout, such as the sliding interior shutters in the master bedroom that fold into the corners to admit the sun's powerful presence. A row of ceiling tiles that runs the length of the main wing provides contrast to the wood fins and plaster overhead. "As part of the



East-west section

Stucco-clad play loft (top left) rises above childrens' rooms in west wing. **Poured concrete bridge links terraces outside west (above right) and east (top right) wings.** **Folded perforated steel canopies (facing page)** shade terraces.



design process, we talked about the fact that we were building a home in which to raise our children," explains attorney Alan Silverman. "The house is filled with surprises to enliven their childhood."

The rooms are separated from each other spatially, yet almost all of them have visual connections: A slot allows a view from the children's play loft down to the kitchen, another from the laundry area to the bridge; the kitchen window looks across the entrance court to the living room and on through a picture window to the mountains; and opening a panel in the guest bedroom provides a distant view of the mountains.

The most mannered gesture in the house is the covered bridge over the arroyo: It presents a solid wall to the south, where a narrow slit surveils the yard of the neighboring house by Will Bruder, while fully glazed inner walls, inflected toward the center, look on to the court. A narrow glazedoubliette guards the passage under the bridge. Life in the Freeman-Silverman House revolves around the trapezoidal concrete bank of the kitchen table and filters through the court to the more private spaces.

No space is wasted, yet there is a sense that this is more than a functionalist house. The architect and its clients have addressed a way of life that thrives on the playful tension between the standard and the customized amid regular geometries broken by sensual luminosity. Unlike its more fantastic neighbors, these sensible contrasts stack up to make the Freeman-Silverman House a truly great good house.

Terrazzo interior floor (below) is similar to rough concrete of outdoor terraces. Fireplace (bottom) separates entrance court from living room. Dark gray insulated concrete block walls (facing page) add literal and visual coolness to interiors.



MICHAEL MORAN



MICHAEL MORAN



FREEMAN-SILVERMAN HOUSE
PHOENIX, ARIZONA

CLIENTS: Gretchen Freeman and Alan Silverman **ARCHITECT:** Tod Williams Billie Tsien and Associates, New York City—Billie Tsien, Tod Williams (principals-in-charge), Betty Chen (project architect)

LANDSCAPE ARCHITECT: Floor + Ten Eyck

ENGINEERS: Brickey, Rudow & Berry (structural); Otterbein Engineering (mechanical); CA Energy Designs (electrical); Accurate Air (HVAC) **GENERAL CONTRACTOR:** G.M. Hunt Builders **COST:** Withheld at clients' request **PHOTOGRAPHERS:** Benny Chan, except as noted

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SIPs, Not Studs

Structural insulated panels (SIPs) are gaining popularity as an alternative to traditional lumber-framed walls.



Infrared photograph (above) of SIP demonstration house in Springfield, Oregon (top), reveals high energy performance with low incidence of thermal breaching (indicated in yellow). Intended as production housing prototype, house was sponsored by Energy-Efficient Industrialized Housing Research Program of the U.S. Department of Energy and built by University of Oregon's Energy Studies and Building Laboratory and University of Central Florida's Solar Energy Center.

By Colin M. Cathcart

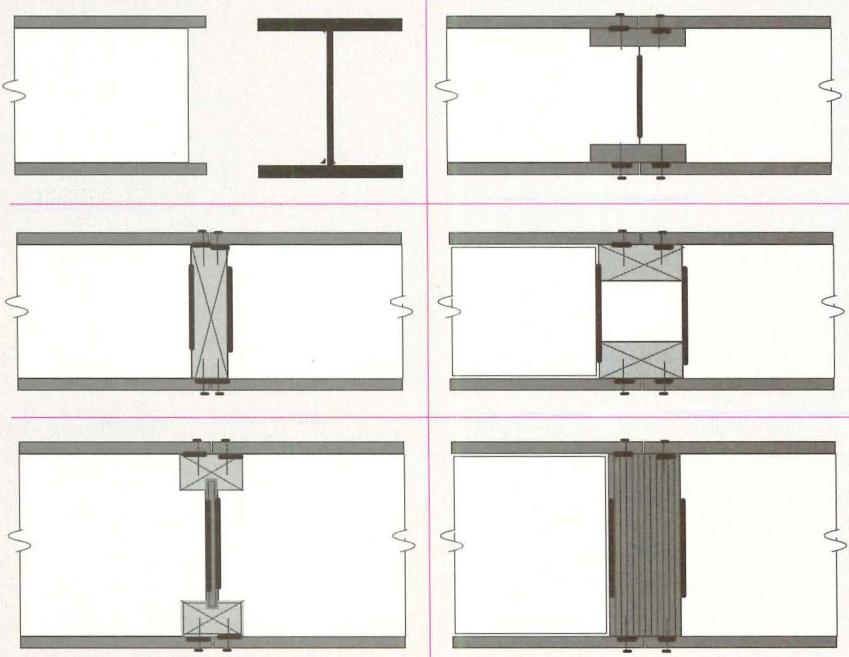
For 150 years, wood studs, also known as dimensional lumber, have gone unchallenged as the dominant structural elements in low-rise, wood-framed construction. But now, a growing number of architects and contractors are working instead with structural insulated panels (SIPs). SIPs, which have been evolving quietly for 50 years, offer structure, sheathing, insulation, and airtightness in a single product; they contribute to environmental sustainability; and they have recently become economically competitive with traditional stick framing.

The makers of SIPs can trace their roots to Frank Lloyd Wright's plywood-panelled Usonian houses. Alden B. Dow, a student of Wright dismayed by the Usonian's low insulation, constructed the first structural insulated panel houses—which are still in use—in Midland, Michigan, in 1952. Modern SIPs consist of a thick core of rigid insulation sandwiched between two wood-fiber skins. The insulating core and two skins are flimsy and insubstantial by themselves, but when combined properly, the stressed skin principle (see figure, opposite page) transforms these elements into a rigid construction panel that requires no wood studs. SIPs vary in thickness from 4 to 12 inches and in size from the standard 4-by-8-foot panel to full walls measuring 8 feet high by 24 feet wide. The skins are usually 7/16-inch-thick oriented strand board (OSB), but alternatives include plywood, waferboard, and gypsum wallboard.

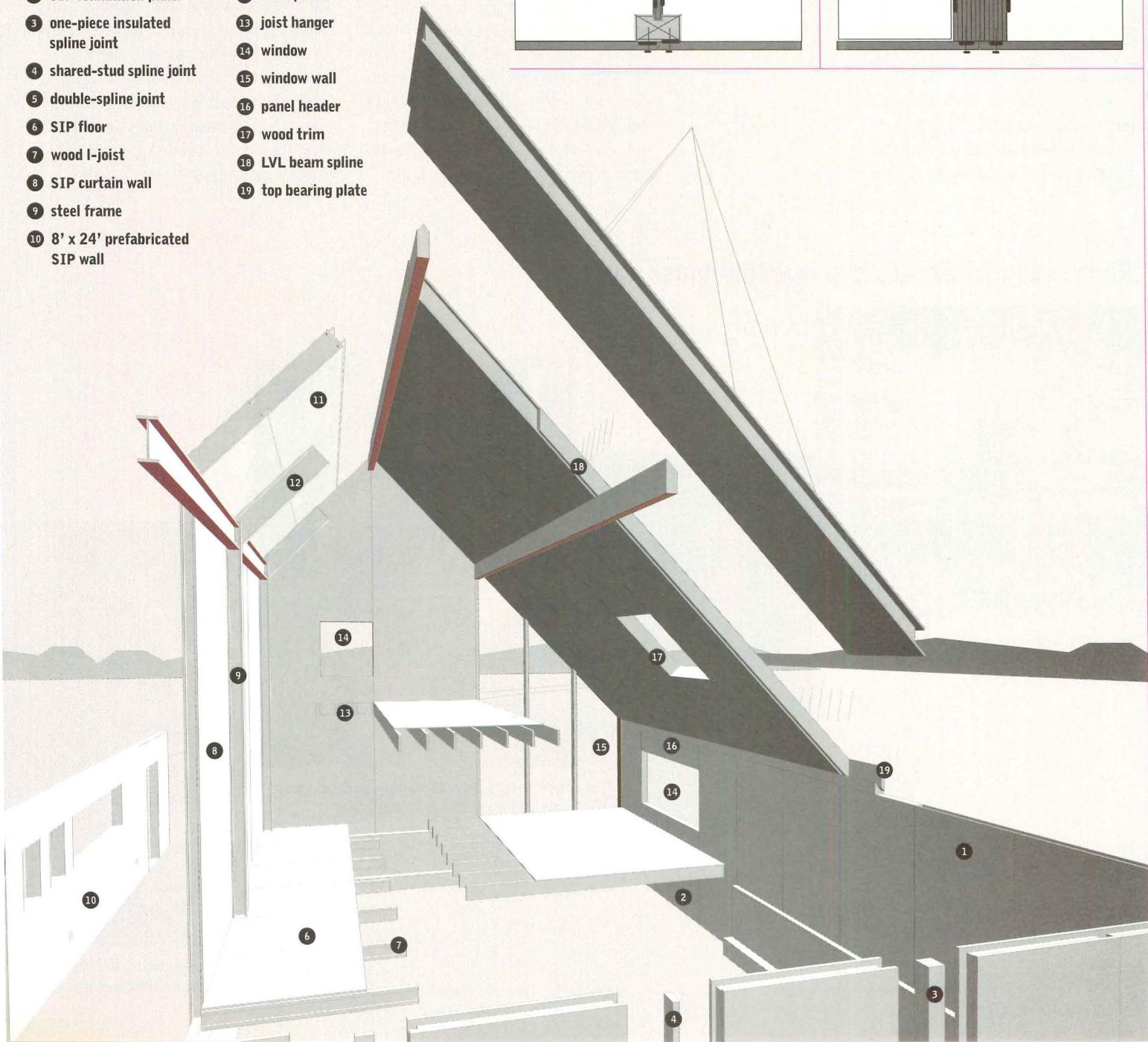
Low-cost molded expanded polystyrene (EPS) is the most common SIP insulation, but cores may also be extruded polystyrene (XPS), polyurethane, or polyisocyanurate foams. The panel sandwich forms a continuous thermal break. "You can get a much higher R-value than with stud construction," says Tom Gray of the Pittsburgh-based Design Alliance Architects, "and their R-values are believable. There is no 'human factor' in applying the insulation, and there are no studs interrupting the insulation every 16 inches."

There is lively debate over the

Stressed-skin principle and SIPs: SIP skins (top left) take compression and tension, similar to I-beam's flange, while insulation takes shear forces and provides rigidity against buckling, as in I-beam's web; double-spline joint (top right) has spines connecting interior and exterior skins; shared-stud joint (center left) is inserted in recesses in insulation; prefabricated one-piece spline (center right) eliminates thermal bridging; wood I-beam spline (bottom left) provides structure, enabling longer spans; laminated veneer lumber (LVL) beam (bottom right) relies on wood for structure and longer spans.



- ① standard 4' x 8' SIP
- ② SIP foundation panel
- ③ one-piece insulated spline joint
- ④ shared-stud spline joint
- ⑤ double-spline joint
- ⑥ SIP floor
- ⑦ wood I-joint
- ⑧ SIP curtain wall
- ⑨ steel frame
- ⑩ 8' x 24' prefabricated SIP wall
- ⑪ roof SIP
- ⑫ steel purlin
- ⑬ joist hanger
- ⑭ window
- ⑮ window wall
- ⑯ panel header
- ⑰ wood trim
- ⑱ LVL beam spline
- ⑲ top bearing plate



merits of the various core materials. EPS, with a respectable R-4.2 per inch of thickness, is produced as an ozone-friendly board stock, and adhered tightly to each skin under pressure. Foam urethanes and isocyanurates, on the other hand, are "blown in" between braced skins using hydrochlorofluorocarbons (HCFCs), producing a strong natural bond by expansion under pressure. Also, thermal resistance is very high, between R-6 and R-7 per inch.

"The urethane and isocyanurate core panels will always have a place where high-performance and thin, space-saving wall or roof assemblies are needed," says Steven Winter, principal of Steven Winter Associates, an architectural and engineering technology consultant based in Norwalk, Connecticut. "It's a great product, but EPS is more cost-competitive in most applications."

Joints between panels may be constructed of proprietary spline

systems, dimensional lumber, or wood I-joists (see figure, previous page). Windows, doors, and electrical chases can be factory pre-cut—indeed, an entire building may be packaged for quick site erection—or generic panels may be supplied "raw" and cut and trimmed on-site. Panels are cut with circular saws or small chain saws, trimmed with "hot wire scoops," and fastened with long screws, staples, and adhesives.

Designing with SIPs

Designing with SIPs effectively imposes a 4-foot modular grid on the planning process, and a consciousness of the panel dimension typically leads designers to more volumetric and planar forms. Complex dormers, curves, hips, and valleys are feasible with SIPs, but will result in a higher cost over traditional wood-stud framing. Windows and doors can be cut into panels, but leaving out a panel for a window wall is simpler still.

Exposed beams and widely spaced trusses can support a continuously insulated envelope. "I wanted to build with a clearly expressed structural frame, services, and enclosure system," Paul Olsen of Jones & Jones in Seattle says of his Interbay Family Golf Center. He was also impressed with the process's speed. "We were fabricating panels while the steel was being erected."

Construction advantages

"Unlike much of the dimensional lumber coming off the trucks these days," says Will Zachman of Steven Winter Associates. "SIPs are, well, straight." This consistency is a benefit of the stressed-skin principle. In wood-framed construction, all loads are borne by the studs or rafters; the sheathing is discounted. All the elements of a SIP are stressed; the skins in compression and tension and the core in shear against buckling or racking. SIP skins present

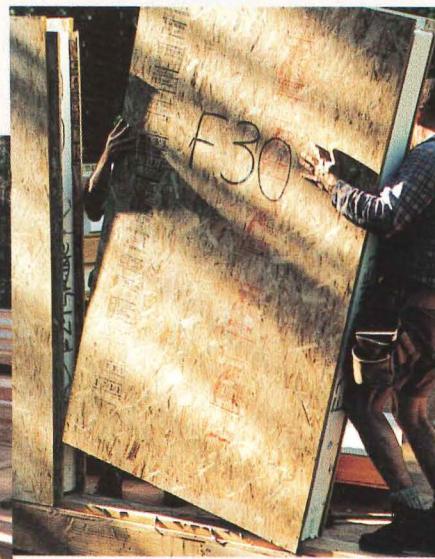
Rome wasn't built in a day, but this house was...



Bear Valley, California, architect David Wright (shown here with his four children) received delivery of SIP panels at 8 a.m.



Workers prepare wall-to-floor connections with sealant and adhesives.



Double-spline joint and bottom plate anchor standard 4'x8' SIP panel into place.



At noon, crane arrives to assist crew in placing large or high panels.

smooth and continuously nailable surfaces for cabinetry, fixtures, finishes, and accessories.

Erection is quick and methodical. "We unloaded the panels by number, started in the corner, and worked our way around the house," says Mark Sever of Sever Design Group Architects in Scottsdale, Arizona. "It took us two days to assemble and insulate the entire exterior. It's like a toy—some assembly required. You screw it down and you're done."

Environmental advantages

SIPs are becoming common in many areas—not just in severe climate zones. "With energy prices so high in California," Sever says, "we look at every angle to save on life-cycle costs, not just on first costs."

Beyond the extra insulation, there are important environmental advantages to SIP construction. OSB skins are made with young "farmed" wood fiber. In contrast, dimensional lumber

is made from mature timber, which takes generations to regrow.

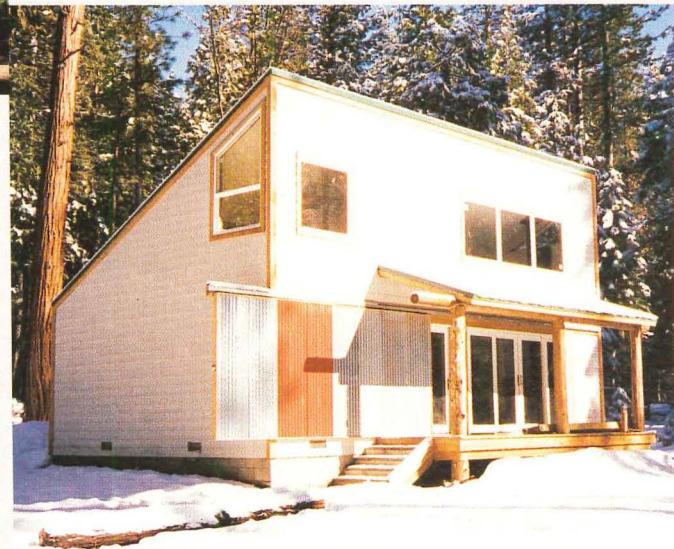
In the history of wood framing, insulation and airtightness were afterthoughts. In a 1993 experiment sponsored by the Department of Energy and conducted by the Florida Solar Energy Center, two identical houses were built side-by-side on the same street in Louisville, Kentucky, by the same builder. One was wood-framed, the other constructed with thin SIPs to yield an identical R-value. The contractor built the frame house tightly, with measured infiltration well below the national average. But the SIP-framed house had still-lower infiltration, resulting in 12 to 17 percent heating savings despite identical operating conditions. Generally, SIP construction requires neither a vapor barrier nor an air infiltration barrier like "housewrap." Contractors report high owner satisfaction with the quiet, comfortable solidity of SIP construction.



At end of day, shell of Wright house is complete.



Caulk, adhesive, and long panel screws secure roof panels to wood beams and steel framing.



Builders later add windows and exterior finish.

FOR MORE INFORMATION:

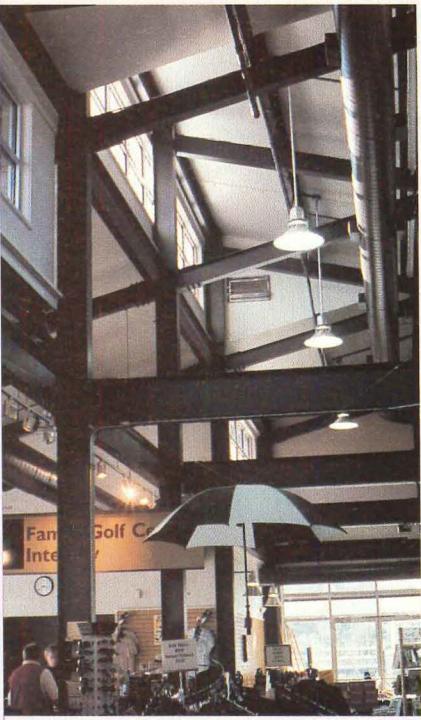
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Foam Core Panels and Building Systems, 2nd Edition (1992)
By Steve Andrews

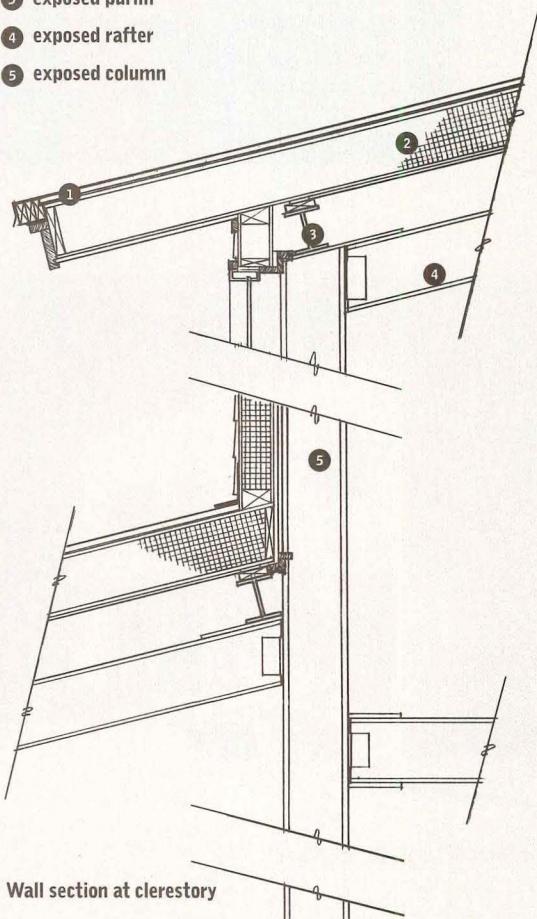
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(202) 393-5043 fax
SIPADC@aol.com, www.sips.org



By exposing framework of Interbay Family Golf Center in Seattle, architect Jones & Jones achieved continuous SIP envelope.

- 1 steel roofing
- 2 10" EPS SIP
- 3 exposed purlin
- 4 exposed rafter
- 5 exposed column



Resistance to SIPs

The building industry's resistance to SIPs comes primarily from the familiarity of wood-framed construction and a legitimate fear of the unknown. Traditional wood-framed structures do perform well. G.Z. Brown, an architect and director of the Energy Studies in Buildings Laboratory at the University of Oregon, reminds us of the benefit that the SIP learning curve will be hard to overcome in the face of the construction industry's decades of experience with wood-framed houses. "Even though a SIP house goes up faster, with less skill, we can't underestimate the tremendous investment our country has made in wood framing. Architects cash in on that investment with every bid."

Plumbers and electricians can also be puzzled about how to run services through solid SIP construction, and breaking an insulated envelope for a chase is bad practice in any case. "The electricians had a learning curve," reports the Design Alliance's Gray. "We predrilled many panels, designed a baseboard chase in other areas, and ran most of the wiring through interior walls."

Codes and cautions

The major code groups now recognize SIP tests for strength and fire resistance, but local building officials may require engineering calculations for each SIP building. Generally, architects draw generic panel modules, thicknesses, and spans for competitive bidding, and specify that the winning bidder supply signed and sealed panel drawings for approval. For fire resistance, codes require that panels have an interior fire-resistant layer of gypsum wallboard or a cementitious fire coating. Neither EPS nor urethane is particularly flammable, but EPS melts at 200 degrees, prohibiting construction for large buildings or public facilities without tested fire-resistant assemblies or sprinklers.

Bugs have been known to take up residence in panels. Some manufacturers have solved this problem by salting the panel with a borate, or pesticide. Architects should specify

that panels be effectively treated against insects and take care to detail the sill against infestation.

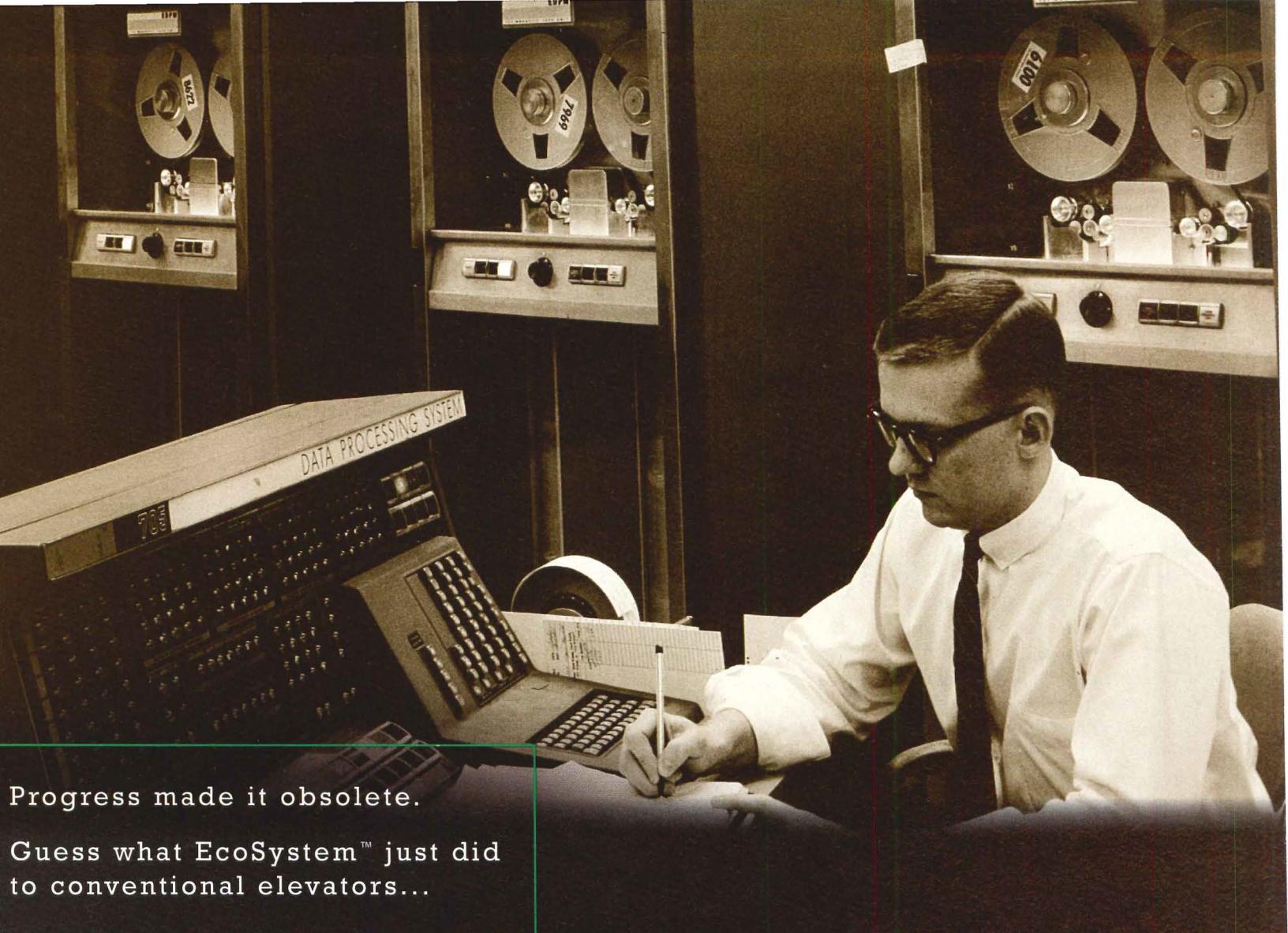
Costs of SIPs

SIP shells generally cost 2 to 10 percent more than an insulated and sheathed wood frame, but provide 30 to 50 percent more insulation. With wood framing, additional insulation requires deeper lumber dimensions or double framing. SIP insulation, by contrast, gets less expensive as the panels get thicker, since the skins and the manufacturing and installation process all remain the same. Brown's SIP demonstration house was actually cheaper to build than an equivalent wood-framed house, but 2-by-8 studs were required to get enough fiberglass insulation in to achieve the same thermal performance. The panels themselves are more expensive than the materials in an insulated frame wall, and although panels go up faster than frames, most contractors are hesitant to credit SIPs construction with any labor savings.

In regions with higher labor costs, severe climate, or high energy costs, SIP construction is now cost-effective. Panel costs are stable or decreasing slightly with automation and increased volume start to be felt in the marketplace. Alternative SIP skins like textured plywood outside or Fiberbond, a new interior skin that provides strength, finish, and fire protection, promise further savings by reducing finish costs.

Over the last 10 years, the SIP industry has provided convincing tests, gained solid construction experience, and demonstrated cost-effectiveness. In the next 10 years, SIPs could very well replace rafters for "cathedral" ceilings and monopitches, just as roof trusses have largely replaced wooden rafters in flat ceiling construction. And in exterior walls, finally, after 150 years, the stick frame is about to get some serious competition.

Colin M. Cathcart is an associate professor of architecture at Fordham University and a principal of Kiss + Cathcart in New York City.



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Practice Getting Noticed

A media-savvy PR strategy can strengthen your firm's relationship with existing clients—and help win new ones.

By Elizabeth Padjen

Out of sight, out of mind. The old adage describes business practices as well as human relationships. If the marketplace isn't giving you the attention you deserve, perhaps you need to heighten your firm's visibility.

Chances are your firm, as many are, is predisposed to equate conspicuous self-promotion with Madison Avenue slickness. Such disdain might be rooted in the AIA's ban on advertising, which discouraged tactics considered "unprofessional," but was overturned in 1977 as restraint of trade. Joan Capelin, president of Capelin Communications in New York City and one of the pioneers of public relations (PR) for architecture, remembers the days when her work was considered "unseemly," but observes that significant change is under way as more architects embrace good business strategies. "We've really hit a milestone in the adoption of new attitudes toward the business of design," she notes. "And now, with the return of prosperity, people are wondering how they can get an even bigger piece of the pie."

Even architects who do understand the value of PR sometimes have a narrow view of its potential, focusing their efforts on design awards programs and finding satisfaction in peer recognition. But the accolades of other architects won't ensure the health of your firm. "Public relations is client relations," asserts Lisa Oldham, director of marketing at Tsoi Kobus & Associates in Cambridge, Massachusetts. "The goal is new business." Good PR can also strengthen your relationship with existing clients; after all, media attention and awards are a confirmation of your clients' intelligence in selecting you. And many firms know that media recognition is their key to successful staff recruitment and retention.

Heightened visibility

Understanding the difference between marketing and public relations is the first step to developing a promotional strategy for your firm. Marketing is a two-tiered strategy of determining the kind of work you want to do—building and client types, geographical reach, and quality level—and then targeting specific business opportunities. PR allows you to reach your business goals by heightening your visibility in the market. An interest in developing a solid PR plan frequently forces a firm to articulate its long-range goals and marketing strategy more clearly.

Many PR professionals describe their work in terms of "brand" identity. "It's important to understand

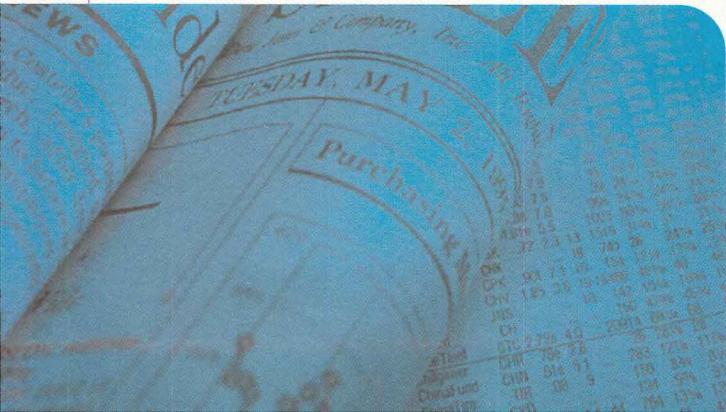
that you have a brand and that your identity is an asset," notes Nancy Egan, a PR and marketing consultant with Pearson Egan Nakazawa in New York City. Even some of the best-known "brands" in the industry require vigilance. "It's always a challenge—even if you're well-established—to keep a firm in the public eye," observes Caroline Hancock, director of communications for Princeton, New Jersey-based Michael Graves Architect.

And for practices that are struggling with generational transfers of ownership, attention to the firm brand is especially important. Firms must work hard to expand brand recognition to include the younger principals. John Van Duyl, a Kensington, California, PR consultant whose clients include San Francisco-based Esherick Homsey Dodge & Davis, advocates "positioning" the younger principals—building awareness of other members of a firm by promoting their projects and their expertise.

Tapping into the media

Public relations is most commonly associated with media relations—using broadcast and print outlets to promote name recognition and to establish a firm's expertise. Press releases are perhaps the best-known tool of media relations—and one of the most misused.

"People send out a flood of press releases when they don't know what else to do," observes Nikki Stern of The Hillier Group in Princeton, New



Jersey. Your release may be beautifully written, and the news that an associate was promoted to senior associate may be the talk of your office, but an editor receiving scores of similar announcements each week quickly relegates all of them to the trash. Oldham recommends targeting different releases to the audiences that will be most receptive.

While many architects see publication of a building project in one of the major design magazines as their ultimate goal, PR professionals know that an effective publication strategy includes stories in trade and general interest magazines, the business press, and newspapers. A prominent story in a trade magazine that reaches one of your market sectors immediately reaches a target audience of potential clients.

General interest publications and trade magazines covering other industries are generally more concerned with identifying trends and ideas than with specific construction projects. Janey Bishoff, principal of

Bishoff Solomon Communications in Boston and New York City, observes, "You run into limitations in the media if you think only in terms of stories about design or the built environment. You have to be more creative." Bishoff was recently successful in pitching a synagogue designed by Maurice Finegold of Finegold Alexander + Associates in Boston to the popular press. Her pitch focused not on the building, but on the story of an architect designing a synagogue for his own congregation—a building he would visit every week. The story was picked up by the Associated Press and featured in newspapers around the world.

Some resourceful PR professionals have discovered that an effective entrée to the business press is to team up with clients who may have better name recognition than the architect. Shared PR efforts can include jointly developing a media plan for a project, using the client's letterhead for press releases, and cosponsoring media events.

The design press

Although relatively few clients read the national design magazines, architects certainly do, and placement in these publications is a coveted prize. "They have enormous prestige, and they bring peer recognition that can lead to awards," Stern notes, adding that reprints from these magazines are particularly valuable because they can be tied to direct mail campaigns and other marketing initiatives. Recognition in these magazines can also lead to benefits not associated with other media: joint ventures with other architects, invitations to lecture or teach at universities, and inclusion on invited project shortlists.

Positioning the firm's senior staff as experts in their field is a goal of many PR professionals. Nancy Egan looks at editorial calendars for upcoming stories and then calls magazine editors to recommend clients who might be helpful sources. Many journalists and editors welcome calls from respected media

JOURNALISTS ARE PEOPLE TOO

How to work with the media

1 Return any media call promptly.

Journalists are even more deadline-driven than architects.

2 Don't be surprised if you speak to a journalist but are not included in the story. There can be many reasons for this, including cuts made by the editor or the possibility that you didn't have anything interesting to say.

3 You're in a service profession. If you can provide good service to a journalist—like calling back immediately with requested information—you'll win a friend or at least a higher position on the call list.

4 Bland is boring. If you want to become a frequent media source, speak your mind and let your natural personality show.

5 Don't ask to review the story before it's published. If you're discussing a complex or technical matter that you suspect may be beyond the reporter's knowledge, talk it through until you're satisfied, and then offer to be available for follow-up.

6 "Off the record," meaning that what you say will not appear in print, and "not for attribution," meaning the reporter can use the information as long as you are not identified as its source, are legitimate interview devices. Just be sure that the reporter agrees before you start talking.

7 Don't assume that placing an advertisement in a publication will earn you special editorial treatment. The firewall between a publication's advertising and editorial functions is a journalistic tradition meant to preserve editorial integrity.

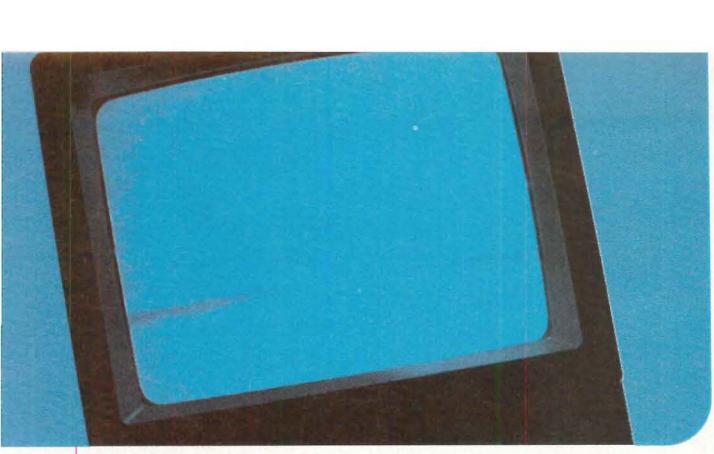
8 Don't send unsolicited slides or photos and then expect that someone will spend the time and money to return them to you. Color laser printouts or photocopies are adequate for many initial submissions; you can always send slides or prints later. If you do submit unrequested material that you want back, enclose a self-addressed, stamped envelope.

9 Label photos! Include the firm's name and address, the name of the project, and the photographer's name.

10 Does your receptionist know how to handle a journalist's call? Make sure he or she does.

11 Be succinct in all submissions.

12 There are no guarantees in journalism. Stories are often killed at the last minute for a variety of reasons, so don't get angry if you open up a magazine or newspaper to find your project missing.



professionals who, because their reputations are their stock-in-trade, screen out the mundane, and present only story ideas that they know will be of interest to the publication.

Another effective technique is to place articles written by firm members in trade magazines, which are frequently understaffed and often welcome freelance contributions. The best approach is not to write an unsolicited story, but to write a query letter to the editor, describing the subject matter of the proposed article and the writer's credentials.

Nikki Stern is also a big believer in on-line publications—not necessarily because they have large readerships, but because their content is available to clients and journalists doing topic searches on the Internet. She cites the example of a staff member who received several e-mail messages and one request for proposals as the result of on-line publication. Including staff-written articles and white papers on your firm's Web site is another way to increase your electronic exposure.

But publication isn't everything. Trade show presentations and client seminars are effective PR tools that can put your firm's principals directly before clients, where they can demonstrate their expertise personally and on their own terms. Some firms are making these events a priority, developing seminars with clients or cosponsoring conferences with trade publications.

Investing in PR

Good PR doesn't come cheap. Hiring outside consultants can cost \$5,000 to \$8,000 per month, with a minimum 1-year commitment. Some architecture firms add PR to the job descriptions of their marketing staff,

which is rarely effective because PR tasks frequently are pushed aside in the rush to meet proposal deadlines. Elizabeth Kubany, director of public relations at Hardy Holzman Pfeiffer Associates in New York City and one of the few full-time, in-house PR people in the profession, observes: "We're starting to see a shift toward in-house PR among architects. The partners here believe if one person is not doing PR, it doesn't get done." For many firms, the costs of an agency or a dedicated staff member can be hard to justify when the results are famously difficult to measure and are often conveyed through anecdotal evidence. But just one such anecdote—a major new client who mentions an article or presentation—can be enough to convince even the most tight-fisted principal.

Kubany advocates in-house PR personnel over outside agencies, citing better focus, loyalty to the firm, and the deeper understanding of the firm's objectives and current activities. But she does acknowledge that an agency can offer more staff resources. Hiring an agency's Rolodex—the media contacts the office cultivates—is one of the obvious reasons to work with an outside firm. But a PR agency can bring other skills, too, including objectivity,

broad knowledge of both the profession and the media, and strategic planning techniques.

The size of an architecture practice can also influence the direction a PR effort takes. Small firms, which are often financially strapped and sometimes can't generate enough news to feed to an agency on a long-term basis, frequently fall back on a combination of limited in-house PR activity and outsourced project work. But John Van Duyt notes that there is often no correlation between the size of a firm and the size of its PR budget. "Many small firms are increasingly smart about PR, their audience, and their message," he observes. "And they know that there is a straight-line relationship between budget and media placement. It all comes down to how much time can be devoted to achieving results."

Good PR requires patience. Andy Warhol may have promised everyone 15 minutes of fame, but he himself had his eyes on the long haul, nurturing a brand identity over many years—one that has outlived him. "PR creates impact through the consistent communication of a series of messages over a long period of time," states Bishoff. "You can expect some results quickly, but you can't create real value overnight."

WHEN DISASTER STRIKES!

How to work with the media in a crisis

Public relations professionals urge all architecture firms to develop a crisis communications plan even if you are not actively pursuing a PR program. Crises for architects can take many forms: building failures; construction accidents; "sick" buildings; the unexpected death of a principal; workplace violence; sexual harassment suits; or the destruction of your office by natural disaster.

Although PR firms often advise on such plans, an actual crisis will not necessarily involve the media. "Sometimes it's simply human relations," notes Barbara Casey, CEO of Casey & Sayre in Santa Monica, California. "Who will reassure the tenants? Who will contact the widow?" The first phase of a crisis plan consists of two parts: gathering the facts and disseminating information. But plans should also provide direc-

tion to the firm by naming spokespeople and a crisis response committee, designating successors, and listing key advisors such as lawyers, insurance representatives, bankers, PR consultants—even real estate brokers who can find temporary work space. "The goal is to avoid chaos," says Casey, who recommends disseminating the plan to the entire staff.

But preparation for a crisis does not end with the printing of a plan that sits on a shelf. "It's important to have a positive track record in the media," advises Janey Bishoff, principal of Bishoff Solomon Communications in Boston and New York City. "The public record on your firm is what the media will go to first. If the only thing they find is negative, then you're not prepared."



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Circle 117 on information card

By Jerry A. Laiserin

Managing an architecture firm's finances is more than just adding and subtracting numbers on a ledger sheet. Those numbers also can be applied to monitoring and guiding every facet of a successful practice. A growing number of software programs now allow principals to analyze—not merely record—data: For example, time sheet information used in generating client invoices and employee paychecks also may link to project management and staff schedules; project cost histories now can provide a basis for new fee proposals and contracts; and analysis of project types can help determine next year's liability insurance premiums. Firmwide budget and profit planning programs help ensure there will be a next year.

While few architects relish "doing the books," three current software trends make this essential chore more palatable. First, the rise of graphic user interfaces, especially Microsoft Windows, makes the retrieval and entering of data into accounting programs easier. Second, standardized database formats simplify data-linking and analysis. Finally, an intranet, which is a restricted-access network within a company utilizing Web technology, allows project managers and principals to access and exchange confidential information at any point during the project.

An accounting checklist

Accountants say that keeping track of a firm's performance must go beyond checking the bottom line. "It's a question of survival; you need to know where you are," says accountant Tony Cucci, a partner in David Berdon & Company, a New York City-

based accounting and consulting firm. Cucci suggests the following modules and features architects should look for in financial management software:

Time and billing: Staff should be able to record time directly into a time sheet program rather than on paper, although completed time sheets may have to be printed out to satisfy a client's audit requirements. Invoices in software programs should allow for customization and prebilling, a kind of draft invoice to be reviewed by a principal before being sent to the client.

Accounts receivable (A/R), accounts payable (A/P), and general ledger (G/L): The key issue with A/R and A/P tracking is managing the firm's cash budget—when and from whom money is expected to come in and when and to whom money must be paid out. A G/L module should summarize all the categories in which the firm spends or receives money on a master list called the chart of accounts. New York City attorney C. Jaye Berger, author of *Interior Design Law and Business Practices*, adds that architects who also design interiors, and who must account for sales taxes on interior design services or on the resale of furnishings purchased on behalf of clients, may want to maintain separate G/L accounts for architecture and interiors work.

Job costing: Because salaries are a firm's biggest expense, the ability to sort individual time charges and expenses by task, phase, and project is essential, even if the firm does not bill by the hour.

Software for small firms

The distinction between straight bookkeeping and job-costing is espe-

New financial management software links project schedules to bank accounts.

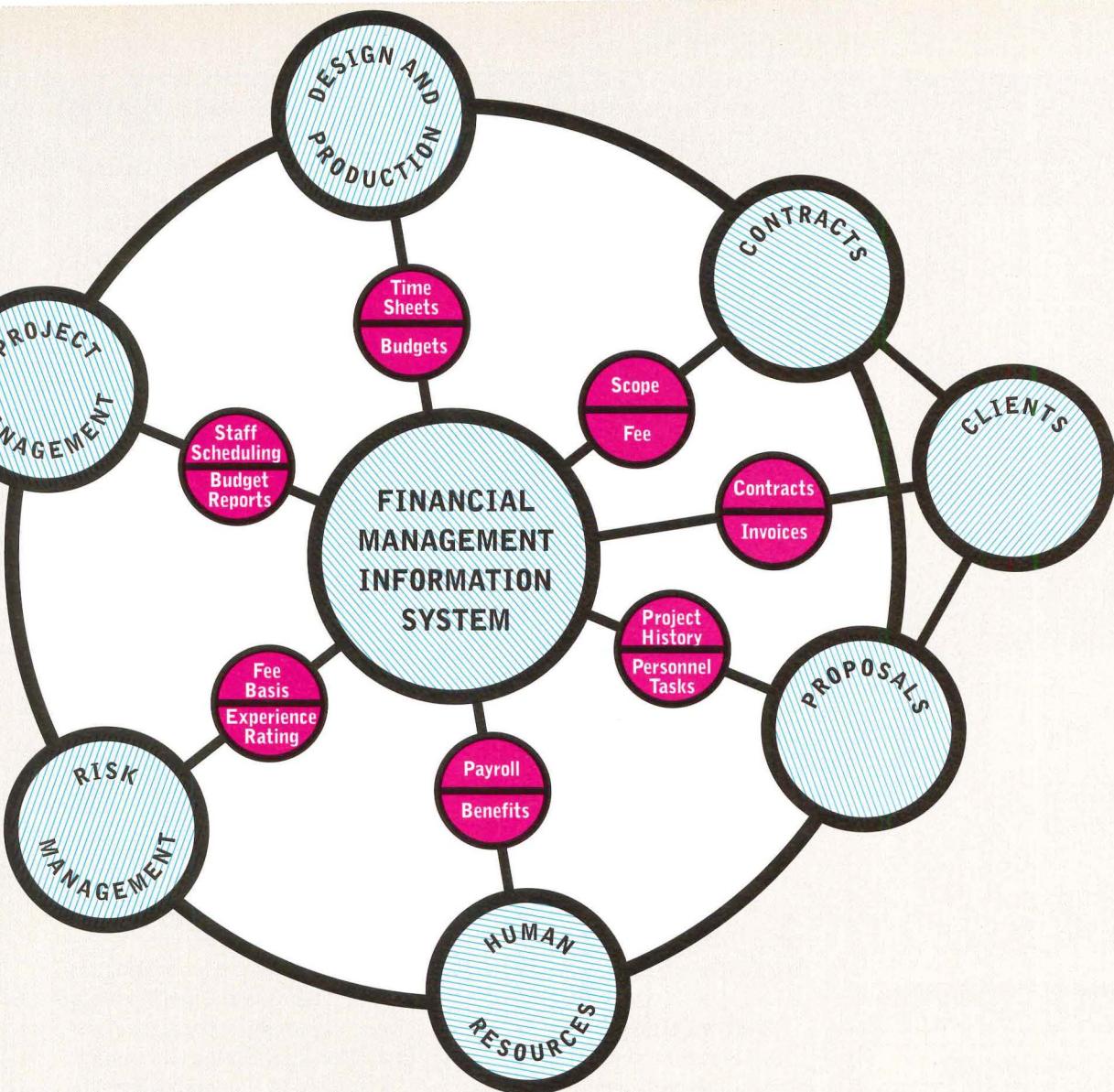
cially important in the lower-priced packages likely to be used by smaller firms. For example, two architect-developed packages for Macintosh users skip the bookkeeping functions entirely. Both T&E (Time & Expense), developed by Barry Isakson of Architectonica in Redondo Beach, California, and MacArchitect, conceived by Seattle-based architect Arne Bystrom, focus exclusively on accounting for, and analysis of, time on project work. Bystrom, whose program is marketed by BeeDee Software, also of Seattle, says that "knowing how much time you spend on projects, and which projects you spend it on, is the key to making money and keeping it."

Other programs that stay within the budget range and staff capability of small firms, but also integrate bookkeeping with job-costing, include Peachtree Software's Complete Accounting Plus Time & Billing and Intuit's QuickBooks Pro. Although accountant Cucci thinks 90 percent of firms with fewer than five people (a third of all architectural practices) will be well-served by QuickBooks Pro, until now it has not been as well-suited to larger or growing firms. But manufacturer Intuit recently introduced a networked version to better compete in this growth sector.

Large-firm programs

Among very large firms, the software selection decision often hinges on the vendor's responsiveness to specific custom features. AegisWeb from SOTA Software Systems makes a point of such service. Judy Peterson, director of finance at Callison Architecture in Seattle, who is in the midst of a phased conversion from UNIX-based Alpine Project

Comprehensive financial management software helps control work- and cash flow, ultimately increasing firm efficiency and client benefit.



Time Management (produced by Alpine DataSystems) to AegisWeb, says: "We're really happy about the increased productivity and reduced errors we get with the new intranet time sheet function." Roger Poole, vice president of information systems at HLM, a Charlotte, North Carolina-based architecture firm, adds: "AegisWeb's ability to pull together financial data from our nine offices via the corporate intranet is particularly valuable."

Another highly customizable option for the largest firms is Navision Financials, a general-purpose import from Denmark targeted at any business with revenues of \$15 million or more. An important feature of such robust software is formal certification of full 32-bit compatibility with Windows95 and WindowsNT. The only A/E-specific program to

offer this certification is also the one that claims the largest user base, the Wind2 Financial Management System (FMS) from Wind2 Software, Inc. At Santa Monica, California-based Frank O. Gehry & Associates, Controller Martha Jandres relied on Wind2's DOS-based product for 10 years before converting to the new WindowsNT version. She finds it "capable and flexible in delivering up-to-the-minute reports" for the 70-person firm's weekly project managers' meetings.

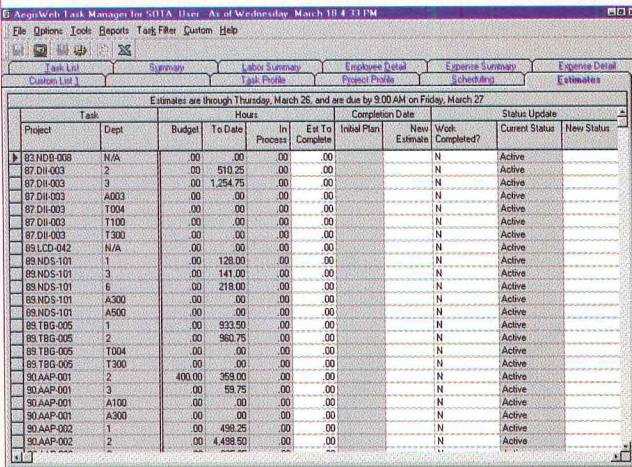
Pam Lindquist, director of finance at the 130-person Setter Leach & Lindstrom in Minneapolis settled on Wind2 FMS after a 2½-year search. "We were moving to PCs from our Alpine/UNIX system and looked at many products from general-purpose packages to A/E-specific ones like Semaphore," Lindquist explains. "It

was already 32-bit so we only had to convert once, and I liked that the Crystal Reports custom report writer was embedded in the product."

Other A/E-specific vendors include the high-end Aurora system from BST Consultants and the ProTrax project control system from Axium. The latter may be of special interest to design firms moving into design-build work, because ProTrax shares a common corporate ancestry with the construction accounting and estimating products of Timberline Software Corporation.

Flexible, customized options

No consideration of computerized financial management systems for architects would be complete without a look at Harper and Shuman, who invented the category in 1973. This 25-year-old company remains at the

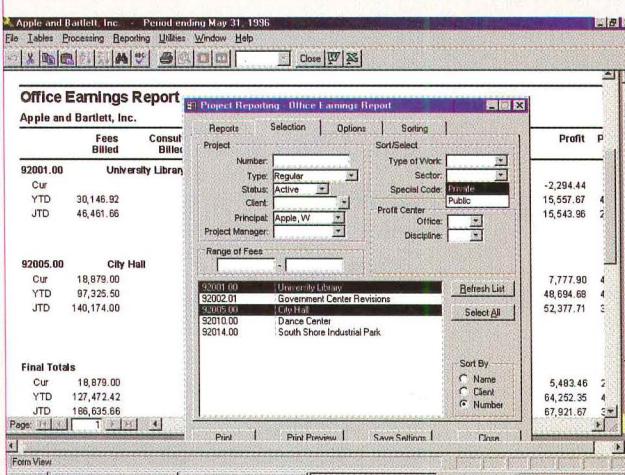
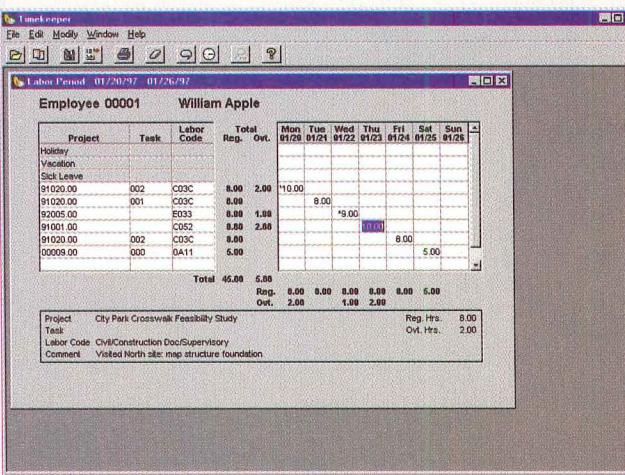


leading edge with its latest CFMS version, Advantage SQL. Russell Griffin, vice president of Lynchburg, Virginia-based Wiley & Wilson Architects Engineers Planners, says: "We started using CFMS in the mid-1980s. Now, with our Advantage SQL conversion under way, we're looking forward to a database-driven system with better timeliness and flexibility."

Mid-sized and smaller firms also can benefit from Advantage SQL, according to Zane Paxton, a principal with 50-person CAS Architects in Mountain View, California. Although his firm only recently converted to CFMS/Advantage, Paxton plans to upgrade to Advantage SQL immediately because "SQL will allow us to become 100 percent database-centric in every aspect of our practice." Paxton also is not shy about mixing and matching different vendors' wares to gain specific combinations of features. "We had previously been using Sage US's Timeslips, customized to our specific requirements, and we kept it as our time sheet because we prefer its features to Harper & Shuman's Electronic Timekeeper module," he maintains.

Time-specific products

Because time sheets hold the most critical data in the job-costing process, several vendors offer time-specific products as add-ons to both financial management and project management packages. These include Timeslips from Sage US; Axium's TimeTrax (a companion to ProTrax project control system or as a freestanding electronic time sheet); Bolvad Communications' JATTS (Job Accounting and Time Tracking Software); Selfware's ProjectTime, a multiproject add-on time sheet that bridges to Microsoft Project; and the Electronic Timesheet and WebET from Deltek Systems. The Deltek affiliate Allegro Group provides one of the most powerful links between financial management and project management, according to HLM Vice President of Information Systems Roger Poole: "With Allegro, you can develop the plan," he says. "You can set up and compare allocation of



AegisWeb (top), part of new generation of Windows-based accounting programs, helps organize tasks by tracking progress of each relative to budget. Advantage SQL (center) records project time using predefined descriptions and analyzes project earnings (above) by providing up-to-date overview of project profitability.

resources to projects, and its dynamic view allows you to select by job categories for available resources. You start with a budget and lay out how you plan to spend it, then you marry the plan to the history as it develops," he explains.

A smaller-scale approach to firmwide monitoring and control is CAPP (computer-aided profit planning) from S3PS. Developed by John Burson, controller at Architecture Plus in Monroe, Louisiana, CAPP offers a series of interlinked spreadsheet templates that help managers set profitability goals and monitor the cost and performance variables to achieve those goals.

Another nonaccounting use of financial data is for project histories and fee estimates in marketing proposals. Semaphore's financial management package includes a built-in module to generate Federal 254/255 forms and other proposals. Stand-alone systems include the Macintosh-based 254orm from architect Barry Isakson's Architectronica, and RFP for Windows from A/E Management Services. RFP also works with Axium, BST, Harper and Shuman, Semaphore, and Wind2 programs. An Internet-intranet version, RFP Web, is scheduled for release.

Carrying the marketing-financial management link still further is MarketEdge, from Market Edge Systems, which adds contact management, project lead-tracking, and marketing management to the proposal-generating functions. Anthony Rimore, director of marketing for 130-person Arquitectonica in Miami, says MarketEdge offers a good database of clients and projects linked to financial data. "The prospect tracking is especially powerful," he says, "because it really forces you to follow up on those proposals."

From helping get the work to helping collect the bills, the current generation of financial management software offers architecture firms new opportunities to practice with greater effectiveness.

Architect, computer specialist, and industry analyst Jerry Laisserin also holds an M.B.A. degree in accounting.

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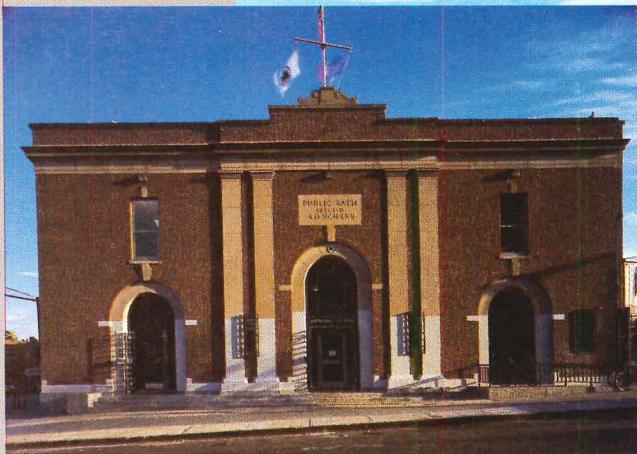
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Circle 119 on information card

New infrastructure, improved lighting, and durable finishes restore the shine to a tarnished Brooklyn bathhouse.



Salam removed graffiti from brick and limestone facade with high-pressure water and mild chemical solution. Steel gates and grates that recall character of original details replace decayed mullions. Wheelchair access ramp was added.

By Sarah Amelar

In 1912, New York City boasted the largest system of free public "cleansing" baths in the world. Tenement dwellers, lacking indoor plumbing, often went unwashed, and it wasn't until 1895 that progressive health reforms inspired local laws mandating the construction of free municipal bathhouses, with swimming pools added as side attractions. Reformers viewed personal hygiene as not only a public health issue, but also as a matter of morality. "Cleanliness is next to Godliness" was their mantra.

By the time Brooklyn's Metropolitan Bathhouse and Pool opened in 1922, city codes had been amended to require running water (for sinks, at least) on all floors of tenements—but the legacy of earlier bath buildings lived on. To elevate the importance of bodily cleansing, municipal bathhouses typically presented clean-lined Neoclassical exteriors, often as dignified and austere as libraries or bank buildings.

Designed by architect Henry Bacon (who also created Washington, D.C.'s Lincoln Memorial in 1914), Metropolitan housed its "water-works" behind spare, Classically influenced, brick and limestone facades. And though its pool measures a modest 75 by 30 feet, its original changing rooms included some 60 shower stalls and eight tubs.

While many of Brooklyn's early pool and bathhouses closed or succumbed to the wrecking ball, Metropolitan survived. The most recent chapter of its 76-year history of

endurance owes much to a broad-minded—and pool-loving—commissioner of parks, an intrepid community (Brooklyn's traditionally working-class sections of Greenpoint and Williamsburg), and an Egyptian-American architect, Medhat Salam, who brought his own cultural sensibilities to the project.

A tarnished jewel

After six decades in operation, Metropolitan faced closure in 1983. Henry Stern, then the city's newly appointed parks and recreation commissioner and an enthusiastic swimmer, rallied the neighborhood to rescue it. "I challenged the local councilman," he recalls. "I said, 'If you can get 200 people into the water by 7:30 p.m. on St. Patrick's Day, I promise to keep Metropolitan open throughout the fiscal year. Well, 370 people—including myself—got into the pool, and we saved it."

But as Salam recalls, "the bathhouse was a tarnished jewel."

Graffiti marred the exterior. The roof around the huge skylight suspended above the pool was spalled and leaky—sloughing sizable chunks of concrete. The ends of the three steel trusses framing the skylight had corroded, the wooden mullions on interior, mezzanine-level windows overlooking the pool had rotted, and the swimming pool's original main drain was completely worn out. Most of the mechanical systems were dysfunctional and outdated. But the load-bearing walls and the slab were in good shape and the simple radi-

ance of the interior transcended its flaws. The moment Salam first walked into the building, he was dazzled by its luminous qualities. "Behind that plain exterior," he recalls, "I stepped into this tranquil oasis. I was instantly struck by the light, the color of the water—reflecting the sky—and the serenity of the place. Thoughts of Moorish architecture leapt to mind right away."

The architect's immediate affinity for Metropolitan's skylit natatorium, he later realized, had origins in his childhood associations with traditional Egyptian houses. That build-

ing type also cloaks inner splendor behind a modest exterior, and it, too, focuses inwardly on an enclosed courtyard with water and light. Metropolitan's calm refuge from the elements and surrounding hard-scrabble neighborhoods suggested to the architect a strong parallel.

Metropolitan's original materials were elegant and simple. Beyond the central portals and waiting area, Bacon had lined the pool hall in smooth, tawny surfaces: lightly salt-glazed bricks on the walls, glazed brick inside the pool itself, white glazed terra-cotta lining the gutters,



Salt-glazed bricks line natatorium. Architect Medhat Salam upgraded pool's original tile-work, drain, plumbing, and grouting. New steel truss ends and embossed copper replace corroded sections of roof.

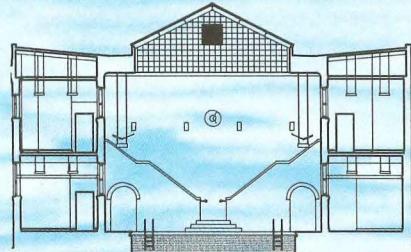
and herringbone-patterned ceramic tiles on the surrounding decks. The walls, punctuated by windows from the flanking locker rooms and second-floor mezzanines, rise nearly 29 feet to copper-clad ceilings. The skylight, hovering over three-quarters of the pool, peaks 11 feet higher. With the surrounding decks barely 4 feet wide, the pool nearly fills the room.

Over the years, however, this subtle natural palate had been disrupted by red paint crudely coating the wooden mullions and frames of the overlooking windows. Three 18-foot-tall arched windows between the

central entrance hall and natatorium had been partially covered by red wooden boards, completely obscuring views between the entrance area and pool. Also, the original embossed copper ceiling had corroded severely, and the tilework needed patching. For almost seven decades, the city's Parks & Recreation Department, overseers of the building, had made repairs in piecemeal fashion. In the 1970s, the agency replaced the pool's coal-fueled boiler as well as the skylight's glazing, but not its supporting trusses—a complete renovation was long overdue.

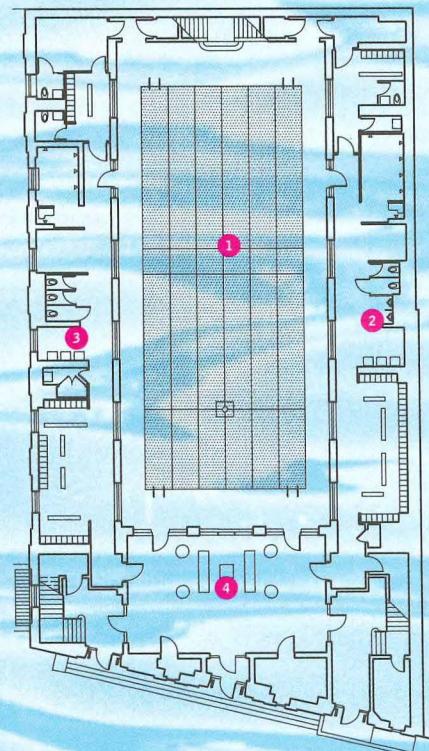
Low-maintenance stainless steel window frames replace rotting wood members. Modern pendant fixtures cast gentle, indirect light. Salam customized these off-the-shelf fixtures with added deflectors to pitch light toward room's center.





- 1 pool
- 2 men's lockers
- 3 women's lockers
- 4 entrance lobby
- 5 community room
- 6 fitness area

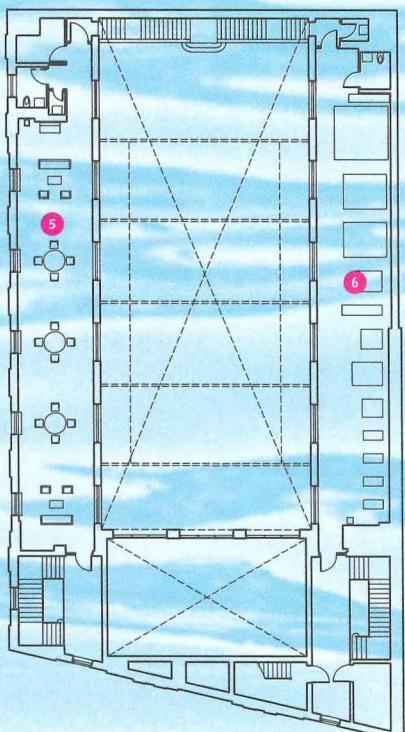
North-south section



First-floor plan

15' / 4.5m

Mezzanine plan

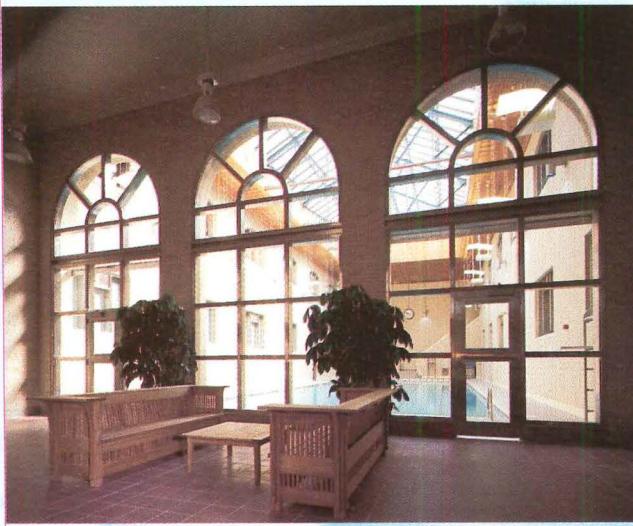


East-west section

Strategic finishes

In late 1987, when Medhat Salam Associates received the commission to renovate the bathhouse, the architect envisioned restoring the colors and shimmering transparencies, and reopening lines of sight—through the central portal to the pool, or conversely from the pool out to the street. Salam initially proposed widening the narrow poolside deck by supporting the mezzanine levels, which run the length of the building, on a flat, Moorish-influenced arcade (with windows to the outside). But the city considered the \$3.5 million proposal too costly. A scaled-back version of the project continued with stops and starts, following the vagaries of the city's finances. (Ironically, when the renovation finally began in March 1995, construction costs reached \$4.9 million.)

The architect concentrated the funds available for cosmetic improvements where they mattered most—in the natatorium and central entrance portal. They glazed the entire arched 18-foot-tall windows and replaced the red wooden window frames with stainless steel that complements the pool hall's muted palette and reflective surfaces. Missing and damaged tiles also required replacement, but as the architects discovered, the modern version of "1-by-2-inch" ceramic floor tiles are slightly smaller than the originals. Since the budget prohibited custom tiles, Salam Associates judiciously replaced tiles and bricks only where absolutely



Glazing arched, 18-foot-tall windows between entrance hall and natatorium reopened lines of sight between central portal and pool.

METROPOLITAN POOL AND BATHHOUSE BROOKLYN, NEW YORK

CLIENT: New York City Parks and Recreation Department
ARCHITECT: Medhat Salam Associates, New York City—Medhat Salam (principal), Donato Giacalone (project architect), Sara Connolly, Martha Lewis, Victor Vierra, Robert Westling, Lisa White (project team) **ENGINEERS:** Selnick/Harwood (structural); Rubinstein and Naimowitz (mechanical, electrical) **CONSULTANT:** Falk Associates (specifications and cost) **GENERAL CONTRACTOR:** Komi Construction **COST:** \$4.9 million **PHOTOGRAPHER:** Addison Thompson

necessary—as on the footprint of the long-vanished diving board and on the pool's floor, under which the architect would also install a major new drain and piping.

Around the skylight, the architect improved on Bacon's design by removing rows of exposed radiator pipes and replacing the ceiling's corroded copper sheathing with embossed copper in the original pattern—amazingly still available off the shelf. Instead of preoxidized metal, Salam selected unoxidized sheets, which glittered like gold when first installed and are now subtly tinged with browns and greens as they metamorphosize to a rich patina.

New lighting also contributes to the space's beauty. Pendant fixtures cast gentle, indirect light, bounced from deflectors pitched toward the room's center. (Parks Commissioner Stern, who apparently swims on his back, expressly requested non-glaring illumination over the pool). These abstract, contemporary fixtures provide a delicate counterpoint to the room's pure geometries: A clever and economical solution, these off-the-shelf fixtures were modified simply with added deflectors.

In the wings flanking the natatorium, the changing rooms—men on one side and women on the other—originally occupied two floors, but makeshift storage and maintenance offices had completely encroached on the upper floor. Salam renovated the pool-level locker rooms and converted the mezzanine into exercise and community rooms.

Moisture damage

Behind these visual enhancements lies a vast infrastructural overhaul. The plumbing, electrical systems, ventilation, and pool filtration were all revamped. A newly installed, energy-efficient dehumidification system feeds warm water condensed from the air back into the pool's circulation system—thus assisting the pool's water heater.

The biggest structural problems before the renovation involved damage from both the pool and rainwater. Enclosed above the copper-clad ceiling, the ends of the three skylight trusses became corroded by trapped condensation and roof leakage. The architect excised and replaced these disintegrating sections with new steel trusses. To minimize future corrosion, Salam favored stainless steel throughout the building: in handrails, interior doors, pool ladders, locker-room partitions, and windows. The material not only resists corrosion, but also offers the added advantage of requiring no paint, satisfying the Parks Department's requirements for low maintenance and high durability.

Rainwater had damaged the roof. The thinned and cracked bituminous roofing had permitted water to penetrate to the concrete roof slab, and was poorly flashed around the skylight. Corroded reinforcing bars had, in turn, led to concrete spalling. The architect replaced the slab and carefully relashed the roof with copper.

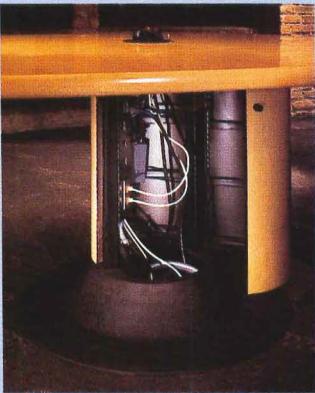
On the facade, the architect cleaned the graffiti with high-pressure water and a mild chemical

solution. Bacon's original elaborate mullions on the front doors and individual lights on the exterior windows were eliminated in the interests of maintenance and budget. But recalling the vintage character of these apertures, Salam designed steel gates and grates over the front elevation's ground-floor windows and doors. (Elsewhere on the building, mullionless windows without grates make the already plain exterior slightly plainer, but the change is minor.) A wheelchair access ramp was also added to the front facade. Since the budget allowed only one glass entrance door, the architect installed it in the central bay, permitting a glimpse through the lobby and to the pool.

New transparency

The new transparency was not instantly embraced by all. To Williamsburg's burgeoning Hassidic population, clear views to the interior were improper, more exposing than inviting. After protesting the transparency, however, one concerned Hassidic citizen recognized the integrity of the project and offered to find a way—using portable screens or curtains, for example—to provide privacy on their assigned swimming days. "She said it would be a pity to disfigure this lovely space," the architect recalls.

And lovely it remains. Though the Metropolitan's Neoclassical exterior is undeniably plain, it's hard to imagine Bacon's newly refinished interior being more resplendent.



1

1 Tech-Friendly Conference Furniture

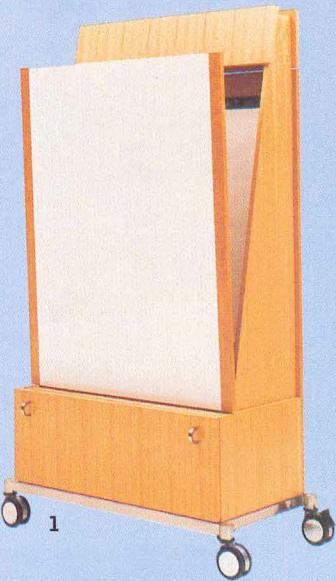
Geiger Brickel's new line of modular conference and meeting-room furniture, "Broadcast", responds to the demands high technology places on corporate workrooms. Tables in the collection incorporate hollow column bases that serve as a conduit for electronic media wiring, thereby facilitating multimedia presentations, video teleconferencing, and networked team meetings. The line includes wood tables in a range of shapes with surface-mounted power outlets. Wood monitor stands are available as are "mobile easels," which contain storage spaces and dry-erase marker boards. *Circle 296* on information card.



1

2 Maya Lin Collection

Renowned designer and sculptor Maya Lin combines themes central to her architecture and art in her new line of production furniture from Knoll. The



1

Office Works

New furniture lines combine art and architecture, form and function.

designer of the Vietnam Veterans' Memorial in Washington, D.C. (1984), and the Civil Rights Memorial in Montgomery, Alabama (1989), says the collection, subtitled "the earth is (not) flat", displays her preoccupation with topography, celestial elements, natural phenomena, and the relationship between humans and the earth. Unveiled in celebration of Knoll's 60th anniversary, the line includes a dining table, chaise longue, coffee table, three side chairs, and two stools. "The Stones" pieces of the collection include a low elliptical table with a slightly convex top and elliptical stools in two sizes, each with a slightly concave seat. The Stones, constructed of hollow, lightweight fiberglass-reinforced cement, can

be used both inside and out and are available in five colors. "Longitude", the chaise longue, is an interpretation of Ludwig Mies Van Der Rohe's Barcelona sofa, also manufactured by Knoll. "I couldn't resist throwing a curve at Mies," Lin says of her design, which features a maple plinth with steel rods supporting a restrained maple curve covered in a leather or fabric pad that conforms to the contours of a person's back. The



2



2



dining table, "Equator", and the wood side chairs, "30°East/30°West/0°", are constructed of maple and steel and also incorporate elliptical forms. *Circle 297 on information card.*

3 Integrated Furniture and Interiors

Steelcase strives for a holistic approach to office workspaces with its recently introduced portfolio, "Pathways". These products integrate flexible interior planning, communication planning, dimensional compatibility, physical interface, and visual compatibility. Mobile workspaces and freestanding storage units dominate the furniture line, while the interior architecture element comprises horizontal and vertical planes that help shape interior spaces. Named the "Segment", the wall product is made up of a combination of frames and skins that can be configured to build partial-height and floor-to-ceiling environments in conjunction with building systems and existing Steelcase products. Other new products divide space, control acoustics, improve lighting, and increase accessibility to wiring and cabling. The latter is accomplished through low-profile raised-floor systems and desk-level access to outlets and communication ports. *Circle 298 on information card.*



3

Office Works

January 1998

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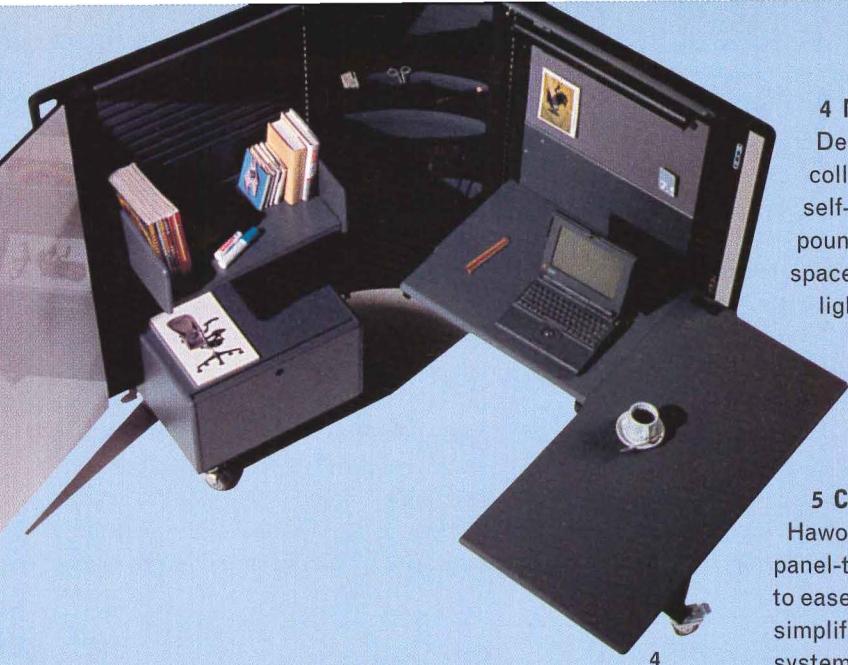
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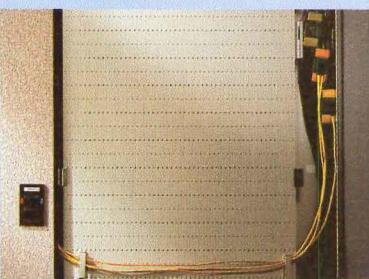
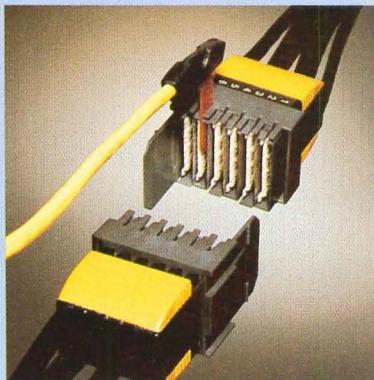
architecture



4

4 Mobile Workstations

Designed for office workers on the move, Herman Miller's new collection of transportable workstations, "Puzzle", features self-contained, folding units set on lockable casters. The 300-pound units include multiple workspaces, storage and display areas, task lights, marker boards, rail and tackable tiles, and a mail slot and pouch. When folded, the unit is compact and maneuverable. *Circle 299 on information card.*



5

5 Communications Cabling

Haworth has introduced DataThing, a panel-to-panel cabling system designed to ease office space reconfigurations by simplifying equipment connections. The system consists of three components: in-feeds, which connect furniture cabling to building cabling; communication distribution assemblies, which distribute voice and data cabling through panels to simplify moving furniture; and tap and jack assemblies, which provide outlets for communications equipment. *Circle 300 on information card.*

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It's a rare thing for an architect to outlive a building he or she designed. So it can be especially rewarding for them to be called back to preserve or rehabilitate one of their early works, and extend its longevity.

"It's always a pleasure when clients or buildings reappear," affirms Hugh Hardy of New York's Hardy Holzman Pfeiffer Associates. His firm recently revisited one of its early designs, the 1974 Minnesota Orchestra Hall in Minneapolis. Hardy was a principal designer on the original building and a key player the second time around as well. The firm's experience as the original

During planning, the firm attempted to resurrect a ceiling on the observation deck that was never built. But the Los Angeles City Cultural Affairs Department said the ceiling would be a character-altering change, despite the fact that it was called for in the original design. "It highlights one of the liabilities of knowing the building well," Martin says. "We can allow personal feelings to influence our solutions. We love the building, but we shouldn't. Our job is to serve the client."

Indeed, the prospect of returning to your own work is too much for some to bear.

Heal Thyself

Restoring your own work is rewarding, but emotions can get in the way.

architect, Hardy says, helped in all aspects of the redesign, which included restoring seating and wood paneling in the performance hall, updating color schemes—the 1970s choices were visibly dated—improving concessions, and reconfiguring circulation to open up the lobby spaces. "We had a sensibility about the contrast between public spaces and the hall itself that needed to be retained or the project wouldn't have worked," Hardy says. "But we love doing this. It would be great to come back to Orchestra Hall in 2008 and address the colors again."

Of course, the longer an architecture firm endures, the more likely it will see its own buildings come due for renovation. In Los Angeles, 92-year-old firm A.C. Martin Partners is currently restoring City Hall, which founder A.C. Martin, Sr., finished in 1928. The \$180 million effort includes the preservation and seismic upgrade of the 912,000-square-foot building, best known from the opening scenes of television's "Dragnet." The fact that the firm was the original designer has been key to the design process. "We really know the structure," says Managing Partner Christopher Martin, the founder's grandson. "My uncle, A.C. Martin, Jr., now partner emeritus, knows the history of that building better than any living person."

Miami Beach architect Morris Lapidus is frequently asked to revisit his early projects in a preservation or rehabilitation capacity, but has never accepted the task. His reason: People have tinkered with his hotels so much in the intervening years that they're often only shadows of their former selves. "I was asked back to the Americana Hotel in Bal Harbor, [Florida,] which I finished in 1947," says the retired Lapidus, now 95. "It had been restored several times by other people, and each time it got worse and worse. For me, it was a form of disaster."

While major alterations to his work cause Lapidus to feel that he can't go home again, others are more fortunate when the opportunity arises. When Frank Lloyd Wright's successor firm, Taliesin Architects, returned to Spring Green, Wisconsin, in 1993 to convert Wright's 1953 Riverview Terrace Café to the Taliesin Visitor Center, the architect was able to restore a key component of Wright's design that had long been obscured by a previous renovation. Taliesin Principal Anthony Putnam recalls that "when you walked in the door, you ran head-on into a coatroom that blocked a beautiful view of the Wisconsin River. It was nice to be able to restore that view." *Eric Adams*

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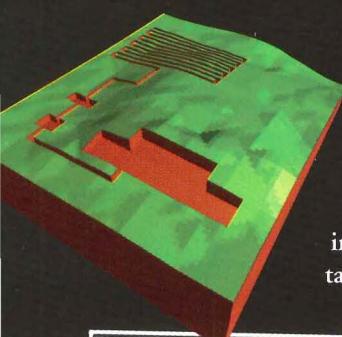
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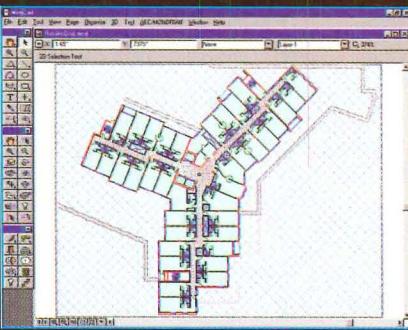
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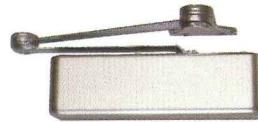
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191	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
192	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
193	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
194	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
195	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
196	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
197	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
198	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
199	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
200	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
201	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
202	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
203	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
204	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
205	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
206	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
207	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
208	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
209	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
210	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
211	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
212	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
213	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
214	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
215	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
216	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
217	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
218	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
219	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
220	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
221	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
222	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
223	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
224	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
225	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
226	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
227	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
228	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
229	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
230	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
231	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
232	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
233	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
234	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl	1st vrl
235	Breakfast Room			12110000	Var. Brw. (var. Brw.)	1st vrl</td	



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