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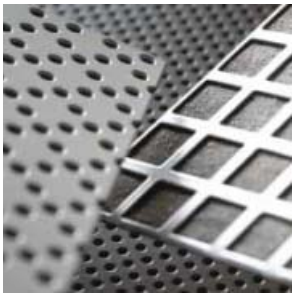

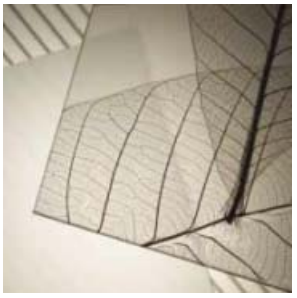

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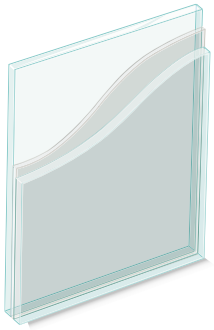

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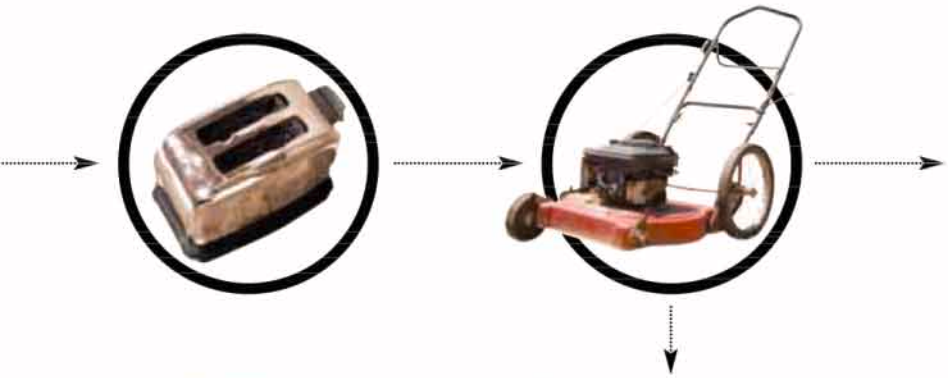

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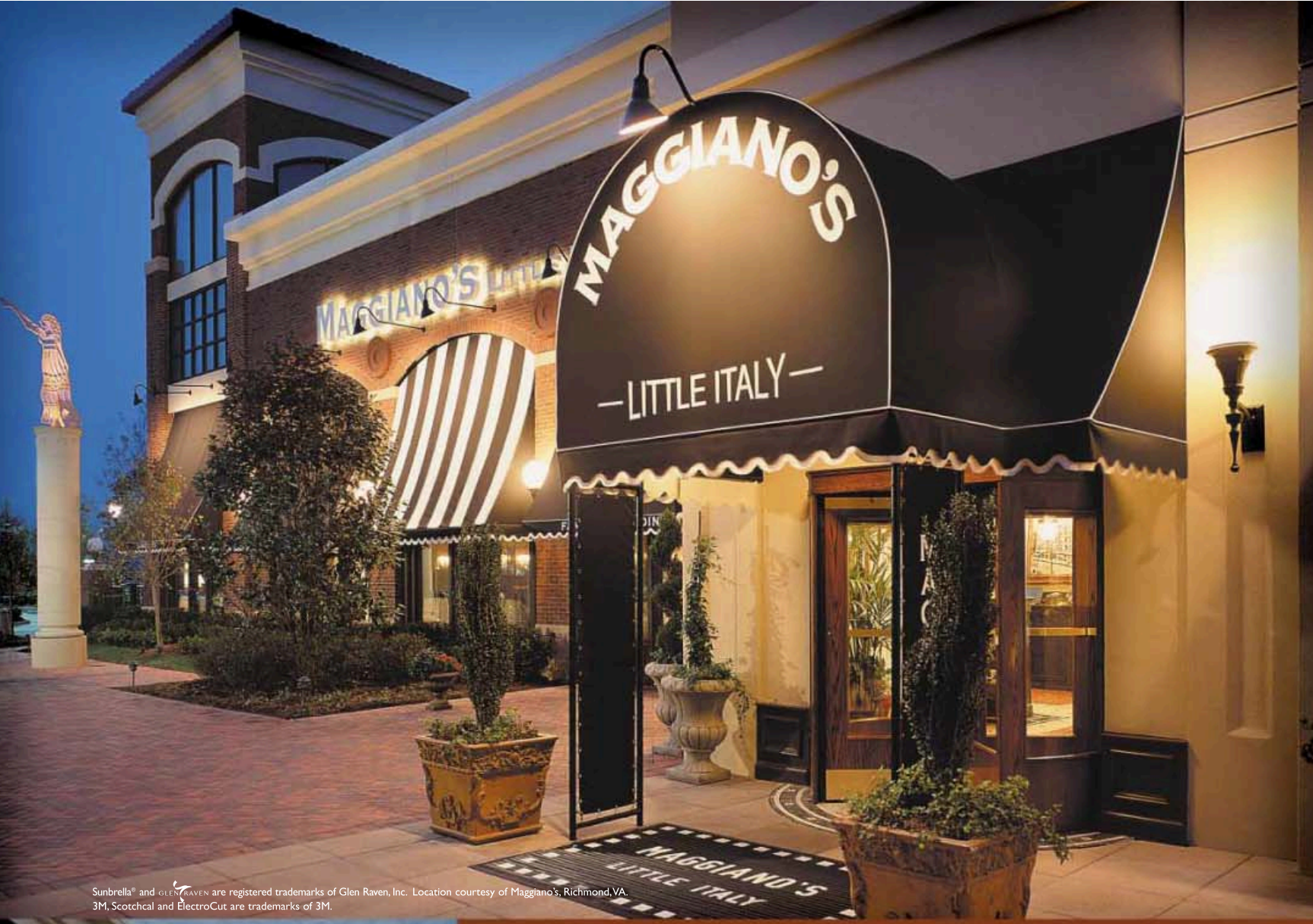

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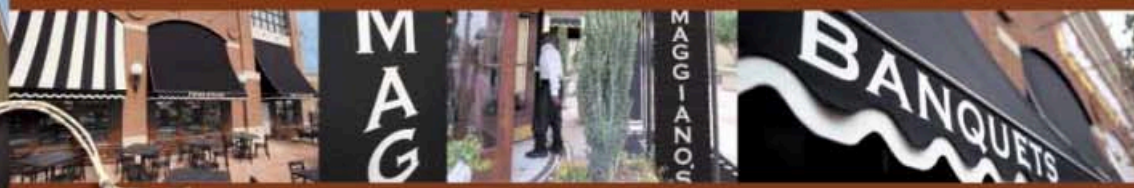

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On the Cover: *Scottish Parliament, by EMBT and RMJM. Photograph by Duccio Malagamba*
Right: *21st Century Museum, by Kazuyo Sejima + Ryue Nishizawa/SANAA. Photograph by Hiro Sakaguchi*

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This month we delve into acoustics. These products enhance the acoustical quality of interiors by controlling and absorbing noise. Also, be sure not to miss our 2004 Product Reports.

Family Room, J. Paul Getty Museum
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In this quarterly section, find out how architects insert forms to shape space and update a historic library, a modern museum, and a residential loft.

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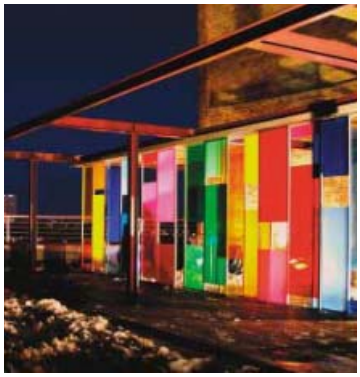

Parts House Pavilion - Johnsen Schmaling Architects

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Milwaukee is in the midst of a facelift—courtesy of Johnsen Schmaling Architects; while architect Lira Luis' innovative temporary housing could aid the masses.

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Editorial

By Robert Ivy, FAIA

Nature continues to confound us. The undersea earthquake of December 26, 2004, shook the globe at force 9, triggering waves that slapped the civilized world into submission. When the waters had receded, more than 200,000 persons lay dead and millions throughout 11 countries wandered traumatized and homeless. Entire communities were reduced to soggy ruins or had been washed from the planet; disease lurked in the aftermath. What could we, as architects, do when confronted by this epic disaster?

While it may be difficult advice, architects should not rush to action. That is the message from David Downey, the managing director of the AIA's Center for Communities by Design, when besieged by questions from architects who want to help. "The majority of people who go might find that they are in the way," he asserts. Instead, he advises design professionals to channel our compassion into contributions to established organizations already in the field, saving our planning and rebuilding skills for a later day.

Other expert sources reflect his perspective, cognizant that disasters, regardless of scale, follow a pattern that includes three predictable phases—emergency, relief, and recovery. We have only emerged from the emergency itself, as the last survivors have been miraculously plucked from the sea or led to shelter. Relief is pouring in by the millions of dollars, providing water, sanitation, food, vaccinations, and basic household needs (like cooking equipment). The list of experienced agencies is long, including the Red Cross/Red Crescent, Oxfam America, Unicef, Care, and the World Bank.

Of distinct interest to architects, certain organizations specialize in shelter—two in particular: Habitat for Humanity and Architecture for Humanity. Habitat, which has long attracted architects' interest and activism, has maintained a presence in southern Asia for decades, and will draw on its experience as the largest homebuilder in Sri Lanka outside of the government. Habitat intends to build 20,000 "core houses" there, freeing 100,000 persons from relief camps. Habitat's ambitious plans throughout the affected countries include building a variety of small, permanent structures. In India, single-room houses will incorporate small, covered outdoor living areas that can be converted into enclosed space as time and money allow. Where Habitat lacks a permanent presence, partnerships with other organizations are already producing houses.

Architecture for Humanity, an admirable organization currently partnering with a Web site called "worldworks," maintains a much smaller operation. Its immediate intention is to focus on a single affected community in Sri Lanka called Kirinda. Other plans include potential rebuilding of school structures in Indonesia's Aceh province, where 160,000 students lack facilities.

Already, images in the media have prompted an unprecedented outpouring of help. Although immediate relief is called for, most authorities caution that, without forethought, temporary solutions to the most urgent problems can easily become permanent ones: Ship's containers, pressed into service as housing, can remain, rust, and accumulate into shantytowns. Towns that move to higher ground may encounter equally vexing natural problems, such as monsoon-provoked mud slides, or social and economic challenges confronting a population that has lost all traditional sources of familial support and income. Such wrenching human need will not fade quietly away; the aftershocks of loss will continue to ripple for at least a decade.

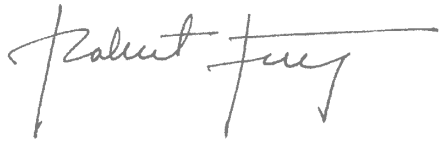
So far, engineers have been recruited to begin the work of assessing infrastructure—the roads, bridges, ports, and water supplies. During the coming months and years, architects and planners can offer the following help to the stricken region: in the near term, damage assessment to structures; for the long term, planning at a variety of scales, from the individual structure to the city.

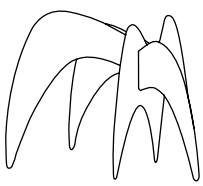
Closer to home, we can recognize that tsunamis, while daunting and destructive, have struck before, and plan accordingly.

Ask residents of Hilo, Hawaii, a town that lost 61 residents to a tsunami in 1960. The continental U.S. coastline has felt a tsunami's power in Oregon, where recent scholarship suggests that a cataclysmic earthquake in the year 1700 projected waves as far as Japan. For this continent, as well as for Sumatra or the Andaman Islands, waterfront planning principles and building codes all come into play, and architects should be involved in both.

Compassion is a natural gift, and by channeling our strong desire to reconstitute the torn physical and social fabric, architects have a role to play in mitigating disaster. Rather than purchasing a plane ticket, we suggest traveling electronically: arming ourselves with information before planning our next steps. For today, we can open our hearts, our wallets, and our minds, if not our passports.

Visit www.construction.com/NewsCenter/Tsunami/, our Web site for related stories and links.





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Letters

Modern traditions

The December issue of RECORD is quite a bonanza. The projects shown, from the Aga Khan Awards to a global survey of young firms to detailed technological reports from the universities, illustrate the breadth of professional activity.

Enjoying this strong presentation of the new and spectacular, I particularly appreciated your comments on Taniguchi's work at MoMA [Editorial, page 17]. Isn't it interesting that he could use Modernism to engage in such a sophisticated dialogue with existing buildings and traditions? Since Modernism is supposed to be the enemy of context and the urban environment, it is edifying to see how a skilled artist uses its vocabulary to reveal rather than reject the city.

Balancing this "refined, respectful urban solution" with pages of individualistic zoots and zaps affirms the full range of architecture's current power. Of course we need the new, but to advance the built environment we have to appreciate architecture's origins and understand how to relate its past accomplishments to contemporary need. In cities, we build upon a great legacy, and to ignore it diminishes our contribution to the whole.

So let future cities enjoy streets filled with all manner of "faceted, spiral crystalline extensions" and tectonic shifts, but let these new creations not obscure the crucial architectural dialogue between generations.

Hugh Hardy, FAIA
H^3 Hardy Collaboration Architecture
New York City

Measured words

I thought that your coverage of the newly reopened Museum of Modern Art and its architect, Yoshio Taniguchi, was superb [January 2005, page 95]. While I might have disagreements with some of the points made, I found the article very balanced and thoughtful. As both Suzanne Stephens and Robert Ivy are well acquainted with the institution, their comments went well beyond formal analysis, giving your readers—myself included—a more nuanced and more informative take on the building, the collection, and the institution than has been printed elsewhere.

Terence Riley
The Philip Johnson Chief Curator, Architecture and Design
The Museum of Modern Art
New York City

A garden gone to seed

It is possible to cavil in some fashion about any good architectural effort, and there is much to admire in the latest iteration of the Museum of Modern Art [January 2005, page 95]. It is its interior restraint and deference to the art which is particularly admirable in this age of architectural muscle flexing. However, even here there seems to be one significant problem.

I, personally, will never forgive the virtual total destruction of one of the most beautiful gardens anywhere. In place of a Zen-like oasis from urban cacophony, of great visual variation and beauty in the intimate interplay of water, sculpture, and trees, we now have one more urban plaza, one that is overhung by two hulking hoods that

Letters

look like architectural versions of a nun's habit and add, with their shadows, to a gloom that overlies and enervates the character of the garden. The meager efforts at a change of level do nothing to contain or define the original precincts of the garden, which gave it much of its intimacy.

The visually flimsy lid over the first floor of the south wall is the icing on the cake. Instead of letting the three-step "waterfall" of the curtain wall come gracefully to ground uninterrupted, this irrelevancy interferes with and complicates a good and simple gesture that otherwise would have been in keeping with the restraint of the interior.

Perhaps it is the generally high quality of the rest that makes these things more offensive than they might otherwise have been.

Allen Trousdale, AIA
via e-mail

Thanks for the memories

I was delighted to see Ulrich Franzen's home celebrating 50 years of Record Houses [January 2005, page 255]. It brought back many memories.

My first summer job was with Rick. Sixteen years later, Ezra Stoller photographed my house and it became a Record House of 1972. I was still Rick's associate at the time. Then Barbara Anderson, AIA (my partner in more ways than one), and I started our own practice.

Our house was also a very Minimalist solution (I called it the back-of-the-truck-and-local-lumberyard aesthetic). Most important, it has wonderful spaces, light, and views to its surrounding unusual "Adirondack" landscape in Rye, New York.

Allan Anderson, AIA
Anderson LaRocca Anderson
Haynes Architects
Rye, N.Y.

Corrections

In the review of Jazz at Lincoln Center [January 2005, page 146], the photo of David Rockwell's Ertegun Jazz Hall of Fame was miscredited—it should be credited to Michael Moran/Rockwell Group. The news article on Louis Kahn's Yale Center For British Art winning the AIA 25 Year Award [January 2005, page 26] incorrectly stated that James Williamson, AIA, and Louis Pounders, FAIA, were on the 1978 jury that handed out the building's AIA Honor Award. In fact, the two nominated the project on behalf of the Committee on Design for the 25 Year Award in 2004, not the original award in 1978. Gladnick Wright Salameda was the civil engineer for Swarthmore College's Unified Science Center [December 2004, page 198], not the landscape architect. Two photographs of Brandeis University's Shapiro Campus Center [December 2004, page 178] should have been credited to John Edward Linden.

January's criticism of the Museum of Modern Art [page 95] inadvertently omitted the fourth-floor plan. The cost for Millennium Park's Jay Pritzker Pavilion in Chicago [January 2005, page 136] was misquoted in the article's sidebar—it should have been cited as $60.3 million. A project by the Vanguard firm Plasma Studio [December 2004, page 175] was mislabled: The images are of Hotel Puerta America in Madrid, not of *UrbaNite* in London. Photographs of the University Health Network/The Toronto Hospital New Clinical Services Building in November 2004's Business Week/Architectural Record Awards coverage [page 142] were miscredited. The photographer was Ben Rahn/A-Frame Studio.

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Record News

Highlights

2005 AIA Honor Awards

The American Institute of Architects on January 7 announced the winners of the 2005 AIA Honor Awards, the profession's highest recognition of excellence. Selected from more than 650 submissions, the 35 winners will be honored in May at the AIA 2005 National Convention in Las Vegas.

Honor Awards in Architecture
Agosta House, San Juan Island, Washington: Patkau Architects
Conservatory of Flowers, San Francisco, California: Architectural Resource Group
Contemporaine at 516 North Wells, Chicago, Illinois: Perkins + Will
Emerson Sauna, Duluth, Minnesota: Salmela Architect
Ganett/USA Today Headquarters, Mclean, Virginia: Kohn Pedersen Fox Associates
University of Michigan Hill Auditorium, Ann Arbor, Michigan: Quinn Evans Architects
Holy Rosary Catholic Church Complex, St. Amant, Louisiana: Trahan Architects
Jubilee Church, Rome, Italy: Richard Meier & Partners Architects
Mill City Museum, Minneapolis, Minnesota: Meyer, Scherer & Rockcastle
Mountain Tree House, Dillard, Georgia: Mack Scogin Merrill Elam Architects
Seattle Central Library, Seattle, Washington: OMA/LMN
Shaw House; Vancouver, Canada: Patkau Architects
Somis Hay Barn, Somis, California: SPF:a

Honor Awards in Interiors
Ackerman International, London, England: Elliott + Associates
Boys Club of Sioux City, Sioux City, Iowa: Randy Brown Architects
Chanel, Paris, France: Peter Marino + Associates Architects
East End Temple, New York, New York: BKSK Architects
Elie Tahari Fashion Design Office & Warehouse, Millburn, New Jersey: Voorsanger Architects
Hyde Park Bank Building Hall, Chicago, Illinois: Florian Architects
McMaster University James Stewart Center for Mathematics, Hamilton, Ontario: Kuwabara Payne McKenna Blumberg Architects
Jigsaw, Los Angeles, California: Pugh + Scarpa Architects
l.a. Eyeworks Showroom, Los Angeles, California: Neil M. Denari Architects
Paul & Lulu Hilliard University Art Museum, Lafayette, Louisiana: Eskew + Dumez + Ripple
Pavilion in the Sky, London, England: Peter Marino + Associates Architects

Honor Awards in Regional and Urban Design
Anacostia Waterfront Initiative Framework Plan, Washington, D.C.: Chan Krieger & Associates
Battery Park City Streetscapes, New York, New York: Rogers Marvel Architects
Cady's Alley, Washington, D.C.: Sorg & Associates
City of Santa Cruz Accessory Dwelling Unit Program, Santa Cruz, California: RACESTUDIO
Chongming Island Master Plan, Shanghai, China: Skidmore, Owings & Merrill
Jackson Meadow, Marine on St. Croix, St. Croix, Minnesota: Salmela Architect & Coen + Partners
North Allston Strategic Framework for Planning, Boston, Massachusetts: Goody, Clancy & Associates
Northeastern University West Campus Master Plan, Boston, Massachusetts: William Rawn Associates, Architects
Ramsey Town Center, Ramsey, Minnesota: Elness Swenson Graham Architects
Riparian Meadows, Mounds & Rooms: Urban Greenway, Warren, Arkansas: University of Arkansas Community Design Center
Northeastern University West Campus Master Plan, Boston, Massachusetts: William Rawn Associates, Architects
West Harlem Waterfront Park, New York City: W Architecture & Landscape Architecture *S.L.*

Perkins + Will's Contemporaine (left); Eskew + Dumex + Ripple's Paul & Lulu Hilliard University Art Museum (top); Meier's Jubilee Church (bottom).

PHOTOGRAPHY : © STEINKAMP/BALLOGG PHOTOGRAPHY (TOP LEFT); TIMOTHY HURSLEY (TOP RIGHT); RICHARD BRYANT (BOTTOM)

Seura's plan includes a simple garden at ground level (left and below), and a sophisticated and naturally lit shopping area underground (bottom).

Long-awaited redesign unveiled for Paris's Les Halles

The French firm Seura, headed by architect David Mangin, has been selected to redesign the much-maligned Les Halles quarter in Paris. Seura defeated three other notable firms—AJN (Architectures Jean Nouvel), MVRDV (Winy Maas), and OMA (Rem Koolhaas)—in the final stage of an international competition that was launched in March 2003. Seura's design will see the complete redevelopment of the area of pedestrianized streets, a park, an underground shopping and leisure complex, and an underground transport hub.

The $267 million plan includes a 72-foot-wide avenue cutting through the rectangular Les Halles site, dividing a wide grassy area on one side and seating areas and pathways on the other. The path will connect the domed Bourse du Commerce (commodities exchange) and a redesigned Forum des Halles, a sunken shopping, cinema, and theater complex. A 26-foot-high flat glass canopy, measuring 476 feet by 476 feet, will cover the underground shopping levels and subway interchange. (A separate competition is to be launched for the design of this canopy.)

Seura's redevelopment plan calls for bulldozing the existing glass, steel, and concrete buildings, built by Claude Vasconi and Georges Penreach in the 1970s on the site of the old Les Halles flower, meat, and vegetable market. In the late 1960s, the market was relocated to a Parisian suburb, and the 19th-century glass-and-cast-iron pavilions were demolished. In 2001, Paris Mayor Bertrand Delanoë announced his wish to find a project that "improves the living conditions of thousands of inhabitants [of Les Halles]" and replaces the "soulless" and "concrete surroundings" that existed on the site. Problems with Les Halles have included difficult pedestrian access and circulation patterns; the absence of natural light in underground spaces; and a sense of disconnection between street level spaces, the underground complex, and the park.

"At the moment, Les Halles is a quarter that is avoided, especially at night," says Mangin, who wants it to become a more attractive place for leisure, like the Tuileries or the nearby Pompidou Center. "We have to learn some lessons," says Mangin, "which means not finding ourselves in the same situation in 30 years. In terms of form, materials, and usage, the project must last." Mangin further proposes "to open up the station and to light it naturally, in such a way as to allow the hundreds of thousands of daily users to find their way, to know where they are, and to find a requisite minimum of hospitality."

Seura's scheme, many have noted, was the most conservative of the finalists' designs. Nouvel's entry included several acres of woodland and elevated parks. Winy Maas placed a 115-foot-high hall at the heart of his project, with colored glass decks allowing natural light to filter into underground spaces. Koolhaas's project included tapering towers of multicolored glass that projected up through the ground. Still, Paul Chemetov, architect of the Forum des Halles shopping center extension, calls the winning plan, which involves the least disruption to the urban fabric, "not the least conservative, but the least destructive." The provisional start date for construction is 2006, and completion is set for 2012. *Robert Such*

IMAGES: COURTESY SEURA ARCHITECTES

Rebuilding begins after Asian tsunami

December's tsunami in Southeast Asia, said to have killed more than 200,000, has also left upward of a million people homeless, presenting an almost unprecedented rebuilding challenge. Disaster-affected buildings range from slum houses to civic structures to architectural treasures. While countries are providing substantial monetary aid (the U.S. has pledged more than $350 million) and rebuilding resources (particularly through military units like the U.S. Navy's Seabees and aid agencies like USAID), and organizations such as the Red Cross and the U.N. are providing emergency assistance, a number of design and construction organizations, including those listed below, are offering construction aid and expertise.

A village destroyed in India represents the rebuilding challenge.

Architecture for Humanity AFH, which organizes architectural services for humanitarian crises (with local NGOs), is developing long-term housing designs that, according to AFO chairman Cameron Sinclair, will be highly sustainable and intelligently planned. Possible strategies include using local materials like thatch, straw-bale, stone, and even recycled shipping containers. Without architects, Sinclair says, emergency housing often takes the form of temporary refugee camps that turn into poorly planned, unsanitary, and wasteful permanent housing.

Shelter for Life The humanitarian relief organization is aiming to assist some 50,000 people with water, sanitation, and safe, functional temporary shelters.

Habitat for Humanity The organization could house up to 25,000 families in a first phase of transitional housing as it works to provide permanent housing. Ground breaking on the homes could occur as early as January.

American Society of Civil Engineers ASCE is working with engineers worldwide to coordinate a response, including producing a library of journal articles related to response and mitigation, and organizing technical assistance.

Global Village Shelters Produces temporary shelters for emergency situations from a treated corrugated laminate that is waterproof and infused with a fire retardant.

Others involved with the effort include the American Institute of Architects, Relief International, and the World Economic Forum Disaster Resource Network. *Sam Lubell*

Heritage groups inventory tsunami's effect on cultural sites

Officials with world heritage groups are beginning to take stock of cultural sites in Southeast Asia damaged or destroyed by December's tsunami. The World Monuments Fund (WMF), which provides financial assistance to preserve cultural sites, confirms that while several important cultural sites could be destroyed (see list below), not all the news is bad. Among the undamaged WMF projects is Omo Hada, an 18th-century colonial house on the Indonesian island of Nias. A WMF site in Malacca, Malaysia, is also undamaged, and it appears the Sun Temple of Koranak, a 13th-century temple on the Bay of Bengal in India, sustained only minor damage. Still, the following sites, according to UNESCO (United Nations Educational Scientific and Cultural Organization) and other agencies, are damaged or at risk:

The Old Town of Galle and its fortifications in Sri Lanka has been flooded, and reports indicate significant damage to underwater heritage in the ancient harbor. **The Ujung Kulon National Park and the Tropical Rainforest of Sumatra**, both in Indonesia, have reported damaged conservation structures. **Forty-three Buddhist temples** in the southern province of Sri Lanka are damaged. A 14th-century **Masilamaninathar shore temple** in Tamil Nadu, India, is highly damaged. **Vernacular architecture of the Mogen Sea people** in the Surin Islands was lost. *James Murdock*

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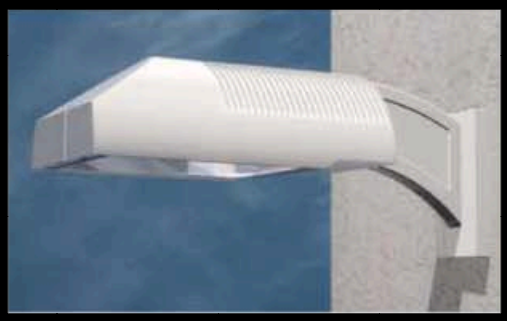

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In Philadelphia, a hidden gem will soon assume the spotlight

The City of Philadelphia's grand cultural thoroughfare, the Benjamin Franklin Parkway, is now poised to become a globally significant concentration of cultural treasures. On December 13, a suburban Philadelphia court judge ruled in favor of the suburban-based Barnes Foundation's two-year effort to change its charter (not founder Dr. Albert Barnes's will) and relocate its cash-strapped institution from its 79-year, Paul Cret–designed home in Merion, Pennsylvania, to a new facility on the parkway.

The relocation involves moving the institution's famed multibillion-dollar collection of Impressionist and Post-Impressionist paintings and artworks (half the collection has not been publicly viewed in over 50 years). The move is backed by support from 30 donors, primarily the Philadelphia-based Annenberg Foundation, Lenfest Foundation, and Pew Charitable Trusts, totaling an estimated $150 million.


Barnes Foundation interior.

Museum officials say the move will help the Barnes better realize the purpose Dr. Barnes envisioned: to advance education through art appreciation, and to provide nondiscriminatory access to art and education. (Among other restrictions, Merion officials limited the Barnes's annual attendance to 62,000.) Many see the move as an opportunity to transform the city.

Opponents include a team of three Barnes students and their lawyer, who attempted to stop the move based on what they interpreted as a violation of Dr. Barnes's wishes. Other critics of the charter change include several arts writers, who argue that the ruling will negatively impact the future of donor bequests. They also accuse the city and its leadership of attempting to make the parkway into a tourist trap.

In response to the ruling, on December 14 Philadelphia Mayor John Street announced that the city will raze a juvenile detention center—the parkway's eyesore—and give the site to the Barnes. The site is flanked by Paul Cret's Rodin Museum and the Free Library of Philadelphia, which Moshe Safdie is renovating and expanding. Other new parkway neighbors include Richard Gluckman's renovation and expansion of the Philadelphia Museum of Art's new operations, library, and gallery complex and Tadao Ando's planned Calder Museum. Director Kimberly Camp says the Barnes's new building will maintain the layout of its present home, including the spatial relationships and the institution's signature arrangement of artwork. An architect has not yet been selected, nor has a plan been developed. *Joseph Dennis Kelly II*

Stern's Philadelphia tower finally moving forward

Four years after its original public announcement, Robert Stern's two-building office complex for downtown Philadelphia—dubbed Pennsylvania Plaza—is finally beginning construction. The project was able to move forward thanks to a $30 million state grant approved last month.

Up first is the 57-story, $465 million glass tower known as the Comcast Center, headquarters for the Philadelphia telecommunications giant. Once completed, in 2007, the center will rise 975 feet, looming above Philadelphia's current tallest building by more than 30 feet and forging a new icon onto the city's skyline.


The city's skyline will have a new height champion.

Stern's design team has created an unembellished geometric form with a rectangular glass box at its top, which Stern describes as a "clear obelisk legible on all four sides." Other highlights include a mammoth structural core, extending from the interior and seemingly rising out of its skin, and a 110-foot-high winter garden at its base. Green elements include 13-foot floor-to-ceiling heights channeling daylight through the interior, and improved quality of air and air-flow systems. Construction of the second building, an 18-story office structure, will commence at a later date. Stern's office is also designing a residential tower on the city's Rittenhouse Square. *J.D.K.*

PHOTOGRAPHY: COURTESY THE BARNES FOUNDATION (TOP); ROBERT A.M. STERN ARCHITECTS (BOTTOM)

Record News

Trade Center Memorial plans updated

In what has become a familiar ritual, the Lower Manhattan Development Corporation unveiled its latest plans for Ground Zero in December, with more clearly articulated schematics for the World Trade Center Memorial. The plans were shared by memorial architect Michael Arad, now a partner at New York–based Handel Architects, joined by a design team that includes landscape architect Peter Walker, and associate architect Max Bond.

Arad's original design includes two huge voids standing on the footprints of the Twin Towers, with water cascading down them into reflecting pools. Updated elements include Memorial Hall, a space between the pools for visitors to sit and reflect, and a gathering place that provides a directory with the names of those lost. The new designs also include clearer plans for using the remnants of the Trade Center as part of the memorial. At bedrock, exposed box-beam remnants, which lined the original towers' bases, can be seen and touched by visitors, while large portions of the towers' exposed slurry wall will remain intact, visible either from ramps leading down from the street level or at the bedrock level.

The schematics also update the landscaped civic plaza of the memorial at street level, with plans for a canopy of hundreds of oak trees forming a "memorial grove," randomly arranged in one direction (for natural effect) and in orderly alignment from the other direction, creating what Walker said would be "colonnades very much like a cathedral."

A rendering of the exposed slurry wall.

"We have refined the design and reinforced its intent," says Arad, who won the commission just over a year ago over 5,201 submittants. *S.L.*

A memorial is completed in Staten Island

Since the two symmetrical fiberglass walls of Staten Island's September 11 memorial were fabricated offsite by a Rhode Island shipbuilder, their installation seemed almost magical to some of the families of the victims that the memorial honors.

As Lapshan Fong, one of the project's two architects, recounts, "When a lot of people parked their cars at the ferry to get to work, the site was still empty, but when they got back, the two walls were there."

The memorial comprises two gently curved "postcards" that sit on the Staten Island waterfront and control views toward the site of the World Trade Center. More than 100 plaques on the walls contain water-jet-cut portraits of the victims.

Masa Sono, the project's original designer, says that the memorial has been well received, noting families have left colorful candles and presents at its base, adding color to the white walls. "I ran into a family, and they thanked us," he says. "They said that since they don't have a grave for their deceased son, and don't have his remains, the memorial is really his grave." *Kevin Lerner*

The folded "postcards."

Problems soaring for Freedom Tower?

New York City Audubon Society warns that if designed incorrectly, the planned wind turbines on the upper portions of SOM's proposed Freedom Tower could suck birds in, making the turbines one of several possibly fatal (for winged creatures) design elements of the building. N.Y.C. Audubon's executive director E.J. McAdams adds that the building's copious night lighting could attract and even trap birds around the building, while landscape features too far from the glass facade could cause birds (who can't distinguish reflections) to fly into it at full speed. McAdams, who is trying to raise awareness of environmental factors in building, recommends turning lights out after midnight, using fritted facade glass, and landscaping closer to the facade. Until he sees the turbines' designs, he adds, he can't rate their safety. *S.L.*

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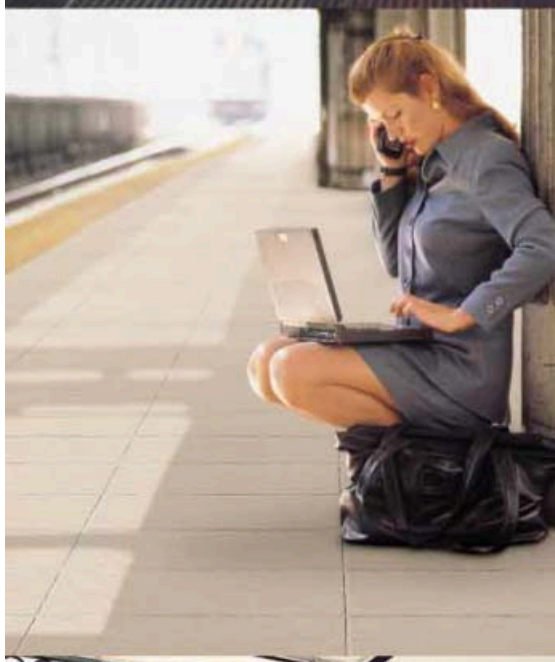

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Opened This Winter ...

Foster's Millau Viaduct soars above the clouds.

Millau Viaduct, Millau, France
Foster and Partners' $412 million new Millau Viaduct stretching across the Tarn Gorge in southern France opened on December 17, 2004. With the highest elevation road deck in the world (375 yards), and at 1.6 miles long, it connects the motorway from Paris to Barcelona, relieving a notorious road bottleneck through the old town of Millau at the bottom of the gorge.

Foster and Partners were selected by the French Ministry of Transport after a competition in 1994, and designed the viaduct with Michel Virlogeux, who proposed the basic engineering scheme. Their objective was to ensure that the structure's huge proportions would be elegant and harmonize with the dramatic landscape setting.

The viaduct is multispan and cable-stayed, characterized by economy in use of material. The deck is suspended from seven evenly spaced concrete piers by cable-stay fans, giving it a delicate appearance and elegant silhouette. Its road deck is steel, allowing the number of stay cables to be reduced, with a gentle plan curve. Slender piers ending below the deck have evolving geometrical profiles, giving an eye-of-the-needle effect. *Lucy Bullivant*

Niemeyer's concert hall.

Ibirapeura Concert Hall, São Paulo, Brazil When Oscar Niemeyer was a mere 47, he and a fellow Brazilian, landscape architect Roberto Burle Marx, collaborated on the design of Ibirapeura Park to commemorate the city of São Paulo's 400th anniversary. Today, the city is 450 years old, and Niemeyer, at 97, has completed the final building in the park, an 840 seat concert hall. Best described as a white wedge with an undulating red tongue, the decision to build it created a legal and public battle between environmentalists and cultural advocates, including Niemeyer—not about the form, but about the surrounding trees.

Niemeyer lives and works in Rio de Janeiro, in sight of Copacabana beach. He shows up every day by 10 A.M. at his miniscule, book-filled studio where he continues to turn out work. The Curitiba (Brazil) Museum was completed in 2002 and the Contemporary Art Museum, hovering like a 1950s spacecraft on a cliff in Niteroi, Rio de Janeiro, was completed in 1996. *Barbara Knecht*

The Renaissance Center in Detroit.

Renaissance Center, Detroit, Michigan
With its dedication in early January of a new public entrance and lobby, General Motors has completed its eight-year, $500 million renovation of Detroit's Renaissance Center. Opened in 1977 from a design by John Portman of Atlanta, the RenCen is Detroit's postcard image, consisting of four 39-story office towers surrounding a central, 73-story hotel. Although designed to rejuvenate the city's deteriorating downtown, the RenCen instead became the focus of criticism for its perceived design flaws, including huge mechanical berms that walled off the structure from the rest of downtown, and the failure to address even minimally the Detroit River waterfront that borders the site.

After buying RenCen in 1996 for its world headquarters, GM worked with Skidmore, Owings & Merrill to remove the berms, build a wintergarden and plaza on the waterfront side, install an internal circulation ring to aid wayfinding in the RenCen's notoriously labyrinthine corridors, and create the new glass-and-steel public entrance facing downtown. *John Gallagher*

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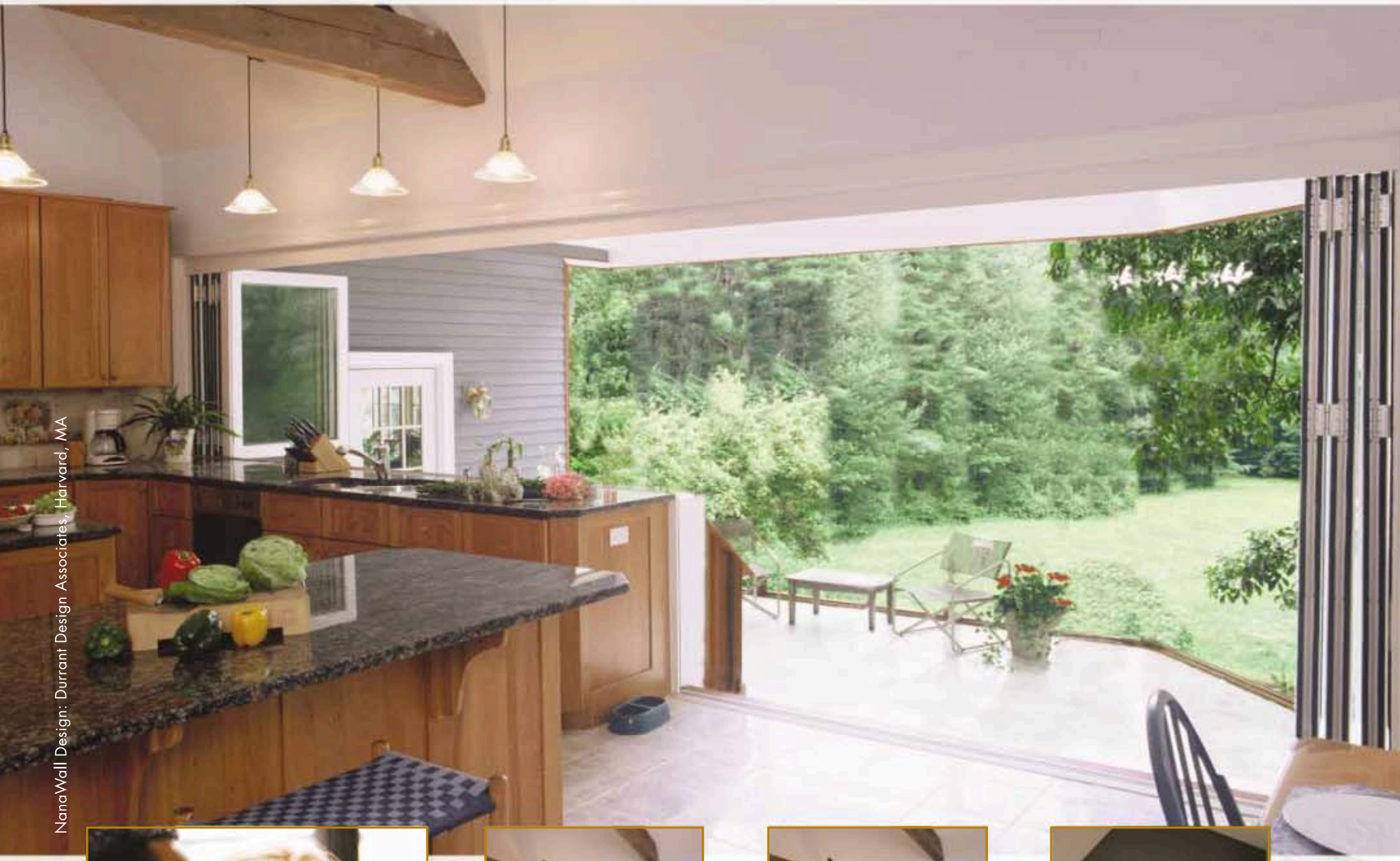
When is a wall not a wall?



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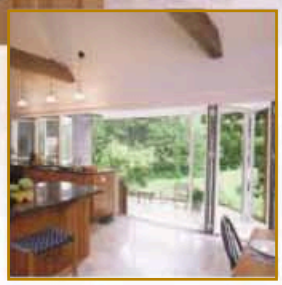

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David Leatherbarrow, professor and chairman of the graduate group in architecture, University of Pennsylvania

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Alex Lee, AICP, Potomac Crossing Consultants

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Record News

Young designers plan memorial to Madrid bombing victims

A competition to build a memorial to the victims of the commuter train bombings in Madrid last March 11 has been won by a group of young local architects, who propose to build a free-form glass cupola beside the Atocha Railroad Station, where two of the trains exploded. The group, known as the FAM Studio and composed of architects Esaú Acosta, Raquel Buj, Pedro Colón de Carvajal, Mauro Gil-Fournier, and Miguel Jaenicke, all age 26, won the international competition of ideas over 289 entries and 22 finalists. The competition was sponsored by the Spanish State and the City of Madrid.

The cupola will stand nearly 40 feet high and will be engraved with many of the handwritten testimonials that mourners left at the station in the weeks following the attack. At the request of Spain's Association of Victims of Terrorism, the designers will also engrave the names of the 192 people killed in the blasts. The engravings are arranged so as to be illuminated sequentially by the course of the sun through the day and the seasons, and will be lit from within at night.

The memorial will sit beside the Atocha Station.

Details for the project are being studied, including the viability of a below-ground meditation chamber, which will stand in the center of a traffic island and above a subway station. Madrid Mayor Alberto Ruiz Gallardón expressed his hope to open the memorial on the first anniversary of the attack, but stressed that "more important is that it fully represent the spirit of transcendence we all hope to achieve with this homage." *David Cohn*

Harvard's expansion will be a careful balancing act

How do you meld an Ivy League campus and a diverse, working-class neighborhood? As Harvard University steps up preparations for a huge expansion on the other side of the Charles River in Allston, Massachusetts, the city of Boston recently released its own tentative plan for the area.

The Cambridge, Massachusetts–based university owns almost 350 acres of North Allston, where its current presence includes its Graduate School of Business, athletics complex, and service buildings. This summer, Harvard hired New York firm Cooper, Robertson to produce a framework—still in progress—for its future plans, regulating building heights, density, and building types, which include housing, classrooms, and lab facilities. Cooper, Robertson recently tapped Frank Gehry, FAIA, and landscape architect Lori Olin to contribute. Meanwhile, the Boston Redevelopment Authority in December released its preliminary "strategic framework" for the area, prepared by Boston firm Goody, Clancy & Associates, with help from Harvard and neighborhood groups. City plans (sketch, left), which are intended to guide Harvard, include low building heights, high density, and preservation of one-to-three-family houses and of river views and open space. Neighborhood groups have pressed for a balance between university and neighborhood needs, and for accessibility to the developments for locals. In response, the city's plans press for affordable housing, job training, and economic assistance for Allston workers and businesses.

Robert Van Meter, executive director of the Allston Brighton Community Development Corporation, hopes (with some trepidation) that Harvard will be a sensitive partner, not a disrupter of the community. "It sticks in the craw of some people in the area that, to some extent, [Harvard officials] present Allston to outside groups as an industrial wasteland, and Harvard's going to remake it," he says. "Certainly, there are unsightly industrial parcels, but it's also a healthy residential community." Harvard's News Office director Joe Wrinn replies that Harvard is "working with the city administration and neighbors to arrive at a common good." *Ted Smalley Bowen*

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GSA chief architect Ed Feiner retires

GSA commissioned courthouses by Richard Meier (top) and Cannon Design (right).

Ed Feiner, FAIA, announced in early January that he would retire as the U.S. General Services Administration's chief architect by the end of the month. His retirement leaves in question who will replace him at the helm of one of the most important building institutions in the country.

Feiner, who first joined the GSA in 1981 and became its top architect in 1996, was highly influential in establishing and then heading the GSA's Design Excellence Program, developed in 1993. The program helped streamline and improve the architectural selection process for federal buildings, facilitating application and improving jury participation. By the end of Feiner's tenure, the program had hired more than 500 top designers, such as Cesar Pelli, FAIA, Thom Mayne, AIA, Richard Meier, FAIA, Charles Gwathmey, FAIA, David Childs, FAIA, Lake/Flato, Carol Ross Barney, FAIA, and Michael Graves, FAIA.

On January 10, just days after his resignation, Feiner announced he would join Skidmore, Owings & Merrill as the firm's Washington, D.C., director of office operations, working in design, marketing, and management. "I felt comfortable that GSA was in good hands, and after years of judging projects, I wanted to finally be part of a design team," says Feiner of his decision. "SOM has a reputation for design quality, and working with them will give me a new chance to affect public quality of life," he adds. Marilyn Farley, director of Design Excellence, is also retiring.

No permanent replacements have been named for Farley or Feiner, but GSA's Leslie Shepherd and Thomas Grooms will serve as acting chief architect and Design Excellence director, respectively. While Feiner maintains that the Design Excellence Program is in good hands, the departure of such a dynamic and effective leader, many maintain, leaves GSA in flux.

"Ed was very special," says Hugh Hardy, FAIA, who has served on GSA juries. "When the program began, nobody believed the GSA could build anything but ugly boxes." While Hardy maintains that "there's no reason to despair yet," he acknowledges that "anything less than a sterling result would call for a critical outcry. What is truly worrisome is the lack of interest in design in the federal government. The GSA is about all that's left." *S.L.*

MasterFormat introduces significant changes

Late last year, the Construction Specifications Institute (CSI) and Construction Specifications Canada released MasterFormat 2004, the most significant revision in the product's 40-year history.

MasterFormat is a list of divisions (with section numbers and titles) for specifiers to follow when organizing information about a facility's construction requirements. CSI announced that the scope of the system needed to expand due to advances in construction technology since the last edition.

Changes include an increase in the total number of divisions from 16 to 50; the relocation of building-site-related material; and the addition of separate divisions for fire suppression, plumbing, HVAC, integrated automation, and electrical, communications, and electronic safety and security. Although the new edition is a significant change, the subject matter for Divisions 3 (concrete) to 14 (conveying systems) remains basically the same as MasterFormat 1995.

The new edition is available online at 4specs.com and in the 2005 CD/DVD editions of McGraw-Hill Construction's *Sweets*. In addition, CSI has just released the *Project Resource Manual* to help specifiers use the new MasterFormat. It is available at www.books.construction.com. To purchase the complete MasterFormat 2004 edition, go to www.csinet.org. *Rita Catinella*

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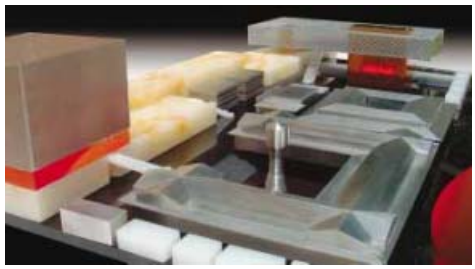


"Colossal" redevelopment of Rome's general market

The city of Rome late last year named a consortium of Italian and American developers to take on a "colossal" project on the edge of downtown Rome: the redevelopment of the all-but-abandoned Mercati Generali, or general markets. The Office of Metropolitan Architecture (OMA) in Rotterdam produced the preliminary scheme; an 882,000-square-foot, $119 million mixed-use building of shops, theaters, restaurants, and sporting facilities, which the developers dub a "city for youth."

The Mercati Generali, in the city's Garbatella neighborhood, features a mix of Liberty Style homes and prewar industrial sites. Much of the area was deindustrialized in the 1970s and is only now being redeveloped. Several cultural organizations have settled there, including the Capitoline Museums of Rome, whose converted electric generating plants drew attention to preserving the city's industrial heritage. OMA's proposal preserves parts of the original structure inside a wrapper of billboards, transparent skins, glowing architecture, and other eye-catching symbols of transformation. Construction is slated to begin next summer, with a tentative end date of 2008. *Paul Bennett*

Safdie designing third Kansas City project

Kansas City is beginning to feel like home for Moshe Safdie, FAIA. The Boston-based architect is currently designing the city's Metropolitan Performing Arts Complex and Kansas City Ballet Center. And recently, Safdie was named to design an $80 million, 2.4-acre mixed-use complex called West Edge.

The project will be located two blocks west of the city's Country Club Plaza entertainment district, and includes 203,000 square feet of office space, a 103-room boutique hotel, a signature restaurant, and retail shops. There will also be a museum and a 300-seat auditorium.

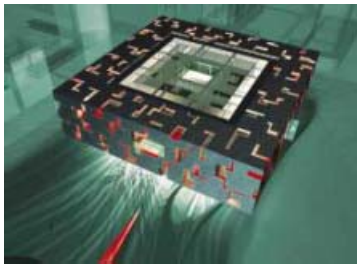
Stone, brick, and glass buildings will range from four to nine stories. The complex, broken down into component parts to create a sense of a hillside village, juxtaposes square windows and right angles with flowing, curved metallic lines to reflect, says Safdie, the energy, culture, and creativity inside. The office building is designed around an undulating glazed atrium with stepping terraces, and other project features entail a series of landscaped rooftop gardens cascading in a waterfall. Ground breaking is scheduled for early 2005, with completion due by 2007. *Tony Illia*

Museum in Guangzhou complements impressive neighbor

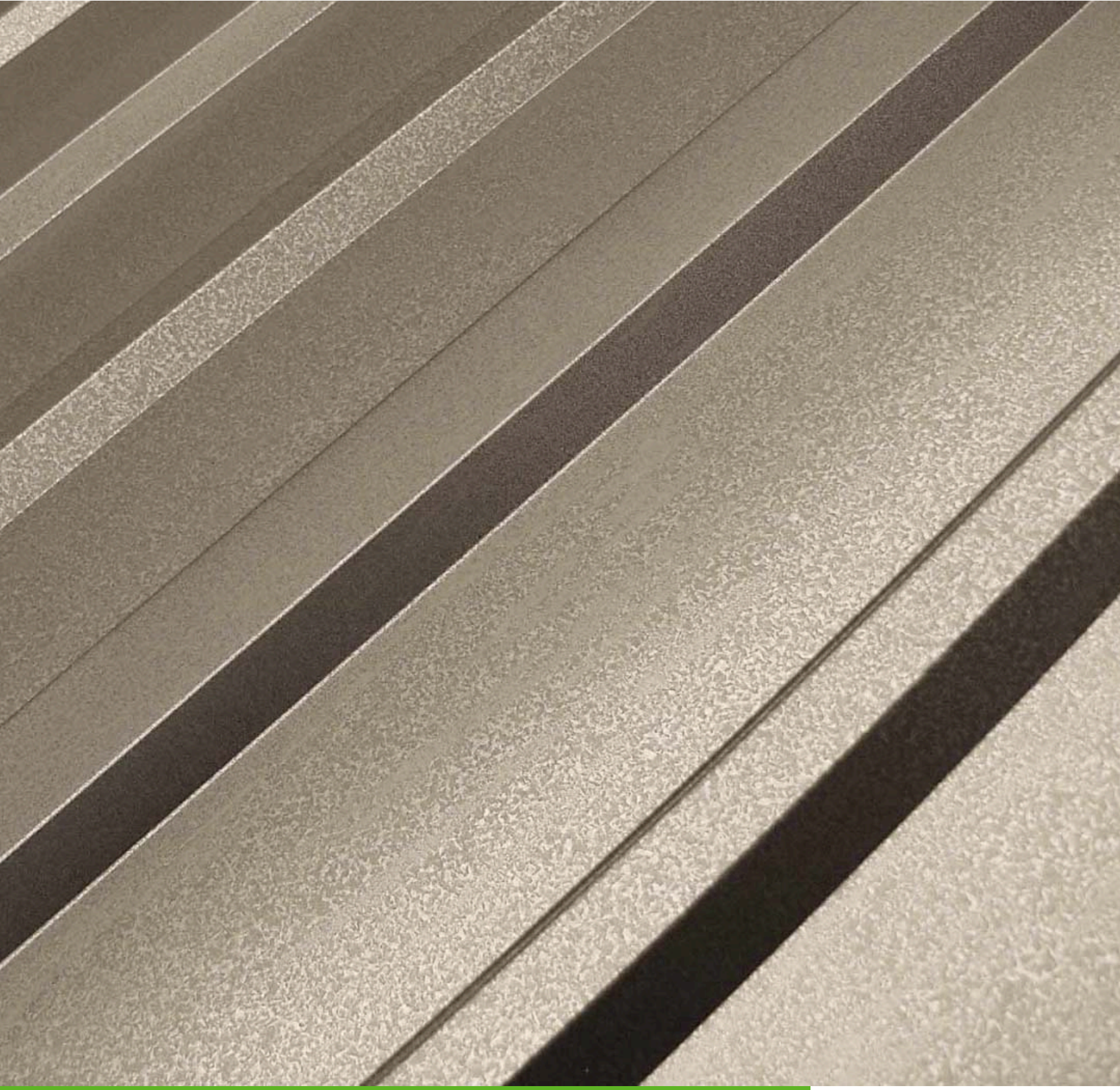
Hong Kong–based Rocco Yim is designing the new Guangdong Museum, part of a development in Guangzhou, mainland China's third-most-important city. Adjacent to the Pearl River, the development, called Zhujiang, is slated to be Guangzhou's new city center, also featuring Zaha Hadid's Guangzhou Opera House.

The museum's floor area will comprise about 650,000 square feet organized into four large exhibition halls. The building is a large, squat, Modernist box punctured with small alcoves that allow for natural light. Despite the museum's simple form, it remains grounded in the Chinese vernacular, drawing inspiration primarily from the lacquer box, which has long served as a vessel for precious Chinese objects.

The building also relies on the traditional Chinese courtyard motif, organized in a series of concentric, layered spaces. Its reliance on traditional Chinese architecture is meant to provide a contrast to Hadid's more organic and curvilinear design. The existing museum holds a large collection of Chinese artworks and Cantonese artifacts. *Daniel Elsea*



IMAGES: COURTESY OMA (TOP); MOSHE SAFDIE AND ASSOCIATES (MIDDLE); ROCCO YIM (BOTTOM)



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News Briefs

Architect helps Pale Male and Lola return to nest Most architects work under pressure, but for New York City architect Dan Ionescu, designing a solution for Manhattan's famously displaced red-tailed hawks Pale Male and Lola was a step above the norm.

Ionescu was hired in December by the residents of 927 5th Avenue to create a structure that would support the nest, keep it intact, protect the crumbling pediment on which it sat from water damage, and aesthetically please residents and landmarks officials. All had to be carried out with unprecedented speed because of the public outcry to replace the nest (destroyed by the co-op on December 7) as quickly as possible.

"People wouldn't stop calling," says Ionescu, whose 10-person firm finished the job in about a week. "It felt like the whole world was watching us."

The result, installed on December 23, is an

A rendering of Ionescu's nest support for the birds.

8-foot, 300-pound nest-support unit. It includes a curved steel frame attached to the building's facade and floating above the pediment that the bird's once called home. A detachable metal-mesh cradle acts as the base layer for the nest and allows for water drainage and easy removal for cleaning and maintenance. Tiny profile rods create additional nest protection and stop twigs (and the birds' prey) from falling. The simple, light-colored design is hardly noticeable, pleasing officials and residents alike. But will it please the birds? They haven't moved back, but Ionescu is confident they will return for mating season, in late February. *S.L.*

First Anacostia River park unveiled In December, Washington, D.C., Mayor Anthony Williams named Seattle landscape architecture firm Gustafson, Guthrie & Nichols to design the new Washington Canal Park, intended to jump-start implementation of the Anacostia Waterfront Initiative Plan, which will expand the city eastward toward the Anacostia

A sketch of the first Anacostia Waterfront project.

River and bring life to neglected neighborhoods. The Canal Park is the focal element of a new mixed-use neighborhood, now an area of rundown former industrial buildings, that will also include a baseball stadium, a theater, and housing.

The park's design is divided into three parcels. The northern parcel will include open space, a boardwalk, and shallow pools. From there, storm water will proceed to the middle section, where water is collected and cleansed in the beds of horticultural displays. To the south will sit an amphitheater and a plaza, beneath which treated site water will be collected for irrigation and recirculation. The city has more than $5 million in hand for the project. *Andrea Oppenheimer Dean*

Relief for Angkor temple In December, the World Monuments Fund (WMF) received a $550,000 grant from the U.S. State Department for the conservation of the Phnom Bakheng temple complex in Angkor, Cambodia. Khmer King Yasovarman I built the complex, a prime example of the Temple Mountain style, in the late 9th century. Civil strife, vandalism, tourism, and monsoon rains have brought significant damage. The State Department grant will fund conservation efforts, archaeological research, structural assessment, and recommendations for the management of tourism. *Audrey Beaton*

ENDNOTES The Dallas City Council approved a policy prohibiting the placement of prefabricated housing (technically called industrialized housing) on properties sold by the city for affordable housing. New York State approved the expansion of the Jacob Javits Convention Center on Manhattan's West Side. Sir Nicholas Grimshaw has been appointed president of the Royal Academy of Arts in London. Renowned Louisiana architect Hays Town died on January 6 at age 101.

Phnom Bakheng temple complex.

PHOTOGRAPHY: COURTESY DAN IONESCU ARCHITECTS (MIDDLE); GUSTAFSON, GUTHRIE & NICHOLS (TOP); WORLD MONUMENTS FUND (BOTTOM)


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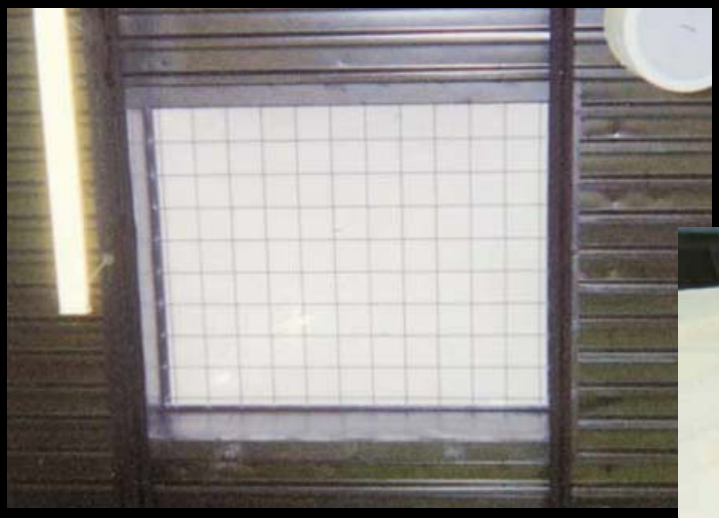

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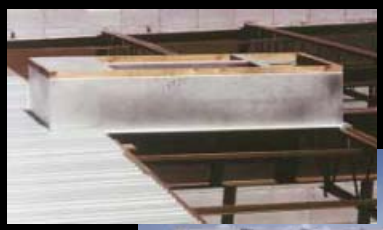

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Dates & Events

New & Upcoming Exhibitions

Notes on Micromultiplicity
Los Angeles
February 7–April 8, 2005
This exhibition showcases five projects from Emergent, a network of designers and technicians dedicated to researching issues of globalism, technology, and materiality through built form, established in 1999 by Tom Wiscombe. The works shown explore how dynamic material relationships, rather than critical theory, can potentially break down formal hierarchies and categorical behaviors in architecture. At the UCLA Perloff Gallery. Call 310/267-4704 or visit www.aud.ucla.edu.

Constructing Stata: Photographs of Richard Sobol
Cambridge, Mass.
February 10–June 15, 2005
A collection of unpublished photographs captures the construction process that brought MIT and the world the Frank Gehry–designed Stata Center. Through the works of Boston-based Richard Sobol, visitors experience up close how this spectacular building came together. At MIT Museum's Compton Gallery. Call 617/253-4444 or visit www.web.mit.edu/museum.

Tools of the Imagination
Washington, D.C.
March 5–October 10, 2005
The exhibition will show how various devices have revolutionized the way in which architects and designers imagine and create architecture. Included are 250 years of design tools and technologies—from historic pencils, ink, and drafting equipment to the latest and most sophisticated software and hardware, simulations, models, and lasers—as well as a wide array of drawings, renderings, and sketches from well-known architects. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Ongoing Exhibitions

Coming to Light: The Louis I. Kahn Monument to Franklin D. Roosevelt for New York City
New York City
Through February 5, 2005
Celebrating Kahn's architectural vision for the Franklin D. Roosevelt Memorial Design for Roosevelt Island, the exhibition features many works, some never publicly seen before—hand-drawn sketches, construction documents, and the architect's original model—that reveal Kahn's thoughts and process as he designed the project in 1973–74. At the Cooper Union for the Advancement of Science and Art, Arthur A. Houghton Jr. Gallery. Call 212/353-4232 or visit www.cooper.edu.

Design Is Not Art: Functional Objects from Donald Judd to Rachel Whiteread
New York City
Through February 20, 2005
The first American exhibition to celebrate the little-known design works by Minimalist and post-Minimalist artists. Including some of the most significant artists of the late 20th century, such as Donald Judd, Sol LeWitt, and Scott Burton, the exhibition explores how the ascendance of design

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today allows a reconsideration of design as not the same—but not less than—art. At the Smithsonian's Cooper-Hewitt National Design Museum. For information, call 212/849-8400 or visit www.cooperhewitt.org.

Amir Zaki: Spring Through Winter
Los Angeles
Through February 20, 2005
Los Angeles–based photographer Amir Zaki renders Southern California suburban landscapes and architecture as fantastical and impossible architectonic structures. The exhibition presents his investigations into the entropy of architecture in a suite of photographs of exterior cantilevered architecture, aerial perspective swimming pools, and interior fireplaces. At the MAK Center for Art and Architecture. Call 323/651-1510 or visit www.makcenter.org.

Josef and Anni Albers: Designs for Living
New York City
Through February 27, 2005
This exhibition brings together the iconic symbols of modern design that Josef and Anni Albers created as individual artists and designers. This extraordinary couple shared an intense design philosophy that had an indelible impact on future generations of architects and designers. At the Smithsonian's Cooper-Hewitt National Design Museum. Call 212/849-8400 or visit www.cooperhewitt.org.

Derek Reist: NYC Day into Night
New York City
Through March 5, 2005
An exhibition of paintings by Derek Reist depicting a unique perspective of buildings and facades of New York City. At the Michael Ingbar Gallery of Architectural Art. Call 212/334-1100.

HKS: Innovation in Architecture and Design
College Station, Tex.
Through March 6, 2005
This exhibition features renderings, models, photography, and drawings depicting the firm's latest architectural accomplishments, highlighting its prestigious and renowned projects—from the state's first LEED Silver-certified building, Sabre Headquarters in Southlake, Texas, to the award-winning Michel Cousteau Fiji Islands Resort in Vanau Levu, Fiji Islands. Spanning more than three decades, the display depicts the changing architectural climate and landscape. At Texas A&M University's Stark Galleries. Call 979/845-8501 or visit www.stark.tamu.edu.

Lectures, Conferences, and Symposia

Eric R. Multhauf Lunchtime Lectures
Chicago
February 2, 9, 16, 23, 2005
A free lecture series held at the Chicago Architecture Foundation's ArchiCenter will include Paul Jaskot, "Libeskind's Jewish Museum in Berlin: Between the Cold War and Reunification"; Ralph Johnson, "The Development of the Los Angeles Courthouse"; Neal Samors, Richard Cahan, and Michael Williams, "Reel Chicago: Photographs from the Files of the *Chicago Sun-Times*"; and Jim Peters, "Preserving the Recent Past." For more information, call 312/922-3432 or visit www.architecture.org.

Topographical Stories
Washington, D.C.
February 7, 2005
It is a longstanding question whether landscape architecture and architecture are two distinct fields. David Leatherbarrow, professor of architecture and chairman of the graduate group in architecture at the University of Pennsylvania, defines the two disciplines as "topographical" arts that rely on each other to form a single framework. He will illustrate his thesis with examples drawn from the 16th through the 20th centuries. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

BDX Expo & Conference
Chicago
February 15–17, 2005
Building and Design Exchange (BDX) is a new regional conference and exposition designed to foster collaboration between the design and construction sides of the commercial building industry. Sponsored by the American Builders and Contractors Association (ABCA). At McCormick Place. Call 888/821-0767 or visit the ABCA Web site at www.abcaevents.org.

DC Builds: The Woodrow Wilson Bridge
Washington, D.C.
February 16, 2005
When the bridge connecting Maryland and Virginia was completed in 1961, it was designed to handle 75,000 cars a day. Today, that volume

Dates & Events

has almost tripled, and the bridge has become one of the worst traffic bottlenecks in the country. Alex Lee, assistant project coordinator for Potomac Crossing Consultants, which is managing the $2.4 billion infrastructure-replacement project, and other senior construction managers will explain the process and plans for replacing the existing bridge and upgrading four interchanges, while maintaining traffic during construction. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Frei Otto: Royal Gold Medal Lecture
London
February 17, 2005
A public lecture by Frei Otto, the recipient of this year's Royal Gold Medal for recognition of a lifetime's work. The medal is given annually to a person or group of people whose influence on architecture has had a truly international effect. The Royal Institute of British Architects (RIBA) will hold a formal presentation dinner the evening before. At the RIBA London Headquarters. Call 0906/302-0400 or visit www.architecture.com.

Thom Mayne, Morphosis
Chicago
February 17, 2005
World-renowned Los Angeles architect Thom Mayne of Morphosis will present his major works for GSA. At the Chicago Architecture Foundation's ArchiCenter. Call 312/922-3432 or visit www.architecture.org.

Steven Ehrlich Lecture
Los Angeles
February 24, 2005
As part of the Masters of Architecture series, the event is presented by the AIA Los Angeles and the Los Angeles County Museum of Art. Ehrlich's Culver City–based firm has earned seven National AIA awards and was named the California AIA Firm of the Year in 2003. Known for the diversity of its public and private works, the firm's recent projects include the Kirk Douglas Theater in Culver City, a biotech research laboratory near MIT, and a 35,000-square-foot house in Dubai. At LACMA's Bing Theatre. Call 213/639-0777 or visit www.aialosangeles.org or www.lacma.org.

Spotlight on Design: Polshek Partnership Architects
Washington, D.C.
February 25, 2005
Recipients of the 2004 Smithsonian Institution Cooper-Hewitt National Design Award in Architecture, the firm's partners—Joseph Fleischer, Timothy Hartung, Duncan Hazard, Richard Olcott, James Polshek, Susan Rodriguez, and Todd Schliemann—will discuss their work, including the William J. Clinton Presidential Center in Little Rock, Arkansas; the Brooklyn Museum Entry Pavilion and Plaza; the New York Hall of Science; the Heimbold Visual Arts Center at Sarah Lawrence College; and the Newseum on Pennsylvania Avenue in Washington, D.C. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Competitions

2005 AIA/COTE Top Ten Green Projects Competition
Deadline: February 7, 2005
An international competition open to all architects, the program seeks to identify and recognize the benefits of a high-performance, sustainable design approach. Visit www.aiatopton.org.

Urban Space by Design 2005 Competition
Deadline: February 16, 2005
RIBA London's exhibition and competition will demonstrate that architecture is about the setting, context, and space around buildings, as well as the buildings themselves. Members are invited to submit built or speculative projects that explore urban spaces, the influence that they may have on their environments, and the physical and social relationships that may be produced from a fusion of designs. Call 020/7307-3659 or visit www.riba-london.com.

AIA Staten Island 2005 Architecture Design Awards
Deadline: February 18, 2005
The continuing intent and ongoing effort is to facilitate interest in meaningful architectural design on Staten Island. In its fifth year, AIA Staten Island has established its ceremony to attract national attention and critical evaluation. Call 718/667-6340 or www.aiasiny.org.

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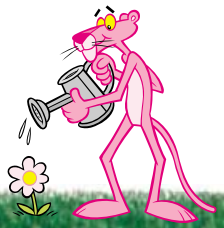

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For and about the emerging architect

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This month's Design subjects, Johnsen Schmaling Architects, are helping to change the image of Milwaukee from a Rust Belt, blue-collar manufacturing town with lackluster surroundings to a more vibrant urban locale. The team's unique approach uses the exterior as their palette. In Work, Lira Luis's previously designed shelter is given new consideration in the wake of the devastating tsunami in Southeast Asia.

Design

Blurring interiors and exteriors

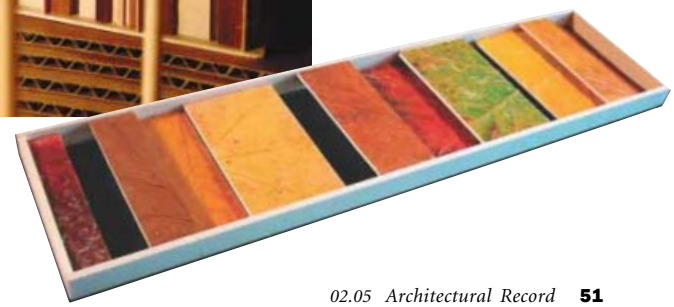
From their office in a former shoe factory in Milwaukee's warehouse district, the firm of Johnsen Schmaling Architects is enlivening the facade of the city one project at a time. Brian Johnsen, a Chicago native, and Sebastian Schmaling, originally from Berlin, met at the University of Wisconsin-Milwaukee, worked in the same small office, and in 2003 branched off to begin their own practice. In a city that is mostly inhabited by large firms creating bland corporate and civic architecture, the architects explain that they are finding their niche in what could be considered a second- or third-tier city. "There's a preconception that you can't do anything architecturally profound outside of major metropolises," says Schmaling, "We've been extremely fortunate in finding a clientele interested in art and abstract thought."

When approached by a local developer to design affordable and adaptable housing in Milwaukee's blighted central city, Johnsen and Schmaling created a prototype called Duplex 01 that has a flexible layout and can be used as a single-family unit or as a two-family duplex. While the residence, with its double-volume box form and freestanding garden wall, stands out in the neighborhood, the architects were careful to keep the design contextual with the surrounding architecture. Currently developing their second duplex for another residential area in the city, the firm is excited to assist in the revitalization of these neighborhoods. "We want to mend the broken-fabric areas that have suffered due to disinvestment and create a positive urban environment," says Johnsen.

Johnsen and Schmaling's projects explore what they refer to as the "extended surface," a process that questions the static qualities of a building's

Parts House Pavilion, Milwaukee, 2003
This flexible rooftop addition, constructed of sliding steel frames and illuminated, polychromatic, translucent panels, has become a symbol of urban vitality, visible from afar at night.

Borke House, Green Lake, Wis., in construction
The architects meticulously studied the surrounding wooded area to incorporate texture, color, and shadow into the house's layered exterior. Color samples of the veneer (below) were used to assemble the facade.



PHOTOGRAPHY: COURTESY JOHNSEN SCHMALING ARCHITECTS

exterior. Schmaling explains, "Instead of viewing the building's envelope as a thin material layer, we propose that the surface of a building can assume spatial qualities, thus blurring the distinction between exterior and interior and public and private." In the Parts House Pavilion, an outdoor living room, colorful patterns created by illuminated panels are cast onto an adjoining warehouse. The multihued reflections are easily viewed at night from the nearby main freeway. For a large-scale project, the architects have proposed redesigning a parking structure in downtown Milwaukee by wrapping a portion of the building with translucent panels. "These projects exemplify what can be done when there's not a clear-cut private space," says Schmaling. "It adds another layer of what a building can do and of what architecture can achieve."

In an age where computer renderings are pervasive in the planning process, Schmaling finds that his team's "archaic reliance on the physical rather than virtual" is a crucial part of their methodology. The architects rely almost solely on models to develop their work, including diagrammatic and conceptual ones. At I-Space Gallery in Chicago, Johnsen Schmaling's work will be on display throughout the month of February. The exhibition will provide a closer look at drawings, photos, and models of this design duo. *Randi Greenberg*

More images of these and other projects done by Johnsen Schmaling are available at archrecord.construction.com/archrecord2/

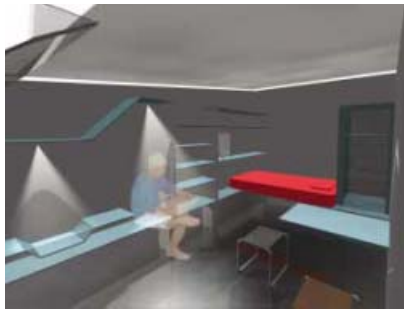
Duplex 01, Milwaukee, 2004
The upper- and lower-level windows as well as the semiprivate courtyard are devices intended to blur the boundaries between public and private space, furthering the architects' concept of an "extended surface."

Downtown Garage, Milwaukee
Currently in schematic design, this project's translucent panels will wrap around the seven-story ramp of a preexisting parking garage. During the day, the panels' appearance will change with the sun's intensity and angle; at night, the facade will be illuminated by a lighting system.

Work

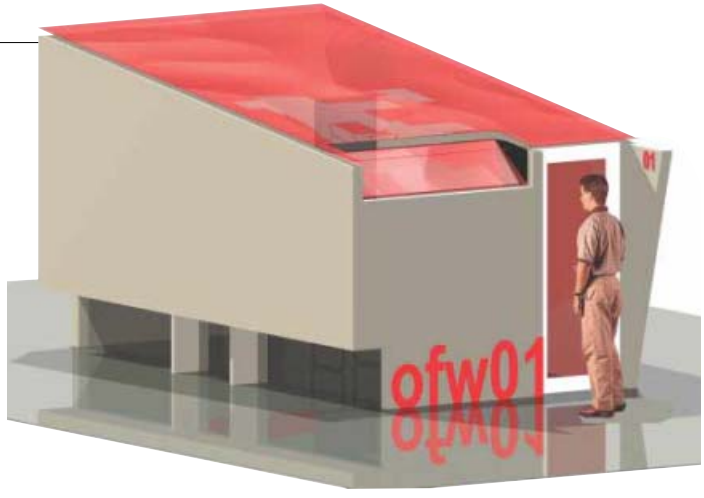
Home is where the pod is

Providing shelter for the hundreds of thousands of people left homeless in the aftermath of the December 2004 tsunami is just one of the enormous challenges facing officials throughout Southeast Asia. Lira Luis, a project manager with Deutsch Associates in Phoenix, believes that her Portable Transient Housing Pods could be part of the solution—but it was an earlier call for help that inspired her to create them.



The Philippines's growing shipping industry attracts thousands of rural Filipinos and foreign nationals to the nation's port cities. While waiting for jobs aboard cargo ships, these so-called seafarers often find themselves homeless. Filipino-born Luis learned of their plight in mid-2003 and was soon commissioned by the Pier One Seaman's Dorm, a seafarer organization, to design low-cost, easily transportable housing for this transient population.

Luis is currently finishing work on a prototype of the project. Measuring roughly 90 square feet, the "pod" contains a bed, shelves, and a closet. Made of lightweight composite plastic, fabric, and perforated metal, one person can assemble the pod without requiring special tools or fasteners. "It's like a Lego set that you assemble, a kit of parts," Luis explains. "There's no need for screws, because the parts snap into grooves." For easy storage and transportation, the pod folds into a case the size of a large art portfolio.



This new concept for temporary housing (exterior, above—interior, left) is portable and able to be used in several environments.

Luis's original thought was that seafarers could rent the pods like hotel rooms, and assemble them inside abandoned buildings or parking garages. The Seaman's Dorm was unable to generate enough funding for the project, though, so Luis is now seeking other investors. She is also hoping to partner with an organization willing to produce the pods and donate them to people displaced by the tsunami. *James Murdock*

For more images of Luis's proposed Portable Transient Housing Pod, go to archrecord.construction.com/archrecord2/

PHOTOGRAPHY: COURTESY JOHNSEN SCHMALING ARCHITECTS (TOP THREE); COURTESY LIRA LUIS (BOTTOM TWO)

A factory-turned-arts-community represents the new China while paying homage to the old

Correspondent's File

By Liane Lefaivre

Beijing 798 may sound like a new line of airplanes, but it isn't. Built in the early 1950s and occupying about a half square mile of land on the northeast periphery of Beijing, the Dashanzi Art District is an East German–designed complex of about 40 low-rise, brick industrial sheds. It is often referred to as 798 because the first building one encounters in entering the area is called Industrial Shed Number 798.

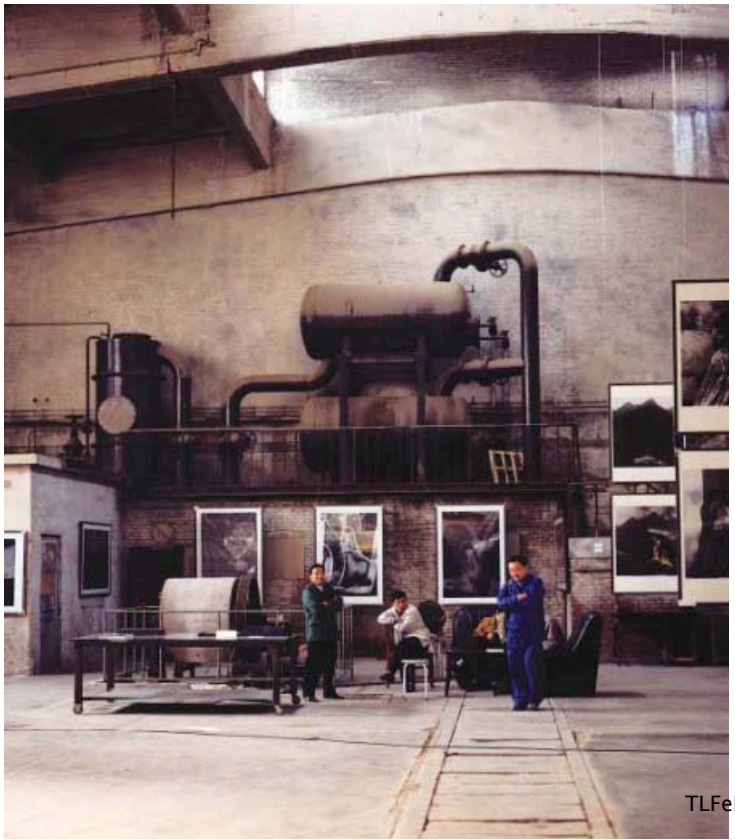
When it opened, the area was the biggest, most advanced military-industrial facility in China. But by the late 1990s, as cutting-edge industrial production had moved elsewhere in China, 798's products were obsolete, its derelict buildings quasi-abandoned, and its property value up in smoke. Once the dust cleared, however, it didn't take long for its dirt-cheap spaces to be discovered: As early as 2002, more than half the derelict brick buildings had been snapped up by artists, art dealers, designers, architects, and curators.

Now, instead of turning out propellers, turbines, and two-way walkie-talkies, 798 is the site of raves, openings, performances, rock concerts, designer restaurants, and fashion shoots. Most important, like Bruner/Cott's Mass MoCA in North Adams, Massachusetts, and Herzog & de Meuron's Tate Modern in London, these ramshackle industrial buildings provide the kind of Piranesian spaces that are ideal for exhibiting contemporary large-scale art objects. In their brief existence, the galleries have managed to rank among the most recognized experimental venues in the world, exhibiting work by globally recognized artists such as Ai Weiwei (who is collaborating with Herzog & de Meuron on the Olympic Stadium for the Beijing Olympics) and well-known photographer Rong Rong, and hosting shows that are regularly reviewed in *Art in America*. It also houses the most comprehensive art-book store in Asia, Timezone 8, founded in 2001 by U.S.-born Robert Bernell, as well as a number of loftlike studios that have been rented out to artists. But the place hasn't been totally yuppified. It still operates partly as a low-grade industrial facility. Last October, the sound of clanking machines could be overheard in a gallery as workers in blue-collar uniforms constantly crossed paths with the facility's trendy occupants.

When quoted in a recent book entitled *Beijing 798*, British artist Richard Hamilton aptly described the entire complex as "reality": "The

Liane Lefaivre is on the faculty of TU Delft, the Netherlands, and the University of Applied Art, Vienna. She is at work on the book Dirty Realism.

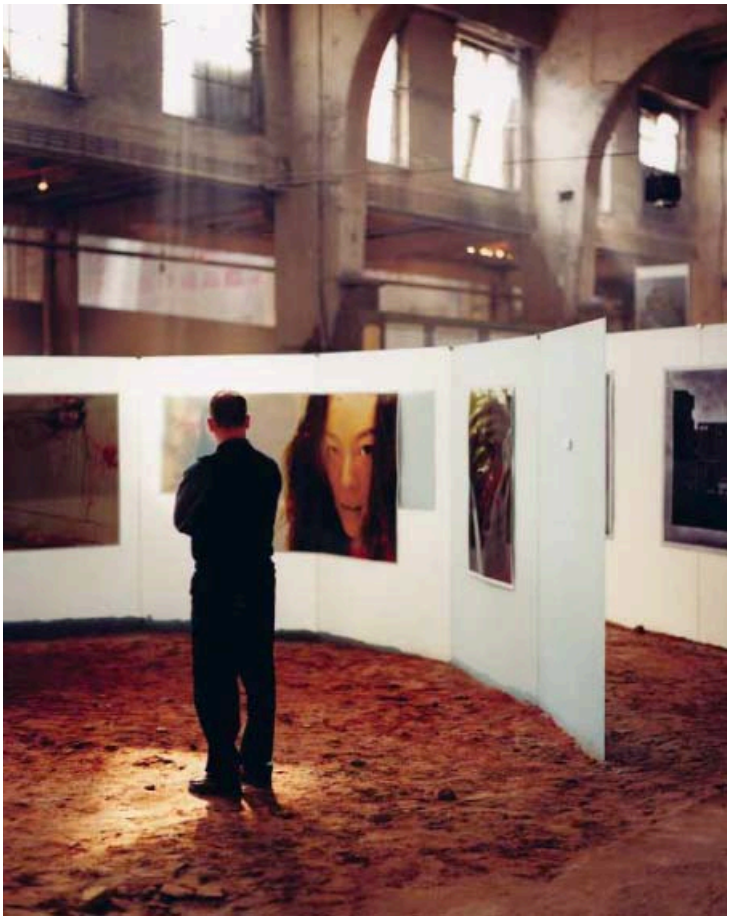
Viewing art at the 798 Gallery (left). Workers on the site of the *Tui-Transfiguration* exhibition (right) stand among photographs and industrial relics.



reality of the grunge of 50 years of peeling paint, of cheap bricks, and 20-foot-high ceilings with perfect lighting. If you walk not only inside these ideal exhibition spaces, but between them, you feel something even if you don't know what it is."

Although 798 is about as far as things get from the Forbidden City or the Temple of Heaven, it has great symbolic resonance. In a city with precious few monuments besides the crushingly grandiose, millennial, imperial sort, this has become *the* icon of the new, urban, modern China. And the enthusiasm that fuels the complex today is not very different from what it was when the factory began. As Hong Kong architect Gary Chang pointed out when we visited it, although Chairman Mao is the butt of numerous artworks, many of his slogans praising the value of hard work that are painted on the walls have been preserved intact like precious historical ruins. About a third of *Beijing 798* is a photographic paean to the 1950s at the site, when little girls wore Mao jackets and braids, except when they donned pink suits and fans to perform traditional flower dances at the factory, and when factory openings were the highlight of social life, and a radio was the height of luxury

SO FAR, THE PLACE SEEMS TO HAVE BEEN KEPT ARCHITECT-FREE. ITS DIRTY PATINA IS, IN ITS OWN WAY, PRISTINE.



The *Tui-Transfiguration* exhibition included photographs by Chinese photographers Rong Rong and Inri.

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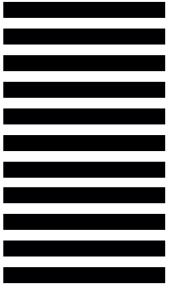

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Untitled (left), by Yin Xiuzhen, appeared at the 798 space in 2003 as part of the _Left Hand Right Hand_ exhibition. _Mao's Right Hand_ (right), by Sui Jianguo, appeared in one of the abandoned factory spaces.

for a one-child working family.

So far, the place seems to have been kept architect-free. Its dirty patina is, in its own way, pristine. But for how long? Naturally, it is being eyed by developers. It's only a question of time before the architects follow. There is, of course, a danger that has been made all too obvious in the designs by students at Sci-Arc that are included in *Beijing 798*. These involve the knee-jerk tendency to drop computer-graphic-generated glam into the area in the form of "vertical mat structures," "altered surfaces," and "synaptic tentacles." There's plenty of places for this in Beijing, just not here.

What the future holds for 798 is unclear. The reports are contradictory. On one hand, it is said that it will be the main contemporary art and culture venue for the upcoming Beijing Olympics in 2005. On the other, it is also said to be slated for demolition in two years.

Of the two fates—being buried under tons of it-could-be-anywhere slick design or being demolished—it is hard to say which is worse. What is certain is that it would be a great loss if Beijing 798 were to succumb to either. What the area needs desperately is the kind of sensitivity for its own genius loci, a sensitivity that I am tempted to call artistic rather than architectural, that the designers of Mass MoCA and the Tate have succeeded so well in expressing. ■

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Making an exception in a place better known for consensus and fitting in

Critique

By Michael Sorkin

The National Mall is the lodestone of our national geometry. From its inception, it has been freighted with metaphor and a weighty job of symbolism. The L'Enfant plan—in which the mall forms the central space—was a paragon of rational abstraction, a description of both the meaning and organization of power. It formed the great lawn in which the deliberately separated powers are joined, a void through which democracy might flow and be collectively activated.

Over the years, the flanks of the Mall, as well as its center, have accumulated structures that have celebrated and marked our national project and that have—in their differing ways—described the limits of an official consensus about the meaning of architecture and its metaphorical expansiveness. At one end, the Capitol with its Baroque dome and hilltop authority embodies the reexpressed Classicism that was the official architectural expression of the early Republic. At the other end, Lincoln—who freed the slaves—sits in a Classical temple not unreminiscent of the "big house."

Neoclassicism has been Washington's official default for most of our history, whether handsomely expressed in the National Gallery, grotesquely overblown in the House Office Building, or variously stripped in the undercooked stone symmetries of buildings all over town. Of all American cities, Washington is the most rigorously homogeneous, enforced in its mandated height limits, the more flexible strictures of the Fine Arts Commission, and two centuries of habit.

But there have been occasional exceptions. The foundational "other" is James Renwick's 1842 castle for the Smithsonian Institution. Constructed of redbrick in the then-popular Gothic Revival, it differs—in color, in style, and in poking into the Mall—from its successors and predecessors both. It also sets a benchmark for difference. The building is charming and beautifully wrought and has, for years, been one of the city's most emblematic landmarks, beloved in its eccentricity.

However, the great turning point in the meanings associated with this space came with the construction of the Vietnam Veterans Memorial, commemoration of a tragedy and a defeat. This marked both a militarization of the Mall—it was followed by memorials to both the Korean War and World War II—as well as a renewal of the simmering culture of architectural exception. Although it cleaved to the spirit of abstraction embodied in Washington's originating plans (like the overrated I.M. Pei gallery with its Baroque slicing), the memorial was dark—polished black granite—and excavated into the earth, not standing triumphantly upon it. It was somber, not celebratory.

The Vietnam memorial was soon followed by another project that dramatically reconfigured the meaning of the Mall: the United States Holocaust Memorial Museum. Although a block away from the Mall proper, it irrevocably altered the Mall's mood and style. While its architecture was outwardly cut from the longstanding Classical cloth, it introduced another mode of understanding to the official repertoire: This was not a museum about collecting, but "interpretation" and a kind of redress, a form of accounting for a tragedy yet incomprehensible, like the war in Vietnam.

This is a prism through which the new National Museum of the American Indian (NMAI) must be refracted. The building—and its program—resume the project of exception embodied in both the Vietnam memorial and the Holocaust museum. The move to Washington was initiated in 1989 when the Smithsonian took over the extraordinary Heye collection of the Museum of the American Indian, then located in New York City. Under the new arrangement, the museum was to maintain a branch in the old Customs House in Lower Manhattan, move the bulk of its holdings to a new archival building in suburban Maryland, and build a centerpiece museum on the last remaining site on the National Mall.

The choice in 1993 of Douglas Cardinal to design the new museum was a natural. This gifted Canadian architect had long sought to investigate the relationship of his work to his own Blackfoot roots—research carried out in built form, in a dedication to aiding for native communities, and in a series of writings that attempted to capture the value and spirit of Native American space. Cardinal was also the designer of the Canadian Museum of Civilization in Ottawa—completed in 1989—which both marked the expressive maturity of his work and was a project of comparable intent (and even greater scale) to the National Museum of the American Indian.

The process of programming the NMAI building was heavy on consultation with Native American

The museum occupies the last building site on the National Mall.

Contributing editor Michael Sorkin is the head of the graduate urban design program at City College of New York.

The building evokes wind-carved cliffs.

communities and was conducted at a deliberative, iterative pace, very consonant with Cardinal's style of design. Indeed, from what I'm able to observe (buttressed by the analysis of Trevor Boddy, author of an excellent 1989 monograph on Cardinal), his work is best when the process allows him space for testing and contemplation.

Over several years, a design for the building emerged that was clearly an extension of the language of the Museum of Civilization and, in many ways, a refinement of its formal premises. However, in 1998—in a dispute over fees and creative direction—Cardinal was sacked from the job. Brought in to investigate the conflict, the Polshek Partnership emerged with the commission to finish up. Although I am not able to comment on this skulduggery, it left Cardinal embittered, so much so that he accused the Smithsonian of "forgery" and declined to attend the 2004 opening. For its part, the Smithsonian has treated Cardinal as a near nonperson, listing him low in its credits and hyping the "collaborative" nature of the process.

Although replacing the lead architect midstream makes it impossible to assign responsibility for many details of the completed work, the parti, plan, and basic design expression are clearly Cardinal's. Closely following the Museum of Civilization, the building is expressed via a geologic metaphor, a set of laminated, curvilinear stone strata. Constructed of a lovely, buttery Kasota limestone, dressed adroitly in bands of varying dimensions and roughness, the building wisely chooses to evoke a natural setting of wind-carved rock rather than any particular Native American architecture.

This conceit of stratification in stone poses a fundamental formal issue: transparency. How to introduce light and permit views in what wants to appear as a stone mass. One possibility is to toplight in the manner of the Guggenheim, allowing the walls to remain closed. Another is to puncture the building with apertures, evoking mass and thickness. Cardinal's choice is to use alternating stone and transparent bands. This begs its own tectonic issues. Is the transparency a kind of shadow? Are the stone strata floating? Is the dark glass meant to evoke a solidity similar to the stone?

Architectural strata

The NMAI's glass bands undulate in the same rhythm and proportion as the stone—as if a geological stratum of another material—and divides them with a very regular pattern of mullions. This close spacing gives the glass strata the look of a structural solution—bearing the weight of the slab above—not simply of the membrane itself. While the solution basically works well, the detail lacks a final measure of elegance, and the smooth, artificial stucco soffits beneath the overlapping laminations are a little unsatisfying.

The real structure of the building is columnar and lies within, largely uninflected by the wall/skin. The interior holds almost nothing of the governing metaphor of stone carving; its own default is Sheetrock, although it often opens to well-calibrated views of the Mall. The main move inside is a full-height, domed, cylindrical rotunda that forms the entry space of the building. This faces east toward the Capitol, and its placement at the end of the building—rather than on its long street or Mall facades—sets up both a logical processional and a rife dialogue with the domed rotunda up the hill, topped by a statue of a native American, a perverse symbol of conquest.

Entering the building, one descends a ramp to the grade of the rotunda, which turns out to be grand but curiously vacuous, undercooked. The dome itself—a low copper roof on the exterior—is resolved in a tacky-looking, nonstructural Sheetrock corbel within. The (slightly sub-) ground floor is devoted to auditoriums, a cafeteria, and, most visibly, a gift shop. The ramp down, however, has the (unintended?) consequence of lengthening the stair up to the second floor (where yet another gift shop awaits at the landing). The would-be grand stair—grafted to one side of the rotunda—feels ancillary in a space that calls for a more refined and dramatic means of ascent.

The main gathering space is the building's rotunda.

But, for me, the least successful aspect of the museum is its content. Not simply does one feel that the exhibition spaces are not nearly adequate to the subject or the collection, their design is uninspired at best. The lighting—one passes from circulation spaces that are beautifully daylit—is lugubrious. There is an excess of television. Organization is confusing and the didactic intent is made more so by a curatorial approach that puts a theoretical emphasis on inclusion but winds up producing a mish-mash of materials, lacking a persuasively cogent point of view.

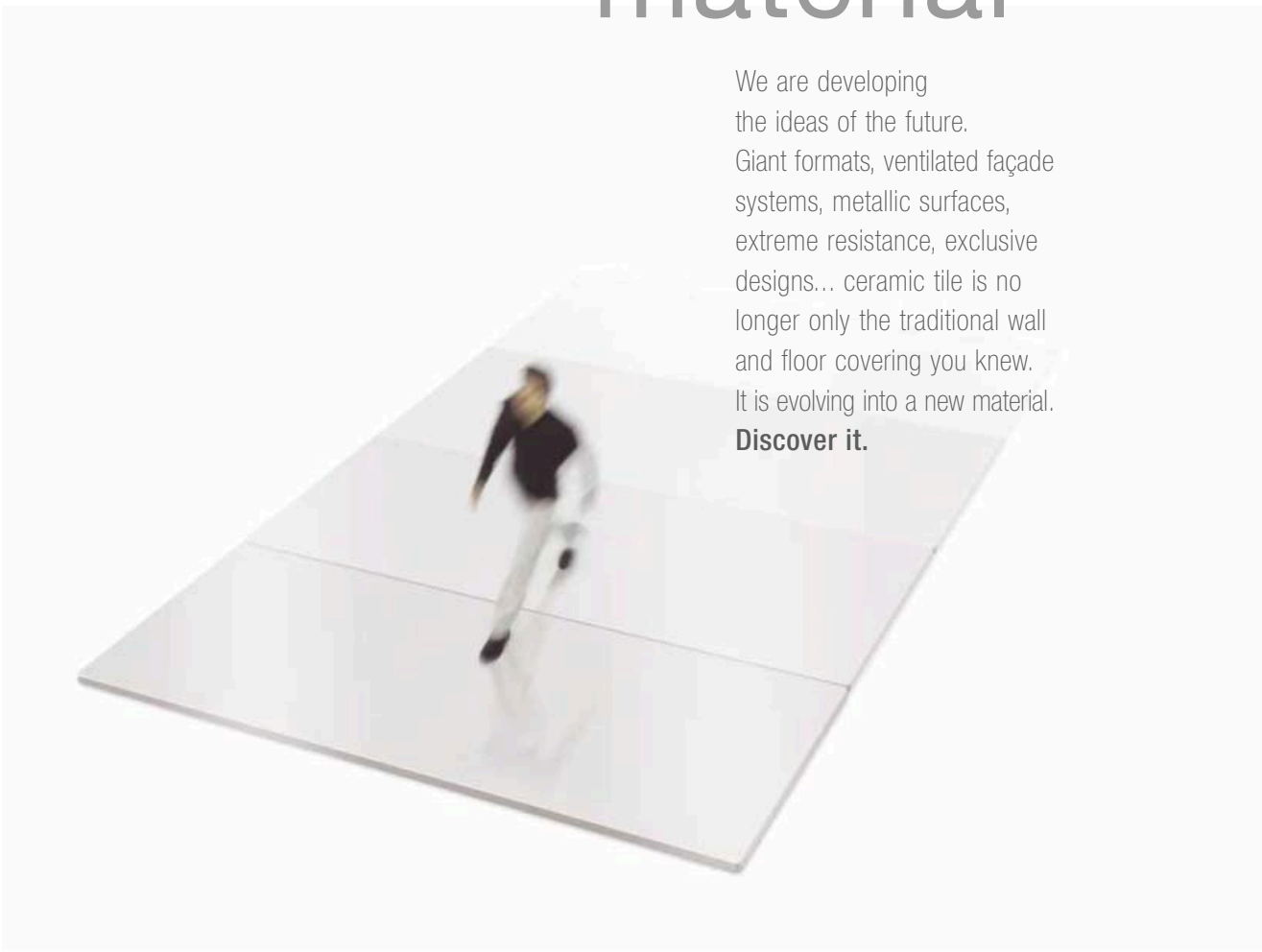
Perhaps most disappointing is the amazing paucity of actual artifacts. For a rich continent of cultures that has left such an amazing material legacy over the millennia, the shortage of things (there are more in the two shops than in all the galleries combined!) is a huge disappointment. This is not some regressive complaint based on a disreputable 19th-century view of the museum, but a deep disappointment with the didactic approach adopted: It is not simply inadequately celebratory, but it distrusts the eloquence of the objects themselves, absent some situating gloss or overly composed presentation. And where is the architecture?

Of course, there is no denying the politics of this institution, its vital duty to reclaim a rich history from centuries of erasure and distortion, its obligation to teach, and its crucial role as a gathering place and point of pride for Native Americans. But it's too much in thrall to the Holocaust model, too eager to see its contents simply as evidence, and insufficiently attuned to their resonance and beauty as art and expression. It is in this register that the depth of Cardinal's vision becomes clear. The power of this building lies in the exceptional character of its presence on the Mall, an assertive other in our civic holy of holies.

The NMAI is obviously a different kind work. It is yellow in a field of white—a building of color. It is rough-dressed in a sea of smoothness and mechanical precision. It is curvilinear in a context of unremitting orthogonality (one Native-American observer described it as "the first female building on the Mall"). It is surrounded by specimen biotopes rather than traditional "formal" landscaping. And it commands its own spiritual and practical orientation, a modest, if meaningful, bit of resistance to the alien, "rational" organization that so devastated Native America. Symbolically, it couldn't be any better. ■

PHOTOGRAPHY: © R.A. WHITESIDE/NMAI (RIGHT)

a new material



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Rooting Modernism in the rich soil of local identity

Books

Critical Regionalism: Architecture and Identity in a Globalized World, *by Alexander Tzonis and Liane Lefaivre. Munich: Prestel Verlag, 2003, 160 pages, $65.*

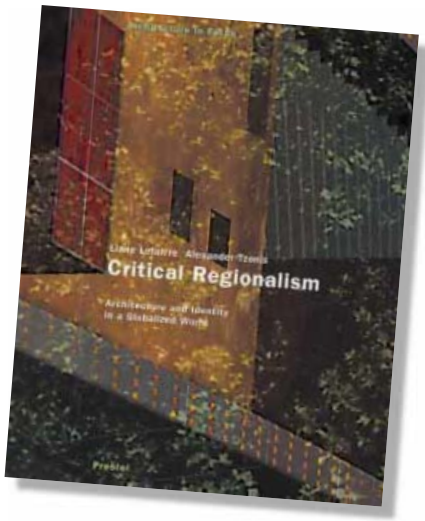
Critical regionalism emerged in the 1980s as a breath of fresh air challenging the triumphalist reign of Postmodernism. The term *critical regionalism*, coined by Alexander Tzonis in his 1981 essay "The Question of Regionalism," resonated as a concept and was adopted and developed by others, notably Kenneth Frampton. With this book, Tzonis and Liane Lefaivre bring the topic up to date.

They identify critical regionalism as a form that is neither superficial nor nostalgic. At its heart is identity. In the face of hegemonic universal values, critical regionalism asks how local values can be embraced by architecture as a form of cultural affirmation, or even resistance.

Tzonis traces the origins of critical regionalism to a classical past and describes how the Picturesque Movement of 17th- and 18th-century England played an important role. For the first time, ideas of landscape were connected to environmental awareness and political emancipation. These ideas extended through the German Romantic Movement into the writings of Lewis Mumford in the 1930s.

Lefaivre picks up Mumford's baton and shows how he conceived of regionalism as a tool to confront the appropriation of the Modern Movement by the International Style. Mumford's ideas, while vague, interpreted regionalism broadly and elevated it beyond commercial kitsch.

Importantly, Mumford believed regionalism didn't exclude the universal, but should be seen in a



relationship of constant engagement and negotiation with it. Mumford's writings form the core of Tzonis and Lefaivre's thinking.

The authors' intention was to create not a comprehensive history, but an introduction to the work of many architects who are not on the Western world's radar screen, including Tai Kheng Soon, William Lim, Sedad Eldem, Minnette de Silva, Lina Bo Bardi, and Oluwole Olumuyiwa. Indeed, it is in Asia, Africa, and Latin America where the issue of identity is of particular concern. *Critical Regionalism*, though densely packed and historically informative, includes significant omissions. Lefaivre describes, for example, how after World War II, the U.S. commandeered design, using both universal and regional expressions as propaganda tools. But she neglects a comparison with the Soviet Union's program of exporting design throughout Eastern Europe, Vietnam, and Cuba.

The historical essays establish the authors' criteria for critical regionalism. These, in turn, determine their selection of the 20 featured works: six from the 1940s through 1980s, the rest from the 1990s through 2002. Photographs in these portfolios are beautiful and beautifully presented, but the descriptive text could have been better linked to the preceding historical essays. Also questionable is the authors' tendency to subordinate issues of building type, precedent, and materials to those of site. The most complete and moving expression of identity in the book is a thoughtful, contemporary response that gives full weight to all these issues, Renzo Piano's Jean-Marie Tjibaou Cultural Center in New Caledonia.

Three projects are comprised of folded planes: La Granja Escalator in Toledo, Spain, by José Antonio Martínez Lapeña and Elias Torres Tur; the Hot Springs Landscape, Hotel, and Horse Stables in San Pedro de Atacama, Chile, by Germán del Sol; and the Yokohama International Port Terminal, in Japan, by Foreign Office Architects. While each is a specific response to site, the use of digital software encouraged the manipulation of folds, which along with blobs and other complex geometric forms, have become ubiquitous, if not universal. Could it be that the digital is another region that provides identity and can be engaged critically?

Tzonis and Lefaivre demonstrate that critical regionalism has become even more relevant in the face of globalization. *John A. Loomis, AIA.*

Teodoro González de León: Complete Works, *introductions by William J.R. Curtis and Miguel Adrià, texts by Teodoro González de León. Mexico City: Arquine Revista Internacional de Arquitectura, 2004, 440 pages, $67.*

William Curtis's best-known book, *Modern Architecture Since 1960* (1982), broadened our views of modernity beyond its familiar European confines and drew critical attention to the work of Mexican architect Teodoro González de León. Twenty-two years later, Curtis and the critic Miguel Adrià give us this comprehensive view of González de

Books

León's nearly 50-year architectural career. Curtis explains that González de León derives a "rough poetry" from the conflicts and tensions of his native Mexico City, where high-tech and handcrafts exist side by side, as do continuities and disruptions of Mexican traditions. "The modernity of real value," Curtis writes, "is that which keeps the process of transformation moving." The book's photography reminds us that a black-and-white format can be beautiful, and powerful.

Born in 1926, González de León is a second-generation Mexican Modernist, about a quarter-century younger than Luis Barragan and Juan O'Gorman. An artist as well as an architect, González de León rejects the importance of function in architecture, arguing that buildings can change their function without changing their character. The foundation for his work was laid in 1947–49, when he worked in Paris with Le Corbusier, whose design was undergoing a transition that culminated in such rugged, sculptural buildings of his late period as Unité in Marseilles, his Monastery of La Tourette, and the Chapel at Ronchamp. González de León underwent a similar evolution, moving from spare early designs toward works that are more massive, sculptural, and "densely coded in metaphors and associations," writes Curtis.

But González de León's architecture has also absorbed the bold forms, strong profiles, and geometric patterns of ancient Mexican ruins. Throughout his career, his design vocabulary has relied on combining and recombining a limited set of elements. "There is a consistent preoccupation with concrete frames and skeletal repetitions of beams which are modulated and adjusted to make giant porticos, gates, pergolas, galleries, and platforms," writes Curtis. The overriding impression of González de León's work is of horizontals suspended in light and of thick-striped shadows.

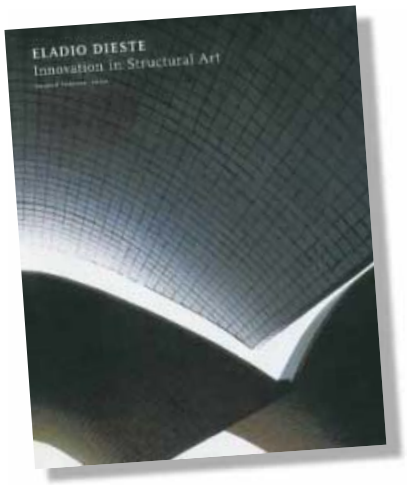
During the '60s and '70s, González de León often collaborated with Abraham Zabludovsky, with whom he designed a series of apartment buildings and office structures, including the Mexican Embassy in Brasilia (1973) and the Colegio de Mexico, INFONAVIT (1975). The ethos is robust, with rugged surfaces enhancing the fall of light and "suggesting the permanence of rocky outcrops or wedges of landscape," writes Curtis.

During the '80s, responding to international architectural trends, González de León experimented with historical references and a sort of realism, as at his entry to the Archaeological Site of Chichen Itza. The '90s saw his work take a turn toward fragmentation, as at the Fondo de Cultura Economica (1990–92).

"His architecture," Curtis concludes, "gives shape to the aspirations of a society undergoing rapid change and seeking an appropriate place for the past in its collective identity."
Andrea Oppenheimer Dean

Eladio Dieste: Innovation in Structural Art, *edited by Stanford Anderson. New York: Princeton Architectural Press, 2004, 272 pages, $60.*

Before Stanford Anderson, head of MIT's architecture department, saw photocopies of Eladio Dieste's work in 1998, he had never heard of the Urugyuan architect. Despite their poor quality, the photocopies showed the beauty and inventiveness of Dieste's designs. Anderson soon visited the buildings and, in an effort to make the work better known to the architectural world, organized a symposium, which took place in Montevideo and at MIT, and planned this book. It serves as a tribute to Dieste, who died in 2000.



Dieste was an engineer, in his native tongue *un ingeniero*, a term that used to mean ingenious. Working in a country with limited resources, Dieste's genius lay in using locally available reinforced masonry—little known and seldom used in his time—to create elegant industrial, agrarian, commercial, and religious buildings, as well as public infrastructure. They have daring spans, curving shapes, and a discerning use of light. In one of three essays conveying his thoughts about art and architecture, Dieste writes that the goal of his architecture is to have "a lightness, a mysterious ease, a concise simplicity, something like dance without effort or fatigue."

Dieste began his career working on bridge projects for Uruguay's highway administration. In 1956, he and Eugenio Montanez founded the design and construction firm of Dieste y Montanez. Dieste's better-known early buildings include the Church of Christ the Worker at Atlantida (1958–60), notable for its undulating walls and transcendent interior light. His middle and late periods include the Municipal Bus Terminal in Salto (1973–74), the water tower in Salto (1979), and the Fagar Cola Bottling plant in Tarariras (1991–92, 1995–96).

Anderson writes that at a time when sustainability in architecture has become increasingly important, "Dieste's accomplishments inspire thought beyond the (albeit deserved) attention to the works themselves and to the continued application of his technique." Among the book's short essays is Edward Allen's on two revolutions in masonry vaulting, John A. Ochsendorf's on Dieste as a structural artist, and Remo Pedreschi and Gonzalo Larrambebere's on technology and innovation in Dieste's work. With this book, Anderson introduces to an American audience the life and work of an ingenious talent, a true *ingeniero*. *A.O.D.*

Alberto Kalach, *by Miguel Adrià. Barcelona: Gustavo Gili, 2004, 168 pages, $90.*

This isn't your usual monograph. Thumbing through its pages, you don't see the standard succession of slickly photographed new buildings. Instead, there are expressive sketches; pictures of models, gardens, and wildness; and a few beautifully crafted completed buildings. Many designs by the 44-year-old Mexican architect Alberto Kalach remain unbuilt, "and some have fallen by the wayside, since not all creators are born diplomats," Miguel Adrià writes. In a short essay about Kalach's Mexico City design studio, Humberto Ricalde describes a place that is all process, characterized by "architecture in full bloom, undergoing constant change, not for the fainthearted." The office is crowded with sketchbooks, diagrams, and notes; stacked maquettes of pending projects; piled photographs of buildings under construction; an odd mix of books; and a variety of manuals, many on gardening.

"Paradise is a garden," writes Kalach in an essay. He says that his mentor, Jose Maria Buendia, "made it very clear" that house, patio, and garden are inseparable and demolished Le Corbusier's "necrophiliac pilotis and the

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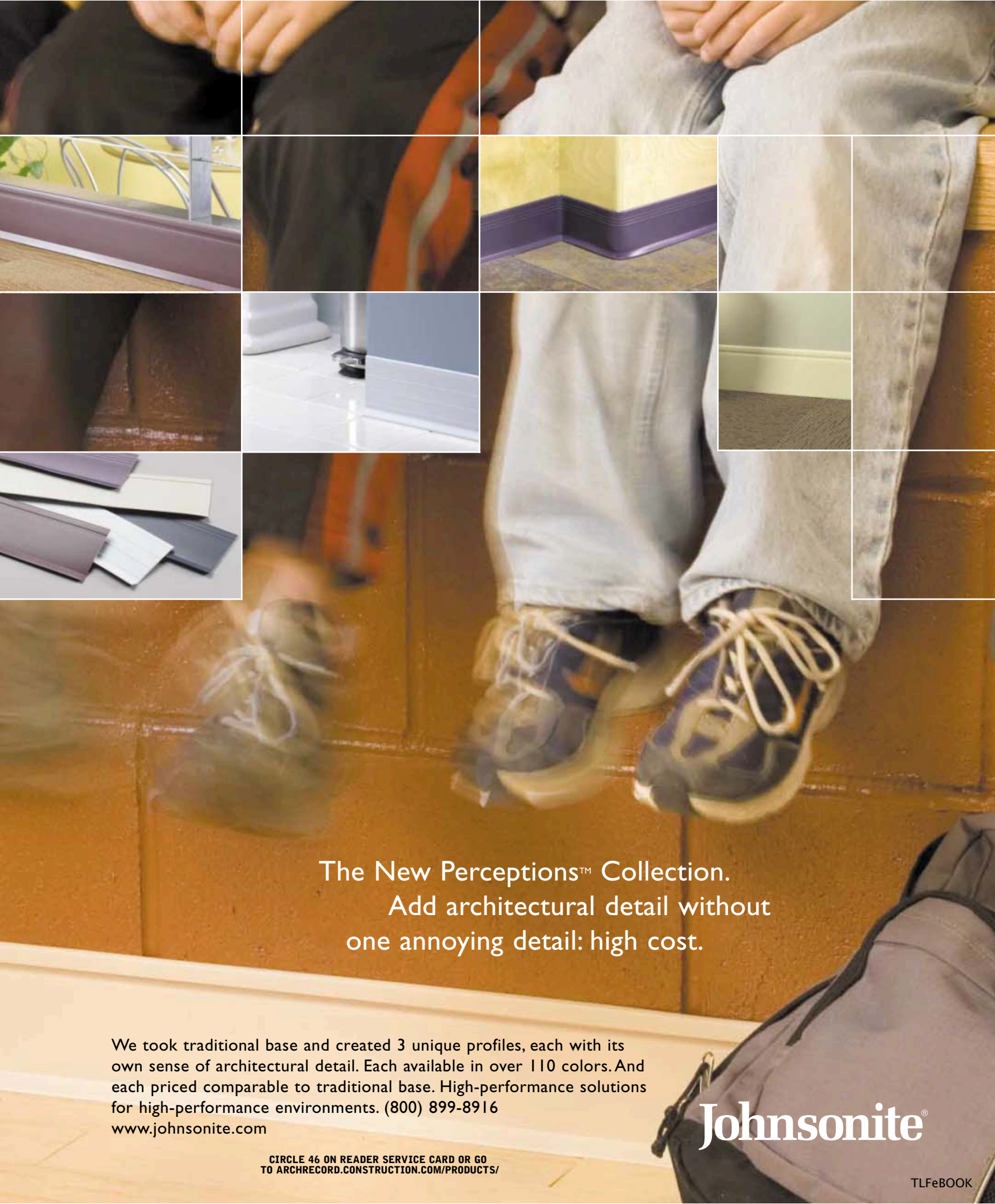
Miesian box divorced from its surroundings." Kalach is an architect for whom sensory experience trumps intellect and ideology. In his residential work he extends houses into gardens by means of lattices, pergolas, and freestanding walls. His work, writes Adrià, is a collage of constructs, colors, and shapes. The author explains that Kalach derives his solid concrete masses from González de León, his intimist oblique light from Luis Barragan, and his use of large planes of glass and steel from TEN Arquitectos. Kallach's architecture is "a sort of hybrid personal work that draws on various sources." This book brings together the architect's most recent projects and buildings, among them the Black House in Contadero, Mexico State (1998), and, in Mexico City, the Parroquia Building (1999), the Chapultepec Gold Club (2000), and the Mojado house (2003). Capping his accomplishments is his project for the Lake City, which proposes rehydrating the dried aquiferous areas of Mexico City; it won a prize at the 2002 Venice Biennale.

The text, minimal and not always fluently translated, leaves us wanting to know more, and the photographs make us want to see more of Kalach's work. Chances are good that we will. Kalach's 44 years make him still a youngster in architecture. *A.O.D.*

SCDA Architects: The Architecture of Soo Chan, *by Robert Powell, with a foreword by Aaron Betsky. Melbourne, Australia: Images Publishing Group, 2004, 256 pages, $60.*

Part of a new generation of Asian architects trained in the West but busy building in the East, Soo Chan has been developing a sophisticated brand of tropical Modernism since opening his own office in 1995. Although born in Penang, Malaysia, Chan established his practice in Singapore, just down the coast but a world away in terms of economic and social activity. Like Singapore, Chan's architecture seems familiarly Modern at first glance but proves to be more complex and intriguing the better you know it. His clients mostly come from a class of prosperous businesspeople who have traveled much and appreciate a world where products, money, and ideas ricochet back and forth from one part of the globe to another. So his work eschews obvious references to Asian architecture (no pagoda roofs or dragon motifs) and focuses on design strategies that accommodate the local climate and lifestyle (interior courtyards, cross ventilation, and shading). In its use of flowing space, combination of old and new materials, and seductive blurring of indoors and out, Chan's architecture recalls that of Geoffrey Bawa, the great Sri Lankan architect.

This handsome book organizes Chan's work by type, but includes a chronology with pictures at the end. Individual chapters look at his converted shophouse projects, his private houses that reinterpret vernacular models, his more Modern houses, his interiors for offices and stores, his multifamily housing developments, and his projects still on the boards. The book serves as a good introduction to an architect who had built a considerable body of work in Singapore and is now doing projects in China, India, and the U.S. *Clifford A. Pearson*



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Snapshot

PHOTOGRAPHY: © FLORIAN HOLZHERR, EXCEPT MICHAEL VARNEWALD (THIS PAGE, TOP)

By Beth Broome

A puppet theater emerges in Corbusier's shadow

Last fall, Harvard University chose a novel way to commemorate the 40th anniversary of its famed Carpenter Center for the Visual Arts. It staged a puppet show. Conceived by French conceptual artist Pierre Huyghe, *Huyghe & Corbusier: Harvard Project* is the story behind Le Corbusier's sole North American architectural work. To house the operatic production, architect and Harvard assistant professor Michael Meredith was asked to design a performance space. Meredith describes the interior of his podlike puppet theater as "a 2001 spaceship," the exterior "a prehistoric moss egg." As he says, "Science fiction was definitely an influence."

Beyond the total budget of $50,000 for design and construction, and a deadline of just four months from conception to completion, Meredith had few major constraints for his project—known, simply, as the Puppet Theater. The site, however, was not easy to work with. The awkward and inhospitable sunken courtyard beneath the Carpenter Center, which has a maximum height of 12 feet, was the result of code requirements that were addressed in the 11th hour (Corbusier had intended for the space to be a congregating area). Additionally, it was critical that the design have

a minimal impact on the existing building. Avoiding point loads was important for preserving the concrete floor, and the project had to be self-contained. While paying respect to Corbusier's building, however, Meredith relied on his own sensibility for his concept and design.

Fifteen feet at its widest point and 32 feet long, the theater is constructed of about 500 white reflective polycarbonate panels connected by thousands of bolts and wingnuts, painstakingly fastened by Meredith's student crew. The resulting pod, which was disassembled in December, appears to have been, in effect, pushed into the space to fit the site. The steplike seating is made of custom-milled EPS foam, a lightweight fill material typically used as a base for highways and the like.

In keeping with Huyghe's narrative between the natural and the built worlds—which was inspired by Corbusier's initial desire for an undulating cornice lined with greenery sprouted from the seeds dropped by passing birds—the theater's exterior is cloaked in living moss. The structure, says Meredith, is an attempt to collapse distinctions between synthetic and organic, interior and exterior. The irregularly shaped end of the pod looks out onto a nearby tree, while the more rigid, rectangular opening for the puppet stage frames Corbusier's architecture. At night, the theater conducts light, casting a diamond-gridded glow from its nesting place beneath the iconic Carpenter Center.

Undertaking a project literally in the shadow of Corbusier's work was "a little intimidating," concedes Meredith. But, referring to his tight deadline, he says he probably would have been more scared had he had more time to think about it. "I was really more worried about just getting the Puppet Theater made," he says. ■

While remaining respectful of Corbusier's architecture, the Puppet Theater, which is made from a variety of unconventional materials, is clearly a visitor from another walk of life. "Soft and strange, like the Carpenter Center itself," is where one observer drew the line at comparison.

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Schmidt Residence, Sequim, Washington, 1998–2000

Resembling a pavilion on a platform in a forest, gable and structure rise from a plinth.

Anderson Cutler is based on Bainbridge Island, off the Seattle coast. Jim Cutler is fourth from left.

Genius Loci: Jim Cutler's design embraces Northwest place and culture

By Robert Ivy, FAIA

James Cutler, FAIA, is known for superbly wrought wood structures, including buildings on the Gates family compound in Medina, Washington (1997). He is a staunch environmentalist who believes God is in both the details, which he himself meticulously turns out, and the materials. Anderson Cutler Architects (formerly James Cutler Architects), on Bainbridge Island, off the Seattle coast, has completed more than 300 projects on three continents, and six have won AIA Honor Awards. The 55-year-old native of Pennsylvania's anthracite country studied with Louis Kahn at the University of Pennsylvania. Last August, RECORD editor in chief Robert Ivy visited Cutler at his Bainbridge Island home, where they discussed Cutler's ideas, Kahn's influence, Cutler's working style, and whether it's outdated.

ARCHITECTURAL RECORD: *Has living in this Northwest paradise influenced your work?*

Jim Cutler: I know every plant on this property. I've learned to love these 2 acres, and it's opened doors for me. I think that there is such a thing as truth. It's in the tangible reality of what we have around us. To me this is so fundamental, just seeing the world as it is. The highest calling for me in doing architecture is to reveal what's true. So first I'll choreograph how people arrive at a place, illuminating the things that are most true—most poignant—about that place.

AR: *Can you talk about the main ideas that underlie your work?*

JC: I don't have ideas, in the way Peter Eisenman has ideas. If you take a narrow view, like, "I'm into pop culture, I'm into cyberspace," it's very easy to exclude important particulars and to have a one-liner, like a one-trick pony. I can't do that.

I once had a public debate with Eisenman. There were about 500 architects from all over the world, and we're talking about sustainability and the environment. So I get up and talk about trying to carefully reveal the nature of the land. I say that we need to love the world before we save it. I say that energy is just one part of the environment and that sometimes we are going to waste energy—put a lot of windows in a building—so that we can connect emotionally to a place and want to protect it.

Then Eisenman says, "I think this environmental stuff is totally overblown." He talks about the Wexner Center [Ohio State University, Columbus, Ohio, 1989], making all these internal references. It's like architecture is looking at a label instead of at the world. He also talked about doing a building in Frankfurt based on radio waves and how the Green party was "totally out of control" in trying to prevent him from cutting down trees on the site because they contained a rare beetle. I just lost it and said, "Frankly, Mr. Eisenman, wouldn't it have been amazing if you had designed that building around the tangible reality of those beetles and those trees, something that is physically there and emotionally valuable to us, as opposed to radio waves?"

About 15 years ago, I was hired by Native Americans to do a project in Southeast Alaska. I learned from them that all life is sacred—that keeps us aware of interrelationships—and that our hearts are way more important than our minds. Peter can go on forever about his intellectual stuff. For me, the question when I go into one of his buildings is, do I feel awe or wonder? No, I don't.

AR: *You studied with Louis Kahn (1901–74), one of the most influential architects of the mid-20th century, at the University of Pennsylvania. Kahn's aesthetic, though rooted in the International Style, was personal and spiritual. He used simple shapes and materials, usually brick and poured-in-place concrete, to create such site-sensitive monumental work as the Jonas Salk Institute in La Jolla, California; the Kimbell Art Museum in Dallas; and the Capital Complex in Dhaka, Bangladesh. Could you talk a little about how studying with Kahn influenced your work, for an audience that might not know about your relationship to him?*

JC: You know, there are these points in your life when you have a revelation and something really grabs you, and it's so deep that it becomes you. And I think that's what happened. By the time I studied with Kahn, he was at the end of his career. He was *the* guru for architects, the last great living architect of that century. Did you ever meet Lou?

AR: *No, I didn't.*

JC: Okay. So he's about 5 feet 4, and you can't see his eyes, they're so far back behind his cataract glasses, and his hair is long and gray, but it's tinted brown from cigar smoke. The very first project that I did with Kahn, I discovered that we don't do buildings. We do clothing that houses institutions. And we have to tailor the garment to each particular institution's anatomy. You're going to see Grace Episcopal Church [2003] today. It houses an institution that is predicated on abstraction—on belief—and belief, as you know, is pure emotion. So, it's sort of—we're housing belief. We're housing emotions.

Kahn taught me that the next thing we need to do is orchestrate visual experience within a building, within the garment, so that the true nature of the institution is revealed. Materials take on a will. There are

certain things they'll do and certain things they won't do. In my world, when things have a will, they have a spirit, and if something has a spirit, it's our job to reveal that spirit and get all the voices to sing together.

AR: *Can you go from there to how that plays out in physical architectural solutions and their craft?*
JC: Well, look at Salem [Salem Witch Trials Tercentenary Memorial, 1992]. I worked with the artist Maggy Smith. I looked at it, remembering my father's experience as a Communist when I was a child during the McCarthy era of the 1950s, and I realized persecution has to do with people turning a deaf ear—deafness, silence, and denying memory. The same was true during the witch trials. Maggy and I worked with these words—deafness, silence, and memory—and came up with the design in about an hour and a half. You have the words of the accused on the memorial sliding under the wall in mid-sentence—deafness. When we cut out the back of the memorial and sank part of it into the ground, we put in iron bars through which you look at tombstones of citizens of 1692 who were killed by their neighbors. That was for silence, silent tombstones.

AR: *With your populist sensibilities, how do you justify doing houses for extremely wealthy people, in fact Bill Gates, one the richest men in the world?*
JC: Look what we got out of Gates. For one thing, we got the world's first heavy-timber-recycling sawmill. Did you know that? Bill wanted the best quality wood in the world and wanted us to look at a nearby forest and see which trees we wanted to cut down. Well, this was at the height of the Spotted Owl crisis here in the Northwest. There was no way I was going to cut down oak. As luck would have it, that very weekend I met this guy, Max Talbert, out of Duluth, who's a salvaged-lumber salesman, and he says, "Jim, I think you should build Gates's house out of salvaged lumber." So my partner, Peter Bohlin, and I got a couple of samples and

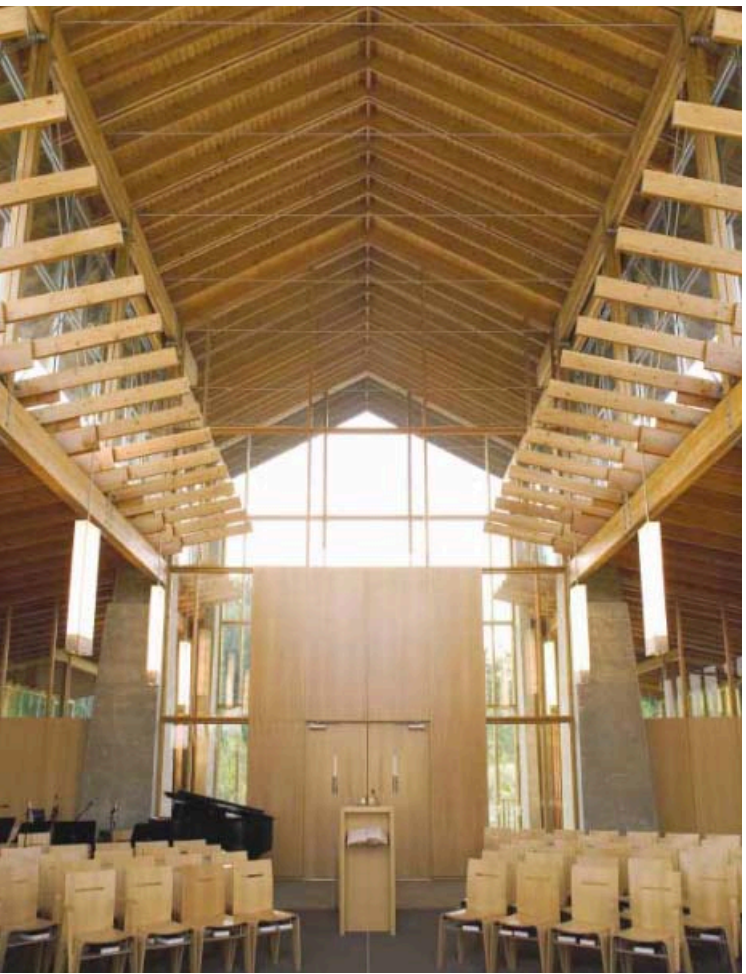
Maple Valley Library, Maple Valley, Washington, 1999–2000
Rather than spoiling the forest, this low building (right) fits into it. To avoid asphalt parking, the architect slipped spaces between tree trunks. At night from the street, the library glows from windows beneath the eave of the U-shaped shed roof that slopes down at the rear to meet the woods. Spare and simple, the wide-open, tall main reading room (opposite, far right) achieves a feeling of eloquence through its scale, proportions, and exposed structure. Encircling the room are floor-to-ceiling two-by-four wood studs, affixed to the exterior but visible from within, that blur the boundaries between the interior and nature.

proposed to Bill that he set up a sawmill for salvaged lumber. Bill created GR Plume & Company and funded it to the tune of a couple million. It was the first heavy-timber-recycling sawmill in the world.

AR: *His property included other environmental aspects, didn't it?*

JC: If you look at the landscape on Gates's property, you'll see it's the first time anybody ever planted an emergent forest. We went out and with the help of Tom River, the landscape architect, bought about 100 truckloads of forest floor, before they burned it, and spread it over the property. Plus we planted more than 5,000 red elder you can dig out of ditches for free, and we planted an emergent forest. In about 50 years, this forest will have transformed itself from a big-leaf elder forest to a Douglas fir and cedar forest.

Also, the space under the garage is a 100,000-gallon cistern, which we used to buffer the wetlands we created for Gates. Lake Washington's been turned into a desert. All of the wetlands, all the places that foster life, have been embanked and turned into people's front yards. So we talked Bill into creating a wetland. He said, "Wetland. That's the same as a swamp, isn't it? That land cost me $20,000 a front foot." I finally said, "Look, Bill, it's a way for you to connect to the world and stay human. Won't it be wonderful that you'll be able to mark the seasons of your life as salmon return and all kinds of wildlife find this place?" Now the wetland is his favorite thing on the property.



Grace Episcopal Church, Bainbridge Island, Washington, 1998–2003

Around the church on its formerly clear-cut site, the forest is slowly returning (opposite). A forecourt, framed by two wings, leads to the sanctuary, light-filled and transparent to connect parishioners to the outdoors. The building owes its stateliness to exposed structure and details: Pairs of 24-foot-high concrete piers frame the narthex and sanctuary (left). A king-post truss, running between the piers, supports the sanctuary roof on its upper chord. Capping the side aisles and modulating the 35-foot-high sanctuary are filigreelike rafters, and a tracery of steel rods animates clerestories between the sanctuary roof and side aisles.

AR: *Did the Gates house further your development as a designer?*

JC: My understanding of materials took a quantum jump in working with Peter Bohlin. I can show you a direct progression from Grace Episcopal to Gates. Grace was about $150 a square foot; Gates was several times that.

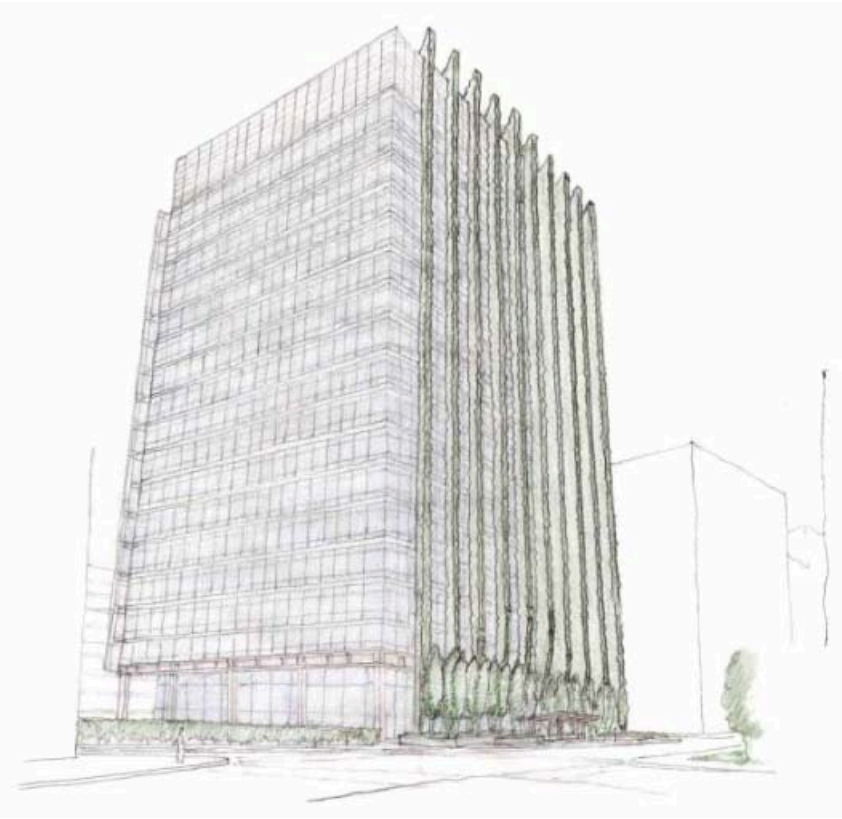
I learned to let materials do all the talking for me. You know, at our very best we're not doing architecture, we're just studying how the components express the physics and biology of a place, and how materials and shapes express the nature of the institution.

AR: *You detail to the extreme, which is labor- and time-intensive. How do you justify that level of engagement, time, and effort in our fast-moving, digital society? You're out of step.*

JC: It's got to be simple logic: The more you draw, the more you know, the more you're going to be able to integrate. But more important, sometimes my clients aren't well off, so getting it right means a lot. Our historic average on omission errors—that is, changes that happened because we missed something—is about 1 percent. That's because everything's in the drawing, which has a bad side: It scares the hell out of most small contractors.

We publish freehand, not CAD. I draw on 8½-by-11-inch pads, often when I travel. From here to New York is 25 details. I'm serious. It's 25 details. The drawings give my staff a much better understanding of where I'm headed.

But what other value does this kind of detailing have? Doing things well seems to be a better way. It sustains me, gives me self-esteem. We don't have a lot of time on earth, so why not do our best and feel really good about it? But that sometimes makes us not very commercially viable. I just did a federal building, and it was really hard to get it on budget and not lose my shirt and be able to justify it to my partners.



AR: *But do other people in your office do CAD?*

JC: Yeah. But I find AutoCAD, the industry standard, sucks. There's nothing more capable of making my employees stupid than AutoCAD, because they can draw something two-dimensionally and it looks right to them, but they're not seeing three-dimensionally. So there's a dimension they miss, and things don't fit.

AR: *Today, you're working all over the United States, in Florida, New York, Rhode Island, North Carolina, Wisconsin, Oregon, California, as well as in Europe, in Spain and Australia. How do you manage to keep a high level of care when you're spread so thin?*

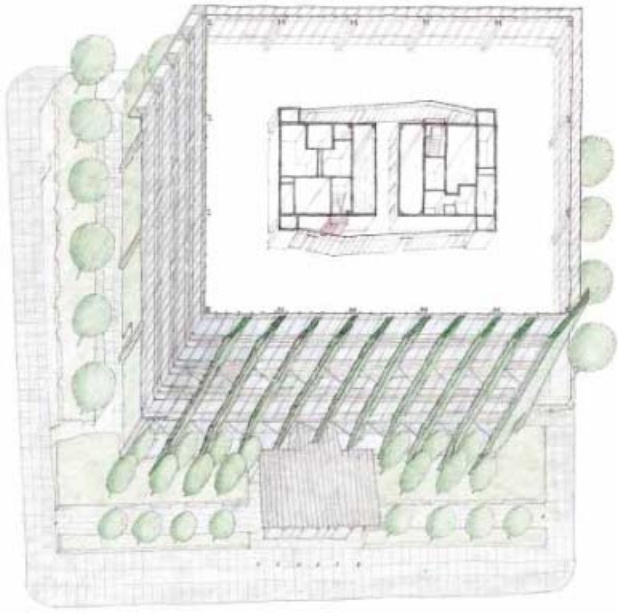
JC: It's a combination of a lot of things. In Spain, I had a great client, a real gem of a client. I had 18 months to build the building. I had a contractor who at first seemed slow as molasses. And actually *was* slow as molasses throughout, but he ultimately produced a great product and there wasn't aggravation. We had a teamwork relationship. I have contractors like that. I make sure to have thorough contract documents. I did every detail, which, hopefully, creates better jobs.

AR: *Do you say "no" to clients?*

JC: Yes, but there are also building types I've always wanted to do: a shopping mall and a suburb. We are doing one multifamily complex—18 three-story houses on an acre—here on the island. It's been sitting on the table for two years, all drawn, and waiting for financing. Housing today is built without the slightest regard for privacy or green space that extends the living area. So I wanted to do a multifamily building that could maybe twist the paradigm. We are working with Lindal Cedar Homes.

AR: *Tell us about your relationship with Lindal Homes.*

JC: They hired us about two years ago. They have this numbering system for each component. We redesigned the whole line in accordance with a couple of prototypes we designed.



A forthcoming renovation project in progress

In renovating an ordinary 1970s high-rise for a client who requested to remain anonymous for now, Cutler Anderson, in partnership with Sera Architects, will use different cladding on each of the building's facades (depicted in the conceptual drawings at the left), according to their orientation to the sun and wind directions. The west elevation, facing a park, will be covered with hanging gardens.

AR: *Sort of a low-tech, premanufactured solution, isn't it?*

JC: We designed all the buildings so they were in pieces I can manipulate. The smaller the pieces, the more apt the whole is to fit well into a landscape. The ethic of how you fit the building into the landscape is important. We may be able to bring what we do to a larger market. From my standpoint, it's a worthy endeavor.

AR: *When you present your ideas—which are, in a sense, classic architectural values—to young people, are they responsive? Is this a message that they listen to now?*

JC: I've gotten mixed results. I got evaluation ratings for one class I taught that said they thought my lectures didn't have much intellectual content. They were totally sucked in by Peter Eisenman and his ideas. It's such a Western, Renaissance concept to think that if something is not rational it's not intellectual. Rationalism and intellectualism are not synonymous. ■

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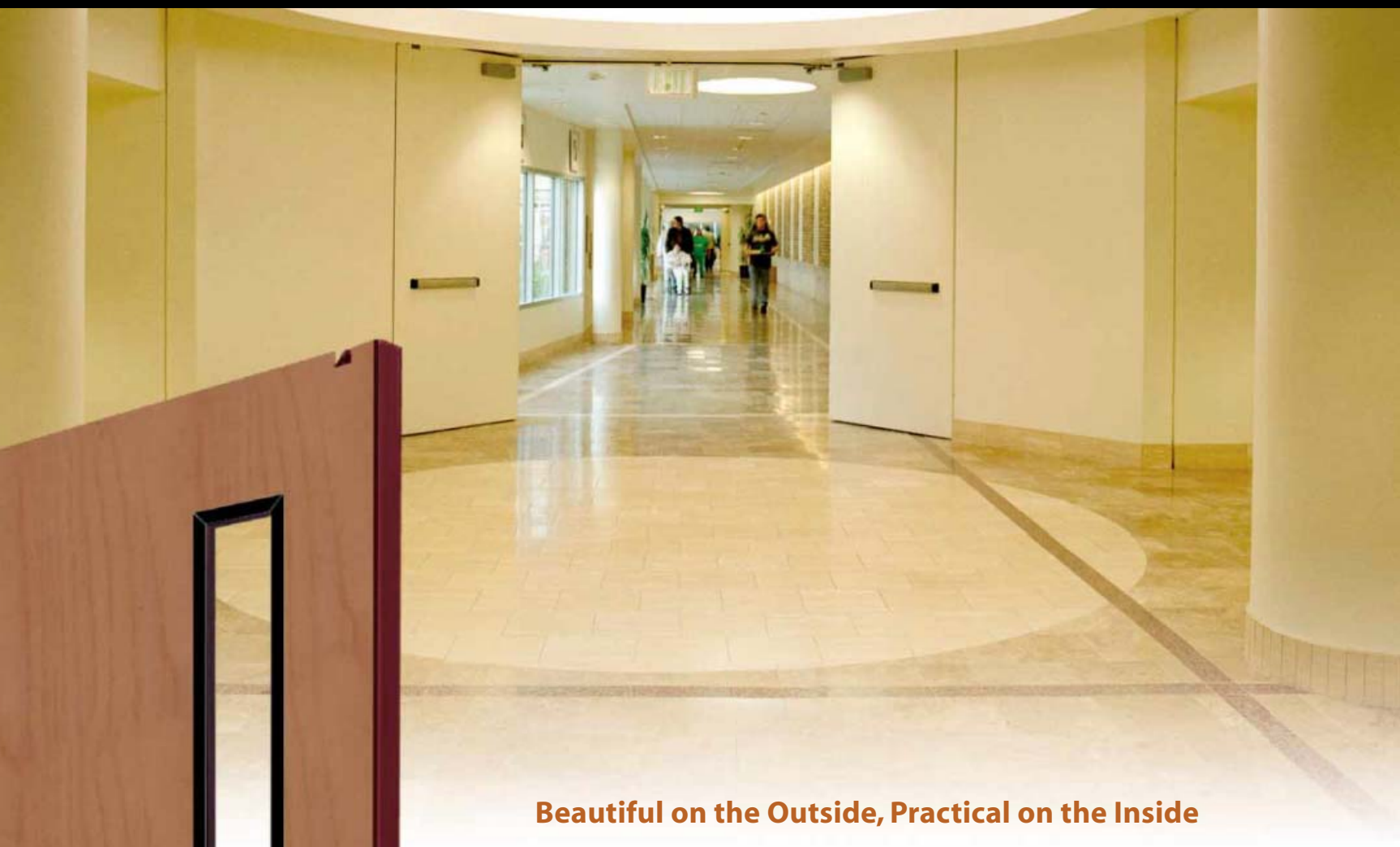

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A medieval remnant of the region's past stands between the elaborate new glass curtain and the renovated interior spaces.

Architektengruppe Stuttgart converts Bonn's once fading, disconnected RHEINISCHES LANDESMUSEUM into a stunning cultural magnet

PHOTOGRAPHY: © ROLAND HALBE

By Philip Jodidio

Once the capital of West Germany, Bonn seems these days to be settling back into the kind of provincial lethargy it knew before the Second World War. The city never had the economic and historic weight of Berlin, but stripped of the apparatus of power, its real, quiet nature has become apparent. Although it was the birthplace of Beethoven, the city does not boast the cultural legacy of most capitals, and it was in part to make up for its loss of influence that the government-controlled LVR (Landschaftsverband Rheinland, Köln) organized a competition in 1990 to renovate one of its main public cultural institutions, the Rheinisches Landesmuseum, which stands behind the central railway station, close to the old city center in a leafy residential neighborhood.

Founded on this site in 1890, the Landesmuseum is above all a repository of local history and art, ranging from the Neanderthal Man (the skeleton was discovered in the Neander Valley near Dusseldorf in 1856) to contemporary design. The competition winner, architect Knut Lohrer, later joined with four colleagues to create Architektengruppe Stuttgart, which carried out the work between 1998 and 2003. The long delay was related to hesitations over Bonn's future and to technical changes that were requested by the museum's curatorial team.

Destroyed by bombing during World War II, the 1890 main structure was replaced in 1967 by a Modernist block. A second 1909 stone building survived, together with various smaller additions, but the museum had reached a degree of incoherence in the 1980s that led some to ask if it might not be better to raze the complex and start anew elsewhere. To avoid this conclusion, and to profit from the existing structure, the competition program stipulated that both the 1909 and the 1967 buildings be reused. The final cost of the project was about $85 million.

The Stuttgart team, led by Gerhard Bosch, decided to create a clear link between the spaces of the 1909 building and the restructured 1960s block. They knocked down the wall separating the two buildings

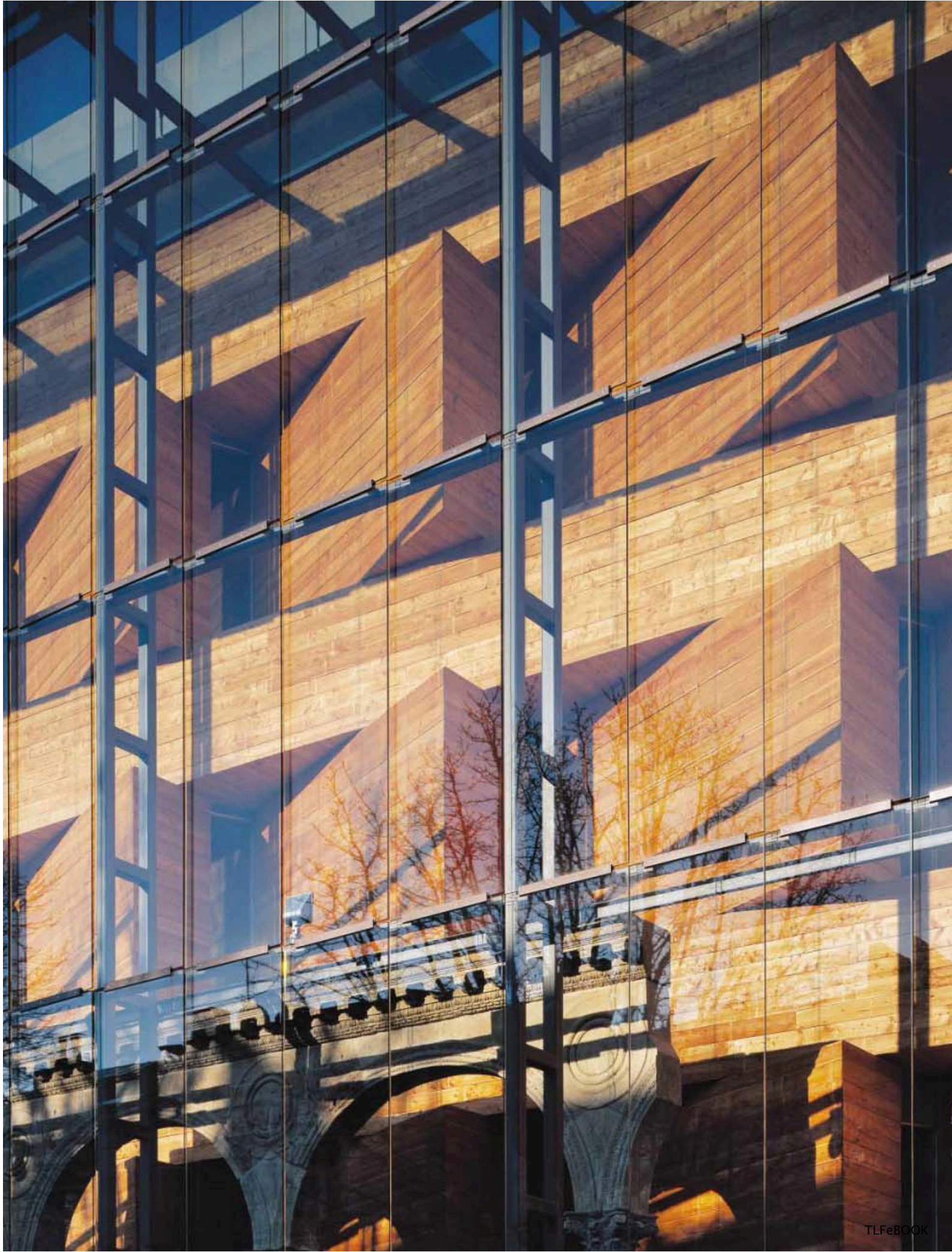
Philip Jodidio is a Paris-based journalist and the author of more than 20 books on contemporary architecture.

Project: *Rheinisches Landesmuseum, Bonn, Germany*
Architect: *Architektengruppe Stuttgart—Knut Lohrer, Uli Pfeil, Dieter Herrmann, Gerhard Bosch, Dieter K. Keck, principals; Cathrin Dietz, Verena Wortelkamp, project architects; Ulrich Hanselmann, Achim Buhse, Karin Koschmieder, Monika Krönke, Bernd Krumwiede, Christian Motz, Kamal Naber, Isolde Oesterlein, Bernd Remili, Nicola Sibiller, Walter Ulrich, Jörg Wenzel, Andrea Wiedmaier, project team*
Structural engineers: *Wulle Ingenieure*
Contractor: *Krumbe+Schäfer, Köln*

and generated a continuous flow of space, adding a monumental staircase near the new entrance area. Although Herrmann + Bosch, part of the Architektengruppe Stuttgart familiar with museum work—having been responsible for the Daimler-Benz-Museum in Stuttgart and the Limes-Museum in Aalen—expected its colleague Knut Lohrer to be chosen to carry out the Landesmuseum's exhibition design, the job was assigned to the Strasbourg firm Créamuse. The architects were thus left with the task of designing flexible spaces not yet assigned to any particular artwork.

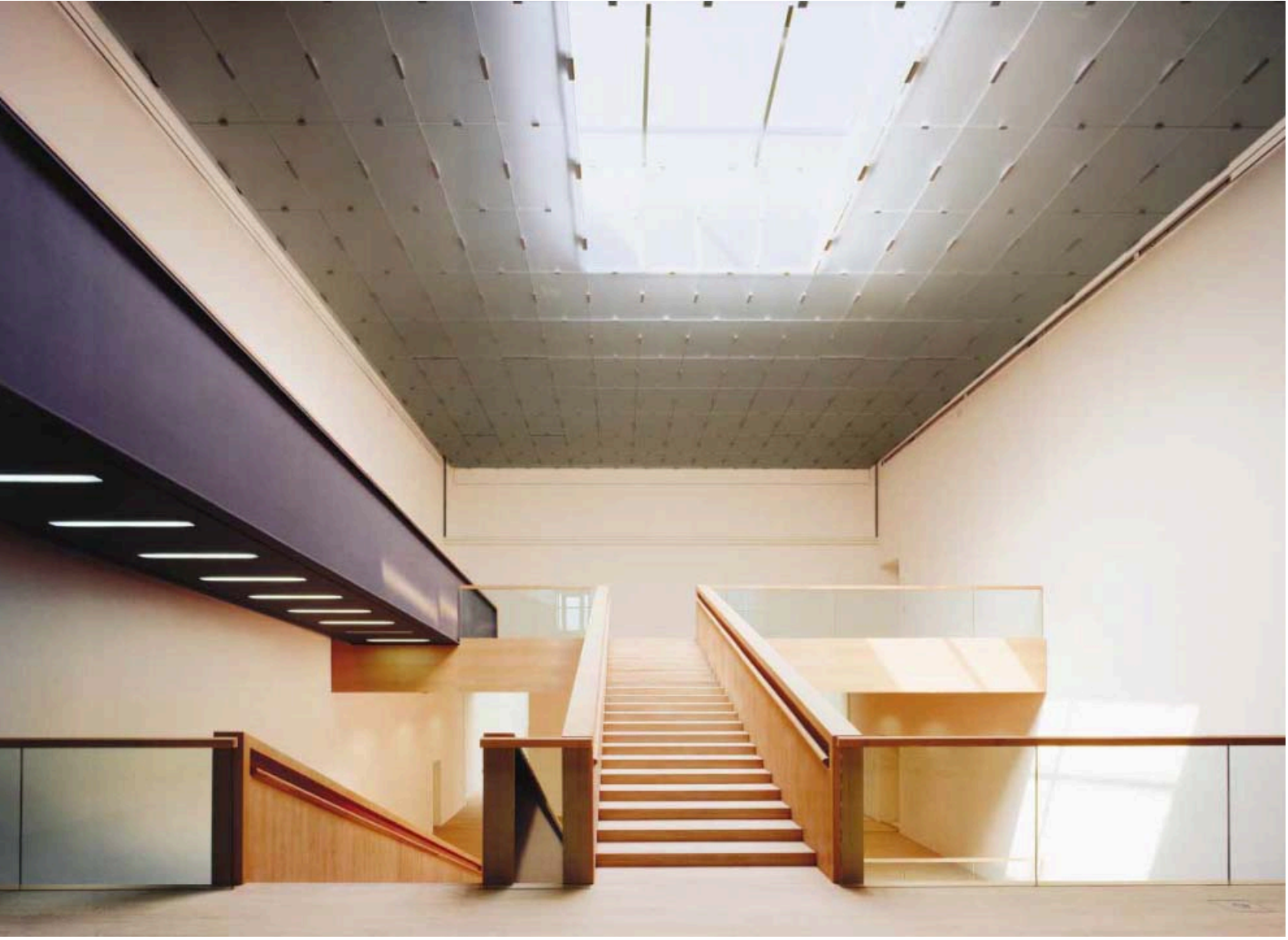
The entrance facade (above and opposite) includes a glass curtain wall enclosing and protecting a larch wood inner facade. High narrow windows set into the wood facade (right) admit moderate amounts of daylight.

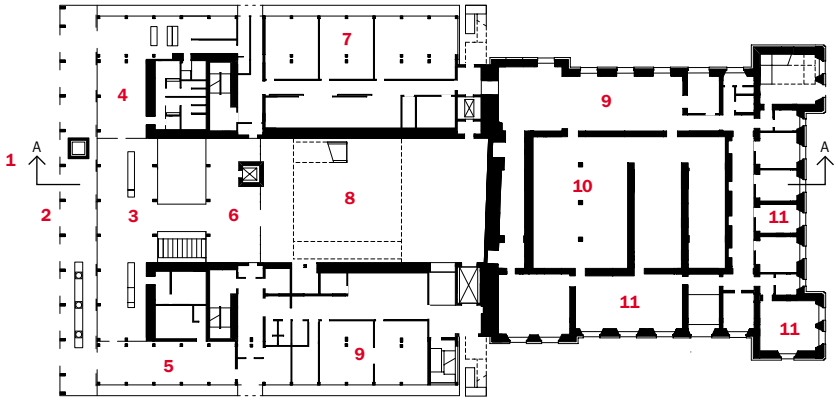
The most striking exterior feature of the museum is its new Colmanstrasse entrance facade, an airy glass wall enclosing an articulated, reddish larch wood inner facade that protects the collections while admitting natural light. High narrow windows set into the wood almost perpendicular to the wall let in daylight but do not permit it to flood the exhibition areas. Protected from humidity by the glass, the wood will grow darker with time but will not turn gray or black, as it would if exposed to the elements. Two large-scale architectural fragments sit in the 13-foot gap between the inner and outer facades, while the rough-hewn larch planks echo the crates used to pack archaeological finds. The entrance sequence, featuring a shop to the right and a café to the left, is surprisingly low-ceilinged. Bosch regrets this leftover from the underlying



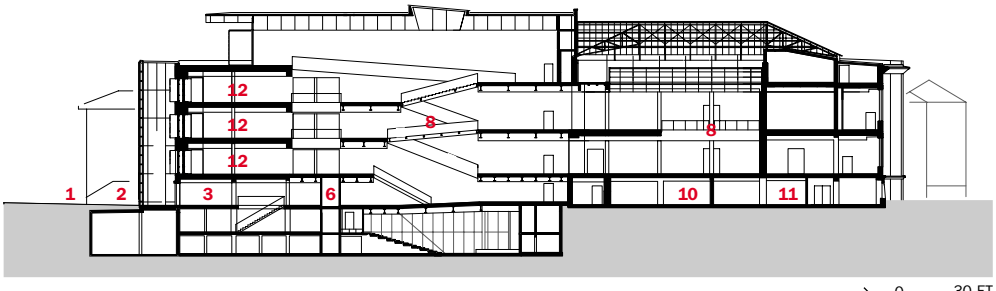

wechselausstellung
current exhibitions
das rheinland und die welt
the rhineland and the world
wechselausstellung
current exhibitions
epochen
epochs
den geheimnissen auf der spur
uncovering secrets

The main entrance space, five stories high, is articulated by intersecting stairway planes with bands of fluorescent lights on their undersides.





GROUND FLOOR



SECTION A-A

N 0 30 FT. 9 M.

Five stories above the renovated 1960s building's entrance floor, a skylight provides the interior with ample daylight. Stairs hover near the ceiling, cantilevering from one end of the space to the other.

1. *Public square*
2. *Entry*
3. *Lobby*
4. *Restaurant*
5. *Shop*
6. *Entry to exhibition*
7. *Education science*
8. *Exhibition hall*
9. *Reading room*
10. *Library*
11. *Administration*

A barrel-vaulted courtyard lined with frosted glass adds luminosity and a sense of space to the galleries of the 1909 building.

1967 structure, but affirms that there was no alternative. Once past a ticket desk, visitors are immediately in the heart of the museum, beneath the powerful new steel-and-concrete stairway, with its generous open volume. Five stories above, a skylight admits a significant amount of daylight augmented by florescent band lighting on the underside of the steps. The steel stairway serves in part to take on floor loads formerly borne by the walls separating the two museum buildings. Concrete floors on the lower level give way to bleached oak in most exhibition spaces, where the architects tried to emphasize open spaces running from the Colmanstrasse entrance to the restored 1909 facade at the museum's opposite end. Typical curatorial insistence on low luminosity (for the sake of conservation) partially defies the architects' attempt to provide visitor orientation through numerous windows, now largely veiled by white curtains. Now skylights and entrance courtyards define the light levels that the architects hoped to bring into the museum.

The architects' original intentions have also been somewhat stymied by what often appears to be insensitive handling of exhibition-related volumes by Créamuse. Where Architektengruppe saw continuous open spaces, the exhibition designers installed display walls that break the intended rhythm. Bosch says that communication with the French group was "difficult," but on the whole, exhibitions and architecture blend smoothly, giving precedence to the objects themselves. Despite the dramatic intensity of the entrance facade and other striking features, such as a barrel-vaulted courtyard lined in frosted glass in the 1909 volume, Bosch and his colleagues have in no way sought to make architecture the subject of this museum, just as they have done their utmost to hide the technical features of the building. While using sophisticated heat exchange and ventilation systems designed to moderate temperature and humidity with minimum energy use, they have done their best to make the 70,000 square feet of exhibition space both comfortable and efficient.

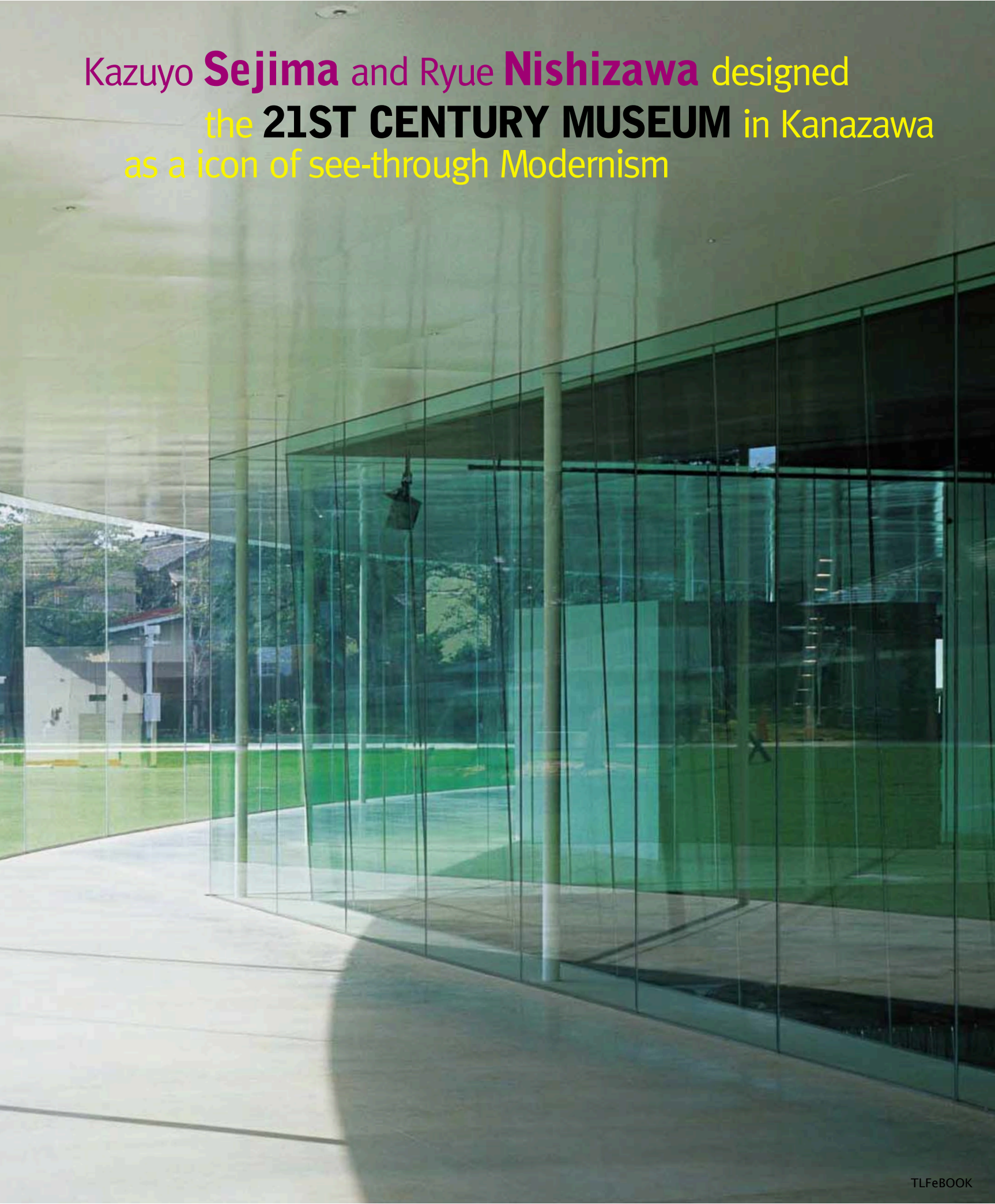
The thematic presentation of the museum's collections is complex and sometimes odd, mixing archaeology, art, sociology, and history. Nevertheless, Bosch is rightfully proud of his team's architectural achievements in the face of difficult circumstances. With such diverse collections and the forced marriage between two existing buildings, this museum could easily have gone badly wrong. The fact that it holds together quite nicely has to do with the modesty and clarity imposed by Bosch and his colleagues. By no means perfect, the Rheinisches Landesmuseum is nonetheless an exemplary counterweight to the flights of architectural hubris seen in other recently designed museums. ■

Sources

Metals: *Stahlbau Illingen*
Wood cladding: *Bald; Kreuztal*
Metal/glass curtain wall: *Friess*
Windows: *Langen (wood); Friess (steel, aluminum)*
Glazing: *Friess*
Acoustical ceilings: *Lindner; Arnstorf*
Wall coverings: *Simon; Hupperath*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

Almost the entire perimeter of the 375-foot-wide building is a "free zone" open to the public without charge. The clear-glass skin invites visitors inside the museum.


Kazuyo Sejima and Ryue Nishizawa designed
the 21ST CENTURY MUSEUM in Kanazawa
as a icon of see-through Modernism

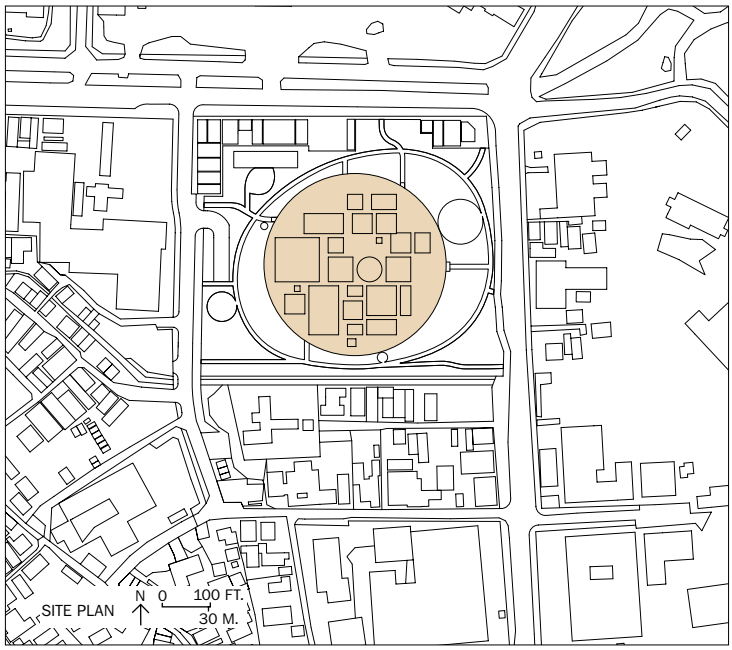
By Naomi R. Pollock, AIA

From Fort Worth to Manhattan to Paris, Japanese architects are building major museums everywhere. But residents of Kanazawa, a regional city northwest of Tokyo, don't have to leave town to visit one of the most talked-about new museums by a Japanese firm, the 21st Century Museum of Contemporary Art, which opened in October 2004. Designed by Kazuyo Sejima and Ryue Nishizawa of SANAA, the building consists of a cluster of abstract white boxes rising from an enormous glass circle. A remarkable balance of platonic formalism and inviting flexibility, the 375-foot-wide structure provides a bold Modern landmark for a city on the Sea of Japan known for its traditional crafts and textiles. With 300,000 square feet of space, it is a major institution, but its low scale and transparent wrapping welcome visitors inside. In its program and its architecture, this building challenges conventions. It not only combines art museum with community center, but its unique internal organization has the quality of Japanese urban space, though on an interior scale.

In the past, Japan had a habit of building imposing Western-style museums and placing them in isolated parks or on hilltop sites. But the city of Kanazawa, the client for the 21st Century Museum, located the project near the center of town on the grounds of a former girls school. Bounded by streets and a historic moat, the single-story building is surrounded by a green lawn from which its inner workings are visible and accessible from multiple directions. Though the boxes poking through its flat roof add a touch of grandeur, the building is anything but a monument, and has neither a prominent facade nor a primary entrance.

Instead, there are five ways in: four at grade and one from the basement parking. All lead to the museum's "free zone" ringing the build-

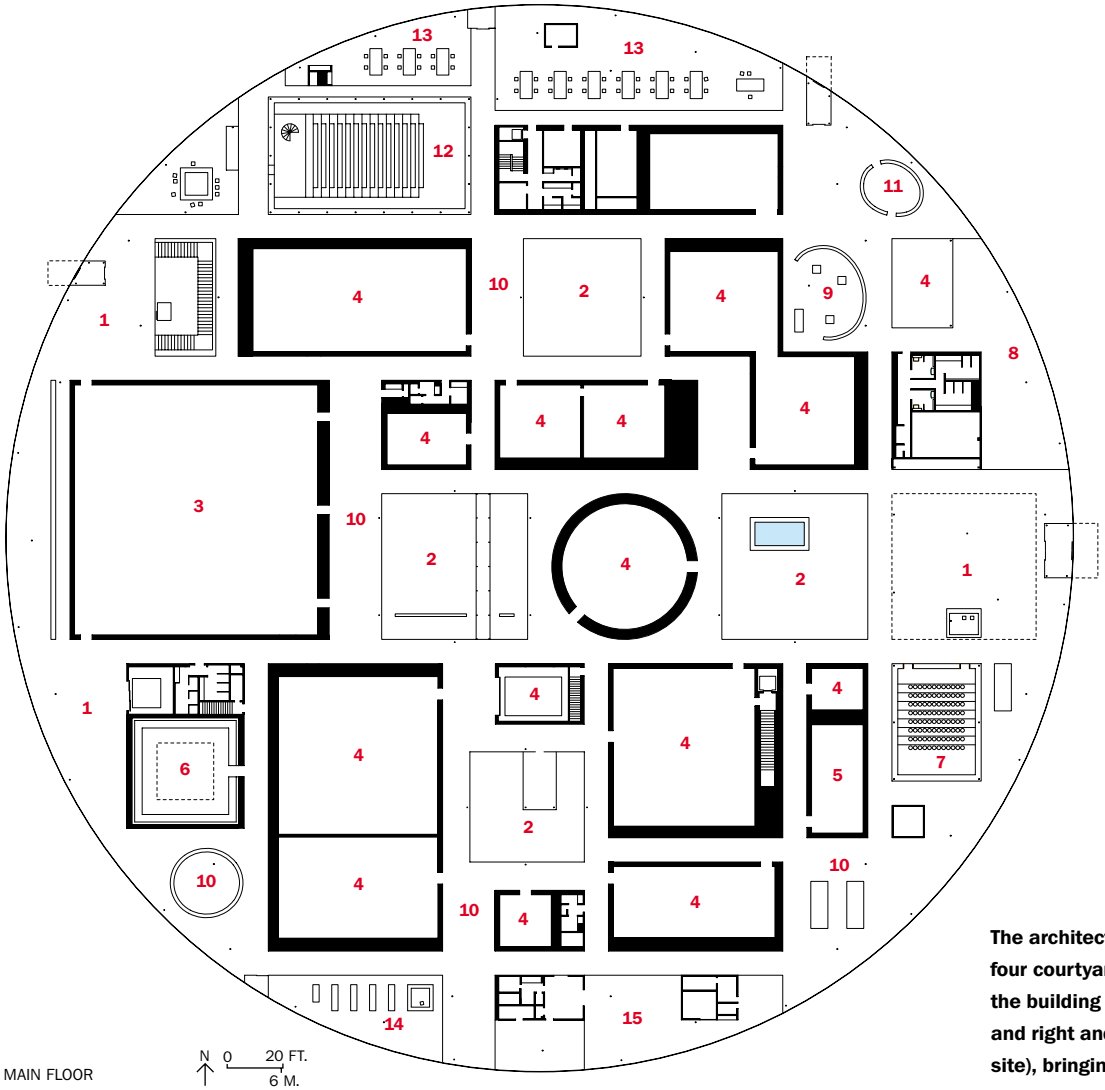
Naomi R. Pollock, AIA, is RECORD*'s Tokyo-based special international correspondent and one of the authors of* Japan 2000 *(Prestel, 1998).*



Project: *21st Century Museum of Contemporary Art, Kanazawa, Japan*
Owner: *City of Kanazawa*
Architect: *Kazuyo Sejima + Ryue Nishizawa/SANAA—Kazuyo Sejima, Ryue Nishizawa, partners; Toshihiro Yoshimura, Yoshifumi Kojima, Koichiro Tokimori, Kansuke Kawashima, Tetsuo Kondo, Shoko Fukuya, Mizuki Imamura, Naoki Hori, Junya Ishigami, Erika Hidaka, Keizo Eki, project team*
Engineers: *Sasaki Structural Consultants (structural); ES Associates (mechanical); P.T. Morimura & Associates (electrical)*
General contractor: *Joint venture between Takanaka, Hazama, Toyokura, Oka, Honjin, and Nihonkai*

PHOTOGRAPHY: © SHINKENCHIKU-SHA, EXCEPT AS NOTED; HIRO SAKAGUCHI (TOP AND OPPOSITE, TOP)

The circular building has no front or back (this page, top and bottom) and can be entered from four different directions on grade. Fourteen separate galleries rise as boxes of different heights from the museum's iconic form (opposite).



MAIN FLOOR

1. *Foyer*
2. *Courtyard*
3. *People's gallery*
4. *Gallery*
5. *Anish Kapoor room*
6. *James Turrell room*
7. *Lecture*
8. *Café*
9. *Museum shop*
10. *Rest area*
11. *Information*
12. *Theater*
13. *Offices*
14. *Library*
15. *Kids studio*

The architects carved four courtyards within the building (below left and right and opposite), bringing daylight inside and providing settings for temporary installations and permanent works of art, such as Leandro Ehrlich's *Swimming Pool* (below right)

PHOTOGRAPHY: © HIRO SAKAGUCHI (LEFT)

ing's perimeter. Intended to lure local residents, not just art aficionados, the free zone holds the restaurant, museum shop, art library, child-care center, lecture hall, and "people's gallery" available to the general public for a nominal fee. Hoisted by a giant piston, a freestanding glass elevator in one of the entry foyers connects the main floor to the theater and an additional rental gallery one floor below. Accessed from ticket counters on the building's east side, the "pay zone" fills the building core and contains display space for traveling exhibitions as well as the museum's permanent collection of post-1980 contemporary art. Clear partitions, glazed courtyards, and an array of potted plants physically separate the two zones but maintain visual connections.

A dramatic departure from the typical Japanese museum where art is displayed in a few large halls, the pay zone consists of 14 individual galleries embedded in a field of circulation space. "Basically, the curator decided the proportions of the rooms and we figured out how to connect them," explains Sejima.

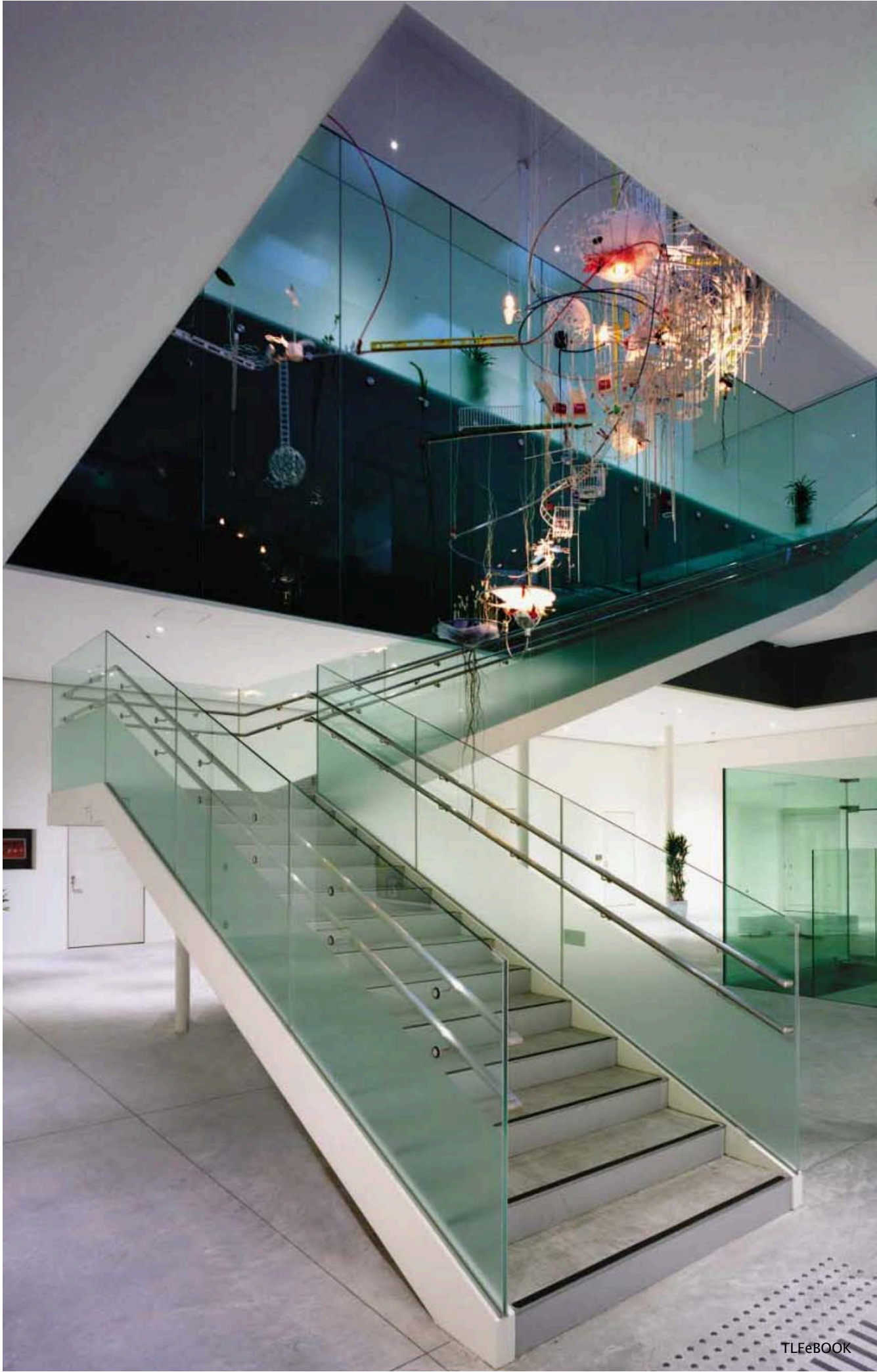
Rarely, though, has circulation space presented such an intriguing and complex character. While corridors cross at right angles, they are not laid out in a grid. Although consistent in height, they vary in width. And while some are localized within the pay zone, others extend from one side of the building to the other, preserving unimpeded views. In addition, curators can change circulation patterns by opening or closing acrylic panels in some of the hallways.

The architects also built flexibility into the display of art, allowing curators to show works almost anywhere in the building. They can even hang art in the corridors. Galleries—which run the gamut from a 10-by-20-foot rectangle to a 60-by-60-foot square, and from a rotunda 50 feet in diameter to a glass-enclosed room surrounded by a courtyard—can accommodate all kinds of installations. "We can do many small shows at the same time or even host a biennale," explains museum director Yutaka Mino. To avoid competing with the art, walls are white, floors are (mostly) concrete, and details are kept to an absolute minimum. Even the architect-designed gallery seating (such as Mies-inspired couches and massive white upholstered blocks that sit on the floor) is simple and recessive. Echoing the building's transparent skin, glass roofs cap most galleries but are layered with adjustable louvers to control the flow of daylight or shut it out entirely.

In addition to serving as display spaces, the steel-framed gallery boxes double as lateral supports that carry horizontal and earthquake forces for the entire building. This scheme enabled the architects to limit structure in the free zone to vertical-loaded, slender columns. Painted white and no more than 3.8 inches in diameter, they are practically invisible. Even the 1.6-inch-thick exterior glass panels are secured horizontally only by steel troughs at top and bottom. A first for Japan's glass industry, the 10-by-15-foot panels were a challenge to manufacture, since they are not only close to the earthquake code's maximum permissible size but also gently curved on account of the building's huge radius.

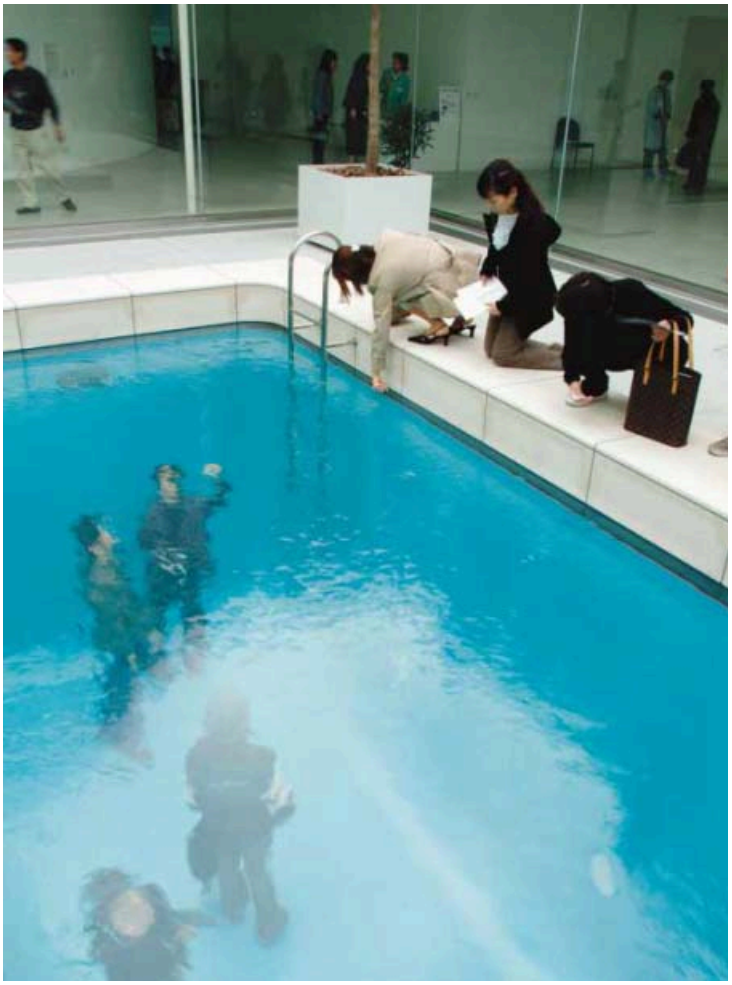
THE MUSEUM'S INTERNAL ORGANIZATION HAS THE QUALITY OF JAPANESE URBAN SPACE, BUT ON AN INTERIOR SCALE.

PHOTOGRAPHY: © HIRO SAKAGUCHI (OPPOSITE)



A freestanding glass elevator hoisted by a giant piston (far right in photo, right) and a glass-edged stair connect the main level to the basement, where visitors find the theater, a gallery, and the entrance to the underground parking. Instead of using a conventional hierarchy or grid, the architects organized the interiors of the main floor in a more fluid and flexible way, creating visual cues with the light courtyards and darker corridors (opposite, left and right).

By varying the height and dimensions of the galleries, SANAA created a variety of settings for art (opposite). Most galleries have skylights with adjustable louvers (opposite, bottom). Art can be installed all over the museum, including rest areas (left). Visitors can walk inside the space under the glass-and-water-topped *Swimming Pool* (below).



The building's design and construction also had to accommodate the museum's eight commissioned pieces of art, interspersed throughout the building. Straddling the line between art and architecture, these works include James Turrell's *Blue Sky Planet*, a stone-clad room open to sky, and *Swimming Pool*, a piece by Brazilian artist Leandro Ehrlich that looks like a pool but actually is a space set in a courtyard and topped by glass and a thin layer of water. "In the U.S., you do not find installations like these," says Mino.

But that's not the only difference between this museum and its American cousins. In Kanazawa, where security is not a problem, the mayor could request a very open facility with multiple entrances, as well as adjacent free and pay zones. In the U.S., such elements would be difficult to pull off. SANAA is grappling with some of these differences, now that it is working on a Glass Pavilion at the Toledo Museum of Art in Ohio (slated for completion late this year) and New York City's New Museum of Contemporary Art (still in design). A venue for glass art, the Toledo building will also be made of glass.

SANAA is busy in Europe, as well, designing a museum renovation in Valencia, Spain; a design school in Essen, Germany; and a theater/cultural center in Almere, Holland. In just a few years, Sejima and Nishizawa have jumped from doing modest projects in Japan to running one of the hottest young architectural firms in the world. The 21st Century Museum is the first fruit of this remarkable professional blossoming. ■

Sources

Glass: *Asahi Glass*
Zinc-aluminum-magnesium-coated steel panels: *Nisshin Steel*
Interior steel walls: *Kanawa Industrial*
Exterior glass doors: *YKK AP*
Roof waterproofing: *Kitagawa Rekisei Kogyo*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

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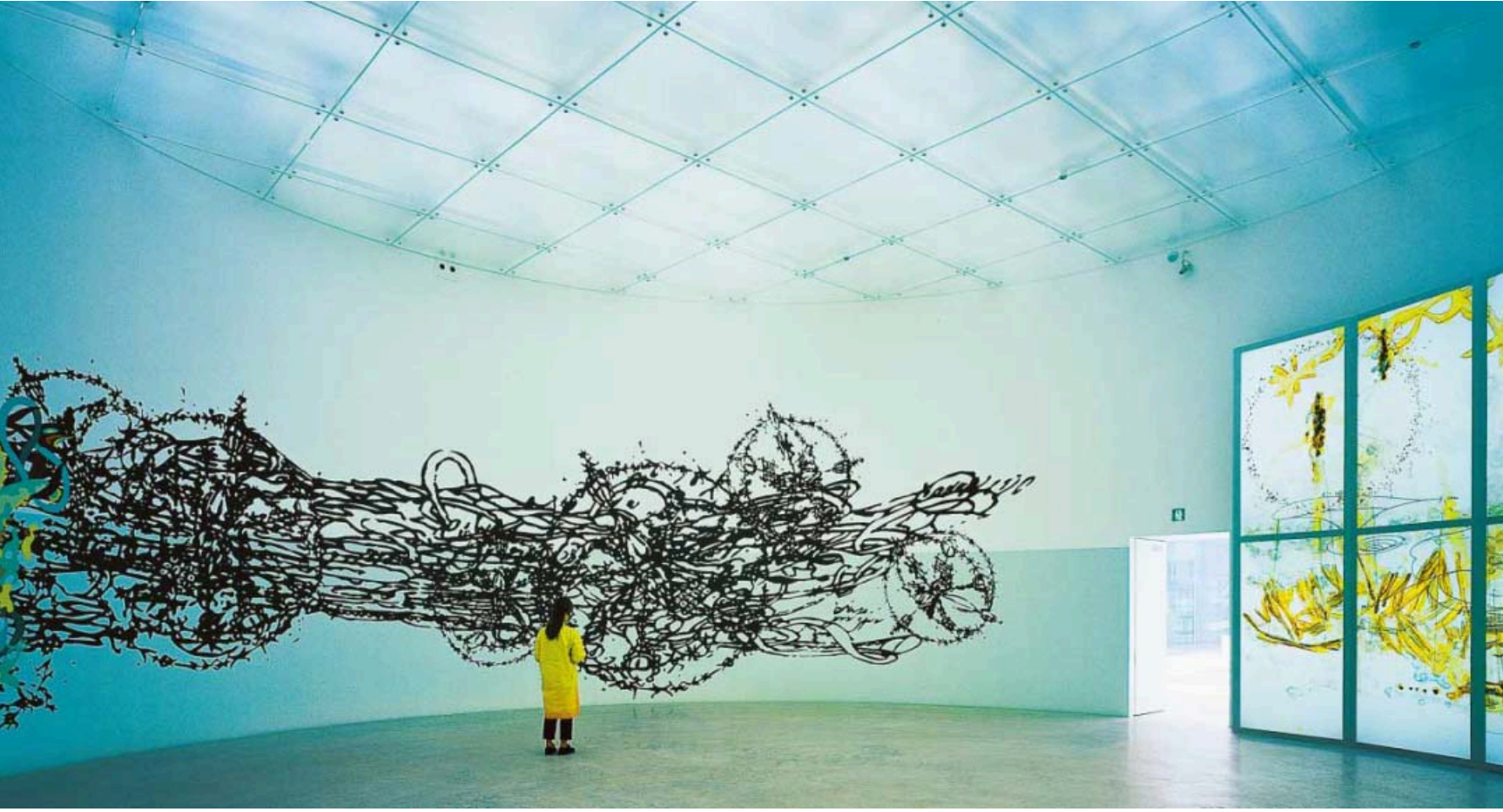
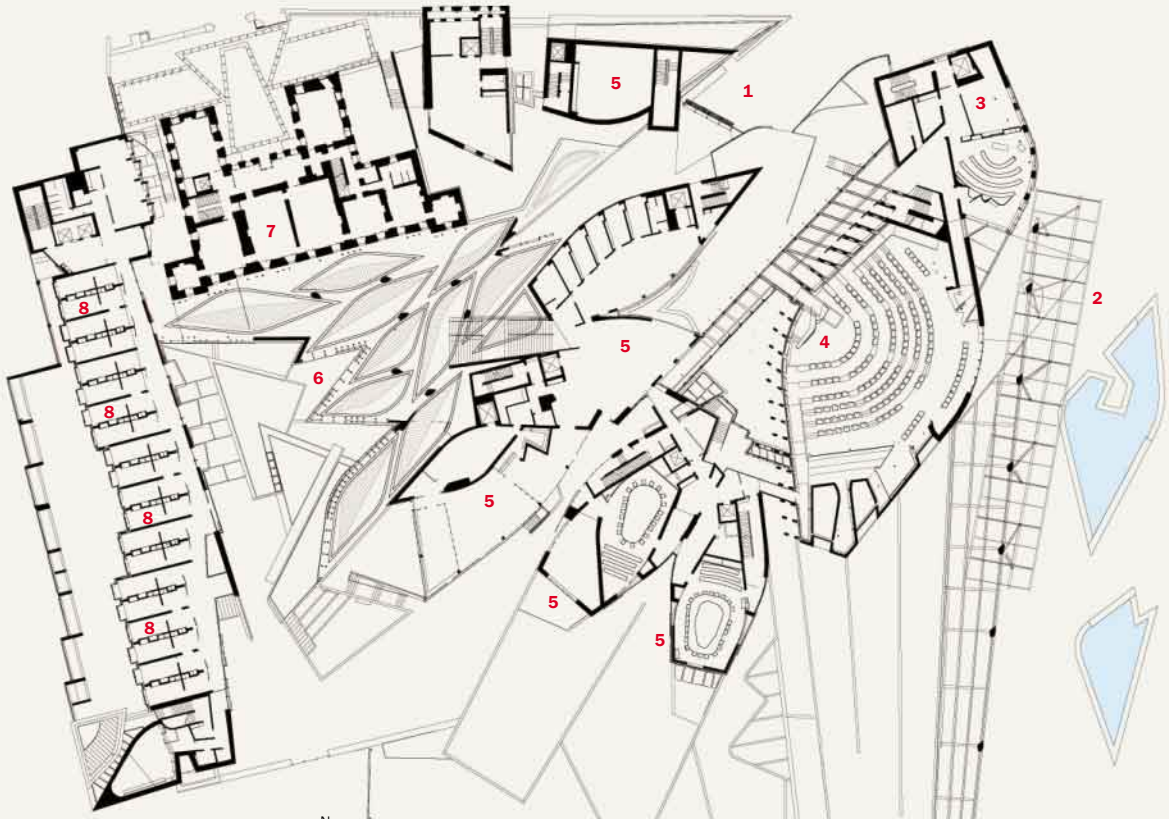


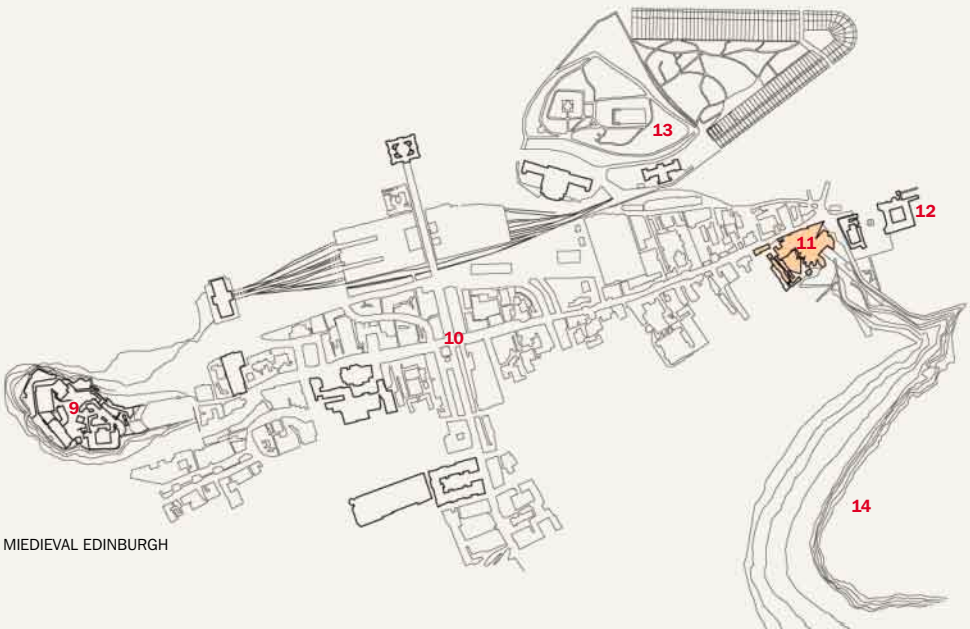


SECOND FLOOR

N

Culminating the Royal Mile (area plan, left), the new Parliament faces Holyroodhouse (photo, below left) with Calton Hill's faux temples beyond (opposite). Turfed terraces sweep from the Salisbury Crags toward the entry, gathering public visitors under its portico.

1. *Members' entry*
2. *Public entry*
3. *Press Tower*
4. *Debating Chamber*
5. *Meeting Tower*
6. *Garden Foyer*
7. *Queensberry House*
8. *Members' office wing*
9. *Edinburgh Castle*
10. *Royal Mile*
11. *Parliament*
12. *Holyrood Palace*
13. *Calton Hill*
14. *Salisbury Crags*



MIEDIEVAL EDINBURGH

Appallingly expensive and years late, yet bursting with dreamlike bravura, the **SCOTTISH PARLIAMENT** may ultimately be **EMBT** and **RMJM**'s bittersweet masterpiece

PHOTOGRAPHY: © DUCCIO MALAGAMBA, EXCEPT AS NOTED

By David Cohn

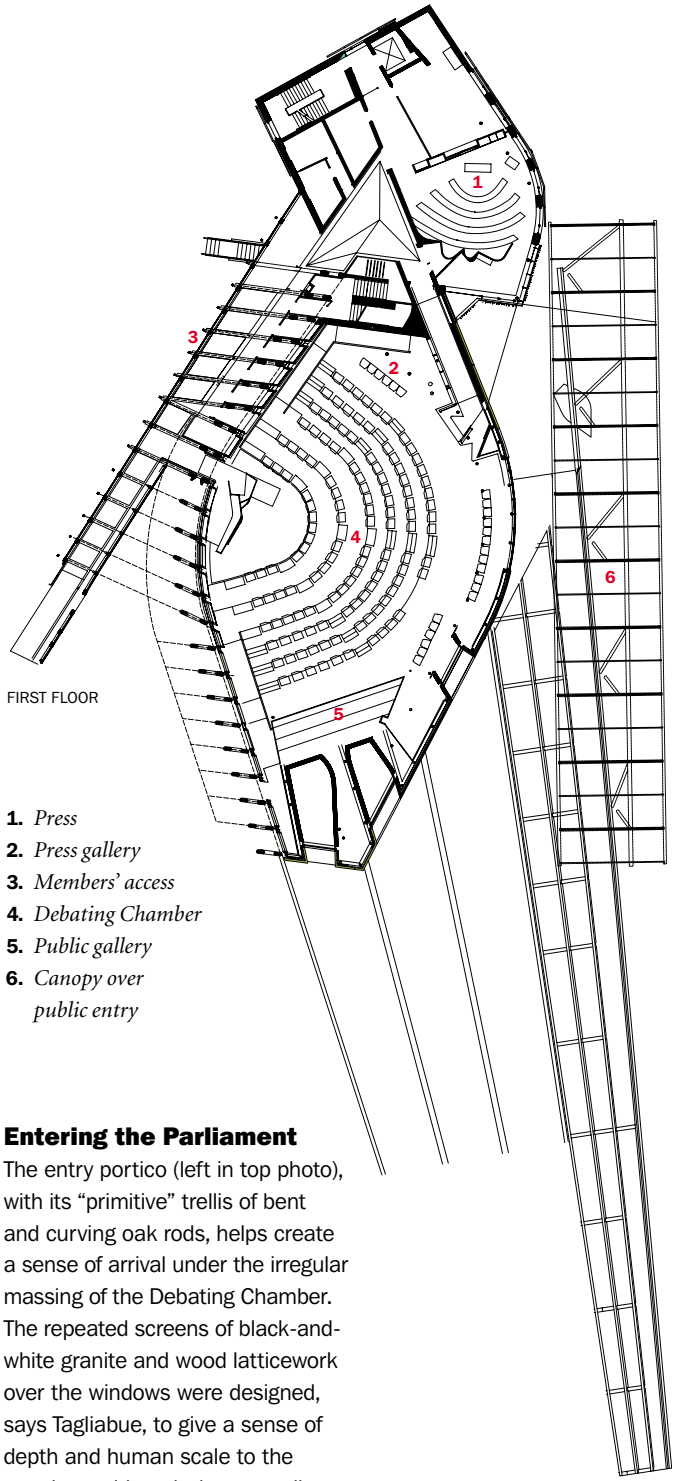
In his address to the inaugural session of the Scottish Parliament on July 1, 1999, Donald Dewar, its first elected leader, told the chamber, "This is about more than our politics and our laws. This is about who we are, how we carry ourselves." The chief Labour Party promoter of a new regional government, he added, "Today there is a new voice in the land, the voice of a democratic Parliament—a voice to shape Scotland, a voice for the future." Dewar's words give some idea of the aspirations for the Parliament's new building, which opened last October in history-drenched Edinburgh. As the driving force behind the building, Dewar shared with Enric Miralles, its Barcelona-based principal designer, the ambition to represent government in a nonhierarchical way that would permit the Parliament to organize itself organically, in contrast to traditional, monumental representations of political authority. Miralles's design is nonorthogonal, intuitively disposed, and developed to a daunting level of complexity.

While Dewar and Miralles envisioned the Parliament building as an instrument of political union, the tortured process of its construction also made it a focus of confrontation. Optimistically scheduled for completion in 2000, it underwent delays and spiraling cost increases, from an original "guestimate" of the net building cost of $75 million to a final tally of $830 million (in today's devalued dollars), as its program ballooned from 170,000 to 325,000 square feet. Problems included a misguided fast-track construction schedule, a change in client (from Dewar's office to a parliamentary committee, which added the square footage), and the fact that "Nobody [told] Enric to think about economy with any seriousness," according to an official inquiry into the project's mismanagement presented last September.

The building's troubles were aired daily in the press, and they became the main issue in the Scottish elections of 2003, nearly costing

David Cohn is an international correspondent for RECORD, *based in Madrid.*

Project: *Scottish Parliament, Edinburgh, Scotland*
Joint-venture architects: *Enric Miralles, Benedetta Tagliabue (EMBT) and RMJM—Joan Callis, Karl Unglaub, Constanza Chara, Umberto Viotto, Michael Eichhorn, Fabian Asunción, Fergus McArdle, Sania Belli, Gustavo Silva Nicoletti, Vicenzo Franza, Antonio Benaduce, Andrew Vrana, Bernardo Ríos, Torsten Skoetz, Tomoko Sakamoko, Javier García Germán (EMBT); Brian Stewart, Michael Duncan, John Kinsley, Kenny Fraser, G. Andrew Elliot (RMJM)*
Consultants: *Arup (structural engineering); RMJM Scotland (building services, landscape); OVI (lighting)*
Construction manager: *Bovis Lend Lease*



FIRST FLOOR

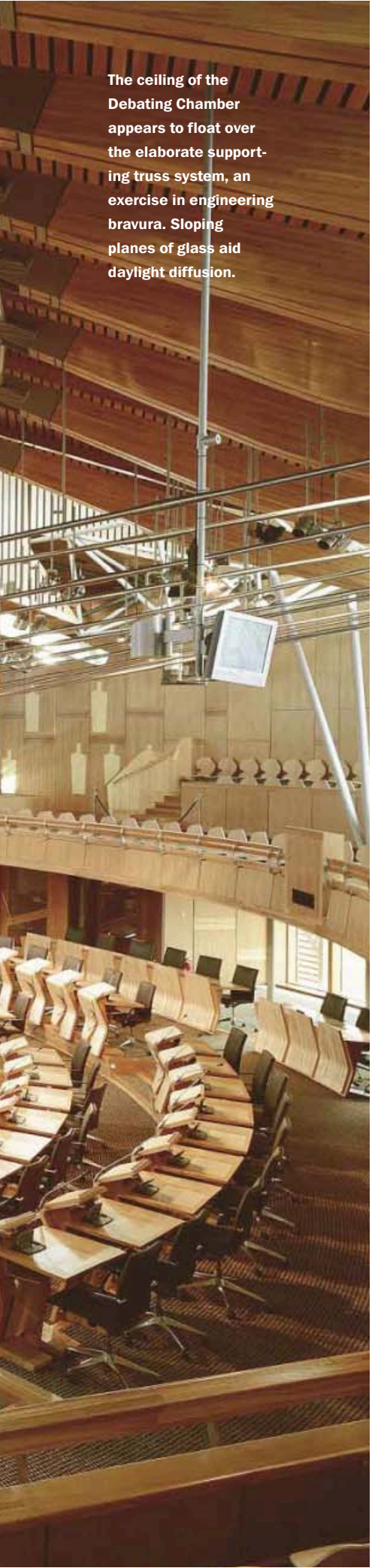
1. *Press*
2. *Press gallery*
3. *Members' access*
4. *Debating Chamber*
5. *Public gallery*
6. *Canopy over public entry*

Entering the Parliament

The entry portico (left in top photo), with its "primitive" trellis of bent and curving oak rods, helps create a sense of arrival under the irregular massing of the Debating Chamber. The repeated screens of black-and-white granite and wood latticework over the windows were designed, says Tagliabue, to give a sense of depth and human scale to the openings, although they actually seem a bit too schematic along the Royal Mile. A 60-foot cantilever (opposite, bottom) protects a jagged diagonal crevice, which is the members' official entrance. The wall along Canongate (the base of the Royal Mile) required special structural measures to resist bomb blasts, one of the costly late additions to the project.

A sculptural concrete wall, fortified against bomb blasts, faces the Royal Mile (above and below) and is inset with Miralles's sketches of the city and bits of verse and stone designed by artist Soraya Smithson (opposite, bottom).

Along Canongate, Miralles cracked open the street wall to afford tantalizing glimpses of the interior court of the complex (this page) and a courtyard forested with cast-concrete frameworks that buttress the Debating Chamber (opposite).



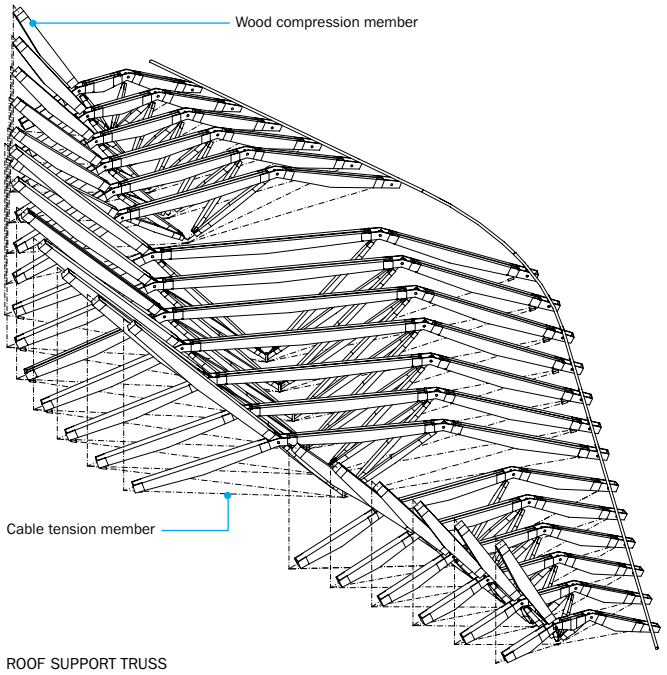
The ceiling of the Debating Chamber appears to float over the elaborate supporting truss system, an exercise in engineering bravura. Sloping planes of glass aid daylight diffusion.

The Debating Chamber

For either members or the public, the sense of arrival in the Debating Chamber (left) is dramatic. Its sweeping, elliptical expanse can indeed be perceived as a metaphorical gathering on a hillside, as Miralles intended.

Much of the special quality of the chamber is due to Miralles's characteristic design method, in which he systematically separates assemblies into contrasting components so that each can express a specific tectonic "task." In the roof trusses, for example, he contrasts the hefty glulam-oak compression members against the slender stainless-steel rods that work in tension, and then weaves them together in an elaborate three-dimensional chorus (drawing, below right). The effect of this complexity, enlivened by light delivered from several directions through a variety of means, is to create what Tagliabue calls a "visual vibration," a pointillist visual field composed of repetitions and variations of a visual element that group together in irregular, layered waves of visual stimuli.

This vibration is also found in the repeated curves of the members' 129 sycamore lecterns as they arc around the chamber floor, creating a play of shadows and highlights that is calibrated to read well on television. Similarly, the curved and notched gallery seats (above right) silhouette themselves vibrantly against windows. At a larger scale, a wedge of visitor-gallery seating (vantage point of photo, left) pushes into the perfect curve of the members' seating; the rear windows change shape to capture vistas to the Royal Palace and the Crags; the roof itself arcs in its own curve over the elaborate trusses. All these devices choreograph a continuous unfolding of space, light, and views. David Lewis, Arup's structural engineer for the project, says, "Miralles was a terrific spatial architect. As somebody who thought deeply down to the layers and how the layers work together to form a harmonious vision in space, he was one of the best I've ever worked with."



ROOF SUPPORT TRUSS

Wedge-shaped "towers" (background) house meeting rooms and committee functions. Leaf-shaped skylights over the Garden Foyer project into the central courtyard of the Parliament.

Labour its control of the Parliament, recounts John Home-Robertson, a Labour MSP (Member of Scottish Parliament). But since its opening, the building has become the most visited site in Scotland and has converted many of its onetime opponents into enthusiasts, according to Home-Robertson and others.

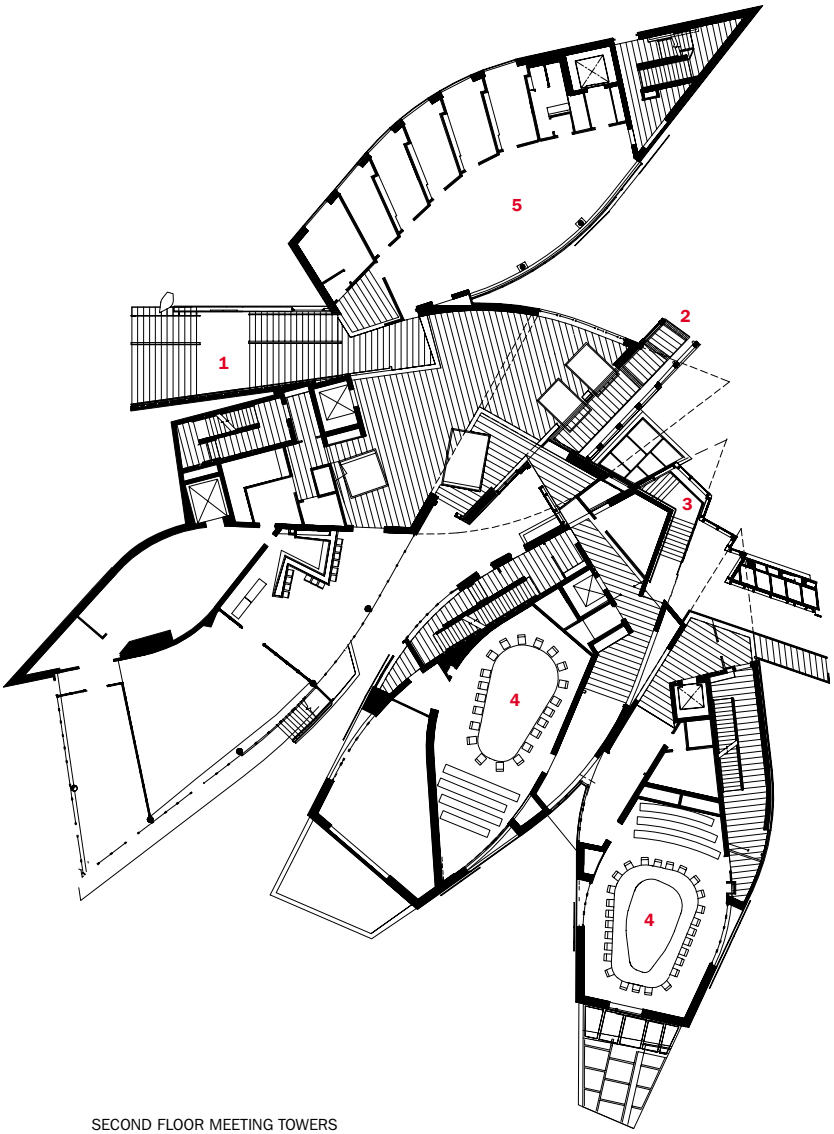
Tragically, neither Dewar nor Miralles lived to see the building completed. Miralles died of a brain tumor in July 2000 at the age of 45, just as construction had begun. Dewar succumbed to a brain hemorrhage that October. Benedetta Tagliabue, Miralles's widow and partner, saw the project through with the project architect Joan Callis and the local associated architects Michael Duncan and Brian Stewart of RMJM.

Fusing topography and building

The team of Miralles/Tagliabue (EMBT) and RMJM won the 1998 invited competition over four other finalists: Richard Meier (with the Glasgow firm Keppie Design), Rafael Viñoly, Michael Wilford, and Denton Corker Marshall of Australia (with Glasgow architects Glass Murray). Miralles's approach, which was to offer a conceptual diagram rather than a polished design, won the unanimous support of the jury. He proposed to draw out the physical, historical, and psychological resonances of the building's site, creating a fusion between topography and building that is one of the hallmarks of his work, notably in the Igualada Cemetery in Spain (1985–91), designed with Carme Pinós, which is terraced into the slopes of a ravine to create a meditative amphitheater.

Edinburgh's medieval Old Town is organized along the Royal Mile, a central spine that descends eastward along a ridge from the Edinburgh Castle to the Royal Palace of Holyroodhouse. The 4-acre Parliament site, once a brewery, occupies a point of transition, at the end of the Mile, across from Holyroodhouse and its extensive park (see area plan, page 98, bottom). The dense urban fabric also gives way to the south, opening to the Salisbury Crags, an imposing natural outcrop, and Arthur's Seat, an extinct volcanic plug. Calton Hill, scattered with Romantic faux ruins and temples from the 19th century, presides to the north.

In his competition brief, Miralles suggests, "Let us say the building comes from the rock and arrives in the city. It should be like the land, built out of land and carved in the land. Instead of an overwhelming monument, with rhetorical forms and classical dimensions, we would like to think about it from a psychological approach. This is not a building in a park, but rather the form of people gathering, physically shaping the act of sitting together."



SECOND FLOOR MEETING TOWERS

Meeting-Room Towers

At the top of the grand staircase that leads from the foyer (plan, above), members can branch off to the committee rooms or to their dining room, or approach the floor of the Debating Chamber via a long covered gangway. It spans a light well that skirts the concrete buttresses supporting the chamber's roof. The public accesses committee hearings and the visitors' gallery of the chamber from a vaulted entry foyer, via a disorienting series of stairs through cavernous interstitial spaces (top right).

The committee rooms (bottom right) are spacious aeries inspired, says Tagliabue, by northern masters such as Charles Rennie Mackintosh and Gunnar Asplund. The oak trim of the curving walls was fitted by Irish shipbuilders, and the rooms' soaring vaulted ceilings are punctured by light fixtures, air nozzles, and audio-visual gadgetry. Suggesting organic caves—albeit futuristic, enveloping, and flooded with natural light—they embrace and dignify the idea of gathering.

1. *Stair to Garden Foyer*
2. *Ramp to Debating Chamber*
3. *Public circulation*
4. *Meeting*
5. *Office*

The sculpted, piston-shaped concrete piers support a roof structure of interlocking, leaf-shaped skylights (bottom). The design team's genius was to maintain the sensuous curve of the descending, sun-diffusing "eyelid" of the skylight in spite of its prodigiously elaborate construction.

Miralles's design is inspired by this encounter between the land and the historic city. Long, curving terraces of vividly green turf look as if they have flowed out of the Salisbury Crags and swept into the elliptical bulk of the Debating Chamber. These terraces become the sod-roofed concrete vaults over the visitors' lobby, which is beneath the chamber and announced by a long pergola and paved plaza. In deliberate contrast to the formal entry gates of Holyroodhouse that axially terminate the Royal Mile, the Parliament's entry plaza draws the eye to the Crags and a distant vista to the sea beyond Holyroodhouse.

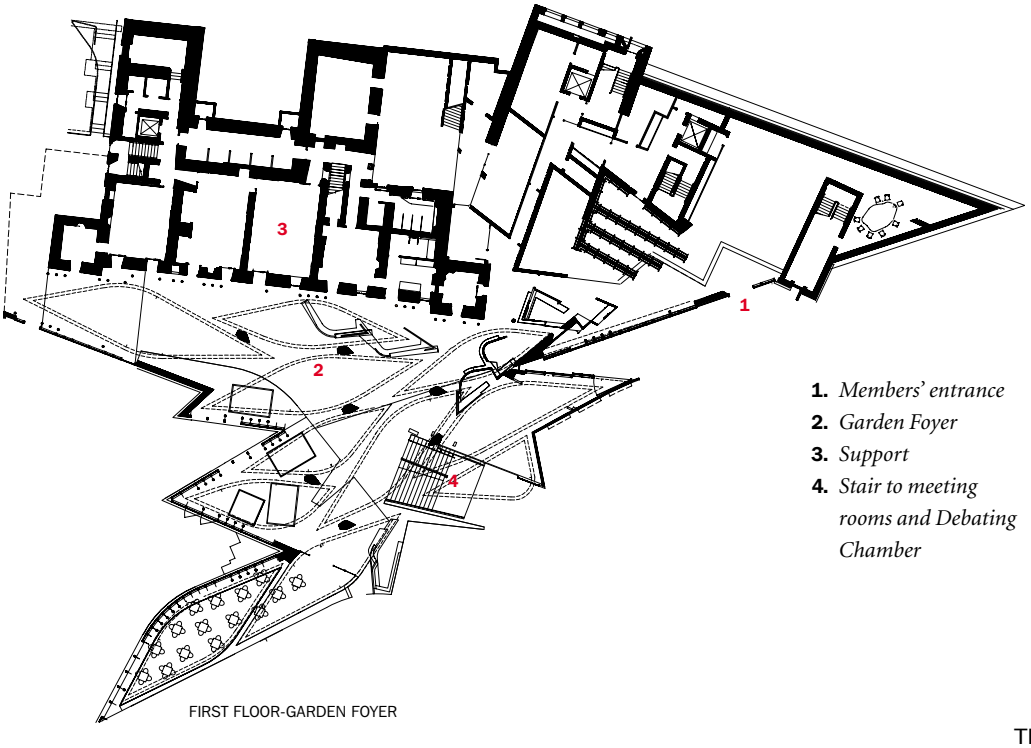
A rugged outcrop emerging from the historic city

Three structures, called Meeting Room Towers, appear in plan like fallen leaves colliding with each other behind the debating chamber (see building plan, page 98, top). With their jagged masses of pale gray Scottish granite, complemented with elements in wood, black granite, and stainless steel, these volumes do not coalesce into a regular and coherent formal composition, but rather huddle together like a rugged volcanic outcrop emerging from the predominantly sandstone beiges of the historic city.

In plan, the urban side of the project reads quite distinctly from the more organic volumes that splay outward toward the open landscape.

The Garden Foyer

A crossroads between the members' street entry, their offices, and the stair leading to the Debating Chamber, the Garden Foyer (this page and opposite, top) has become the private heart of the Parliament. This intricate space is configured by a series of leaf-shaped skylights, with elaborate bomb-resistant trusses. They top boat-shaped seating alcoves that project into the garden courtyard. While the alcoves host casual meetings held over a cup of coffee, the foyer offers a dramatic backdrop for television interviews.

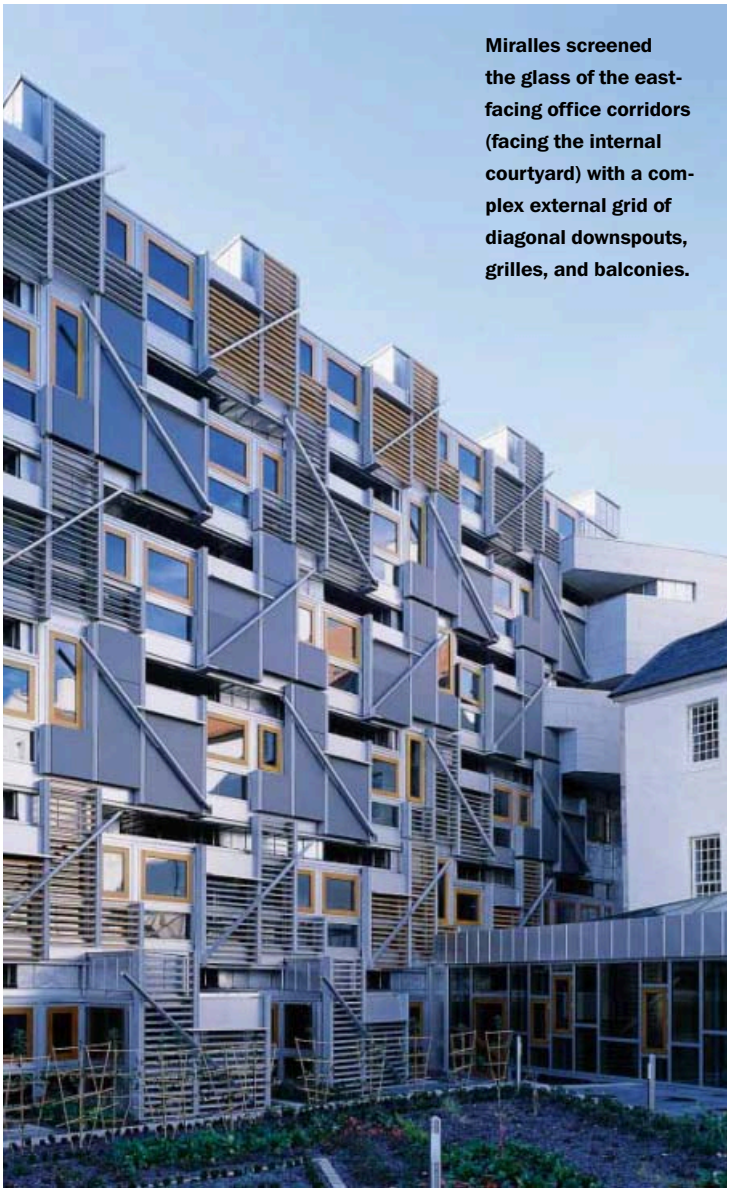


FIRST FLOOR-GARDEN FOYER

1. *Members' entrance*
2. *Garden Foyer*
3. *Support*
4. *Stair to meeting rooms and Debating Chamber*

Members' Wing

At the westernmost edge of the Parliament complex, the long block of the members' private offices tucks itself snugly against the city. Miralles lavished the wing with impishly elaborate detail. Tagliabue compares the wheelless-carriage-shaped bay windows that march across the west elevation (opposite) to the "faces of the parliamentarians." Behind their fretwork of bent and curving oak rods, the bays enclose idiosyncratic window seats, where members can sit and work bathed in natural light. Miralles carpeted the offices (below) in a subtle pointillist field of colors. He tucked in clever cabinetry in sycamore and oak, and made the spaces especially womblike by roofing each one with its own vault of precast concrete.



Miralles screened the glass of the east-facing office corridors (facing the internal courtyard) with a complex external grid of diagonal downspouts, grilles, and balconies.

Along the northern and western limits of the site, Miralles's building maintains the existing scale and density of the Old Town, forming a collegiate cloister of street walls around an interior open space (see photo, page 106) not unlike the city's medieval courts and meandering "closes" or alleyways. Next to the members' offices, the building wraps the rehabilitated 17th-century Queensberry House and other building fragments.

The main drama of Miralles's design is found in its interior, however, in the embracing, curving forms of the major rooms and in the light, which is always filtered, as if in a forest. Equally rich in incident, the circulation paths orchestrate a spatial procession of ever-surprising intricacy. At unexpected moments, a view path opens through the jostling forms to the primordial landscape beyond.

Was it worth the struggle and the cost?

The Scottish Parliament was Miralles's most significant commission, and with his death, it has become a testament to his talent and potential, so tragically cut short. As its defenders point out, other historic projects have faced similar problems in their execution only to win later acclaim, from Christopher Wren's St. Paul's Cathedral in London to Jørn Utzon's Sydney Opera. While Miralles's complex design evidently contributed to the project's runaway budget, it is significant, too, that the building had so many advocates who fought to defend its integrity and quality despite the high costs—political and financial—and the project's aesthetic risk taking.

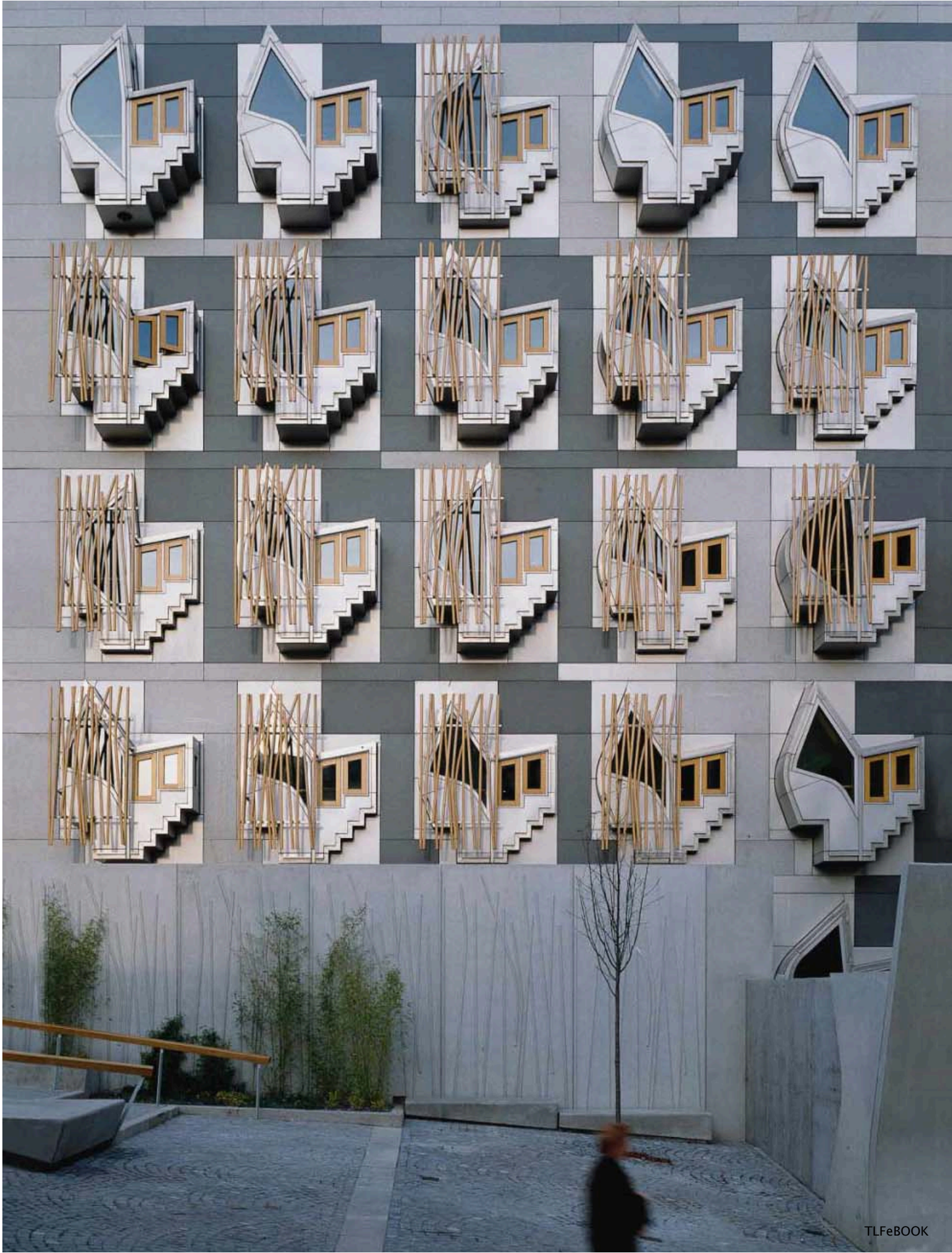
Despite the complexity of the plans and the richness of the spaces, the visual reading of the building and its interiors remains surprisingly clear. The organic layout proved remarkably flexible under the stress of the extensive program changes, adapting and growing in size without sacrificing the original design intention or basic schematic concept. The Parliament has survived the test of its difficult gestation and is responding well to the high ambitions its creators invested in it, signs that auger well for the yet more difficult test of time. ■

Sources

Roofing: *Custom, by Coverite (metal and turf underlayment)*
Cladding *Watson Stonecraft (stone); Mero (metal); Baydale (MSP bays)*
Windows: *Baydale (windows); Spacedecks (skylights); Lapeyre (wood); Drawn Metal, Mero (wood and metal); Coverite (brise-soleils)*
Wood doors, finish carpentry, and custom furniture: *Mivan; Ultimate*
Lighting: *Erco; Louis Poulsen; Bega*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

PHOTOGRAPHY: © ROLAND HALBE (LEFT)



Breaking out of the existing box, new skylights, aglow at night, give the building a dynamic presence (top). Daly Genik "exploded" a stairway from the main volume (bottom).

Daly Genik turns an aircraft-testing wind tunnel into a dynamic structure, inaugurating **ART CENTER COLLEGE OF DESIGN**'s new campus

By Joseph Giovannini

Marcel Duchamp famously put a signature on a urinal, transforming a found object into a work of art suitable for displaying. But at Art Center College of Design, in Pasadena, California, the objet trouvé for architects Daly Genik was a wind tunnel. For the first structure of the school's fledgling South Campus, the Santa Monica architects transformed a huge World War II–era artifact into a building suitable for making art.

Art Center, best known for producing the world's foremost car designers, has long occupied a building by Craig Ellwood: a svelte, Miesian, bridgelike structure that spans a gully in the Linda Vista hills above Pasadena. Embodying a pristine, idealized vision of architectural beauty, this essentially classical building in bucolic seclusion represents the Modernist version of the ivory tower.

Art Center's president, Richard Koshalek, a former director of the Los Angeles Museum of Contemporary Art, has long embraced architecture's potential to define and shape institutions. From the outset of his term as president, five years ago, he launched a building program that would take the college off the hill and into the community, engaging a broader and more visible public forum—while pivoting the institution invitingly toward Cal Tech, its crosstown colleague.

The new South Campus was predicated on a curriculum primarily of night extension courses, with a graduate fine arts program and various forms of academic and community outreach. Here, the wind tunnel—originally constructed to test airplane aerodynamics—stood amid vacant industrial buildings in a once neglected area of the city. The 90,000-square-foot, $18.8 million adaptive reuse project, as Daly Genik envisioned it, would shift Art Center's image from the polished, self-contained box on the hill toward the unfinished character of an exposed concrete armature, open to continual change and reinterpretation. In essence, the concept favored the raw over the cooked.

In its new public role, the building would need a strong street presence, requiring more than a passive cleanup of the self-contained and massive volume. Confronting the wind tunnel's enclosed form, Daly Genik proceeded by subtraction. After forensic structural analysis, the team cut windows and skylights into the thick concrete walls and roof, bringing light into classrooms and studios while breaking open the box to make the program visible and animate the street. In rendering the exterior more porous, the architects recast the building's nighttime profile. "We wanted a certain amount of light to escape as beacons," says Kevin Daly, AIA, "letting skylights and signage make the building glow."

As documented in this historic photograph, the turbine was removed from the wind-tunnel building for a rare cleaning.

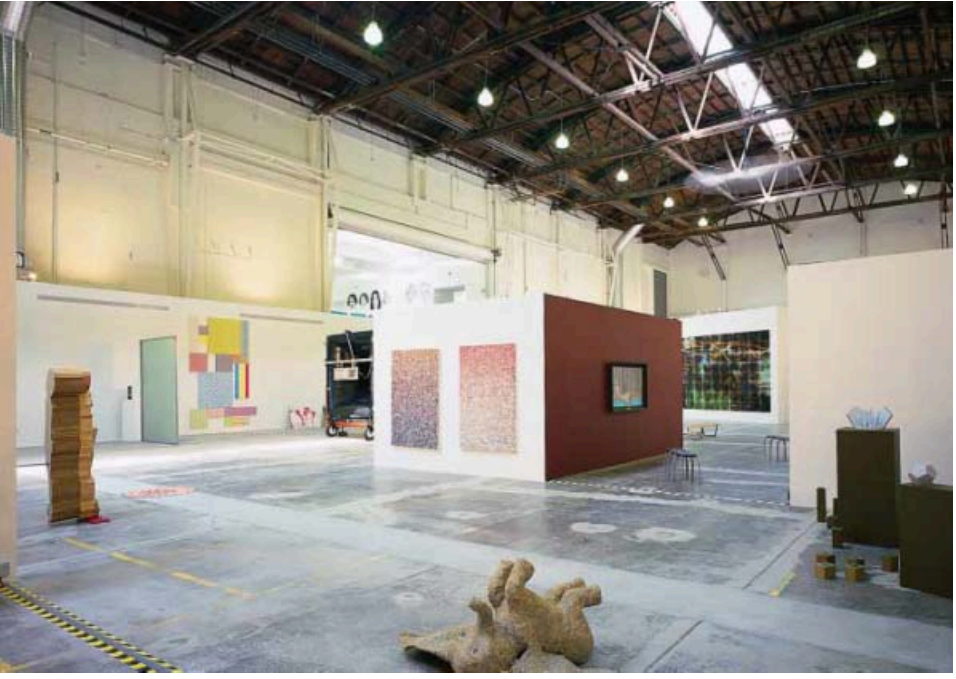
With consultant Bruce Mau, a Canadian graphic designer, who often collaborates with architects, Daly Genik developed perforated-stainless-steel screens for signage, and designed the sculptural pneumatic skylights that zigzag across much of the roof. The skylights comprise twin layers of a Teflon-coated polymer imprinted with sun-protecting graphic patterns that shift in and out of register as temperature sensors expand and deflate the space in between the polymer membranes. The resulting effect ranges in its opacity or transparency, as the facing sheets of pattern modulate the influx of light. With its changing levels of luminosity made graphic, this once monofunctional and nearly monolithic building becomes legible as a public structure.

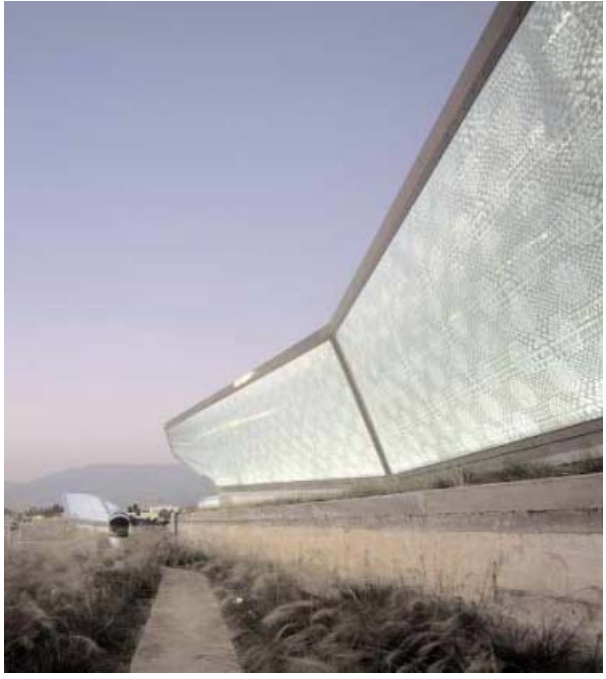
In approaching the existing building, "Richard [Koshalek] sought out opportunities beyond rote program," Daly recalls. "He was fascinated by hidden possibilities: The rooftop, for example, could serve as a quadrangle—with a restaurant or café—becoming a quasi-public place."

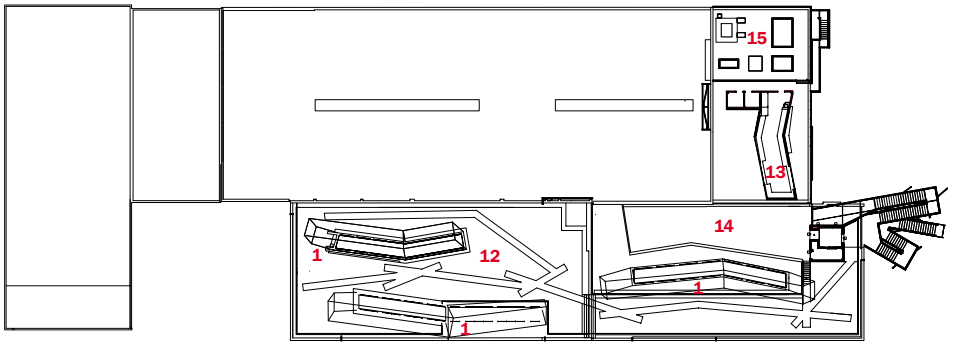
Exploiting the overlap between the school as an educational institution and a public venue within Pasadena, the architects made the rooftop an imperative destination by "exploding" the stair from the facade

Joseph Giovannini is a New York–based critic and architect.

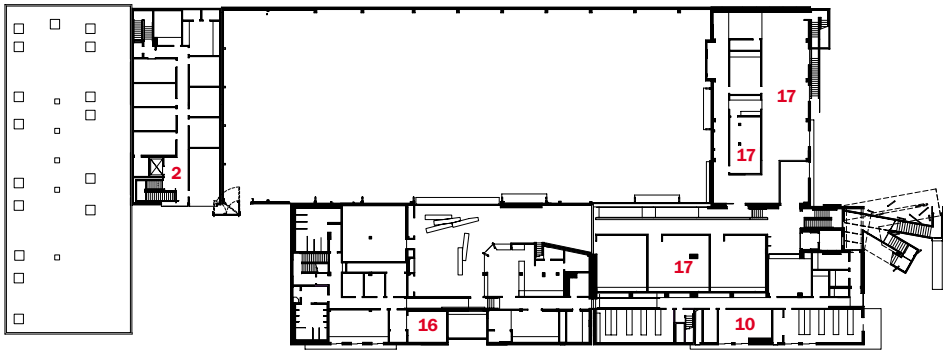
Project: *Art Center College of Design South Campus, Pasadena, Calif.*
Architect: *Daly Genik—Kevin Daly, AIA, principal in charge; Tomaso Bradshaw, project manager; Victor Agran, Susan Benningfield, Krystal Chang, Jerome Christensen, Ian Ferguson, Christopher Genik, Adela Ho, Josh Kenin, Mi Sum Lim, Brian Rieff, Thomas Robinson, Chia-Hung Wang, Jared Ward, Aaron Welton, Brian Wickersham, project team*



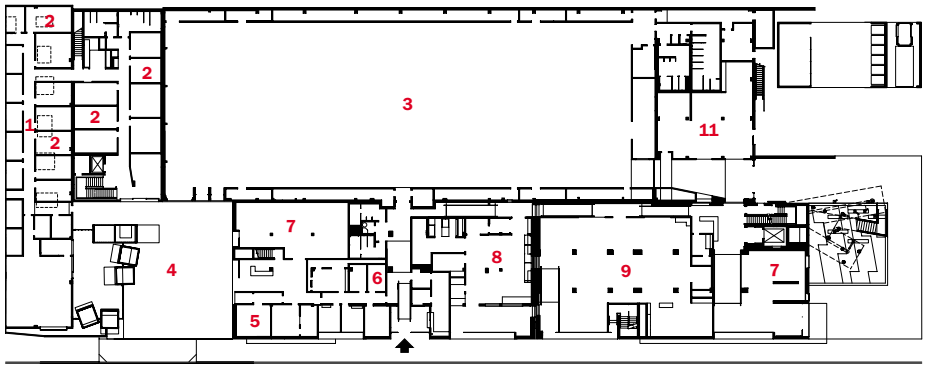




ROOF



SECOND FLOOR



FIRST FLOOR

N 0 20 FT. 6 M.

Pneumatic skylights (above right)—zigzagging across the accessible, planted roof—comprise twin layers of a Teflon-coated polymer imprinted with sun-protecting graphic patterns. These patterns shift in and out of register as temperature sensors expand and deflate the space in between the polymer sheets. The building's interior, free of rigid programming, accepts flux and invites departmental change (above left).

1. *Skylight*
2. *M.F.A. studios*
3. *Public events space*
4. *Fine arts courtyard*
5. *Video gallery*
6. *Video editing*
7. *Gallery*
8. *Printmaking lab*
9. *Archetype press*
10. *Computer lab*
11. *Design lab*
12. *Roof garden*
13. *Future café*
14. *Plaza*
15. *Mechanical*
16. *Conference*
17. *Administration*

PHOTOGRAPHY: © GRANT MUDFORD

While the sculptural forms of the skylights retain a strong presence by day (left), the building transforms itself from its nighttime appearance. Inside, soaring ceiling heights and an abundance of sunlight (below), much of it entering from above, create luminous spaces suitable for art studios.

(much as Frank Gehry, for whom Daly once worked, had done at Loyola Law School in Los Angeles two decades earlier). The steps weave through a huge, now unused elevator shaft originally scaled for airplane parts, and rise to a terrace landscaped by Nancy Goslee Powers, a Santa Monica–based landscape architect, who frequently works on institutional projects. Here, the angular skylights riff through native grasses. The staircase's support columns, reminiscent of chopsticks tossed at random angles, are the only rhetorical excesses in a building otherwise sumptuous in its austerity.

The wind tunnel, a unique found object, gave the architects a powerful starting point. They maintained a respectfully light touch, as they brought out, with sandblasting, the original raw materiality and strong volumes. Daly Genik did not merely clean up the existing structure, politely erasing traces of the firm's hand, but instead added to the building visibly and strategically, charging it with an energy that establishes the new campus as an urban presence. By night, the building glows, and by day, the prominent new angular geometries of the skylights and exterior stairs animate the strong, silent shapes of the older structure.

Ellwood's Art Center campus—despite its universal, Mies-inspired space—remained locked in its rigid classical perfection and impeccable detailing. By contrast, Daly Genik has opened a concrete monolith to create an indeterminate shell. Using the original building as a loose matrix, the architects nested easily changeable and adaptable programs, keeping free space ambiguous and flexible, poised for reinterpretation by successive users. Rather than being read as complete, the interior accepts flux and invites departmental change. Building and program enjoy a loose fit. The collaboration between architect, engineer, graphic artist, and landscape architects did not result in overdesign.

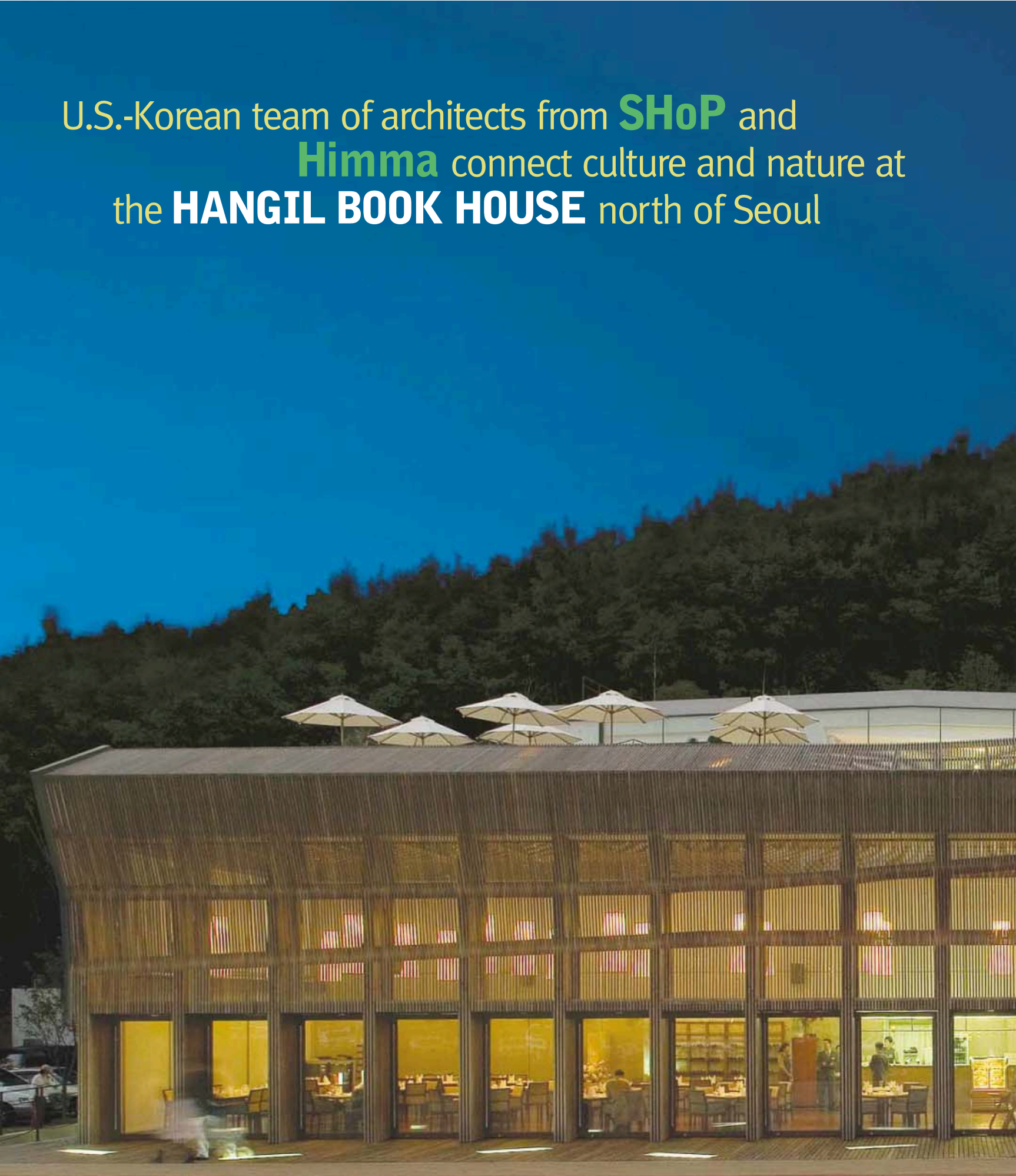
In its unpretentious and frank informality, the scheme provides students with an armature for their own creativity. Removed from the parent structure, which held Art Center captive to its calculated beauty, Daly Genik have established a strong, post-classical paradigm. ■

Sources

Skylight: *Foiltec; Super Sky Products*
Elevator: *Kone*
Windows: *Miller Metal Specialties; C.R. Lawrence*
Shading: *MechoShade*
Roofing: *Sarnafil, Gaco-Western (composite green roof system)*
Lighting: *Prudential Lighting; B-K Lighting*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

U.S.-Korean team of architects from **SHoP** and **Himma** connect culture and nature at the **HANGIL BOOK HOUSE** north of Seoul



By Clifford A. Pearson

Artists often pioneer urban development, moving into neighborhoods seen by others as risky or rough. At the Heyri Art Valley, about an hour's drive north of Seoul, a group of artists, gallery owners, and culture mavens are taking this tropism beyond the local sphere of good block/bad block and are pushing the stakes up to a harder kind of boundary—the heavily fortified Demilitarized Zone separating North from South Korea. Viewed through the lens of international relations and nuclear politics, the location seems a bit crazy; this is one of Asia's most dangerous spots, after all. But from the ground, you immediately understand its appeal: rolling hills, mountains in the background, and remarkably few signs of armies facing each other across a 2.5-mile-wide strip of land.

Begun in 2000 as a land cooperative with about 370 members, the Heyri Art Valley is a planned community where people can live, and create, display, and sell art. More than 70 shareholders have already built houses, galleries, or cafés, often combining all three in one building. A community center, a children's play center, and a film production facility are also up and operating, and a shopping center is under construction. The place is still in the process of evolving, but on weekends it already attracts thousands of visitors, who come to watch artists in their studios, see exhibitions, listen to music, and enjoy cappuccinos and trendy food.

Heyri's master plan weaves ribbons of green space and wetlands between buildings limited to three stories in height. A pair of architects, Junsung Kim and Jongkyu Kim, act as "architectural coordinators" and

Among the larger buildings at Heyri, the Book House opens onto a wood deck and one of the green swaths that run through the arts community.

have put together a list of approved architects—33 from Korea and 11 from abroad. Like the coordinators, the approved architects come from a younger generation interested in new technologies and design strategies.

Eoun Ho Kim, the president of Heyri and the driving force behind its creation, says he was inspired by Confucian scholar communities of ancient Korea and wanted to establish a less hectic alternative to bustling Seoul. Eoun Ho Kim, who earns his living as the head of the Hangil Publishing Company, also helped establish Paju Book City, just down the road from Heyri, where a number of publishing companies (including Hangil) have built stylish offices and modern distribution facilities during the past few years.

For Heyri, Eoun Ho Kim hired Junsung Kim to design a trio of buildings: a residence for himself, a "book house" for Hangil (essentially a bookstore with a restaurant, café, and exhibition space), and a small teahouse. Junsung Kim, who is a partner with Helen Park in the firm Architecture Himma and had worked for Steven Holl and Alvaro Siza, invited his Columbia University classmate Chris Sharples, of the New York firm SHoP, to join him on the projects. The teahouse eventually got cut from the budget, and the residence has yet to be built. But the book house proved to be a great experience for everyone involved. (A fourth building in the cluster—a porcelain studio for a different client—was designed mostly by Junsung Kim, with some input from SHoP, and was completed last year.)

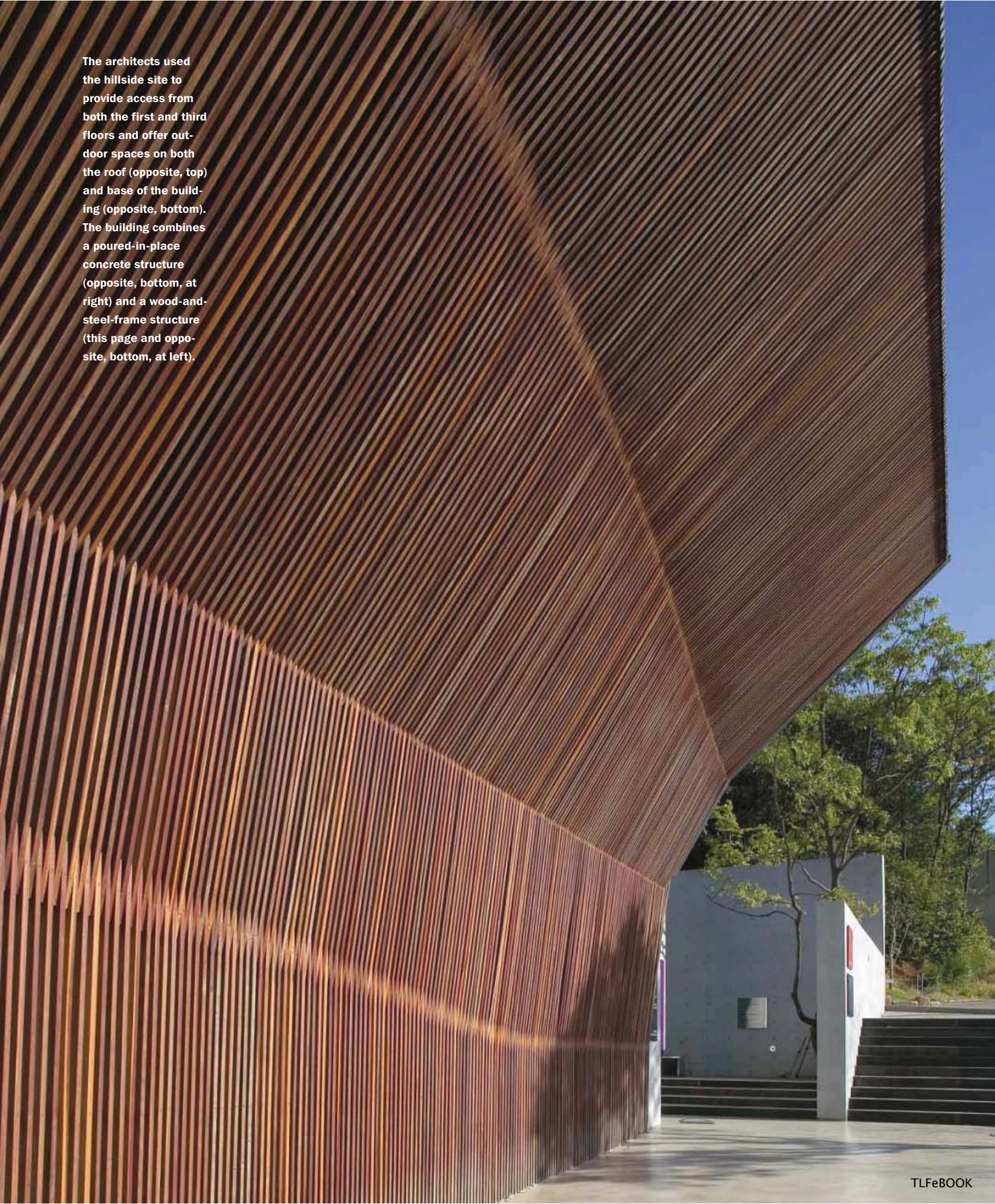
"It was important that the book house be anchored to the landscape," says Sharples, since the natural setting is so critical to establishing the character of Heyri. To do this, the architects set the Hangil structure and the cluster's other buildings along a winding path at the foot of a wooded hill and used the concept of procession as a key element in the architecture. "The path became a way of mediating the relationship between inside and out," explains Sharples.

The architects also "extended the forest into the building," says Sharples, by wrapping the main elevation with a faceted wave of Indonesian merbau wood slats. The wooden members, attached to a steel frame that projects out from the building's poured-concrete structure, act as an architectural scrim, veiling a glass-fronted restaurant on the west and a more opaque entry lobby on the east. The wood continues onto the roof, where it becomes a rolling deck for an outdoor café.

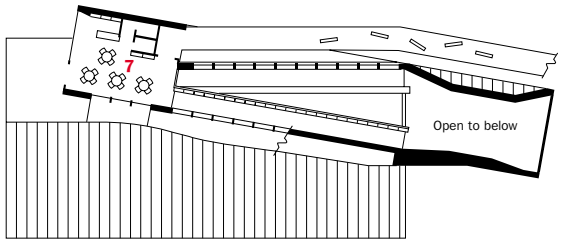
Originally, the architects hoped to integrate design and construc-

Project: *Hangil Book House, Heyri Art Valley, Paju, South Korea*
Owner: *Hangil Publishing*
Architect: *SHoP Architects + Architecture Himma—Christopher Sharples, William Sharples, Coren Sharples, Kimberly Holden, Gregg Pasquarelli, Junsung Kim, principals; Richard Garber, project manager; Yongmoo Heo, Christopher Whitelaw, Young-il Park, Chang-hoon Shin, Mak-sun Ko, Young-Jin Lee, team*
Architect of record: *Architecture Himma*
General contractor: *Hanool Construction*

PHOTOGRAPHY: © SEONG KWON

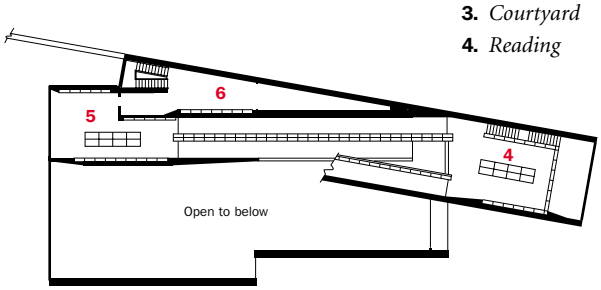


The architects used the hillside site to provide access from both the first and third floors and offer outdoor spaces on both the roof (opposite, top) and base of the building (opposite, bottom). The building combines a poured-in-place concrete structure (opposite, bottom, at right) and a wood-and-steel-frame structure (this page and opposite, bottom, at left).



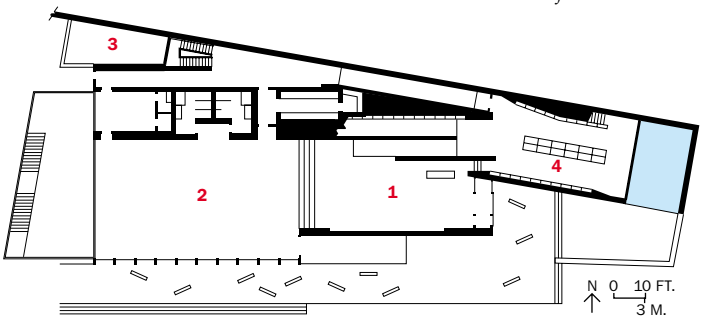
THIRD FLOOR

1. *Exhibition/lobby*
2. *Restaurant*
3. *Courtyard*
4. *Reading*



SECOND FLOOR

5. *Children's books*
6. *Office*
7. *Café*



FIRST FLOOR

tion with computer-controlled fabrication techniques and 3D construction documents that SHoP had first explored with its *Dunescape* installation at P.S. 1 in Queens, New York [RECORD, August 2000, page 59]. But such a seamless approach proved to be too difficult for this project, while Korea's highly skilled carpenters made conventional hand construction easier and more affordable. But "digital fabrication is latent in the design," says Sharples.

Bringing the winding path inside the building, the architects organized the interior as a sequence of spaces connected by a book-lined, open ramp. At each landing along the zigzagging ramp, the designers created a reading area, open to view but defined by low shelves and walls. On the main floor, the restaurant opens onto a wooden deck through 10 glass bays, each 6 feet wide. In the basement, a large multipurpose room can be used for exhibitions, performances, or special events.

With its flowing spaces and wood wrapping, the 18,000-square-foot Hangil Book House embodies the emerging spirit of the Heyri community—a place where culture and nature come together, and architecture challenges traditional boundaries. ■

Sources

Steel doors and aluminum curtain wall: *P&A Door System*
Glass curtain wall: *Dong Young*
Merbau wood: *Dongshin Timber*
Clear wood coating: *Nelsonite*
Cement board: *Hardywall*
Lighting: *Vision Electric*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

A two-story-high set of shelves anchors the ramped space running through the Book House (this page and opposite, top). The so-called “book bar” also flows directly into the lobby and then to the restaurant (opposite, bottom).

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Pretty Isn't Enough

IN THE COMPETITIVE WORLD OF LUXURY APPAREL AND ACCESSORIES, SHOP DESIGNERS SEEK AN IDENTITY THAT TRANSCENDS BRAND RECOGNITION AND ELEVATES EXPERIENCE.

By Sara Hart

1.

Los Angeles

Rem Koolhaas moves the earth again with another epicenter for Prada in the uber-chic environs of Rodeo Drive in Beverly Hills.

2.

Tokyo

Jeffrey Hutchison maintains Barneys New York's hip persona in perfect form amid the neon glitz of the Ginza shopping area.

3.

Las Vegas

Giorgio Borruso uses large, sometimes anthropomorphic blobs to create a whimsical environment for an upscale Italian shoe and apparel boutique.

Luxury is where the heat is," announces Simon Doonan, creative director of Barneys New York. No one doubts it. One need only try and count the store openings on Manhattan's Madison Avenue or in the luxe merchandise mart that is SoHo. Those in the industry may subscribe to the maxim "the more, the better," but that will stop when all the stores start to look alike.

Fashion is a global market, but the retail experience is site-specific. The real estate mantra "location, location, location" does not refer solely to accessibility and convenience when the client in search of a location is a purveyor of glamour and the best that money can buy. And yet, for all the high-profile exclusivity, luxury stores prefer to keep company with their own kind.

If money is no object at these altitudes, then something more elusive is sought—identity. All things being equal with regard to quality and glamour, merchants seek a special identity to distinguish themselves from each other. The identity is supported by the experience of shopping in a particular place, which transcends brand recognition. These three projects derive their identities in part from their locations. Rodeo Drive in Beverly Hills is synonymous with rank excess and conspicuous consumption. It's a status symbol just to have an address on that boulevard, regardless of merchandise. Now the marketers of Las Vegas want to feel that heat; chi-chi stores have attached themselves like carbuncles to swanky, bloated hotels and compete quite easily with the casinos for attention. Go halfway around the globe to Tokyo and discover the Ginza District, Tokyo's version of Rodeo Drive, tarted up with Vegas highlights and creating its own share of heat, as well.

Rem Koolhaas chooses to spar with his locations in his role as identity maker for Prada. In Beverly Hills, he manages to subvert the luxury-goods marketing formula that encourages quiet, tasteful presentation, and he certainly doesn't coddle the customers with his theatrical installations that push the merchandise to the sides.

Barneys New York loves merchandise. Although technically a department store, it thrives as a destination. Sarah Jessica Parker is often quoted as having said, "If you're a good person and you work hard, you get to go shopping at Barneys." Now that is identity. Jeffrey Hutchison made sure that it didn't cool off when it appeared in Tokyo, even while he folded cultural references to the location into the departments. Finally, it's instructive to study how a newcomer chose to battle the identity thieves in kitschy Vegas. Giorgio Borruso fought fire with fire, so to speak, and created a surreal retreat from the hurly-burly of a desert mall. ■

For more information on these projects, go to Projects at **www.architecturalrecord.com**.

Prada
Los Angeles, California

IN BEVERLY HILLS, REM KOOLHAAS SETS OUT TO CRITIQUE AND SUBVERT THE LOCAL CULTURE OF CONSUMERISM AND SNOOTY EXCLUSIVITY.

By Joseph Giovannini

Architect: *Office for Metropolitan Architecture OMA-AMO—Rem Koolhaas, Ole Scheeren, partners in charge; Eric Chang, Jessica Rothschild, Amale Andraos, project architects; Christian Bandi, Catarina Canas, David Moore, Mark Watanabe, Torsten Schroeder, Jocelyn Low, Keren Engelman, Ali Kops, Jeffrey Johnson, OMA team; Markus Schaefer, Clemens Weisshaar, Reed Kram, AMO technology; Nicolas Firket, Michael Rock, Joakim Dahlqvist, Reed Kram, Stephen Wang, Richard Wang, Sung Kim, Dan Michaelson, Leigh Devine, AMO content.*
Executive architect: *Brand + Allen Architects*
Client: *Prada*
Consultants: *Arup Los Angeles (structure); Kugler Tillotson Associates (lighting); Hamilton Engineering (lift wall); Dewhurst McFarlane (facade and skylight); 2x4 (wallpaper and graphics)*

Size: *24,000 square feet*
Cost: *Withheld*
Completion date: *July 2004*

Sources
Curtain: *Inside Out*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

Though Rodeo Drive's stretch of name-brand, high-end boutiques lies nowhere near a freeway, consumers slog through miles of crawling traffic for the pleasure of emptying their wallets here in style. When Rem Koolhaas and his firm, OMA, designed the "Epicenter" Prada within this shopping epicenter, they conceived of a store to supercede Rodeo Drive's hedonistic formula. Consciously subverting the local culture from within its establishment, Koolhaas set out to critique the commission's core of consumerism—challenging a well-worn norm, while fixing what wasn't broken.

Program

Sometimes form is content, but not on Rodeo Drive, where form is formality: Its storefronts entice shoppers into guarded boutiques, casting an intimidating aura of exclusivity. Koolhaas's contrarian creativity often inverts the expected, and with his three-story, 24,000-square-foot, midblock Prada building (with 14,750 square feet for retail), he embarked on overturning the typology of the shop.

Solution

The inversion begins at the entrance, where OMA eliminates the conventional storefront, dissolving Rodeo's fence of intimidation with a void, or open entryway and underground displays transparently capped by large,

Joseph Giovannini is a New York–based architect and critic.

flush disks, set like oversize elliptical manhole lids underfoot.

The only apparent "architecture" consists of a huge, utterly plain aluminum streetfront elevation. A truss allows this facade to span across the lot, hovering a full story above the sidewalk, as the pavement slips into the interior. The void draws visitors through an air curtain, toward a broad, commanding staircase rising to a second-floor plateau. From that hilltop, views penetrate a third-floor cutout to a glazed roof. The designer has revalued the top two stories by drawing curious shoppers up into unfolding spatial episodes, while counterintuitively marginalizing the merchandise, relegating it to the sidelines along the party walls.

On this 50-foot-wide lot, bounded by party walls, OMA echoes design strategies from its New York City Prada store, which beckons shoppers not up a hill, but down into a wave, with access to clothes along

OMA created an air curtain—virtual doors—instead of a conventional street-level entry with flanking display windows. The vitrines are clear, elliptical disks embedded underfoot.

In place of conventional storefront vitrines, transparent disks embedded in the entry zone's ground plane (top) offer downward views to mannequins (bottom) and other displays, set below grade.

its underground edges.

Koolhaas, long a design escapist, evades form at the Prada Epicenter by celebrating the "culture" of shopping as content. Once the architect breaks down Rodeo Drive's streetfront elitism, bringing the sidewalk into, up, and through the store, he topples other barriers. With images of political and cultural news streaming onto video screens, hung like flat TVs on clothes racks, he links contemporary events with garments, layering political or cultural statements onto "fashion statements"—as if rubbing off meaning onto merchandise.

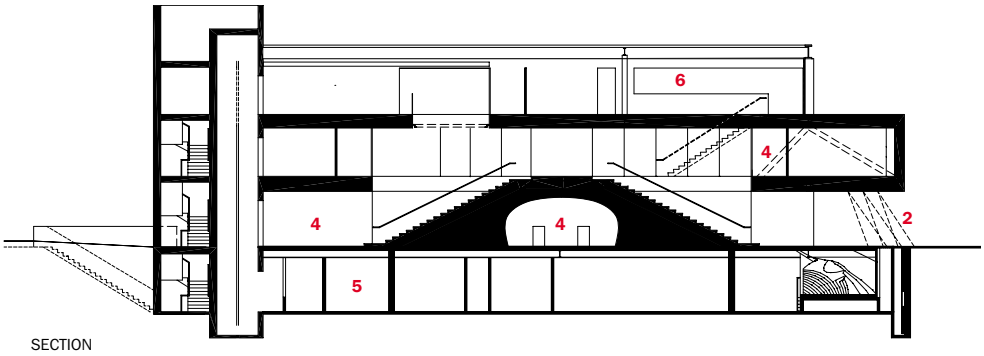
On the third floor, wall graphs analyzing sales rates of various goods, along with statistics relating the duration of penile erection to age, introduce unexpected subject matter. The architect envisioned the front of the third floor as a "scenario" space to be visually "scripted" with installations and no merchandise. Here, in the opening months, shoppers walked through and around airport security devices: a commentary on our society of surveillance.

The heroic flight of stairs, doubling as an amphitheater, rises into an increasingly interactive and mediated environment. Glass walls along the steps fog over as shoppers pass; dressing-room cameras capture visitors, front and back, with delayed video release on private monitors, turning consumers into actors in their own miniseries. TV screens scroll continuous collages of current-event images. The shop's beauty, reliant on the quixotic materiality of electronically charged glass, seems inadvertent—casual, yet precise, as it juxtaposes exotic technology and otherwise common materials. Swiss-cheese panels of polyurethane resin blur into the party walls.

With image streams, changing installations, and the potential for staged events, Koolhaas cultivates an environment calibrated to keep the store perpetually fresh and culturally relevant. The meaning of design—whether in clothing or buildings—remains a partially extrinsic matter of reference and context. Amid multiple, morphing messages,

PHOTOGRAPHY: © PHIL MEECH (THIS PAGE AND OPPOSITE, BOTTOM)

On the interior, the large architectural move is a grand stair (top)—a "hill"—that offers merchandise-display opportunities and can also double as an amphitheater. Swiss-cheese panels of polyurethane resin line the party walls (right). Flat monitors streaming images hang on racks alongside clothing (right).



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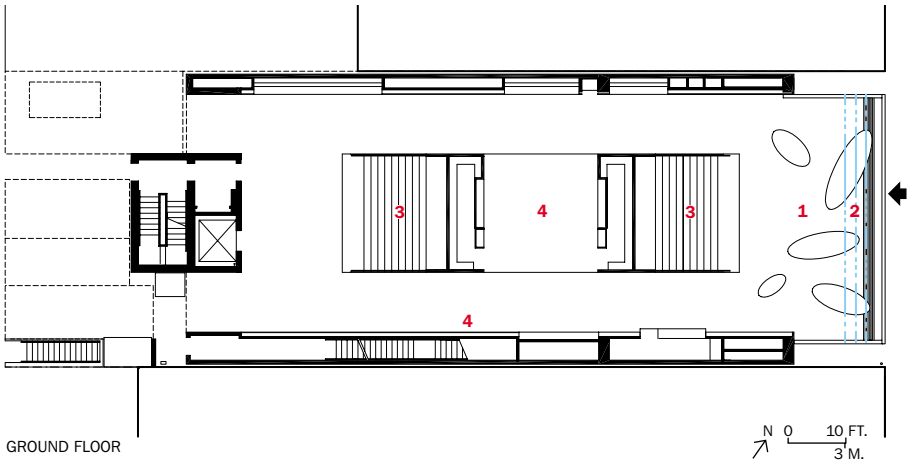
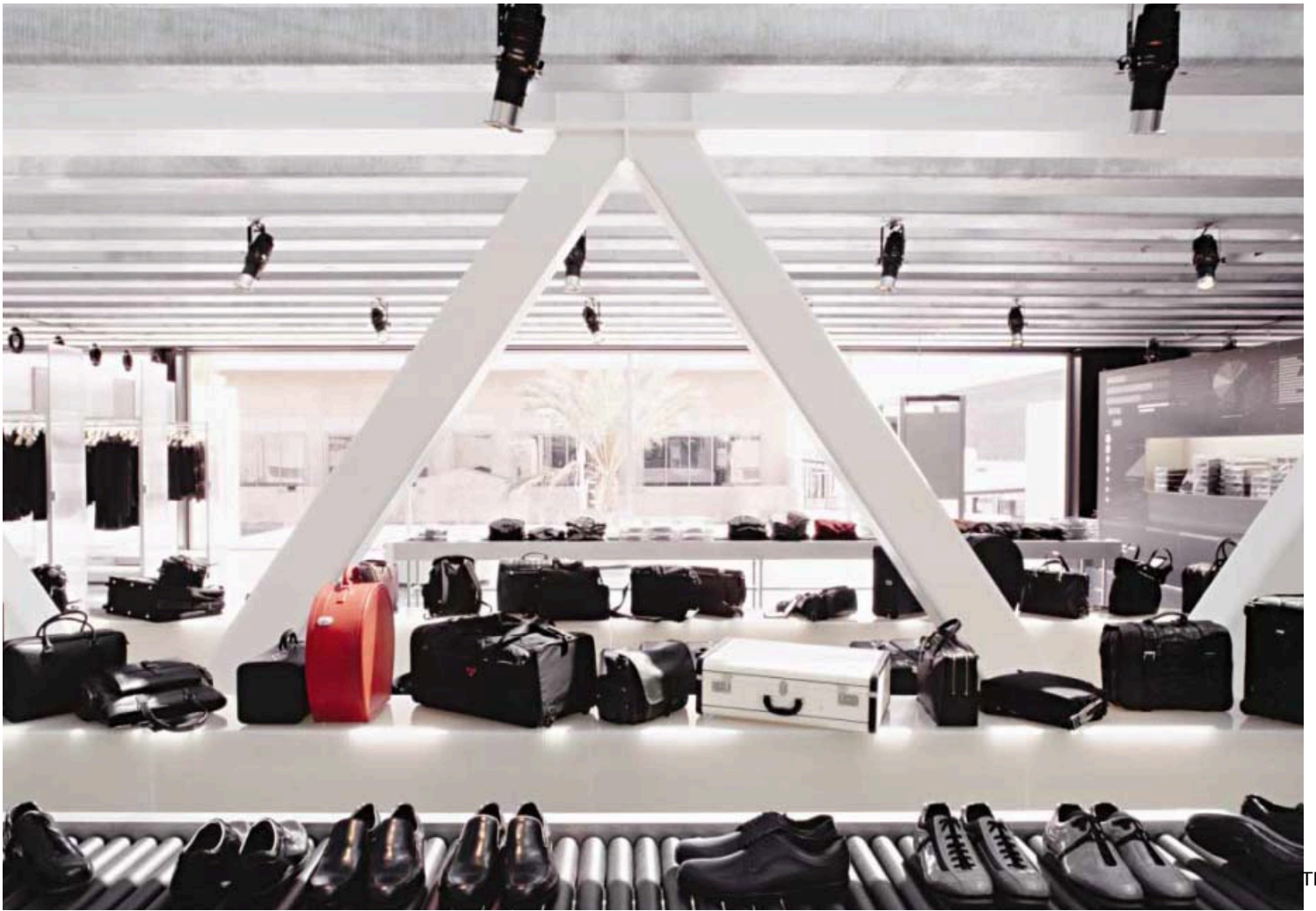


GROUND FLOOR

1. *Floor-embedded vitrine*
2. *Virtual door*
3. *"Hill" or main stair*
4. *Merchandise display*
5. *Office*
6. *"Scenario" space*

As illustrated by a sectional drawing (left) and model (below), the "hill," or grand stair, is symmetrical, offering opportunities for ascent or descent on opposite sides. Cantilevering out from the top of the stair and hovering over the entry zone, the second level is supported by a large-scale structural truss (bottom).



PHOTOGRAPHY: COURTESY OMA (TOP); © PHIL MEECH (OPPOSITE TWO)

On the entry level, a virtual fun house of warped mirrors and checkerboard patterning nestles beneath the grand stair (above and right). Here, the play of sensuous curves and the lively material palette frame simple shelving and niches for merchandise. Upstairs, the building's large-scale structural truss provides more whimsical settings to showcase goods for sale (opposite, bottom).

shopping becomes one of many activities, rather than a forced, single-minded march to the cash register.

Commentary

The intentional nondesign of this interactive environment, however, remains more ambitious than successful. By cultivating the simple box building, Koolhaas creates the necessity of giving it new life. But as we know from the media that stream around us, information does not necessarily add up to meaning. At Prada, the ambient data emerge as intellectual canapés with little sustaining substance. With no real context, the image flow on the screens turns into a form of indecipherable visual noise that shoppers barely graze, if that. The graphs become fleeting observations, statistical cartoons, unsustained beyond the punch lines.

If Koolhaas cedes form to content, then the judgment of this store rests on its content, which tends to remain superficial. Above all a mythmaker, the architect offers up an elegant box of mythology—set on the notion of breaking open commerce to culture. Here, the avant-garde posture and critical stance, rather than the information itself, creates the buzz: The myth of content is greater than the actual content or the message.

Culturalist design may be a provocative pursuit, but Koolhaas's primary achievement is to crack open a closed typology, drawing urban public space into shopping's sanctum sanctorum. Decades earlier, Frank Lloyd Wright adopted an architecturally similar strategy right across the street, ramping the sidewalk—and streetscape—up into a three-story cluster of boutiques. Like Wright, Koolhaas casts his aura over the store: His seemingly anonymous facade is indelibly signed with the name-brand reputation preceding it. Just as the architect changes the nominal subject at hand, injecting culture into enterprise, he has designed himself into a brand, essentially writing his name in invisible neon on the blank facade, a virtual marquee. We are shopping in a Koolhaas for Koolhaas. ■

At the top level, parallel beams under a skylight (opposite two) cast bands of shadow across the main stair (this page). On the uppermost floor, clear, quasi-prismatic cubicles containing hung garments (opposite two) complement the ceiling's strong geometry and the stripes of sunlight entering the space.

Barneys New York
Tokyo, Japan

2

JEFFREY HUTCHISON INTERPRETS A HIGH-END RETAILER'S PHILOSOPHY OF LUXURY, TASTE, AND HUMOR FOR JAPAN'S GLITZY GINZA DISTRICT.

By Raul A. Barreneche

Architect: *Jeffrey Hutchison & Associates—Jeffrey Hutchison, principal; Allie McKenzie, Alexandra de Gedeon, Kristen Woogen, Kaydee Kreitlow, design team*
Client: *Barneys New York*
Consultants: *Johnson Schwinghammer (lighting); John-Paul Philippe (decorative artist); Marc Albrecht (sculpture wall adviser)*

Size: *36,000 square feet*
Cost: *Withheld*
Completion date: *October 2004*

Sources
Wall coverings: *Phillip Jeffries Natural Weaves*
Downlights and task lighting: *ISPEC - Japan*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

PHOTOGRAPHY: © TUCS PHOTOGRAPHY/TAKAO UDEO

Manhattan architect Jeffrey Hutchison has a long history of working with Barneys New York, the high-end purveyor of luxury goods. Hutchison worked on the Barneys flagship store on Madison Avenue in Manhattan and an outpost in Beverly Hills while in the office of architect Peter Marino. In 1999, he founded his own firm, Jeffrey Hutchison & Associates, which redesigned the Co-Op department and did a major overhaul of the cosmetics area in the New York flagship. Barneys' executives called on Hutchison to design a new three-story branch in Tokyo, the third in Japan.

Program

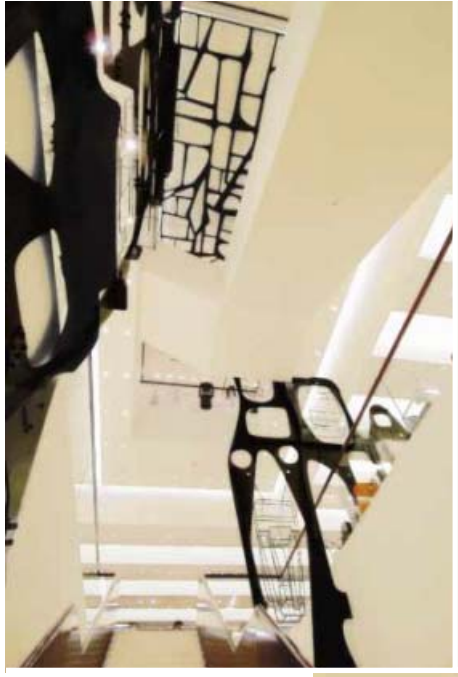
Barneys stores in Japan are operated by licensees, in this case the Isetan department store chain. The Tokyo location, which opened in October, involved the interior fit-out of a new developer-built tower in neon-filled Ginza. Barneys would occupy the basement, ground floor, and second floor of the 10-story building. The store's 10,000-square-foot floor plates—a rarity in space-starved Tokyo—were a double liability. Hutchison didn't want to chop up the uninterrupted floors ("the most luxurious thing about the space," he asserts), but he had to accommodate the Japanese desire to keep men's and women's departments separate. And Barneys' philosophy of store design embraces natural light—counter to the old-fashioned department-store model of dark, internalized realms where shoppers tune out the outside world to focus on buying. But the developer's design didn't allow for windows. Even if it had, the deep floor plates made it hard to get light into the center of the space.

All of Hutchison's architectural moves had to transport the Barneys sensibility across the Pacific without any specific design guidelines. "We were charged with figuring out how to make it feel like Barneys while taking the design to the next generation," the architect explains. (Barneys, not Isetan, had ultimate say on design decisions.)

Solution

Hutchison determined that the best way to resolve the issue of spatial divisions within the large floor plates was through what he calls "screen walls." Working with artist John-Paul Philippe, who has created three-dimensional installations for other Barneys locations, Hutchison developed a series of hanging dividers with enough visual and material heft

Raul A. Barreneche is a freelance writer based in New York.



The architect collaborated with artist John-Paul Philippe to frame the central staircase with a three-story, brushed-steel sculpture wall (right). Fabricators in northern Japan made the large steel shapes, stiffened with structural ribs, in small sections that were assembled on-site. Philippe also designed most of the display cases, such as the glowing fragrance counter (opposite, right). The cases at the entrance (opposite, left) are arranged like artworks framed by the mosaic marble floor.

SECTION A-A

SECOND FLOOR

GROUND FLOOR

N 0 10 FT. 3 M.

In the second-floor women's department (above), lighting is less about hard edges and more about folding and using light behind merchandise. The architect made a cultural reference to the Japanese art of origami by detailing the wood walls of the women's designer collections (top right) so they appear to be folded.

1. *Apothecary*
2. *Skin care*
3. *Handbags*
4. *Women's accessories*
5. *Fragrance*
6. *Staircase*
7. *Men's furnishings*
8. *Barneys New York collection*
9. *Co-Op*

to give them an architectonic quality. The most important divider is the one surrounding the staircase that links the store's three levels. "The stair is the heart of the store—it's where the design focus is," says Hutchison. "I wanted it to be something to go through, something monumental but not in-your-face." Hutchison and Philippe developed a series of bold sculptural elements in blackened steel that surround the staircase with free-form organic cutouts.

Hutchison tackled the issue of illumination with an almost graphic approach to lighting. On the ground floor, he unified the ceiling landscape by creating 3-foot-3-inch-deep coffers in which he concealed custom strip lights that create a continuous wash of light, almost as if there were rows of slender light monitors. Hutchison softened the lighting on the other two floors—and varied the lighting techniques to give each space a distinctive character.

Commentary

Barneys sets itself apart from other high-end department stores with a sense of hip luxury and a playful but sophisticated visual style set by creative director Simon Doonan. Hutchison's design for Barneys' newest Tokyo branch solves the specific problems of program and location. Some of this is achieved with decorative elements. They create a memorable image for the store—and successfully interpret the Barneys gospel of luxury, taste, and humor. ■

Creative lighting, translucent screens, and flooring distinguish one department from another while maintaining views throughout each level's 10,000-square-foot area. Artist John-Paul Philippe designed all the backlit, colored display walls and light fixtures (this page).

Fornarina
Las Vegas, Nevada

3

GIORGIO BORRUSO DESIGN CONCOCTS A SURREALISTIC AMBIENCE OF AMOEBOID SHAPES FOR AN ITALIAN SHOE AND APPAREL SHOP.

By Suzanne Stephens

Designer: *Giorgio Borruso Design—Giorgio Borruso, principal*
Associate architect: *Gensler San Francisco—Charles Kridler, principal; Katie Price, Bronwyn Paterson, project team*
Client: *Fornari USA*
Consultants: *Lochsa Engineering (structural); JBA Consulting Engineering (m/e/p); NorthShore Consulting (lighting)*
General contractor: *Fine Line Group*

Size: *2,350 square feet*
Cost: *Withheld*
Completion date: *February 2004*

Sources
Fabric structures (lighting hoods, dressing rooms): *Eventscape*
Fiberglass and resin display units: *Bam Bam Designs*
Vinyl flooring: *Lonseal*
Door handles: *PRL Glass*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

Playing Las Vegas is not easy—even if we're talking about store design. How does a boutique compete with the chaotic kitsch of the casinos? Or the baroque brassiness of the hotels? Giorgio Borruso, a young Italian architect who opened a design studio in Los Angeles six years ago, did not take the Minimal route. Fornarina may be mostly white, but it is a far cry (or scream) from the Miesian clean-machine look of a Jil Sander store. No. Salvador Dalí's surreally melting forms, the monster plant ("Feed me!") from *Little Shop of Horrors*, and maybe Elsie de Wolfe's glamorous white interiors come to mind when you enter Fornarina. And you can still see the merchandise.

Program

With its decision to open a women's clothing shop in Las Vegas, the Italian retailing company Fornari, founded in 1947 as a shoe store, sought a strong identity. Borruso worked closely with the U.S. arm of Fornari "to invent a space," he says, "completely different from what is out there, and to generate a new language of oneiric—dreamlike—visions." Borruso, who has designed stores in Rome, Los Angeles, and Washington, D.C., knew too well that the design shouldn't upstage the merchandise. Yet the location of the narrow retail space in Mandalay Place, a mall bridging the Mandalay Bay and Luxor hotels, is a challenge.

PHOTOGRAPHY: © BENNY CHAN/FOTOWORKS

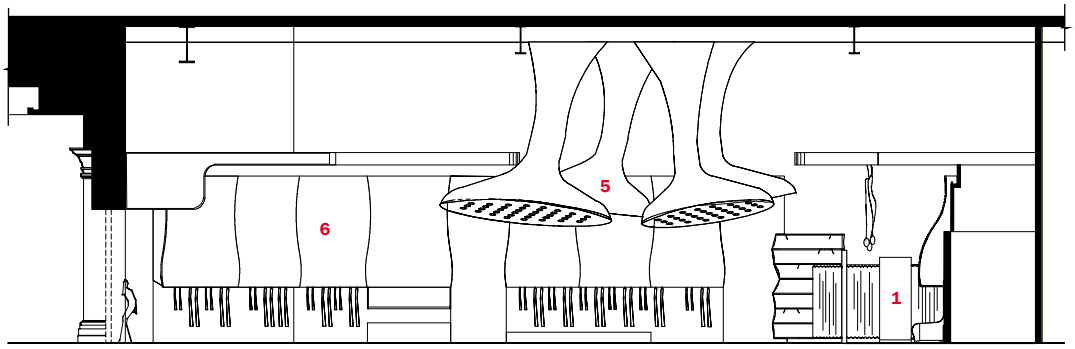
"We needed to create an oasis within this bustle," Borruso says.

Solution

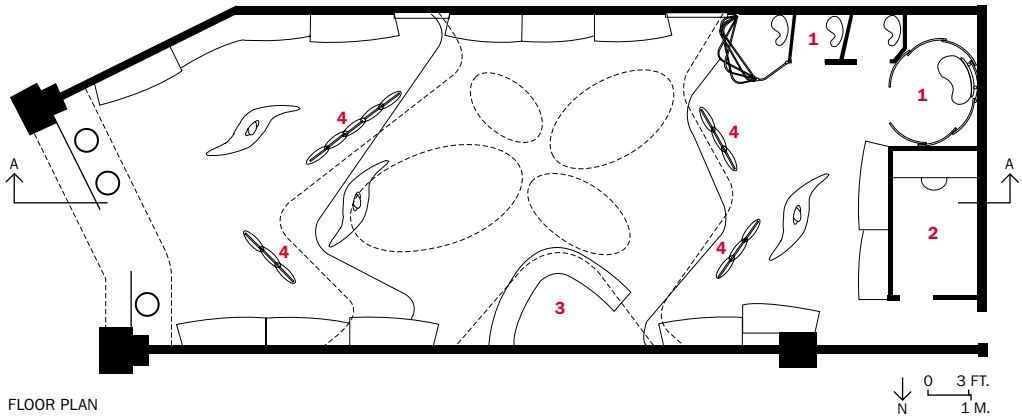
To fight the barnlike quality of the 2,350-square-foot rectangular space with 29-foot-high ceilings, Borruso designed a series of viscerally organic shapes dominated by four large, hooded, tentaclelike objects hanging from the ceiling. Each one harbors a steel spine carrying LED lighting fixtures and aluminum tubular frames, which in turn support custom acrylic, spherical protuberances encased in a special nylon elastic fabric that Borruso developed with Eventscape of Toronto. Directional incandescent spots mounted in the soffits of these sculptural elements provide illumination—and in turn seem to ogle the customers.

Shoppers entering the store

A spirited panoply of Dalí-esque rings showcases shoes (below). Mounted on transparent resin panels, the suspended display devices enclose a central space dominated by biomorphic lanterns of fabric stretched over acrylic protuberances.



SECTION A-A

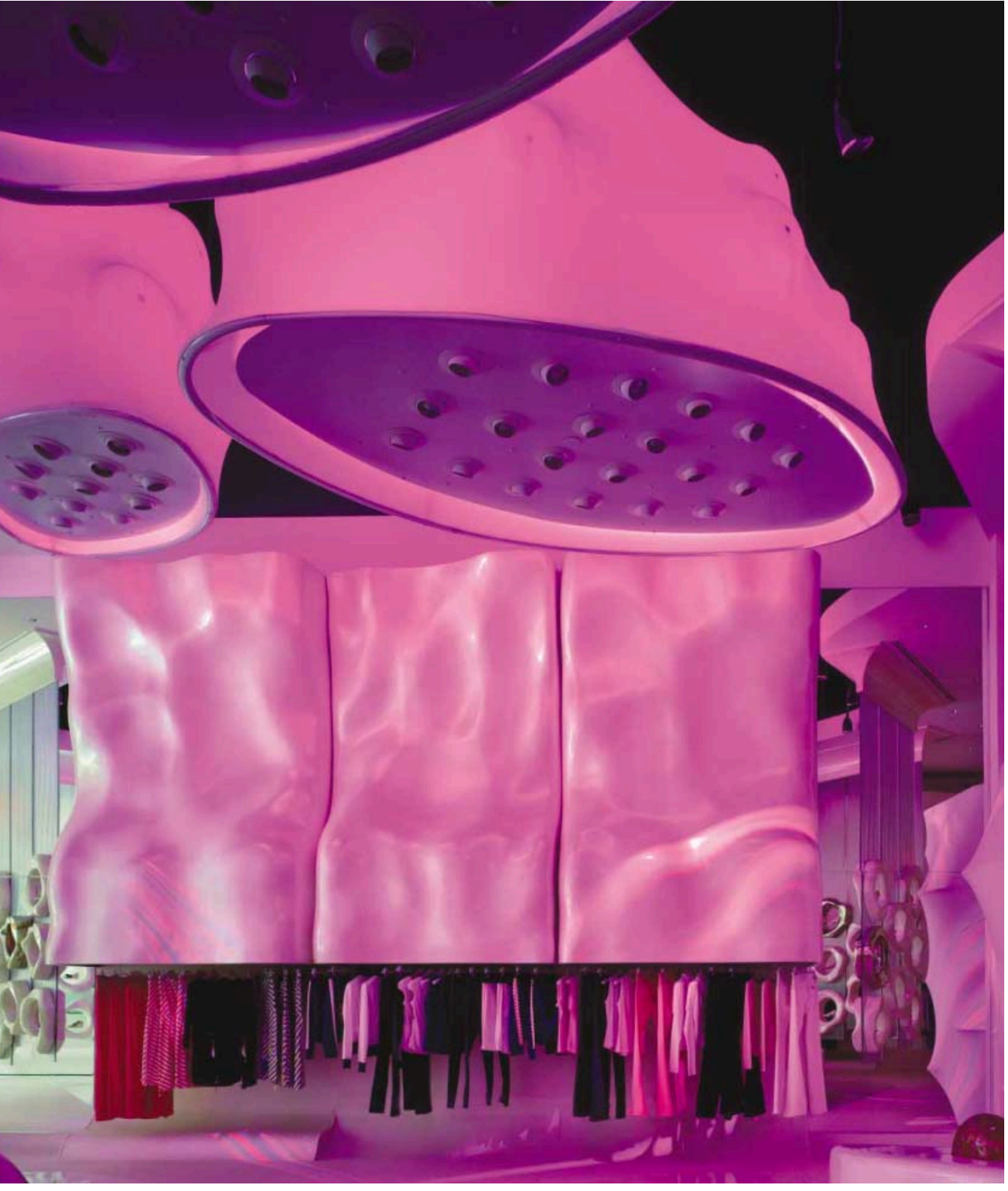


FLOOR PLAN

Distorted rings of fiberglass used as vitrine elements (above and opposite) are painted a pearlescent white or have a chrome finish. Clothing is shown under sculptural, softly molded fiberglass walls (above left), which conceal lighting.

1. *Dressing room*
2. *Office*
3. *Cash register*
4. *Suspended panels and rings*
5. *Lamp sculptures*
6. *Apparel display*

Dressing rooms (this page, far right) are encased in elastic fabric. The white vinyl floor with red specks undulates to increase the kinesthetic experience of moving through the shop.



For about 10 minutes a day, the store is taken over by a deep fuschia "sunset," as Giorgio Borruso puts it. Executed in Fornarina's signature hue, the computerized lighting is timed in order not to interfere with shopping.

first confront suspended transparent resin panels 16 feet high, partially enclosing the central space. Blobby fiberglass rings mounted on the vertical panels turn out to be two-sided vitrine elements, in which small-scale items, such as shoes, are displayed. A pearlescent paint coats the majority of the rings, while the rest gleam with a chrome finish. As customers move past these unusual partitions, they arrive at the perimeter of the space, where apparel is displayed. Here Borruso designed the white custom-cast fiberglass walls to look like soft, fleshy protrusions ("rather like a belly") lighted from inside. Although Borruso had begun working with a computer-modeling program, he and the Los Angeles fabricator, Bam Bam Design, relied on hand-sculpting the pieces out of foam, then making molds before casting them.

Not surprisingly, shoppers like to touch the display elements as much as the merchandise, as well as lounge about in the squishy vinyl-covered foam furniture. Even the vinyl floor undulates, to heighten the kinesthetic sensation of walking through a space.

Commentary

By placing dressing rooms, sales counters, and storage along the perimeter, Borruso has solved functional concerns, while not forsaking the phantasmagoria of his vision. True, customers have to look for the mirrors (they are there), but the distinction between merchandise and setting seems clear. The design elements, no matter how outré, still frame the space dramatically for the display of merchandise. And the place is like nothing you have seen before, even in Las Vegas. ■

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By Sara Hart

Noise levels were measured at ground level and at 120 feet above ground at the site of this 58-story multiuse tower in San Francisco, designed by Handel Architects.

IMAGE: COURTESY HANDEL ARCHITECTS

Whether low or high frequency, man-made or natural, noise is the bane of modern living. It's easier to seal a building against water infiltration than the unwanted and disruptive sounds of the modern city—trains, planes, automobiles, jackhammers, horns, and sirens—that seep insidiously through walls and collide with windows, rattling their frames and driving inhabitants crazy. Even people hermetically sealed in office buildings suffer from disruptive noises created from within—humming light fixtures and air handlers, distracting conversations, and ringing phones. This is the consequence of the space-maximizing, cost-effective, privacy-eliminating open office plan, which is standard for most speculative commercial developments that lease large floor plates. Cubicle dwellers ward off aural assaults by wearing earplugs or expensive, high-tech headphones. Their adaptability, while admirable, only highlights a problem that studies show undermines productivity.

So prevalent is noise in dense urban areas that some experts argue that it has become a public-health risk. At the very least, what is called environmental noise has achieved the dubious distinction of being labeled "pollution," keeping company with carbon monoxide and Volatile Organic Compounds (VOCs). In Charles M. Salter Associates' excellent primer *Acoustics: Architecture, Engineering, the Environment* (William Stout, 1998), Alan Rosen reports that the problem first attracted federal attention in the early 1970s when "the United States introduced federal legislation that mandated research on environmental noise and its effects on people. Much of the research," he notes, "was sponsored by the U.S. Environmental Protection Agency (EPA). This research led government agencies to require noise impact studies," which in turn led to the Noise Control Act of 1972.

Congress directed the EPA to publish scientific studies identifying the effects of different characteristics and levels of noise. It also directed the EPA to define acceptable levels under various conditions, which would protect public health and welfare with an adequate margin of safety.

Silence is golden

It should come as no surprise that good building sites in dense urban areas are becoming harder to find. Since development must continue, developers must now consider less desirable sites, such as under flight patterns, next to freeways, and over train tracks. If the site is buildable and the location appealing, then the theory is that environmental noise is a problem to be solved by design and engineering.

One of those problematic sites is Adams Street, just across the Manhattan Bridge in the New York City borough of Brooklyn. In addition to the din generated by the vehicular bridge traffic, the site is confronted with the noise of the elevated subway. Whereas this might not be a deterrent if the program called for a factory or warehouse, it is a potential marketing

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 150 and follow the instructions. Other opportunities to receive Continuing Education credits in this issue include the following multisponsored section: "Green Products: Trends and Innovations," page 155.

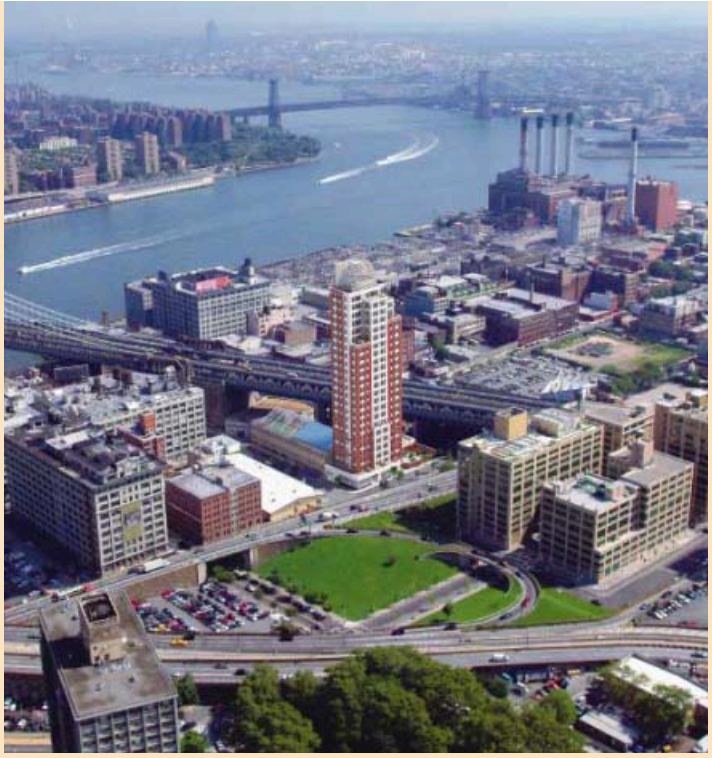
LEARNING OBJECTIVES

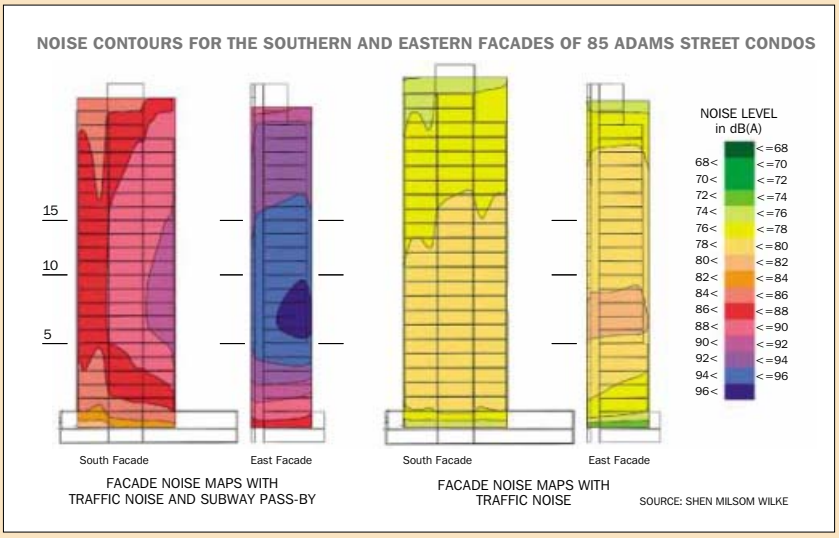
After reading this article, you should be able to:

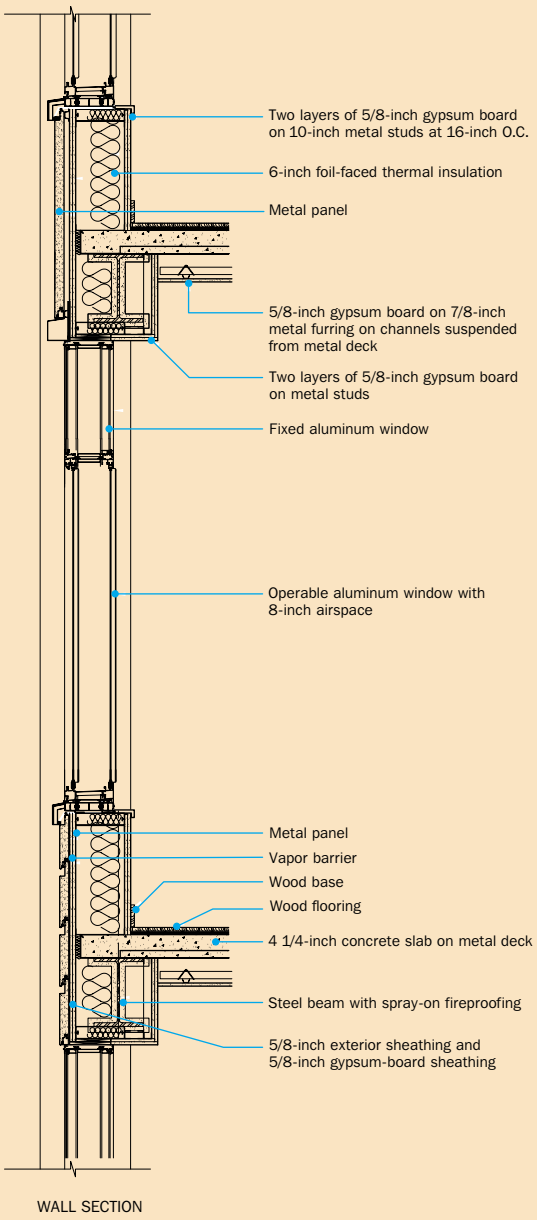
1. *Discuss techniques for mitigating external noise infiltration.*
2. *Describe window assemblies designed for noise reduction.*
3. *Discuss a low-tech way of reducing internal noise.*

For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.architecturalrecord.com**.

An aerial view of 85 Adams (right), a new condominium in Brooklyn, shows its congested location. The chart below shows noise levels on the east facade, closest to the elevated subway, and the south facade, facing the Brooklyn-Queens Expressway. The most striking feature on the chart is the spot of deep blue on the east facade and at the sixth floor. This represents sound from trains and traffic, which radiates spherically, with the strongest impact on floors three through nine.







WALL SECTION

nightmare for a developer wanting to build luxury condominiums.

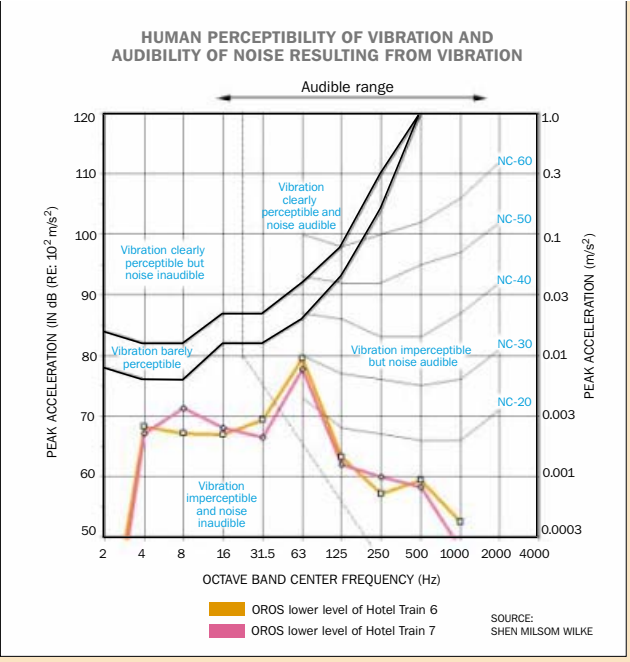
A.I. & Boymelgreen Developers employed the local firm Cetra/Ruddy Architects to design a 25-story condominium complex, and New York–based Shen Milsom Wilke (SM&W) to evaluate the site for noise and to develop solutions to mitigate it. SM&W was founded as an acoustical consulting firm in 1986. Since then, it has added multimedia, telecommunications, and building security to its repertoire. These additional services surely benefit from the firm's expertise in acoustics, which is arguably the most elusive, subjective specialty supporting architectural design.

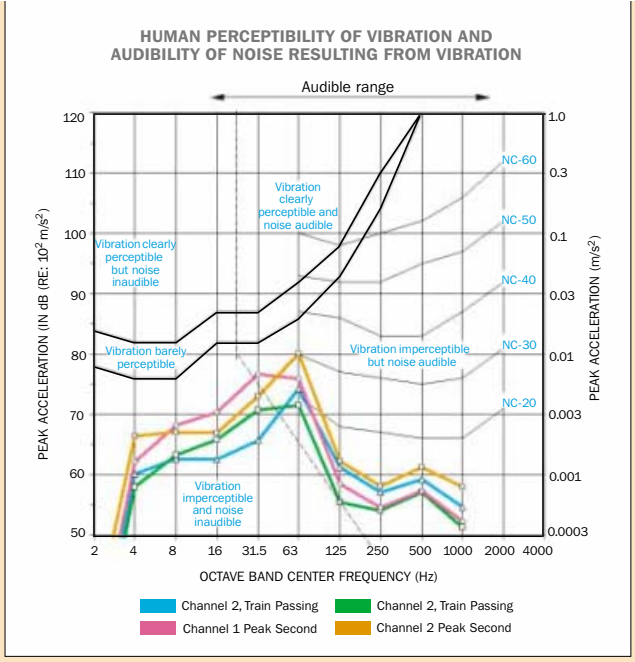
The engineers took detailed on-site measurements and used SoundPLAN—computer software that analyzes noise to predict levels ranging from the bottom of the proposed building to the penthouse. SM&W found that the sound levels intermittently peaked at 96 dBA due primarily to a train passing every few minutes at what would be the fifth floor. [*Decibel* is abbreviated by *dB*; the *A* stands for *A-weighting*, a measurement for approximating loudness and annoyance of sounds. See sidebar, page 150.] Since the New York zoning code requires an inside noise level not to exceed 40 dBA, the engineers had to propose a design that would reduce the noise level by 56 dBA.

"Windows are the weakest link with regard to noise control," says SM&W partner Denis Milsom. "With subways, the rumble noise is the most difficult to deal with. It's a low-frequency noise, and it goes through the windows." Research shows that low-frequency noises disturb people the most. In the case of the Brooklyn building, 85 Adams Street, such problems were anticipated by heavy bridge and rail traffic, so blocking infiltration into the apartments was, predictably, a priority for the developer. The engineer's solution, therefore, was resolved in the glazing and wall system. The window unit consists of ½-inch laminated glass on the exterior face and a ½-inch pane on the interior, separated by an airspace of 8 inches, resulting in a wall assembly that's a remarkable 10 inches thick. (The acoustic windows were developed by specialty contractor St. Cloud Windows of Minnesota.)

This airspace is quite deep for nonindustrial buildings.

IMAGE: COURTESY CETRA/RUDDY ARCHITECTS





The Mandarin Oriental Hotel in Washington, D.C. (left), is located on an "acoustically challenged" site (below). The charts (above) were created using SoundPLAN, software that analyzes complex noise scenarios and predicts the level of noise at various locations. The numbers on the left are the sound levels; those on the bottom are the frequencies, measured in units of Hertz (Hz), which correspond to one cycle per second.

PHOTOGRAPHY: COURTESY BBG/BBGM

Conventional acoustical wisdom warns that a wide air cavity can create convection within the space, increasing heat loss. Christopher Pollack, SM&W project manager, insists, "The cavity we created was sufficient to meet all the codes required. The acoustical construction consists of very heavy laminated glass, which may actually increase thermal performance."

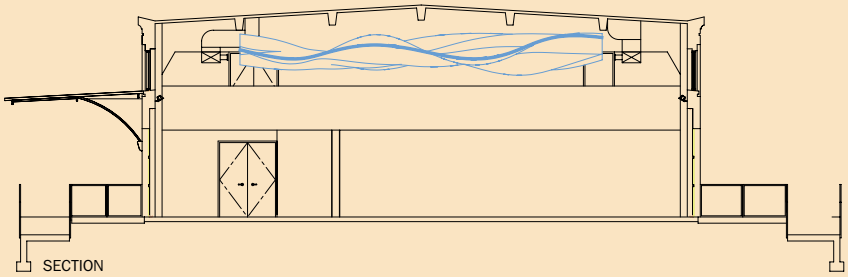
THE CONSTRUCTION CONSISTS OF HEAVY LAMINATED GLASS, WHICH MAY ACTUALLY INCREASE THERMAL PERFORMANCE.

He further explains, "The frame for this window is in two parts, an outside frame and an inside frame. These are joined by rubber to help break sound from transmitting from one side to another. This acoustical break will also help in reducing the transmission of heat."

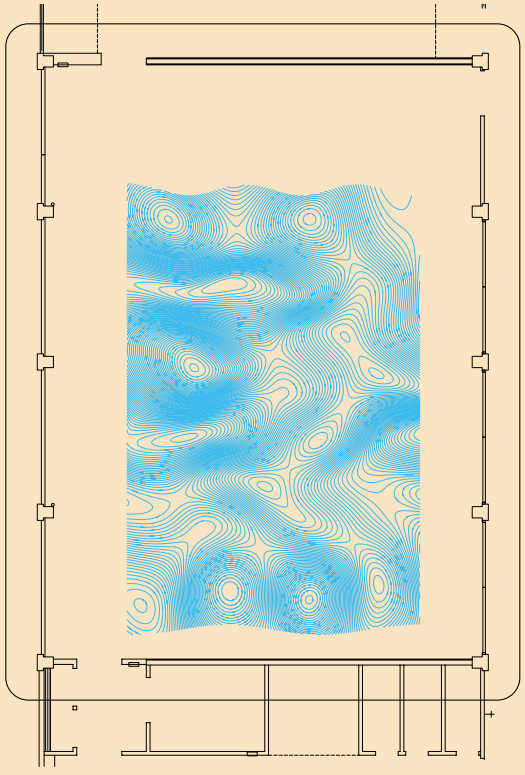
Airspace prevents what is called "coincidence decoupling," where the two lites of glass in an insulated window vibrate together at a certain frequency. This tandem movement reduces the amount of sound that can be blocked at that frequency of vibration. Using a heavy glass and a large airspace between the glass usually eliminates this problem, which is not an issue in this case due to the depth of the windows.

An additional challenge was presented by the zoning code requiring natural ventilation. To accommodate this requirement, the window assembly has a trickle vent—an adjustable opening to provide controllable background ventilation. The vent conducts air along a lined path so as not also to transmit noise. SM&W recommended installing STC (sound transmission class) 56 windows on floors three through nine on the east and south facades. The developer, however, chose an even more conservative route and used them throughout the building at every floor.

The overall construction consists of pre-engineered brick-and-metal panels mounted on a stud system. For the walls to conform to the engineer's noise-reduction criteria, two layers of gypsum wall board were required on both sides of the exterior walls, with additional insulation in the cavity (see wall section, page 144).


SECTION

The Southern California Institute of Architecture (SCI-Arc) in Los Angeles commissioned Hodgetts + Fung Design and Architecture to improve the acoustic quality of the school's main space (top right). With the clever use of modest, low-tech materials—including aluminum tubes, nylon thread, and industrial-weight wool felt—the architects transformed the space visually as well as acoustically (below).


REFLECTED CEILING PLAN SHOWING CANOPY'S CONTOURS

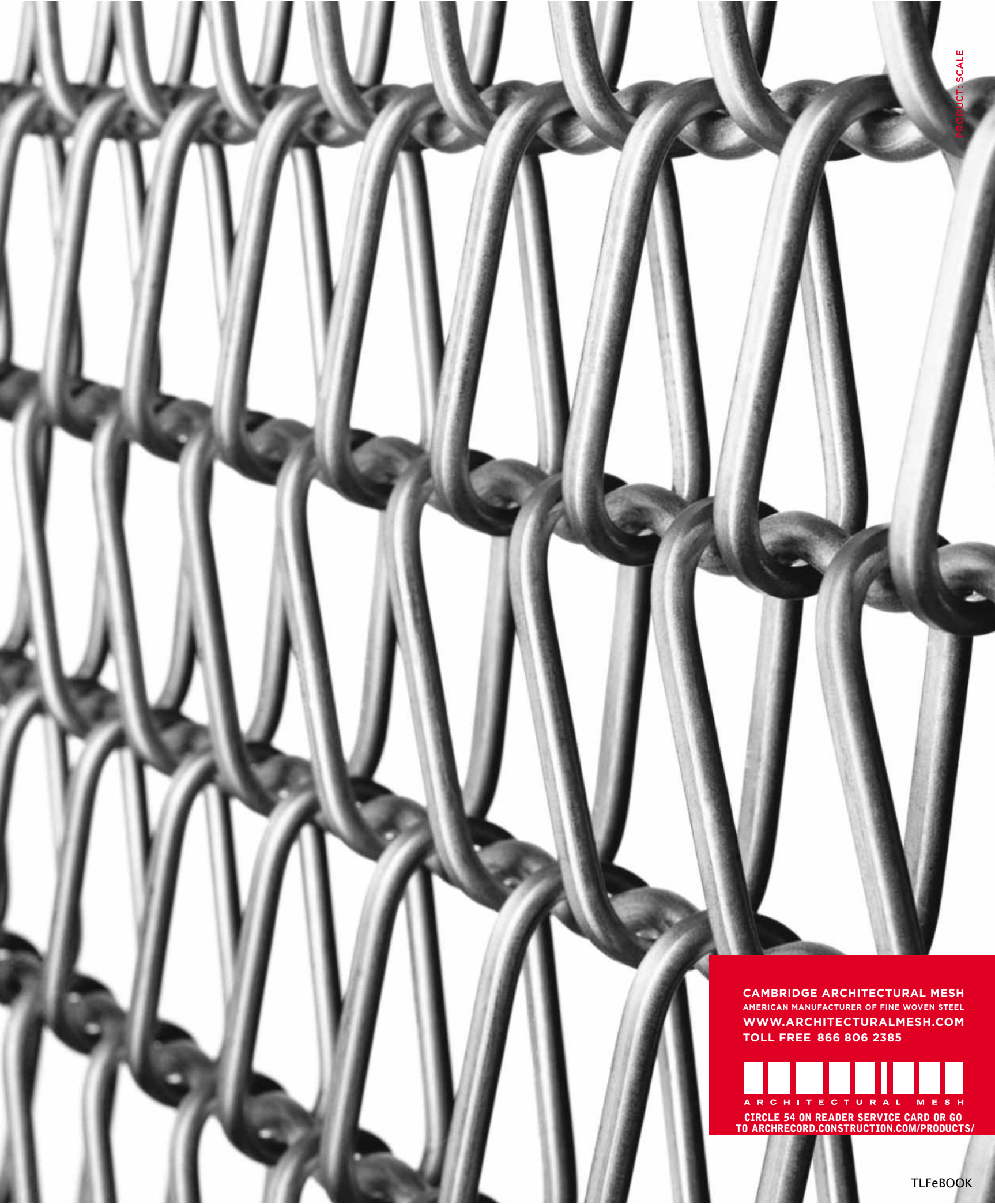
The noise problem is not specific to New York, of course. The Mandarin Oriental Hotel in Washington, D.C., designed by BBG-BBGM Architects, also working with SM&W, was built on the last piece of available real estate in Southwest Washington. The aerial panorama (page 145) suggests an ideal location with views across the Tidal Basin to the Jefferson Memorial and easy access to the Mall and Capitol. However, from this perspective, the eye can easily edit out the nearby freight-train line, which also carries commuter trains, and the major freeway that borders the site. It also doesn't reveal the fact that the site is on the flight path of Ronald Reagan National Airport, as well as a heavily traveled helicopter route.

SM&W took acoustic site measurements and determined that the biggest problem was the loud, low-frequency train noise. To mitigate this, SM&W designed special windows, consisting of two layers of ½-inch glass in an aluminum frame with a 5-inch airspace separating the two layers. Special gaskets seal out the noise. In this case, the fresh air intakes were located on the roof rather than in the window assemblies. The levels on the facade exposed to the helicopter route were actually less intrusive. Here, the window assemblies were designed with a smaller 2¼-inch airspace.

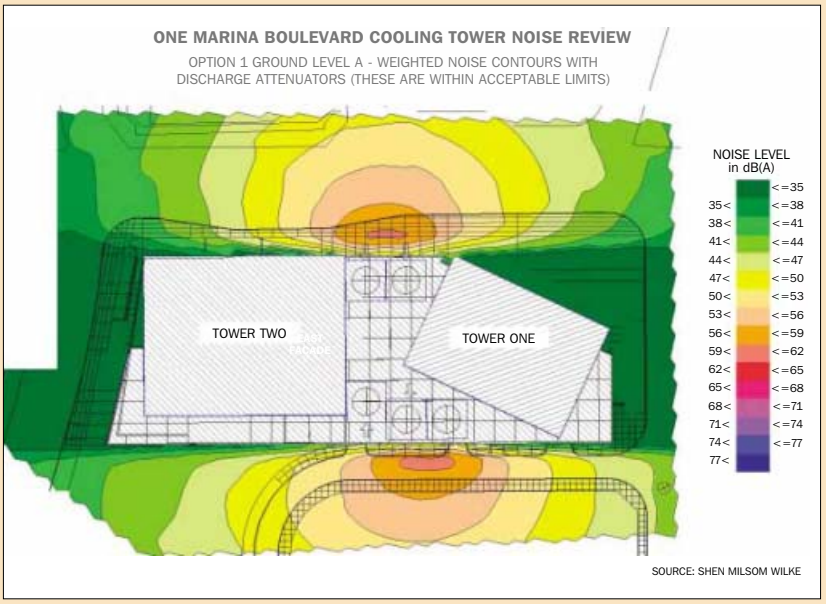
The Mandarin Oriental and 85 Adams have similar noise sources and, therefore, share similar but not identical solutions. While both projects have traffic noise, 85 Adams adds subway commotion to the total, and the Mandarin has persistent helicopter traffic. But the consistent subway noise at 85 Adams trumps the less frequent occurrence of helicopters at the Mandarin, requiring a deeper window assembly.

SM&W also works to mitigate environmental noise for a lot of other projects, such as a 58-story mixed-use development on Mission Street in San Francisco, designed by Handel Architects, which is adjacent to the East Bay Transit Bus Terminal. (California Building Code requires environmental noise mitigation in residences and other facilities where there are sleeping rooms.) Meanwhile, for One Raffles Quay, an office complex in Singapore designed by Kohn Pedersen Fox, the SM&W engineers created a model of noise transmission levels of proposed cooling towers by actually measuring similar towers in other locations.

PHOTOGRAPHY: COURTESY HODGETTS + FUNG



One Raffles Quay in Singapore by Kohn Pedersen Fox Architects consists of high-rises that share a plinth with a district cooling system in between. The 20 cooling towers in the plant meant that propeller fan blades would be located within 4 feet of the towers' curtain walls. Besides finding a manufacturer of "super quiet" cooling towers, the engineers recommended a laminated curtain wall to reduce the low-frequency rumble of the towers. The chart shows the results of the tower noise review.



RENDERING: COURTESY KOHN PEDERSEN FOX

Simple solution

Mitigation of external noise into a building's envelope is one kind of acoustical challenge; improvement of desired sounds created within the envelope is another. Whereas in the previous projects, defense against noise is invisible, hidden in the wall cavities and window units, occasionally a client wants a solution that is conspicuous, one that serves an architectural purpose as well as an engineering one. The Southern California Institute of Architecture (SCI-Arc) in Los Angeles was one such client willing to grant architects license to experiment. The school commissioned Hodgetts + Fung Design and Architecture to improve the acoustic quality of the school's main space, seeking a result that would be all things to all activities—lectures, performances, presentations, and ordinary conversations. The Los Angeles–based firm is familiar with the integration of acoustics with architecture, as witnessed in its resurrection of the Hollywood Bowl [RECORD, January 2005, page 152].

THE RESULT IS AN UPSIDE-DOWN TERRAIN, AN INVERTED TOPOGRAPHY THAT ALTERS THE SPATIAL EXPERIENCE.

The solution, named XSS—Experimental Sound SurfaceCeiling—by its inventors, bears no resemblance to anything one would expect to be applied to what is basically a straightforward box. Hodgetts + Fung chose a unique architectural solution. The result is an upside-down terrain, some kind of inverted gray topography that alters the spatial experience completely, almost surreally. And yet, the intervention, while ingenious, is a low-tech solution. The acoustical material is industrial wool felt, the kind used to cushion heavy machinery. It can be specified up to 2-inches thick.

Initially, the architects chose a thickness of ⅜ inch. Although acoustical calculations didn't drive the process, the architects consulted engineers McKay Conant Brook about the thickness of the felt. The engineers determined that if they increased the thickness to ⅝ inch, they would achieve the .4 acoustical coefficient that was required.

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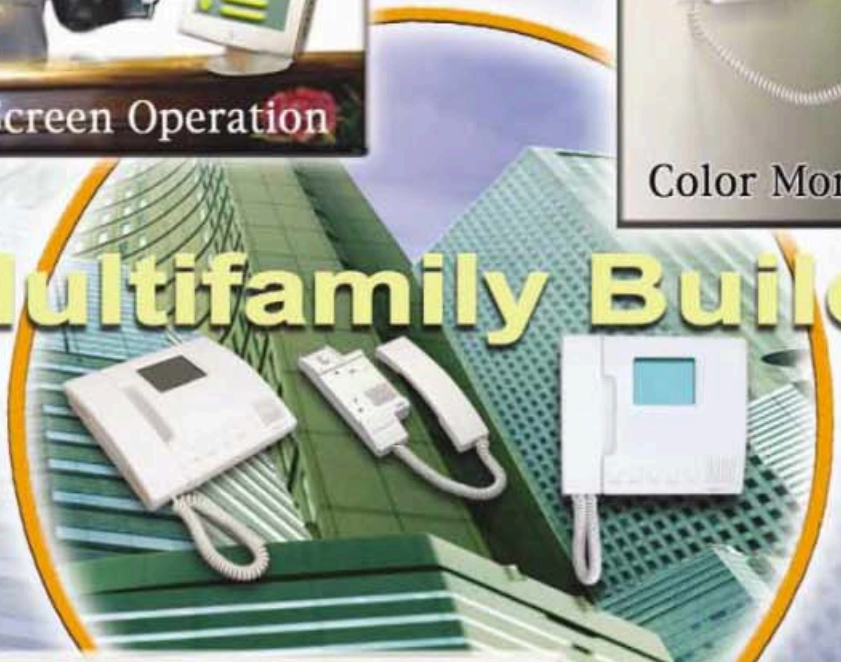

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The 12-by-24-foot bays are supported by a lightweight aluminum frame. The openings in the felt increase sound absorbency. The material was fabricated off-site and then delivered to the school. Once the felt panels were attached to the frame, the material was manipulated by the installers. The contours of the the final configuration further diffuse the sound. The wool felt is somewhat fragile and vulnerable to pull-through in this particular application, so the architects went in search of a special fastening device to secure it to the frame without damage. Sticking to their inexpensive, off-the-shelf materials imperative, the appropriate device appeared in the form of a nylon ratchet fastener designed for use in upholstery. The fasteners secure the felt to a flexible polypropylene flange, which is then free to rotate about a curved ABS spine supported by the aluminum substructure. The aluminum frame was assembled on the floor, raised above shoulder height, where the felt was attached, then the entire structure was hoisted to the concrete ceiling by ropes.

As the built environment gets noisier, so have the protests against noise, fueling litigation and consequently creating intense debate over acoustical standards. At the moment, claims are argued in terms of negligence, breach of contract or warranty, liability, and acoustical nuisance, to name a few, and evaluation of claims varies widely from state to state. Until there is a more uniform acoustical standard, clients may choose to spend money up front in prevention and, hopefully, avoid costly court battles and a public-relations nightmare later. ■

A-weighted Sound Level

One's ability to hear a sound depends greatly on the frequency composition of the sound. People hear sounds most readily when the predominant sound energy occurs at frequencies between 1,000 and 6,000 Hertz (Hz, cycles per second). Sounds at frequencies above 10,000 Hz (such as high-pitched hissing) are much more difficult to hear, as are sounds at frequencies below about 100 Hz (such as a low rumble). To measure sound on a scale that approximates the way it is heard by people, more weight must be given to the frequencies that people hear more easily.

A method for weighting the frequency spectrum to mimic the human ear has been sought for years. Many different scales of sound measurement, including A-weighted sound level (and also B-, C-, D-, and E-weighted sound levels) have evolved in this search. A-weighting was recommended by the Environmental Protection Agency (EPA) to describe environmental noise because it is convenient to use, accurate for most purposes, and is used extensively throughout the world.

Source: The EPA Library, a collection of related documents from the Noise Pollution Clearinghouse (www.nonoise.org).

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "The Art and Science of Peace and Quiet" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 224).**
- **Fill out and submit the AIA/CES education reporting form (page 224) or download the form at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. People in hermetically sealed buildings suffer from disruptive noises created by all except which?
a. light fixtures
b. traffic
c. air handlers
d. conversations

2. The consequence of space-maximizing open office plans is all except which?
a. visual disorientation
b. cubical dwelling
c. undermined productivity
d. aural assaults

3. Research sponsored by the Environmental Protection Agency (EPA) led to all except which?
a. The EPA defined acceptable noise levels
b. Studies were published identifying the effects of levels of noise
c. Headphone use requirements
d. The Noise Control Act of 1972

4. The article suggests that it is easier to seal a building against which of the following than it is against sound?
a. air infiltration
b. water infiltration
c. thermal transfer
d. environmental pollution

5. What type of noise disturbs people the most?
a. low frequency
b. high frequency
c. mid-level frequency
d. ultra-high frequency

6. What part of a building is the most vulnerable or the weakest link with regard to noise?
a. exterior walls
b. mechanical systems
c. windows
d. insulation

7. Two panes of glass in an insulating window vibrating in tandem is called what?
a. cavity vibration
b. airspace creep
c. coincidence decoupling
d. sound block

8. What is the acoustical material at Southern California Institute of Architecture (SCI-Arc) in Los Angeles?
a. wool felt
b. canvas
c. nylon webbing
d. aluminum panels

9. What does "A-weighted sound level" mean?
a. sounds above 10,000 Hz are weighted heavier
b. sounds below 100 Hz are weighted heavier
c. sounds that are easier to hear are weighted heavier
d. sounds that are harder to hear are weighted heavier

10. What is a trickle vent?
a. roof vents
b. wall vents
c. window vents bringing air along a line path
d. window vents that allow a small amount of air to enter

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Tech Briefs

The complex curves of the Amgen pedestrian bridge (far left) resemble the twisted strands of DNA. On the walkway, the assemblies housing the LEDs (left) are as refined as interior elements, an unusual feature for an infrastructure project.

In Seattle, a footbridge symbolizes a company's mission and solves siting and engineering issues

Transportation infrastructure is usually utilitarian and minimal, but the new Amgen pedestrian bridge in Seattle is a notable exception. Completed in summer 2004, this imaginative three-arch structure is geometrically complex and equally elaborate in its detailing. Its form, as much symbolic as practical, suggests the nature of its sponsor's operations and serves as a signpost of its somewhat hidden presence.

Amgen, a biotechnology research firm, recently moved from downtown Seattle to a bayfront location in a light industrial district. Just a stone's throw from Puget Sound to the west, it is dwarfed from the south by a huge grain elevator and, on the east, segregated from the rest of the city by 11 busy railroad tracks. The footbridge spans these tracks in two leaps of about 200 feet each—not a significant engineering challenge, but certainly an architectural one, since the structure serves as Amgen's calling card, an amenity for employees biking or using the bus, and as general public access to a difficult-to-reach shoreline park.

Johnson Architecture and Planning, a local firm, says the bridge is "architecturally determined": The firm's design method began with an intuitive, visual approach rather than just an analytical, engineering one. The footbridge's form was developed through a series of clay-and-wire study models, and the result is a complex geometry that can only be fully comprehended in 3D.

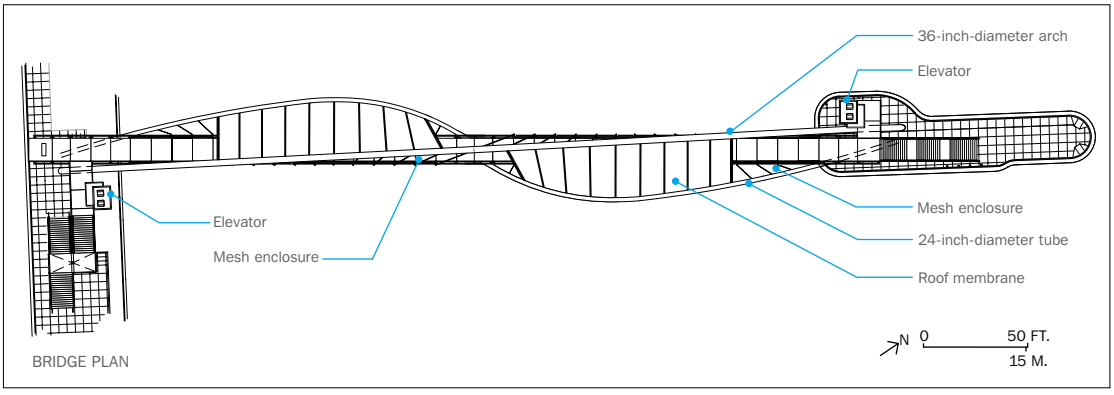
The structure consists of three arches: a main steel tube spanning 412 feet with a 50 foot rise, and two secondary tubes each spanning about 215 feet and tilted outward 30 degrees to create a complicated form of irregular spaces, warped surfaces, and connecting structural elements. The large span is a circular arc rather than a maximum-efficiency parabola, while the smaller arches have an intuitive, asymmetrical 4-radius geometry. To top things off, the main arch is slightly askew to the axis of the deck. The result is beefy and dramatically monumental in the grand tradition of Victorian engineering, represented by Scotland's famous Firth of Forth railroad bridge.

Seismic demands and train vibration clearly played a role in the design, but these requirements were balanced with aesthetic concerns. KPFF, the structural engineers, kept the arch tube diameters slender for visual reasons. From certain angles, the arches suggest the double helix form of DNA, one of Amgen's main research topics. The symbolism clearly appealed to the company, which spent $10 million on the project, well above the $2 million they were obliged to contribute (the bridge was Amgen's contribution to a public-private access package).

Fanciful as the design might be, it nevertheless addresses many practical demands and limitations. Poor soil and sharp thrust forces complicated the foundation design, and the railroad imposed height clearances and lateral enclosure requirements. Seattle's legendary drizzle called for weather protection, while the architects wanted light penetration and glimpses of the sky. Their solution involved a stretched fabric canopy, steel-mesh side enclosures with openings above, and an open section of walkway at midspan. The structure also occupies a city-mandated view corridor, and met its obligations by enhancing the view and providing views of Puget Sound to pedestrians.

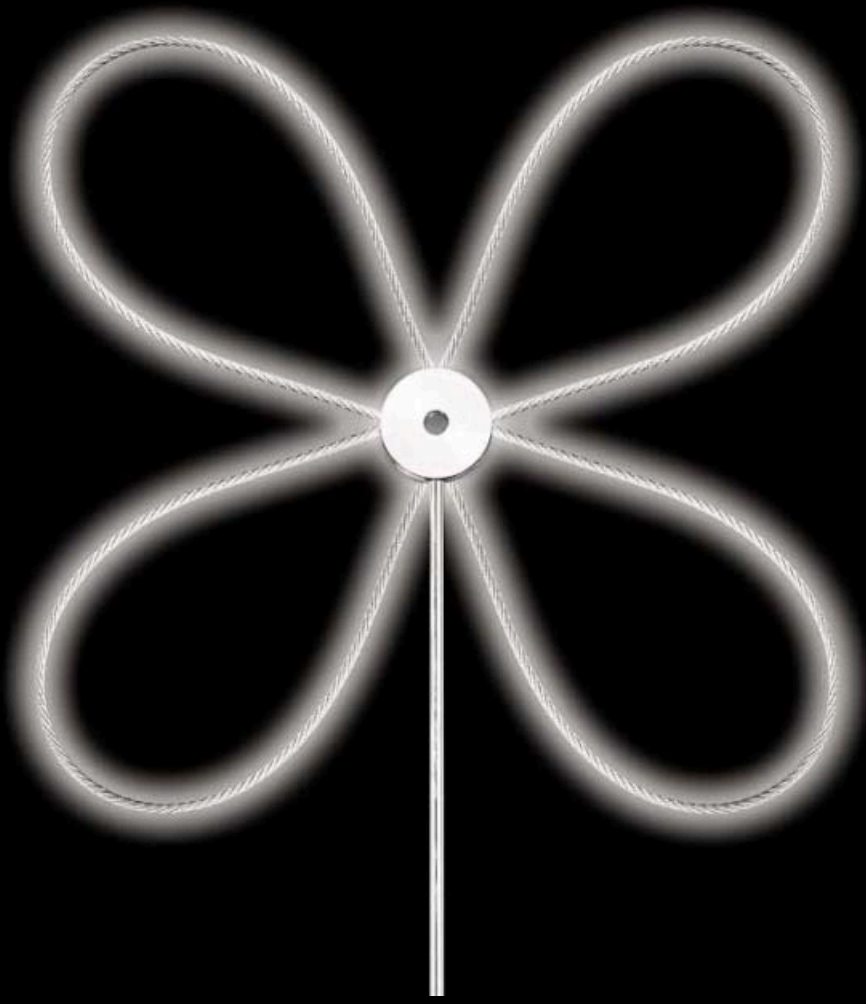
At night, concealed uplighting illuminates the translucent canopy and, by reflection, the steel mesh enclosures. The effect is nicely mysterious, giving the bridge a lighter appearance than in daylight. LEDs housed in posts supporting the handrails ingeniously light the footpath, but this pattern of repeated short vertical light strips is at odds with the flowing horizontal curves of the primary structure.

Johnson Architecture and Planning ignored local custom by boldly aiming high for the Amgen footbridge, and succeeded in making a dramatic and likably eccentric gesture in an otherwise gritty part of town. *John Pastier*



BRIDGE PLAN

PHOTOGRAPHY: © DENNY STERNSTEIN



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Atrium Skylight at the Gaylord Texan Resort & Convention Center. Courtesy VistaWall.

Moses Residence. Courtesy Umicore.

CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read ***GreenProducts: Trends & Innovations*** To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 256, then follow the reporting instructions on page 326 or go to the Continuing Education section on *archrecord.construction.com* and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- *Have an increased awareness of the range of "green" products.*
- *Understand how manufacturing is influenced by green building.*
- *Understand how systems "integration" can improve building performance and earn LEED ratings.*

The Solaire Building is a LEED Gold residential high-rise in Battery Park, New York. Photo by Jeff Goldberg.

Green Products:

Trends & Innovations

As far as sustainable building is concerned, the future is now.

Solar-powered water faucets and flushless toilets, ultra-clear glass, sun-tracking window-shading systems controlled from your desktop computer, elevators that generate electricity on their downward run, shoelace-like carbon reinforcing fiber seven times stronger than steel, and just around the corner–zero net energy skyscrapers.

These are but a few examples of the new technologies driven by a snowballing green building movement. Traditional products, like zinc and copper roofing and cladding materials, have been given a "green" cast, and are undergoing a revival. Sustainable forestry, like "green" energy, is attracting disciples.

Every year, as much as 45 percent of the U.S. energy output is consumed by buildings; lighting, alone, accounts for roughly 20 percent of U.S. electrical consumption. It has been estimated that, if we could reduce overall electrical use for lighting by half, we could save more than $20 billion annually and decrease power plant emissions by millions of tons.

The Holy Grail of sustainable building is a structure that consumes nothing.

"Zero net energy buildings–that's the old Holy Grail," says Rick Fedrizzi, U.S. Green Building Council president and CEO. "Now, the idea is to create buildings that produce MORE energy than they consume. In the not-too-distant future we will see 'restorative' buildings, which not only produce more energy than they consume, but clean air and water and make a positive contribution."

"A lot of what we are seeing today is stuff I was taught in school in the 70's, then, Post-Modernism got in the way. We got caught up in fashion. Now we are getting back to basics." says Gary Graziano, AIA, vice president of marketing for Denver, Pa.-based High Concrete Group, part of a four-member consortium of pre-cast concrete contractors now working with a carbon fiber reinforcing system that reduces the weight and improves the insulating capacity of precast structures.

Just as the "green" building movement has pushed designers to consider new strategies, it has pushed manufacturers to reconsider and refine the way their products work and, more importantly, how they interrelate with other building systems.

The Origins of Sustainable Development

The roots of the "green" movement can be said to have been planted in 1980 when the International Union for the Conservation of Nature produced a World Conservation Strategy (WCS), which not only attempted to ensure that the development agenda informed the environmental agenda, but also attempted the reverse, and drew attention to the need for development efforts to be based upon a respect for ecological processes. After the WCS, the concept appeared in 1981 in the book *Building a Sustainable Society*, by Lester R. Brown of the Worldwatch Institute and in Norman Myers' *Gaia: An Atlas of Planet Management in 1984.*

In 1992, at the United Nations Conference on Environment and Development (UNCED), in Rio de Janeiro, which became known as the Earth Summit, two of the foremost scientific institutions in the world, the U.K. Royal Society and the U.S. National Academy of Sciences, produced their first-ever joint communique which arrived at the conclusion that not only was our development process "unsustainable," but that "the future of our planet is in the balance."

The "green" building movement has pushed designers to consider new strategies, and manufacturers to reconsider the way their products work.

The U.S. National Energy Policy Act also was signed into law in 1992, and a year later the World Congress of Architects meeting in Chicago under the umbrella of the American Institute of Architects (AIA) and the International Union of Architects, framed a Declaration of Interdependence for a Sustainable Future.

Its conclusions: that building materials should have a benign environmental impact, that buildings should be minimal consumers

of energy and other resources throughout their life cycle, should have healthy and pleasing internal environments, foster community, be arranged with accessible green spaces in urban areas, and that they should enable a kind of transport infrastructure to be developed around them in a way that would discourage use of the automobile.

The U.S. Green Building Council (USGBC) also started-up in 1993. It took a decade–and an alarming rise in energy costs– for the organization to reach critical mass. But in the past four years, the USGBC has grown from 600 members to more than 6,000, drawn 25,000 architects to take the LEED (Leadership in Energy and Environmental Design) accreditation exam and, by the end of 2004, was growing at a rate of 150 new members per month.

A crush of new building owners embraces green building as a means of differentiating their project, ensuring the well-being of occupants and achieving dramatic energy savings.

A peek inside the project, from a vendor's perspective, will help us appreciate the extent to which "green" considerations have become pervasive in today's marketplace. Nearly every project today, whether LEED-certified, or not, embodies green principles, and nearly every vendor has a green package.

Manufacturers Can "Green" Your Project

The USGBC certifies "green" buildings, but not "green" products. That role falls to certification organizations like Greenguard, Green Seal, Scientific Certification Systems and the International Organization for Standardization (ISO).

ISO certification ensures that facilities have a published environmental policy, a system of operational procedures in place to protect the environment, measurable environmental goals and trained personnel to carry out an "environmental management plan."

Sun control curtain wall, concealed vents and storefront at the Massachusetts Maritime Academy. Courtesy VistaWall.

"We believe ISO 14001 certification is critical," says Graeme A. Hendry, product development manager and environmental specialist for the commercial division of Tarkett.

"The market is changing dramatically today," Hendry says. "There is more awareness today among architects and designers with regard to environmental issues, but not everybody is on the same page as far as what is a sustainable product."

It has been a decade, Hendry says, since European manufacturers began changing processes to reduce environmental impacts and sought environmental audits to ensure that environmental controls were in place. That movement, he says, has been slow to come to the U.S.

"A problem for architects and designers in this country," Hendry says" is finding products with real (green) benefits, as opposed to what you could call 'greenwash,' marketing jargon that sounds 'green,' but may be a different color entirely.

"I think manufacturers will, before long, have to produce life-cycle analyses of products, from manufacturer to disposal," Hendry says. "Until that happens, architects, themselves, must ask harder questions when it comes to specifying 'green' products."

He says it is responsible to specify wood-based products certified in accordance with the Forest Stewardship Council, vinyl and linoleum products with the highest possible recycled content, and materials that have undergone V.O.C.-testing and been found to be low-emitting.

High-strength Carbon eliminates weight

An innovative precast concrete technology with roots in aerospace design replaces conventional reinforcement with a shoelace-like, non-corrosive, high-strength carbon fiber grid that allows thinner precast sections, can reduce the weight of architectural and structural components by up to 66 percent while offering significantly improved corrosion resistance, durability and insulation value.

A crush of new building owners embraces green building as a means of differentiating their project, ensuring the well-being of occupants and achieving dramatic energy savings.

Developed by an Anderson, S.C.-based structural grid manufacturer, and marketed since early last year by a consortium of northeast precast concrete manufacturers, the new carbon pre-cast products use a resin-bonded fiber grid for secondary reinforcing and shear transfer, have superior tensile properties compared to steel and require only 1/4 inches of concrete cover to be effective compared with 3/4 inches to 3 inches for steel reinforcing.

A carbon-fiber version of a 30-foot-long, six-foot high

architectural panel weighs less than three tons, about a third the weight of a similar-size precast panel. "Its reduced weight allows you to both transport and install larger sections than is possible with conventional precast panels, reducing the number of connections and driving down the weight of the superstructure," says High Concrete's Graziano, secretary of a consortium that includes Oldcastle Precast, Cretex Companies and Metromont Prestress Company.

Lower-weight, thinner carbon-based reinforced sections will not rust, surfaces will not stain or spall, and, because the carbon fiber mesh is thermally non-conductive, sandwich wall panels deliver 100% of the R-value of the insulation used between the outer and inner wythes of a wall panel.

At the same time, improved insulating properties of the new panels lead to more energy-efficient buildings with lower operating costs, making them a suitable choice for environmentally friendly designs and LEED certification, Graziano says. It also controls shrinkage cracks up to 50 percent better than steel mesh in panels and tees, and creates a 100 percent structurally composite section between the outer and inner wythes of insulated wall panels.

"You can make any shape with this material that you can make with precast," Graziano says, "bullnoses, several panes of depth within a panel. You can make a panel that looks 12 inches thick, when in reality it's 1 1/2 inches. Silica flume flyash and slag replace cement in production, reducing cement content to about 10 percent of the overall product."

Copper lasts for Centuries

If LEED has a shortcoming, says David Hunt, manager of architectural services for Rome, N.Y.-based Revere Copper Products, Inc., it is that there is no recognition of durability or product life-cycles.

Taking those factors into account would give long-lasting, wholly recyclable products a ratings boost.

"Copper roofing and cladding products, properly designed and installed, will last centuries," says Hunt. "And at the end of its useful life, it will find its way back into use, and will be used over, and over, and over, again."

Copper roofing at Tryg's Restaurant in Minneapolis, MN. Courtesy Revere Copper Products.

PVC-free interior wall protection. Courtesy C/S Group.

"It's not too far-fetched," he says "to consider that the copper in use today in somebody's roof may once have been carried as a shield by a Roman legionnaire."

Somerville, Mass.-based Charles Rose Architects Inc. incorporated copper roofing in his design of the Carl and Ruth Shapiro Campus Center at Brandeis University in Waltham, Mass. San Francisco-based C. David Robinson Architects turned to copper cladding for the Charles M. Schulz Museum and Research Center in Santa Rosa, Calif.

"Architectural copper, made in the U.S., is 90-95 percent recycled material," says Hunt. New processes, he says, have changed the look of copper. "Patinated" copper products, for example, offer designers a look of naturally aged copper, out-of-the-box.

Eliminating Volatile Organic Compounds

The release of the USGBC draft report *Assessment of Technical Basis for a PVC-Related Materials Credit in LEED*, and the council's refusal to take action on the PVC issue has created a tumult among its membership.

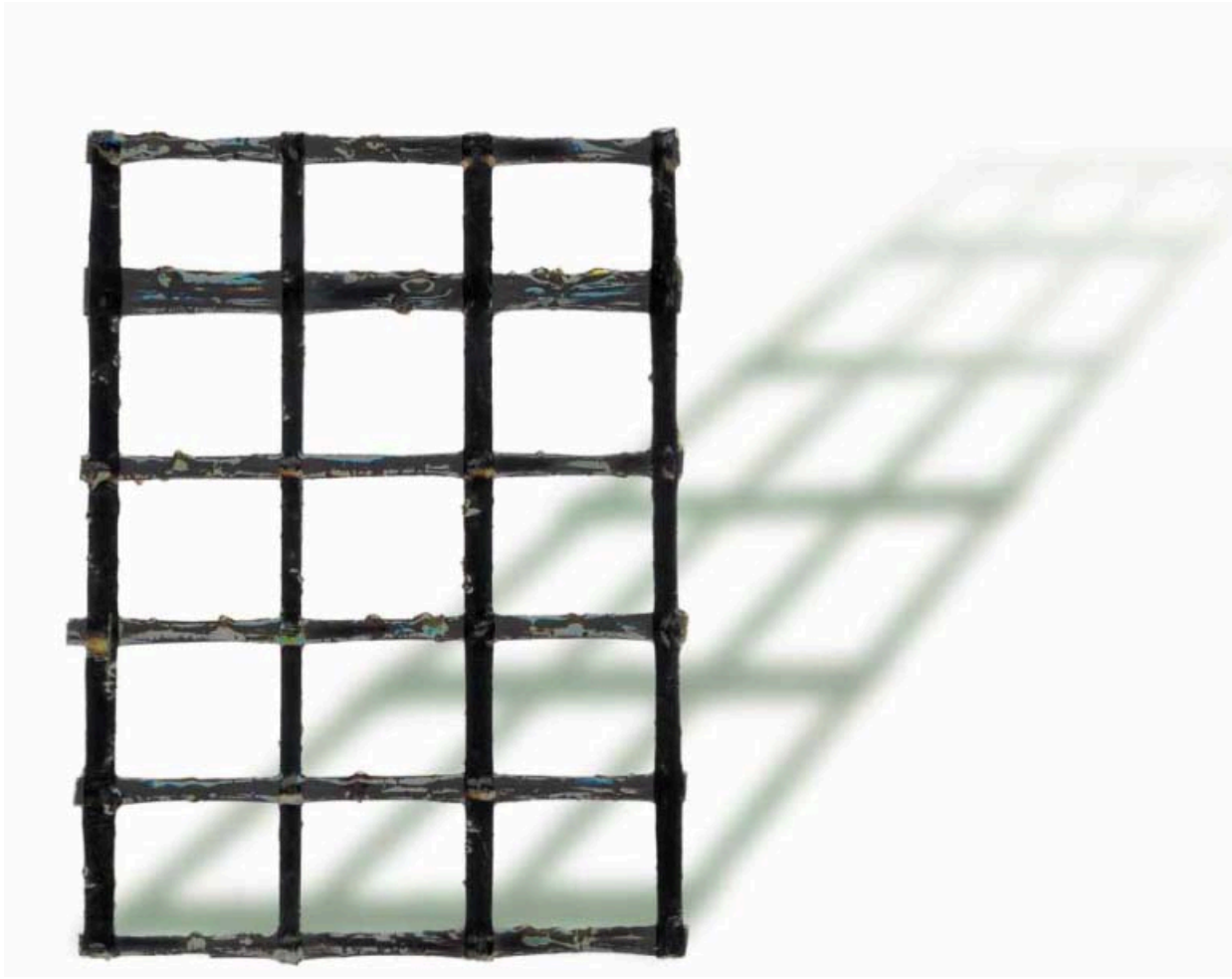
In its most recent newsletter, the Healthy Building Network (HBN), a national network of green building professionals, environmental and health activists, castigated the council for its failure to ban building products with that contain polyvinylchloride, which, when burned, is a source of dioxins.

"PVC wasn't on the radar screen until LEED began its assessment," says Howard Williams, general Manager of the Cranford, N.J.-based C/S Group of Companies, formerly Construction Specialties Inc. "We recognized the problems associated with PVC in 1964. Our customers (the list includes Kaiser Permanente and other hospitals, Williams says) have told us they don't want it, and we will not debate that."

A growing number of manufacturers are moving away from PVC-based and V.O.C. (volatile organic compounds)-emitting materials. Some of the changes are driven by LEED, others by heightened owner awareness that "healthy" buildings make economic sense.

Williams says the C/S Group abides by what he terms

Lean and Green.



Precast concrete may not rank at the top of your list of green building materials. But CarbonCast™ architectural and structural systems will change that. The difference is the C-GRID™ on the inside: an innovative carbon fiber reinforcing technology that makes CarbonCast architectural and structural systems lighter, stronger and more durable than conventional precast—at no additional cost.

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Wallcoverings, handrails, crashrails and corner guards, manufactured from harvested bamboo and FSC-certified wood, are PVC-free, and come with waterborne, V.O.C.-free finishes.

These products are now powder-coated, in an electrostatic process that eliminates the troublesome odor commonly associated with new paint.

"LEED rewards environmentally friendly materials with low-emitting paints and coatings," Williams says. "We search the world for better products."

Zinc is being used today in a growing number of specialty projects in which designers are looking for striking effects.

Much of what LEED mandates today, C/S learned long ago, Williams says–that the benefits of sun controls reduce heat and glare, lowering a building's overall energy costs and increasing worker productivity; that permanent 12 to 18-foot mats at high-traffic building entrances can stop 98 percent of dirt from entering and reduce cleaning by up to 50 percent.

"Architects are probably saying to themselves today 'Product manufacturers are finally starting to get it,' " he says.

Zinc Sustains Life

Zinc as a building material is relatively new to North America. It has been used for centuries in Europe. In fact, today 85 percent of all roofs in Paris utilize zinc.

Its durability, flexibility and malleability make zinc a great material to enhance the architectural pallette. Although relatively foreign to the U.S., it is being used today in a growing number of specialty projects in which designers are looking for striking effects.

The Guggenheim Museum in Bilbao, Spain, is partly clad in zinc. The renovated Herman Miller executive building, in Zeeland, Mich., a Gold-rated LEED project, and an AIA Top Ten Green Project for 2004, is clad in flatlock zinc panels.

Zinc is an environmentally friendly metal and has a unique allure that makes you want to reach out and touch it.

"Other products use a coating or paint to achieve what is natural to zinc–a rich, warm, gray color," says Norbert Schneider, president of U.S. operations for Belgian-based Umicore Group.

Zinc has a long history in building and is incredibly long-lasting. In all but coastal environments, zinc roofs may be expected to last for up to 100 years. It is this aspect of zinc that has led to the material's recent popularity with "green" builders.

It is an element essential for life and most organisms show a very high tolerance to zinc. Rainwater from zinc roofs can be used directly to water plants with no ill effects.

Its high metal content makes it practically 100 percent recyclable.

At Herman Miller, designers at Grand Rapids, Mich.-based Integrated Architecture worked closely with the owner to deliver a zinc-clad facility "that lives up to Class A standards without the marble and other high-end finishes typical of Class A buildings," says Michael C. Corby, executive vice president and design principal. "We basically tried to redefine, to some degree, what are considered luxuries in the office building environment. We placed a high value on natural light. We placed a high value on healthy finishes. We achieved an energy performance level which is about 45- to 50-percent higher than ASHRAE 90.1, which is the minimum that LEED sets as a prerequisite. That is a fairly extreme target to shoot for," Corby says.

"Zinc is malleable and flexible, and answers virtually every architectural demand," Schneider says.

"Its warm, gray coloring is natural and will not wear off, stain or discolor surrounding materials such as painted woodwork, light colored masonry, stucco, or brick.

"It is an excellent choice from both aesthetic and engineering perspectives, and is also a sound business decision. Because it is exceptionally durable and corrosion resistant, it offers life-spans that can be achieved with few other building materials. It is low-maintenance, and our production plants operate under quality management system certified according to ISO 9001.

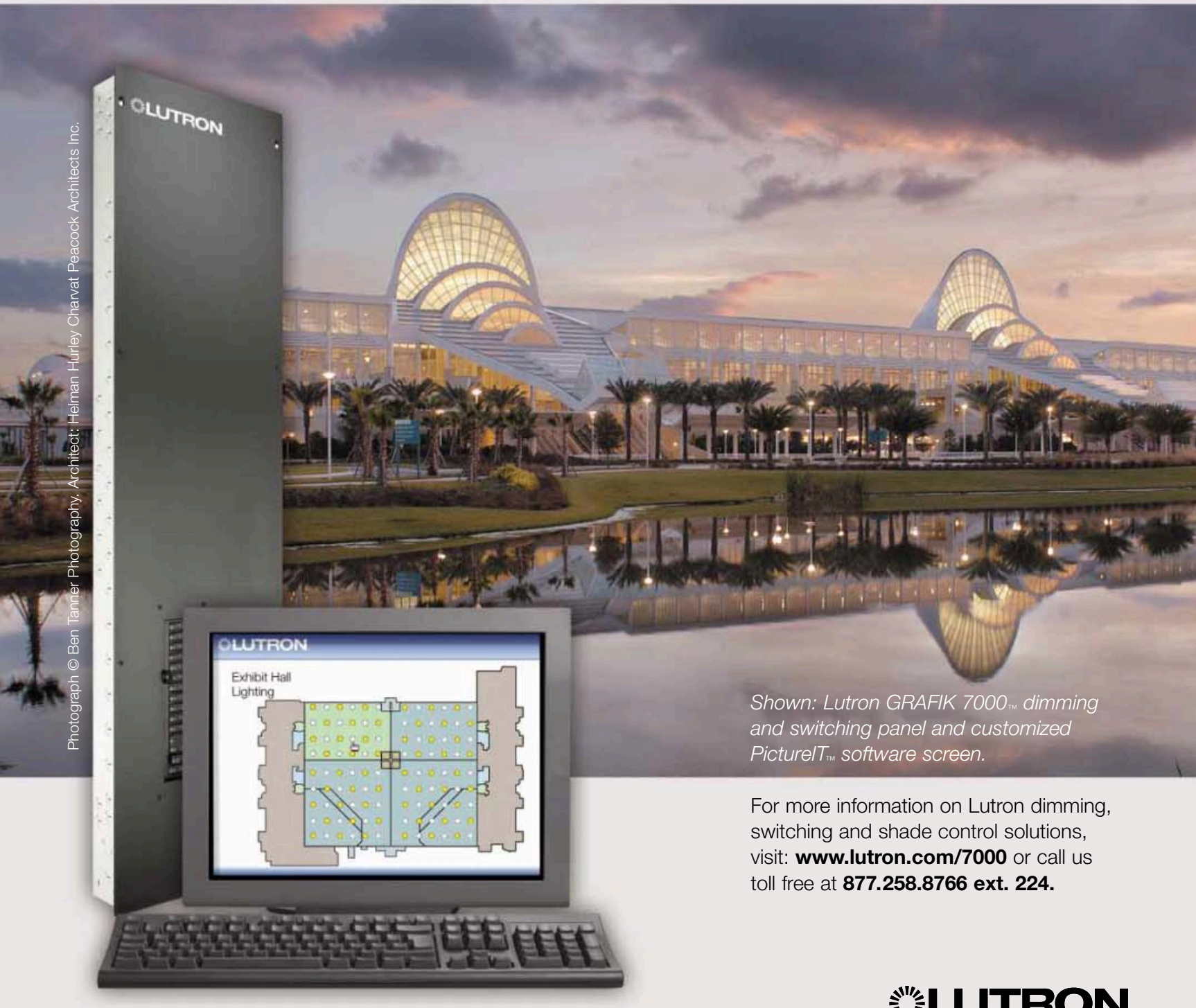
A few precautions must be taken when working with zinc: it is important to remember you are dealing with a natural material and slight variations in color are common and expected.

In general, try to obtain a single batch of material since slight

Zinc sunshade at the University of Cincinnati. Gwathmey Siegel Architects/GBBN Architects. Courtesy Umicore.

Dimming and switching solutions for convention centers

At Florida's **Orange County Convention Center**, facility teams save time and money by controlling over 12,000 lighting circuits — 9,000 switched and 3,000 dimmed — from a single system. Maintenance-friendly features include: 1,000,000-cycle reliability with Softswitch™ relays, customized eLumen™ control software for convenient system operation, and real-time telephone control for changes to event lighting from anywhere in the new 1.3 million square-foot expansion.



Photograph © Ben Tanner Photography. Architect: Helman Hurley Charvat Peacock Architects Inc.

Shown: Lutron GRAFIK 7000™ dimming and switching panel and customized PictureIT™ software screen.

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Linoleum's durability and easy maintenance makes it a smart choice for classrooms and day care centers. Courtesy Tarkett.

differences during production can alter the color slightly. If it is not possible to cover the entire building from one batch, make your installer aware of color variations so they may ensure that adjacent areas are taken from the same batch.

Even within a single batch there may be slight color differences. Installers should be aware that laying zinc is like laying hardwood floors.

Over time, color differential will be minimized by the continuous formation of a protective patina that causes a self-healing, "smoothing effect."

Certain heating emissions can also affect coloration. Sulphur from wood-burning stoves, for instance, may cause zinc around a chimney to take on a slightly yellowish color.

When applying zinc to a wooden substrate, care must be exercised in the type of woods used. Avoid woods with a pH less than five. They can have a corrosive effect on zinc in the presence of humidity.

Plywood as a direct support must also be avoided. It can be composed of acidic wood species or may contain tanins or phenolic glues that will aggravate the risk of corrosion on the underside of the zinc.

In general, zinc is most vulnerable from its underside. To prevent corrosion, a well-ventilated airspace is required, along with a protective barrier to separate it from incompatible supports.

An interesting aspect of green building is application of new technology and the subsequent revival of long-overlooked materials. Roofing can be produced from a number of products, including block tin, ingot copper, antimony, sheet zinc, sheet iron and tin-plated carbon steel, a widely-used sheet metal roofing product.

In the 1990s, metallurgical research and field testing was done to develop an alloy with extremely high corrosion resistance.

The result is a zinc/tin roofing material which is oxygen-reactive and which surpassed 5,164 hours of salt spray-testing with no visible rust.

A formulated combination of zinc and tin makes new tin roofs long-lasting and gives them unique visual characteristics. Alloy roofs are naturally reflective. New, high-tech coatings make alloy roofs even more resistant to ultraviolet radiation.

Coated, or uncoated, alloy roofs are designed to weather naturally to a gray patina and can withstand even severe corrosive conditions in industrial, coastal and salt-water environments, Thomas says.

Sustainable roof designs can range from a traditional standing seam roof to a vertical wall, barrel applications, shingles or customized sections in flat or spherical shapes.

A Good Hard Look at Wood

Courtesy Sustainable Forest

Building materials don't get any greener than wood, the only building material that is renewable, recyclable and produced entirely by solar energy. Its performance in building projects has long established wood as a practical, affordable and efficient material, especially in home construction.

The growing emphasis on sustainable construction is spawning a wide range of eco-conscious innovations in wood, from forestry and manufacturing practices to building design and new product development.

Naturally, Jim Snetsinger, is an advocate for wood, particularly for sustainable forestry practices that promote diversity. As chief forester for the Province of British Columbia, he is responsible for setting the annual harvest of 223 million acres in western Canada, an area twice the size of California.

"We are trying, here in B.C., to manage natural landscapes, and to keep those landscaped as diverse as possible," Snetsinger says. "Diverse forests are more resilient, more disease-resistant and support wildlife in ways that plantations cannot. We replant with trees native to the area and discourage mono-culture planting. Nor do we genetically modify our planting. We do collect the best seeds we can find so that we reforest with parent material that has the best chance of growing fastest and tallest."

Specifiers today have many "green" options: formaldehyde-free composite wood panels, arsenic-free pressure-treated lumber, engineered products with high-recycled content. Medium density fiberboard (MDF) is manufactured from waste sawdust and is fabricated without formaldehyde. Oriented strand board (OSB) is made from relatively low-cost timber species that are fast-growing and non-controversial. Laminated Veneer Lumber (LVL) is an engineered wood product manufactured with waterproof adhesives to pressure-bond wood veneers with grains running parallel to the long dimension of the lumber. LVL's demonstrate a greater ability than dimensional wood in long spans. They carry greater loads and do not shrink or deform, like dimensional lumber.

For example, says Snetsinger, the University of Northern British Columbia, which utilizes Laminated Veneer Lumber long spans "has done a remarkable job of building with wood" and has achieved designs in which glue-lam beams substitute for what in the U.S. typically would be steel or concrete beams.

Zinc/tin roof, painted with solar reflective coatings. Courtesy Follansbee.

Owners build green to differentiate projects

The redevelopment of the former Atlantic Steel Mill at the intersection of Interstates 75 and 85 in midtown Atlanta, once a federal hazardous waste site, is viewed as one of the most significant developments in the city's history.

Development is billed as a "live-work-and-play" destination, a place that, unless you want to go to a ballgame, you never have to leave.

In October, at the National Brownfields Conference in St. Louis, Mo., Atlantic Station, ultimately projected to include 12 million square feet of retail, office, residential and hotel space and 11 acres of public parks, was named the best brownfield redevelopment project in the country.

Atlanta-based Jacoby Development, Inc., Atlantic Station's developer, is now seeking LEED certification.

Elevators Can Be Green

Early in project development, officials of Thyssenkrupp Elevator Corporation, the firm that built Europe's fastest elevator in the DaimlerChrysler building in Berlin and Europe's longest escalator in Prague's metro system, wrote to James Jacoby with the promise of a system that could save nearly half the energy cost of a conventional hydraulic system.

Cars would be double-tracked and run on newly developed kevlar cables, over plastic, or composite, sheaves, making them lighter and more efficient than steel systems. Cabs would be high-tech as well as high-style. Walls and ceilings would be constructed from high-strength, commercial aircraft-grade honeycombing to reduce weight.

A smaller machine would mean the system could be installed in either the pit or hoistway, eliminating the need for a machine room.

The system would include a "regenerative," variable-speed drive with the ability to turn the mechanical energy required to brake a DC brushed motor back into electrical energy, energy that otherwise would be wasted; and an energy optimization system
that would constantly monitor elevator loads and run up to 30 percent faster using surplus horsepower–moving more people for less money.

Its 10K drive system, Thyssenkrupp calculated, could mean cost savings over a 25-year period of more than $257,000. The pitch won Thyssenkrupp the job, says Tim Isbell, Thyssenkrupp's U.S. national sales manager. "We are seeing more and more projects seeking LEED certification," he says, "and we look to contribute."

Hydraulic systems use biodegradable vegetable oil, the bulk of its cold, rolled steel is from recycled material. Emphasis on smaller elevator cores can save 300 tons of concrete over conventional cores.

"Regenerative drives can actually run the customer's electric meter backwards," says Wayne Valencia, the firm's West region president.

Replenished Materials Green NRDC

The Southern California office of the Natural Resource Defense Council, in Santa Monica, is which opened in 2004, remains the showcase for the latest in sustainable design. It is a Platinum building, the highest of the LEED ratings, one of only six to date in the U.S.

"The N.R.D.C. was a curious as we were to find out exactly what was achievable in terms of sustainability in architecture," says Elizabeth Moule, a principal with Pasadena-based Moule & Polyzoides, the lead architect for the project.

Moule set out to design a building that would use up to 75 percent less energy than a typical commercial building of the same size and consume in both its construction and its operation, only renewable resources. Flooring is made of replenished bamboo and poplar. Floor mats and tiles are from recycled rubber; countertops from recycled glass. Wood is from managed forests.

The roof is partly covered by photovoltaic solar panels that provide about one-fifth of the building's electricity.

Light wells and clerestories bring daylight into first floor offices, reducing the need for artificial lighting, and natural ventilation and operable windows meet most of the cooling and fresh air needs. Energy use is reduced through energy-efficient computers and equipment, dimmable electronic ballasts, occupancy sensors and lighting geared to specific tasks. Moule specified energy-efficient low-mercury lamps to reduce mercury emissions.

When air-conditioning is needed, a high-efficiency system uses displacement ventilation to focus cool air where it is needed. Toilets in the building use water recovered from showers, sinks

Emphasis on smaller elevator cores can save 300 tons of concrete over conventional cores.

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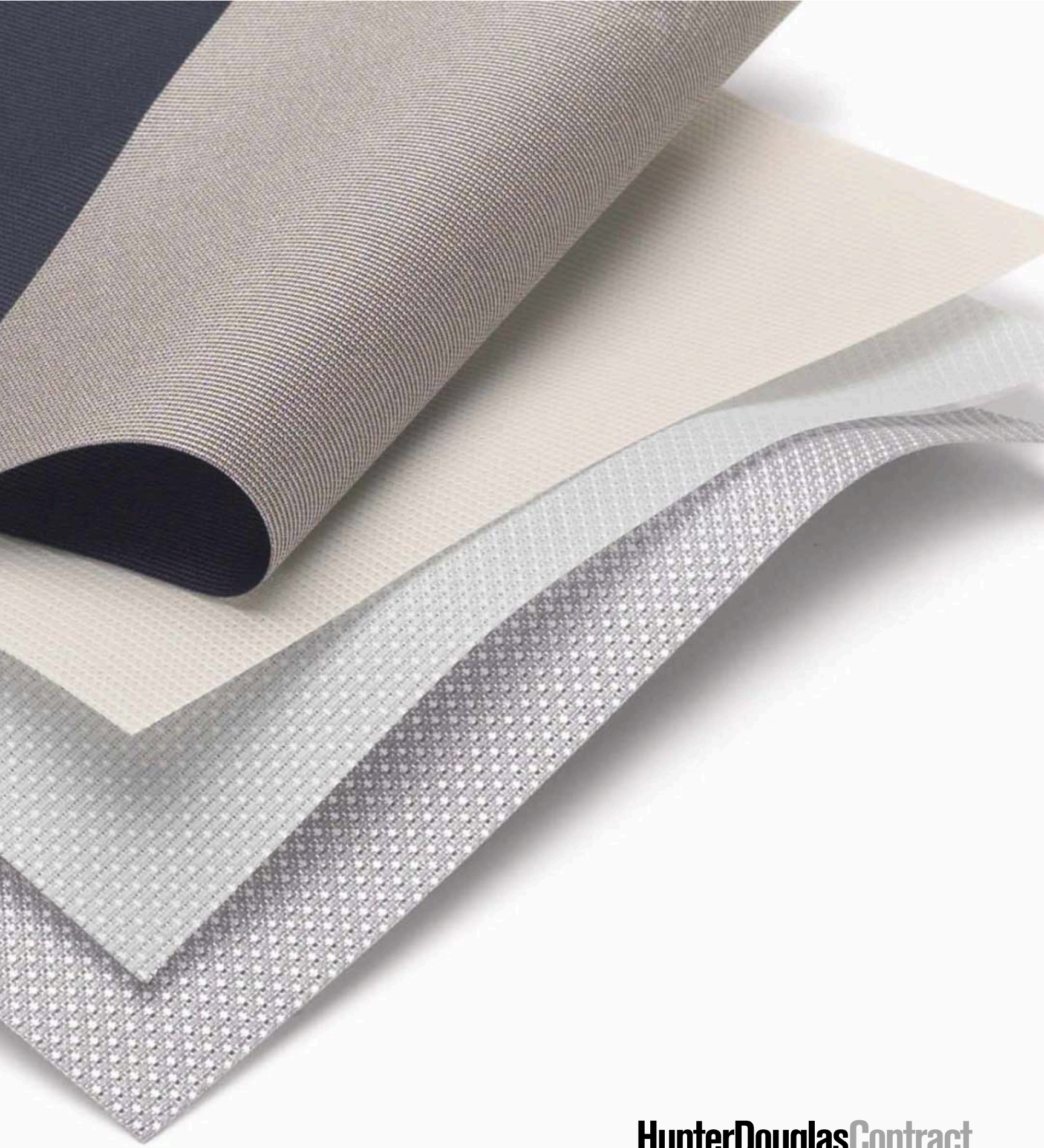

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SOLAR CONTROL

and rainfall, and are dual-flush systems, permitting a half-flush of about 0.6 gallons or a full flush of 1.2 gallons.

"Every single drop of water that falls on this building is captured and harvested," says Moule.

For the rest of its energy needs, the N.R.D.C. buys renewable energy generation credits (wind certificates). As a result, 100 percent of its energy is provided by renewable sources.

As efficient as it is, the N.R.D.C model already is being challenged.

Controlling Natural Light

A "green" building on the other coast, the Genzyme Center in Cambridge, Mass., was designed by Behnisch, Behnisch & Architects, Stuttgart, Germany, to be one of the most environmentally responsible office buildings ever built in the United States.

At Genzyme, all the interior lighting participants–those involved with active solar controls, interior lighting and lighting control–met very early in the project and continued to meet as a team, says Tom Myers, senior sales manager for corporate accounts for Coopersburg, Pa.-based Lutron Electronics, Inc., a manufacturer of lighting and shading controls and systems.

From the time its 350,000 square foot, 12-story, Cambridge, Mass. headquarters building was conceived, Genzyme was in pursuit of a Platinum LEED rating. The building is still under review by the USGBC.

Genzyme went to extraordinary lengths to maximize the benefits of natural daylighting.

A rooftop heliostat (which tracks the sun as it moves across the sky) is anchored above a 12-story atrium, and, combined with a network of mirrors, drives sunlight down through the atrium. Reflective motorized blinds and reflective ceiling panels drive natural light from perimeter windows to the floorplate.

Filigree concrete slab-construction provided cantilevered floors and wide spans, allowing for an extensive glass exterior, a third of which is a double-façade. More than 800 operable windows and a highly efficient glass envelope are expected to contribute to an overall 40 percent savings in energy costs.

Power from renewable resources and by-product waste steam provide all the building's energy. Water use is reduced 32 percent by use of efficient fixtures, including waterless urinals and dual-flush toilets. An electronic management system enables the building to respond to external conditions to control air flow and natural and artificial light levels.

Energy use is reduced through energy-efficient computers and equipment, dimmable electronic ballasts, occupancy sensors and lighting geared to specific tasks.

More than half of all materials at Genzyme Center contain recycled content; more than 90 percent of construction waste was recycled. It was located less than two blocks from public transportation and was built on a former "brownfield" site, all factors influencing its LEED rating.

Genzyme project. Cambridge, MA - photo by Peter Vanderwalker

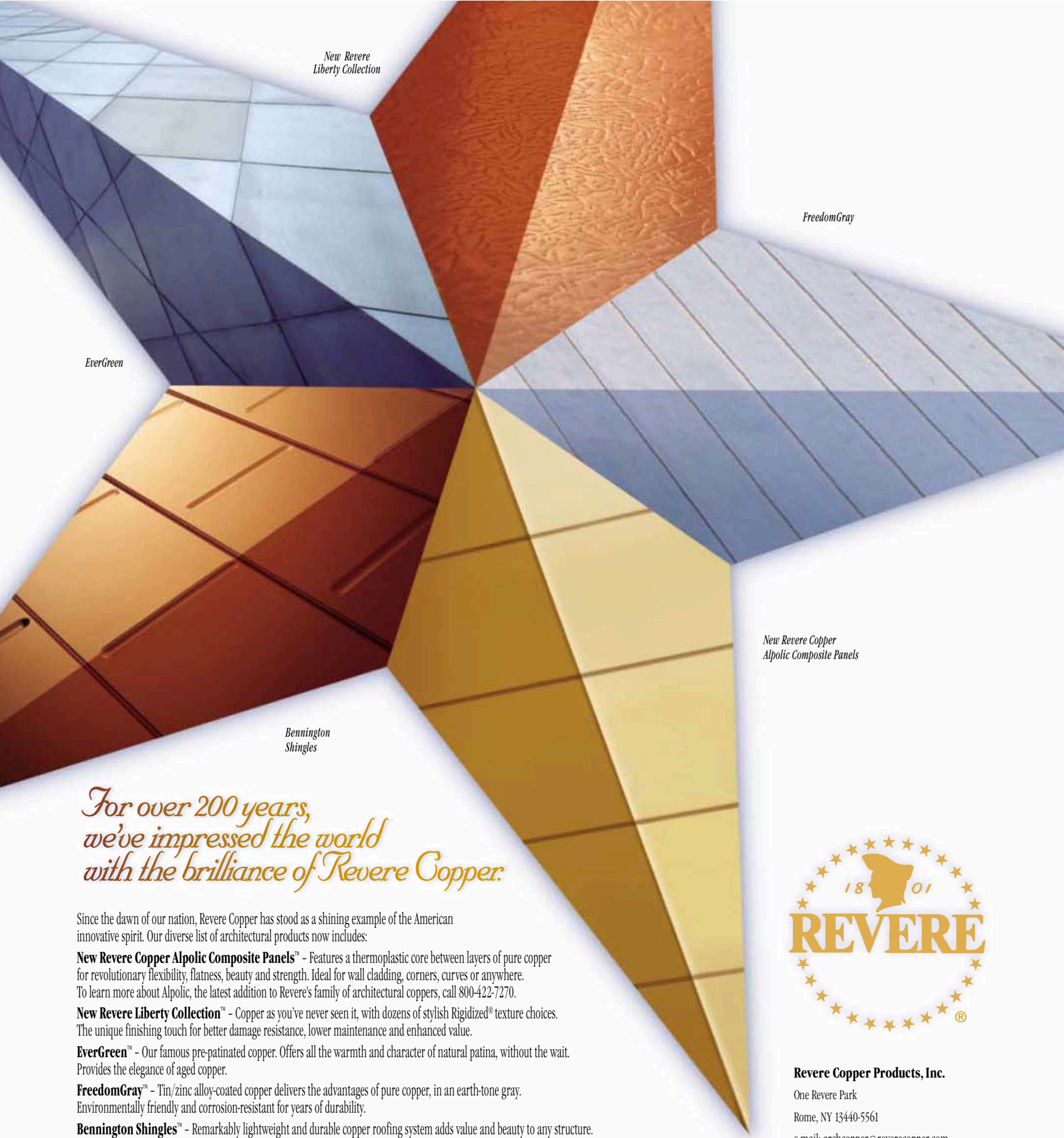
"What was especially important about Genzyme was the degree of integration of the vendors," Myers says. "In the past 12 to 24 months, all the major U.S. design houses have gotten their arms around electric lighting and daylighting control, but the architectural community, in general, still is very much in the dark with regard to the integration of what, until very recently, have been viewed as separate systems. This is new ground.

The concept of bringing control of the office environment closer to the individual, via, say, internet-activated, space-age, window shades–that also is new territory," he says.

As office tasks change, Myers says, optimal dimming systems integrate control of electric lights and daylight. Shading, lighting and controls now work either automatically, or remotely. State-of-the art systems are a hybrid of both.

State-of-the-art centralized lighting control systems now can accommodate up to 32 linked processors governing up to 16,000 lighting zones, 6,000 wallstations and 2,000 power panels for seamless integration of dimming, switching, window shading and daylighting to create incredibly sophisticated and comprehensive lighting control systems.

With the new tools, office workers can monitor and operate lighting and related systems from any computer with internet



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access and adjust fluorescent lighting levels with a mouse click. Facilities managers can log onto home computers to check and adjust security lighting.

"Daylighting, and daylighting controls, are the starting points for every sustainable project I can think of," says Myers. "The task, now, is to control that light. Sophisticated systems now attempt to bring control of the environment as close to the occupant as possible.

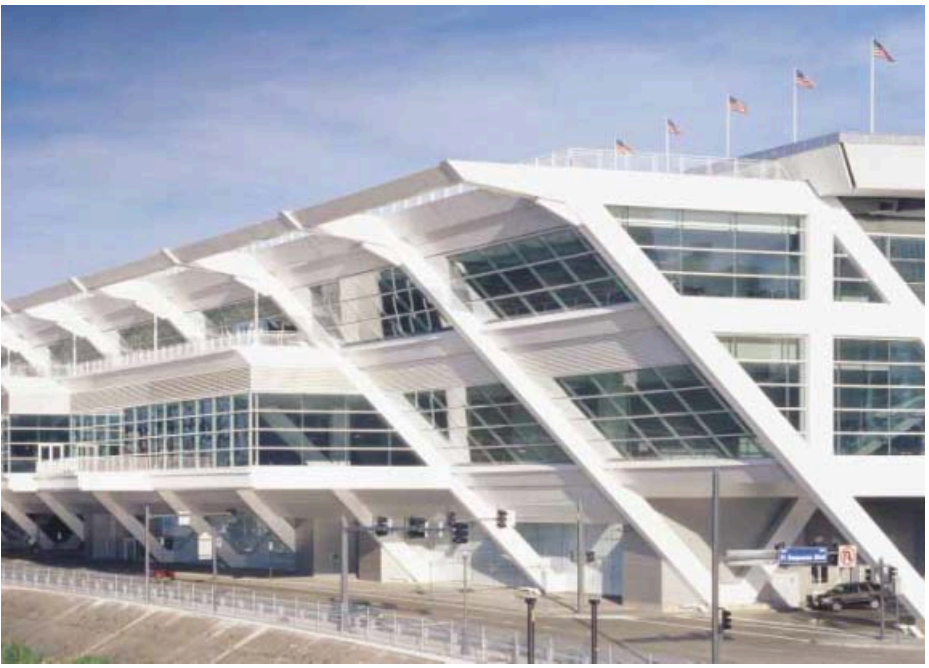
In the area of lighting control, we have moved light years beyond occupancy sensors. Dimming fluorescent ballasts are two-to-three-times as effective as they were just five years ago.

New Waterless Generation

"Waterless fixtures have been around for a dozen years, but it has taken the 'green' movement to give waterless technology a jump-start," says Jim Allen, LEED-certified water conservation manager for Franklin Park, Ill.-based Sloan Valve Co.

"Some users of early water-free fixtures were disappointed by their performance," he says. "Many of those same users have found success with new products. New technologies have been developed and new players have entered the game. There are, maybe, five players in the waterless game today. In a few years, it is likely there will be another five. As little as five or six years ago, sustainable building advocates were regarded as environmental zealots. Now, products and applications they were talking about have become mainstream items, and the number of 'green' buildings has grown by leaps and bounds."

Allen says it won't be long before the U.S. Environmental Protection Agency adopts a long-discussed WaterStar program to parallel its successful EnergyStar program. "The concept of conservation has even been embraced by state government officials–Arizona's recent adoption of legislation mandating water-free urinals is an example."



David L. Lawrence Convention Center. Courtesy PPG Glass.

Graywater reuse, an element of the water conservation strategy at Genzyme, "has yet to come into its own, but water reuse represents a huge opportunity," Allen says.

The World's Largest Green Building Saves Water

At Pittsburgh's 1.5 million square foot, David L. Lawrence Convention Center, the largest certified green building in the world, Rafael Vinoly Architects employed natural ventilation, daylighting and sensors for both light and air quality. David L. Lawrence also boasts a water reclamation system that reduces potable water use by more than 75 percent.

What we have learned over the past four years, is that it doesn't cost a great deal more to construct a green building than it does to build a conventional structure.

Skylights and engineered glass curtain walls are glazed with ultra-clear glass and newly-formulated coatings to admit natural light to 75 percent of the center's exhibition space. Zero-VOC, low-odor, Green Seal-certified interior paints contributed to LEED ratings.

Overall energy savings at the center, which received Gold LEED certification in 2003, have proven to be about 35 percent over traditionally constructed convention centers.

The center employs a graywater system that recycles water for use in toilets and urinals. Water is conditioned by an aerobic digestion and sub-micron filtration system, and a final step of ultraviolet light treatment that produces an effluent that is odorless and colorless.

The system recycles 50 percent of the center's water and saves an estimated 6.4 million gallons of water annually. Pulse-powered treatment of cooling tower water to eliminate bacteria without chemicals saves an additional 1.8 million gallons of water each year.

Sloan created the water conservation position Allen now occupies in 2003, partly in response to demands for greener products. "LEED registrants are pushing conservation further and further. We have a very aggressive development program for new products to meet that demand," Allen says.

On that list are automated "solar" faucets that draw their energy from fluorescent lights; highly efficient, "pressure-assist," one-gallon toilets that a Landsdale, Pa. hotel developer says saves nearly 565,000 gallons of water annually; rainwater catchment systems to reduce potable water consumption and dual-flush toilets–common in Europe, required in Australia–that vary water usage depending on the use; and composting toilets that do away with water use altogether, or "evacuation" systems, similar to those on airplanes.

"The cost of all these systems is dropping as we become more familiar with them," Allen says.

"What we have learned over the past four years, is that it doesn't cost a great deal more to construct a green building than it does to build a conventional structure," says Tary Holowka, USGBC communications manager. "Certified and Silver ratings, generally, can be achieved at no additional cost. The cost of reaching Gold certification is, on average, between three to five percent; Platinum from five to seven percent."

Daylighting the Key to N.Y. Times' Rating Run

The Renzo Piano-designed New York Times Company world headquarters building, under construction in midtown Manhattan, has been termed "the most ambitious lighting experiment in American commercial real estate."

It also expresses another emerging trend in U.S. architecture, the widespread use clearer, high-transmittance glass. The New York Times building will utilize an increasingly popular, low-iron, ultra-clear glass.

Mark Fanelli, director of new products for PPG's Flat Glass business unit says the introduction of new low-E coatings in combination with ultra-clear glass represents "a significant breakthrough" because it allows architects to specify ultra-clear glass for vision glass, skylights, entries and spandrels without sacrificing energy performance.

"One of the prevailing trends in architecture today," Fanelli says, "is a call for vision glass that exhibits the highest possible level of transparency and visual clarity. Unfortunately, the desire for that aesthetic is usually at odds with the architect's equally profound desire to design and construct buildings that are energy efficient and environmentally responsible. New products are engineered to give them the best of both worlds."

PNC Firstside Center. Courtesy PPG Glass.

Glass Becomes Ultra-Clear

A double thermal-pane glass curtain wall will be screened by thin horizontal ceramic tubes anchored by a steel framework one to two feet in front of the glass. The irregularly spaced horizontal rods will bounce daylight up to the ceilings of the tower's interior, creating a high degree of energy efficiency in heating and cooling the building and taking on the changing color of the sky during the course of the day as light strikes them from different angles.

The number of green buildings has grown by leaps and bounds.

The New York Times daylighting scheme is so radical that the Lawrence Berkeley Laboratory, a project participant, commissioned a 4,500 square foot. mock-up in the parking lot of the company's printing plant in Queens to determine how the system will perform. "I can't begin to describe how much data Berkeley has generated in its effort to perfect the system," says Jan Berman, president of Long Island-based MechoShade Systems, Inc.

Turner Construction Co., the general contractor, dismantled the mock-up in November and is rebuilding it in accordance with new project specifications calling, among other things, for a "brightness override" that will fine-tune automated shading and interior lighting controls. Not only will the automated window shading system move to pre-set positions according to the angle of the sun, but 600 light sensors throughout the building will allow the system to react to factors like light reflecting from nearby buildings.

The Times project will also feature window shades made of a new two-sided, PVC-free fabric developed in concert with McDonough Braungart Design Chemistry (MBDC). The fabric was designed specifically to meet Piano's requirements for a material that would allow the greatest possible light transmittance, permit views to the outside, and, at the same time, reduce glare.

"This project is the earliest we've ever been brought to the table under contract," Berman says, "but it was necessary in order to optimize the lighting control package. Steel hadn't even gone out when we began discussing lighting.

"It was essential," Berman says. "We are working increasingly with dynamic systems in which shading, lighting and controls all are part of an overall system designed to harvest natural light to the greatest extent possible, control solar heat gain and, at the same time, provide workers with the greatest degree of comfort possible."

The U of O's Colors? One of Them Is Green

The $40 million Lillis Business Complex, which opened in 2003 on the University of Oregon campus, even in predevelopment sessions, was envisioned as a building that would slash power bills, set new standards for environmentally

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Sun control curtain wall. Courtesy VistaWall.

friendly design and serve as a case study in sustainability.

Its classrooms, carefully positioned to maximize their exposure to natural light, can be used almost year-round without electric lighting; external shades and light shelves regulate room temperature; "smart" lighting adjusts to daylight levels; and sensors turn off lights and other non-essential items in unoccupied rooms.

An extensive ventilation system and extra thermal mass in the building's concrete structure enable it to retain more heat on cold days and stay cool naturally through most of the summer. Photovoltaic panels generate about 35 kilowatts of clean solar energy.

The building also saves water through low-flow fixtures and an "eco-roof," which uses rain to grow beneficial vegetation instead of draining to the ground.

The university's Sustainable Development Plan, implemented in 2000, requires that the design principles expressed by Portland-based architect SRG Partnership, PC, in Lillis' plans be applied to all new campus building projects.

In its Lillis design, the university was shooting for LEED Silver. It has not yet been certified.

To maximize natural light, the university sought a translucent curtain wall system into which photovoltaic panels could be glazed.

"The project was designed and built to LEED Silver requirements, and the university employed curtain walls, glass entrance systems and skylights that provided diffused lighting," says Fred Grunewald, Vistawall research and development manager. ■

Recycling is the Heart of Steel

The U.S. Steel industry underwent a transformation in the 1970s, and, today, steel manufacture takes less energy and is done with one-tenth the manpower it took 30 years ago.

In 2003, almost 69 million tons of steel were recycled in the U.S. or were exported for recycling. About 88 percent of all steel products, and nearly 100 percent of steel used in beams and plates in construction, are recycled into new steel products at the end of their useful life.

"We have achieved a very efficient production process and a very high level of recycled content," says Christopher Hewitt, a LEED-accredited staff engineer with the Engineering and Research Dept. of the Chicago-based American Institute of Steel Construction, Inc. "What we are saying today," Hewitt says, "is that steel is a good choice for sustainable projects."

An emerging method of analyzing the environmental efficiency of materials is the use of embedded energy approaches, sometimes referred to as life-cycle analysis (LCA). The method involves calculating the total amount of energy associated with the production, manufacture, transportation and construction of materials, their components and by-products.

Unfortunately, LCA is still in its infancy, and comparisons are difficult, not only in structural components, but in almost every aspect of construction. No credible study has yet been done, for instance, comparing the embodied energy of structural wood products to steel or concrete in the U.S. construction market, Hewitt says.

LEED, he says, is moving slowly in the direction of life-cycle analyses that would award credits for durability and longevity, but it is unlikely that that meaningful data from such studies will be available soon. LEED, however "provides a snapshot of what is going on in the manufacture of building materials," Hewitt says, "and its emphasis on recycling and reuse means that framing with steel can earn owners 'green' credits."

The electric arc furnace (EAF) process, the primary method in the manufacture of structural beams, steel plate and reinforcing steel, now uses 95-to-100 percent recycled steel. "Recycling is second-nature for the steel industry," Hewitt says.

Because it is produced to exact specifications, on-site waste is negligible. Material from construction and demolition is easily recycled, and, because it is dimensionally stable, steel creates a tight building envelope, leading to better HVAC performance over time.

"To enhance LEED ratings," Hewitt says, "it will be important to know the percentage of recycled steel that is 'post-industrial' and the percentage that is 'post-consumer.'"

That will require data from the mill where the material is obtained. To access that information, Hewitt urges users to contact the mill directly or to visit the AISC website for recycled-content templates from member mills.

For a more thorough understanding of the recycled content of steel, Steel Recycling Institute (SRI).

Courtesy AISC.

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The article continues online at: http://archrecord.construction.com/resources/conteduc/archives/0502green-1.asp

To receive AIA/CES credit, you are required to read this additional text. For a faxed copy of the material, contact Marissa Wyss at *Architectural Record*, (212) 904-2838 or e-mail marissa_wyss@mcgraw-hill.com The following quiz questions include information from this material.

AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series

LEARNING OBJECTIVES

After reading this article, you should be able to:

- ***Have an increased awareness of the range of "green" products.***
- ***Understand how manufacturing is influenced by green building.***
- ***Understand how systems "integration" can improve building performance and earn LEED ratings.***

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self-report form on page 225. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self-report form on *Record's* website—*archrecord.construction.com*—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. Today, 95 percent of all roofs in Paris are made of _____.
- **a.** composition shingles
- **b.** slate
- **c.** zinc
- **d.** tile

2. High efficiency toilets consume as little as ___ gallons per minute of water.
- **a.** 3.2
- **b.** 0.6
- **c.** 1.8
- **d.** 2.3

3. The percentage of recycled content in architectural copper is___.
- **a.** 35-40 percent
- **b.** 50-60 percent
- **c.** 75-80 percent
- **d.** 90-95 percent

4. The primary U.S. method of manufacture of structural beams, steel plate and reinforcing steel, now uses 95 to 100 percent recycled steel.
- **a.** true
- **b.** false

5. A new generation of high-efficiency elevators use __ percent less energy that traditional hydraulic elevators.
- **a.** 19
- **b.** 25
- **c.** 30
- **d.** 65

6. Crucial to the energy-saving scheme at Cambridge's Genzyme Center was a rooftop _____.
- **a.** helipad
- **b.** heliptrope
- **c.** heliostat
- **d.** heliometer

7. The U.S. Green Building Council is an association that "certifies" green building products.
- **a.** true
- **b.** false

8. New high-strength carbon fiber reinforcing grids can reduce the weight of architectural and structural panels by up to __ percent over traditional precast.
- **a.** 25-30
- **b.** 40-45
- **c.** 90
- **d.** 66

9. Zero net energy skyscrapers are___.
- **a.** a fantasy
- **b.** a likelihood
- **c.** common in Europe
- **d.** a mandate by Gov. Arnold Schwarzenegger

10. Green buildings provide owners with a means of___.
- **a.** differentiating their product
- **b.** ensuring the health of occupants
- **c.** achieving significant energy savings
- **d.** all of the above

natural

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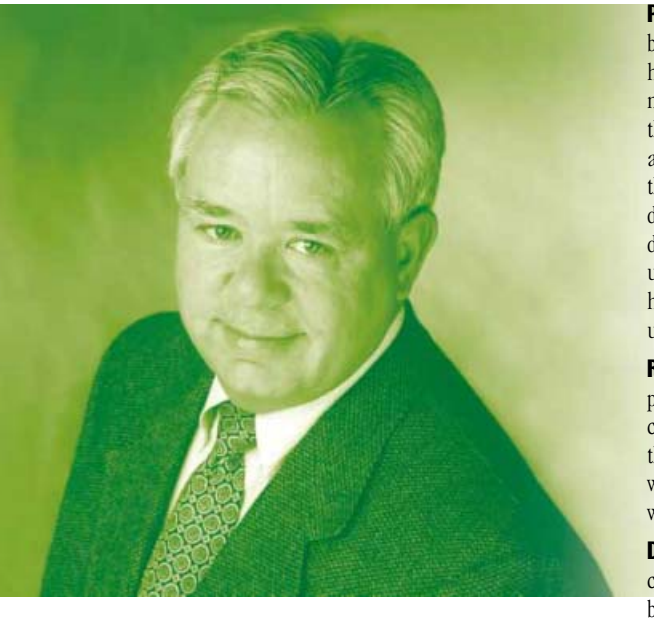
ON RECYCLING

Moore

CHANGES What you have to keep in mind is that getting rid of waste material is a big expense. The demolition industry is a lot more sophisticated than it used to be. There's new equipment. Government regulations are tighter...and harder to comply with. We've become more involved in recycling than ever before.

Bill Moore, Vice President, Brandenburg Industrial Service Co., Chicago, one of the largest demolition companies in the U.S. President, National Demolition Association. Degree in Safety, Indiana State University. Spent a decade in insurance and safety specializing in the construction of high-rise buildings, another in demolition safety, and another in marketing for Brandenburg.



PROCESS First thing we do is gut the interior of a building as much as possible and do whatever handwork is needed. We remove all the hazardous materials – mercury bulbs, asbestos, that sort of thing. And if there's office furniture or architectural artifacts, et cetera, left in the building, we'll pull them out and re-sell that too. Then we'll tear out the drywall, glass and wood – basically strip the building down to its structure. Once we're ready to wreck, we use a crane to drop a big machine on the roof to hammer out the concrete floor by floor, crushing it, until we're at ground level.

REALITY We don't necessarily recycle for good "green press" – it's economics pure and simple. Anything we can salvage out of a building, we'll do it because there's a market for it. The more we recycle, the more we salvage and less we landfill, the more competitive we can be for our customers.

DELICATE Brandenburg does much more than complete demolition. One job we did – the Rookery building at the corner of Adams and LaSalle – is the oldest high-rise building in downtown Chicago. It's a landmark, more than 100 years old. So the owner decided that rather than tearing the building down, it should be completely gutted to make way for a modern interior. So we do work like that too.

COSTS If we go to a landfill with a load of concrete, it's going to cost three or four hundred dollars here in Chicago – and probably double that on the East Coast. Landfilling concrete is expensive, so we're always trying to find different things to do with it. We'll crush it, use it to fill basements, try to find other jobs that need fill – we even have portable crushers to make it into CA6-type material for road beds and parking lot bases. Anything to get rid of it.

WORTH Concrete, basically, has no value. Even when we recycle it, we still have the expense of crushing it, which is about 10 to 50 dollars a truckload. While that saves us from having to go to the dump with it, it doesn't have a positive value. You'll never break even. Steel, on the other hand, has always been valuable. And like other commodities, the price varies quite a bit – right now, we're in a very good position when we sell steel.

SHIPPING Let me explain something about the transportation of material. You have a tractor trailer and it weighs about 40,000 pounds. Well, the legal load limit on most highways is 80,000 pounds. So you're going to put 40,000 pounds of material into the back of the truck. It really doesn't matter whether it is filled with steel or concrete because you're not going to load that trailer to water level and still be legal. But because steel is so much lighter and less bulky, you get rid of a greater percentage of material each time you load a truck with steel. To ship material is expensive – you want to do it in the least amount of trips.

PLANNING Building owners and developers need to think about demolition someday – what's going to happen to the material when the building isn't useful anymore? There's a movement by the Green Building Council pushing owners to think about their building when it has to be torn down. If you make a building out of steel, it will always be recyclable. Steel will always have value.

MIXING Try to picture a pot of molten steel, it's kind of like a big pot of stew or soup. When you're cooking and you want to make it spicier, you just put an additive in. But instead of pepper, you might put in more manganese or chrome. That's what's called altering the chemistry of the batch. Basically, if you're making structural steel, the mill will put in a base of reclaimed structural steel – like a recipe. Now if we were making re-bar, the chemistry for that is completely different than structural steel.

STEEL We always factor the scrap price into a project. In fact, there are jobs valuable enough that we will actually pay to do the work just for the scrap material. We're even going back to bids from a year and a half ago where we said we'd wreck the building for a quarter of a million dollars. Now, we're calling them up asking to do the job for free. We might even give them 50 grand or something like that. That's the great thing about steel – it always has value.

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Vistawall Architectural Products' Solar Eclipse™, a sun-control product easily installed into a CW-250 curtain wall system, can add unique design elements while also shading its interior and conserving energy. Louvers are available in radius, airfoil, diamond, circular, rectangular, square and Z-shaped.

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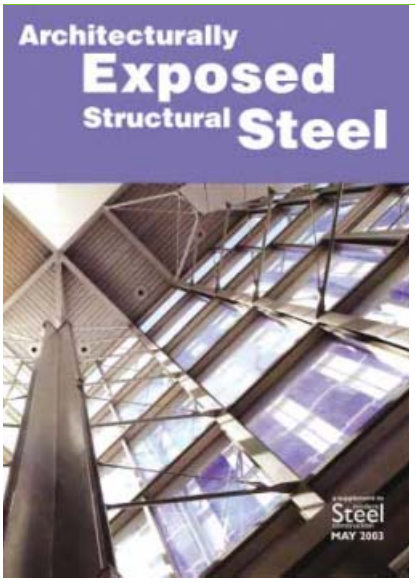

AISC

Architecturally Exposed Structural Steel Guide

The American Institute of Steel Construction's 16-page guideline helps industry professionals communicate in a standard language to facilitate accurate pricing, budgeting, bidding of projects. Ensure your Architecturally Exposed Structural Steel projects match your intent. Visit www.aisc.org/aess for a FREE download.

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Thyssenkrupp

At ThyssenKrupp Elevator, we've developed products that support the LEED system with the goal of helping construct a greener building: ISIS elevator systems are among the greenest elevators ever created and use up to 30% less energy than traditional hydraulic elevators. vMax is an energy optimization system that lets you move more people for less money. Contact us today for more information.

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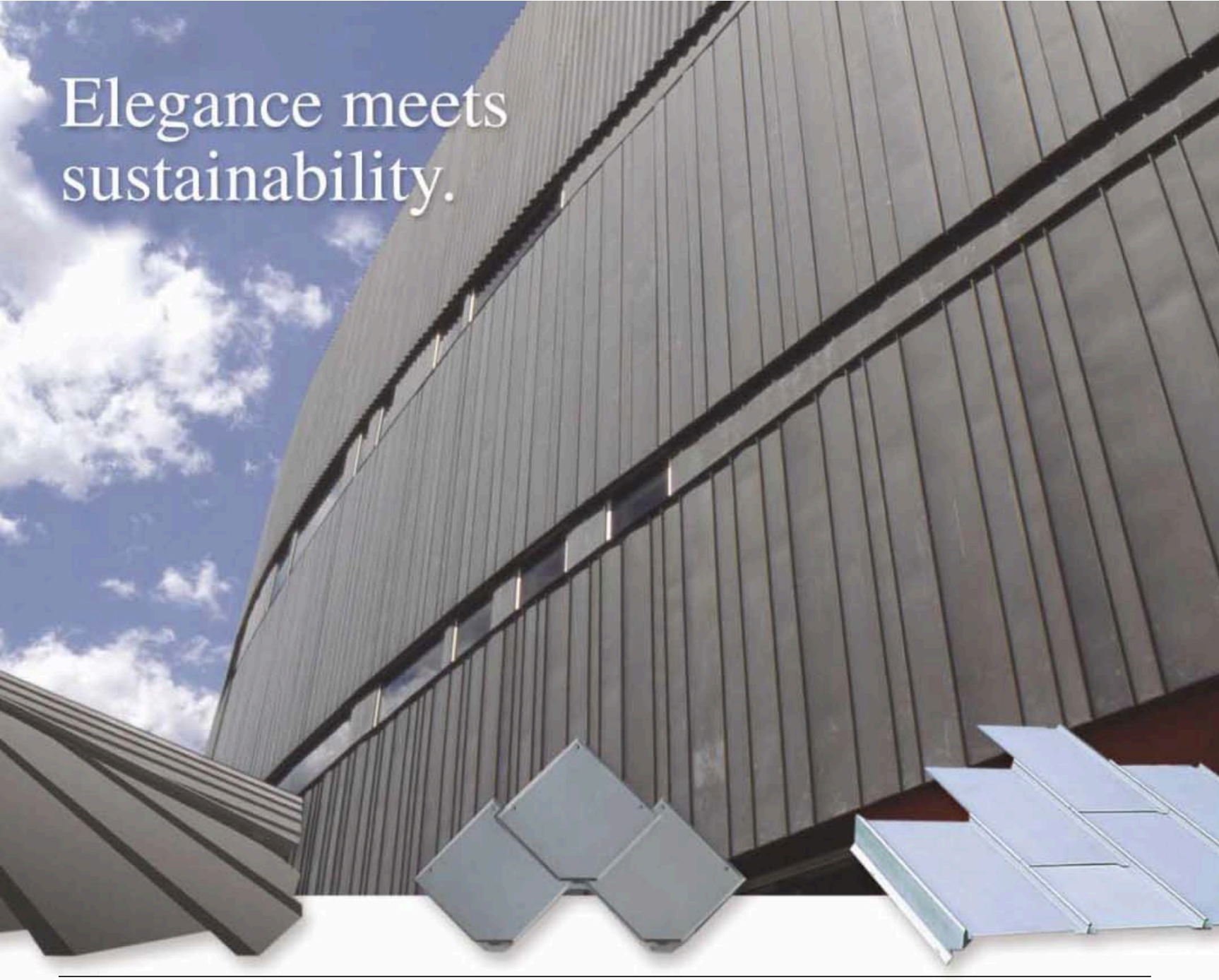

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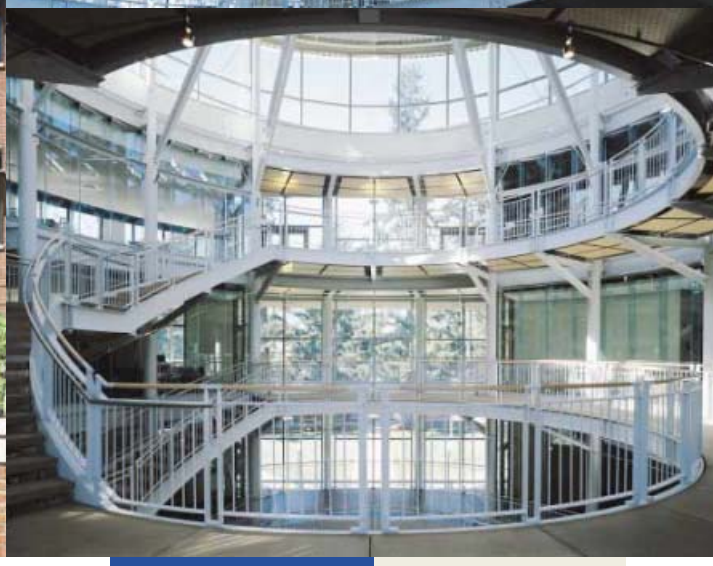

Lillis Business Complex at the University of Oregon, Eugene, SRG Partnership

Before the first line was drawn, sustainability was a vital part of the plan for the Lillis Business Complex at the University of Oregon. The goal was to design a building that demonstrated environmental stewardship.

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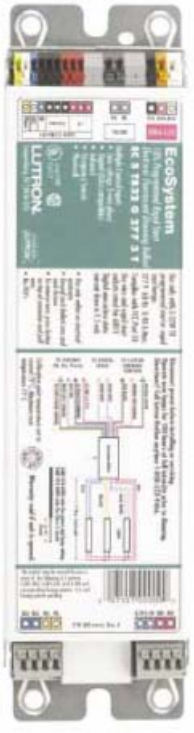

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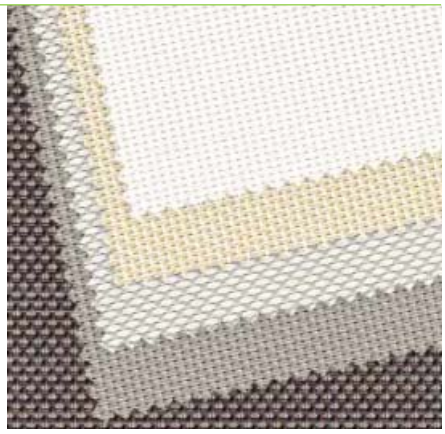

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Interiors

Updating a historic library, a modern museum, and a residential loft, architects insert forms to shape space

BRIEFS

The new Benjamin Moore Color Space at the New York Design Center in Manhattan assists designers and architects in selecting colors for projects. Within the Henredon Showroom, the facility offers direct online access to more than 3,300 hues in the company's color system. Available aids include catalogs, color decks, and color chips. An updated, 832-page edition of the Museum of Modern Art's ***The Design Encyclopedia*** by Mel Byars features 3,600 entries covering the past 130 years in the history of the design of furniture, lighting, fabrics, ceramics, glassware, metalware, and objects in a range of other materials. Over 700 color illustrations are mostly drawn from the MoMA collection.

CONTENTS

Parents and children have architecture to thank for making them feel welcome at the J. Paul Getty Museum in Los Angeles. While Richard Meier's complex was a milestone in his career, the new Family Room by the young firm Predock_Frane Architects introduces fresh energy into an educational space. Interactive activities attract museumgoers as they circulate around and through a sculptural, stainless-steel-clad central structure.

The program requirements of public libraries have vastly changed over the past decade, with new information technologies such as Internet access pushing far beyond repositories of books. EDGE studio recently transformed the landscape of the Carnegie Library of Pittsburgh, engaging the institution's physical, digital, and human resources (right). New high-tech displays and information systems carefully plotted within the envelope of the late-19th-century building improved circulation routes, signage cues, and ease of access to materials.

For a residential loft in Des Moines, Iowa, the vernacular form of an iconic corn crib inspired a central structure that divides space and cleverly supports functional zones—from kitchen and home office to a sleeping loft on the second floor. The handsome, wood-clad cube, designed by Herbert Lewis Kruse Blunck Architecture, turns an awkward space into an apartment the developer uses as a showplace.

All the interiors projects featured this month follow the strategy of inserting dynamic architectural forms into an existing space, improving primary functions already in place. Though the perimeter shells remain largely the same—whether the museum's white-box gallery, the library's masonry, or the converted warehouse's structural walls—the interiors deftly explore geometry, materiality, and dynamic progressions through space. *William Weathersby, Jr.*

PHOTOGRAPHY: © EDWARD MASSERY

Predock_Frane injects color and a sense of playfulness into the **Getty Museum Family Room** in Los Angeles

By Allison Milionis

Since its 1997 debut in Los Angeles, the Getty Center, designed by Richard Meier, has settled into its hilltop site and asserted its position as an architectural icon for the city. Now it's time for a few adjustments. After an exhaustive search that included a two-phase competition drawing a number of high-profile firms, the J. Paul Getty Museum commissioned Predock_Frane to update one area of its sprawling interior.

With its engaging proposal that balanced intellectual rigor and sheer enthusiasm, the young Santa Monica–based firm was selected to create a new Family Room. Museum administrators envisioned an enhanced hub of education to provide collaborative learning opportunities for parents and children alike. The facility replaces an existing 700-square-foot, white-box gallery set inside the museum's courtyard, adjacent to its east pavilion. "It's a small room, but we wanted to do a lot with it," says Peggy Fogelman, J. Paul Getty Museum assistant director for education and interpretive programs.

In the first phase of the competition, partners Hadrian Predock and John Frane thoroughly researched the Getty collection, then homed in on an iconic work from each genre represented in the museum's holdings: drawing, illuminated manuscripts, painting, photography, sculpture, and decorative arts. "We asked ourselves how we could help introduce families to the range of the collection," Frane says. New installations were required to hew to well-defined educational objectives established by the Getty. At the same time, the goal was to make the exhibits "fun and accessible to kids, and not in an overly simplistic way," says Predock, a seasoned father of two.

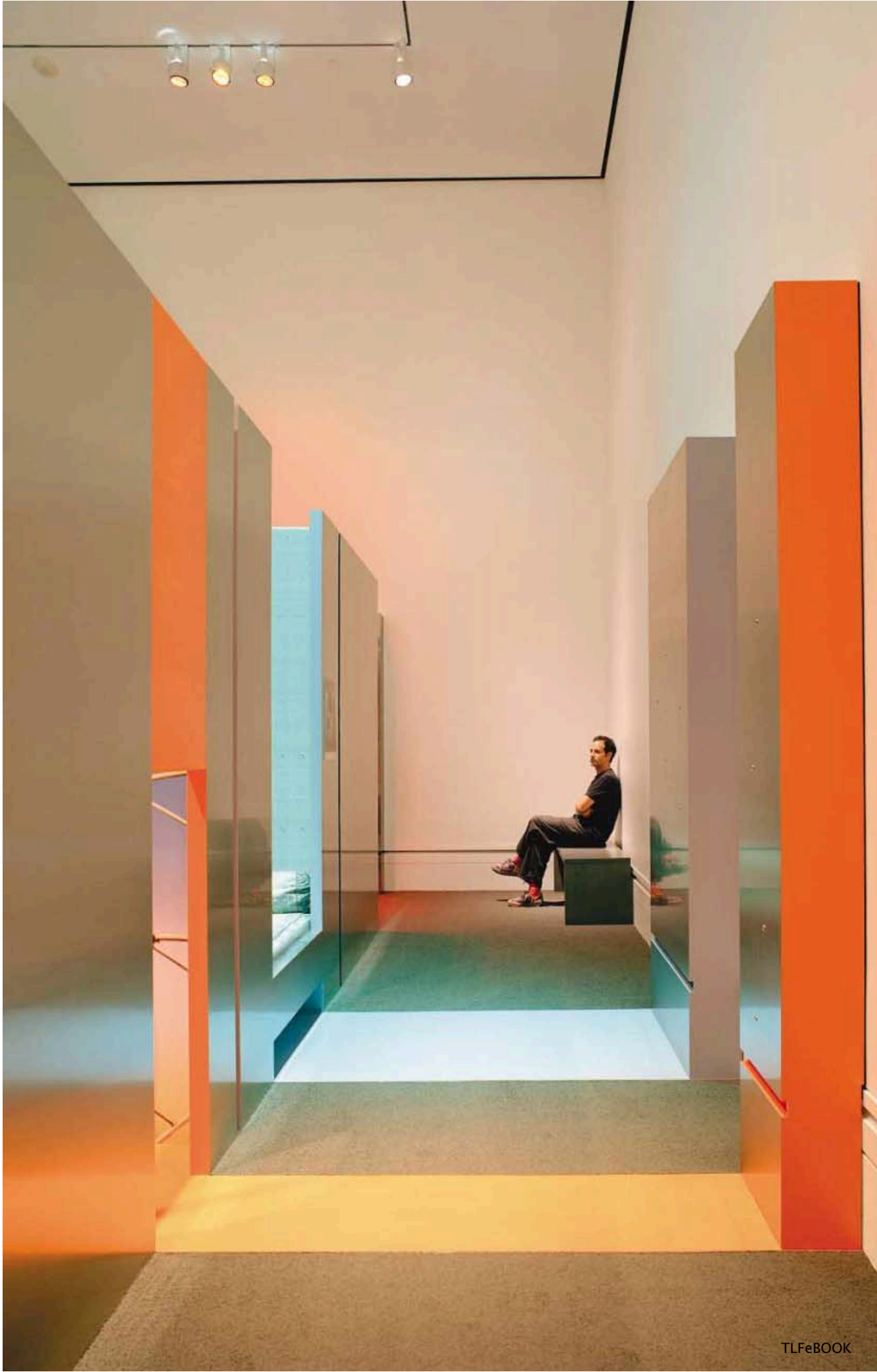
Frane describes the team's initial concept as a flower dropped into a white box, its petals representing each iconic artwork, and its roots the links to the larger collection. "It was a great metaphor to serve as our starting point," Predock says. "There are certain adjectives typically used to describe the Getty: monochromatic, permanent. We felt the Family Room needed to be described in opposite terms, such as multicolored, temporary, diminutive." Feedback from the jury of Getty experts and outside consultants helped the architects develop their ideas and guide them through the complex program objectives. While the flower image morphed into something now more akin to a Rubik's Cube, the overriding concept of a space that sparks imaginative discovery remained.

The new interiors comprise a series of human-scaled coves that interpret iconic works from throughout the museum. Each cove contains playful activities that relate to the artwork at hand while simultaneously addressing educational or developmental objectives. In the paintings cove, for example, a translucent, almost life-size reproduction of James Ensor's 1888 painting *Christ's Entry into Brussels in 1889* has cutouts at various heights so that kids can insert their faces into the work's crowd

Allison Milionis is a freelance writer based in Los Angeles who frequently writes about interior design and architecture.

Project: *Family Room, J. Paul Getty Museum, Getty Center, Los Angeles*
Architect: *Predock_Frane Architects—John Frane, Hadrian Predock, principal architects; Maximiliano Frixione, Ellen Kuch, project team*
Engineer: *Ishler Design & Engineering Associates*
Consultants: *Horton Lees Brogden Lighting Design—Teal Brogden, principal (lighting)*
General contractor: *Ron Poulson & Associates*

The activity cove focused on sculpture (opposite two) is based on the work of Martin Puryear. The artist's 45-foot-tall work, *That Profile*, can be seen by museumgoers on the tram arrival plaza of the Getty Center. To allow children to explore the concepts behind the artwork, a landscape of lightweight and bendable foam tubes can be shaped into new configurations. Clad in stainless steel and threaded with bands of color, the installation may be admired as a sculptural work of architecture (right).



To explore photography, young visitors step into a photographic collage relating to a work by David Hockney at the Getty (left). Central activity coves are visually linked to "treasure hunt" walls along the perimeter (below).

scene. An activities section allows children to experience Ensor's fascination with expressionistic distortion by making a mask of their own.

In a cove representing the decorative arts, a miniature replica of *Bed (Lit à la Polonaise)*, an outlandish French four-poster bed of circa 1775–80, appeals to kids who might not otherwise be exposed or attracted to the museum's decorative arts gallery. Families can climb into the bed mock-up together, touch its sumptuous fabric, and perhaps get a feel for

FROM MEDIEVAL MANUSCRIPTS TO CONTEMPORARY PHOTOGRAPHY, KIDS AND PARENTS LEARN ABOUT ART IN ONE ROOM.

the life of an 18th-century French aristocrat. Parents and children can also read books on hand that survey beds across time, place, and culture.

Each cove is lined in an intense color that interprets hues present in the masterwork. The architects chose for the most part to avoid the primary colors typically associated with play spaces for kids. "Children are complicated and intelligent," Predock says. "They're willing to try new things, and that openness is often neglected."

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The central enclosure in the loft is inspired by a corn crib, an iconic vernacular structure in agrarian Iowa. The cube, clad in plywood slats, defines the kitchen (below), office (opposite, left), and sleeping areas (opposite, right).

Herbert Lewis Kruse Blunck designs the **RenSt Loft** in Des Moines inspired by a corn crib

By Linda Hallam

Converting commercial space into residential lofts is a familiar challenge to architects working to revive historic districts in towns across America. Transforming existing lofts into inspired design is another challenge altogether. In Des Moines, Herbert Lewis Kruse Blunck Architecture turned the tunnel-like space of a 700-square-foot apartment into a versatile home packed with amenities. A sleek central cube organizes functional areas while paying homage to local vernacular architecture.

Known as Brown-Camp Lofts, the redeveloped 1924 building has an enviable location near the junction of two rivers and facing Principal Park, a well-designed minor league baseball stadium. The former wholesale company structure anchors the revitalization of the Court Avenue Historic District on the edge of downtown. Less inviting is the unit's dimensions: One of the smallest and narrowest lofts in the 104-unit building, it measures 13 feet wide, 40 feet long, and 15 feet high.

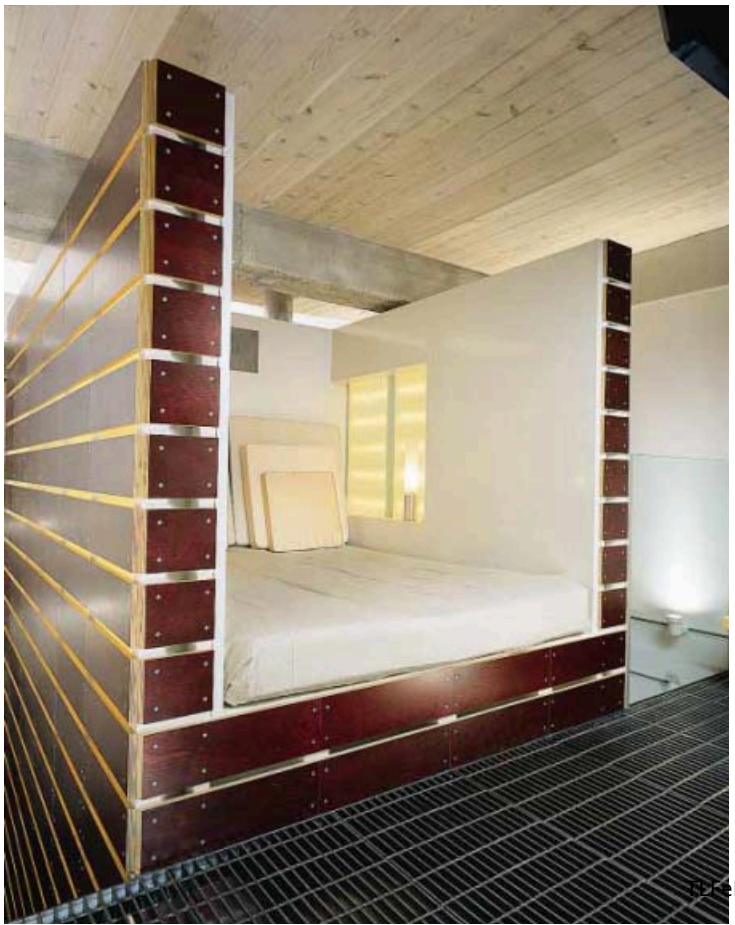
Last year, the developer ST Investments decided to commission six new loft interiors (the last raw space in the building) for a showhouse project that would raise funds for a downtown science center fund-raiser. The showhouse was also to be featured in *Renovation Style*, a national magazine based in Des Moines—hence the project's name.

In its original, uninspired state, the apartment had been zoned into three basic spaces with the combined living area/bedroom on the south side. "The narrow unit offered few intrinsic qualities other than ample daylight and a two-story volume," says architect Matt Rodekamp, AIA. The height of the area inspired the spatial design solution: placing a simple object slightly north of center to function as a divider and to create a compact mezzanine level.

The slatted central structure-within-a-structure evokes the ubiquitous Iowa corn crib, a traditional shed for drying and storing corn in the agricultural state. The 10-foot-long-by-6-foot-9-inch-wide crib, constructed of red Finnish marine plywood slats (6-inch-wide planks with 1-inch spaces between slats, lit from behind) encapsulates the downstairs bath and the refrigerator and storage units in the kitchen pantry. A bedroom alcove rests above. The mezzanine level increases the loft's meager square footage by 180 square feet, taking the loft from efficiency to bedroom-suite status.

By pushing the crib back 10 feet from the entry, the architects were able to tuck in a small laundry on the north wall, the location of the original bath. Opaque sliding doors close it from public view. The

Linda Hallam is a writer and editor based in Des Moines. She frequently writes about architecture and design.



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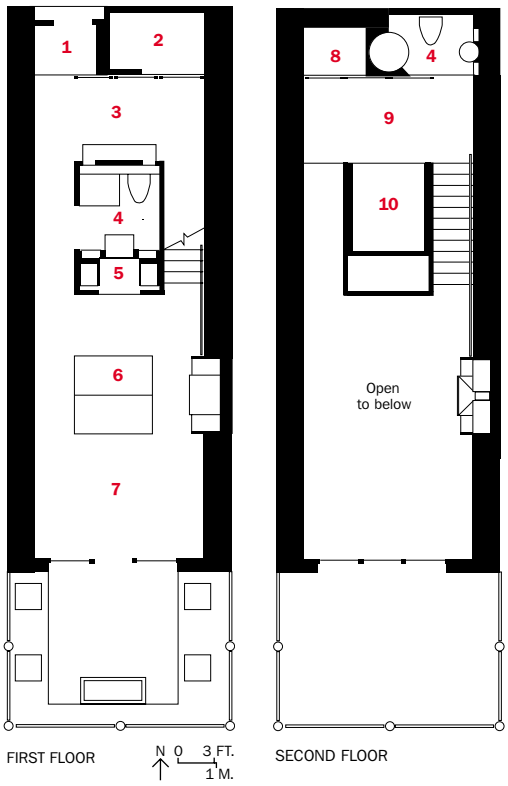
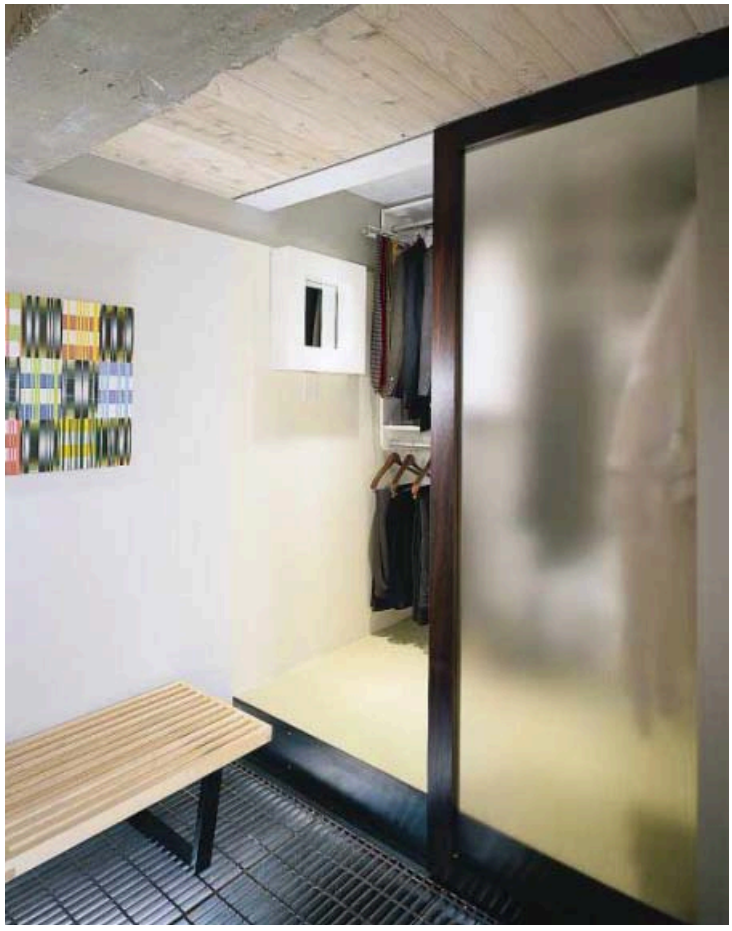


1. *Entry*
2. *Laundry*
3. *Study*
4. *Bath*
5. *Pantry*
6. *Kitchen/dining*
7. *Living*
8. *Closet*
9. *Dressing*
10. *Sleeping loft*



A seating area faces the open kitchen (top right). The closet and bathroom on the upper level feature translucent doors (bottom right). The landing's metal grate creates a feeling of openness.

back of the crib wall functions as a home office, with steel brackets supporting bookshelves and a desk shelf. The east wall, broken up by the bath door, establishes the 3-foot-wide hall that leads under the open-metal-grating floor of the upper level. Track lighting, strung on the west wall, illuminates the hallway as it widens into the 15-foot-tall living/dining area.

The third side of the crib is the pantry, which provides a backdrop for a well-equipped kitchen. The area occupies nearly one third of the first floor and also serves as a living, dining, and entertainment space. To maximize functions, the 6-foot-square kitchen island, topped with quartz stone, houses two sinks, a wine cooler, a dishwasher, and a flat-screen television positioned to face the sitting area. A commercial stove is tucked into the adjacent east wall of the unit. The stone top in turn cantilevers on heavy-duty drawer glides to expand for dining—with knee space for guests to sit on stools.

Between the fourth side of the crib and the east wall, a stairwell with open-metal-grate stairs rises to the bedroom level. The top of the cube is an open alcove, built as a platform for a bed. The north side of the upstairs—outside the crib —is the landing (also metal-grate flooring), which opens to a closet and bath. Resin doors, on tracks, close off the closet or bathroom for privacy. ■

Project: *RenSt Loft, Des Moines, Iowa*
Architect: *Herbert Lewis Kruse Blunck Architecture—Paul Mankins, FAIA, Matt Rodekamp, AIA, Carl Rogers, project team*
Associate architect: *G.E. Wattier Architecture—Paul Mankins, FAIA, Matt Rodekamp, AIA*
Engineers: *Brenner Engineering Consultants*
General contractor: *Silent Rivers*

Sources
Crib slats, door: *Finnish Plywood*
Glazing: *Comisky Glass and Glazing*
CAD system: *Autodesk Architectural Desktop 2004*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

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EDGE studio integrates new forms and graphic displays to enhance the historic **Carnegie Library** in Pittsburgh

By Jennifer Lucchino

In 2001, the Carnegie Library of Pittsburgh launched a comprehensive plan to improve services at its 20 neighborhood locations. Out of seven initial capital-improvement projects, one focused on transforming the main Carnegie Library, which was established in 1895 as the centerpiece of the city's library system sponsored by benefactor Andrew Carnegie. In the intervening century, the information resources and services that libraries provide have undergone a radical transformation. The Pittsburgh-based architecture firm EDGE studio was recently commissioned to assimilate new technologies and to create a new visual identity for the main library, reaffirming its role in community life.

Constructed as part of a complex that includes an art museum, the library is a revered, historic building replete with Neoclassical detailing and a rich palette of materials. Nonetheless, its massive, steel-framed infrastructure posed challenges due to compartmentalized spaces that were difficult to access. At the same time, the library administration sought to create a new library culture, changing the tone of the environment from an old, dusty institution where people spoke in hushed tones to an active, vital center that encouraged conversation and provided a point of reference for varied, upgraded facilities. "The goal was to make a space that changes every day and is responsive to current events," says owner representative Craig Dunham.

As a starting point, EDGE studio directed an in-depth study of existing library conditions, working with librarians and consultants MAYA design. The analysis focused on the points of breakdown in access-

Jennifer Lucchino, AIA, is an architect and writer based in Pittsburgh. This is her first article for RECORD.

Project: *Carnegie Library of Pittsburgh, Pittsburgh, Pa.*
Architect: *EDGE studio—Gary Carlough, partner in charge; Anne Chen, Matt Fineout, Lillie Liu, Mike Hill, project team; Dutch MacDonald, Andy Owens, Abigail Hart Gray, graphic imaging and user interface*
Engineers: *Whitney Bailey Cox & Magnani (structural); HF Lenz, Loftus Engineering (mechanical and electrical)*
Consultants: *Paul Zaferiou/LAM Partners, Hilbish McGee Lighting Design (lighting); The Sextant Group (audiovisual and acoustic)*

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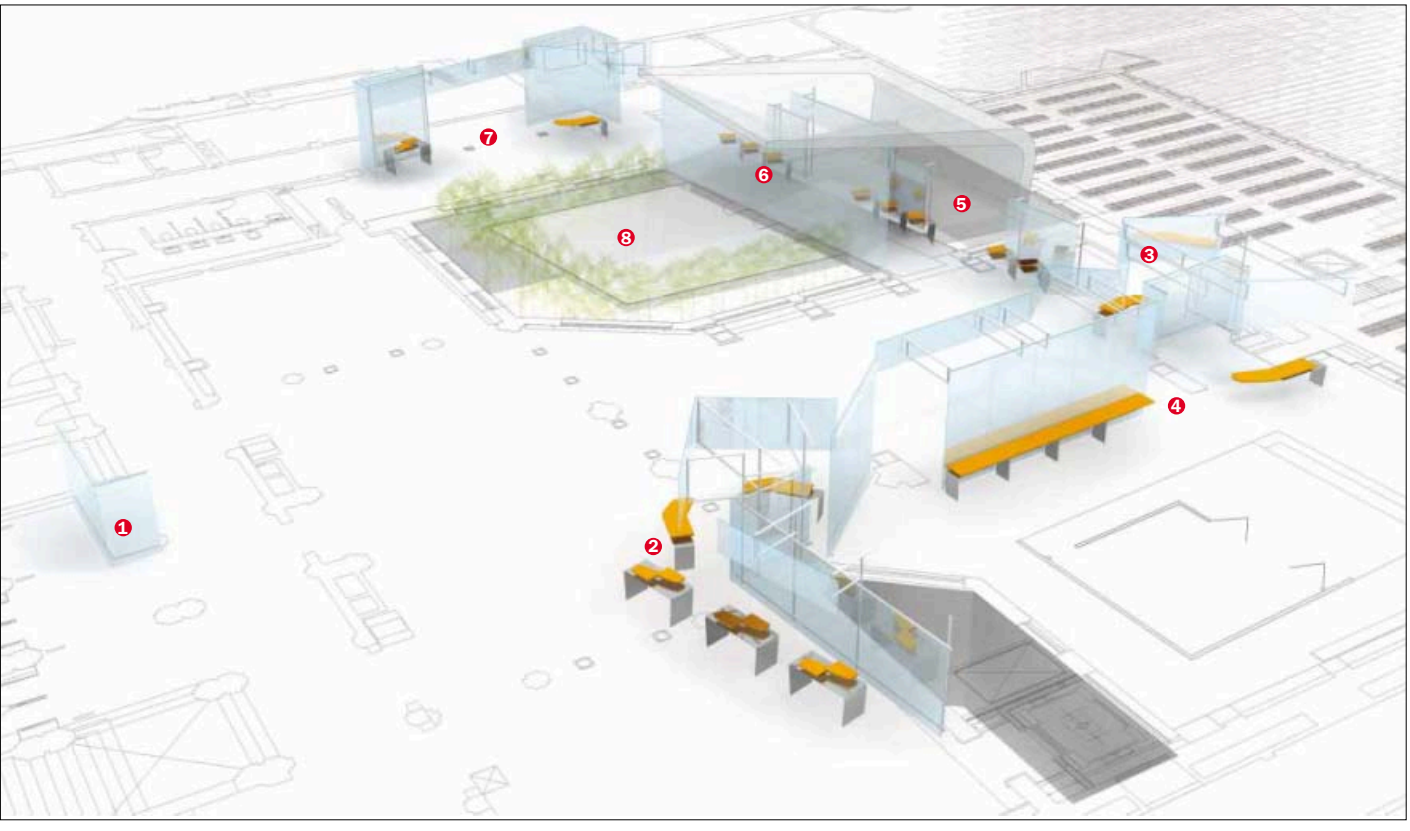
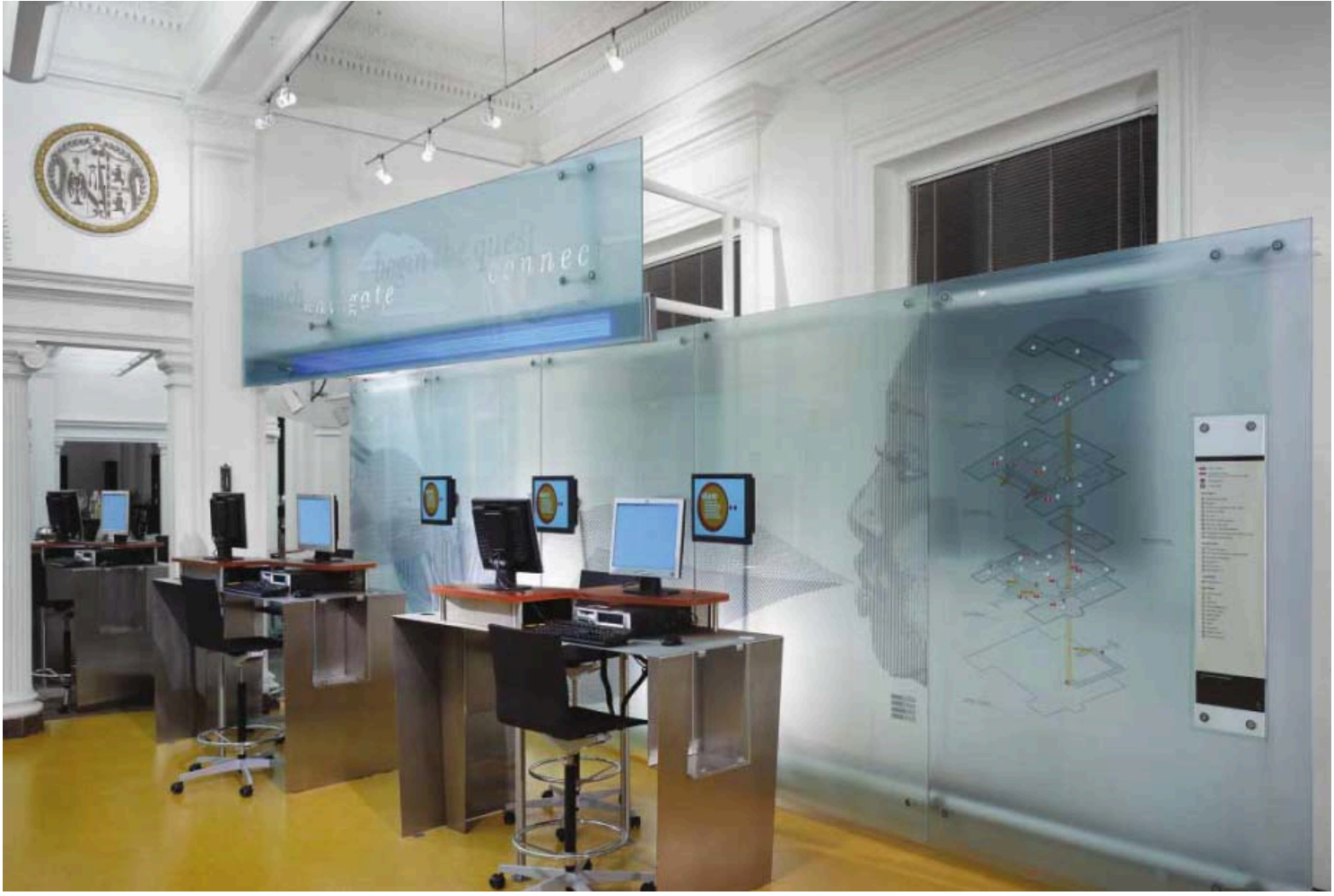


Navigation through the renovated library is cued by information billboards and workstations (above, opposite, and axonometric view, left). Dead-end circulation routes were replaced by a continuous loop leading back to the entrance. Programming includes quiet reading rooms.

1. *Marquee*
2. *Help desk; online stations*
3. *Courtyard beacon*
4. *Teen area*
5. *Periodicals*
6. *Bridge*
7. *Audiovisual*
8. *Garden*



The display system consists of single and double layers of ¼-inch-thick glass panels supported by a steel framework (above and detail, left). In some cases, panels measuring 5 by 12 feet cantilever 5 to 7 feet.

ing information that led to user frustration. Such trouble areas included a confusing spatial organization, poor access to librarians, and the use of arcane language on signage. To combat these elements, EDGE developed the concept of creating "synaptic links," a series of connections that would enable the user to access three primary types of information—human, print, and electronic resources.

EDGE carefully choreographed the progression of spaces through the library's first floor by dissolving walls and distributing digital media to reorient patrons to the building. "We broke the overall program apart to bridge between information systems," explains principal architect Gary Carlough. Remapping programmatic components of information access, the design team and client plotted clusters of librarian workstations, online workstations, and information displays throughout the library. A new digital display panel that features library activities and announcements commands attention just inside the main entrance, setting the tone for the overhauled space. Along the main corridor, EDGE opened up three arches that lead toward the new "Popular Library," which includes a "featured selections" section, a café, and a retail shop.

In the main space, the architects inserted a layered system of translucent and transparent glass panels that incorporate different types of media. These panels weave through the historic architecture and contrast geometrically with the original building configuration and materials, leading users deeper into the space. A result of detailed sight-line and wayfinding studies, one layer consists of continuous sections of ¼-inch-

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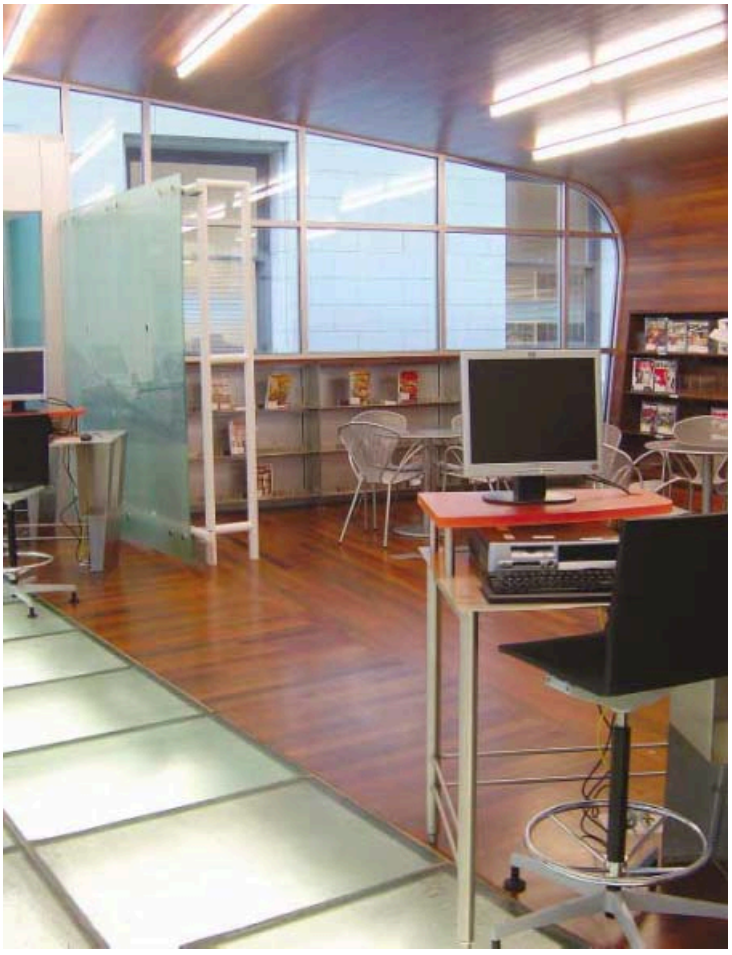
A new shedlike, enclosed room accommodates teen activities and private conferences (right). New Verner Panton chairs add a splash of color. The Ipe-wood-clad periodicals room (below) projects a Modern, warm image.



thick glass panels suspended overhead to display animated graphics. A second layer comprises ½-inch-thick glass partition walls that display fixed graphics while allowing light to penetrate inner spaces.

"Graphic user interface," a term used by EDGE to describe the look and feel of all media, is designed to encourage patrons to navigate deeper into the library. Large surfaces showcasing projected images are beacons to attract users to librarian workstations. Glass panels incorporate LED strips to present up-to-date information, such as current events or new library services.

Movement through the first floor leads visitors through an indoor/outdoor reading deck. In the space of a former, inaccessible light well, a new internal bridge connects the two wings of the library, completing a continuous circulation path. Constructed of glass floor panels reclaimed from the original library stacks, the bridge glows with illumination from below. Separated from the existing building, a pavilionlike structure acts as a "floating" periodicals room surrounded by bamboo. Its wood-clad interior surface contrasts with the library's 19th-century shell. With this structure, EDGE studio provides a sensual, contemplative space that, together with other new architectural insertions, sensitively integrates human scale with the technologies required by a 21st-century library. ■

Sources

Glass: *HB Reynolds; Dlubak; DuPont*
Applied graphics: *Sign-A-Rama; Paragon Visual Solutions*
Resilient flooring: *Armstrong*
Carpet: *Karastan*
Paints, stains: *Sherwin Williams*
Doors: *EPKO; Vistawall*
Custom furniture: *Gateway Kitchen Equipment & Supplies*
Resin work surfaces: *Fossil Faux Studios*
Tables, chairs: *Vitra; EMU; Bretford*
Cabinetry: *Master Woodcraft*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

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Interiors Products

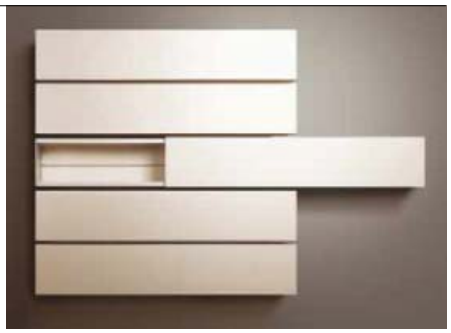
Belgium Design Show

The biennial Belgian design show Interieur is a small but highly regarded event that has quietly been taking place since 1968. The 19th edition welcomed over 100,000 visitors to the Flemish city of Kortrijk last October. *Josephine Minutillo*

► Cosmopolitan sofa bed

Begun in 1954 as the family-run Upholstered Furniture Factory, leading German furniture makers Cor this year celebrate their 50th anniversary with the introduction of four new products as well as a reissue of their classic Sinus chair from 1976. A highlight of the new collection is Cosma, an elegant alternative to the often clumsy sofa bed. With just two movements, Cosma transforms itself from an attractive seater to a comfortable sleeper. Designed by Thomas Müller and Jörg Wulff, Cosma is available in a wide range of upholstered finishes. Also new is the Circo sofa by Peter Maly, which joins the existing Circo line of chairs and tables. Shoominé, Boston. www.cor.de **CIRCLE 200**

► Case management



The low-key Dutch line Pastoe has steadily grown its collection of Minimalist tables, seating, and storage units over the course of its 90-year history. Horizontals is a line of shelving designed by Shigeru Uchida. The body is made from natural-oak or black-oak veneer with a protective wax finish lacquer. Metal sliding doors are available in 48 colors. The bodies come in two sizes and are available with asymmetric combinations. Standard dividers are also available to create internal compartments for storage of CDs, books, and the like. The shelves are attached to the wall by means of a hidden suspension system. Domus, Atlanta. www.domusinternational.com **CIRCLE 201**

▲ Cubic system

Founded in 2001 as an offshoot of Studio Parade, a small interiors and product design studio, Lente is a Dutch furniture firm that features the exclusive designs of company founders Paulien Berendsen and Eric Sloot. The collection consists mostly of simple wood tables and seating, with some upholstered pieces as well. The Joep cubes are made of medium-density fiberboard (MDF). Veneers are available in zebrano, wenge, and American walnut. Used for seating or as low tables, Joep cubes come in standard sizes, though custom sizes are possible. Available with or without wheels. Lente, 's-Hertogenbosch, the Netherlands. www.lente-home.nl **CIRCLE 202**

▲▼ Sit, read, and have a drink

Almost 20 years old, the Belgian firm Juventa has grown from a small bedroom furniture collection concentrating on the Benelux market to an international company with an eclectic mix of contemporary residential pieces by young Belgian designers. Minimal pieces in traditional woods were presented alongside bolder designs in an array of colors. Pieces with entirely new functions are also included in the collection, such as the Sit 'n Read, pictured above. Designed by Peter Van Riet, the bench is available in white oak and American walnut and with cushions in several fabric and color options. Also introduced at Interieur was the Oxygen collection, which features a bar (pictured left), table, and sideboard available in white oak and American walnut. Juventa, Ledegem, Belgium. www.juventa.be **CIRCLE 203**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Interiors Products

Belgium Design Show

▲► Fabrics for the home and office

De Ploeg recently added its Home at Home collection of residential upholstery and curtain fabrics to its existing line of contract fabrics. Designed and woven in the Netherlands, these fabrics are fully coordinated with each other in terms of color, material, and image. Musco (left) is a rich, comfortable velour upholstery with a luxurious natural sheen that comes in 20 colorways that range from elegantly neutral to dazzling. The bicolored Landscape collection (right) comes in 15 colorways. It is a sturdy, well-crafted alternative with handmade imperfections that create a lively contrast between rough and fine. De Ploeg, Bergeijk, the Netherlands. www.deploeg.com **CIRCLE 204**

▲ Contrasting elements

Contrast, a shelving and storage system designed by Peter Maly, was introduced in 2004 by German furniture maker Interlübke. With its horizontally accented lines, the design emphasizes the contrast between open and closed spaces, colors and wood, and matte and glossy finishes. The new system features L- and U-shaped elements in several sizes. Door panels can be optionally opened to the top or bottom, or designed to swivel upward. Aluminum interior shelves and drawers provide storage for CDs, DVDs, and other items. Finish options include a mirrored back panel. Centro Modern Furnishings, St. Louis. www.interluebke.com **CIRCLE 205**

◄ Walk this way

Le Tissage d'Arcade is known in Europe for its wall-to-wall-carpet range and for the production of fabric bindings for rug finishings. At Interieur, it introduced a new floor covering line for residential and commercial use. Called 2Tec2, the floor covering combines traditional weaving with modern materials like PVC. Available in a variety of colors and patterns, the flooring provides high performance against wear and tear, while giving the look of real fabric. Le Tissage d'Arcade, Mouscron, Belgium. www.2tec2.com **CIRCLE 206**

▲ A simple desk and chair

The Belgian office furniture line Bulo introduced two new pieces by two of the country's leading designers. With Desk, internationally renowned architect Vincent Van Duysen translates the primary shapes and carefully considered volumes of his interiors and architecture into a compact piece of furniture. Desk can be set up as a one-person desk or can be expanded into a work island. Small, open volumes can be hung from the panels, while freestanding drawer units and storage components complete the piece. The Tab chair was designed by young, Brussels-based architect Alain Berteau. This versatile, stacking chair features a large, bended back to allow for relaxing postures. D'Apostrophe, New York City. www.bulo.com **CIRCLE 207**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Products

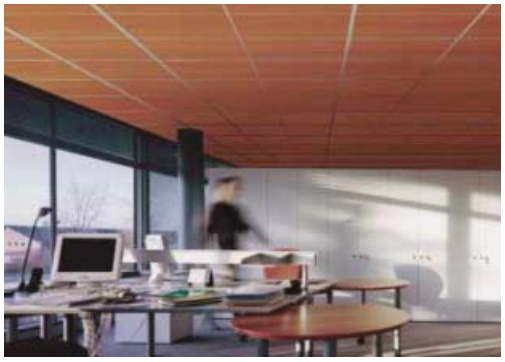
Acoustics

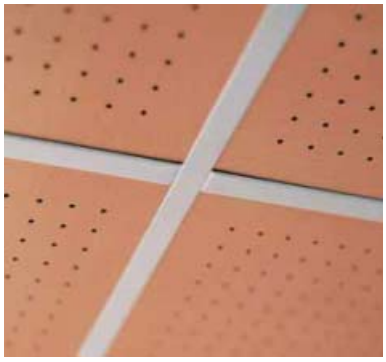
The following products **enhance the acoustical quality** of interiors by controlling and absorbing noise. Elements such as perforated ceiling systems collaborate with concealed products such as acoustic batts to help **improve the sound of a performance** or protect the hearing of an employee. *Rita F. Catinella*

Italian prefinished sound-deadening ceiling and wall panel systems

Patt, a division of the Italian company Fantoni Group, specializes in the production of prefinished flooring and sound-deadening panels for work and home environments. The company's award-winning 60x60 sound-deadening panel measures approximately 23.3" x 23.3" (equal to 60 x 60 centimeters, hence the name). The ceiling system is offered in a choice of four standard finishes—white, maple, beech, and aluminum—and two types of bar: flat or channeled.

Two other acoustic products from Fantoni were recently specified for the Town Hall project in Benidorm, Spain, designed by Spanish architects Juan Añón, Ramón Calvo, José Luis Camarassa, and Rafael Martinez. Fantoni's Akustiwall partition and storage walls define the various workstations and corridors in the project, while Topakustik sound-deadening panels with a beech finish were installed in the noisier areas in front of the elevators. To increase the sound-deadening effect, extra-thick doors were custom designed for the space at the request of architect José Calvo.





The 60x60 sound-deadening ceiling panel system is offered in a range of finishes (left two). For a Spanish Town Hall project (below), architects specified partition walls and sound-deadening panels.

A system that consists of a series of sound-deadening panels in strips, used to clad ceilings, walls, and partition walls, Topakustik panels are available in four types of perforation and milling treatments and four decorative melamine surfaces: white, maple, beech, and silver. Both Topakustik and Akustiwall are ideal for performance halls, theaters, cinemas, restaurants, sports facilities, offices, and homes. Patt/Fantoni Group, Udine, Italy. www.patt-srl.it **CIRCLE 208**

New protective glass interlayer offers improved sound reduction

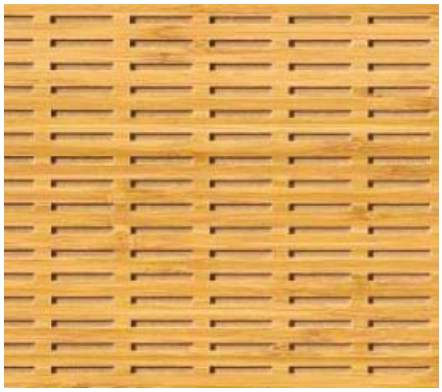
Buildings located near airports would benefit.

SaflexAC is a new protective interlayer for laminated glass from Solutia that offers improved sound reduction while maintaining performance and processing characteristics similar to the company's standard polyvinyl butyral (PVB), with the same overall glass thickness. Ideal for applications including residences, hospitals, and office buildings, SaflexAC can provide up to a 10-decibel sound reduction in the project design (dependent on proper glass configuration and glazing technique). Tests conducted at an accredited National Voluntary Laboratory Accreditation Program (NVLAP) acoustic laboratory on 7/16" laminated glass configurations with SaflexAC show a sound-transmission rating of 36. This represents a 2-STC (Sound Transmission Class) unit improvement over standard laminated glass of the same configuration. The presented data was derived by tests on glass only with rigid framing and constant pressure. This anchoring mechanism has demonstrated improved correlation between glass-only tests and traditionally glazed architectural windows. Laminated glass made with SaflexAC also delivers excellent visual quality and blocks more than 99 percent of incoming UV radiation, resulting in significant reduction of light damage and fading. Solutia, St. Louis. Mo. www.solutia.com/pages/films **CIRCLE 209**

► Tough panels

The South Metro Public Safety Training Facility in Minnesota (top) features two state-of-the-art shooting ranges for scenario-based law-enforcement training. Installed on the walls and ceilings of the vestibules leading into each shooting range, the black SONEXone Panels specified for the project dramatically reduce airborne sound energy. The panels have recently been introduced in a new light gray color (bottom). illbruck, Minneapolis. www.illbruck-sonex.com **CIRCLE 210**

► Covered by bamboo



More than 9,000 square feet of Arboreal ceiling panels with a custom bamboo finish were installed in the recently completed Clinton Presidential Library in Little Rock, Arkansas [for the full story, see RECORD, January 2005, page 110]. The lightweight aluminum panels were custom perforated to provide the desired appearance and create a high noise coefficient. A specially colored nonwoven fabric enhances the noise absorption of the panels and blends in with the bamboo tones. Ceilings Plus, Los Angeles. www.ceilingsplus.com **CIRCLE 211**

▼ Better-sounding floors

Easier to install than the standard "pucks" used in the past, U-Boats Floor Floaters from Auralex Acoustics are cost-effective U-shaped channels used to support and float (isolate and decouple) supporting frame members from the surrounding structure in performance spaces, audio rooms, and recording studios. A freestanding floated room minimizes transmission loss and improves low-frequency definition. The U-Boats are 2⅛" wide x 1½" high x 2" long. Auralex Acoustics, Indianapolis. www.auralexelite.com **CIRCLE 212**

▲ Softening the sound

For the Smithsonian Institution's National Air and Space Museum's new Stephen F. Udvar-Hazy Center, L-21A liner panels from Centria, perforated for acoustical purposes, were fastened to the Aeronautical Hangar interior and coated with a soft silver color to help lighten the space. The panels were specified for acoustical purposes because of the numerous "hard" zones that make up the interiors of the hangar museums: The insulated panels greatly reduce the reflecting echoes of noise. Centria, Moon Township, Pa. www.centria.com **CIRCLE 213**

◄ Residential noise control

Owens Corning's QuietZone line of products and systems absorb sound and control noise in single- and multifamily homes. The line includes acoustic batts that absorb sound within the wall, ceiling, or floor cavity; acoustic wall framing that combines built-in noise-isolation capabilities with easy installation; acoustic sealant engineered to block sound vibrations; and an acoustic floor matt designed to isolate sound vibration and reduce impact noise. The line's Solserene fabric ceiling system provides a seamless finish with an acoustically absorptive glass-fiber core material. Owens Corning, Toledo. www.owenscorning.com **CIRCLE 214**

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Product Briefs

▲► Light-powered lav system

Bradley has introduced the first light-powered hand-washing fixture in the industry. Bradley's ndite technology uses photovoltaic cells integrated into the top of the Express Lavatory System to convert light into electricity. Whether natural light or normal room-level lighting, the cells capture light when it is available and store the energy for later use in a battery-free system. Also new from Bradley is the Aerada faucet family, which includes electronic and mechanical faucet options for education, retail, industrial, and health-care applications. Bradley, Menomonee Falls, Wis. www.bradleycorp.com **CIRCLE 215**

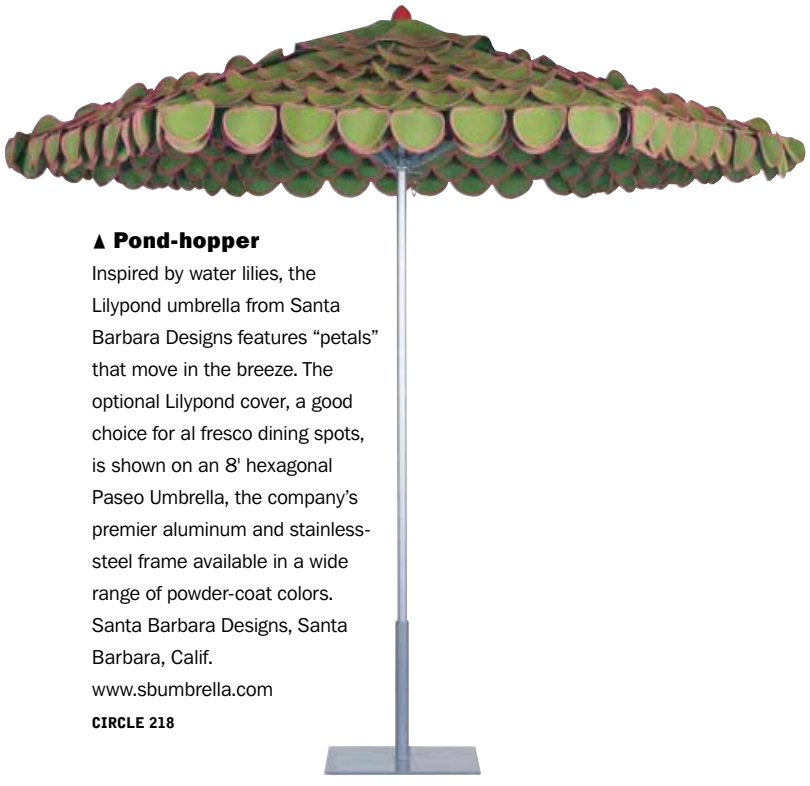
▲ Wall-hung fireplace

Lumia, from the French company Fondis, is the first wall-hanging wood burner. Ignited with the push of a button, the hearth is fed from either side with enough wood to keep it burning for 4 to 5 hours. Lumia is fitted with a wall plate for installing the electrical connection and the smoke outlet and comes equipped with a built-in ash holder and a self-cleaning, retractable ceramic- and metallic-coated window. The product's only requirement is a minimum 5" flue that is at least 3'3" high. It is available in mauve or white and comes in oval (3' x 2' x 11") and rectangular (2'3" x 1'8" x 11") shapes. Fondis expects Lumia to be fully listed for U.S. projects later this year. French Technology Press Office, Chicago. www.fondis.com **CIRCLE 217**

Product of the Month Vistabrik Glass Block Mural

Built in 1920, the Coney Island subway terminal was the first affordable direct route for people from the outer boroughs to get to Coney Island, the historic landmark in Brooklyn, New York. In May 2004, after a $190 million renovation, N.Y.C. Transit unveiled a new terminal that features an arched glass photovoltaic canopy, a retail arcade, and a 300-foot-long curvilinear glass-block-partition wall mural. The MTA's Arts for Transit program collaborated with artist Robert Wilson, who developed a whimsical concept for the wall featuring life-size murals of sights that made the locale famous, such as the Wonder Wheel, hot dogs, and the boardwalk.

The team specified Pittsburgh Corning's Vistabrik solid glass block for the wall because it provided 3 inches of solid glass while still offering a translucent material to serve as a backdrop for the artistic mural. Artists from Franz Mayer of Munich Inc. were brought in to safely bond the artwork in the middle of the two glass block pavers that create the 3"-wide blocks. Pittsburgh Corning, Pittsburgh. www.pittsburghcorning.com CIRCLE 216



▲ Pond-hopper

Inspired by water lilies, the Lilypond umbrella from Santa Barbara Designs features "petals" that move in the breeze. The optional Lilypond cover, a good choice for al fresco dining spots, is shown on an 8' hexagonal Paseo Umbrella, the company's premier aluminum and stainless-steel frame available in a wide range of powder-coat colors. Santa Barbara Designs, Santa Barbara, Calif. www.sbumbrella.com **CIRCLE 218**

Product Briefs

◄ More than fit for public use

The James Beard Award–winning New York restaurant Public features a "municipal" aesthetic that extends even to the design of the bathrooms, which are derivative of public institution lavatories during the W.P.A. era. The designers, AvroKo of New York City, chose translucent green-glass tile instead of the ubiquitous black-and-white subway tile of the 1930s and '40s to clad the bathroom's walls and floors. Prewar office doors that lead into the bathrooms are clad with Hakatai Enterprises' Ashland Series 1" x 1" glass tile in Clear Ice. Hakatai Enterprises, Ashland, Oregon. www.hakatai.com **CIRCLE 219**

▲► Opposites attract

For Bernhardt's newest collection, designer Philippe Cramer has created a line that plays on the duality and balance between opposites, and marks his American debut. The large Mix dining tables display rich walnut tops pierced with clear Lucite legs, giving the illusion the tops are floating. Offered in several sizes (including an occasional table version called Remix), Mix comes in ovate and rectangular shapes in a range of finishes. For the Intermix lounge chairs, Cramer contrasts a transparent seat in Lucite with a structured walnut frame. The bent plywood seat of the Edit guest/dining chair is cradled in a solid walnut or maple frame. Bernhardt Design, New York City. www.bernhardtdesign.com **CIRCLE 220**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

► Loud and clear

Bosch Voice Evacuation Systems can facilitate automatic alert/alarm signals, spoken instructions for evacuation or other actions, and manual paging. The system is designed for areas of assembly and high-rise structures greater than 75 feet. Customers can choose from more than 900 combinations of digitally recorded messages, and multilingual capability. The systems are compatible with 12- or 24-volt fire-alarm control panels. Bosch Security Systems, Fairport, N.Y. www.boschsecurity.us **CIRCLE 221**

◄ Alternative concrete

Structures USA founder Andrew C. Dennis has invented a new form of lightweight concrete that does not use portland cement, sand, or gravel. Giga-Crete has a tensile capacity that far exceeds conventional concrete, does not shrink or crack, and can be made up to three times stronger. The material is usable in only 8 hours, saving labor costs and making it a less expensive building solution. Structures USA, www.structuresusa.com **CIRCLE 222**

▼ Screen-door protection, without the screen door

Weather Shield has introduced a retractable screen system for its aluminum-clad in-swing entry doors. As it closes, the screen unrolls from the hinge side of the door to the latch side, forming a tight seal over the door opening. The screen is securely held in place in the closed position by a heavy-duty magnet as well as top and bottom guide rails. The system's high-performance screen is specially coated with a PVC nonglare charcoal-fiberglass mesh and when closed, acts as a solar barrier. The screen is available in four standard colors: white, desert tan, hartford green, and obsidian. It works with any 6'8" Weather Shield aluminum-clad in-swing entry door, with two jamb-size options—4⅝" and 6⅝"—and is protected by a 10-year warranty. Weather Shield Windows and Doors, Medford, Wis. www.weathershield.com **CIRCLE 223**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Product Briefs

▼ Safer tile and treads

SafeTcork Tile and Tread products are the newest addition to the SafeTmax Flooring System from Roppe. A blend of cork and rubber, the tile and tread products are designed for interior use in high-traffic areas where safety against slip hazards is a concern. Naturally resilient and durable, the products contain no PVCs and are made of postindustrial cork waste material. Roppe, Fostoria, Ohio. www.roppe.com **CIRCLE 224**

▲ Turning visitors into alumni

McCann Systems has created four audiovisual experiences for Boston University's new Visitor Center, including a life-size image of a person displayed on a 7' tall video wall, a message wall that scrolls text messages across a wide custom-built screen, and a panoramic view of Boston displayed across an expansive arc of four 16' wide x 7' tall curved video screens. The fourth of these screens displays a short film. McCann Systems, Edison, N.J. www.mccannsystems.com **CIRCLE 225**

◄ Not carved in stone

Glass may not be the material that typically comes to mind for monument design, but according to the glass craftsmen at Lundgren Monuments, the process of etching into glass is the same as stone, and a full range of fonts and decorative additions are possible. Each handcrafted cast-glass monument from the company is 4" thick and set into a bronze or stainless-steel sleeve that is anchored into a concrete or granite foundation. Lundgren Monuments, Seattle. www.lundgrenmonuments.com **CIRCLE 226**

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PHOTO © DOUG FOGELSON

LIGHTFAIR INTERNATIONALSM returns to New York City this spring, offering architects, designers, engineers and industry professionals a dynamic new experience. An expanded LFI will inspire the design community to innovate, showcasing the latest in new products and technology, exciting events and environments and an unparalleled array of speakers and CEU-accredited course offerings. Find your inspiration April 10-14, 2005, Jacob K. Javits Convention Center, New York City.

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Product Briefs

▲ Protection for print carpet
ColorShield is a new stain-protection technology being incorporated into Durkan Patterned Carpet's full line of print carpets. All regular spills can be removed with water, while oil-based stains require water and a mild detergent. The technology is available in cut, loop, and cut-and-loop textures. Durkan Patterned Carpet, Dalton, Ga. www.durkan.com **CIRCLE 227**

▼ Silk wall coverings
Capturing the luster and sheen of pure silk, KnollTextiles' silk wall coverings are available in three patterns: Yuki, Kiryu, and Gunma. The Teflon-coated wall coverings are produced in widths of 43" and come in a total of seven colors, ranging from bright white to sunlit bronze. The luminous coverings are appropriate for both the home or office. KnollTextiles, New York City. www.knolltextiles.com **CIRCLE 228**

▲ Standing ovation for innovative seating
For the first time, *Chair of the Year* awards were given for both residential and contract designs at Promosedia, the annual international chair exhibition held last September in Udine, Italy. The Contract award was given to the Noah F chair (above left), whose body is made from a single piece of supple polyurethane, supported by a steel column and base. Noah F is available in four colors and was designed by Marcello Ziliani for Sintensi 2, of Spilimbergo, Italy. The Residential award went to the S-shaped EOL (above right), a chair made from a single sheet of bent oak plywood designed by Daniel Rode for P.S.M., of Premariacco, Italy. Promosedia, Udine, Italy. www.promosedia.it **CIRCLE 229**

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THE AMERICAN INSTITUTE
OF ARCHITECTS

PLEDGING AIA RESOURCES TO TSUNAMI RELIEF

Dear AIA Colleague:

The enormity of devastation caused by the recent tsunami demands an equally powerful and sustained effort to rebuild lives and reestablish communities in the region. Long after our condolences are accepted and immediate aid is delivered, the challenge of rebuilding communities will remain.

This past month we discussed how the Institute and individual AIA members can best be of assistance during the long, painful road to full recovery. The AIA is continuing to encourage and direct monetary contributions to relief organizations, as appropriate, such as Architecture for Humanity, Habitat for Humanity, The American Red Cross, and others.

Also, we are assessing the most appropriate role for this organization and those AIA members seeking to volunteer. The AIA has demonstrated a long history of successfully assisting communities hard hit by disaster. Our core expertise has typically been applied in building assessments, community planning, and design assistance.

For this tragedy, we have been in contact with the national architecture associations in those countries most affected. On behalf of our members, we expressed our condolences and provided seed money to be used in supplying professional architectural assistance to those in need. We also pledged the collective resources and the collaborative spirit of America's architects and related professionals to work with our colleagues in their respective countries as their needs require.

In preparation, the AIA is hosting other design and construction organizations in order to more fully develop a coordinated response. We will continue to update you on our efforts as they unfold during this recovery and rebuilding period, which will likely span several years.

Please visit the AIA Web site for more information on the planning of the AIA's response and to learn how you can contribute.

Sincerely,

Norman L. Koonce, FAIA
Executive Vice President/CEO

Douglas L Steidl, FAIA, MRAIC
President

The American Institute of Architects | 1735 New York Avenue, NW | Washington, DC 20006-5292

Product Literature

Full-line lighting binder

ExceLine's new product binder houses the company's complete product catalog, including contemporary lighting fixtures for commercial, industrial, and retail applications. All lines are presented in a user-friendly, color-coded format, indexed according to product type. ExceLine has also introduced *Indirector*, a 36-page brochure of indirect asymmetric lighting that is illustrated with a combination of application and close-up product photos and schematic drawings. ExceLine Lighting, Union, N.J. www.exceline.com **CIRCLE 230**

Pine promotion

The Southern Pine Council's new brochure is intended to maximize treated Southern Pine's position in decking markets. The six-page guide, *Your Decking Choice: Pressure-Treated Southern Pine*, outlines the benefits of using Southern Pine as a decking material, and gives deck builders insight about common deck-building and superior performance practices. Sections on "Lumber Selection Tips" and "Construction Guidelines for Wood Decks" are also included. Southern Pine Council, Kenner, La. www.southernpine.com **CIRCLE 231**

NEW SITES FOR CYBERSURFING

Online catalog of materials, products, and processes redefining our physical environment based on the "Product of

the Week" electronic journal developed at NBBJ. **www.transstudio.com**

Hardware product info and technical data. **www.iveshardware.com**

Site for security mailboxes for multifamily housing. **www.auth-florence.com**

Redesigned site explains benefits of skylighting. **www.skywindows.com**

Wood window and door catalog

Vetter Windows & Doors' 138-page catalog highlights the architecturally inspired features and options available with Vetter's natural, primed, or aluminum-clad windows and patio doors. The catalog includes product details with options and accessories, sizing and technical data, and photographs of winning projects from Vetter's annual design competition. Vetter Windows & Doors, Mosinee, Wis. www.vetterwindows.com **CIRCLE 232**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

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Product Literature

Trends in HPDL doors

VT Industries' eight-page report, titled *The Best of Both Worlds*, addresses advances in manufacturing technology and materials that have resulted in a new generation of HPDL architectural wood doors featuring hundreds of design options and performance features. VT Industries, Holstein, Iowa. www.vtindustries.com **CIRCLE 233**

New hardware catalog

Turnstyle Designs has launched its 64-page 2005 catalog, full of new designs, products, and finishes. One of the new collections is the Recess range of plated-brass and leather window fittings, door levers, pad handles, cabinet pulls, and push plates. Turnstyle Designs, New York City. www.turnstyledesigns.com **CIRCLE 234**

Electronic plumbing systems

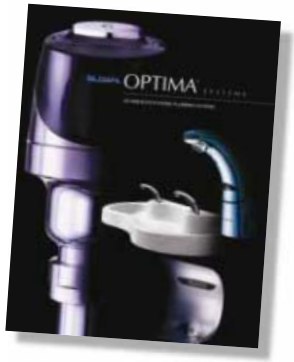
A new brochure from Sloan Valve Company offers an overview of its Optima and Optima Plus sensor-operated plumbing fixtures, and outlines the attributes of specific electronic plumbing systems for various applications. The brochure highlights Sloan's electronic plumbing products, including complete systems that feature sensor-operated Optima faucets, such as SloanStone solid-surface lavatories for restrooms and Optima scrub sinks and wash stations for health-care, food-service, and other institutional needs. Sloan Valve, Franklin Park, Ill. www.sloanvalve.com **CIRCLE 235**

Metal-finish color paint card

Linetec, an architectural metals finishing company, has released a new paint card showcasing its 25 most popular colors. The card provides AAMA specifications, care and cleaning guidelines, and applicator specifications. The company will also help create customized color cards. Linetec, Wausau, Wis. www.linetec.com. **CIRCLE 236**

Sports flooring catalog

Action Floor Systems' 12-page catalog features specifications for several types of hardwood sports-floor systems. The catalog highlights 18 of the company's subfloor systems and provides information on the company's history and Web site. Action Floor Systems, Mercer, Wis. www.actionfloors.com **CIRCLE 237**



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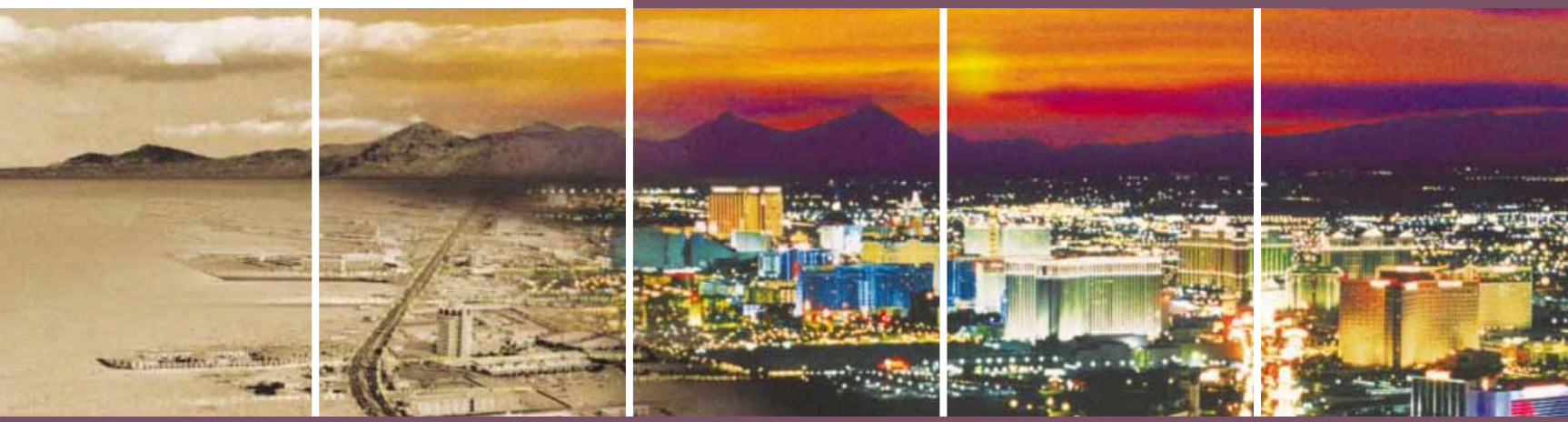

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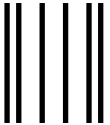

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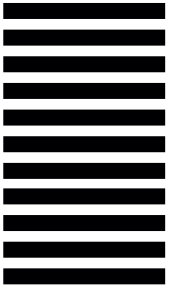

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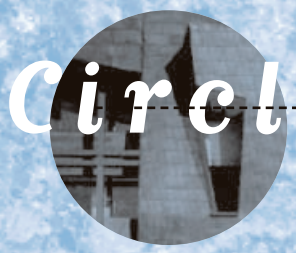

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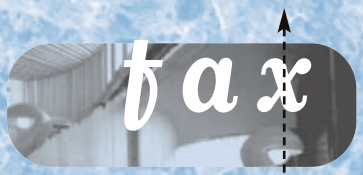

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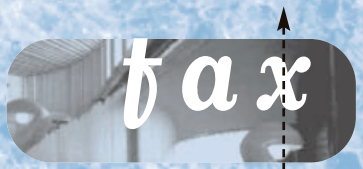

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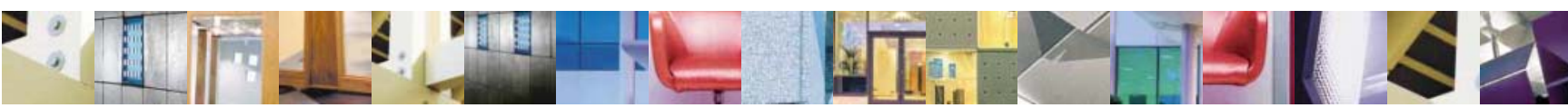

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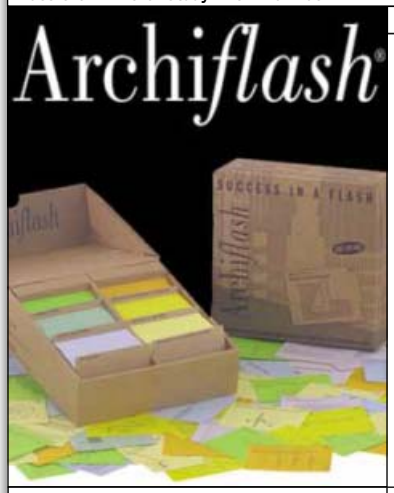

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www.gageverticalsurfacing.com

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FAAC International, Inc.

Gate Operators

2 Site construction

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Gage Corporation, Intl.

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5 Metals

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5 Metals

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ATAS International

Aluminum Ceilings 610-395-8445

7 Thermal & moisture protection

ATAS International, Inc. manufactures aluminum linear ceiling systems, which are snapped onto a suspended carrier. Round edge or square box style panels are installed with or without flush or recessed filler strips. Each profile has a choice of 3 widths that are interchangeable due to the increments of the carrier system. The carrier is pre-punched from .040 aluminum. Three finishes are available: Siliconized Polyester (.019 aluminum, 6 standard colors, and .024 aluminum in white only); Kynar 500® or Hylar 5000® (29 standard colors); anodized (clear or bronze). Perimeter trim and mouldings, in 12-ft. lengths, are the same material as the panel.

www.atas.com

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Melton Classics, Inc.

Online Resource for Balustrade Products

5 Metals

Announcing balustrades.com. Melton Classics balustrades.com Web site provides the design professional with the industry's most comprehensive selection of maintenance-free and low-maintenance balustrade products, allowing the design professional to select the ideal product for any design, application, and budget. Classic balustrade systems are available in integrally pigmented synthetic stone, marble/resin composite, cast stone, high density polyurethane, and fiberglass in over 50 sizes and designs. Custom balusters, radius railings, radius stairs, and lightweight balustrades are available. In addition to its balustrade products, Melton Classics also offers architectural columns, cornices, moldings, and architectural elements.

www.meltonclassics.com

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Boston Valley Terra Cotta Inc.

Rainscreen Systems 888-214-3655

7 Thermal & moisture protection

Boston Valley Terra Cotta, leaders in the design and manufacturing of Architectural Terra Cotta, is manufacturing Terraclad™, Architectural Terra Cotta Rainscreen System. Produced in the U.S. in their Orchard Park, NY, factory, this system is available for new design and retrofit. Boston Valley Terra Cotta offers six standard profiles, six different widths, 8-in. to 16-in., lengths from 12-in. to 60-in., as well as custom designs per the architect's specifications. Also available are 13 through-body colors, custom colors, glazed finishes, and custom sizes and shapes upon request. Terraclad is a green material, manufactured from high quality engineered clay body, designed to withstand the freeze/thaw climate and meet the industry standards of today.

www.bostonvalley.com

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Architectural Products by Outwater, L.L.C.

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6 Wood & plastics

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www.outwater.com

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CertainTeed Corporation, Roofing Products Group

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8 Doors & windows

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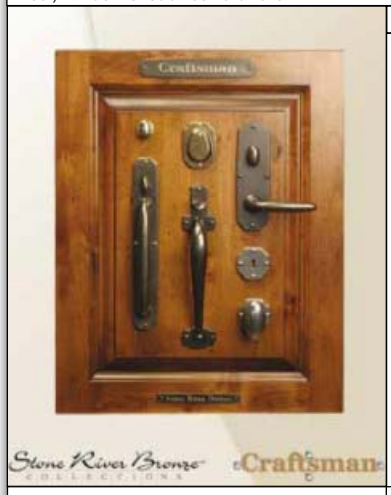

8 Doors & windows

Inspired by Greene & Greene, the Craftsman Designer Series will enhance the beauty of your home and satisfy your discriminating taste. The Craftsman Designer Series hardware options cover doors, windows, and cabinet accessories. Design highlights include unique casting detail, multiple finishes and texture options, matching bronze screws, strikes and faceplates, and bronze template mortise hinges. Their Window and Patio Door program offers the most comprehensive and authorized hardware options in the industry. Beyond the cosmetic detail, Stone River Bronze products offer several patent pending features and a lifetime warranty.

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Special-Lite, Inc.

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www.special-lite.com | 164

Weather Shield

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www.weathershield.com | 167

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Zero International, Inc.

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8 Doors & windows

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www.zerointernational.com

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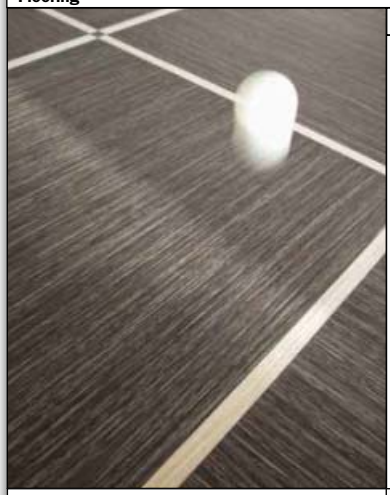
Viva Ceramica

Flooring



9 Finishes

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www.cerviva.it

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Kemlite Company

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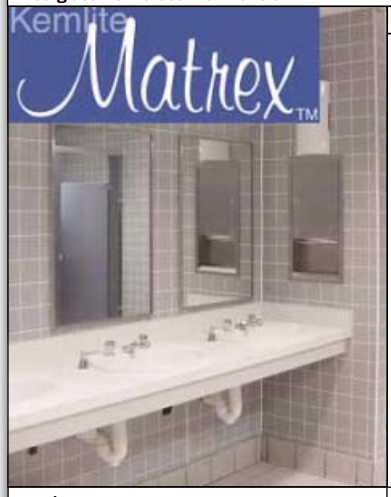

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www.g2art.com

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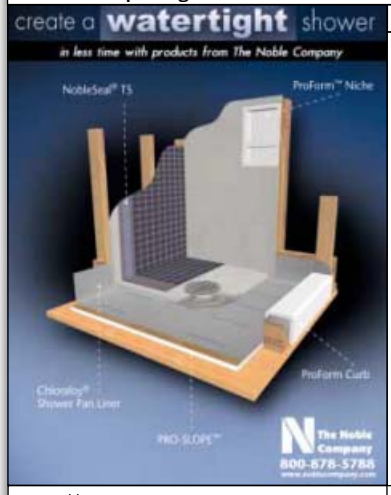

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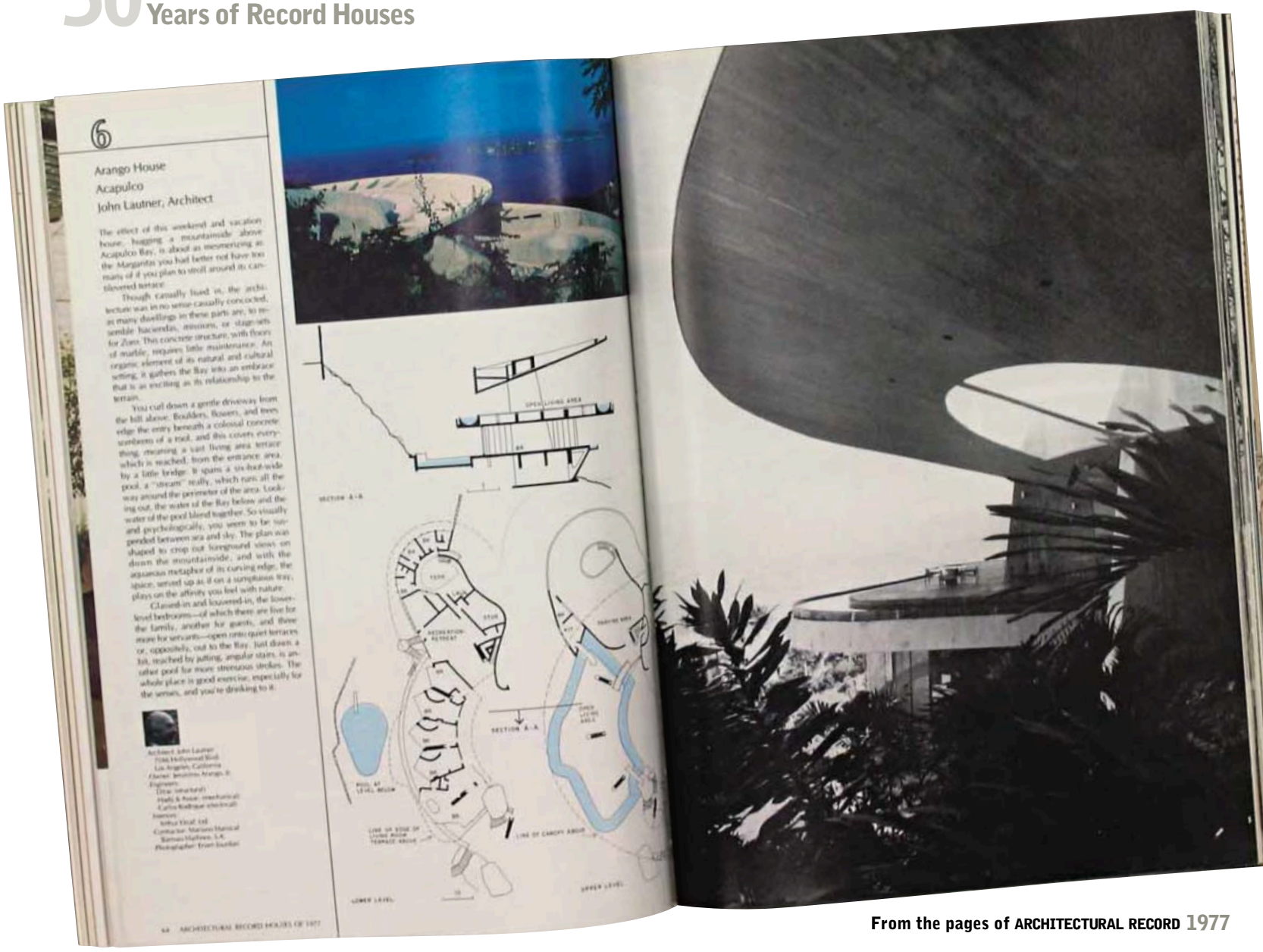

From the pages of ARCHITECTURAL RECORD 1977

Paradise, Writ in Concrete

By Deborah Snoonian, P.E.

Few spectacular Modern houses boast seaside views. Fewer still boast a moat. To our knowledge, none except John Lautner's Arango House in Acapulco, Mexico, can lay claim to both. Completed in 1973 and published in RECORD in 1977 (we described it as "a spatial fiesta, blending site, sea, and sky"), the house doesn't so much hug its mountainside site as burst forth from it in dramatic, sweeping forms. Add the panoramic vista of Acapulco Bay, the Pacific Ocean beyond, and the dome of sky above, and you've got an earthly paradise—or, at least, one family's dream vacation home.

The house was commissioned by Mr. and Mrs. Jeronimo Arango as a weekend retreat for themselves and their four children. Specifically, they wanted great views of Acapulco Bay, choosing a hillside site for this purpose. Lautner responded with a two-story concrete structure of some 25,000 square feet. Five bedrooms and servant quarters are tucked into the lower level, while an enormous open terrace on the upper level, sheltered by a canopy, serves as the main living and dining space. And then there's the moat—a 6-foot-wide swimmable channel

This page: Dramatic curves in concrete stand up to a rugged site (top). The terrace offers bay views, sunlight, and cooling breezes (bottom). Previous page: The original layout in RECORD shows floor plans and a section (top). Bedrooms are simple spaces of stone, concrete, and glass (bottom).

(continued from previous page) ringing the entire terrace, with a continuous overflow at its perimeter. The moat not only underscores the dazzling sweep of ocean and open air, but also, ingeniously, keeps bugs and land critters from wandering into the house and eliminates handrails that would spoil the view.

In the Arango House, Lautner refined innovations in siting, material, and structure he had been honing in earlier projects. Its bold curves celebrate the sculptural qualities of concrete, which he liked to experiment with (he worked often with engineer T.Y. Lin, who pioneered prestressed concrete). Modernists like Richard Neutra integrated architecture and site by extending structures into the landscape; here, Lautner turned this tenet on its head, conceiving the house as an extension of the rugged topography and using form to frame exterior views (like his mentor, Frank Lloyd Wright). Boulders thrust their way inside to become bedroom walls; the upper level is cantilevered out from the hill to block out lights from houses below and to give occupants the impression they're walking on air between the sky and the bay.

The Arango House was built in less than a year. It would be Lautner's only project in Mexico, although he admired Mexican architects like the émigré Felix Candela. Shortly before Lautner's death in 1994, the Arangos commissioned him to design another house, in Southern California. That project never went beyond schematic design, but the family still owns the house by the bay, a feast for the senses as fresh today as it was 30 years ago. ■

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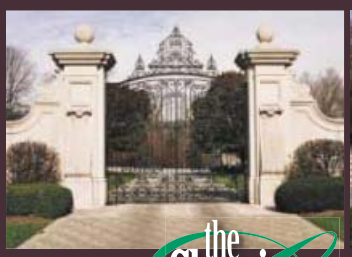

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