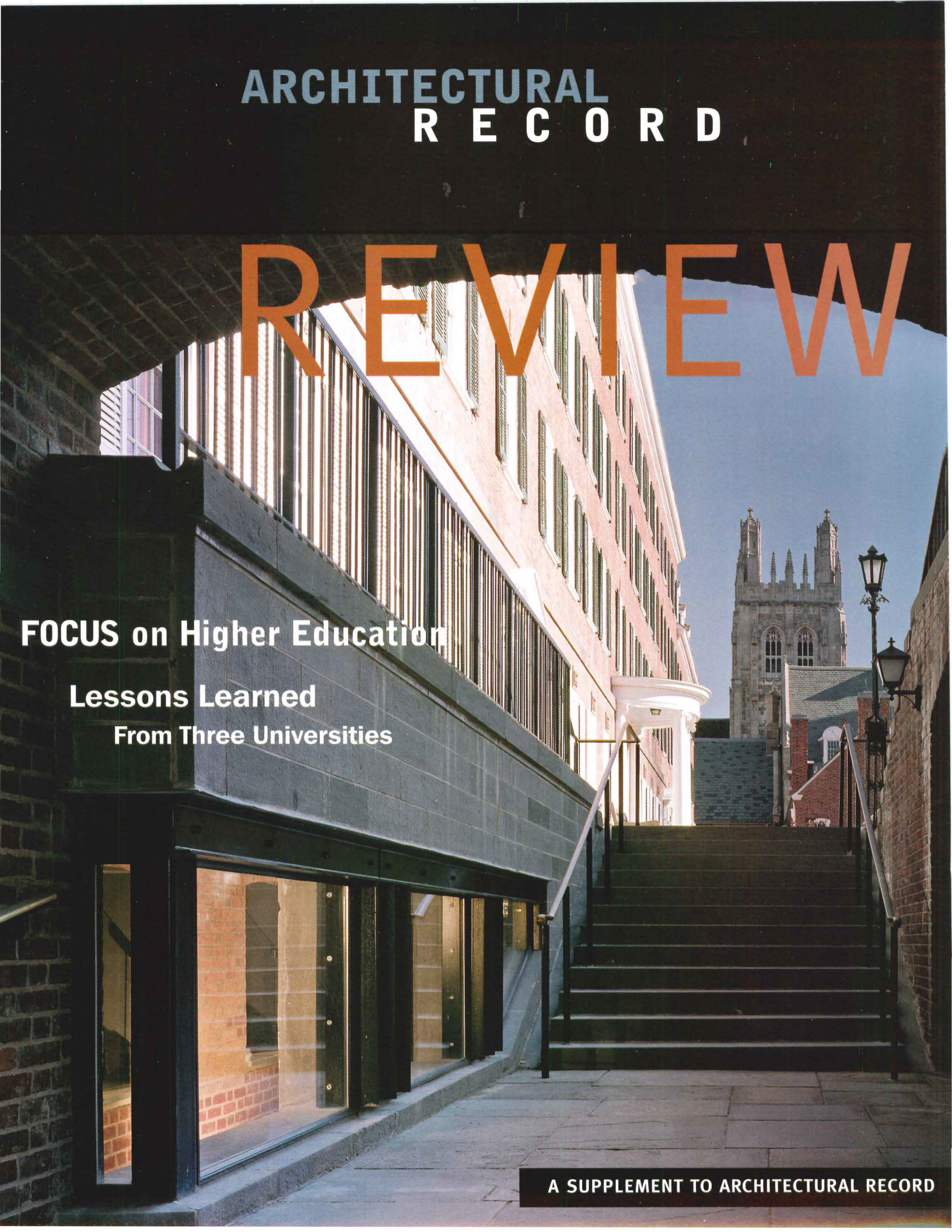
ARCHITECTURAL RECORD

REVIEW



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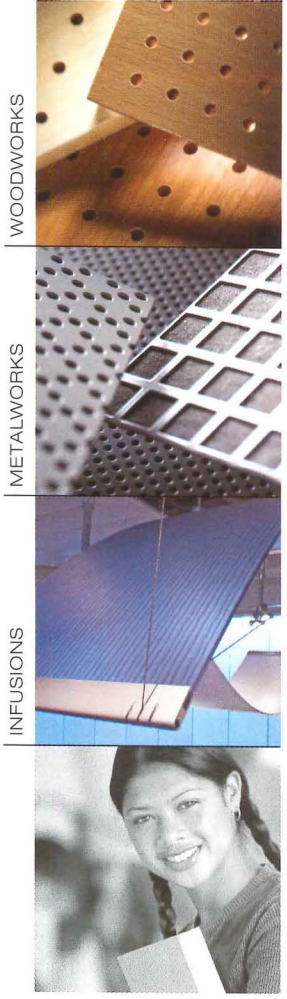

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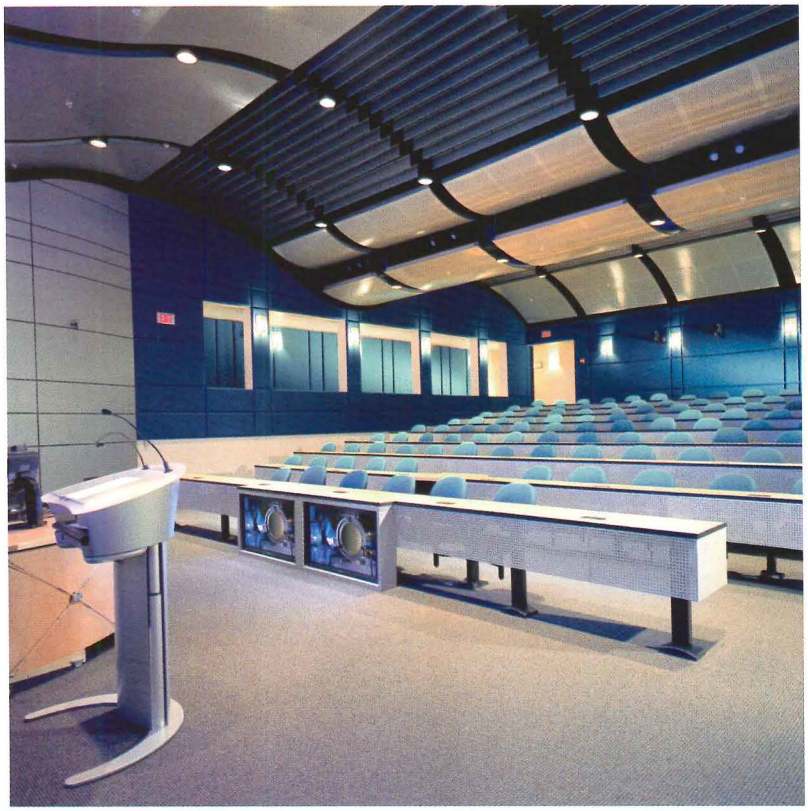

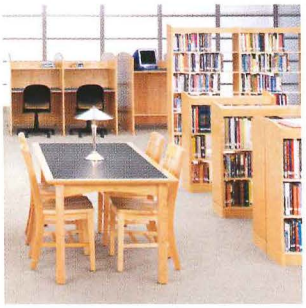

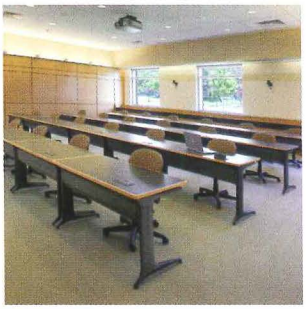

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REVIEW

10.2006

On the Cover: *Yale University, Davenport College, by KieranTimberlake Associates Photo by Barry Halkin.*

Essay

Introduction

Projects

Products

From the publisher

Dear Reader,

Echo boomers, the children of the baby-boom generation, are making their way through the education system in massive numbers. In fact, college and university enrollment is expected to grow 17 percent through the year 2014, according to a recent McGraw-Hill Construction report. Eyeing these numbers, we thought it was a good time to take stock of this market's architectural and construction opportunities. We've selected 30,000 architects, owners, and contractors to receive this special supplement, ARCHITECTURAL RECORD REVIEW HIGHER EDUCATION. *It's our way of helping to empower the decision-makers who design for growth.*

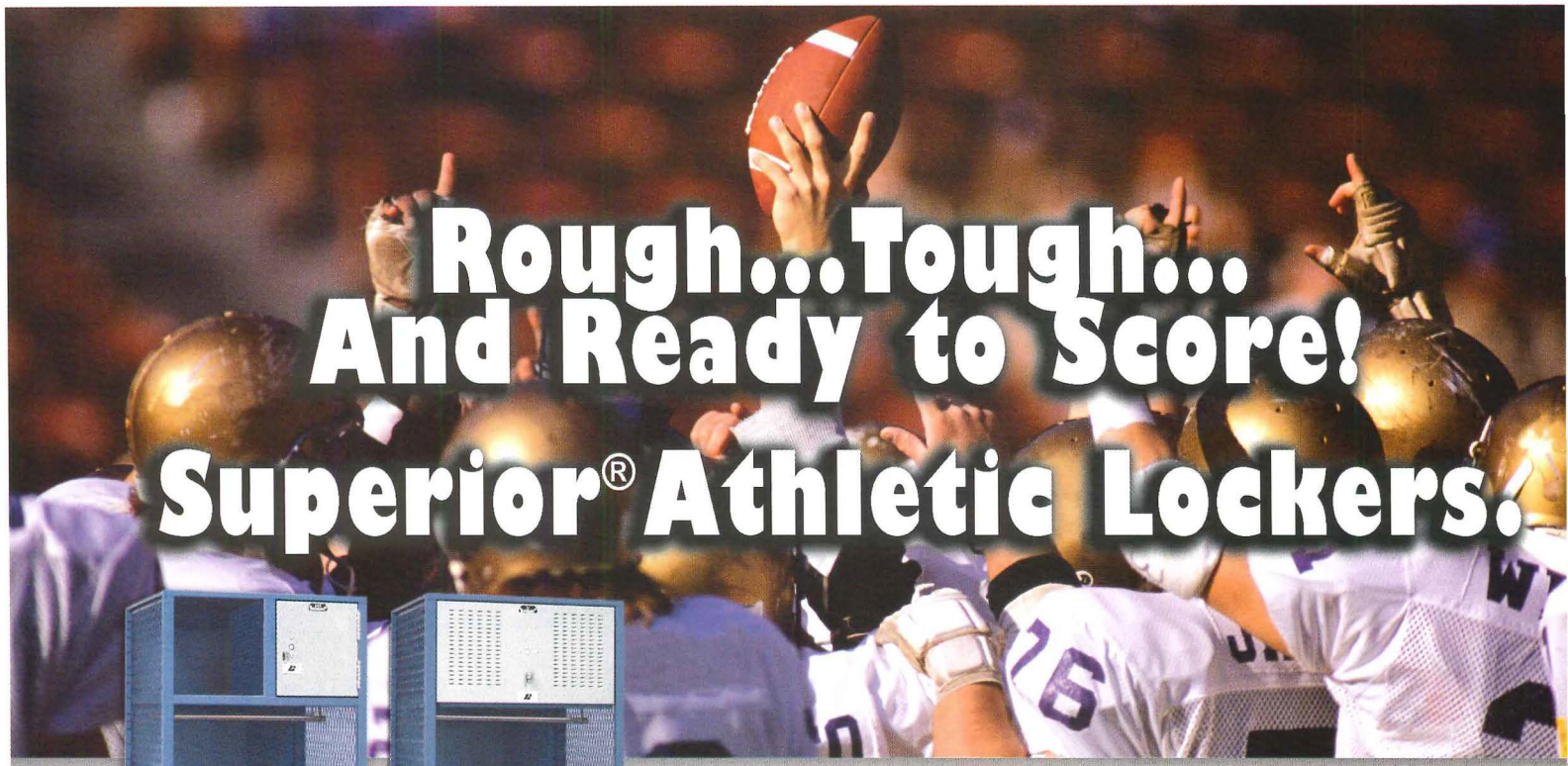
This supplement is organized into three parts. We begin with an essay that examines the demographic trends driving college and university construction, as well as the financing available for these projects, and how both of these factors impact private institutions, public universities, and community colleges. Tapping into the rich market data gathered by McGraw-Hill Construction Dodge Analytics, we show you what to expect in the future.

Next, we revisit three projects originally covered in ARCHITECTURAL RECORD'S *November 2003 Building Types Study, supplementing them with post-occupancy reports created by talking with architects, university faculty, and students.*

Finally, we showcase exemplary products used in the construction of college and university buildings around the country. In following this market as closely as we do, we've encountered some great options that we'd like to share with you.

We are proud of this supplement, ARCHITECTURAL RECORD REVIEW HIGHER EDUCATION, *and we sincerely hope that you too will find it valuable.*

Laura Viscusi
VP/Associate Publisher, ARCHITECTURAL RECORD



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Hitting the Books

COLLEGES AND UNIVERSITIES ARE EXPANDING CAMPUS BUILDINGS TO MEET SWELLING ENROLLMENTS, AND THEY'RE CATCHING UP ON DEFERRED MAINTENANCE.

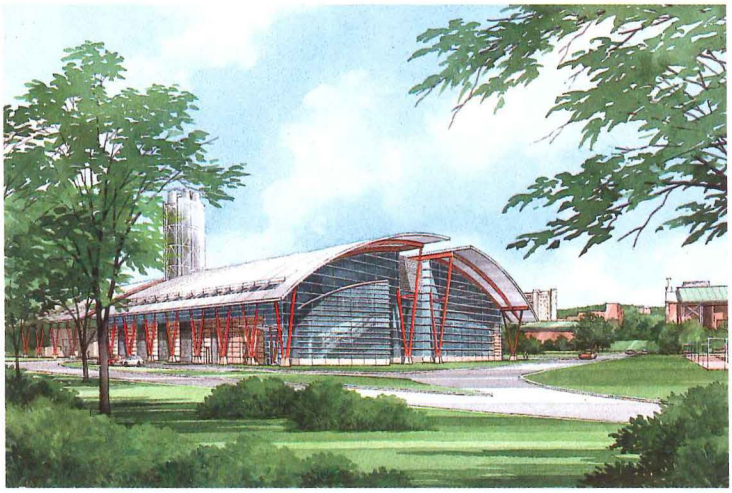
By Jayne Merkel

Growing enrollments, new technology, aging infrastructures, rising tuition, and competition among schools are ensuring that the recent building boom on college campuses remains strong. Although most of the new square footage is rising at public institutions and community colleges, a few elite universities account for the lion's share of expenditures, thanks to costly museums, renovations, and high-tech laboratories—projects like the ones featured in the following pages.

College and university construction is continuing apace along with that of other educational facilities, exceeding even last year's healthy 5 percent increase, according to a mid-2006 McGraw-Hill Construction report, *The Outlook for Education Buildings and Dormitories: Reaping the Benefits of Stronger Economies*, by Kim Kennedy. Long-term prospects also remain strong because, although school construction is expected to decline by the end of the decade in response to a lower birthrate, colleges will continue to grow as echo boomers, children of the baby-boom generation, move into the post-secondary system.

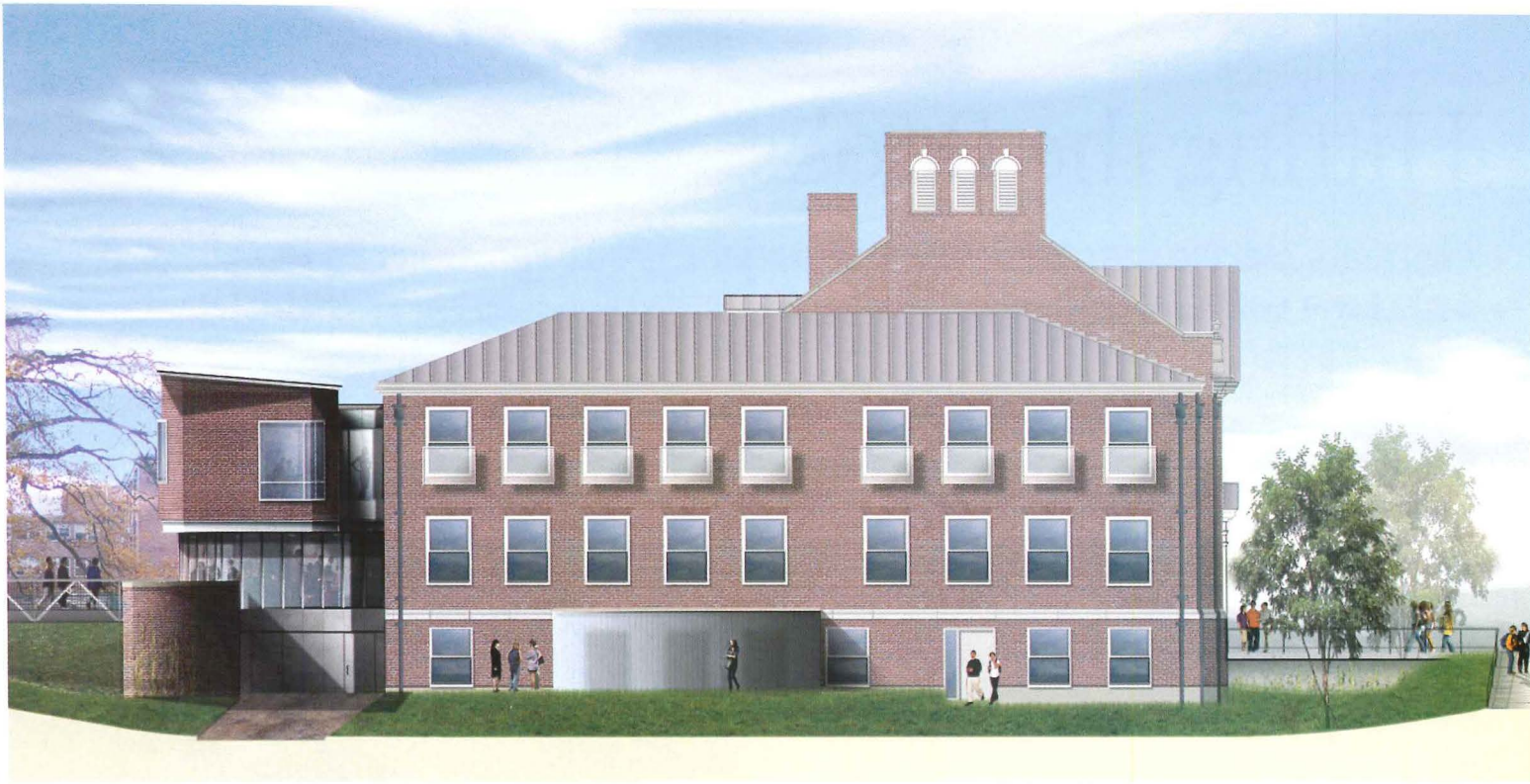
The bump in college enrollment is already much in evidence. The report notes that the National Center for Education Statistics (NCES) estimates that enrollment in all degree-granting institutions reached 16.6 million in 2002, a 23 percent increase since 1989. And in the years between 2002 and 2014, NCES expects enrollment growth to be "almost as strong," with a 17 percent gain, for a total of 19.5 million students.

Eyeing the continued influx of students, many universities are announcing massive capital improvements and expansion plans. But growth will not affect all schools equally. As tuition fees at private schools have risen sharply, the report notes, "state colleges have come under increasing pressure to expand." Trustees of the University of Massachusetts, for example, approved a five-year capital plan in August 2005 that will total $2.3 billion, half of which will be spent on the flagship campus in Amherst, with the remainder divided among four satellite campuses. One reason for this capital plan, according to the McGraw-Hill report, is that "tuition at Massachusetts' private Boston College is over $40,000 per year, while the University of Massachusetts's is just $16,000 per year for an in-state resident—making the state school a much more affordable alternative." Another reason is that at UMass and many other schools, building and maintenance have been deferred for decades, leading to pent-up demand for up-to-date facilities.



Thanks to its affordable tuition, the University of Massachusetts's flagship Amherst campus is enjoying rising enrollment numbers. A capital plan totaling $2.3 billion, approved in 2005, is helping the school update its basic infrastructure, such as constructing a new central heating plant (above right), designed by a team of architects and engineers that included Cambridge Seven Associates, as well as build new academic facilities, such as an integrated sciences building (bottom right), designed by Payette Associates.

ESSAY



Anshen + Allen + Rothman are renovating an existing structure at the University of Massachusetts's Amherst campus to house the School of Nursing. An addition at the east elevation (at left in the above image) frames a new interior courtyard that the architects have dubbed a "living room."

Among the first components of UMass Amherst's capital plan is a prosaic but nevertheless critical piece of infrastructure: a $118.7-million, 45,000-square-foot central heating plant to replace one that dates to the 1940s. A team comprised of R.G. Vanderweil Engineers, Cambridge Seven Architects, BSC Group, McNamara/Salvia, Haley & Aldrich, and Earth Tech, all Massachusetts-based firms, is designing it. UMass Amherst is also getting a $16-million, 47,000-square-foot visual arts building, designed by Gund Partnership; a $16.3-million renovation of its nursing school, by Anshen + Allen + Rothman; and Payette Associates' new $79-million, 328,000-square-foot integrated science building. Payette will also be designing a student recreation center, although this has yet to be integrated into the capital plan.

"STATE COLLEGES HAVE COME UNDER INCREASING PRESSURE TO EXPAND," ACCORDING TO A MCGRAW-HILL REPORT.

In addition to academic needs, Amherst also addressed student housing. A $92-million, 864-bed student apartment complex, designed by ARC/Architectural Resources Cambridge, opens this fall. It is the first new dormitory on the Amherst campus in 30 years, even though the University of Massachusetts system, which houses more than 11,000 students, boasts one of the largest numbers of on-campus units in the country. Still, more housing is needed.

"Like other construction at colleges and universities, dormitory construction has benefited from the strong gains in enrollments that have occurred over the past 12 years and that are projected for the next 12," the McGraw-Hill report notes. But the gains have occurred unevenly. In 2004, for instance, construction starts plunged 26 percent, to 21.1 million square feet, reversing a 22 percent rise in 2003; but in 2005 they quickly rebounded by 22 percent, perhaps in response to strong growth in endowments the year before. Although a modest pullback is likely in 2006, the report predicts, demographic trends indicate that the need for student housing will remain strong: "Dormitory construction is expected to bounce back with more moderate gains in both 2007 and 2008, before starts begin to slip back slightly due to weaker economic conditions. Starts will hit a peak for this forecast at 25.3 million square feet in 2008 and at $4.5 billion in 2009."

The report points out that changes in financing also play a big role in construction. State institutions, in particular, are "at the mercy of the economic cycle. During the past recession, state revenues plummeted, leaving little money for higher education. As a result, construction dried up. Now, as state coffers become flush once again, construction activity at state schools should see growth." But capital improvements at state universities are not entirely publicly funded, and increasingly universities themselves must raise money, the same as private schools. Only one-fifth of the cost of the new integrated science building at UMass Amherst will come from the state; other government sources will contribute substantially, but the school must pick up the remaining tab itself.

Even federal money will not be available for long. "Recent developments in Washington could deal a blow to lab construction down the road," according to the report. "As the legislative year wound up, the House and Senate approved a series of bills that cut 2006 funding for federal agencies such as the National Institutes of Health (its first reduction since 1970), NASA, and the National Science Foundation. This will put a major crimp on research grants and other government funds that are critical for universities and research institutions. These reductions are part of a growing trend aimed at cutting funding to scientific research and diverting the funds to research funding for new hardware such as warships and battlefield robots."

Costly private expansions

Federal cutbacks will impact capital projects for scientific activity at both public and private schools alike because major research facilities, such as those at Princeton and Caltech, discussed later in this *Review*, traditionally are heavily funded with public money.

Other projects at private colleges will remain unaffected, and

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At Yale University, in New Haven, Conn., KieranTimberlake Associates renovated James Gamble Rogers's 1930s-vintage Davenport College (left) and Pierson College dormitories, adding an elegant Modernist touch. The dorms share certain program elements, such as a 60-seat theater (bottom right), which is housed in a converted squash court at the basement level. In expanding Pierson College, the architect designed a series of prefabricated modules that could be easily hoisted into place at the site of a small courtyard formerly known as "The Beach." The Philadelphia-based KieranTimberlake has completed several dormitory renovations for Yale in the past few years as the school updates its student housing. And almost every historic building on campus is also receiving a facelift or touchup.

though the resources available to these institutions vary tremendously, things are generally looking up. As the report notes, "Private colleges are riding the tide of improved financial conditions. According to the National Association of College and University Business Officers (NACUBO), endowments gained an average of 15.1 percent during fiscal year 2004 (July–June)—after averaging just 3.8 percent over the past five years. The 2004 gain in endowments represents one of the largest gains since the organization began collecting data in the 1990s, and is a positive turn for schools following declines in 2001 and 2002. In the NACUBO survey, all but a few of the 741 schools posted gains in 2004, with most of the big name schools posting very strong gains. Harvard University, which continues to have the largest endowment ($22 billion), saw growth of 18 percent, while Yale University (ranked no. 2 with an endowment of $15.2 billion) saw gains of 16 percent."

Not surprisingly, Harvard, Yale, and other wealthy private schools are making significant capital improvements. In addition to expanding its business and law schools, both designed by Robert A.M. Stern (see "Focus on Higher Education," *Architectural Record Review*, April 2005), Harvard is expanding to the north and west, as well as south across the Charles River to Allston, where the business school is located. And last November the university completed the 226,000-square-foot Center for Government and International Studies, a five-story building with an

An area that KieranTimberlake Associates dubbed "The Knuckle" provides shared circulation for both the Davenport College and Pierson College buildings at Yale University, in New Haven, Conn. At the basement level (right), exposed roughened stone foundations contrast with the clean lines of contemporary materials. Elsewhere on campus, Gwathmey Siegel is restoring Paul Rudolph's controversial 1963 Art and Architecture building (below), adding a 85,000-square-foot wing next door that will house the university's art history department. Another historic mid-century building, Louis I. Kahn's 1953 Yale Art Gallery addition, is set to reopen in December after receiving a deft restoration by Polshek Partnership.

atrium that brings together members of the government department in a single location next to existing research centers. The $88 million project was designed by Henry S. Cobb, of Pei Cobb Freed & Partners, the same firm that designed Caltech's Broad Center (see page 34).

Harvard has also embarked on an ambitious campaign to restructure its three existing art museums, on the main campus, and to construct a new arts center in Allston. The celebrated Renzo Piano Building Workshop, which is in charge of this effort, will renovate the historic Fogg Art Museum, James Stirling's Sackler Museum, and Gwathmey Siegel's Busch-Reisinger, while the avant-garde Los Angeles firm Daly Genik Architects will create the new art center within adjacent buildings on Soldiers Field Road in Allston.

Not to be outdone, Yale is tackling its own art buildings as part of a $500-million overhaul that includes renovating its Gothic Revival and Georgian Revival residential colleges and constructing new science facilities. In the way of art buildings, Polshek Partnership is rebuilding Louis I. Kahn's famous 1953 Yale Art Gallery addition, a project that's expected to be completed in December. Similarly, Gwathmey Siegel is set to restore Paul Rudolph's controversial 1963 Art and Architecture Building; next door it will add an all-new 85,000-square-foot building for Yale's art history department. KieranTimberlake, meanwhile, will design a new sculpture center.

Based in Philadelphia, KieranTimberlake has remodeled several residential colleges for Yale, jobs that often involved more than repairing old stonework and windows. For instance, its $30-million renovation of James Gamble Rogers's 1933 Pierson College included the addition of 18 bedrooms, which were fabricated off-site and then hoisted into place, as well as a new underground theater, print shop, digital media studio, and basketball court to be shared by adjacent Davenport College, which was also designed by Rogers and renovated by KieranTimberlake. Busy as ever, KieranTimberlake is also remodeling Silliman College, Yale's largest, which was designed by Otto Eggers and completed in 1940. Meanwhile, the Boston-based firm Goody Clancy recently renovated Yale's Trumbull College, increasing its size by 10,000 square feet.

Renovation and restoration comprise a big component of the construction work at Yale; almost every historic building is seeing some work, including the football and baseball stadiums, and the school is moving several historic houses to new locations. But the university is also constructing projects from the ground up, such as a new 34,000-square-foot police station, designed by William Rawn Associates. Even

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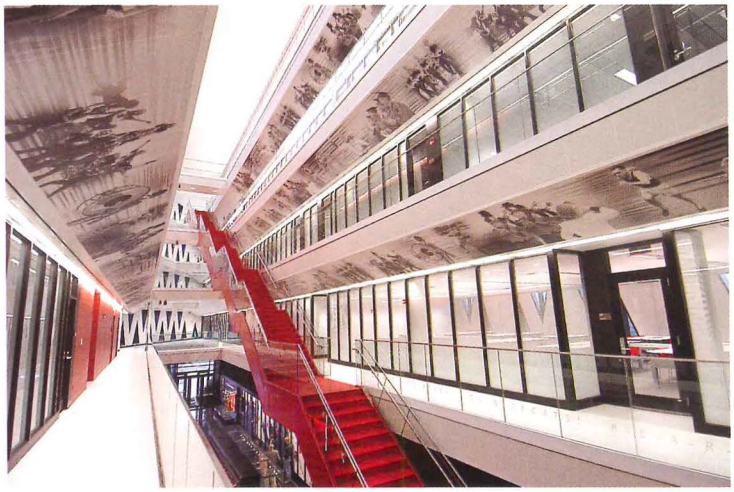

The University of Cincinatti's Varsity Village, a 16-acre sports precinct located in the heart of campus, includes the Richard E. Lindner Athletic Center (top and bottom left), designed by Bernard Tschumi and Glaserworks, and the Marge Schott Stadium for baseball, designed by Glaserworks (bottom right). These buildings resulted from the university's "signature architects" program, which successfully injected striking new design into its traditional campus.

more ambitious is Yale's program for science. Payette Associates and Venturi, Scott Brown designed the $140-million, 440,000-square-foot Anlyan Center for Medical Research and Education, which was completed three years ago; at the same time, Hillier began renovating Philip Johnson's 1965 Kline Biology Tower. And last year a $50-million, 117,800-square-foot Class of 1954 Chemistry Research Building, designed by Bohlin Cywinski Jackson with Cannon Design, was completed, as was the 63,117-square-foot triangular Malone Engineering Center. Designed by Cesar Pelli & Associates, the Malone building features a curved wall of glass and straight walls of limestone. Currently, design and construction of a new 65,000-square-foot arch-roofed Forestry and Environmental Studies Building is underway to unite facilities that are now spread throughout Yale's campus.

Raising the bar

Big name schools aren't the only ones with a lock on commissioning interesting architecture. According to the McGraw-Hill report, more square footage will be built for community colleges than for any other form of higher education, due to a surge in the number of nontraditional students who work and take classes part time. Though most have modest budgets, some are producing quite interesting buildings. The new Cape May County Campus of Atlantic Cape Community College, at the southern tip of New Jersey, provides complete facilities for a pair of recently merged junior colleges under one set of roofs. The campus's $12.7-million, 63,825-square-foot main building was designed by Duca/Huder & Kumlin Architects with Garrison Architects, both of New Jersey. Its two long, three-story red brick curved-walled blocks are connected by a two-

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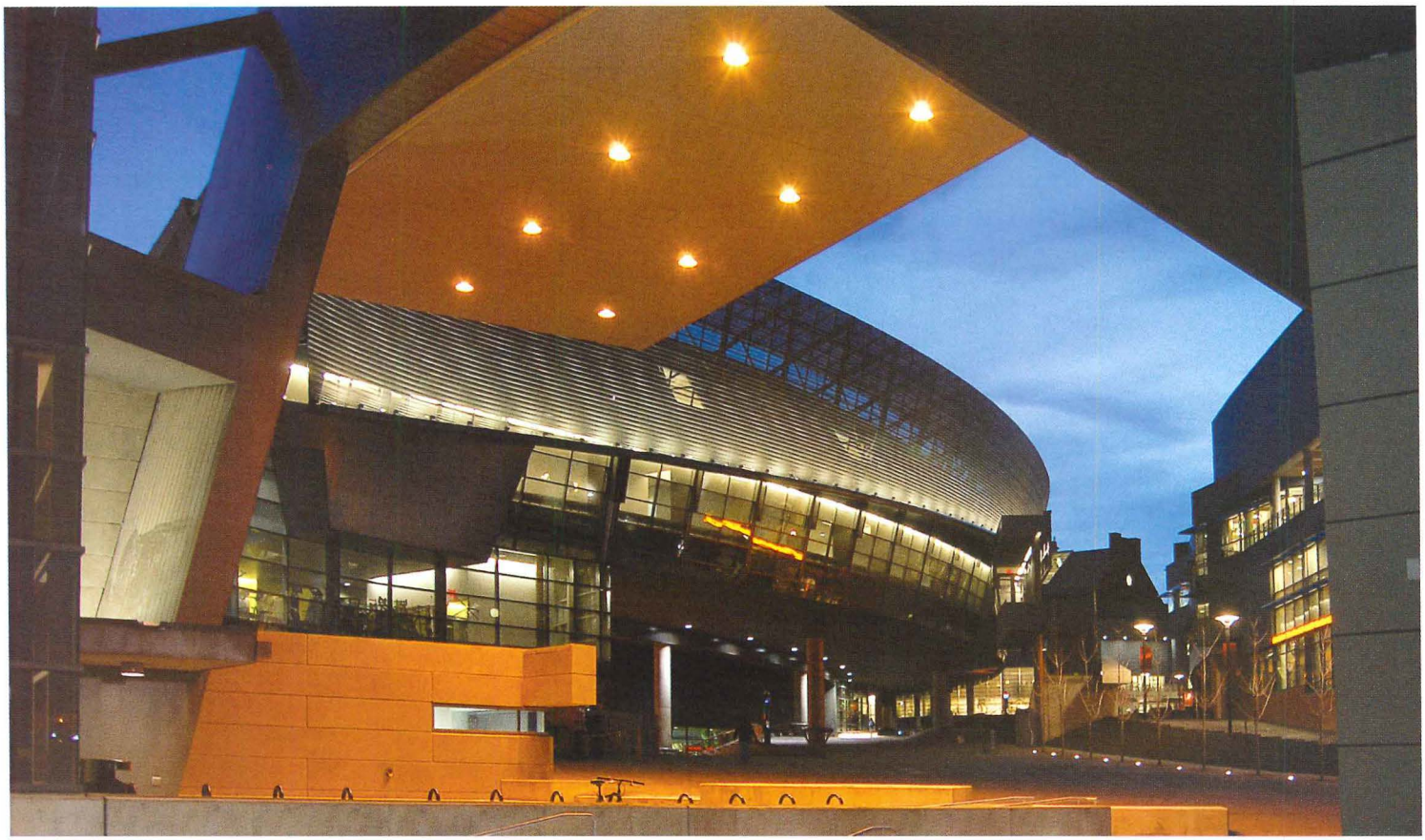


Morphosis and KZF's Campus Recreation Center, with its glass curtainwall and curvy form, completes the University of Cincinnati's Varsity Village, providing athletic facilities for all students. Other buildings in the school's sports district are geared toward specific user groups, such as varsity teams.

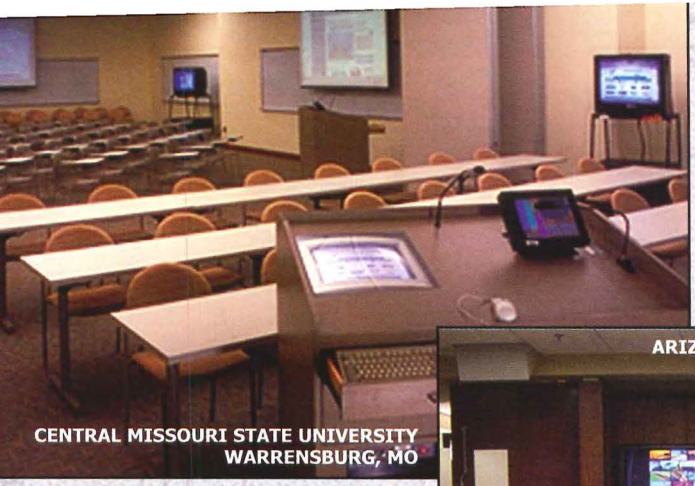
story glazed structure with a double-height colonnade where all the students and faculty enter, congregate, and dine.

In Ohio, meanwhile, the University of Cincinnati recently completed the most interesting buildings yet in its "signature architects" program: Morphosis and KZF's $113-million, 350,000-square foot Campus Recreation Center, with sports facilities for all students, and Bernard Tschumi and Glaserworks's $80-million, 236,000-square-foot Richard E. Lindner Athletic Center for team sports. That curvaceous eight-story building, surrounded and supported by exposed diagonal concrete and steel trusses, also contains coaches' offices and facilities for team sports, health services, and academic support services for athletes. The boomerang-shaped building, with triangular fenestration, also contains an athletics museum.

Architect Specht Harpman used No. 2 pencils to line the entry wall of the new marketing offices for St. Edward's University in Austin, Texas.

With its distinctive looks, the Lindner Center forms the heart of Cincinnati's massive "Varsity Village," a 16-acre sports precinct at the center of campus. Components of the $109-million complex include the 85,000-square-foot, 450-seat Trabert-Talbert Tennis Center; the 1400-seat Gettler Soccer and Track Stadium; Sheakley Lawn, a 160-by-300-foot grassy area; and the fine $11-million, 3,085-seat Marge Schott Stadium for baseball by Glaserworks, which defines the athletic precinct's southeast corner.

St. Edward's University in Austin, Texas, has undertaken a similarly ambitious construction program. It recently completed a Natural Sciences Building, by Moore Ruble Yudell, and has hired rising stars Rick Joy to design a new chapel; Alejandro Aravena, of Chile, to build a dormitory; and Specht Harpman to renovate a 3,500-square-foot space in the landmarked Main Building for the school's marketing department. To make that project symbolize the creative process of the writers and designers, who create everything from fund-raising brochures to course catalogs, Specht Harpman built an entry wall composed entirely of No. 2 pencils. That kind of care and innovation suggests that St. Edward's is certainly a campus to watch for other aesthetic breakthroughs. ■



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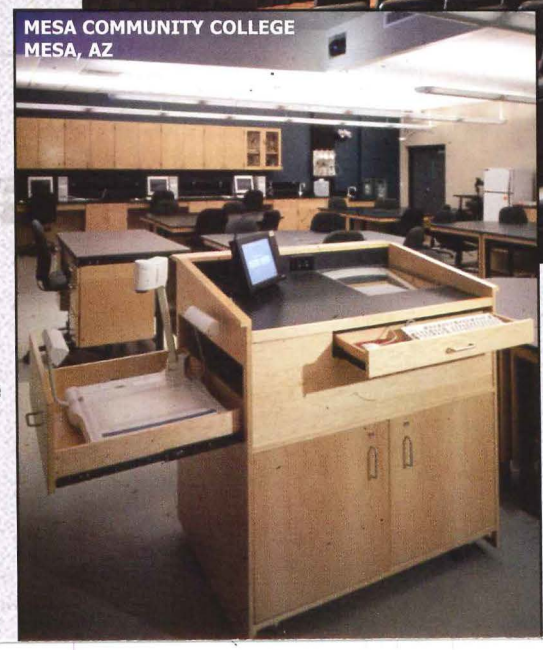

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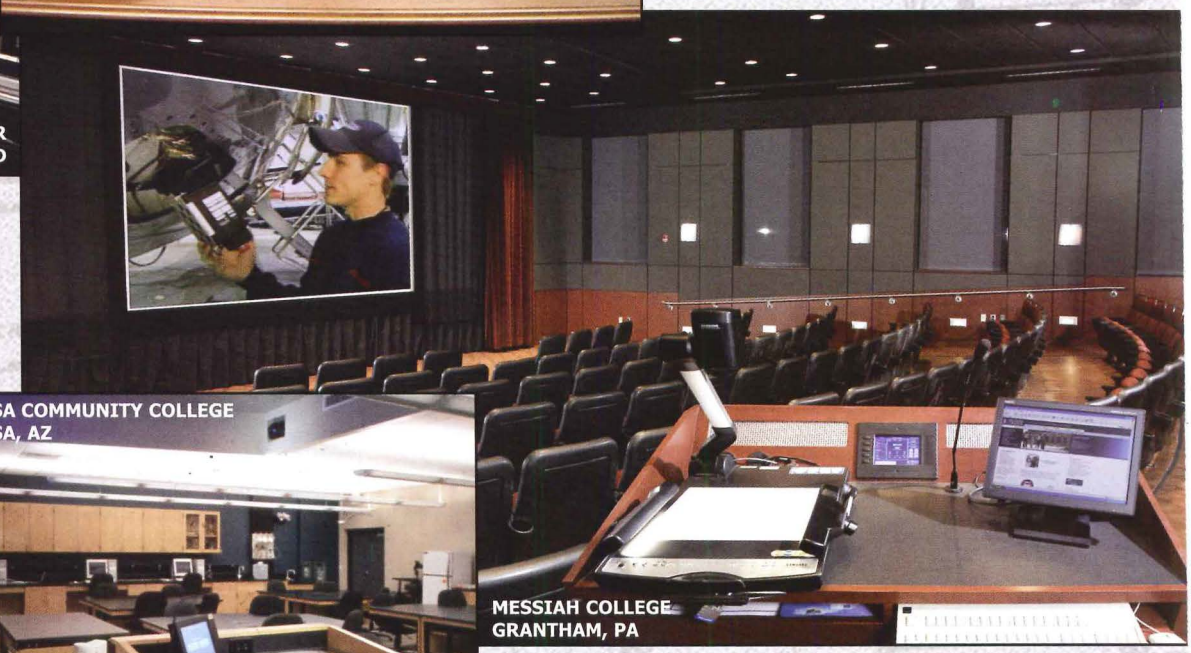

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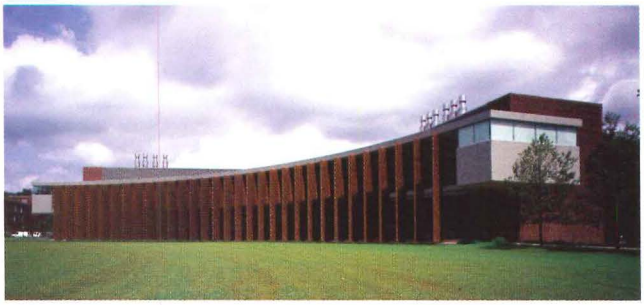
IT'S TIME FOR 'GOOD DESIGN 101' AS WE REEVALUATE THREE UNIVERSITY BUILDINGS WHOSE ARCHITECTURE WAS INTENDED TO ENCOURAGE COLLEGIALITY AND MANAGE GROWTH.

By Jayne Merkel

Colleges today are building quickly to keep up with new technology and growing enrollment. Enabled by flush endowments and special state funding to compensate for federal cutbacks, they are using architecture to beef up academic programs and make their campuses more attractive. In this review we revisit three projects previously discussed in architectural record to see what can be learned from them now. In all three buildings, architecture actively encourages collegiality. At New Jersey's Princeton University, Rafael Viñoly Architects designed the Carl Icahn Laboratories at the Lewis-Sigler Institute for Integrative Genomics around a café where scientists with different areas of expertise cannot help but meet informally and exchange ideas. In the Broad Center for the Biological Sciences at the California Institute of Technology in Pasadena, Pei Cobb Freed & Partners Architects created a sensitive transition between Mission-style buildings on the old campus and a new area pegged for future expansion; the building also helps foster dialogue between scientists in different disciplines. Similarly, at Louisiana State University in Baton Rouge, Trahan Architects transformed a dignified old Renaissance Revival gym into the Cox Communications Academic Center for Student-Athletes, where athletes can study, be tutored, and take classes in elegant modern interiors. ■



1. **Carl Icahn Laboratory Lewis-Sigler Institute, Princeton University, Princeton, New Jersey,** *by Rafael Viñoly Architects*

2. **Academic Center for Student Athletes, Lousiana State University, Baton Rouge, Louisiana,** *by Trahan Architects*

3. **Broad Center for Biological Sciences at Caltech, Pasadena, California,** *by Pei Cobb Freed & Partners and SmithGroup*

Carl Icahn Laboratory Lewis-Sigler Institute
Princeton, New Jersey

2003

RAFAEL VIÑOLY CREATES A BUILDING THAT CAPTURES THE SWEEPING NATURE OF ITS USERS' SCIENTIFIC QUEST.

By Clifford A. Pearson

Architect: *Rafael Viñoly Architects—Rafael Viñoly, FAIA, principal in charge; Jay Bargmann, AIA, managing director; Sandra McKee, AIA, project director; Jennifer Swee, Anooradha Raman, Christina Seilern, project managers; Charles Blomberg, AIA, Stacey Greenwald, Asaka Kusama, Carlos Soubie, Lily Lim, Justin Kim, Jerrold Fox, project team*
Client: *Lewis-Sigler Institute for Integrative Genomics, Princeton University*
Engineers: *Dewhurst, McFarlane & Partners in association with Joseph Goldreich (structural); Burt Hill Kosar Rittelmann Associates (m/e/p); Van-Note Harvey (civil)*
Consultants: *Quennell Rothschild & Partners (landscape); Acentech (acoustical); GPR Planners (labs); Wojciechowski Design (graphics)*
Construction manager: *Barr + Barr*

Size: *138,000 square feet (gross)*
Construction cost: *$48 million*
Completion date: *January 2003*

Sources
Metal-and-glass curtain wall: *National Glass and Metal Company*
Precast concrete: *Global Precast*
Acoustical ceilings: *Armstrong*
Demountable partitions: *Inscape; Fisher Hamilton*

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

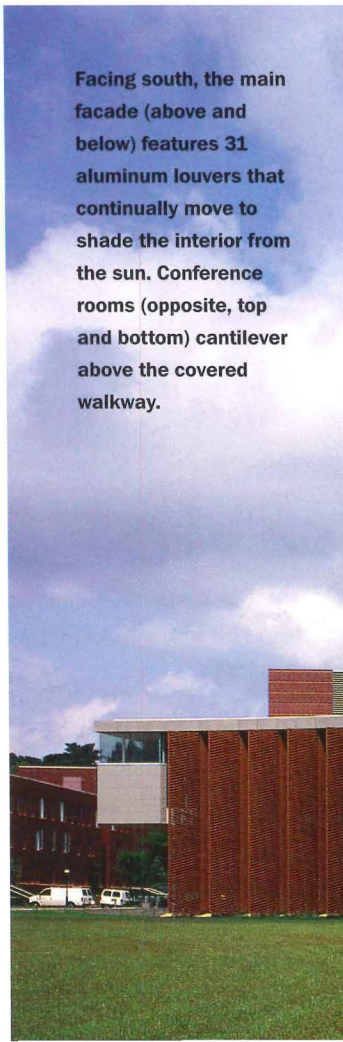
As its name suggests, the Lewis-Sigler Institute for Integrative Genomics at Princeton University takes an interdisciplinary approach to the study of life sciences and genetics. Just a few years old, the institute brings together experimental biologists, computational biologists, physicists, chemists, engineers, and applied mathematicians so they can bounce ideas off one another and "ask a whole new set of questions" at a time of rapid progress in genetic sequencing, says Shirley Tilghman, who was the founding director of the institute and is now the president of Princeton. Like the program it houses, the new Carl Icahn Laboratory by Rafael Viñoly Architects takes an inclusive approach to design, bringing the outdoors in and providing an attractive venue for scientists to come together.

Program

Because research in life sciences is changing so rapidly, the laboratory presented a difficult design challenge. "When I first sat down with Rafael, I had no idea what this science would look like," recalls Tilghman, a mammalian geneticist by training. "But I knew that our building had to break down the cultural barriers that had grown up around various disciplines and promote risk taking. And it had to be extremely flexible."

Part of a master plan by Machado and Silvetti Associates that creates a new quadrangle set around an ellipse-shaped athletic field, the new lab connects underground to the adjacent Lewis Thomas Laboratory, designed by Venturi Scott Brown and Associates (VSBA) with Payette Associates and completed in 1986. Although begun just a little more than a decade after the VSBA building, the Viñoly lab needed to reflect a new world of integrated genomic studies where the whole is more important than any of the individual pieces, says Tilghman.

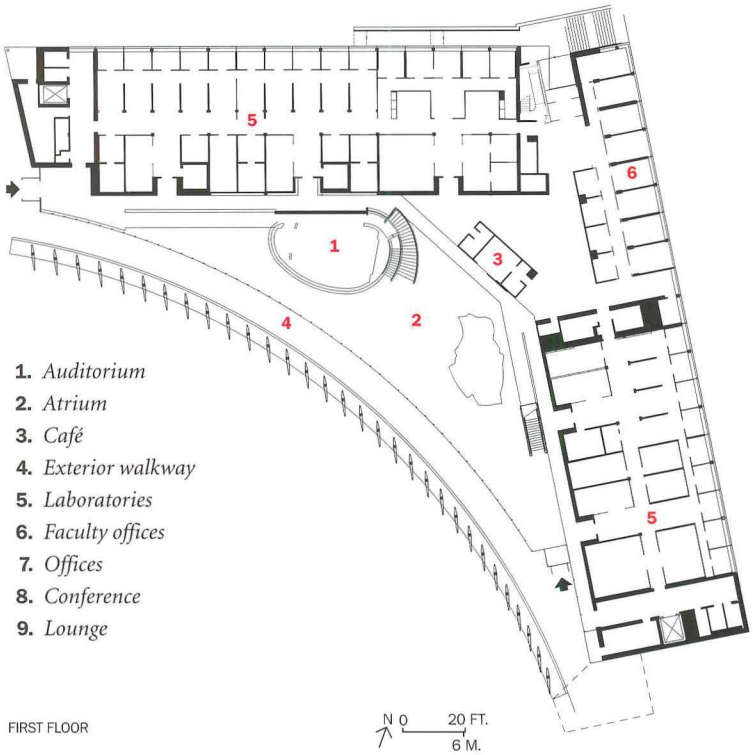
Laboratories for about 15 faculty members (along with their assistants and students) occupy most of the building's 120,000 net square feet. Offices, conference rooms, a small lecture hall, and a café round out the rest of the dedicated space, though Tilghman encouraged Viñoly to think beyond the essential components of the program. "I didn't want a building like any other lab that existed," she states.



Facing south, the main facade (above and below) features 31 aluminum louvers that continually move to shade the interior from the sun. Conference rooms (opposite, top and bottom) cantilever above the covered walkway.

PHOTOGRAPHY: © ROMAN VIÑOLY

The 40-foot-high vertical louvers (above left and right) are controlled by computer and driven by hydraulic jacks. All of the mechanical equipment can be repaired by campus engineers using standard parts.



1. *Auditorium*
2. *Atrium*
3. *Café*
4. *Exterior walkway*
5. *Laboratories*
6. *Faculty offices*
7. *Offices*
8. *Conference*
9. *Lounge*

FIRST FLOOR

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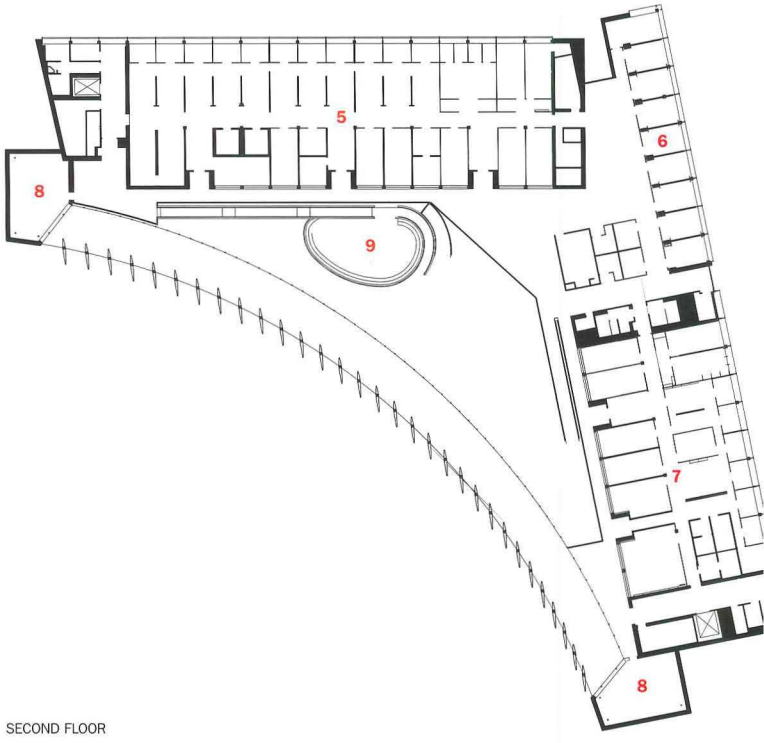
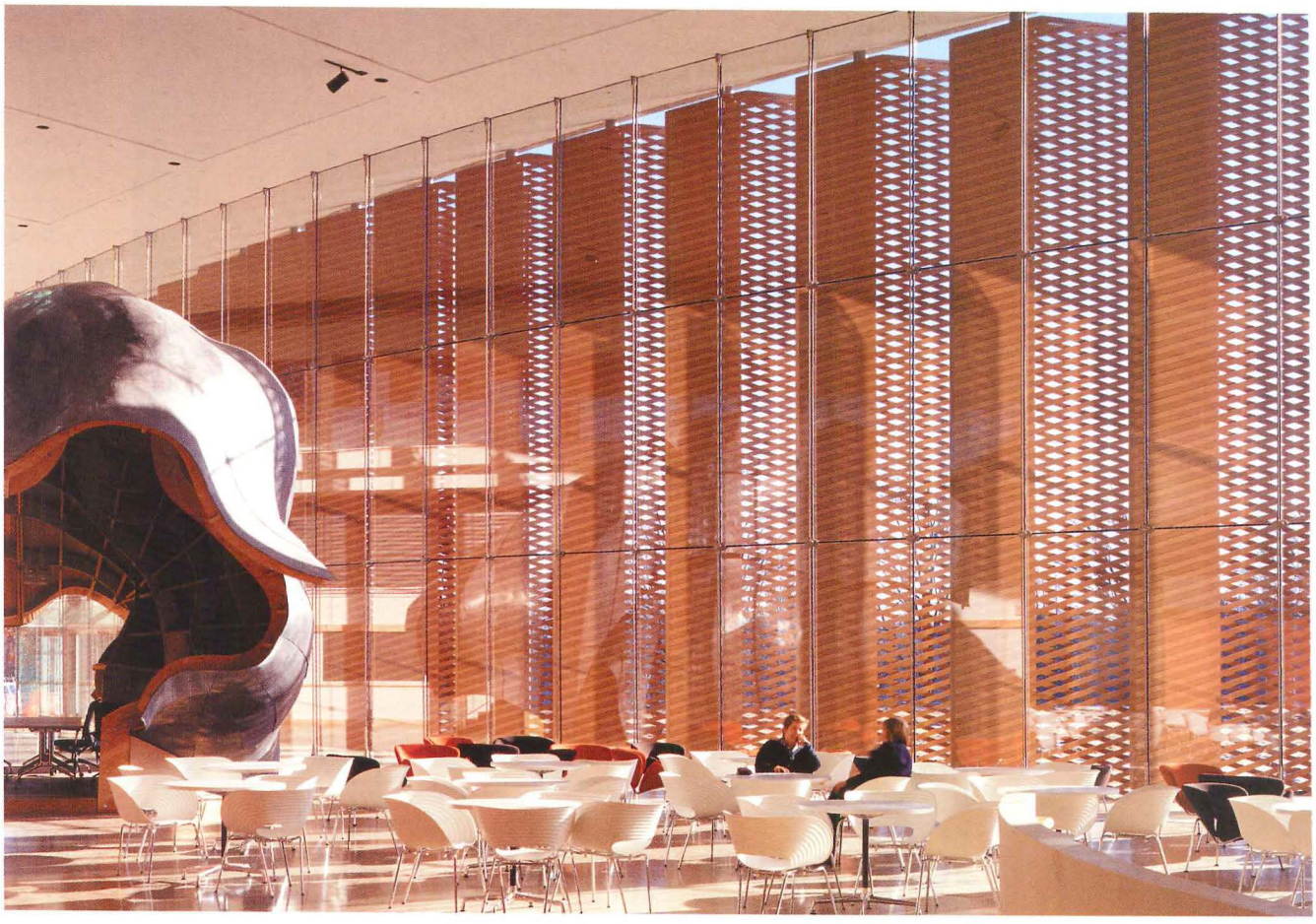


SECOND FLOOR

Because the walkway (above) works as an integral part of the architecture, it helps connect the building to the rest of the campus. The atrium (right) is the social hub of the building and includes a Gehry sculpture (left in photo) that encloses a conference space.



A stair winds around the maple-clad auditorium (above). Skylights above corridors and a glass roof between a lab block (left in photo at right) and offices help enliven common areas. Bands of deeply recessed, angled windows bring daylight but little glare into offices and labs (bottom).

Solution

"When we started, Shirley told me, 'You won't believe this, but the most important part of this building is the coffee,' " says Viñoly with a laugh. What she meant, he explains, is that the social spaces, the places where the scientists and students bump into each other, are critical to the success of the institute. So the architects designed a great curving atrium between two wings of labs and offices. The two-story-high space faces south to the playing field through a curving wall of mullionless glass panels braced by vertical steel cables.

To protect the glazed facade from the impact of the sun, Viñoly and his team designed an arcade of 40-foot-tall aluminum louvers that stand outside the building and help define a covered walkway linking the lab to two nearby dorms. The 31 louvers, controlled by computers and driven by hydraulic jacks, rotate in conjunction with the movement of the sun to reduce solar heat gain.

The social hub of the building, the atrium encompasses a small, freestanding café, a cylindrical lecture hall, and a Frank Gehry sculpture that houses an informal conference space. Curving stairs around the lecture hall and a flight of straight stairs along one of the two-story lab/office wings lead directly to the atrium, reinforcing its role as the heart of the project.

For the laboratory spaces, Viñoly created a system of demountable elements using commercially available lines of modular lab benches and modular partitions. An 8-foot-high interstitial space above each floor accommodates all of the necessary mechanical, electrical, and venting systems.

Commentary

Turning an outdoor walkway into a grand gesture of movement and connection, Viñoly gets a visual and metaphorical bang out of a fairly simple strategy. Supporting the light-filled social hub with restrained but flexible lab spaces, the architect has created a building that both works and inspires. ■

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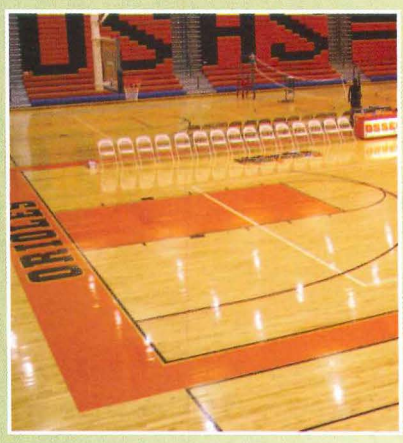

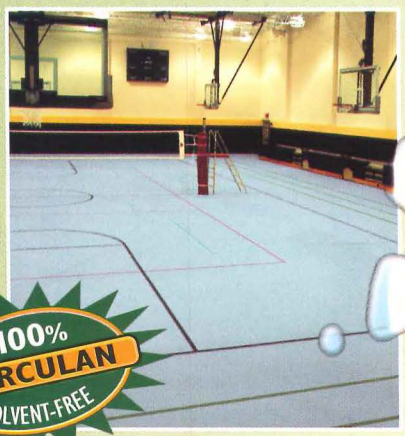

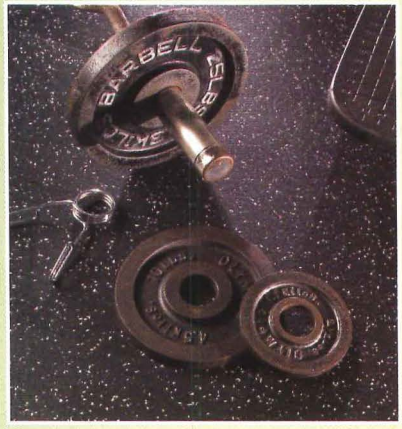

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Post-Occupancy 2006

Princeton University's Carl Icahn Laboratory at the Lewis-Sigler Institute Princeton, New Jersey

By Jayne Merkel

The Carl Icahn Laboratory, home to the Lewis-Sigler Institute for Integrative Genomics, accommodates numerous brilliant scientists as well as millions of dollars' worth of high-tech equipment, but what makes it truly wondrous is the natural lighting and its central café, an attractive, accessible place to meet informally with colleagues. Susan Powell, the institute's assistant director, helped plan the building. She calls it "a truly beautiful place to work. There are many lovely vantage points that offer spectacular views. My favorite part of the building is what the louvers do to the light. Since they move and have a lattice grid pattern, the light that filters into the atrium is constantly changing. It gives the building an organic feeling. It makes it feel alive."

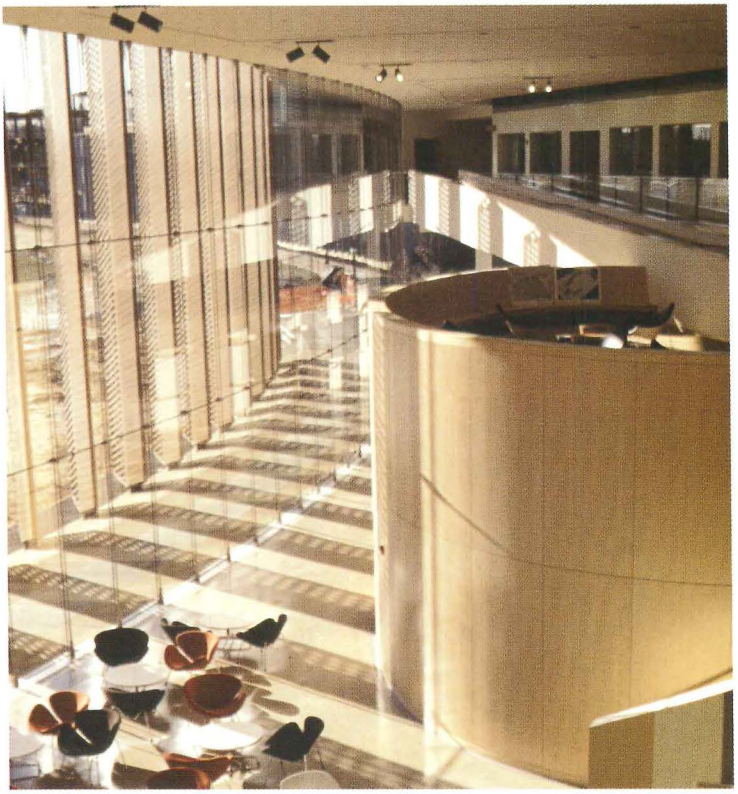
Architect Rafael Viñoly, FAIA, is happiest with the fact that the building's users are happy. The project director from his office, Jay Bargmann, says he is pleased with how the building integrates with campus circulation and open space. "The arcade is simultaneously within the building and the defining wall of the crescent-shaped open space," he says. "Internally, the laboratories are very flexible and intercommunicate seamlessly with the common space that is shared with the university."

Flexibility turned out to be very important because even before the building was completed, Shirley Tilghman, the Lewis-Sigler Institute's founder, was tapped to become Princeton's president. Her departure set in motion some significant modifications.

"Alterations in these buildings occur even before they are finished, in spite of what programmers try desperately to avoid," says Viñoly. "In this case, the whole approach to the impact of computational biology in the future of genomics changed with the departure of Dr. Tilghman. A major component of the original vivarium was replaced by a large computer room, which transformed the operations of the basement. The structure, and the way the services were laid out, adapted very efficiently to it."

Although the building adapted well, the changes produced some peculiar spaces. According to Powell, the institute's new director, David Botstein, envisioned a different teaching focus and built infrastructure space that he thought was missing. "We had to shoehorn those new teaching labs and infrastructure spaces—for imaging, microarray, and computation facilities—into the basement," she explains. "If we had known at the beginning that we needed them, they would have been better designed. The architects cheerfully did their best with the limits of the space in the basement, but the results are cramped, odd-shaped rooms with low ceilings."

In general, however, the flexible lab systems are proving to be very easy and inexpensive to change as new faculty is hired, which is important because, as at Caltech, most of the researchers were hired after the building was designed.



Susan Powell, Assistant Director of the Lewis-Sigler Institute, calls the Carl Icahn Lab's central atrium and cafe "a truly beautiful place to work."

"When we were in the building phase, only 25 percent of the scientists were here," Powell recalls. "We didn't really know what kinds of scientists would be hired, so we made an educated guess and fitted out the space in a generic way, knowing that we would have to spend money to reconfigure it. We actually put money aside to do this. It has worked out quite well, though we've only been in the building for three years. We have installed a generic molecular biology lab bench setup and have hired mostly molecular biology experimental types."

"The building had undergone continual alteration even before it was completed," Bargmann notes. "A full vivarium has been added in un-programmed space in the basement that connects below grade to other vivariums on campus. We have learned to program in as much unassigned space as possible. It is typically used to provide additional support spaces, vivarium expansion, 'factory' spaces for development

of instrumentation, vibration-free spaces for future imaging requirements, and the like. We also continue to evolve flexible case work that is much more adaptable than traditional lab case work," he continues, "which can be reconfigured from bench-type space to computer workstations using the same components and without requiring the services of contractors or engineers. Laboratory spaces are designed to be quieter and conducive to more computer-based research, utilities are designed to be more accessible without impacting operations, and support space is increasing in relation to bench-type research space."

Regardless of the type of space, drawing daylight through the entire building was a major design consideration. "We continue to see natural daylighting as integral to the design and functioning of all lab spaces," Bargmann says. "The laboratories were conceived of as open 'loft'-type spaces, with the infrastructure to support wet bench lab space, computational stations, or closed offices. Daylighting is provided at two levels, for perimeter offices and then with high clerestories that bring daylight and views to the bench spaces. This flexibility has demonstrated itself as the four large labs have been fitted out for individual researchers.

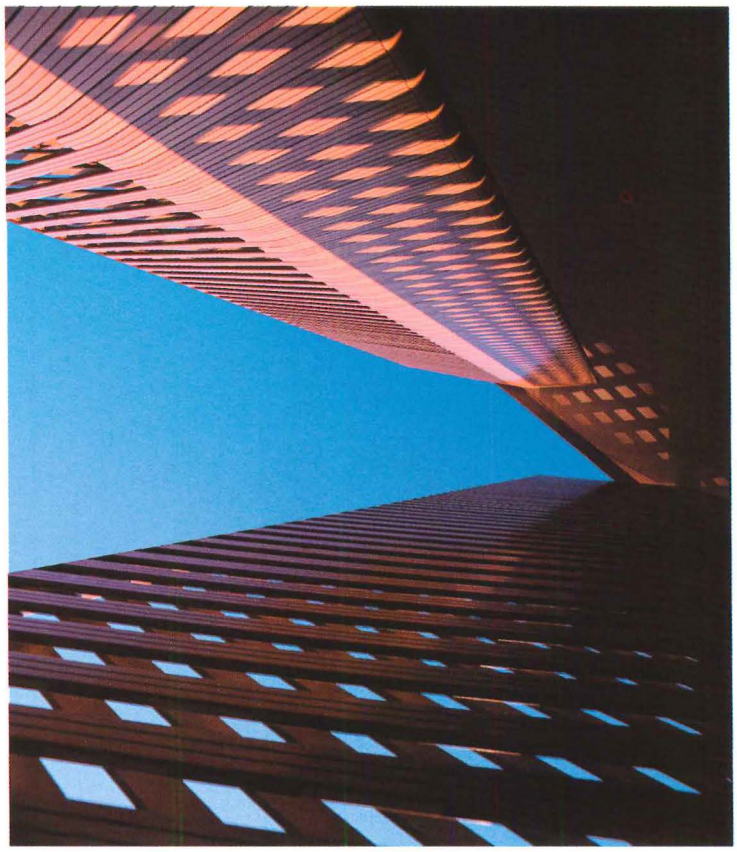
"The perimeter was designed to accommodate offices while still admitting daylight to the lab spaces," he adds. "Support spaces are constructed of demountable partitions, which can be rapidly reconfigured. Catwalks above the ceiling, accessible from outside the lab, allow for utilities to be reconfigured with minimal impact on the functioning lab spaces."

While the clean appearance of these spaces makes their design seem effortless, maybe even generic, this effortlessness belies intense forethought. "Everything you do, working in this building type, has the tendency to appear formulaic, and it is really not at all," Rafael Viñoly says. "The general design principles may be the same, but the idiosyncrasies of the institutional conditions that the building is supposed to serve are so determinant that there could be no generic response from one project to the next."

The point is underscored by the project Viñoly's firm is currently completing, the Howard Hughes Medical Institute's Janella Farm Research Campus in Ashburn, Virginia, which features a very different relationship of laboratory to office space. As Jay Bargmann explains, "At Princeton the offices are concentrated in the knuckle of the L-shaped laboratory; at HHMI the offices are in clusters and situated immediately adjacent to the laboratories. Princeton laboratories have generic lab case work with modular walls for support spaces; HHMI labs have custom-designed highly flexible case work that does not require a mechanic to reconfigure the lab spaces. The common spaces are centrally located adjacent to the lab spaces at Princeton, while at HHMI the building-wide common spaces are placed on the ground level with the labs and offices, and are connected by two large glass-enclosed staircases to the public spaces."

Despite these differences, commonalities exist. For instance, Bargmann believes that double-height spaces for large equipment are desirable, as are large service corridors that provide direct access to mechanical and electrical spaces as well as to laboratories. Also important are large data centers with raised floors, accessible cabling, and dedicated HVAC systems.

Bargmann says that his experience with the Icahn labs convinced him that having "larger and more flexible interactive social spaces dispersed throughout the building, as well as concentrated in central areas, brings researchers out of their laboratories and promotes informal interaction not only among the scientists within the building but with other members of the university or research community. Research facilities need to increase their transparency and accessibility and utilization by the full academic or research community and should not be seen as isolated, closed, or 'specialized' buildings."



Computer-controlled louvers filter daylight along the Carl Icahn Lab's southwest elevation, energizing the space and creating an almost organic feel.

Viñoly agrees, adding that "planning for change and solving the practicality of implementing it are two of the most important challenges of these buildings. It goes well beyond the traditional idea of flexibility that informed many building designs of the 1960s and '70s. I think that in this kind of building the separation between the notion of a building fabric and the furnishings that go in it should be forgotten."

That said, aesthetics are very important. "I can't emphasize enough what a beautiful and inspirational building it is," says Susan Powell. "The glass curtain wall, the louvers, the expansive atrium, the innovative furniture, the lofty yet functional lab spaces, the soothing color scheme, even the Gehry sculpture in the atrium—all contribute to make it a very pleasing experience. It also is quite functional. I am honored that I was part of the team that brought it to fruition." ■

LESSONS LEARNED

- Build laboratories to accommodate change, as it is bound to occur before a facility is even completed.
- Natural light dramatically improves a work environment.
- Inviting, accessible places to meet informally really do encourage collaboration.
- Provide a budget for the alterations that will inevitably be needed.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Academic Center for Student Athletes

LSU, Baton Rouge, Louisiana

2003

TRAHAN ARCHITECTS USED SIMPLE MATERIALS AND SPARE VOLUMES TO CELEBRATE THE ORIGINAL CHARACTER OF THIS 1927 STRUCTURE.

By Christine Kreyling

Architect: *Trahan Architects—Victor F. Trahan III, AIA, principal and designer; Lisa Coco Hargrave, AIA, project manager and designer; Jason P. Hargrave, AIA, project designer; Bryan F. Hammond, Assoc. AIA, Michael Monceaux, Assoc. AIA, Kirk Edwards, Assoc. AIA, Phong Le, AIA, team members*
Client: *Louisiana State University*
Engineers: *Associated Design Group Consulting Engineers (m/e/p); McKee & Deville Consulting Engineers (structural); BAI, Boner Associates (acoustics)*
General contractor: *The Lemoine Company*

Size: *55,000 square feet*
Cost: *$9.5 million*

Sources
Windows: *Custom Windows*
Glazing: *Architectural Glass and Metal*
Doors: *Architectural Wood Products; Architectural Glass and Metal*
Interior stone: *Intrepid Enterprises*
Plaster and veneer plaster: *Southern Stucco*
Wood flooring: *Aacer Flooring*
Cotton fabric ceiling: *Quantum Sail Design Group*
Furnishings: *Architectural Wood Products; Sunset Settings; Herman Miller*
Lighting: *Engineered Lighting Products*

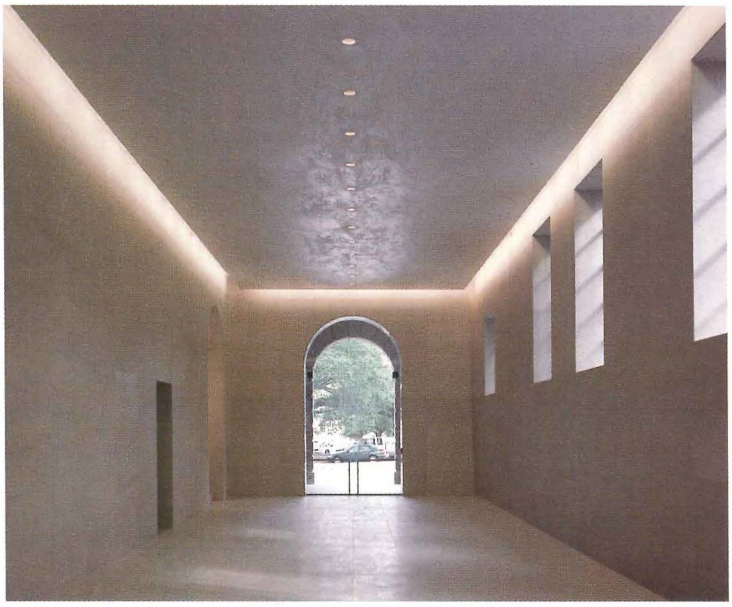
For more information on this project, go to Projects at **www.architecturalrecord.com**.

Louisiana State University's Gym Armory building was constructed in 1927, when athletic facilities enjoyed the dignity characteristic of academic structures on the campus. The brick and limestone building is a symmetrical mass in the Italian Renaissance style established for campus architecture in the early 1920s. The 2002 interior renovation reinforces the connection between academics and athletics. The design by Trahan Architects distills the historic architectural language to its essence, creating a sequence of clean, clear spaces that articulate rational thought in three dimensions.

Program

The not-for-profit Tiger Athletic Foundation, which supports LSU athletics, commissioned the Trahan firm to turn the Gym Armory into an academic center for the school's athletes while respecting its historic style. The program called for the conversion of 55,000 square feet spread over three floors into counseling, tutorial, study, and career-resource spaces for college players. To pull the academic community more firmly into the facility, the program also included a computer lab and auditorium for classes and lectures open to the general campus population.

Trey Trahan, AIA, explains that, as principal in charge, football coach Nick Saban "wanted to increase the graduation rate" for his players by developing "an academic environment conducive to their special needs."



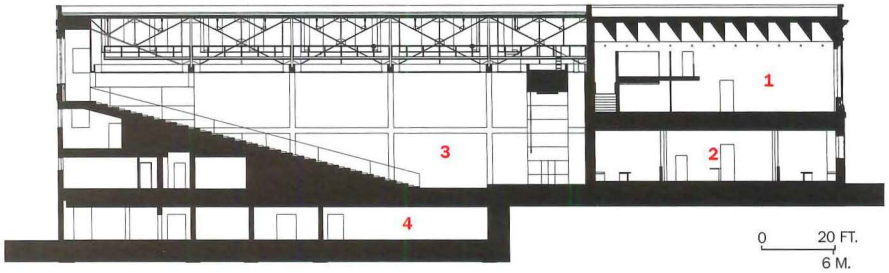
The center's executive director, Dr. Roger Grooters, had previously worked with Saban to develop a similar academic center at Michigan State University. "We realized the power of such a facility, for both recruiting and retaining athletes," Grooters says. Parents and prospective students "can see in the center the commitment on the part of the university to support student athletic development."

Solution

The Trahan team followed the lead of the 1927 structure. They abstracted a 1 by 2 proportional module from the existing skeleton to determine the pattern of new interiors. They also retained the building's symmetrical organization while paring away remodelings that had obscured the volumes of the historic interior. Project designer Jason Hargrave, AIA, says the team articulated the chronological gap between exterior and interior by means of a ¾-inch reveal—between floors, walls, and ceilings—that suggests new skin is floating within the old shell. The architects utilized a simple and consistent palette of colors and materials—white to blonde for the rooms at the building's perimeter, warmer and darker for the core—to evoke serenity. "Student athletes lead life at a pretty hectic pace," Trahan says. "We felt that minimiz-

Christine Kreyling is architecture critic for the Nashville Scene.

In the adaptive reuse of the Gym Armory building, symmetrical arched entrances are defined by bronze walls inscribed with the names of donors (right and below). Inside, austere halls of cream limestone continue the subtle exploration of light, mass, and volume (opposite).



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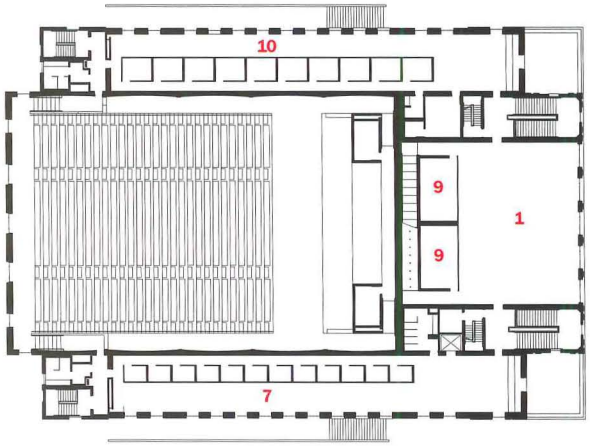
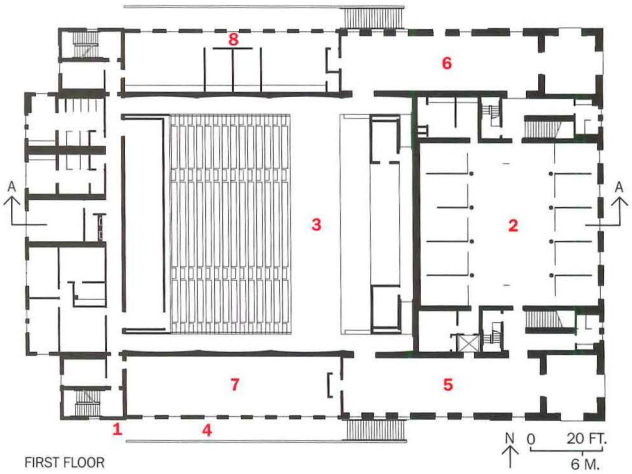


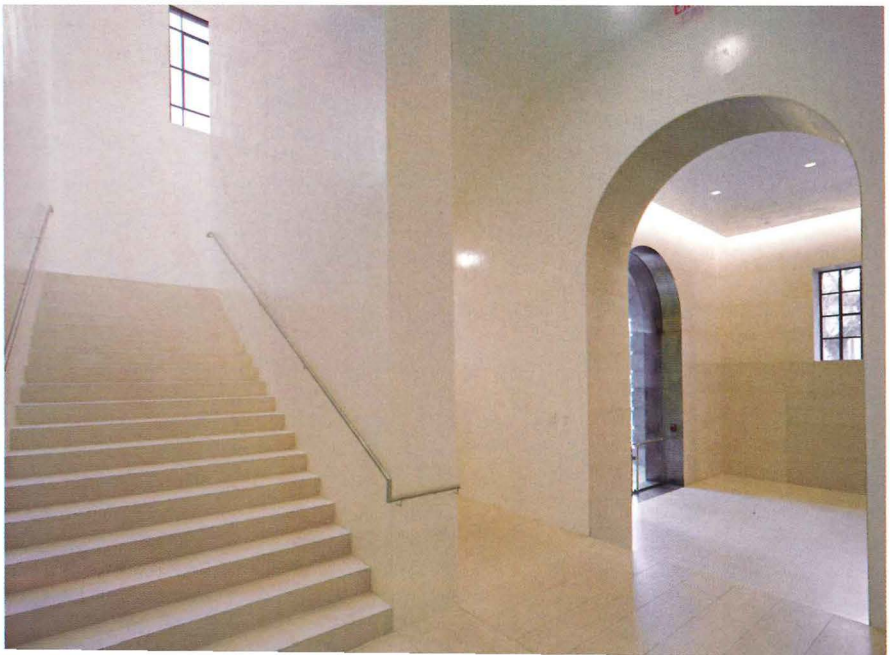
SECOND FLOOR

1. *Reading room*
2. *Offices*
3. *Auditorium*
4. *Basement*
5. *Academic Hall of Fame*
6. *Hall of Champions*
7. *Computer lab*
8. *Directed studies center*
9. *Classrooms*
10. *Study hall*



FIRST FLOOR

A return to the original building materials and volumes that had been compromised over several decades of renovation have resulted in pure, uninterrupted spaces.



ing visual distractions would help them focus on their studies. And because jocks can be pretty hard on their surroundings, we needed extremely durable materials: limestone, 2¼-inch solid plaster rather than gypsum board."

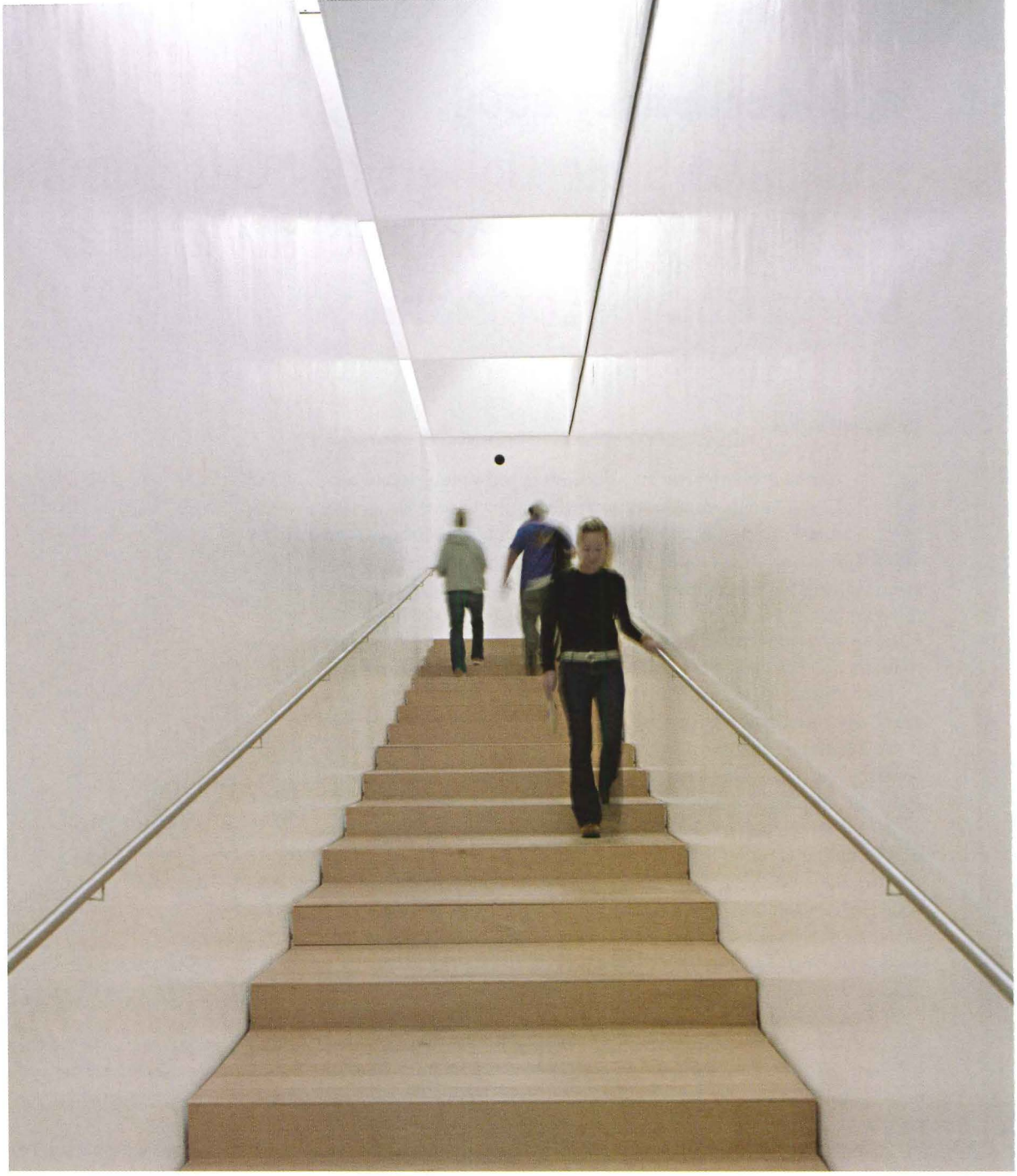
The architects located spaces open to all students on the first floor. Symmetrical arched entrances are defined by bronze walls inscribed with the names of donors. Inside, in austere halls of cream limestone, inscriptions pay homage to athletes who achieved academic distinction and teams that won championships. Between the halls, the center's administrative complex is the first in a series of spaces featuring unpainted but sealed plaster and pale maple. Offices are divided from reception by acid-etched glass to allow natural light to penetrate the interior.

Monumental mahogany doors open into the auditorium, which Trahan calls "the rich box" at the heart of the building. The architects used original columns, beams, and trusses as the grid for the wood-clad room. Book-matched mahogany veneer emphasizes the slight curvature of the walls. Cotton fabric panels within the trusses allow sound and light to filter from fixtures while concealing visual clutter.

Upstairs, in space once occupied by the old gym's tiered seating, the architects placed the computer lab and study hall. Desks of solid plaster are cantilevered from plaster walls, forming smooth cubicles for concentration. In the library/reading room, the architects restored the 20-foot height of the space, revealing the windows' original arcuation. Illuminated coffers in the shape of oblique parallelograms create a dynamic pattern of light and shadow.

Commentary

The one off note: The introduction by university personnel of dark carpeting and furnishings—not to mention potted plants and other paraphernalia—contrasts too definitively with the architects' subtle gradations of color and texture. Sometimes, as Trahan Architects has demonstrated, less really is more. ■



Up the stairs (above), the architects placed the computer lab and study hall. In the library/reading room (left), they restored the 20-foot height of the ceiling, revealing the windows' original arched forms.

Post-Occupancy 2006

Louisiana State University's Cox Communications Academic Center for Student Athletes Baton Rouge, Louisiana

By Jayne Merkel

Louisiana State University's decision to convert an elegant classical gymnasium into a place where athletes can study produced the best of both worlds: a proud, traditional structure in a prominent location on campus, replete with sleek, modern, inspiring places. Architect Victor Trahan III, FAIA, transformed the gym into study space with originality, skill, and sensitivity to the purpose of a university, designing simple interiors that are almost monastic in character.

Rehabilitating an older structure produced other happy side effects, such as interior spaces that are larger than they would have been if the building had been designed from scratch. "Because we were restoring and renovating a large building," Trahan explains, "the owner made the decision to utilize more space than would have been considered for a new facility, so we made allowances from the start for growth in the number of users."

But there was a downside to working with an older building. "We would have likely designed a different entrance from the two entry points of the historical structure," Trahan admits. "Because we were restoring an historical building, there were certain restrictions and conditions that were dictated in terms of volumes."

Trahan is happiest with student response to the center and the fact that "we were able to restore one of the most historical buildings on the LSU campus to its original mission, that of being a vibrant gathering place. I also like that we were able to make a successful transition from historic to modern, using clean detailing and natural materials."

Jade Jenkins, assistant director of the Cox Center, says that the building has become something of an icon. "It serves as a huge recruiting tool when students come on campus," she says, adding that when recruits return as actual students, they begin to appreciate the center even more.

LSU student John Pourciau, for one, likes "the way the historical exterior and the modern interior play off each other. From the outside, the building fits well into the rest of the campus; once entering, it becomes a new and pristine environment in which to learn."

Jay Lawless, another student, is impressed by "the building's sleek design. It always looks clean and it gives the feeling of being in a place of uniqueness."

Students notice other little, but no less important, details. "The seats are not too close together, and there is plenty of room, so you do not feel crowded by other students," Jennifer Mire observes. Student-athlete Jeff Cook adds, "The personal study rooms are very impressive. They allow a student to get one-on-one tutoring in an easy and quiet manner, or to have quiet time to do homework."

Cook, however, is less fond of the center's enormous auditorium, although not necessarily because of its aesthetics. "A class with 1,000 people is something to get used to," he says. "That is just a big class." Still, he agrees that "the building looks impressive from the outside, and once you enter, it is even more impressive."

Trahan Architects preserved the character of LSU's 1920s-vintage gymnasium by inserting spare interiors that are almost monastic in character yet encourage both quiet study and socializing.

Indeed, student Matthew Monceaux feels that 1,000-seat auditorium is "the best part of the building. I think it provides a good environment for a class. I personally enjoyed my class in the auditorium and did not feel that is was too large."

The center's project designer, Jason P. Hargrave, AIA, who worked at Trahan Architects when the center was underway but is now at Post Architects, thinks one of the most successful parts of the project is its unique program. It "combines intense academic support for student-athletes with general-use spaces such as the computer labs and 1,000-seat auditorium," he notes, "which allows for chance meetings and interactions between students and faculty who might otherwise be segregated."

Hargrave also likes that "the building's rigorous use of existing space and resources can serve as a model for inserting a timely and contemporary architectural language while preserving, and restoring, an important historic resource within its rich campus fabric." He was disappointed, though, that the architect was not able to design the building's surround-

ings. "Our scope ended at the building envelope, but there was perhaps a missed opportunity to expand the experience further into the landscape."

In a similar vein, Victor Trahan bemoans the fact that "some of the furnishings are inconsistent with the nature of the spaces. There is always a tendency to 'decorate' a new building, which does not always complement its design."

Trahan adds, "If we were starting over, I think I would try to integrate more diversity into the program as a way of more fully involving the student-athletes in campus life. While the auditorium serves as a general classroom and lecture hall for the entire campus community, we might look at something like a coffee shop or another space to provide a greater opportunity for meeting other students and faculty members."

When asked how the architects planned for future changes to the center, Hargrave responds, "It was important to us and to the client to provide a strong infrastructure for technology—primarily data and audio-visual—that would, as best as we could, provide for the incorporation of emerging technologies. Because of the minimal direction of the interiors, this was especially challenging, but through strategically located access to mechanical areas and raceways, I believe we were able to provide a facility that can evolve with the center's needs. One example is the system of catwalks above the fabric ceiling in the auditorium. All of the lighting, mechanical systems, and audio-visual equipment—speakers, cameras, and such—are easily accessed and maintained. Barring some very fundamental change in the way these systems are implemented, the auditorium can be easily upgraded and maintained without sacrificing the original design."

Hargrave continues, "We learned with the design of the center that today's students do appreciate quality architecture and are respectful of the building. While some would argue that you should be very utilitarian or industrial when designing for student-athletes, we found that they have been very proud of the building and respectful of the limestone, plaster and wood finishes, maintaining the beauty of the materials used in the renovation."

One of the building's most personal touches forges this connection: two halls that honor both academic achievement and athletic championships. "We designed these halls so that the names of individual students and teams can be added to the limestone walls to provide permanent honor for their accomplishments," Trahan says. "It was our intent that these walls would change over time and be enriched in texture as the new names were sandblasted into the limestone."

Like every other detail in the center, this one hasn't gone unnoticed. Student Adam Marchand comments, "The entry Hall of Champions is a nice touch—it's sort of an inspiring moment for any athlete to see the great competitive accomplishments of the university—but it's still within the context of an academic center, thus showing that these things are not accomplished with only athletic ability, but on the foundation of knowledge."

That's a very sophisticated message for a building to give. ■

LESSONS LEARNED

- Retrofitting an historic building can provide even more space than needed.
- Allowing the building architects to supervise interior design, rather than bringing in decorators, provides a more consistent environment.
- It is possible to preserve the elegance of an historic building and create an exciting modern environment at the same time.
- A beautiful campus building can be a recruiting tool.

Broad Center for Biological Sciences at Caltech
Pasadena, California

2003

PEI COBB FREED & PARTNERS AND SMITHGROUP USE SCALE, PROPORTION, AND MASSING TO RELATE A MODERN LAB TO A SPANISH COLONIAL CAMPUS.

By Suzanne Stephens

Design Architect: *Pei Cobb Freed & Partners—James Ingo Freed, partner in charge, design; Michael D.Flynn, partner, technology and administration; Richard Cutter, associate partner, project manager; Robin Taff, senior associate, design*
Executive architect: *SmithGroup—Susan O'Connell, principal in charge, project manager; William L. Diefenbach, laboratory design principal; Bernard Kummer, project architect*
Client: *California Institute of Technology—William Nunez, project manager, physical plant department*
Consultants: *ARUP (structural, acoustical, m/e/p); Kornberg Associates Architects (laboratory planner); Land Images (landscape); Horton Lees Brogden (lighting)*

Size: *118,000 square feet, including two floors (57,300 square feet) below grade. Outdoor spaces include an 11,500-square-foot courtyard, a 24,040-square-foot pistache-tree mall, and a 7,000-square-foot palm grove.*
Cost: *$47 million*
Completion date: *Fall 2002*

Sources
Stainless-steel cladding: *Nisshin Steel*
Travertine cladding: *Marriotti*
Granite: *Cold Spring Granite*
Metal roofing: *Follansbee Steel*

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

Caltech may be famous in the scientific community for its research and training, but it is also revered by many in the architectural world for its handsomely arcaded Spanish Renaissance– and Mission-style campus. The romantic sensibility of the original master plan, developed by Bertram Goodhue in 1915–17, was marred, however, by garishly unsympathetic expansion in the 1950s and 1960s. No amount of lush palms and pistache trees could cover up the egregious mistakes.

In 1985, the city of Pasadena began reviewing major changes on the campus. A new master plan conceived for the school in 1989 encouraged additional buildings to reinforce the architecture and planning of the Goodhue vision but couldn't guarantee adherence to the proportions and delicacy of ornament of the originals. Then a proposal for a new biological research center came along that opened up issues of historicism. The lead donor for the center, Eli Broad, chairman of AIG SunAmerica financial services company and a renowned patron of the arts and architecture, wanted a "high design" architect. Broad, along with Caltech's president, David Baltimore, interviewed Richard Meier, Gwathmey Siegel, Robert A.M. Stern, and Pei Cobb Freed. Although this group is not outrageously avant-garde, only Stern could conceivably have "Mission" as his middle name. But

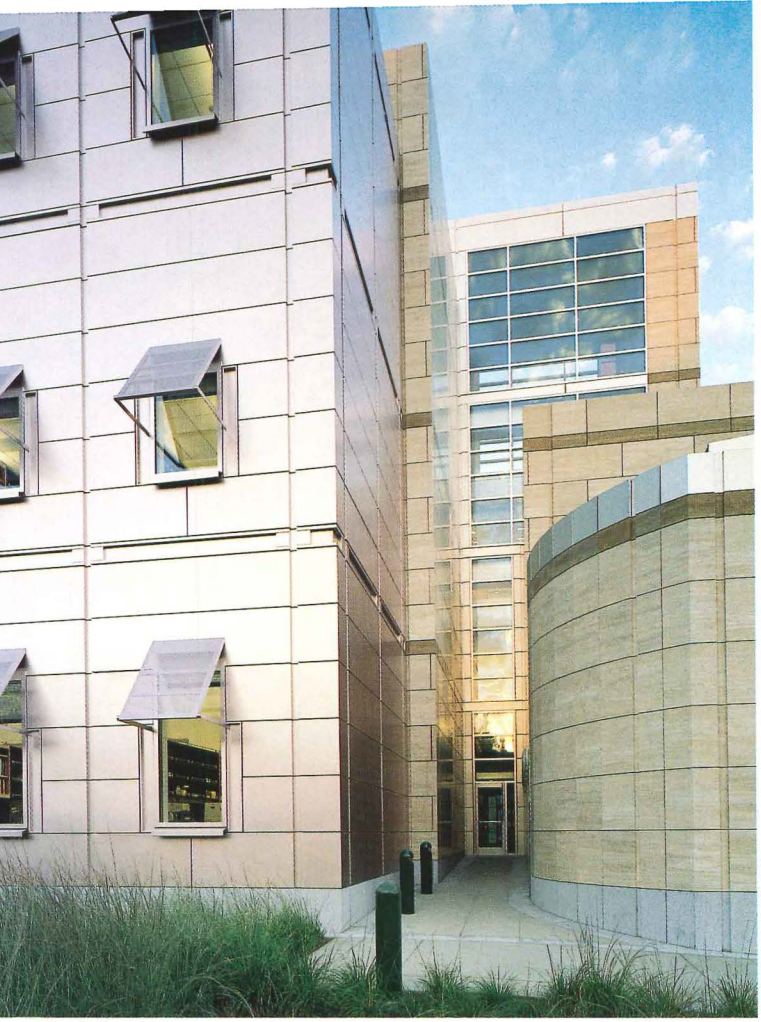
The clustered, travertine-clad masses of the south side of Broad Center (above) face the existing campus and the Beckman Institute, designed by A.C. Martin in 1989, next door.

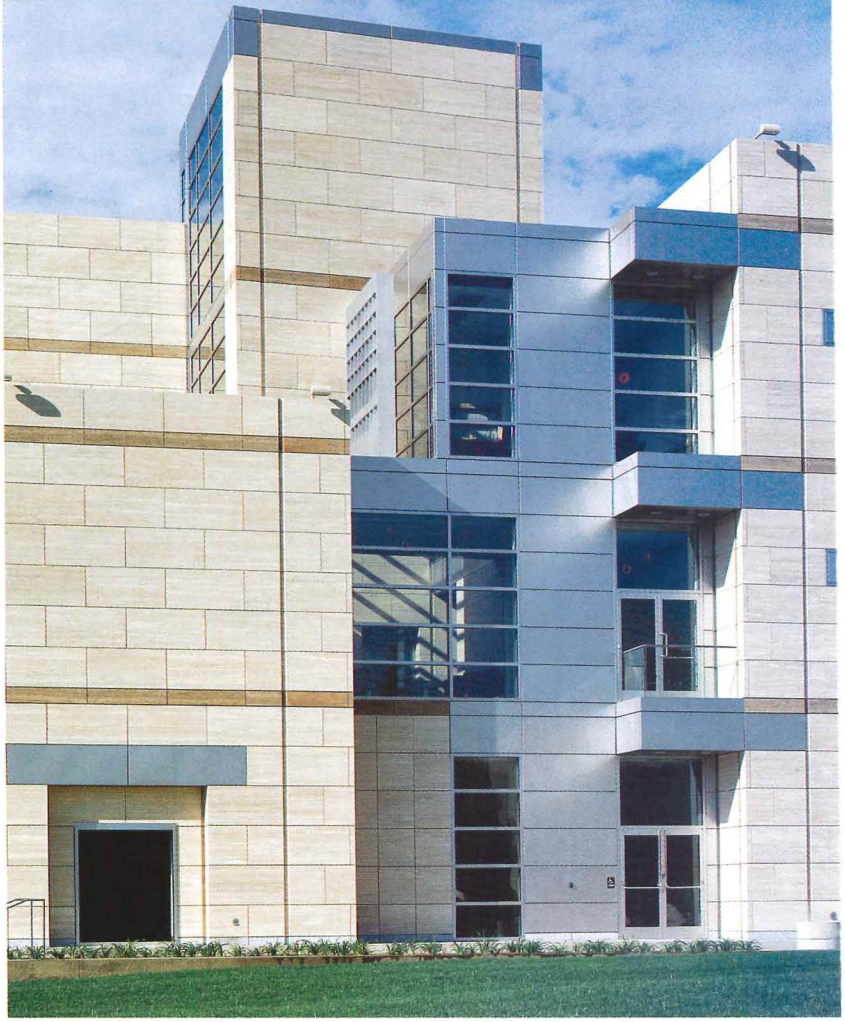
Broad and Baltimore chose Pei Cobb Freed. "We were taken by James Freed's 'hybrid' architectural approach," explains Broad, alluding to the architect's desire to bridge the old campus to the south with future expansion to the north through the building's carefully massed blocks of stainless steel and travertine.

Pasadena's design review commission, however, wasn't sure that Freed's solution was fully in keeping with the spirit of Caltech's master plan, particularly since it lacked an arcade. The school appealed the case to the city council, which in turn sided with Pei Cobb Freed. Because of the firm's New York location, Caltech asked it to associate with the SmithGroup, whose Los Angeles office, headed by Susan O'Connell, has designed a number of educational buildings in the area.

Program

The program called for an 118,000-square-foot laboratory flexible enough for the "primary investigators" and their research teams. Needed were labs with work space for computers, wet areas for experiments, plus an experimental Magnetic Resonance Imaging facility, along with seminar rooms and a 100-seat auditorium. But just as important were lounges that could foster casual interaction between students and professors of various disciplines. In addition, the lab was not only to serve as a gateway for future expansion to the north, but to

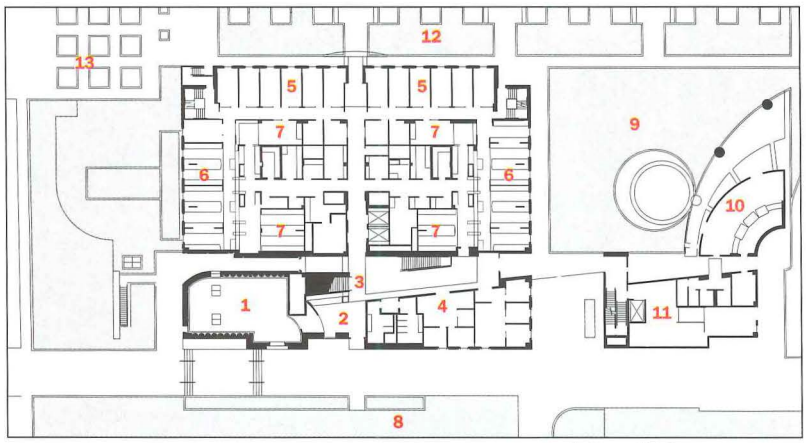




The west facade is marked by stainless-steel cladding with perforated-steel-plate awnings (above and below left), while the south entrance (above) is mostly travertine.

1. *Auditorium*
2. *Prefunction*
3. *Light tower*
4. *Administration*
5. *Offices*
6. *Labs*
7. *Lab support*
8. *Great lawn*
9. *Oak courtyard*
10. *Café*
11. *Shipping/receiving*
12. *Pistache arcade*
13. *Palm Grove*
14. *Seminar room*
15. *Student lounge*

The one-story pavilion for the café (photo, bottom left), which was not initially in the program, was added to provide a social link to the campus as well as serve the students and faculty. A bridge and fire stair link the center to the café. Both the north facade of embossed stainless steel (top left) and the south facade of travertine (above) are precisely detailed with projecting sills and floated windows.



GROUND FLOOR

SECOND FLOOR

hook into the circulation routes for the rest of the campus to the south.

Solution

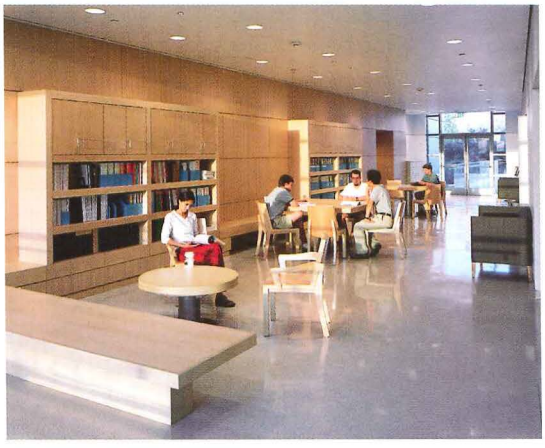
To preserve the open space on the 2.2-acre site, Freed opted for a double-cube block, and Arup engineers addressed earthquake concerns with an unbonded, braced-steel-frame structure. The plan, essentially a grid with cross-axial circulation, places labs on north, west, and east sides, with nontechnical spaces, including the entrance, extending along the southern portion. A 67-foot-tall "light tower" with a monumental stair at its base is included to give a sense of space and architectonic drama to the interior. The south facade, oriented to the existing campus, is clad in travertine to echo the solid surfaces of the older buildings. The other exterior walls, which enclose the labs, are sheathed in a shimmering knock-'em-dead stainless steel with an embossed finish. "It suggests a technological occupancy," says Freed.

Commentary

This hybrid of materials and massing successfully makes a transition between old and new campuses, and the detailing obviates the sense of blockiness. While the villagelike cluster of solid forms on the south facade relate well to the nearby architecture, the other steel-clad facades—light, thin, lustrous—carry the day.

Not only does the luminous stainless-steel finish subtly catch changes in daylight, its intricate articulation of reveals, indentations, projecting sills, and other details seems to take its inspiration from Carlo Scarpa, with a touch of Otto Wagner. Yet, the new addition follows the underlying principles of the campus, retaining the same scale, massing, proportions, and rectilinearity of its Goodhue-esque antecedents. The lobby stairway to nowhere (it ends abruptly on the second level) in the glazed light well seems odd. But that anomaly aside, it is understandable why Broad considers the lab building a "triumph," and Baltimore calls it "beautiful and remarkably functional." ■

A monumental stair (right) sits at the base of the light well, surrounded by lounges (bottom right). The labs are arranged along storage corridors (bottom left).



Post-Occupancy 2006

Broad Center for Biological Sciences at Caltech
Pasadena, California

By Jayne Merkel

The main mission of the superbly equipped Broad Center for Biological Sciences is to generate new ideas. One way of doing this is to provide spaces in which highly specialized researchers can meet people possessing other kinds of expertise. On each floor of the building, lobbies, dubbed "family rooms," allow for exactly this kind of socializing. Architect Susan O'Connell is thrilled with the "community of research" these rooms have created. "The family rooms provide space for researchers and students to interact," she says. "The openness in the labs has made a very large building inviting and accessible. The offices are clustered in the middle of the lab to encourage cross-disciplinary dialogue. The meeting rooms and their relation to the lab spaces work very well. My favorite public space is the courtyard between the lab building and the café building. Sitting under the 150-year-old oak tree gives one perspective."

O'Connell, who is now an independent consultant working on various projects at Caltech, led the team from SmithGroup that collaborated with Pei Cobb Freed & Partners (PCFP) on the project. Design architect James Ingo Freed, who died last December, was already severely disabled by Parkinson's disease when the project began, but, as PCFP project architect Robin Taff explains, he agreed to travel from New York to Los Angeles every two weeks to work on the job. His commitment proved invaluable. For instance, O'Connell points out that it was Freed who came up with the building's horseshoe-shaped plan. "The lab block wraps around on the west, north, and east," she explains, "while the south portion of the building houses the shared meeting and lounge spaces. The faculty offices are right in the middle and anchor the lab areas."

William Irwin, director of Caltech's physical plant, believes that this layout is the building's most successful element. "All of the wet lab facilities taking on the same design has been effective and efficient in recruiting new faculty," he says. "Corridors and even stairwell areas are designed to accommodate interaction and create a researcher-friendly environment."

Nurturing collaboration, of course, is just what the architects were after. "The mission of the Broad Center is to bring together scientists from different disciplines to investigate the biological nature of consciousness, emotion, and human perception," says O'Connell. "With that in mind, shell space was created in the basement area to provide lab space for future scientists. The first build-out of that shell space was for a researcher in the social sciences who studies brain images in trying to map the brain and its functions. The imaging suite has morphed over time as new recruits and new imaging equipment have been acquired for the building. So far everything has fit, and changes were made quite simply."

Even so, the fact that less than half the faculty had been hired when the Broad Center was being planned did present some problems. "As the researchers were brought into the building, the design team redesigned the space specifically for each of them," O'Connell explains. "This required lots of time and added to the cost of construction significantly. I would encourage any university to set aside more funds in advance, knowing that the recruitment process will take place over a several-year period."

Fortunately, the architects designed the building in a way to make retrofits easy, enabling scientists to tailor each space to their individual needs. Says O'Connell, "The research activities at the Broad Center range from studies of minute molecular structures to studies of whole organisms. The entire lab building is designed to be able to change from office to dry lab to damp lab to wet lab with minimal alterations and no disruption to other lab groups. This is an expensive proposition, but Caltech wanted to be able to accommodate a diverse group of scientific needs."

"I WOULD INSIST THAT THE ENGINEERING TEAM BE FULLY ENGAGED IN THE PROGRAMMING PROCESS FROM THE VERY BEGINNING," SAYS ARCHITECT SUSAN O'CONNELL.

This flexibility stems largely from the building's service core. "Some of the 'dry' areas have services capped off, so they are easily accessible if the areas need to be converted to 'wet,'" Irwin, the physical plant director, notes. "There is also interstitial space above the vivaria, which provides for better maintenance access as well as the ability for change. Sufficient power capabilities were designed in for increased occupancy and equipment increases."

Asked what he would do differently if the Broad Center was being designed today, Irwin says that he would make the building larger. "We have increased people and equipment density. So far the changes have been accommodated, but the building is only four years old."

O'Connell shares this sentiment. "The labs are packed and the ring corridor around the inner edge of the lab could have been bigger to allow for larger equipment—although I am sure that the scientists would simply find larger equipment and fill it up. It is always a dilemma in lab design." She would also make more space for telecommunications and server rooms. "Researchers have several computers per person in the lab and this is going to continue to grow."

Another change O'Connell would make if she were designing the building now would be to "encourage open labs with generic systems

for planning purposes, knowing that with each specific individual there will be customization. I would design a more generic open wet lab with a 'kit of parts' concept for individual customization." And, she continues, "I would insist that the engineering team be fully engaged in the programming process from the very beginning to properly size all of the building systems during programming instead of finding out those sizes during the first few months of design."

Similarly, she advocates planning design time during construction documents and construction, "knowing that the team needs to shift focus and accommodate new researchers during the entire design and construction process."

Seismic design, a significant element of planning for the Broad Center, would not be necessary in other parts of the country. But as Robin Taff observes, the way that the institute approached this—using a newer concept called performance-based structural design—may provide a good model for other places.

"Caltech typically asked engineers to design to code times 1.5," O'Connell says. "Instead of just meeting Caltech's code requirements, the engineers—ARUP, Los Angeles—specifically analyzed the structure and proved that less steel could be used, saving money, and would perform better if they made a computer model of the structure and tested it. The team used unbonded braces, or concrete-encased steel braces, to take advantage of steel's tensile strength and concrete's compressive strength. The engineers in Caltech's structural department were willing to listen to new ideas and change the way things had been done at the school for the last 30 years. So we saved money and got a structure that would fare much better than a conventional brace frame in an earthquake."

This willingness to collaborate and rethink old ideas was a hallmark of the entire project. Taff recalls a process in which the faculty was "very passionate about how things should be." When the building was completed, researchers came together in the family rooms for meals, casual meetings, and late-night chats.

In a symbolic way, collegiality extended to the building's facade. The Broad Center's elegant exterior facilitates a smooth transition between romantic Mission-style buildings on the school's main campus and an expansion area where new buildings will rise. And as testament to how James Ingo Freed's colleagues at Caltech felt about his work, they inscribed his firm's name on the facade's stone wall. ■

LESSONS LEARNED

- Whenever possible, hire researchers before programming a building.
- Listen to new ideas. Caltech's willingness to change a 30-year-old method for engineering buildings to survive earthquakes led to a safer structure and saved money.
- Convenient, attractive, informal meeting spaces, such as the Broad Center's "family rooms," really do lead to the exchange of ideas.
- Although it is expensive to design a building so that office space can be converted to a dry lab, damp lab, or wet lab with only minimal alterations, allowing for this flexibility saves time and money in the long run.

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▼ Alternative extrusion material

At last November's GreenBuild show in Atlanta, Novawall Systems introduced Novawall EcoTrack, a PVC-free, 100 percent recyclable plastic extrusion for Novawall's site-fabricated stretch-fabric ceiling system. Novawall researched several plastics compounds for two years before finding a PVC-free alternative that has the same strengths as the company's PVC-based product and passes the required fire standards for use in commercial interiors. Novawall Systems, Alexandria, Va. www.novawall.com **CIRCLE 100**

▲ Flexible, ergonomic chair line

Designed by Marcus Koepke, the Relate chair family is a flexible collection of task, stool, guest, and conference seating. Relate's newly developed Body Adaptive Control system integrates a pivoting back working with the chair's synchro tilt mechanism: The synchro tilt senses the user's weight and tensions the control automatically; the pivoting back supports the spine in a variety of positions to then encourage movement. Relate's replaceable seat and back upholstery, arm pads, and overall back assemblies make it practical for education environments. Allsteel, Muscatine, Iowa. www.allsteeloffice.com **CIRCLE 101**

▼ High-tech meets low-tech in site furniture collection

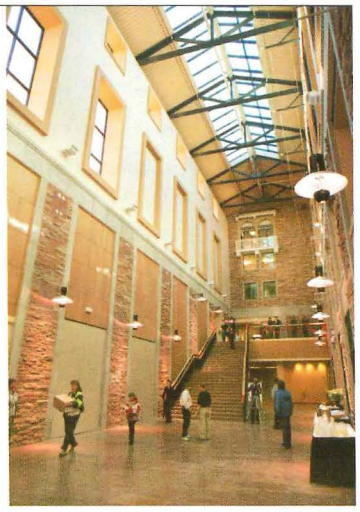
Designed by a triad of architects and designers, the Landmark Collection of outdoor furnishings was inspired by familiar themes in historic design, architecture, and nature. The Lakeside group, by architect Margaret McCurry, was influenced by farms, cottages, small towns, and lakeside communities. The group includes three benches (backed and backless) that share a formed steel frame and are reminiscent of the traditional front-porch swing. Landscape Forms, Kalamazoo, Mich. www.landscapeforms.com **CIRCLE 102**

▲ Skinny lighting options

Ledia LED illuminated embedded glass tile and strip lighting (left) is appropriate for indoor, outdoor, and underwater use. Ledia recesses into paver stones, concrete walkways, patios, reflecting ponds, corridors, and the like. Night Elements (right) are multifunctional columnar luminaires in modular sections for outdoor area, site, and landscape lighting. The unobtrusive poles offer combinations of upward, downward, and laterally aimed lighting. HessAmerica, Gaffney, S.C. www.hessamerica.com **CIRCLE 103**

► Controlling light and heat

In addition to various energy upgrades, facility managers at The University of Colorado applied 8,800 square feet of V-Kool window film to prevent campus buildings from overheating. The V-Kool 40 product blocks 65 percent of solar heat while transmitting 42.8 percent of visible light. The product's colorless transparency and non-mirrorlike reflectance allowed it to be selectively applied to windows in buildings where heat gain was an issue, while maintaining a uniform design. V-Kool, Houston. www.v-kool.com **CIRCLE 104**



▲ Chairs that let you move

The Permiso conference chair (left) allows users to change posture and stay engaged in meetings through the application of four features: a folding arm option, continuous back and arm, recessed arms, and a chair back of ideal height for an armrest. The x-Stack chair (right) offers an optional right- or left-handed table, an ambidextrous monopod for laptop use, and a cup holder. Vecta, Grand Prairie, Tex. www.vecta.com **CIRCLE 105**

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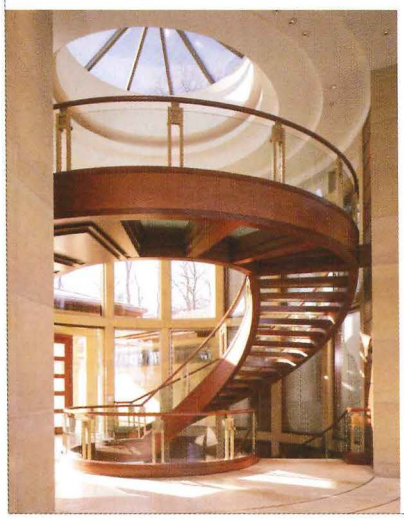

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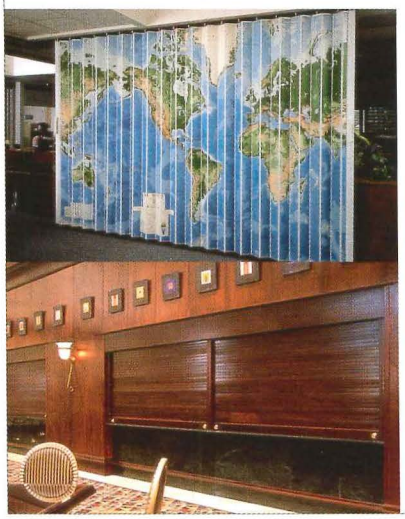

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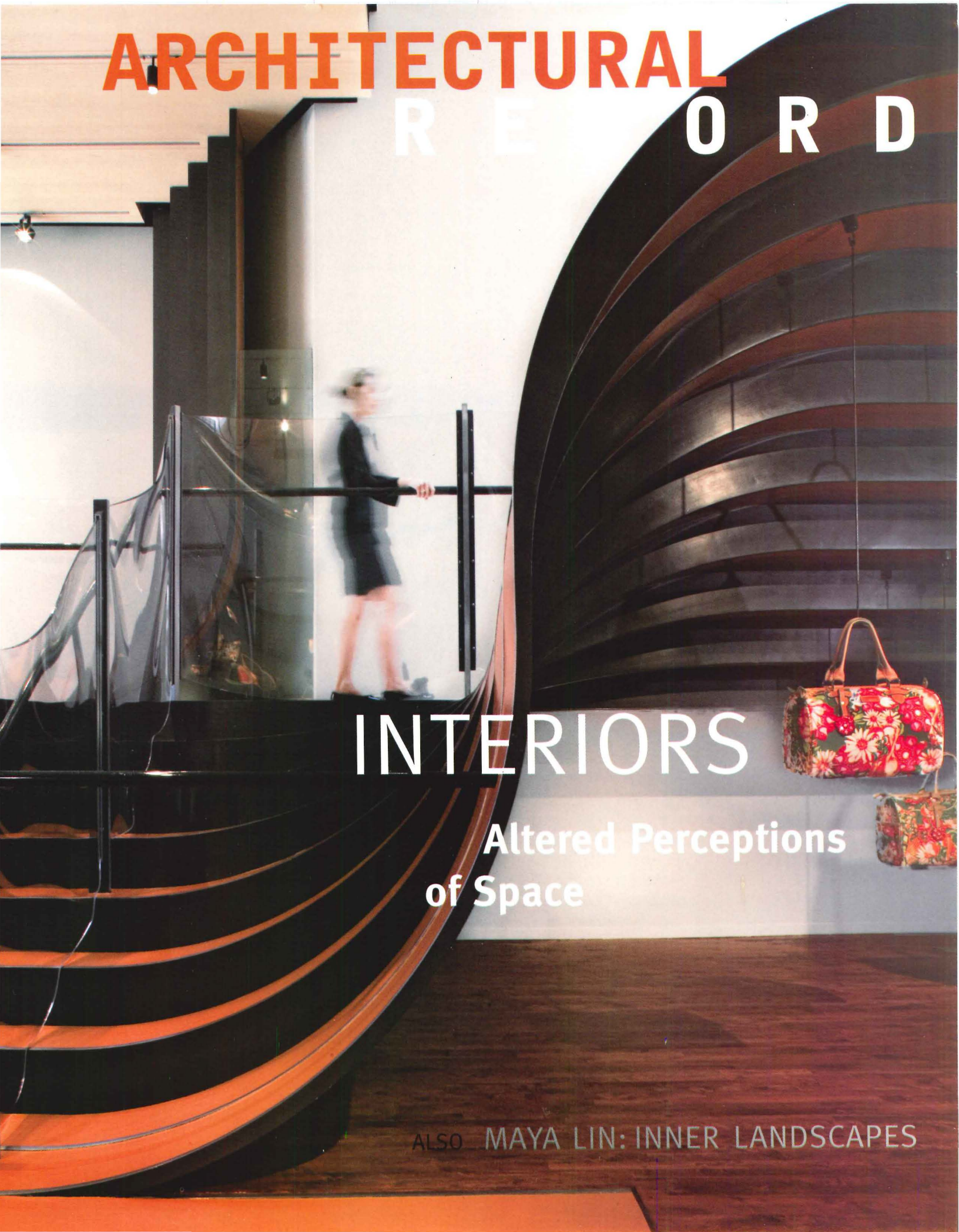

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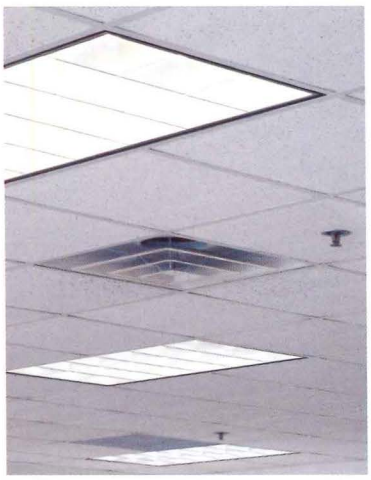

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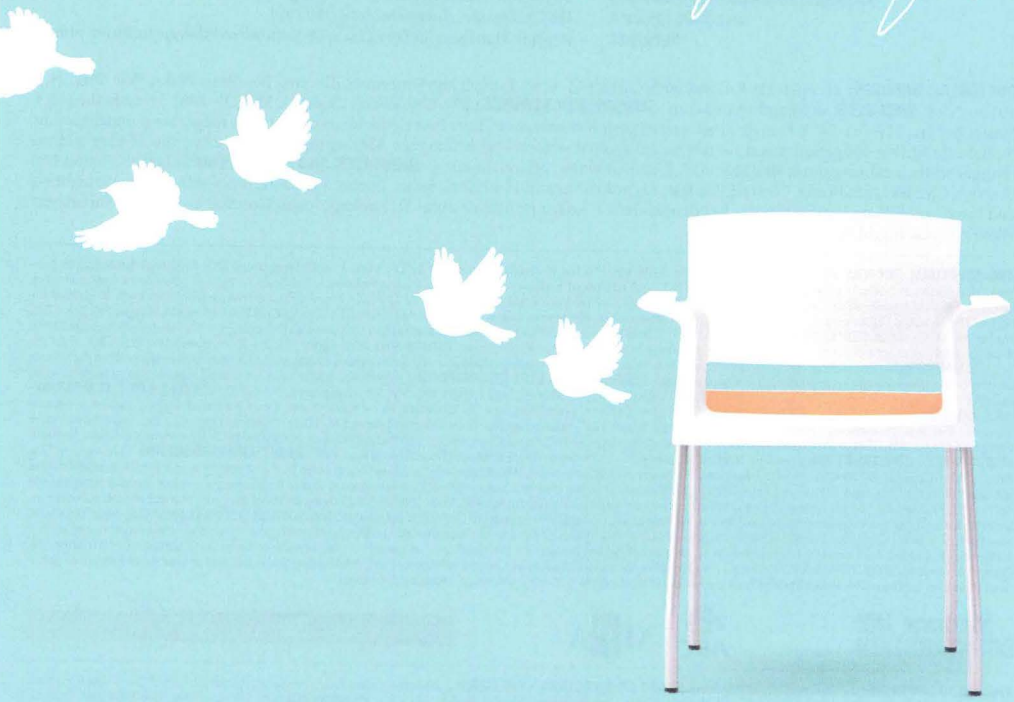

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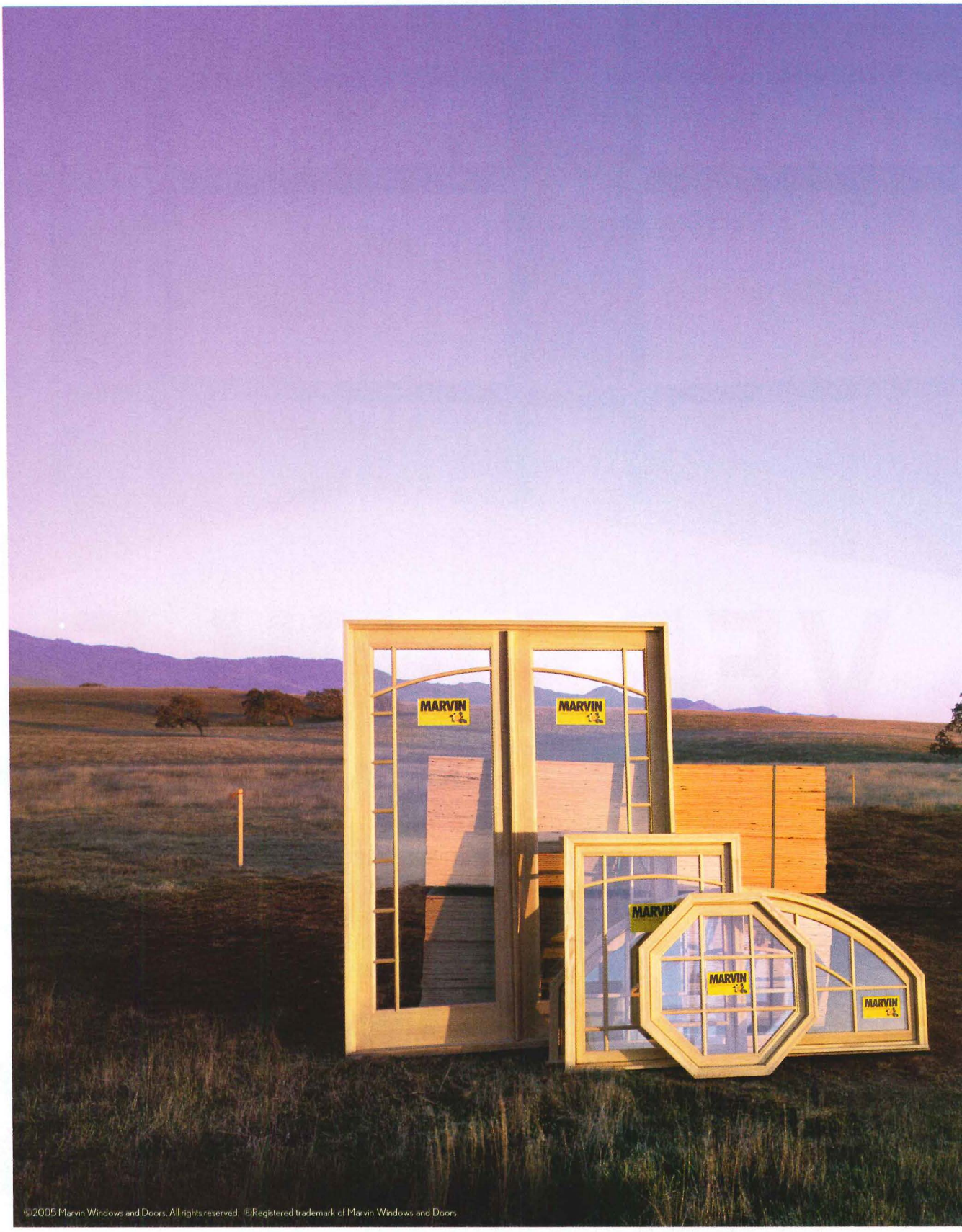

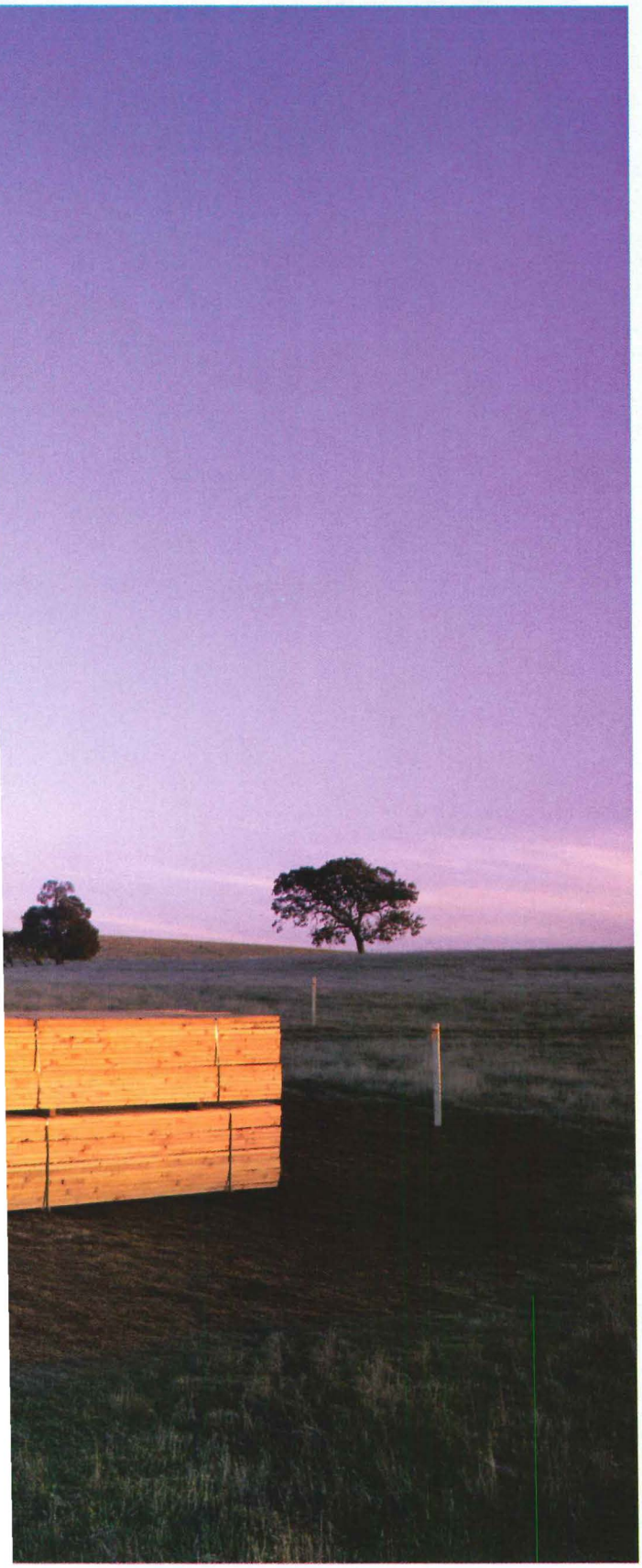

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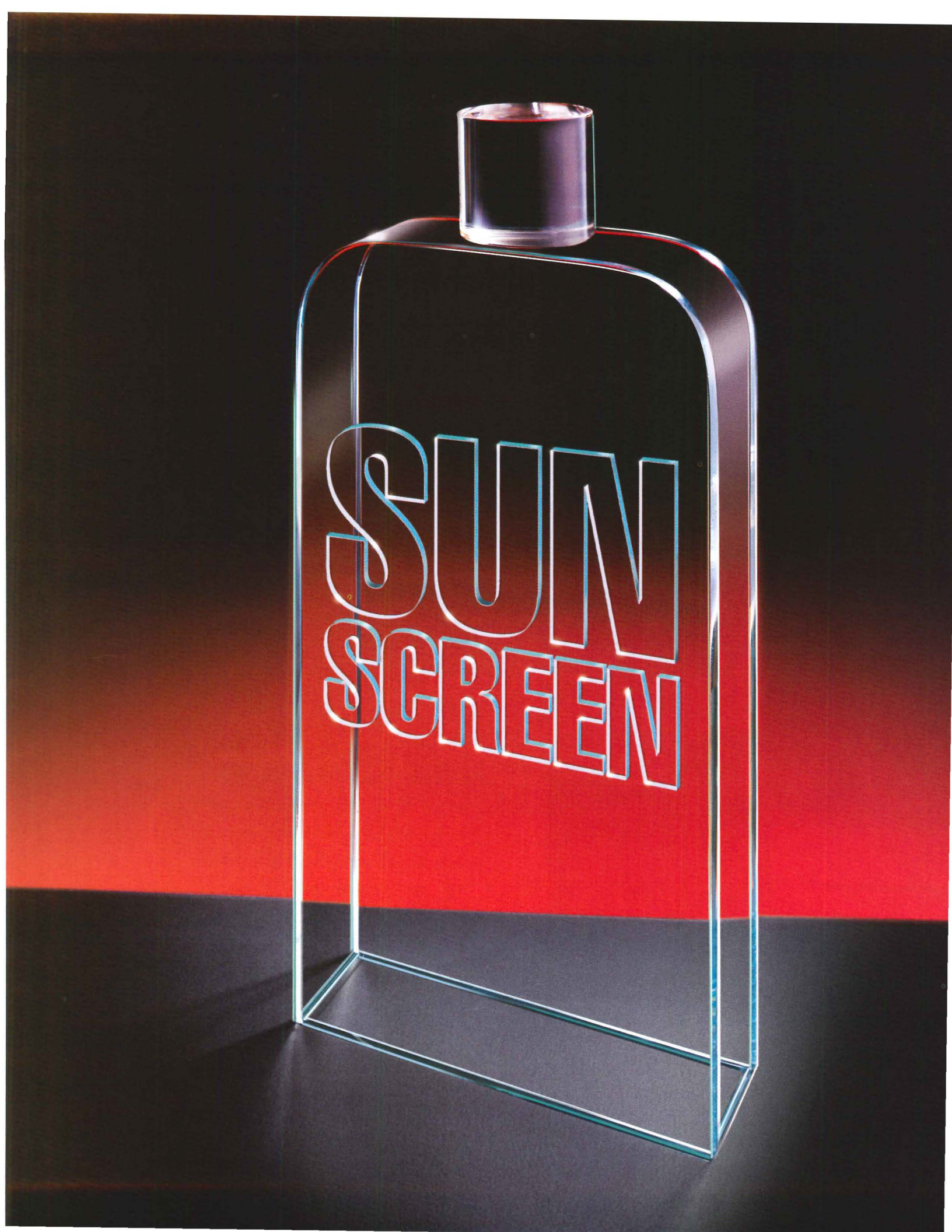
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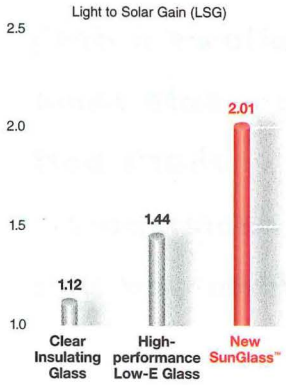

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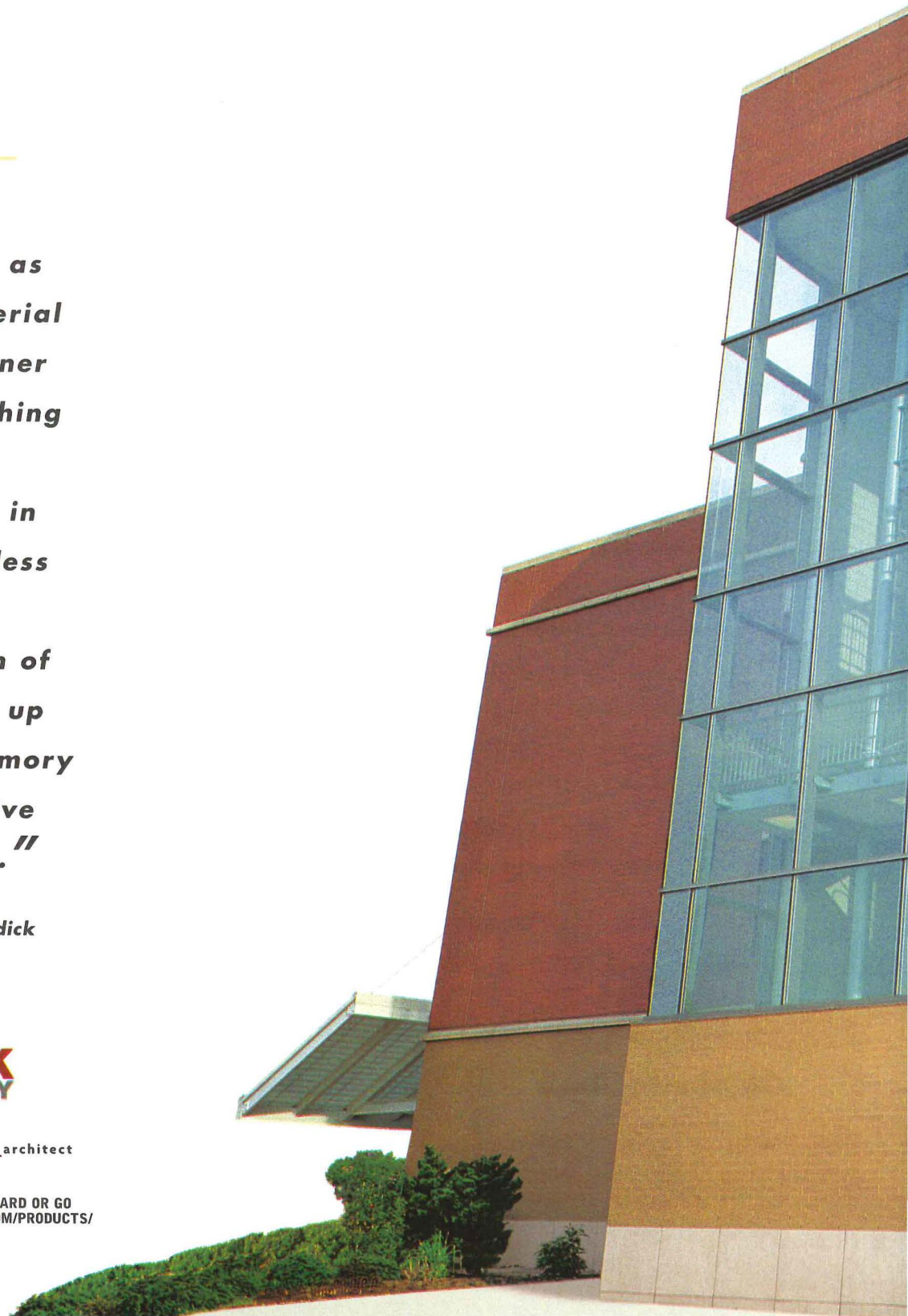

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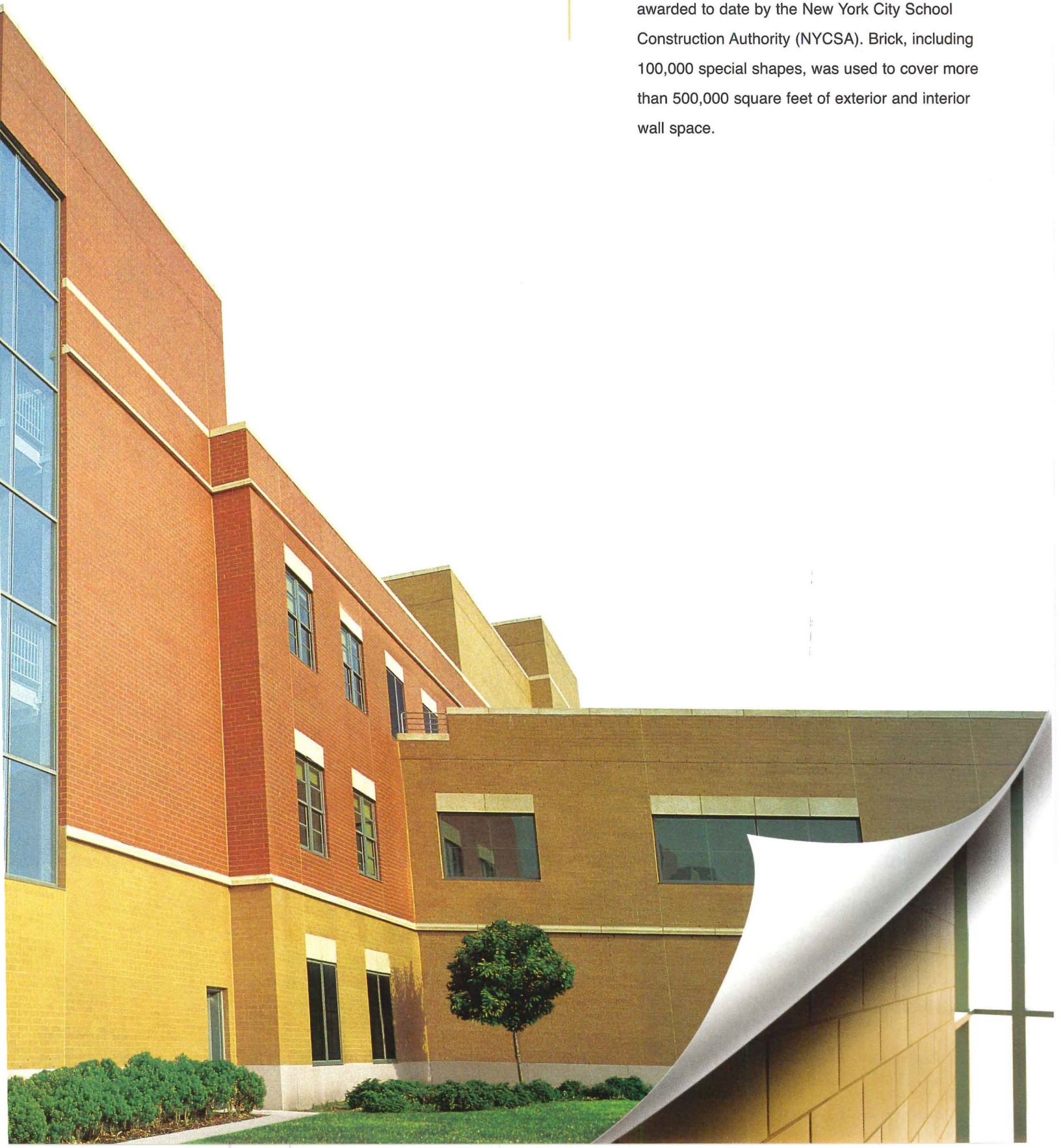

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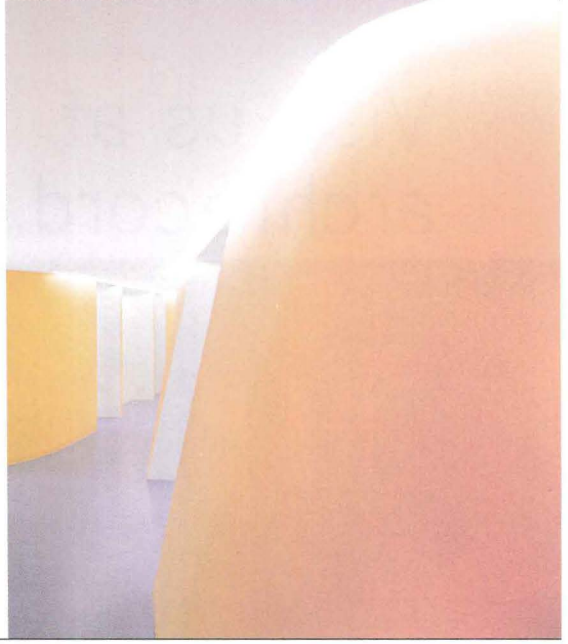

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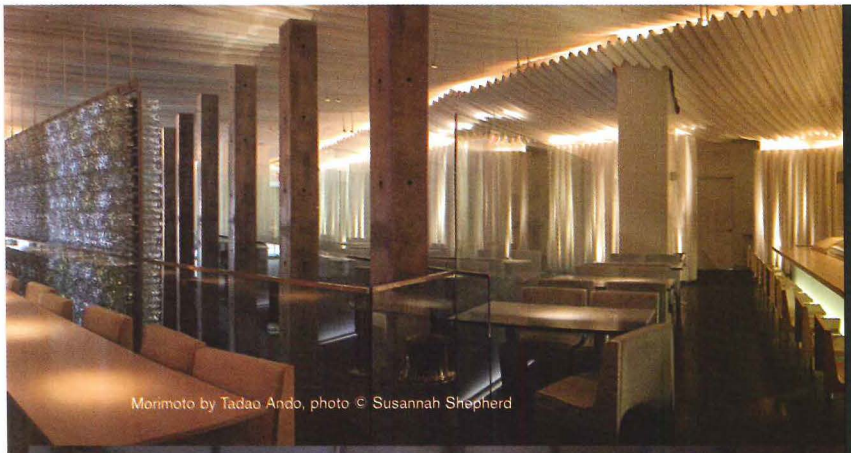

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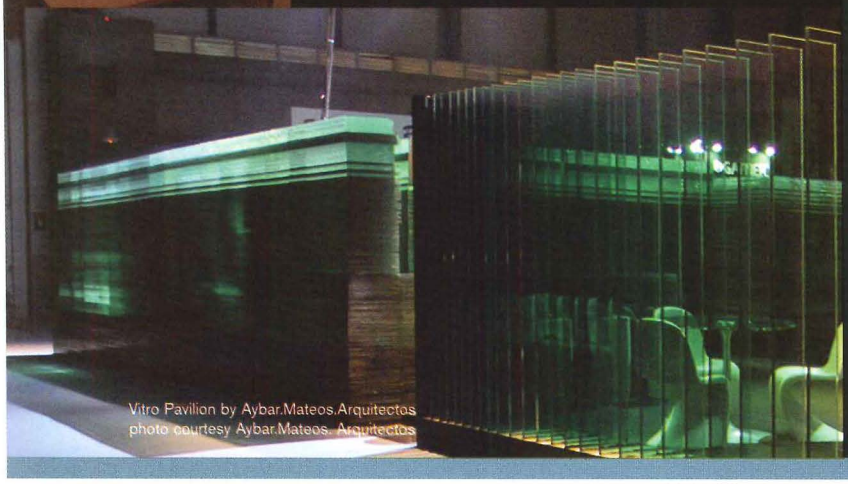

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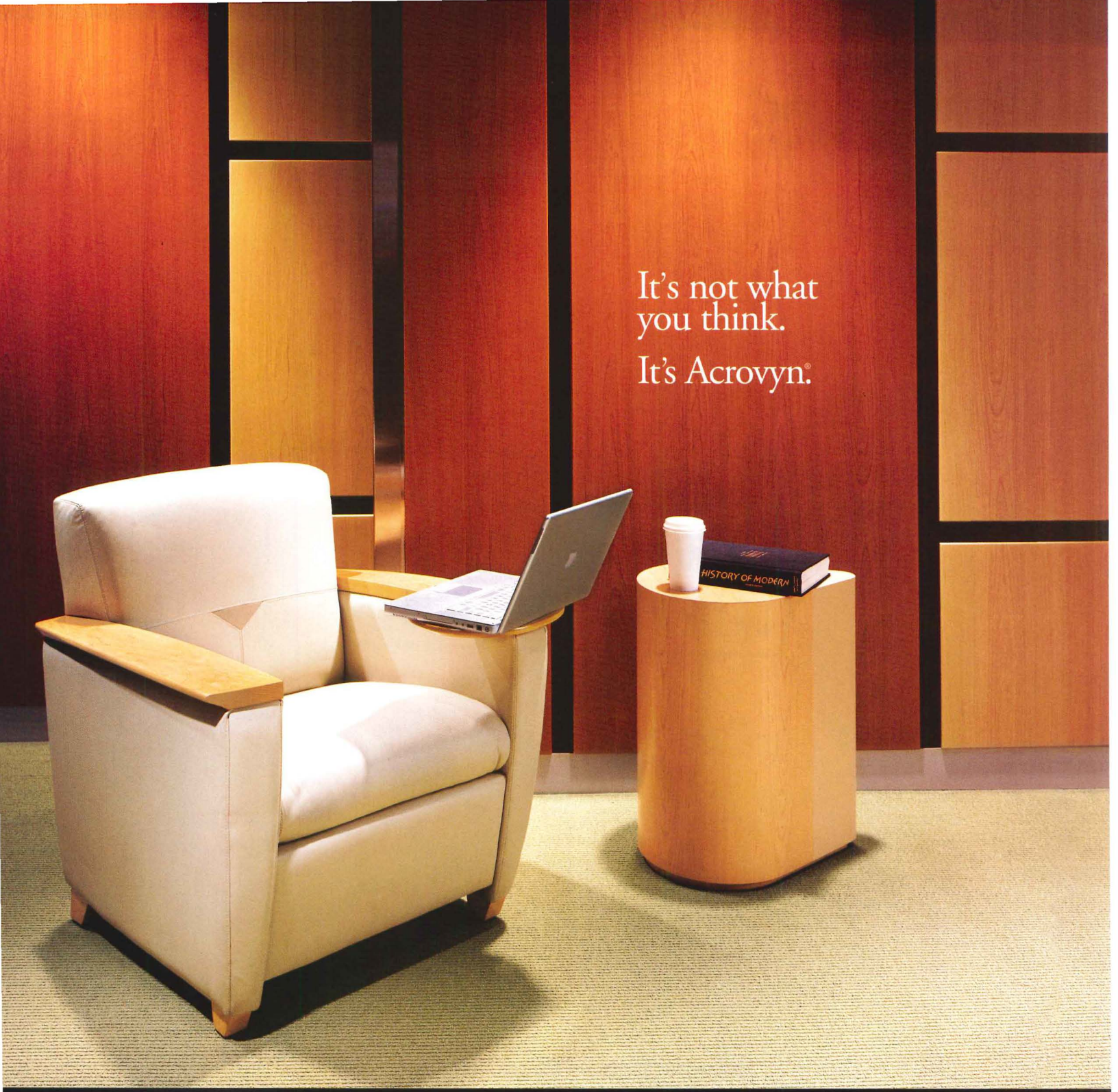
Heinfeld House by Dan Heinfeld, photo © Cristian Costea

House of the Month

Built with green principles in place from openings to envelope, this architect's home in Newport Beach, California uses pocket doors to bring the outside in or keep it out depending on the climate.



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What We Have Learned

Editorial

By Robert Ivy, FAIA

The sight of thousands of passengers in the long lines at Heathrow Airport, JFK, and LAX, snaking through the arrival halls or waiting patiently outdoors in rain slickers on August 10 produced a familiar kind of dread mixed with acceptance: Since September 11, 2001, our world has irrevocably changed. In assessing the implications of the attacks on the World Trade Center and the Pentagon, we find that—besides the discussions and plans for the affected sites and their memorials, and our new awareness of the elevation of architecture in the popular consciousness—the aftermath of those events has provoked spirited debate and sometimes transformation in the built world. Five years later, we ask, have we in fact progressed toward safer, healthier spaces?

To judge from the expressions on the faces of the waiting public in the airports, not much. Despite massive investment in airport security, including computerized baggage screening, various metal and trace explosive detectors, surveillance and perimeter intrusion systems, we still have no effective way of pinpointing liquid, peroxide-based explosives in our airports. So-called "puffer" technology, which emits bursts of air to find explosive traces on clothing, comes at a high price and takes up more precious space. Nor do we have guarantees that terrorists would not find other ways of slipping through the permeable borders that airline terminals, not to mention rail centers and ports, represent.

With all our investments and all our cleverness at tightening things up, we remain vulnerable. Aviation Week *and* Space Technology *recently reported that if the perpetrators of the recent airline plot in Britain had managed to secrete the liquid materials among their possessions, they might well have slipped through security and boarded their intended flights. Another new gadget might have helped, but there is no guarantee.*

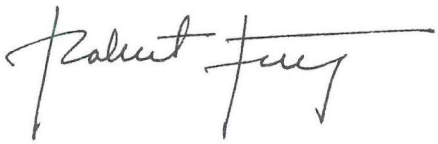
As a culture, we have relied on technology to solve problems sometimes better solved by people. Investigators, real people using human intelligence, not electronics, cracked open the plot, exposing the intentions of more than 20 persons to blow up planes of four different airlines before they set foot in an airport or entered the area we call "security."

What can we learn from these experiences, and how can we architects make a difference? The shift in tactics by a dangerous few has implications for architects worth considering. First, the dynamics of security in the post-9/11 world requires nimbleness of response. Yesterday's norm, a bottle purchased in a duty-free shop, becomes tomorrow's incendiary device. Marilyn Jordan Taylor, FAIA, who has led major terminal design teams at Skidmore, Owings & Merrill, places the burden on design professionals not only to "understand operations and security" at airports, but also "to provide acceptable, understandable experiences for passengers." If others control security, architects control the experience, she postulates.

In a world with increasing surveillance, a world that sometimes feels as inescapable as the terminal in Steven Spielberg's film of that name, we may face other days similar to August 10, despite our collective efforts. Will architects have provided pleasant places for queuing? Places of rest or peace in the hubbub? Opportunities for the elderly or the weary to sit? Changes in lighting levels, in perspectives, in coloration? While we will inevitably require chokepoints for maximum scrutiny, can we also provide comfort, settings that minimize fear and maximize our awareness of personal space and of individual self-control? And what to make of cell-phone-infested waiting areas?

For those relatively few architects tasked with upgrading existing terminals or building new ones, we can segregate movement systems in a way that effectively separates cars and people, that minimizes feelings of anxiety caused by crowding, and that still gives us a sense of arrival and possibility that travel suggests. Airports, like the rail terminals that preceded them, remain primary points of embarkation and arrival, now stretched to the global scale.

What have we learned in five years? Machines may give us the illusion that we are actively solving the security problem, but the human mind, the most remarkable machine, deserves our full attention as architects. While we may not be security experts, shaping the character of human behavior in public space lies squarely within our hands, an ability undetectable on anyone's screening system.



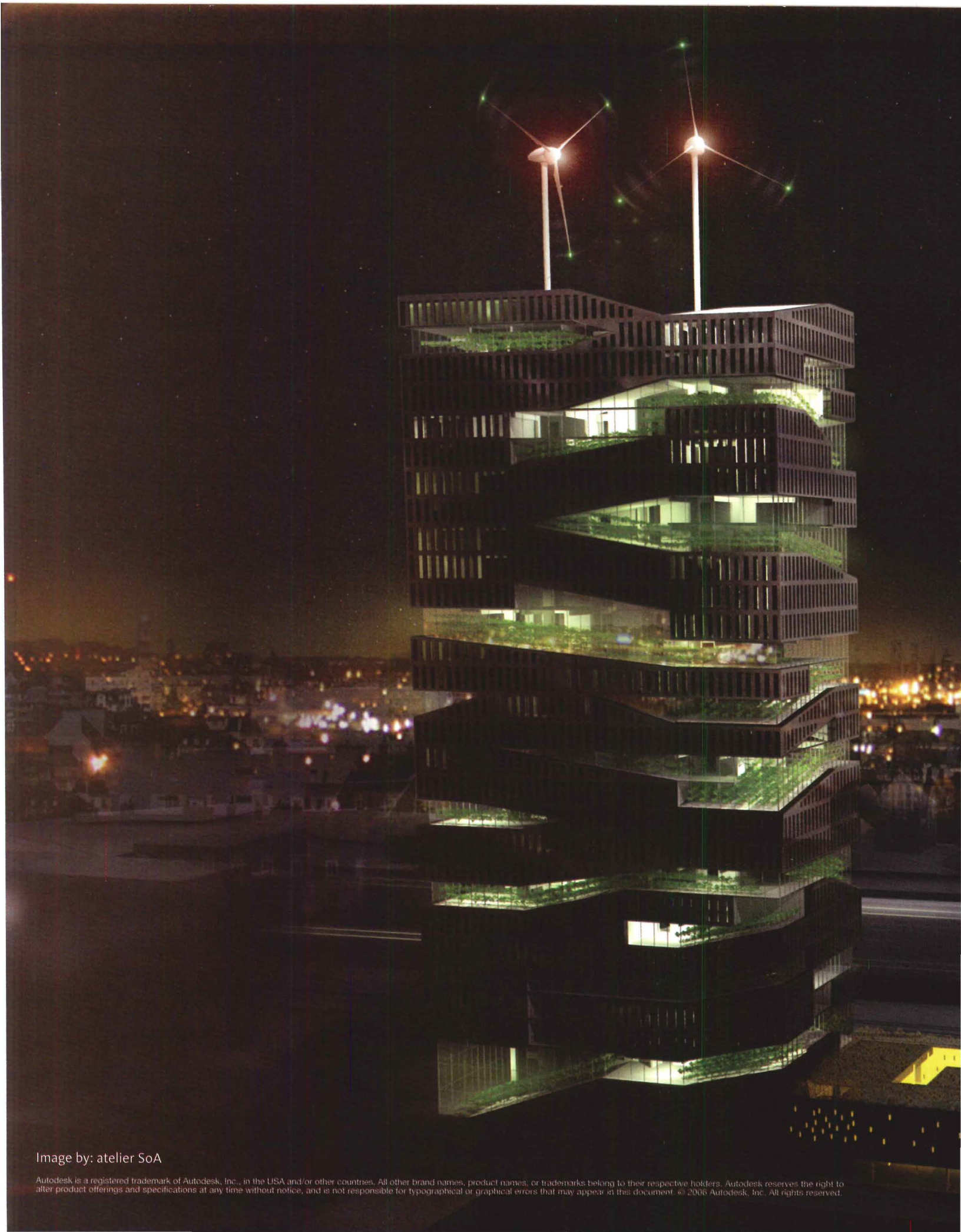


Image by: atelier SoA

Letters

Lasting words

I can't begin to tell you how profound I found Robert Ivy's editorial, "The Essence of Education" [July 2006, page 17]. I was in attendance at William McDonough's talk on the last day of the AIA convention in Los Angeles, awaiting his closing words of inspiration. Ivy's "capture" of Bill McMinn's memorable event is an inspiration in itself. Thank you.
—William R. Freimuth, AIA
Farmington, N.Mex.

Another "Aha!"

Walking on Roman streets, Bill McMinn always talked about what he referred to as an "aha moment": the instantaneous, immortal, and sublime recognition of an architectural discovery. For us, the real superb event was to see him become renewed through our own novice experiences. An initial thank you for honoring once again his dedication and commitment in your pages, and a second for letting a former student pay yet another humble respect.
—Javier Galindo
Via e-mail

Private business

I am writing in response to Robert Ivy's August editorial, "Five Distinct Dramas" [page 17]. To suggest that a government agency (or government anything) is the answer to the Gulf region's current challenges is a fundamental and disgraceful absurdity.

The government's records of achievement around anything related to Katrina have been and are deplorable. From an incompetent mayor to a bumbling and inept governor to bloated federal agencies—the government has failed at every level. The only bigger failure is the failure of individuals to accept their responsibility to rebuild in a prudent manner. Far too many of those who could act in your drama scenarios cling to editorials such as yours and stick out their hands for the proverbial "free lunch." Some, unfortunately, willingly abdicate their own good judgment.

The fundamental premise as well as the logic of Ivy's editorial is flawed. He notes that FEMA is not performing well, yet just a few paragraphs later suggests that a new government agency is worthy of consideration. What makes him think "things will be different this time around?" Furthermore, while he notes that his analogy of the Depression and the TVA "is clear," I found the context foggy and inappropriate.

Ivy will better serve his readers by noting that these challenges can and should be met by the private sector. The most effective and reliable approach is based on individual and local responsibility, combined with the prudent employment of qualified private-sector planners, designers, and builders.
—Scott Braley
Atlanta, Ga.

Bravo

EXCELLENT editorial on "Five Distinct Dramas." Thank you.
—Frank Bruckner
Asheville, N.C.

Some like it hot

In your August feature, "Big Ideas for a Little Planet" [page 61], Mattias Schuler states in his interview that in New York, buildings are cooled to 68 degrees F in the summer and warmed to 80 degrees F in the winter. "This is ridiculous," he says. "It should be heated to 68 degrees in winter and cooled to 80 in the summer." Schuler might not be aware that New York law requires residential buildings to be heated to 68 degrees in winter between the hours of 6 A.M. and 10 P.M. and to 55 degrees between 10 and 6. As for cooling in the summer, perhaps we should emulate the European approach of grin and bear it, despite the increasing number of deaths that have occurred during recent heat waves.
—Eugene Brodsky
New York City

The whole picture

Looking over the 10 years of the AIA Top Ten projects [August 2006, Record News, "2006 COTE winners reflect green trends," page 30], I'm gratified to see that architects and design teams are moving past a focus on individual categories such as energy efficiency, material selection, and indoor air quality. They are now beginning to glimpse and express the interconnectedness of the whole. To ensure the efficacy of their actions, they are placing a high value on data collection and are more ready to share lessons learned with others.

But there are ways to bring an even greener future within our reach; by long-term collaborative visioning and action—by using effective metrics of improvement (the parts) and by embracing holistic design approaches (the whole). For example, effective energy metrics, such as EPA's Target Finder, added to the AIA Top Ten criteria and to USGBC's LEED for Existing Buildings, is an effective metric to address climate change. In tandem, emerging concepts such as regenerative and biophilic design show us the interconnectedness of all our actions and the broader impacts each design decision directly makes on our "long-term self interest." Once we pursue the whole *and* the parts, the line between where a project begins and where it ends begins to blur, and the way we practice architecture begins to change dramatically.
—Gail A. Lindsey, FAIA
Wake Forest, N.C.

All that jazz

I share your obvious excitement that Morphosis will get a chance to put New Orleans on the global map by designing the Hyatt Jazz District [July 2006, Record News, "Morphosis unveils plan for downtown New Orleans," page 25]. The use of "bulky, sculptural forms, silvery steel mesh, cantilevered building elements, and folded and curved planes" will not only give New Orleans the cutting-edge buildings that every other major city in the world now is proud of, but will metaphorically express the devastation of Katrina. Thank God there are no references to the culture and the architectural traditions of New Orleans! I am sure that neither the residents nor tourists want to be reminded ever again of the "old" New Orleans. The only disappointment is that the buildings were not designed with shipping-container modules like the award-winning housing projects you recently published.
—Michael Mekeel
West Hollywood

Corrections

An August News item on Chicago's Green Permit Program [page 34] misspelled the name of the Spertus Institute of Jewish Studies. The *Icefall* water feature in the Hearst Tower lobby [August 2006, page 74] represents the collaborative work of Foster and Partners, James Carpenter, and Fluidity Design Consultants. For the June Snapshot of Birmingham's Spiral Café [page 89], readers should note that Benoy Architects was the lead architect for the Bullring complex.

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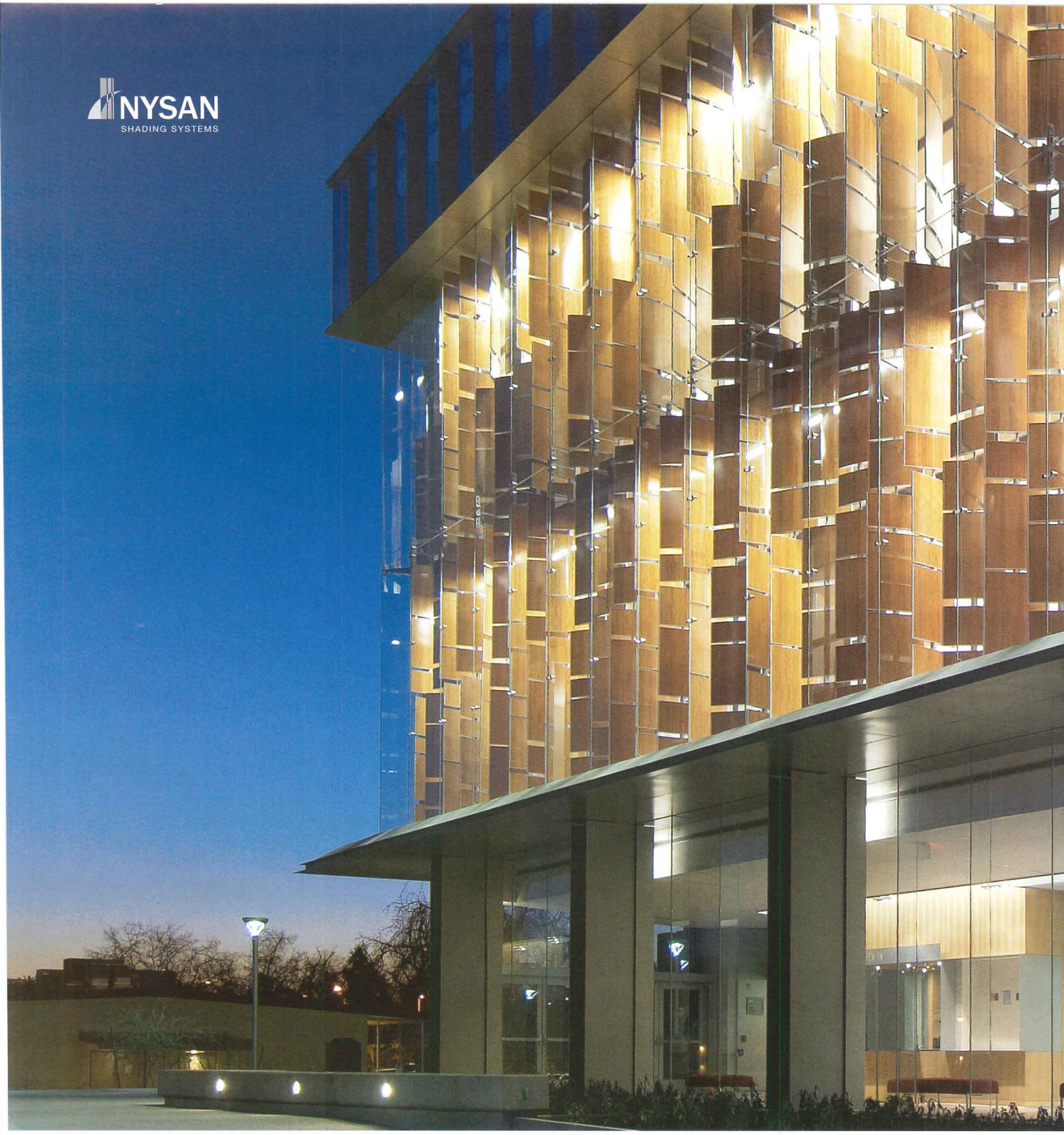

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Record News

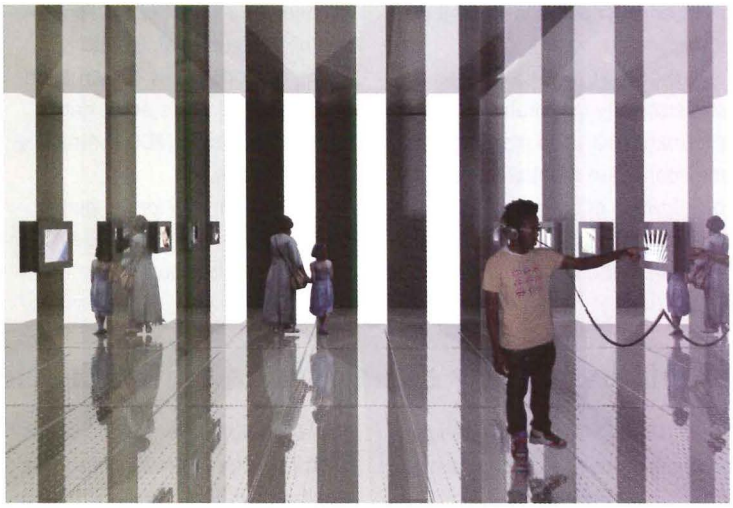
Highlights

Exhibition fetes Twin Towers

Visitors to New York's Skyscraper Museum this month will be able to experience an approximation of the World Trade Center Twin Towers. In an 11-by-22-foot hall, four acrylic posts mimic the dimensions of the buildings' columns. Illuminated from inside, they are reflected in the permanent stainless-steel floor and chromed ceiling designed by Roger Duffy, and in mirrored walls installed by exhibition designer Local Projects. The repetitive effect gives one the feeling of standing beneath two endlessly tall buildings.

The installation is part of the new exhibition, *Giants: The Twin Towers and the Twentieth Century*. Curator Carol Willis explains that the show is devoted not to 9/11, but rather to the design, planning, and reinvention of Lower Manhattan in the 1960s that culminated in the World Trade Center project. She adds, "This was part of that moment in American history when there was faith in technology and ambitions of bigness, whether it was the towers or jumbo jets or a moonwalk."

Models, photographs, and drawings describe the planning and design process of the downtown area. Additional elements, such as audio clips of people involved in making and working in the Twin Towers, contrast the epic architecture with human experience—a strategy of which the mock plaza is one component. "Our starting point was that people's experience of the towers is fading, it's a history," says Local Projects principal Jake Barton. "We wanted to recreate not just ideas about the towers but the towers themselves in as many facets as possible."



The *Giants* exhibition features this abstraction of the Twin Towers.

The Skyscraper Museum will launch a Web database of 500 construction photos of the Twin Towers, taken by the buildings' structural engineer Les Robertson, to complement the show. *Giants* runs through March 4. *David Sokol*

New architecture for Katrina-ravaged town

The town of Pass Christian, Mississippi, sits on a sliver of land that straddles St. Louis Bay and the Gulf of Mexico. It was largely wiped out by Hurricane Katrina one year ago. When New Orleans businesswoman Martha Murphy, a native of Pass Christian, learned of her hometown's destruction, she decided to help out. A new building designed by SHoP Architects (below), which celebrates a soft opening this month, is the first of her good deeds.

Murphy was the primary benefactor of an addition to the Richardson Building at Tulane University, in New Orleans, a job SHoP won. Days after the storm, Murphy contacted the firm to design and build a kind of triage center for the Pass Christian community. In the spirit of fast, temporary construction, the architects designed two long, rectilinear buildings linked by a porch with a freestanding roof. "The enclosed structures were really sheds," says SHoP partner William Sharples, "and originally the roof was as simple as we could make it." Southern pine timber and cladding were mostly donated for the project, as were the efforts of New York firms Buro Happold and Focus Lighting.

But come October, the team had a realization about Pass Christian. "No one's come back," Sharples says. "Part of the problem was that the commercial services aren't there. Martha started looking at a more permanent building—and to create a catalyst, with both services and architecture, to get people excited to come back."

Now the buildings house a restaurant, a bookstore, a nonprofit organization, and other tenants. And the architecture was redesigned for more iconographic effect. The underside of the skylit porch roof is a series of trusses with cable-secured intersections that give the appearance of a scoliotic spine and become internally illuminated striations at night. Sharples says the design breaks down the scale of the very long, 5,000-square-foot porch. Inside, the tongue-and-groove ceiling is similarly articulated to accommodate ductwork.

Local schoolkids plan to do homework on the porch, reports Sharples. The project also promises to be a focal point for the design community. Students at Parsons School of Design, in New York, have been the first to flock to the site. They are building an adjacent information center and laundry that should open by the end of the month. *D.S.*

A crew completes work on two SHoP-designed buildings unified by a sculptural canopy.

LMDC announces pending dissolution

The Lower Manhattan Development Corporation (LMDC) announced in late July that it will essentially disband, ending operations by the end of this year.

The LMDC was created as a joint state-city corporation in the aftermath of 9/11 to plan, finance, and coordinate the rebuilding and revitalization of Lower Manhattan. Its planning process resulted in the adoption of the Daniel Libeskind master plan for the World Trade Center site and the competition for a permanent memorial, which Michael Arad won. But with completion of the memorial, Freedom Tower, and other new construction at the site still years away, critics question why the LMDC is stopping operations now.

In an interview for the public radio program *Marketplace*, architecture critic Paul Goldberger compared the announcement to the United States abruptly leaving war-torn Vietnam decades ago, saying, "LMDC has sort of declared that it's won and is disbanding. But, in fact … [it's] leaving a very incomplete, uncertain project behind that's in a lot of chaos and confusion."

The LMDC, which allocated more than $2.7 billion in federal grants to support downtown residents, businesses, and cultural programs, says that the Port Authority of New York and New Jersey will oversee construction of the major buildings on the site. But the LMDC has not yet finished design guidelines for the construction of the tall buildings that are planned for there. The exact dates of the release of the design guidelines and when the LMDC will disband were not available at press time. *John E. Czarnecki, Assoc. AIA*

Carol Ross Barney comments on WTC redevelopment

David Childs, Michael Arad, and others have been at the center of attention as they continually redesign components of the World Trade Center (WTC) site. The scrutiny they face is immense, and no one knows that better than Chicago architect Carol Ross Barney, FAIA. The principal of Ross Barney Architects designed the U.S. Federal Building in Oklahoma City, replacing the Murrah Federal Building that was bombed in 1995. Here she discusses the challenges of rebuilding in the wake of terrorism, and comments on the WTC design process. J.E.C.

ARCHITECTURAL RECORD: *Based on your experience with the Federal Building, how do you respond to developments at the WTC site?*
Carol Ross Barney: There are similarities, like the inability to attract tenants to the Freedom Tower. The Murrah bombing created a market void for office space on that site. The General Services Administration (GSA) had to persuade federal tenants to move into our new building; it looks like government is going to step in there, too. For these buildings, the symbolism of the place initially overwhelms the functional role.

AR: *Did your client, the General Services Administration, encounter hesitancy in the rebuilding process?*
CRB: The largest protest was from employees of the Department of Housing and Urban Development, which was located in the Murrah and had the most casualties. Some people were not comfortable being so close to the site of the bombing.

The U.S. Federal Building was constructed after the Oklahoma City bombing.

AR: *GSA is more distinct than the factions at the WTC site. Is that a key difference in the success of a project of this scope and attention?*
CRB: In a way, Oklahoma City was more democratic. From the beginning of the design process, GSA provided an open forum for stakeholders, but no single stakeholder was able to override the process. GSA gave us a lot of latitude to address all parties and to explain what we were doing. I think that promoted intelligent consideration of controversial issues like security, instead of knee-jerk solutions.

AR: *Any lessons you learned for moving through the obstacles and remaining true to your design vision?*
CRB: We tried to concentrate on the long view and consider how our building would benefit and influence Oklahoma City in five years and 50 years, rather than design to negate the latest threat or fear.

AR: *How did you deal with the spotlight when you were selected for the Oklahoma City project?*
CRB: At first, it made me uncomfortable. But it did give me a forum to talk about design and the importance of livable environments. I had to set my defaults, because there's a lot of clutter along the way.

AR: *What's your opinion of the design of the Freedom Tower?*
CRB: Look at the base of the Freedom Tower. How does that add to the urban quality of the area? It's not a friendly urban building. The police forced a solution according to their notion of threat. That unfortunate base is there because of what happened in Oklahoma City, a vehicle bomb parked near a building. And that has happened only once in recent history. What a price to pay for a single event! It is sad that this building doesn't break any new ground about security design or make this intense land use more livable.

AR: *From what you have seen, are the designers of the buildings and the memorial at the WTC site incorporating the most effective means for a secure, yet open and inviting place?*
CRB: No, security design is not rational at all, and it has limited effectiveness. If you did a cost/benefit analysis on security upgrades, the stuff doesn't pay. The government standards are written to prevent another Oklahoma City, but a future terrorist attack is unlikely to be anything like Oklahoma City.

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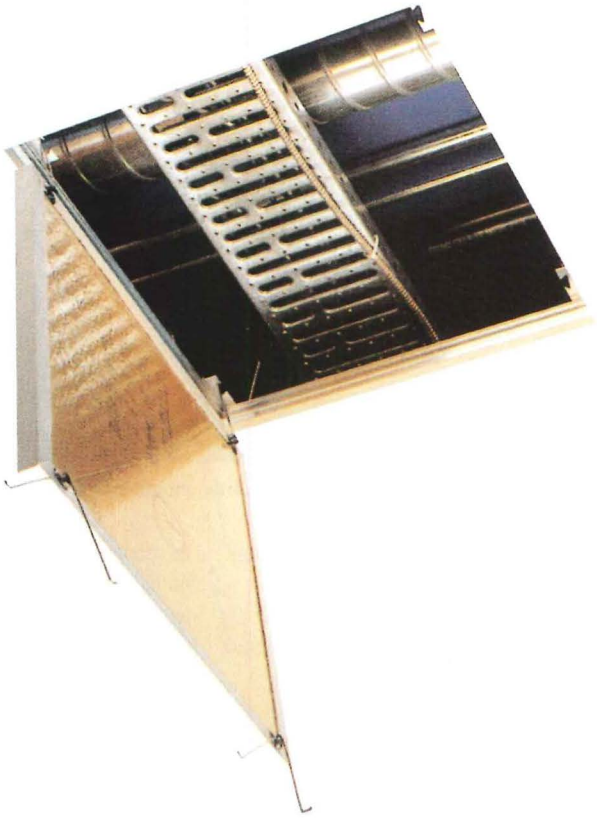

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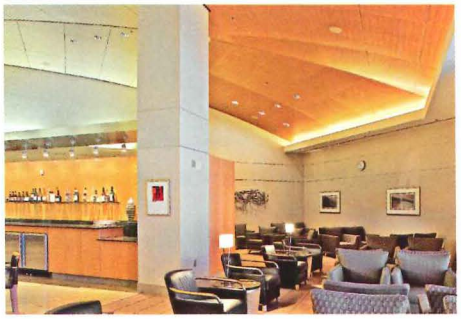

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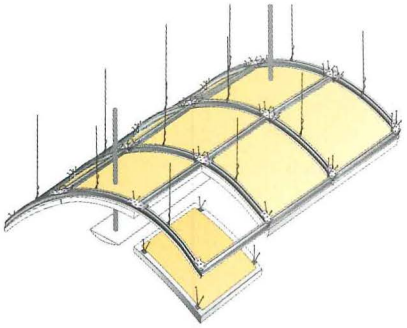

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Memorial architects say work is moving quickly

As controversy and politics have slowed progress at the Ground Zero memorial site, several other memorials to the victims of September 11 are proceeding at paces that surprise even their designers. The memorial to victims in Westchester, New York, will be dedicated on September 10. And the Staten Island memorial, though significantly smaller than some of the others, was completed in 2004.

Paul Murdoch, AIA, who is designing the Flight 93 Memorial in Shanksville, Pennsylvania, says that his process has been "not only surprisingly smooth, but also surprisingly accelerated," even though Murdoch finds that he's working with far more constituents than he normally does. He credits the National Park Service for its guidance of the process. Nevertheless, since it involves as much as 2,200 acres of landscape, the project is not scheduled to be complete until 2011.

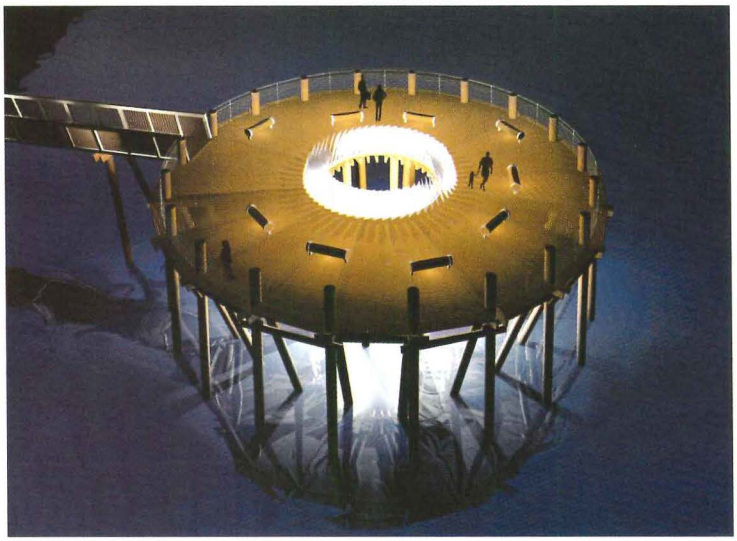
In Alexandria, Virginia, Julie Beckman, who is designing the Pentagon Memorial with her partner Keith Kaseman, has had a slightly different view of working on one of the three major memorials. She says that while the process, which entered the construction phase this summer, was "very fast in the world of memorials," fund-raising efforts delayed construction from the original two-year timeline. "They assumed that raising $20 million would be a drop in the hat," Beckman points out. "It wasn't." The bureaucracy has been kept to a minimum, according to Beckman, because the Pentagon Memorial Fund is the sole client, and the Pentagon itself is not weighing in on aesthetics. "The Pentagon is kind of its own entity, like the Vatican, so there's less outside pressure to make changes," she says.

In comparison, the memorial in Hoboken, New Jersey, is inching along. "It's nothing unusual," says Jeanne Gang, AIA, the architect member of the designers FLOW Group—"just more people to have to talk to." For Gang, as for many of the architects, the emotional content of memorial design is one of the most demanding aspects of the work. "Now we're dealing with symbolic meaning," she says, "which I haven't really dealt with before. It's been very difficult, but I feel compelled to move on and do this really well." Gang's team currently is working on construction drawings. They hope that, in spring 2007, they will drive the piles for the artificial island that will be the memorial's centerpiece.

Frederic Schwartz, FAIA, who dealt with political maneuvering as part of the THINK team at Ground Zero, is now designing two memorials: the New Jersey State memorial, in Jersey City, and the one in Westchester, New York. "I would use the words 'phenomenal' and 'fantastic' to describe the processes," Schwartz says, who also agrees with Gang's assessment of the sensitive nature of the design work: "The emotion is never ending."

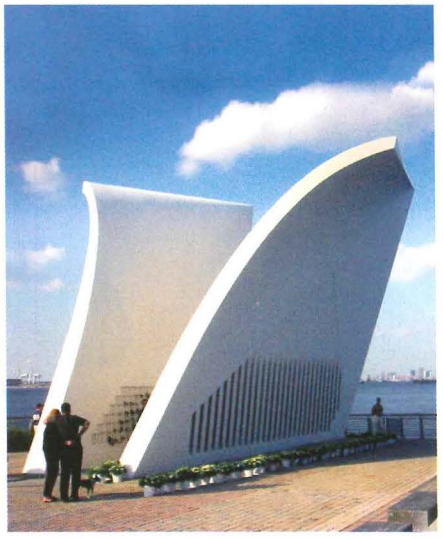
But for all the praise of the fast memorial processes, perhaps none has been as smooth as that of the Staten Island memorial, two curving fiberglass "postcards" designed by Masayuki Sono and Lapshan Fong. Their design was selected in 2003, and the memorial opened September 11, 2004—though some work continued after that time. Fong says, "We couldn't delay even one day."

For some of these designers, memorial work has led to other projects. Kaseman and Beckman were invited to a closed interview process for the design of a memorial to the space shuttle Columbia in Nacogdoches, Texas. They were selected for the project and are awaiting NASA's unveiling of their design. Schwartz says that his memorial designs led the people of New Orleans to recognize that his firm could help; it is now among the teams working on rebuilding plans there. He emphasizes, however, that he does not bolster his résumé with the memorial projects. Fong says that the Staten Island memorial had led to more work indirectly, because "it's in the portfolio." But his partner has a different view of the marketing influence of their design. "People see the memorial," which consists of two curving fiberglass panels, Sono says, "and don't think, 'I want a house like that.' " *Kevin Lerner*

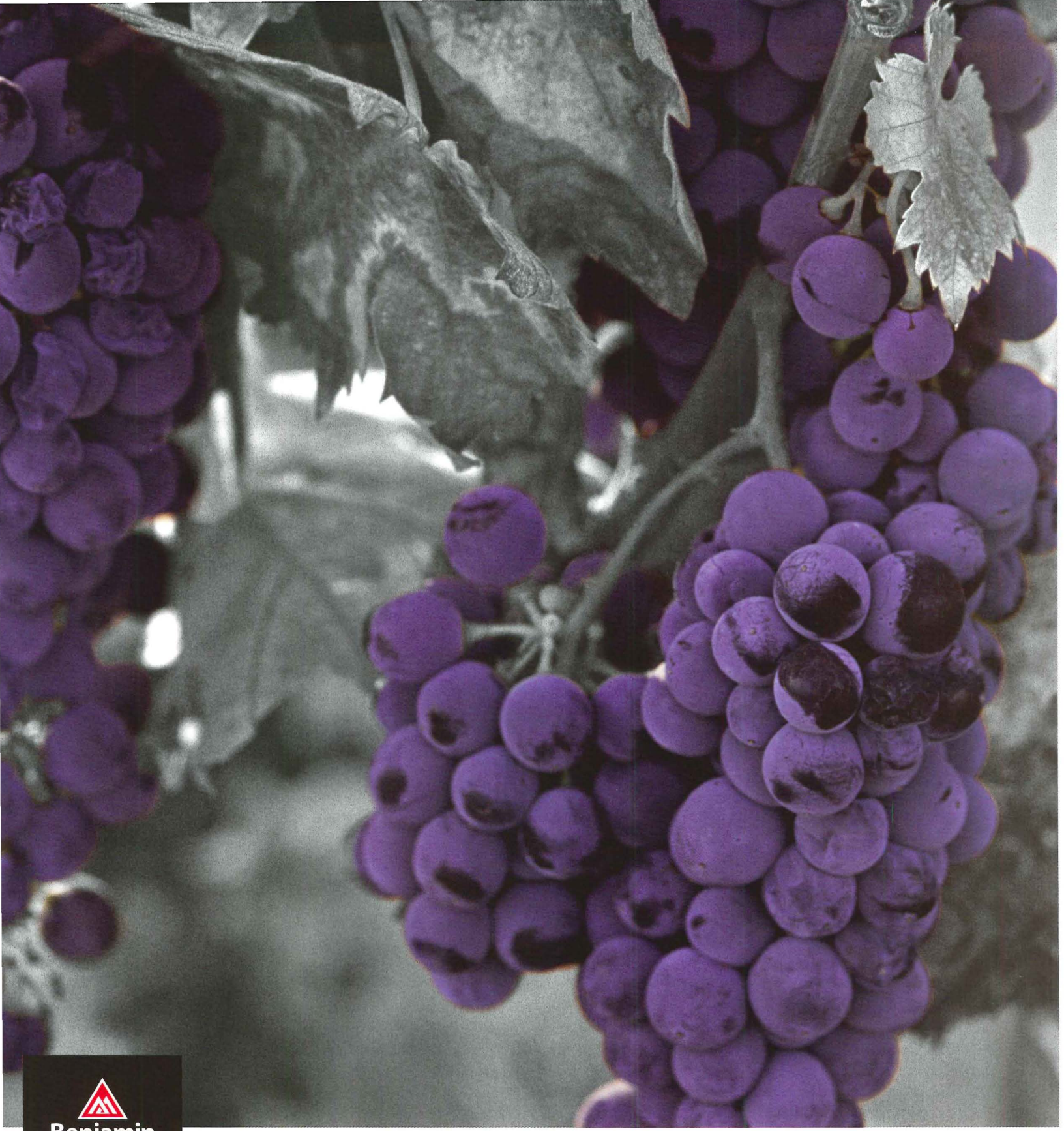


FLOW Group's artificial-island memorial should start construction in spring.

Paul Murdoch's Flight 93 Memorial is proceeding at an "accelerated" pace.



The Staten Island memorial is already open.



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Firefighters' Monument unveiled across from Ground Zero

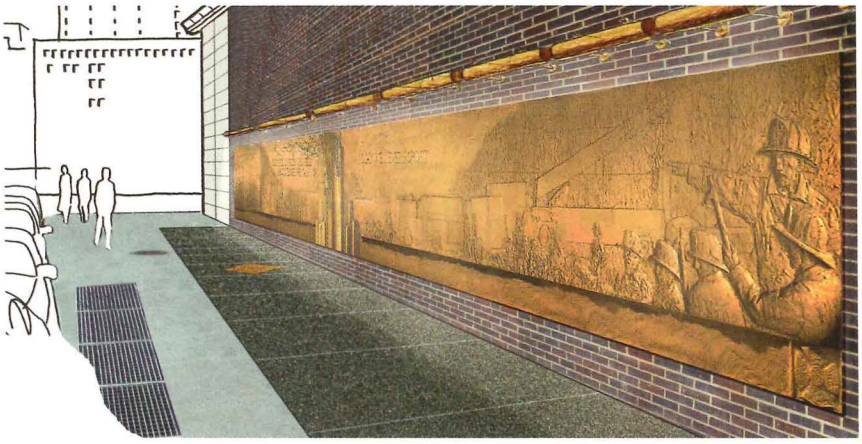
It was originally meant to be a series of vitrines—an exhibition of 9/11 memorabilia and photographs presented in glass cases and illuminated by small halogen spotlights. But when Viggo Rambusch was introduced to the Firefighters' Monument project, he remembers countering, "a display case is not a permanent memorial."

Now it's a figurative, 7,000-pound, bronze bas-relief sculpture installed within a 6-by-66-foot niche on 10 House, the newly built home of Engine Company 10 and Ladder Company 10 that sits across Liberty Street from Ground Zero. Crews worked through the night of June 10 to lift the monument's three panels into place, and at daybreak, as if out of nowhere, it appeared for its official dedication. The day marked the fourth anniversary of the conclusion of the Fire Department's recovery effort. Crews are still waiting to lay granite—the same used for the Freedom Tower's cornerstone—in the sidewalk in front of the sculpture.

Rambusch is honorary chairman and senior project manager at the Rambusch Company, a 108-year-old firm that fabricates decorative metalwork, stained glass, and lighting. When Brian D. Starer, vice chairman of Holland & Knight Charitable Foundation, which funded the Firefighters' Monument, approached Rambusch with the request to make the piece, Rambusch evoked Trajan's Column instead of the display cases. The 98-foot-tall column has stood in Rome since the year A.D. 113, its spiral bas-relief commemorating Emperor Trajan's victories in the Dacian Wars. Rambusch vetted bronze as a noble material that could also withstand "hammers, paint, and all sorts of damage." Unlike its precedent, this memorial doesn't revel: The Twin Towers, depicted at the moment of the second plane's impact, stand at the center of the relief. It is flanked by scenes of firefighters engaging in rescue, with several of the figures exhibiting strain and exhaustion, but not despondency. At the behest of the New York City Fire Department, "It is a collage of the entire rescue effort; both buildings have been hit, but there is not the suggestion of collapse," says Martin Rambusch, chairman of the board.

The relief was rendered in three panels, so that it can be moved from 10 House to a permanent stand at Ground Zero sometime in the future. "It was a small congenial group, which allowed us to move along at a steady clip," Martin Rambusch says of the memorial's fast execution. "Everyday politicians find a photo-op in front of Ground Zero. You'd think they'd be embarrassed that nothing's complete."

In the meantime, the monument hugs the wall of the station house, honoring the 343 firefighters who died. A separate plaque is dedicated to Glenn J. Winnuk, a partner at the Holland & Knight law firm and volunteer firefighter. He ran from his office at 195 Broadway to the Twin Towers to help victims, and never came back. *Leigh Batnick*



A symbolic granite sidewalk will finish off work on the Firefighters' Monument.

Interviews drive ongoing WTC evacuation study

Most studies that have tested the structural integrity of the Twin Towers, such as last year's comprehensive report by the National Institute of Standards and Technology (NIST), utilize computer simulation and materials analysis. One research project, still under way, relies solely on interviews with people who escaped the buildings.

Ed Galea, a professor of fire safety engineering at the University of Greenwich, England, oversees HEED, or High-Rise Evacuation Evaluation Database. He is investigating whether or not the World Trade Center buildings were well suited for a quick evacuation, and why evacuees left the building in the manner that they did. The project, funded by a $2.75 million grant from the British Engineering and Physical Sciences Research Council (EPSRC), began in September 2004 and will continue through next year. To date, more than 300 interviews have been conducted, and Galea hopes the total will reach 1,000.

"It's a fairly unique project in that we're looking at a mix of psychology and engineering," says Galea, who is also working with scholars from the universities of Ulster and Greenwich. Interview queries broach the processes by which people left the buildings, their reasons for responding to fire alarms at varying speeds, why they might have moved slowly down stairs, and whether or not they yielded to evacuees entering at lower floors, listened to building superintendents' commands, and considered exiting the building to be a risk. There is no video footage of stairwell evacuation.

Galea says that the results of the study, to be released in November 2007, will encourage faster fire-alarm response and evacuations. He also predicts the research will result in better building codes and more accurate evacuation-simulation software.

The exhaustive interviews can require as much as two hours. Data is broken down into categories, such as "response times" and "motivating factors for leaving." "People in the building who evacuated are the experts," Galea says. Similar investigations, such as the NIST effort, use questionnaires that limit the range of responses. After the project is completed, interview transcripts and researchers' analysis will be distributed to engineers and made accessible to the public on wtc-evacuation.com. Prospective interview candidates can also consult this site to learn more about participating in the study. *Sam Lubell*

Port Authority takes over WTC memorial

On July 6, the Port Authority of New York and New Jersey, owner of the World Trade Center (WTC) site, assumed control of building the memorial and its museum. The WTC Memorial Foundation ceded control of construction but will continue fund-raising and overseeing design.

Under the new deal, the Port Authority will pay as much as $150 million for the memorial's related infrastructure, and an additional $45 million for cost overruns. The Lower Manhattan Development Corporation has said it will contribute $250 million through federal Housing and Urban Development grants. The foundation has raised $131 million so far.

At the announcement, Governor George Pataki praised the "efficiencies" that would result from the transition, and pledged that it would expedite the building process. He pointed out that the Port—which is developing the Freedom Tower and building the WTC Visitors Center, the World Trade Center transit hub, and Tower 5—built the temporary PATH station at the WTC site in "just 16 short months." Construction on the memorial is scheduled to begin September 11.

Citing the Port's reputation for bureaucracy, cost overruns, and value engineering, some critics wondered whether the agency can shoulder another complicated project with high design values. The public response to the move has been largely positive, though. Jeremy Soffin, vice president for public affairs at the New York planning advocacy group Regional Plan Association, was pleased with the changeover: "It makes things a lot easier to have one agency in charge, and it gives them the ability to do what they do best, which is build," he said, adding, "Forget about the past; I think the current leadership of the Port Authority has shown itself to be quite competent." *S.L.*

High costs plague Gulf rebuilding effort

Several market phenomena could hamper the Gulf Coast's rebound from the 2005 hurricane season. Shortages of raw materials, in combination with record fuel prices, are forcing price increases for residential contractor supplies as well as construction delays.

"Construction and labor supplies have been tight for several years, with material costs increasing much faster than overall inflation," says Michael Carliner, vice president of economics for the National Association of Home Builders (NAHB). In the aftermath of Hurricane Katrina, there was a spike in demand for certain repair materials. But Carliner explains, "The 2005 hurricanes actually reduced demand in the short term. The long-term rebuilding effort will mean additional demand, and shortages are therefore likely to continue for several years."

Surging domestic construction and demand from fast-growing nations such as India and China, as well as manufacturing constraints, are combining to drive prices higher globally for some building products. This is taking place even though, in the U.S., increasing mortgage rates and slowing job growth have since brought a slowdown in new home construction and remodeling.

Copper, for example, leaped in price from $1.60 per pound to more than $3 per pound, says John Mothersole, an economist with Global Insight in Washington, D.C. A new 2,100-square-foot, single-family house uses about 440 pounds of copper, mostly in wire, pipes, and plumbing fixtures. According to Ken Simonson, chief economist for the Alexandria, Virginia, trade group Associated General Contractors of America, copper and brass pipe, wiring, faucets, and flashing have experienced an 88 percent price increase since last year.

Similarly, the NAHB survey of builders in early May 2006 found 34 percent reporting shortages of drywall, including 5 percent reporting severe shortages. That was the highest share reporting drywall shortages in five years. The U.S. Census Producer Price Index (PPI) shows that gypsum products have gone up in price by 22.9 percent since this time last year.

Energy markets are also contributing to the trend. Light-sweet crude oil prices hit a record $77-per-barrel cost in July, a 23 percent year-over-year increase, which has pushed prices for PVC pipe up 20.5 percent in the same period, reports the PPI. Asphalt, tar roofing, and siding products likewise shot up by 16.7 percent on the PPI.

The upward trends in fuel prices account for approximately 20 percent of cement prices. And with cement consumption topping 130 million metric tons in 2006, a 3.7 percent increase from 2005, it has jumped 15 percent in price. As a result, concrete products are up 10.5 percent, too, according to the PPI. Edward Sullivan, chief economist for the Portland Cement Association, foresees average annual demand increases of 2.5 percent through 2009.

Simonson adds that fuel prices can have a double-whammy effect. Because building supplies are transported to work sites by means of diesel fuel, "the delivered costs of many materials have gone up even more than their prices at the producer's point of sale."

Lumber is a rare exception. It is experiencing relief thanks in part to a U.S. Commerce Department decision in December to halve duties on Canadian softwood lumber imports, which account for one third of domestic lumber use. The move helped drop composite framing lumber prices to $317 per 1,000 board foot in July from $419 in 2005. That decrease promises to continue in 2006 as fewer home orders lower demand.

But in the Gulf Coast, cheaper lumber is more than compensated by the compound expenses of other materials—and labor. Don Sampson, president of the Louisiana Home Builders Association, a Baton Rouge–based trade group, explains: "Our labor force mostly consisted of hourly workers that needed a paycheck each Friday, and when there wasn't one, they left. The people who stayed here are charging a premium. We are building more houses because of the storm. And that will last a couple more years. But it's taking about 30 percent longer on average to build a home due to workforce availability. It has taken a lot of the home buyers out of the market. Low interest rates were great, but high material costs are taking a lot of families out of the picture." *Tony Illia*

Students overcome materials shortage

Facing a shortage of materials in Katrina-ravaged Louisiana, how could 34 fifth-year students from the School of Architecture at Louisiana Tech University install elegant hickory wood floors, exterior wood siding, and tile in a house for an underprivileged family in Ruston? "We had to hunt and peck to find donations," says Justin Roark, one member of the group.

In 2005, the North Central Louisiana chapter of Habitat for Humanity commissioned the project on behalf of a mother, her partner, and three children. Since funds, materials, and labor were entirely donated, students found themselves competing with relief efforts focused on the southern section of the state. A $25,000 grant from Weyerhaeuser jump-started the team.

Despite the patchwork of materials donated by local suppliers or discovered by pure chance, the team finessed a house with contemporary appeal. The 1,350-square-foot building (right) is subtly massed to nestle into its wooded site; its floor plan takes advantage of prevailing winds and sunlight, while high ceilings enhance the sense of openness.

The design responds to family needs by providing privacy as well as desks for the children's schoolwork. Materials and systems were selected with an eye to keeping maintenance and operational costs at a minimum. Sustainable principles were also incorporated where feasible.

This Habitat house is a lesson in creativity.

While students learned the logistics of material procurement and construction management, Roark, who now works for Nashville-based Earl Swensson Associates, says sheltering a needy family resonated the most. "We had just put up framing for the walls in April; the mother saw that each child was going to have their own room and she started crying." They took occupancy in May. *Russell Fortmeyer*

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Challenged schools prepare for new year

This fall, the three Rs could easily represent repopulation, rebuilding, and 'rithmetic, as school districts affected by Hurricane Katrina try to provide an education with fewer intact structures, smaller tax bases, and an undetermined population.

In Mississippi, where 16 schools were completely washed away in the storm surge, and only 14 of 152 school districts didn't close, students were back in school by October 2005. Interviewees attribute the quick rebound to efforts by school superintendent Dr. Hank Bounds to loosen up federal dollars for portable classrooms.

Most students will continue to attend classes in these temporary structures while officials determine where schools may be built to comply with the new FEMA flood elevation maps, and how they will be financed. Ironically, the Hurricane Recovery Act provided funds for restart but not reconstruction, says Caron Blanton, communications director of the Mississippi Department of Education.

The picture in southern Louisiana is far more fragmented. In New Orleans's St. Bernard Parish, where all housing stock was destroyed and 10 of 22 school buildings were recommended for demolition, 3,000 students are still expected to return to school this fall. They will attend classes in two renovated schools and portable classrooms. "We were a financially healthy school district, so we were able to buy our own trailers to get it up and running," says Beverly Lawrasen, assistant superintendent. "We've since been reimbursed by FEMA for the trailers, but reconstruction, which is a 90/10 split, is a different story."

Between lost sales and property taxes, and state funding that's based on student population, St. Bernard is having a hard time coming up with the 10 percent match. To circumvent stipulations for Hurricane Recovery Act funds, the district is using its operational money for construction and shifting the federal dollars into its operation budget. "It would have been advantageous if a lot of the red tape had been cut for us," Lawrasen says.

In Orleans Parish, 56 of the 117 schools managed by the Louisiana Department of Education will be open. Approximately 12,000 students had attended classes last year. Meg Casper, director of communications, notes, "We're planning for 34,000 this fall, [but] the demographers are telling us we will have far fewer than that."

Assessing damage, the order in which schools should be repaired, and availability of workers and materials has been more cumbersome for Orleans Parish than securing funds, Casper explains. "We are dealing with all the issues that people who are trying to rebuild their houses face. Costs are higher, and there is trouble finding materials and workers."

Schools are being repaired according to the amount of damage and repopulation trends. "As residents come back and the city does more planning, hopefully we'll be able to make more decisions," Casper says. *Angelle Bergeron*

New Gulf Coast subdivisions are designed to take a beating

While the natural force of hurricanes can be devastating, much property damage caused by storms comes from debris flying off nearby buildings.

Armed with this knowledge, real estate investors are transforming swaths of land into hurricane-fortified developments whose scale is unprecedented. To be truly safe, the thinking goes, not only must individual homes be heavily reinforced for potential disaster, but all of the surrounding homes must withstand wind and flooding, too.

Jim Hayes, founding principal of Beaumont-based developers Crown Team Texas, says his firm recently acquired 9,000 acres of coastal land near Houston for multiple housing developments. One of those parcels will become Audubon Village, a project that is currently under way. Each of the 600 residential units is built on concrete stilts and designed to withstand 130-mile-per-hour winds.

Hayes says, "Even with the hazards and the potential for disaster, people want to be on the water."

Alys Beach, a development on the northwest coast of Florida, is similarly fortified, but designed using new-urbanist principles and inspired by Bermudan architecture. This 158-acre development will ultimately comprise 890 residential units, according to town architect Marieanne Khoury-Vogt. Buildings will be all-masonry construction with impact-resistant doors and windows. "It has to be that way, otherwise there could be total devastation," Khoury-Vogt says.

Both developments are certified by the Tampa, Florida–based Institute for Business and Home Safety. Chuck Vance, program manager at the institute, explains that building codes represent minimums for safety, so his organization seeks to raise that threshold. Since the institute's launch in October 2000, the certification has been implemented in more than 1,500 homes in 11 states. *John Gendall*

The houses of Audubon Village (top) are reinforced against wind; concrete stilts allow them to stand above potential flooding. Recently completed buildings in Alys Beach (above) mask their defenses in the style of new urbanism.

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Herzog & de Meuron propose cut-glass ziggurat for Tate

Herzog & de Meuron have returned to the Tate Modern museum in London. In July, the Swiss team revealed the design for a glass extension to Bankside Power Station, which the firm renovated to serve as the Tate's home. The addition will increase the existing floor space by 60 percent.

Opened in 2000, Tate Modern was designed to accommodate 1.8 million visitors a year, but last year, 4.1 million art enthusiasts passed through its doors. New York's Museum of Modern Art drew 2.67 million visitors over the same period, and 2.5 million visited the Centre Pompidou in Paris. "There is serious overcrowding, particularly at weekends," a Tate official says.

The crystal pyramid design planned for Tate Modern.

Bankside still generates electricity. So when, in 2000, EDF Energy Networks began considering plans to move its plant from the Switch House substation into a smaller area within the building, Tate director Nicholas Serota took to deploying the vacancy for the museum's use. Herzog & de Meuron were appointed in January 2005.

The planned extension comprises 11 stories of stacked-glass blocks. The blocks protrude at a multitude of angles from the side of an essentially pyramidal form. It is a fragmentary, experimental contrast to the monolithic power station. The architects say that the protruding cubes can be interpreted in two ways: as the erosion of the pyramid, or as a pyramid in the process of emerging.

The addition, which is sited adjacent to the power station's southern facade, will include 10 new galleries for contemporary art, accommodating photography, film, video, and performance art. Other features include teaching spaces, two new performance areas within the oil tanks of the former power station, and a new entrance that opens up a north–south axis through the building for the first time.

The top three floors of the 230-foot structure are visible from the north, changing the appearance of the South Bank from St Paul's Cathedral, a view that is generally considered sacrosanct in London. The Twentieth Century Society, an organization dedicated to the preservation of post-1914 arts and design, has expressed concerns about the height of the proposed addition and its adventurous form, which the society fears may detract from the original structure.

Tate Modern will submit a planning application in the autumn. The £165 million ($314 million) cost will be equivalent to the original conversion of Bankside Power Station. Officials hope to complete the addition by 2012, when London hosts the Olympic Games. *Adam Mornement*

New Parrish museum unveiled

Well-heeled Hamptonites attending the annual fund-raiser in July for the Parrish Art Museum, in Southampton, got first glimpse at renderings and models of the institution's new home. Herzog & de Meuron founder Pierre de Meuron, Hon. FAIA, was on hand to unveil the design for a 64,000-square-foot complex that is scheduled to open in 2009.

The design, a series of smaller built forms, was inspired by artists' studios located in Long Island's East End, the region that is being changed rapidly by the Hamptons' elite. The museum's indigenous landscape of meadow grass, scrub woodland, and coastal dunes reinforce the architects' intent that it appear as a small compound of studios.

Four main galleries are likely to contain work

by major artists, such as Willem de Kooning and Fairfield Porter, who are well represented in the Parrish inventory. North-facing monitors and generous windows will connect visitors to the native habitat outdoors, and to the daylight that attracted artists to the East End originally.

The event raised $900,000 for the Parrish. Altruists were dutifully thanked: The evening's goodie bags included sculptural chocolates representing the different volumes of Herzog & de Meuron's proposed design. *D.S.*

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Behnisch heads team for downtown Pittsburgh development

When development of a 6-acre site in downtown Pittsburgh is completed around 2014, ribbons of green will run up, down, and across it: Vertical gardens will wrap the interiors of apartment buildings, and a two-block-long elevated park will traverse a roadway, connecting city dwellers to the Allegheny River. This is the vision of the international design and development team RiverParc, headed by Behnisch Architekten, that won the Cultural District Riverfront Development Competition; additional team members included Gehl Architects of Copenhagen, and Toronto-based architectsAlliance. In July, the Pittsburgh Cultural Trust announced that RiverParc would design the $460 million mixed-use project, beating out teams led by design architects Konig Eizenberg and MVRDV.

RiverParc's scheme has abundant green space.

A 14-person jury of recommendation chose RiverParc unanimously. Despite the nondescript nature of the buildings in the team's contest submittal, the thoroughness of the planning effort prevailed. The cultural trust's guidelines stated, "It is more important to have a well-designed master plan … than to seek 'iconic' design."

Residential development pervades the winning master plan, which features 700 new residential units distributed among condominiums, town houses, and rental apartments. The first of two phases is scheduled to commence in mid-2007. It includes construction of four residential buildings (350–400 units) with ground-floor retail spaces, town houses, parking lots and structures, and infrastructure. A second phase calls for a performing arts venue, a four-star hotel, and additional residential buildings.

In creating a "three-dimensional garden city," RiverParc's scheme includes four outdoor public plazas and pedestrian streets to accompany the planted zones inside the residential buildings. Also, the new Three Sisters Gallery park, named after the group of three bridges that span the Allegheny River, will occupy an innovative span that captures space above the 10th Street Bypass. The architects say they will seek LEED-certification, and will enter the project in the USGBC pilot program to be one of the first LEED-ND certified neighborhood districts in the country. *Jennifer Lucchino, AIA*

Design for Zurich Forum angers preservationists

Architect Rafael Moneo, Hon. FAIA, has won a competition to rebuild the Zurich Forum, a congress and meeting center on the Swiss city's lakeshore. But the proposed demolition of the Forum's current home has delayed the project.

The project brief, scaled back during the competition for excess bulk, called for demolishing the existing Kongresshaus and replacing it with a 200,000-square-foot facility. It also included new backstage areas for the two adjacent concert halls of the 1895 Tonhalle, and a 230-room hotel.

Moneo says his design of angled glass prisms will "create a publicly oriented Congress Hall where now there are a set of introverted auditoriums." Jurors acknowledged the proposal's respect for the existing urban context, its interior integration with the existing concert halls, and its "abstract translucency" and "strong urban presence," qualities they felt justify the estimated $285 million cost.

Moneo's building would replace Kongresshaus.

Ironically, Moneo was also favored for preserving the adjacent historic Villa Rosau and much of its garden, around which he arranged the hotel rooms in low-scaled curving forms.

The original Kongresshaus was built for the 1939 Swiss Exhibition by architects Max Ernst Haefeli, Werner Moser, and Rudolf Steiger. Its defenders call it "a key work of Modern architecture," and are fighting to maintain its status as a protected monument. Their effort could force a public referendum, which could delay the project start until 2008—or cancel it outright. *David Cohn*

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Coney Island icon in the limelight

If the Parachute Jump, the famed thrill ride that operated at Coney Island between 1941 and 1964, was once compared to a flower, the 277-foot structure had become a spent dandelion by the late '90s—planners of a new minor league baseball stadium even feared the jump might topple onto it. In July, the Brooklyn icon bloomed once again, with the launch of a new integral lighting installation designed by Leni Schwendinger Light Projects.

For Schwendinger, lighting designs explore "what's possible with light above and beyond safety and security." She adds, "What's interesting about this way of working with light and lighting in the urban context is that we're able to give these iconic figures a kind of fluidity or flexibility."

Her transformation of the jump is a delightful addition to the area's nighttime landscape, one that connects the gritty edge of Brooklyn with the rhythms of nature. One light sequence, for example, accompanies the full moon's arrival and departure with a three-day waxing and waning of whites.

The Parachute Jump shows off its makeover.

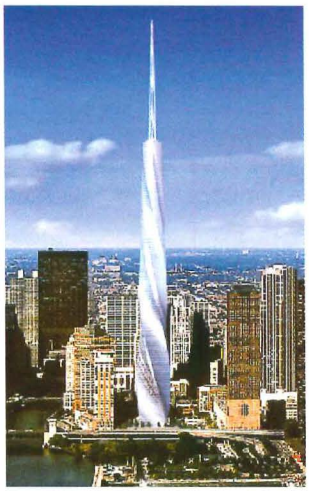
Although the illuminated jump is being celebrated as a symbol of Coney Island's rebirth, the gestation of the project goes back as far as 1999, when the New York Department of Design and Construction enlisted engineers and architects STV Group to preserve the structure. The firm ultimately chose to take apart the rusted and delaminated tower in sections so that contractors could replace steel components and remove lead paint without contaminating the beach area, then reassembled it with new high-strength bolts securing the splice plates. After work was completed in 2003, "there was a little lull in the action," says Albert Thompson, STV project manager. "The city realized that it had received a newly refurbished, bright, shiny tower, [but] it could only be appreciated during the day."

A year later, a consortium of city organizations revisited STV's early suggestion that the jump be transformed into a lighted public artwork. Officials were particularly keen on the project because they felt the area was ripe for economic development. "The focus was not only on the Parachute Jump," Thompson explains. "There was a focus on revitalizing Coney Island."

Schwendinger was chosen from a short list of four teams to compose the lighting design. In her scheme, 17 floodlights and 450 LEDs perform six variations, including compositions for weekdays, weekends, and special events, which keep repeat customers enthralled. Schwendinger says, "I like to connect with the actual activities, the meaning of the site, the uses of the site, and express those in new ways." *Jeremy Lehrer*

Irish developer takes over Calatrava site

In July, Dublin-based Shelbourne Development and the Shelbourne Group purchased the 2.2-acre Chicago lakeshore property originally proposed for a 124-story tower designed by Santiago Calatrava, FAIA. Local firm LR Development sold the parcel for $64 million, after a third developer with an option on the property, Chicago-based Fordham Company, had fallen short on financing for the hotel/multifamily tower. Fordham had originally announced the project with Calatrava.



Skyscraper site gets new owner.

Since Shelbourne's acquisition, the estimated cost of 400 N. Lake Shore Drive was revised to $1.2 billion from a March estimate of $550 million. "We think that that was a very optimistic number," says Thomas Murphy, spokesperson for Shelbourne executive chairman Garrett Kelleher, referring to the original estimate.

Observers question whether the skyscraper will get built: The price tag exceeds Donald Trump's 92-story Trump Tower Chicago by about $450 million. Furthermore, condo buyers have abundant choices in the Loop. Data from Chicago-based Appraisal Research Counselors shows 3,041 units between Roosevelt Road and North Avenue were delivered in 2005, and 4,446 deliveries are projected for 2006.

Jim Kinney, president of Chicago-based Rubloff Residential Properties, says Calatrava's tower has a good chance because of the Calatrava name and political backing. "There is a lot of interest in it, and I believe [Mayor Richard Daley] would like to see it built," he says. "I think if you have the support of the mayor on any project, it's critical."

Another caveat is that the average condominium cost per square foot—$800—originally announced for the project appears to have been on the rosy side. Rising construction material costs and increasing prices for luxury condominiums in the Loop will likely cause the figure to go higher. Plans call for unit prices in the 300-condo structure to range between $600,000 (almost 20 percent more than the starting price at Trump Tower Chicago) and $5 million.

The 920,000-square-foot building will measure 1,570 feet tall, and include a 500-foot-tall spire/antenna. In addition to the condo units, the building would hold 150 hotel rooms on 20 floors and 50,000 square feet of retail and support space.

Calatrava's spiraling design, which has inspired comparisons to a plume of smoke, drill bit, and swirling cloak, will be achieved structurally: Concrete shear walls will surround the building core, and modular box-like sections containing the units will cantilever from the core. The boxes each have curving, concave sides, and they would be stacked and rotated 2 degrees, twisting 270 degrees by the top of the ascent.

The Chicago Plan Commission and City Council approved the project in March and April, respectively. Once the drawings are finalized and the building permit is obtained, the ground breaking will take place in the spring. *Craig Barner*

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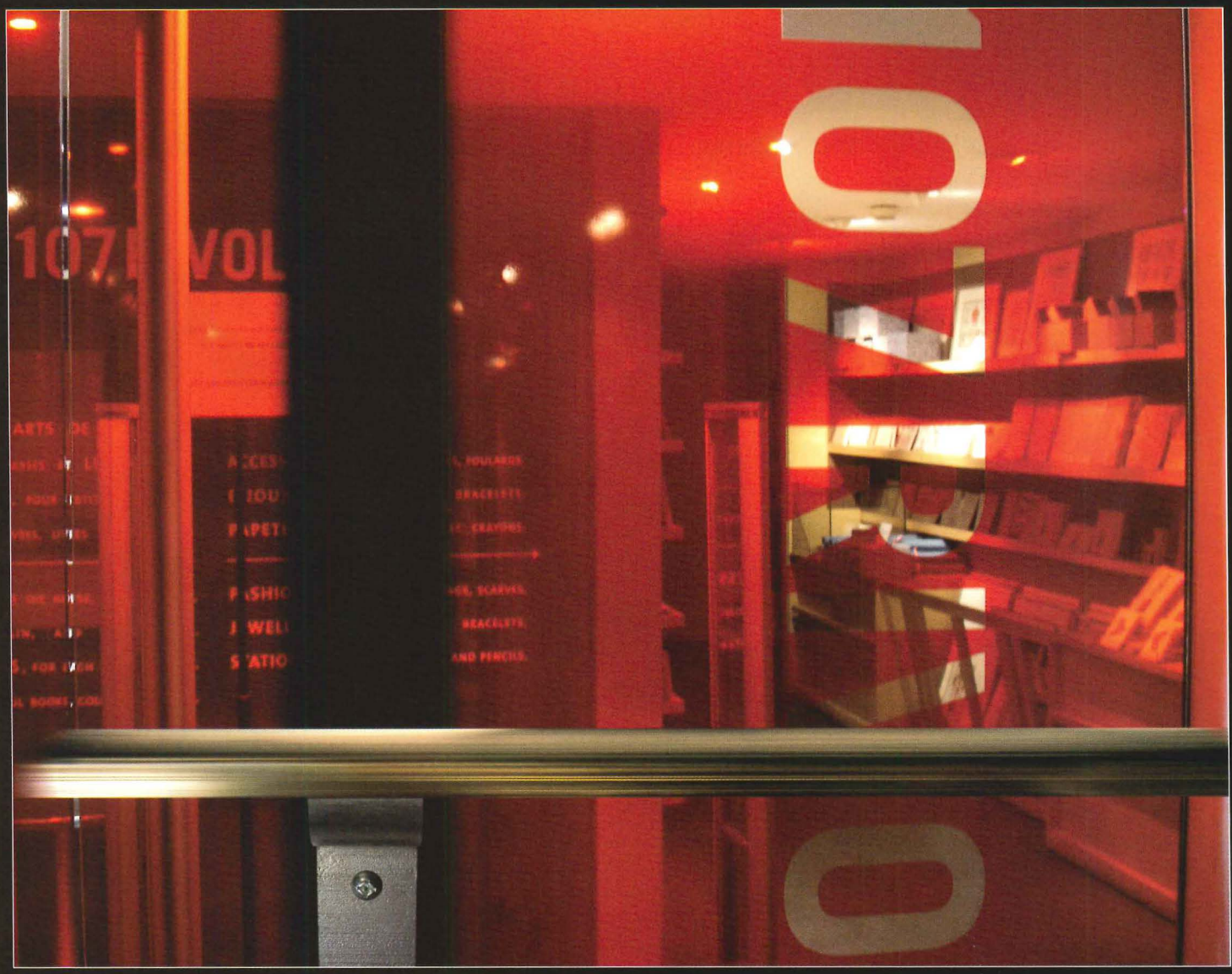

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For and about the emerging architect

archrecord2

From a Boston firm that was launched in a hurry to find design solutions for urban-scaled problems to a student taking his time to create the perfect desert shelter, the emerging architects featured in this month's archrecord2 are living for ideals—and setting the highest standards for their work. Examples? SsD's house almost completely constructed of discarded materials from Boston's Big Dig, and Trevor Pan's two-year labor of love, 3 Desert Way. Visit www.archrecord.com/archrecord2/ for more.

Design

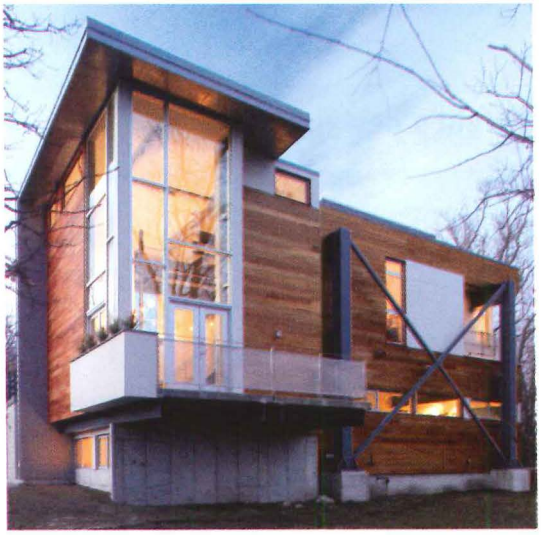
The acceleration of Single Speed Design

Jinhee Park and John Hong, AIA, principals of Single Speed Design (SsD), grabbed the firm name from the single-speed bicycles they ride around on in Cambridge, Massachusetts. Although they didn't mean the name to stick, in the end they decided to keep it. "We had a project, so we had to come up with something in a hurry," says Hong. "We thought we'd change it later, but it somehow fit us." Functional, simple, and aesthetically pleasing, the bikes represent the kind of architecture Park and Hong aspire to make. "We want to bring out the essence of design," says Hong, who says he even stripped all decals and branding from his bike.

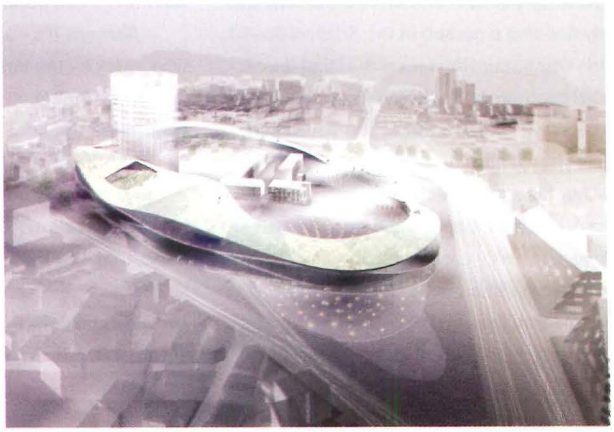
Yet while simplicity is one of the concepts Hong and Park tout, complex and demanding theories have made their way into the fledgling practice's work, with maximum results. In just three years, the now-five-person firm has created locally and nationally award-winning multifamily housing in Boston, as well as a home built almost entirely of leftover materials from the city's Big Dig project. It has also achieved honorable mentions for designs submitted to global competitions.

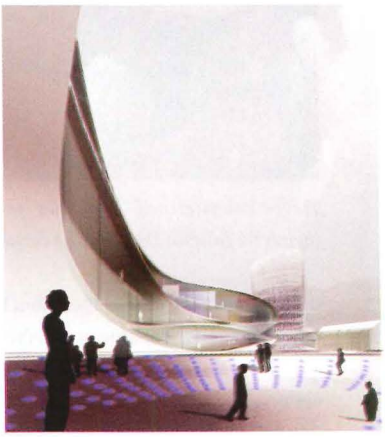
The Big Dig House in particular is an example of Hong and Park's ability to take risks. They had been given the chance, by a developer willing to try something different, to design the Valentine Houses, a multifamily housing structure in Cambridge. A contractor in charge of destroying the residual materials from the Big Dig's construction saw the Valentine project and contacted SsD. "He had a junkyard full of concrete and steel and this idea to recycle it into a house," says Hong. Because Park and Hong's client was willing to let his home serve as a research project, it was a success. Using over 600,000 pounds of recycled materials, the home has become a prototype for recycling large, heavy materials, and a bit of a curiosity in the area.

While the house has led to other possible projects using discarded Big Dig materials for the firm, SsD is also



Big Dig House, Lexington, Mass., 2006
The structural system for this house is almost wholly composed of steel and concrete from Boston's Big Dig, utilizing more than 600,000 pounds of recycled material, including pieces of the I-93 off-ramps. Large upper-level plantings blur relationships between interior and exterior spaces.





Asian Cultural Complex, Gwangju, Korea, unbuilt
An honorable mention in an international competition, this arts complex includes an existing fountain, amphitheaters, a rooftop theater, parks, and playgrounds on an urban scale. A porous concrete slab encircles the complex.

focusing on other sustainable issues, mostly in an urban context. Both Park and Hong have ties to Korea—Park moved from Seoul, where she studied industrial design, eight years ago, and Hong's extended family are there. While both have M.Arch. degrees from Harvard, they still look to Korea for an empirical education on how to design sustainably in a dense city. "Korea has very little land and energy resources," says Park, "so there's a consciousness about using energy in smart ways." Hong adds, "It used to be that when Asian cultures were developing, they borrowed from the West. Now the West borrows from the East. It's about creating modern designs with ancient building stock."

One of SsD's projects, HBNY in New York City, goes a step further in maximizing dense living. The architects researched occupancy levels in the city, and found that many buildings spend months empty, due to traveling residents. They created a loft space that three families could purchase together and share, with flexible areas that could change according to need. "We're amazed at how receptive people have been to the solutions we've been presenting," says Hong. With plans to design a LEED-certified, 7-story multifamily building in Jersey City, New Jersey, and a collaboration with a large Korean urban-planning firm in the works, it seems SsD is full speed ahead. *Ingrid Spencer*

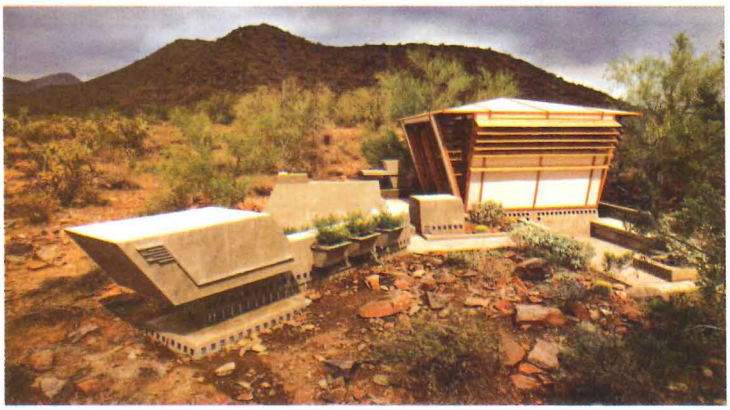
For more photos and projects by Single Speed Design, go to archrecord.construction.com/archrecord2/.

HBNY (Parenthetical Space), New York City, 2006
HBNY offers a solution to urban dwellers. Operable, parenthesis-like divisions with metal-mesh screens let 12 users territorialize their changing patterns of living while sharing a single apartment.

Valentine Houses, Cambridge, Mass., 2003
These three town houses address boundaries between inside and outside, private and community. The project incorporates double-height interior/exterior spaces, cantilevered garden balconies, and occupiable shared roof planes.

Work

Desert shelter explores Wright's design principles



Trevor Pan stretched "sunbrella" fabric over wood beams to create a sleeping shelter at Taliesin West. At the corners, open louvers provide natural ventilation.

During their first year at the Frank Lloyd Wright School of Architecture, students design a shelter capable of comfortably housing a person in the Arizona desert at Taliesin West, where the school holds winter sessions. Constructing it is optional, though, and most people complete their huts within a few months. Trevor Pan spent 400 days, stretched over two years, working on his project, and even remained at school to finish it after graduation.

What took so long? Pan explains that his shelter, dubbed 3 Desert Way, was his first built project—a labor of love. But the 24-year-old Colorado native is also in love with architecture, which he reverently spells with a capital A; he refers to it in the feminine gender, moreover, as though Architecture were a ship or a woman. "Architecture is an ideal," Pan explains. "It's a nice way of personifying it, I guess you could say, by calling it 'her.' " In its ideal form, he adds, architecture produces buildings that can exist in only one location, made of materials taken from the earth nearby: an organic, holistic approach.

Organic design sports the "green" label today, but Wright was working this way a century ago—so for Pan, there was no better place to study than at the school that Wright himself founded. "When I first visited, I realized this was the place," says Pan, who received his master's degree there in May. "Seeing how the building and the landscape are one thing was a life-altering experience."

Also life-altering was 3 Desert Way, a Wright-inspired bungalow consisting of only one, 100-square-foot room. Pan maximized every inch, adding built-in seating for twelve and a foldaway bed. Outdoors, he landscaped a 150-square-foot patio, more than doubling the shelter's livable area.

Frank Henry, Pan's mentor and the school's studio master, explains that the shelter assignment explores Wright's "learn by doing" directive. "You learn the nature of materials, their limitations, and how to attach one to another," he says. "In a traditional school of architecture, you don't have that. You may study physics and construction documents, but you don't get your feet dirty and learn what concrete really is." Most shelters soon fade into the desert, Henry adds, but Pan's dedication ensures that his will survive.

Perhaps it's no coincidence that Pan was among the handful of students who stuck by the Wright school during its recent turmoil. When the dean left in 2005, several faculty members and students also left, leading a national accreditation board to put the school on notice.

But the school is on the mend. With a new dean, enrollment is rebounding. Another reason for optimism: As interest in green architecture keeps growing, future generations will likely be drawn to learn Wright's organic principles. At least, that's what Pan expects. *James Murdock*

For more information on Trevor Pan's 3 Desert Way project, and other career-related articles for young architects, visit archrecord2's Work section at archrecord.construction.com/archrecord2/.

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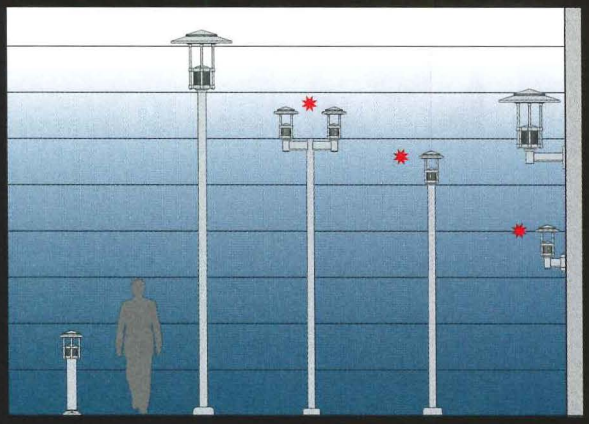

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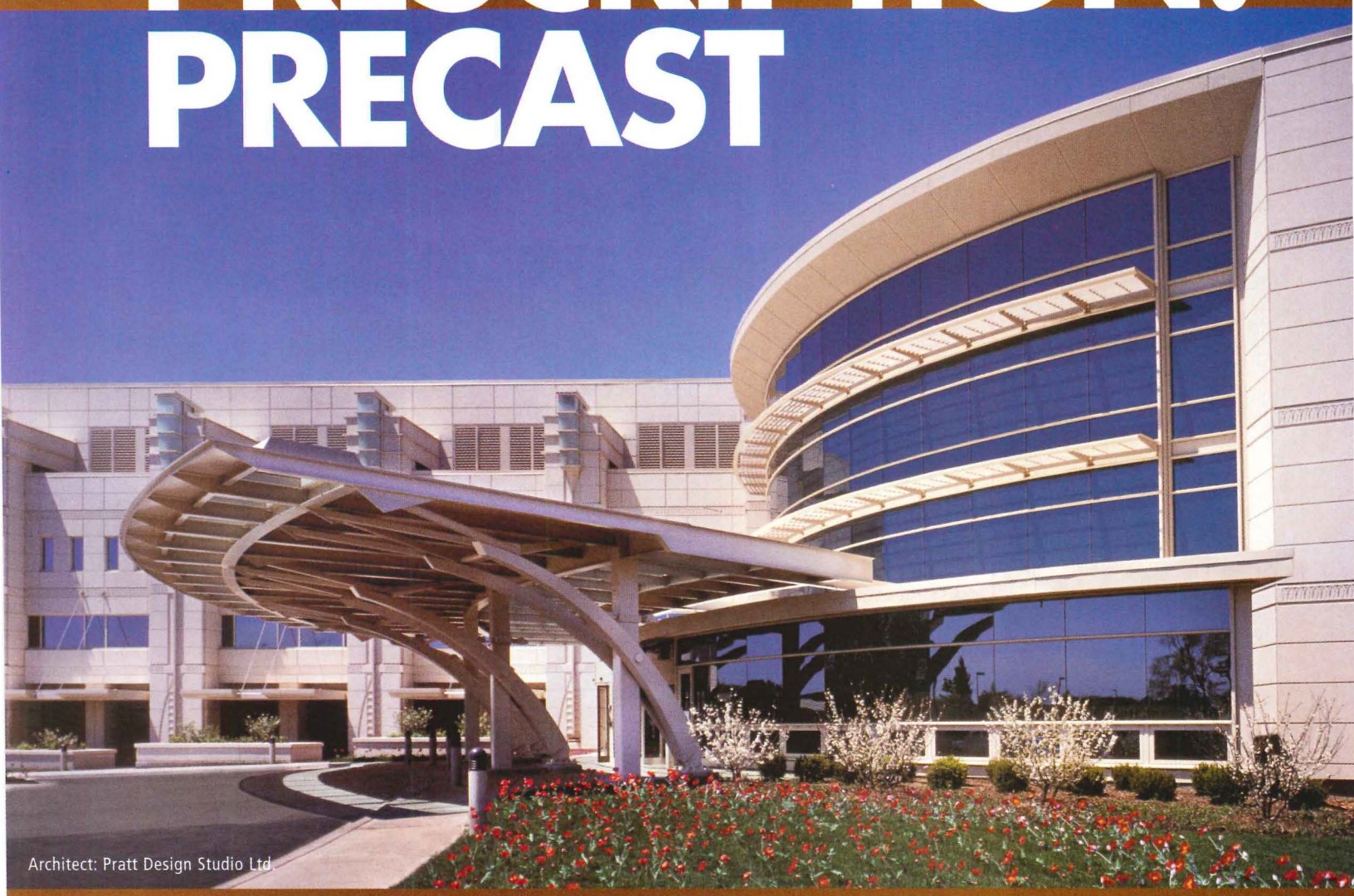

Architect: Pratt Design Studio Ltd.

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National Terrazzo & Mosaic Association 2006 Honor Award



Architect
KRS, Inc.
Dallas, Texas

Designer/Artist
Maregatti Interiors
Indianapolis, Indiana

PHOTOS © DOUG SLACK

Clarian North Medical Center — *Carmel, Indiana*

When Clarian North Partners decided to expand their hospital care to the suburban north side of Indianapolis, they definitely wanted to make a statement. This upscale new hospital needed a floor in the main commons area and main corridors to compliment its floor-to-ceiling artistic design. They also needed a floor rugged enough to withstand the rolling and foot traffic that a major hospital incurs. The terrazzo easily achieved the artistic quality desired by the designer, and the 3/8″ thick epoxy terrazzo with a vitrified finish gave the owner a color 22,000 square foot floor that will hold up to any traffic for many years to come.


National Terrazzo & Mosaic Association 2006 Honor Award

Architects
Coughlin Porter Lundeen
Seattle, Washington
Stickney Murphy Romine
Seattle, Washington

Designer/Artist
Linda Beaumont
Langley, Washington

King County Courthouse — *Seattle, Washington*

The geometric design recalls the historic patterns of the Alaskan marble used throughout the other floors of the building and also transforms this entry lobby floor into a shimmering plane, bringing light and clarity into the space. The image etched into the stone is from the March on Washington in 1963… and like an image on an old coin, it holds the essence of the photograph. There are three quotations from Martin Luther King Jr. made of waterjet cut brass letters imbedded into the terrazzo that surrounds the marble circles.

National Terrazzo & Mosaic Association 2006 Honor Award



Architect
Ellerbe Becket, Inc.
Kansas City, Missouri

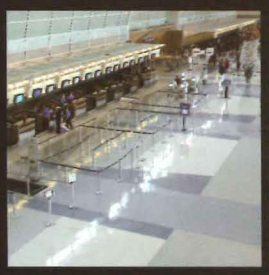
Designer/Artist
Clearscapes - Thomas Sayre
Raleigh, North Carolina

PHOTOS © DAVID LAUDADIO

Charlotte Arena — *Charlotte, North Carolina*

The Charlotte Arena is designed for the purpose of fun, delight, and recreation. Similarly, the space of the lobby area is also about delight. With its multi-leveled walkways, large complex volume, and a variety of lighting and colorful surfaces, the lobby space cries out for gestures that employ and activate its complexity; but also help knit its spaces together. The primary composition of the lobby floor is to bring color and movement into the space while complimenting the architectural goals of the building. Derived from the physics of a bouncing ball, the terrazzo design depicts three patterns of color that roughly correspond to the reduction of the rebound of a freely bouncing ball. The three "balls" bounce together in this central space then diverge and extend in different directions.

National Terrazzo & Mosaic Association
2006 Honor Award



Architects
HKS, Inc.
Dallas, Texas
Corgan Associates
Dallas, Texas

Designers/Artists
Benito Huerta
Jerome Meadows

Dallas/Fort Worth International Airport
International Terminal D

DFW Airport, Texas

The new International Terminal D at the Dallas/Fort Worth Airport was one of the largest construction projects in the Dallas/Fort Worth, Texas area in recent years. Overall, 11 colors were installed in a band and arc pattern. The eight levels of the parking garage were designed to incorporate eight colorful native Texas wildflowers into the terrazzo. These designs provide not only beauty, but also a color-coordinated identity for each level. The 16 parking garage lobbies used 20 bright, exotic colors in the Texas wildflower patterns. This massive yet unique terrazzo installation guarantees years of visual attraction and beauty for the many international travelers.

National Terrazzo & Mosaic Association
2006 Honor Award

Architect
H.O.K.
Kansas City, Missouri

University of Kansas
Allen Fieldhouse

Lawrence, Kansas

The University of Kansas, with its nationally renowned basketball program, deserved nothing less than this H.O.K. designed addition and remodel of historic Allen Fieldhouse. With 10,000 square feet, this five color epoxy terrazzo floor and precast base design lent itself as the perfect flooring system to tie together both the remodel of corridors in the existing building and the new entrance/lobby and Jay Hawk Museum. The new addition features the project's centerpiece, a 26-foot tall by 25-foot wide terrazzo design of the University's famous "Jay Hawk" mascot. The use of specialty glass and mother of pearl chips, separated by ¼" zinc divider strips make this the dominate visual effect while walking through the museum or from the balcony above.

National Terrazzo & Mosaic Association 2006 Honor Awards

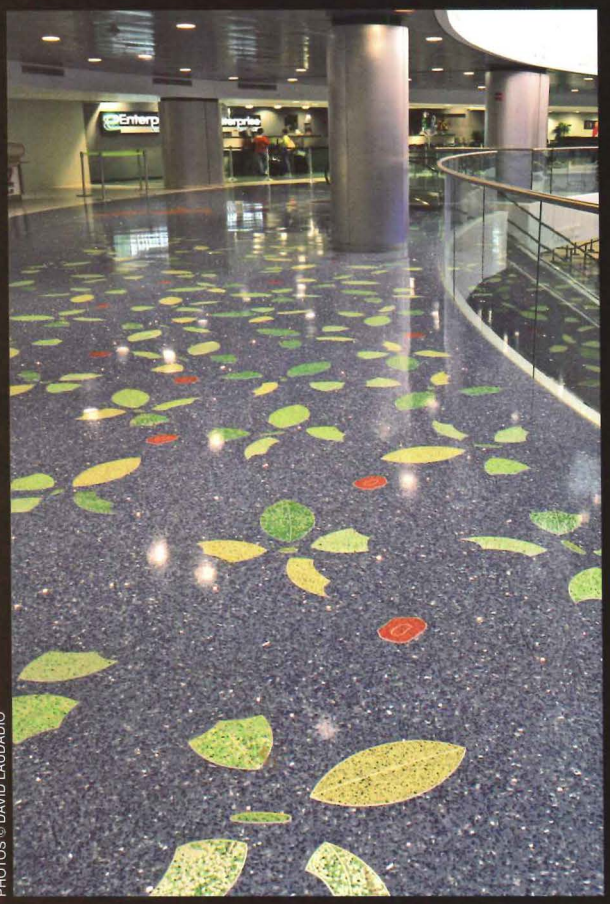
JOB OF THE YEAR

Fort Lauderdale – Hollywood International Airport Rental Car Facility

Fort Lauderdale, Florida

Architect
Spillis Candella and Partners, Inc.
Coral Gables, Florida

Designer/Artist
Clearscapes – Thomas Sayre
Raleigh, North Carolina



PHOTOS © DAVID LAUDADIO

The design of "Mangrove Islands" is based on three sectional "slices" through a computer-generated 3-D model of a mangrove island, once prevalent in the immediate area. The composition of the facility begins on the first floor with a view of the mangrove island cut below the water level just above the sandy bottom. Within the terrazzo are sections of the many trunks of the mangrove tree, which branches into small trunks and roots below the water line, creating an eccentric pattern of unusual round shapes, each depicting the growth rings. Also visible are red fish, oysters, turtle grass, burma reed grass and horseshoe crabs.

On the second level and cut higher on the trunk of the mangrove at just above the water level, the larger trunk sections of the mangrove are visible. The burma reed grass and turtle grass change shape on the second floor as they do in reality when they break into the air at the surface of the ocean. Also depicted are turtles, manatees, and even two wind surfers, all at three times life size.

On level three, the floor depicts the canopy of the mangrove trees. The small diameter branches are connected to the mangrove leaves and blossoms. Playfully sprinkled throughout the leaves are butterflies. Finally, the floor is activated by three times life size pelicans that zoom through the space.

National Terrazzo & Mosaic Association
2006 Honor Award



Architect
Simon Design, Inc.
Los Angeles, California

Midway Airport Parking Garage — *Chicago, Illinois*

The choice to use terrazzo flooring in the elevator lobbies of Midway Airport's new Economy Garage was due in part to the positive experience the airport has had in the terminal garage and in the new terminal itself. Like the new Economy Garage, the terminal garage has a floor reminder theme of Chicago landmarks. Likewise the elevator lobbies were designed to enhance the individual floor theme. However, not each floor in the terminal garage had terrazzo. The other floors were done in vinyl. The airport administrators quickly found out that the terrazzo floors not only looked much better but also were so much easier to maintain and would last a much longer time. Those factors made the decision to go with terrazzo flooring in the new Economy Garage an easy one to make.



National Terrazzo & Mosaic Association
2006 Honor Award

Architect
Corgan Associates
Dallas, Texas

Designers/Artists
Phillip Lamb
Susan Maglow
Dan Blagg
Nancy Lamb

Dallas/Fort Worth International Airport Terminal Station Renovation — *DFW Airport, Texas*

Four teams were commissioned to design the terrazzo floor of the eight SkyLink train stations. Susan Maglow and Phillip Lamb created a history of airplane engines and oversized Texas wildflowers. Large solid aluminum components made up the parts of the engines, which complimented the bright and colorful wildflowers in the design. Dan Blagg developed a "Spirit Walk" design, as well as a pattern that included diamonds, clouds, and rain. The pattern is described as 'walking in air.' Nancy Lamb installed a brightly colored terrazzo floor that included designs of "birds and clocks" and "stamps and coins." Brad Goldberg created a pattern in which the West Texas topography is displayed.

National Terrazzo & Mosaic Association 2006 Honor Award

Architect
Godsey Associates
Louisville, Kentucky

Designer/Artist
Mitchell Sanders
Godsey Associates
Louisville, Kentucky

Kentucky Fair & Exposition Center — *Louisville, Kentucky*

PHOTOS © DAVID LAUDADIO

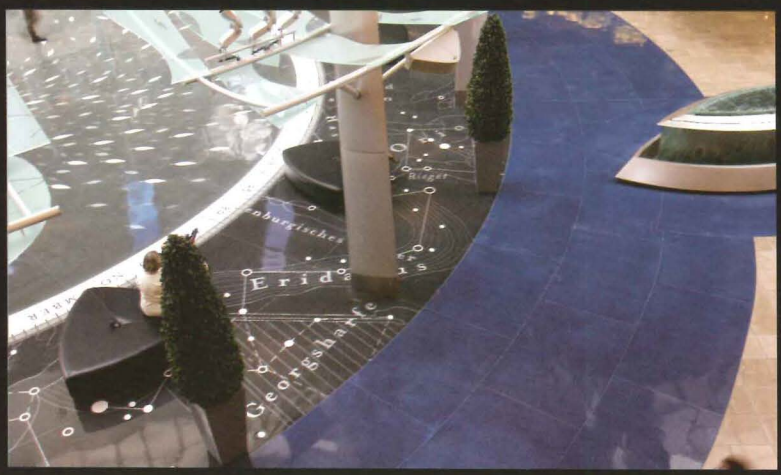
The architect used long sweeping patterns that help guide people to where they need to go. Also incorporated in the design are small circular areas dominated by plush seating to encourage conversation among the conventioneers. Simple yet effective designs make this facility flow smoothly on both the main and upper level with dramatic visual vantage points from the upper level into the main level. A large oval pattern at the escalator helps to draw visitors to its location, and real plants and comfortable seating again contribute to the social atmosphere at this facility.

National Terrazzo & Mosaic Association 2006 Honor Award

Architect
JPRA Architects
Farmington Hills, Michigan

Mall at Millenia — *Orlando, Florida*

The floor honors the march of time as we measure and track time by dated calendars reflecting the movement of the stars, our sun and moon. The design team intended for the center court to be the showpiece of the mall. Visitors are able to view the design from the second floor mezzanine at various observation points. The main theme in the large circular terrazzo floor is a design with a nod to the millennium. The center court is a grand representation of constellations achieved with intricate zinc strip and solid metal designs featuring the zodiac signs, stars and Latin wording. Within the very center of the design is a swirling evolution of leaves and fish. All of this is surrounded with an accent band of a timeline created from marble mosaics in three colors.



PHOTOS © DAVID LAUDADIO

National Terrazzo & Mosaic Association
2006 Honor Award

Architect
Butler/Ashworth Architects, LTD, LLC
Las Vegas, Nevada

Designer/Artist
Butler/Ashworth Architects, LTD, LLC
Las Vegas, Nevada

Grand Café at La Reve — *Las Vegas, Nevada*

This dining room is highlighted by a terrazzo floor, which incorporates three earth tone colors, separated by ¼″ brass dividers fabricated into fleur-de-lis designs of swirls, circles, and kite shapes, with all brass intersections mitered. All of the brass design work was fabricated on site from a small-scale hand drawn sketch, which was provided by the architect. The designs continue through the curved steps, which were cast in place, with a coping type radiused nosing.

National Terrazzo & Mosaic Association
2006 Honor Award

Architect
Marnell Architecture
Las Vegas, Nevada

Designer/Artist
Studio 808
San Francisco, California

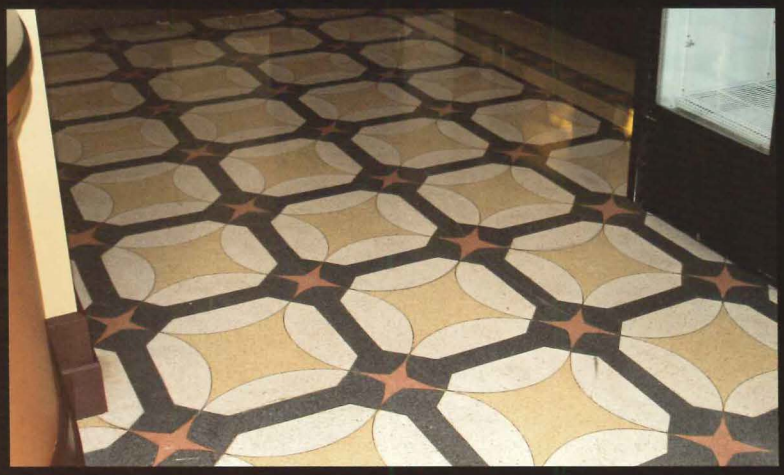
Sandia Casino Hotel — *Albuquerque, New Mexico*

This casino floor is comprised of 5 colors of terrazzo, separated by 1/8″ zinc dividers, depicting the traditional graphics of the Sandia Indian Tribe. Note how texture has been achieved in each color and design, through the blending of earth toned marble and glass aggregates.

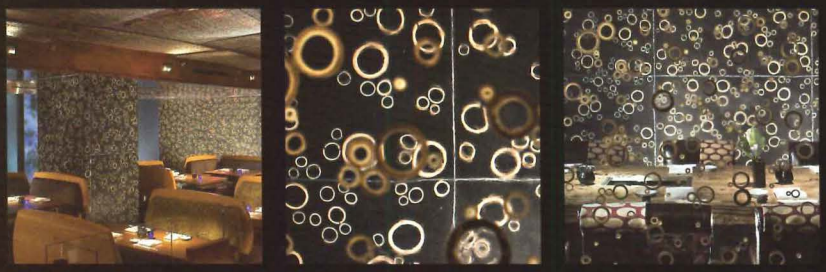
National Terrazzo & Mosaic Association 2006 Special Renovation Award

Architect
Gastinger Walker Harden Architects, Inc.
Kansas City, Missouri

The Hilton President Kansas City — *Kansas City, Missouri*



When it originally opened in 1926 the old President Hotel's terrazzo was graced by elite guests such as Charles Lindbergh, President Harry S. Truman and Bob Dylan. However, the Kansas City landmark sat vacant and in a state of disrepair for 25 years. Even just walking across the former glamorous terrazzo would create puffs of dust emanating through the cracks from the cavities below. The intricate detail of the original design in some areas, like the current sales office, was offset by the casual palladiana design of the Aztec Room, all worthy of restoration. The more than 10,000 square foot restoration required epoxy resin colors to match the original sand cushion terrazzo.



National Terrazzo & Mosaic Association 2006 Special Art Award

Architect
Rockwell Group
New York, New York

Designers/Artists
Rockwell Group
New York, New York
Durite
Great Neck, New York

Nobu 57 — *New York, New York*

Nobu's new location is in the heart of Manhattan and offers an oriental cuisine. Utilizing the most advanced materials alongside natural elements, Nobu's unusual appearance combines old world exotic woods such as bamboo and teak with composite stones, sea shells, canvas and natural fibers. On the first floor, the terrazzo contractor created a curved serpentine design with alternating black and white bands featuring jade with white pebbles in black terrazzo and black pebbles in white terrazzo. The second level incorporates cut sections of bamboo "O" rings embedded in black obsidian composition for the black color, and white Quartzite for the white color. To fully appreciate the Nobu project, you not only have to see it up close, but also run your hands over the floors and walls to believe your eyes.

PHOTOS © SCOTT FRANCES & ROCKWELL GROUP

Party on! How public space works when a million people show up

Critique

By Robert Campbell, FAIA

I happened to be in Berlin in July during the weekend of the World Cup finals. I didn't notice, when I planned the trip, that I'd chosen World Cup weekend. I'm an American. We don't know from the World Cup. I suppose they don't talk much about the Super Bowl in Tanzania and Portugal either. But not going into a frenzy over the World Cup is part of what makes the U.S. today feel a little isolated from the tightening weave of global culture.

Berlin, anyway, was a revelation. You forget sometimes, living in America, how wonderful the public life in a city can be. I'd always thought of Berlin as a party town, but this was something else. For the Cup, the city transformed itself into one huge public celebration.

During the World Cup in June and July, the city of Berlin used its great public spaces, such as the area around the Brandenburg Gate (above), as outdoor venues for celebrating soccer victories and life in general.

Outdoor living

Bars and restaurants were jammed, of course, with TV-bewitched fans. But it went much further. People moved their own TVs outdoors, invited their friends, and hosted impromptu sidewalk suppers while they watched the games. Bunches of young guys marched around shouting slogans and singing victory songs, all in a good-natured, unthreatening way. Tourist boats on the river Spree responded to these slogan shouters by sounding their horns in sympathy. National flags were everywhere, not only filling the air but also worn as shawls or hip wraps. (Will our bizarre Congress really attempt to ban such playfully innocent uses of the American flag?)

The great east–west street that splits the Tiergarten, Berlin's central park, was closed for the eastern half of its length and converted into a linear carnival. The Berliners called it, in English, the "Fan Mile." An unbroken row of booths lined it on both sides, selling circusy food and football mementos. There were such odd-ball attractions as a site where, for a euro, you could get your picture taken with two cheerful young women who wore only paint (national colors, of course) above the hips.

Why such a wealth of public life? Most of the reasons are obvious. Berliners, like other Europeans, live in smaller quarters, on average, than Americans. They therefore move out into the pubic realm as an enlargement of the living room. They seldom have air-conditioning, so the outdoors beckons in the hot summer. As in other European countries, taxes tend to be higher than ours, and government invests in public services like transit. In the case of the World Cup, it sank a fortune into showing off the city for international visitors.

It's a paradox: Small apartments, no AC, and high taxes are not, in themselves, exactly virtues. But they all help nurture a great public world.

Contributing editor Robert Campbell is the Pulitzer Prize–winning architecture critic of The Boston Globe *and the author of* Cityscapes of Boston.

Critique

Speaking of government, it was nice to see the U.S. Embassy at long last under construction. I served as a juror in the architectural competition held way back in 1996. I've never been on a jury that came so quickly and unanimously to a verdict, only to watch as years passed while the U.S. wrangled about security issues. The building, by Moore Rubell Yudell, stands on a key site on the Pariser Platz next to the Brandenburg Gate. It's due to open in 2008.

Right across the street from the embassy is Peter Eisenman's Memorial to the Murdered Jews of Europe, generally known as the Holocaust Memorial, which I was seeing for the first time. I'm sorry to say that I thought it was a bore. It was about as interesting as you'd expect from a grid of 2,711 dark concrete blocks in the middle of a city. Pretentious and tedious, it offers a new twist to Hannah Arendt's famous phrase about "the banality of evil." Maybe that's the point, but if so, it's a purely conceptual point, not one that works experientially. Many people, in fact, don't take the Memorial seriously. They play hide and seek, or pose for snapshots in the narrow aisles, or enjoy a gelato from a terrace that overlooks the site.

An improbable crypt

Oddest of all, in the middle of this place in which you are supposed to lose yourself in deep thoughts and feelings, you encounter the disruptive presence of a glass-box booth where a guard stands at the head of the stairs that descend to an underground "information center." This is, in fact, a holocaust museum, which was added to the program after the original competition. It's weird to climb down into this improbable crypt that lies beneath the field of concrete blocks, near the site where Hitler's bunker once tunneled beneath the bombed ruins of the city. But once you get to the museum, your resistance is likely to melt. Brilliantly mixing archival photos, films, and text, it's a moving success in evoking the memory of the terrible days of the Nazi persecutions.

I happened to revisit Daniel Libeskind's Jewish Museum on the same afternoon as Eisenman's Memorial. I was struck by the resemblance between Eisenman's field of blocks and Libeskind's so-called Garden of Exile, an outdoor stand of 49 concrete piers in a 7-by-7-foot grid. Has everyone noticed this visual rhyme? Libeskind's piers are taller than Eisenman's, and olive trees grow from their tops, but the resemblance feels much too close for comfort.

In another part of Berlin, there's an irony for an American. While some preservationists here were, until recently, struggling to save the old Huntington Hartford Museum in New York by Edward Durell Stone, Germans were blithely building an entire executive branch of the national government (of which the German Chancellery by architect Axel Schultes is one piece) in a style that, to this observer at least, is a clear spin-off from Stone's. Here are Stone's thin, flat canopies and pencil-thin columns. It's as if the Kennedy Center had been repositioned in Berlin, then replicated until it stretched to half a mile in length. The buildings are crisp and elegant; they're artfully sited among public parks, plazas, and waterways; and they play green games with vines that climb the walls. But their stone, concrete, and glass all read as shades of bureaucratic gray. They lack materiality, too, seeming to have been built, like architectural scale models, out of some universal weightless substance.

The Chancellery in Berlin, designed by Axel Schultes, stands as one part of a larger complex of buildings housing the executive branch of federal government, and brings to mind the work of Edward Durell Stone.

Layers of history

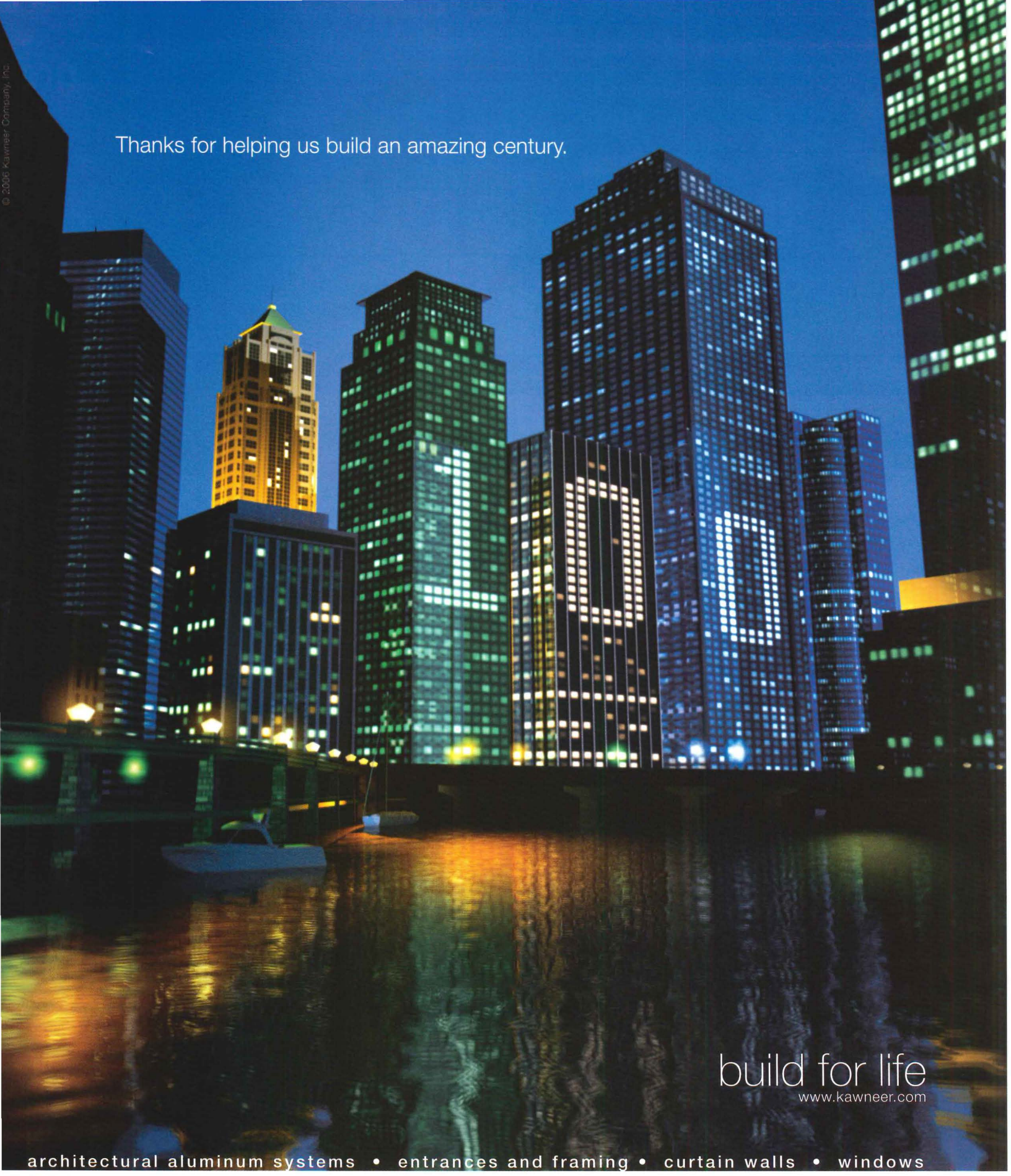
London was my other major port of call. I want to plug an amazing place I'd never heard of, which was recommended by a friend. In the Blackheath neighborhood, a short train ride from the London Bridge station of British Rail, stands Eltham Palace. Once it was a royal palace, where Henry VIII spent much of his childhood. Most of the oldest parts are in ruins now, but a relatively youthful banquet hall survives, built in the 1470s by King Edward IV. The banquet hall is spanned by one of the most dramatic hammer-beam roofs I've ever seen, and it's worth the visit by itself. But it's far from being the star player.

The star is an Art Deco mansion that arrived on the site in 1933. Stephen and Virginia Courtauld were wealthy patrons of art. They built a new house abutting the old banquet hall, which they renovated as a party space. Working with an architectural partnership called Seely and Paget, and with an interior designer named Rolf Engströmer, the Courtaulds created a set of Deco interiors that would make Josef Hoffmann envious.

The budget was, obviously, nonexistent. You certainly don't want to miss Virginia's gold-leaf and onyx bathroom. Or the stunning glass-domed entrance hall, with walls surfaced in elaborate marquetry. But what is here is not only an architectural masterpiece, but the memory of a way of life. Upstairs, you can leaf through Courtauld snapshot albums. You can watch home movies of the family touring the world on their enormous yacht, or playing among the Eltham fountains and gardens with their preppie-dressed kids, their many loyal dogs, and their pet lemur, Mah-Jongg. Jonggy, as the lemur was called, occupied his (her?) own bedroom on the second floor, with a private bamboo ladder allowing direct access to the downstairs entrance hall.

None of it lasted. In 1940 came the war. Eltham was commandeered by the British military. The Courtaulds never lived there again. In 1950, they moved to Rhodesia, today's Zimbabwe. Eltham remains as a window into a moment of taste and privilege that today seems as remote as the Romans. English Heritage owns the property now. With commendable brio, Heritage has surrounded the palace with newly designed contemporary gardens for strolling visitors, creating one more honest layer in what the late Kevin Lynch would have called, in his unforgettable phrase, a "temporal collage."

And you'll never see better domestic Deco. ■



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Bucky and Noguchi are back, informing three New York shows

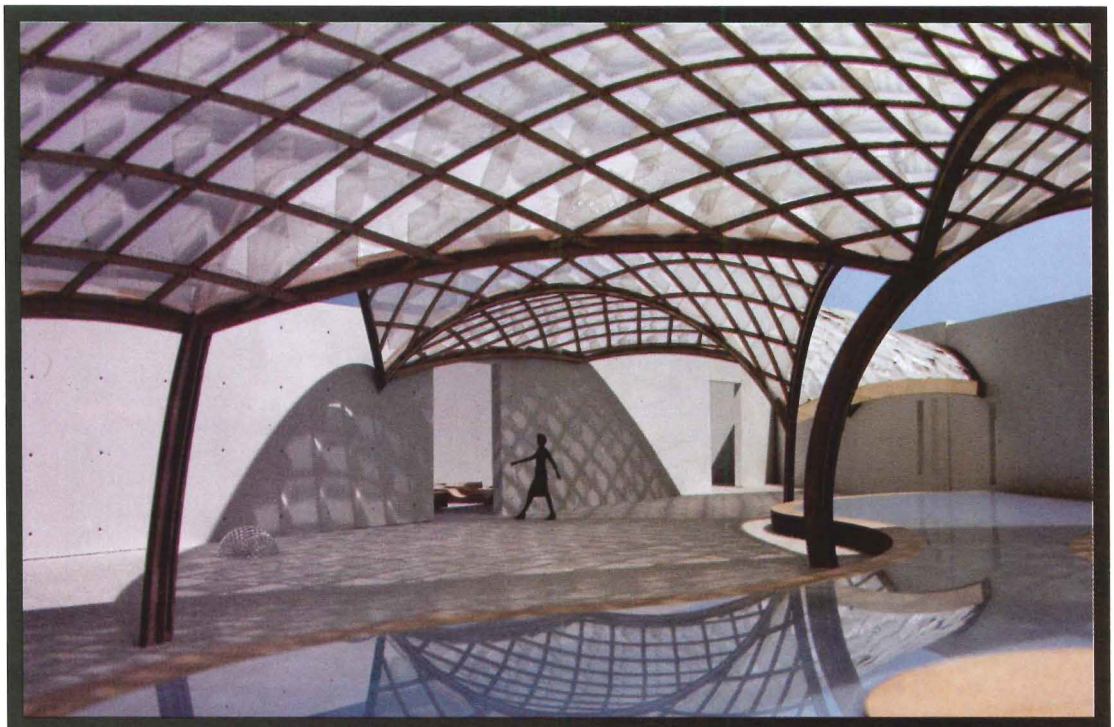
Exhibitions

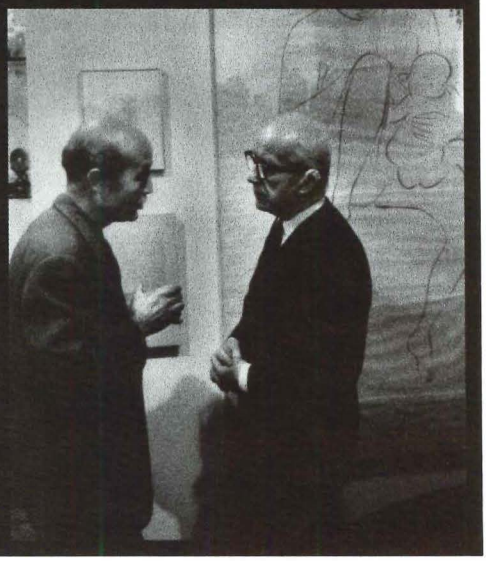
By Russell Fortmeyer

Artist's Choice: Herzog & de Meuron, Perception Restrained. *Curated by Herzog & de Meuron. At the Museum of Modern Art, New York City, until September 25, 2006.*

OBRA Architects, BEATFUSE! *Curated by Pablo Castro and Jennifer Lee (OBRA Architects). At the P.S.1 Contemporary Art Center, Queens, New York, through October 2006.*

Best of Friends: R. Buckminster Fuller and Isamu Noguchi. *Guest curated by Shoji Sadao. At the Noguchi Museum, Queens, New York, until October 15, 2006.*





Three exhibitions explore architecture and art, all suffused with the spirit of Buckminster Fuller and Isamu Noguchi (below right). OBRA Architects' installation at P.S.1 (above) channels Fuller, while Herzog & de Meuron's conceptual installation at MoMA focuses on the larger issue of perception in an age of total distraction (below left).

Upon the advice of his friend Buckminster Fuller (1895–1983), the sculptor Isamu Noguchi (1904–88) painted his New York studio silver in 1929. This rather innocuous gesture, undertaken to eliminate shadows, embodies the lingering mystique of the careers of these two somewhat atypical characters.

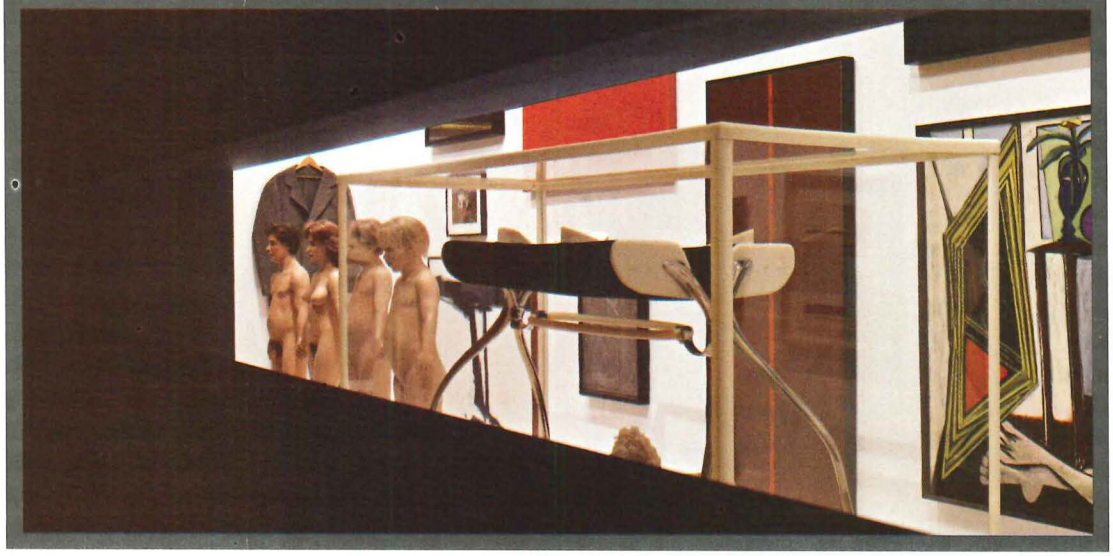
In the same year in that studio, Noguchi produced his famous chrome-plated bust of Fuller, which he described as a "form without shadows," and cemented a lifelong friendship that would result in a prolific output of ideas, architecture, art, furniture, and public spaces that still stands apart as a model for interdisciplinary collaboration.

While history calls Fuller a scientist/philosopher and Noguchi a sculptor, the two men pushed these categories to absurdity independently with projects such as Fuller's

geodesic domes and Noguchi's paper lamps, exposing the limits of language and our modern need for classification. More often than not, they receive the lazy title of *genius*, which conveniently skirts the issue. Could we consider the formlessness of Noguchi's silver studio as a license for the blurring of the disciplinary lines between an architect and an artist?

The two men's friendship is the subject of a small, illuminating show, *Best of Friends*, at the Noguchi Museum in Queens, New York. The exhibition, curated by Fuller associate Shoji Sadao with obvious affection, aims to document the collaborative relationship of Fuller and Noguchi, though the influence of Bucky on Isamu seems to prevail. Their spirits, however, haunt two other exhibitions in New York: *Artist's Choice: Herzog & de Meuron, Perception Restrained* at the Museum of Modern Art, in Manhattan, and *BEATFUSE!* at P.S.1 Contemporary Art Center, in Queens.

While architecture's relationship to art grounds each show, at stake is our understanding of how architects, or to use a more inclusive term, designers, shape our experience of art through controlling its perception, setting a stage for its reception, or tossing its categories out the window and presenting us with something new. Fuller and Noguchi fall into this latter group: They embraced an optimistic Modernism, seeking new forms via problem solving, and, with true Modern naïveté, a larger truth about the world. What is Fuller's geodesic dome but a more innovative version of Mies's universal space? Noguchi's sculptures, which take primitive-looking forms into the realm of refined sensuousness, tether that space to human scale. Modernism may not have found truth, but in its attempts to do so it contributed to an explosion of new possibilities for architecture.



Herzog & de Meuron's black-box gallery at MoMA may draw in curious visitors to view the flat-screen televisions on the ceiling (above), but it reduces art to a peepshow in physically inaccessible slots along the periphery (below).

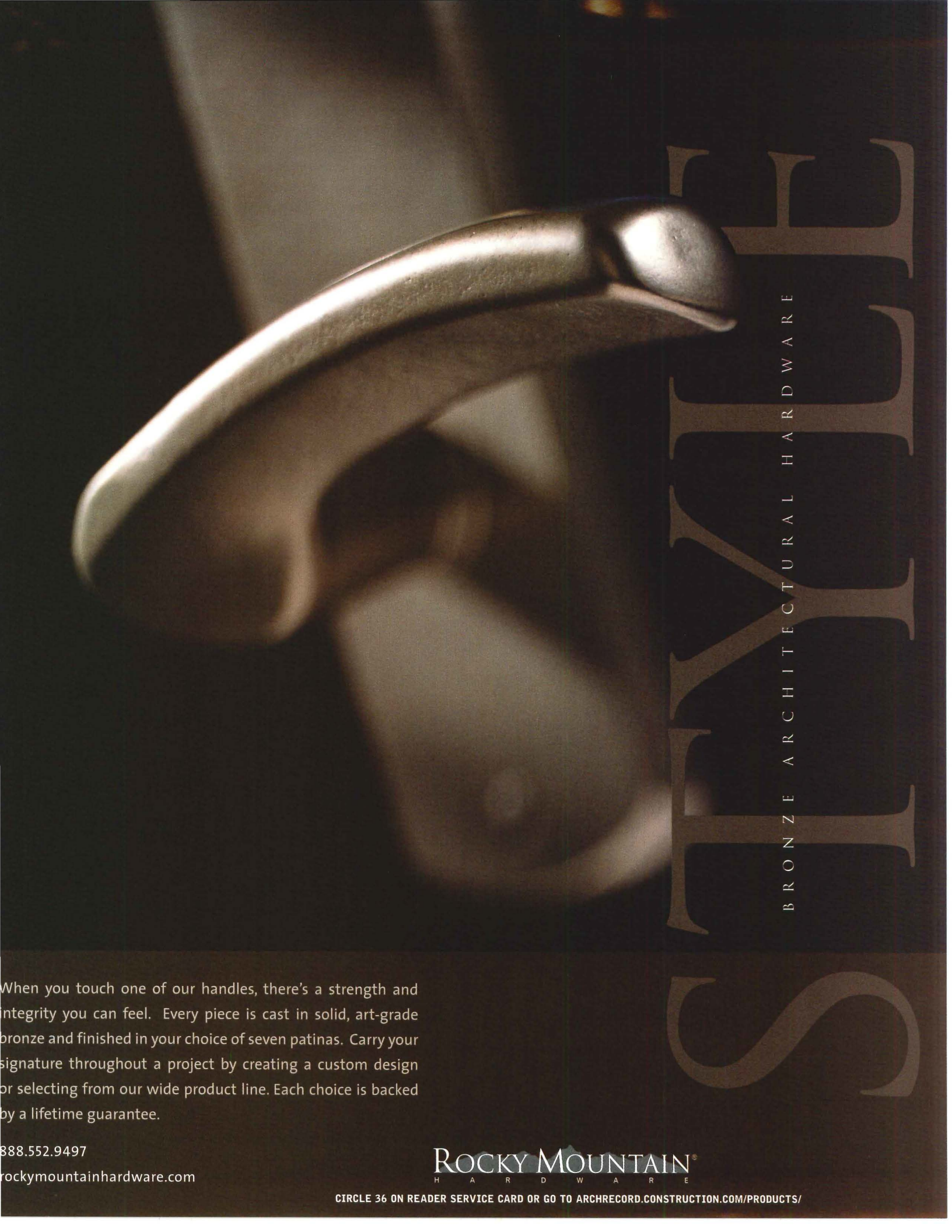
Creativity restrained

Herzog & de Meuron's installation, in which the architects were charged with selecting and installing work from MoMA's collection in a gallery of their own design, amounts to a black box, or the very inverse of the museum's traditional "neutral" white one. It exists almost as the architects' pure mediation of experience. The choice is that you have no choice. Flat-screen televisions, the ultimate medium, dot the ceiling in a grid corresponding to rows of wooden benches below.

The televisions play violent and sexual clips from movies culled from the museum's collection (e.g., *Bonnie and Clyde*, *Fargo*, or *Mean Streets*). Meant for provocation, the selected clips would strike even the most facile cinemaphile as perhaps too obvious. But it's a cool distraction from the surrounding sidelined treasure troves of some of the best art from the museum's incomparable holdings.

A choice grouping of works from MoMA's prize possessions—installed in cramped, white galleries visible only through narrow viewing slots—become curiolike, reduced to a peepshow version of grandma's attic. That is, if you can see the art; the slots are positioned for the tall among us. (Apparently ADA doesn't apply to conceptual installations.) It's a pity, too, since among the objects included are such icons as Joseph Beuys's 1970 *Felt Suit*, Willem de Kooning's 1952 *Woman II*, and Verner Panton's *Stacking Side Chair* of 1959–60, but art isn't the point in this hostile show.

To be fair, Jacques Herzog and Pierre de Meuron state in their introductory wall text that "perception"



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was their subject matter, lamenting that the museum doesn't value "perceptive attention on the part of the museum visitor." Blaming the visitor for failing to see past the celebrity architecture, recorded tours, outsize gift shops, and tasteful glitz is a bit disingenuous.

Institutional critique as an art project began to lose creative steam in the 1980s, so perhaps architecture's version comes off a bit passé in 2006. What Herzog & de Meuron proposes tells us the problem, when we really only want to see architecture fix it. It's arguable that Fuller and Noguchi would have seized this opportunity to invent a more formally interactive environment, rather than wring their hands in a multimedia installation. It's difficult to tell, as well, how this bit of research on the part of Herzog & de Meuron figures into the firm's built work, especially since its Tate Modern, in London, and the new de Young Museum, in San Francisco [RECORD, November 2005, page 104], stand as such successful examples of not entirely unconventional museum spaces for viewing art. Surely Herzog & de Meuron don't view their own patrons so cynically?

The beat goes on

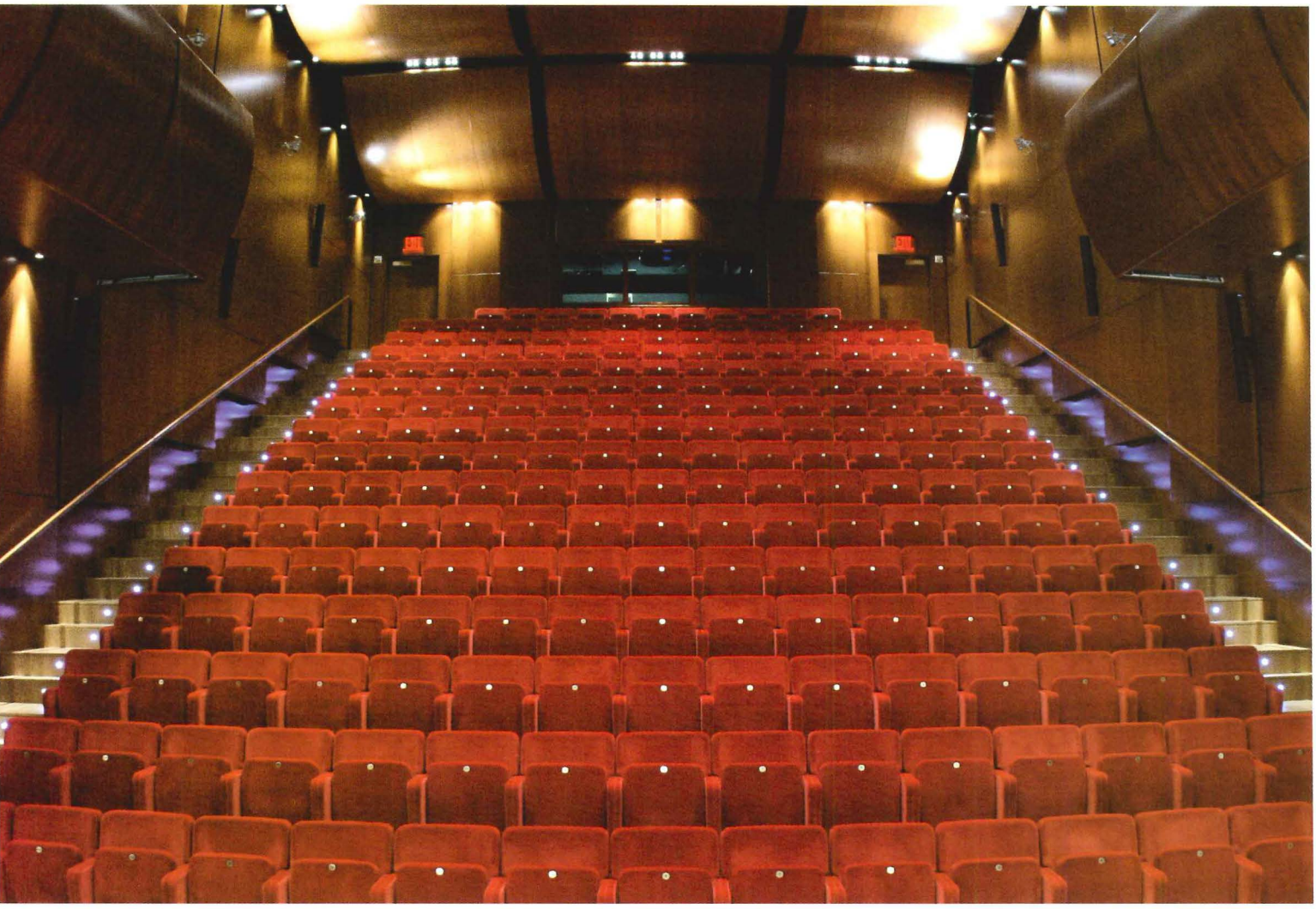
BEATFUSE! by OBRA Architects, a New York–based firm founded in 2000 by principals Pablo Castro and Jennifer Lee, owes a clear debt aesthetically and structurally to Fuller's legacy. Installed in the courtyard at P.S.1 Contemporary Art Center, a Queens offshoot of MoMA, *BEATFUSE!* was the winning entry in the annual Young Architects Program, where five emerging architecture firms compete with proposals responding to the brief of bringing the beach to P.S.1's courtyard.

A crisscrossing mesh of plywood and polypropylene, OBRA's series of canopies dominates the courtyard like big bubbles oozing up from the water in wood wading pools below. Metal-mesh orbs, resembling disembodied eyes from a fly, spew cool mists that coat the atmosphere in a layer of intrigue. A room off to one side—a walk-in cooler lined with a silver insulated fabric and ringed with giant blocks of ice—offers respite from the pool party.

Although the program is in its seventh year, its brief has grown somewhat stale; the true test of the Young Architects Program occurs every Saturday during P.S.1's afternoon party, Warm Up, which features a multitude of bars and a changing lineup of hip DJs and live performers. Once you enter the courtyard, you encounter a fresh kind of freedom in what amounts to a hippie folly realized a few decades late—a design-enabled pleasure pavilion set up as a mood-enhancing playground that establishes a breezy tone for the art galleries inside.

It's clear OBRA and P.S.1 have a hit. While the museum traditionally relegates "art" to the interior galleries, OBRA—and, frankly, most of the past Young Architects Program winners—succeed in the spatial realization of true cultural experience in the vein of Fuller and Noguchi. One need only think of Fuller's 1967 Montreal Expo pavilion or Noguchi's 1956–58 UNESCO garden in Paris for precedents. *BEATFUSE!* is a poor man's geodesic dome amid a field of objects and pools not quite straight out of a Noguchi park. What's more, this is an architecture of frivolity absolutely necessary to the experience of P.S.1, but without a heavy curatorial hand constantly telling the visitor what to think.

OBRA Architects' courtyard canopies, constructed of plywood and polypropylene, shelter hundreds of visitors to P.S.1's Saturday parties, when the crowds are avoiding the sun (above) or wading through one of the wood pools (below).



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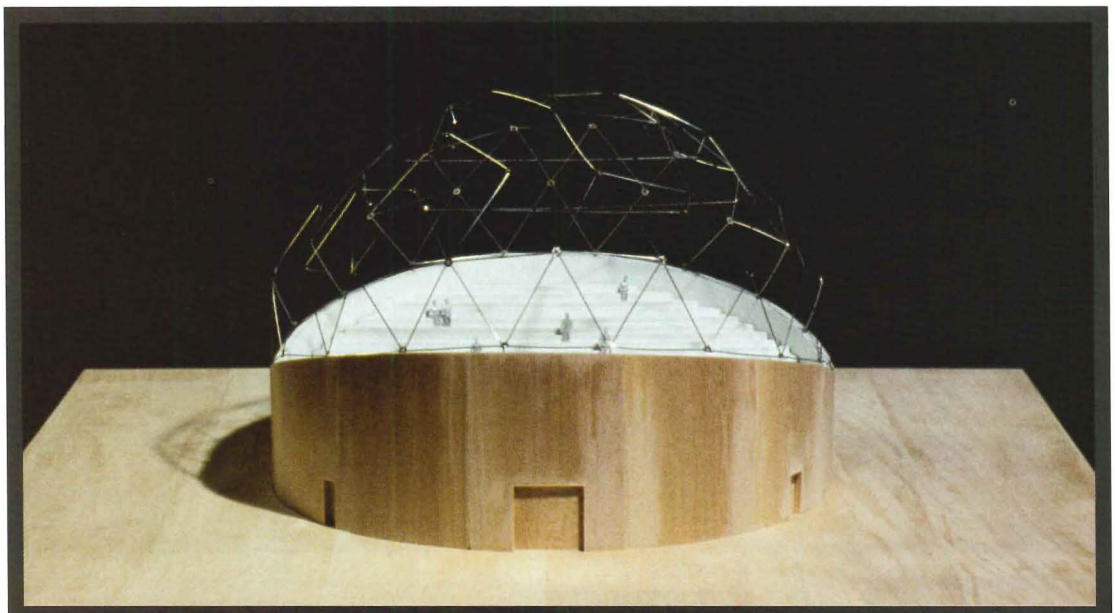
Critics may discount the throwback bubble design as a relic of the 1960s or may choose to focus on the questionable construction integrity that forced some unsightly stopgap measures, such as temporary scaffolding. But on a $70,000 budget for a fleeting project that directly engages a seen-it-all crowd with design, music, and social interaction, architecture rarely achieves such success. Part of Fuller's strategy was to find a repeatable form and to deploy it in disparate contexts productively. OBRA's installation, far from groundbreaking, is clearly positioned to grease the wheels of social interaction in a way that benefits the public's engagement with contemporary art—serving a critical need architecture rarely addresses successfully.

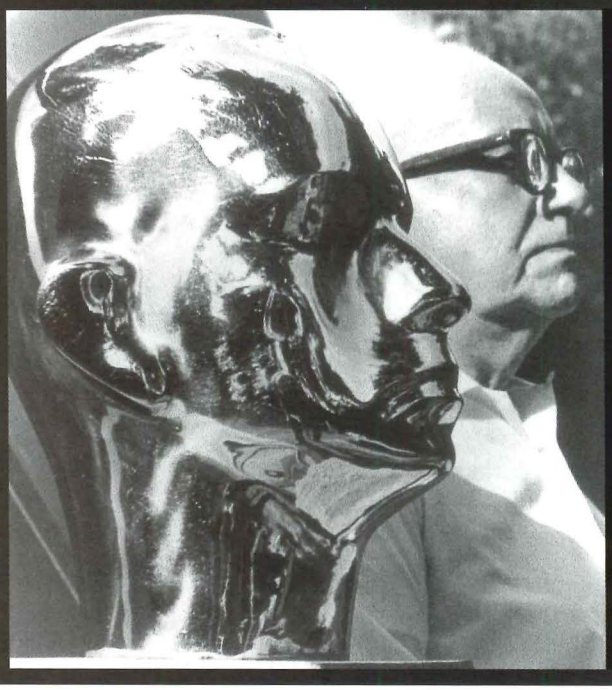
Friends to the end

It is tempting to imagine Fuller and Noguchi, had they started their careers in 2000 and not the 1920s, making the P.S.1 scene. They most certainly would have approved, especially given the fact the two of them met in a New York bar. You can't wander around the four galleries of their exhibition at the Noguchi Museum without being struck by a sense of their obvious love of life, from Fuller's 1928 *Dymaxion House* to Noguchi's 1986 *Slide Mantra*, a snakelike shell of marble that doubles as a children's slide, produced for, of all serious things, the Venice Biennale.

The continuing influence of the two men on architecture and design manifests itself in the way Noguchi, having had an almost Picasso-Braque-like relationship with Fuller, adapted Bucky's 1959 *Tensegrity Mast*, produced for a MoMA exhibition, for his 1986 *Challenger Memorial*, in Miami, Florida. The twisting space-frame of the *Mast*, a lacelike distant cousin to Fuller's geodesic domes and Noguchi's lamps, has popped up in more than one skyscraper proposal in the past few years. Even Rem Koolhaas's summer pavilion at the Serpentine Gallery in London's Hyde Park, a large balloon floating on a circular structure, owes its genealogy to some degree to Fuller and Noguchi. Koolhaas has made a career out of reinventing the stalled projects of Modernism, Fuller's among them. His Office for Metropolitan Architecture's Seattle Public Library [RECORD, July 2004, page 88] is, to some extent, a contorted mesh of Fuller structural members wrapping spacious, free-form Noguchi interiors.

While these three shows may strike us as mismatched in curatorial reach, theoretical purpose, and certainly in installation, they are nevertheless related in the questions they pose about the role of the attentive museum visitor and the view architects' hold of their adoring public. OBRA, Noguchi, and Fuller appear, in this light, to be rather optimistic about their audience's capacity for understanding the truths their work may unfold. As interesting and chic as Herzog & de Meuron may seem with its critique of the viewer who must be wooed away from the pops and bangs of contemporary Hollywood schlock and back to the museum, the architects nevertheless come off as cold and condescending. While idealistic "larger truths" may seem a little obsolete after Fuller and Noguchi, the silver lining of our loss is architecture's continuing ability to investigate this disappearance. ■





Noguchi's 1976 design for the unbuilt Martha Graham Dance Theater (above) and his 1985 Challenger Memorial (below right) were inspired by his friend Buckminster Fuller, shown here (below left) with his 1929 bust by Noguchi.

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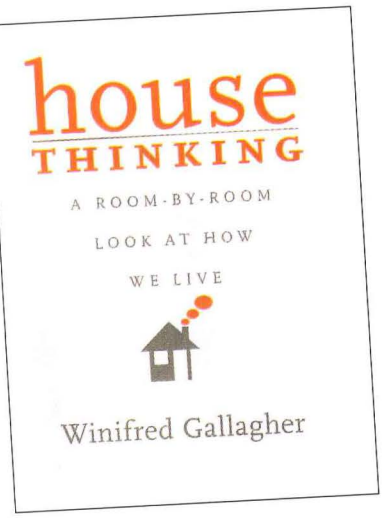


House Thinking: A Room-by-Room Look at How We Live, *by Winifred Gallagher. New York: HarperCollins, 2006, 352 pages, $25.*

Winifred Gallagher could as easily have titled this book *House Feeling*. She writes that feeling at home in certain houses "has less to do with aesthetic fashion than with evolutionary, personal, and cultural needs of which many of us are mostly unaware." She examines how decisions about home design can bring out our best selves, and, not unlike medicine or a hot cup of tea, "can make us feel better."

The book focuses on two questions: How do the decisions we make about our domestic world both reveal and influence our inner world, and how can we make better choices? Gallagher contends that no matter who we are, we can count on a few invariable design principles, most notably, what Wright called "perching and nesting." The author also argues for character, as achieved through nooks, alcoves, unconventional windows, custom woodwork, fireplaces, inviting porches. She favors tradition and craft and often derides avant-garde design for emphasizing novelty and art over comfort and practicality. Overall, she writes, your home should "support your identity, foster privacy and sociability, buffer you from stress, and connect you to the larger world."

Gallagher moves from room to room, offering a bit of history, a little psychology, and some decorating tips. Her passage on entries and plans starts at Monticello, which Jefferson, "with a psychological insight that matched his architectural talent," filled with artworks and 28 Windsor chairs arranged to force visitors, waiting for the great man, to marvel at his taste.

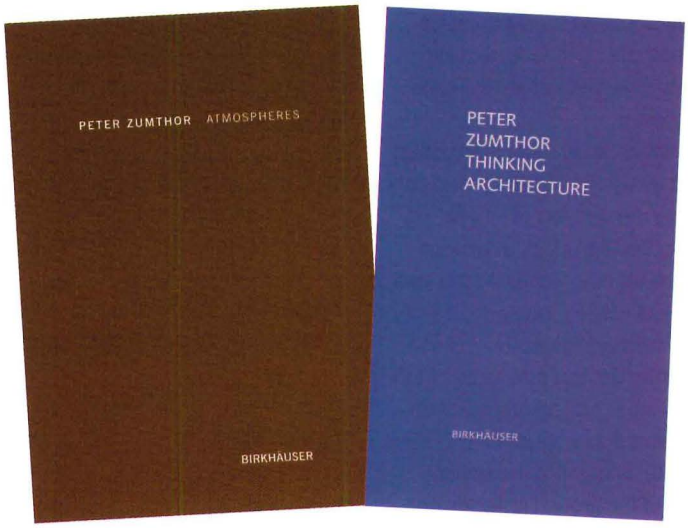
From there, Gallagher proceeds to an 1870s Stick Style New Jersey "cottage" designed by Frank Furness. "For status-conscious Victorians," Gallagher writes, Furness tailored a tightly regulated front hall, "a screening station beyond which many never passed." Her tour also stops in Longfellow's dining room and in the bedrooms of Edith Wharton and Hugh Hefner. She counsels that living rooms "should say sociable and personal"; dining rooms should be showplaces for valued objects and describe social status; and bedrooms should be sanctuaries for rest and sex, not repositories for exercise machines and clutter. In a diverse and hectic world, such prescriptions may seem out of touch.

House Thinking makes good reading, but you might become impatient with Gallagher's repetition and quotes of social scientists asserting the obvious. The book's strength lies in the author's intuitions; she didn't have to buttress them with academic opinions. Take away the props and you would have a small book with many valuable insights. *Andrea Oppenheimer Dean*

Atmospheres, *by Peter Zumthor. Boston: Birkhauser, 2006, 80 pages, $40.*
Thinking Architecture, *by Peter Zumthor. Boston: Birkhauser, 2006, 94 pages, $40.*

"I enter a building, see a room, and—in the fraction of a second—have this feeling about it. We perceive atmosphere through our emotional sensibilities," writes Peter Zumthor in *Atmospheres*. Memorable architecture, for this Swiss architect, depends on the moods, feelings, or character that buildings convey.

These two wise, slim volumes fit together like fraternal twins. In them, Zumthor writes, often poetically, about architectural quality. An intuitionist, Zumthor is devoted to affectionately crafted objects and spaces. He writes about listening to "the sound of the space, to the way materials and surfaces respond to touching and tapping, and to the silence that is a prerequisite of hearing." While his 1996 Thermal Bath Vals in Graubünden, Switzerland (the town where he lives), has become famous in architectural circles, much of his other work—including the Swiss Pavilion for EXPO 2000, in Hanover, Germany, and in Graubünden, the 1983 Elementary School Churwalden, the 1989 Saint Benedict Chapel Sumvitg, and the 1990 Art Museum Chur—remains



Books

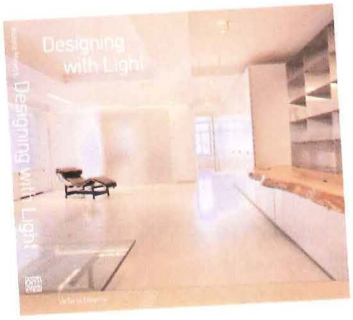
less widely published, a result in part of his belief that architecture should be experienced firsthand.

Thinking Architecture is a reissue (with three new essays) of Zumthor's popular, now out-of-print 1998 publication. *Atmospheres* expands slightly a June 2003 lecture Zumthor gave at a literature and music festival in Wendlinghausen, Germany. Carefully worded (and translated), the text of the talk explains how the architect goes about creating atmosphere in his own work. He writes, for instance, about composing and balancing materials, making sure they "are attuned to each other"; about arranging spaces in "sequences that guide us, take us places, but also let us go and seduce us"; and about giving "thought to careful and conscious staging of tension between inside and outside, public and intimate, and to thresholds, transitions, and borders."

He asks rhetorically how we recognize architectural quality. There are "buildings or ensembles of buildings, both small ones and monumental ones," he writes, "that make me feel good, that make me look good, that give me a sense of dignity and freedom, that make me want to stay awhile and that I enjoy using."

Architecture, he says, is not a "vehicle or a symbol for things that do not belong to its essence." Reality, for Zumthor, lies in place and purpose. Nor does he think style has much to do with architectural quality.

"When an architectural design draws solely from tradition and only repeats the dictates of its site," he writes, "I sense a lack of genuine concern with the world and the emanations of contemporary life. If a work of architecture speaks only of contemporary trends and sophisticated visions without triggering vibrations in its place, this work is not anchored in its site, and I miss the specific gravity of the ground it stands on." Ultimately, he says, "It is our feelings that tell us whether abstract considerations really ring true." A.O.D.



Designing with Light, *by Victoria Meyers; New York: Abbeville, 2006, 144 pages, $28.*

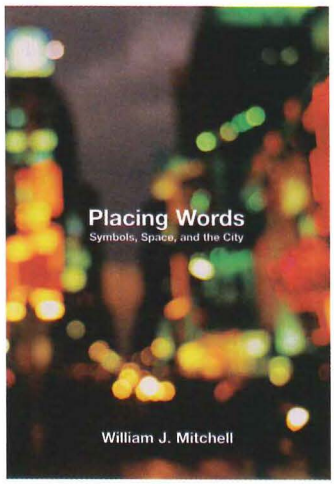
Light suffuses our existence so completely that we forget about it until we notice how often we employ it in speech to express optimism: enlightenment, light music, light humor, light of my life, light my fire, light brigade, the light of reason, lighthearted. So writes Bruce Ferguson, dean of Columbia University's School of the Arts, in a preface to *Designing with Light*. In terms of ideas and their presentation, this book is mostly downhill from there.

Meyers offers a little history in her first two chapters, and short introductions for each of the remaining chapters on color, line, form, glass, windows, sky frames, shadows, and reflection. The book's strength lies in images that show light creating color and line and articulating form in architecture. But the material (verbal and visual) in chapters on glass, windows, sky frames, and reflection are poorly related to the subject of light. Meyers's book seems mainly a vehicle for showing interior work by her firm, Hanrahan Meyers, alongside that of Rick Joy, Steven Holl, John Pawson, Michael Bagellini, and others of their caliber. *A.O.D.*

Placing Words: Symbols, Space, and the City, *by William J. Mitchell. Cambridge: MIT Press, 224 pages, $17.*

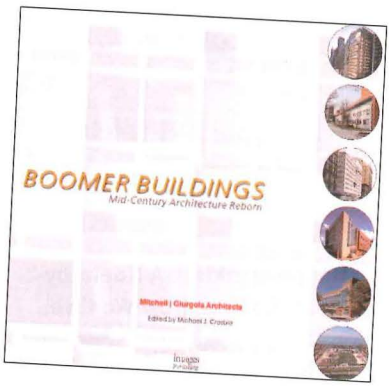
William Mitchell, a professor of architecture and media arts at MIT and the author of such books as *City of Bits: Space, Place, and the Infobahn*, and *Me++: The Cyborg Self and the Networked City*, is no academic recluse. He is fascinated by what architectural context means in today's world. Rather than a set of buildings arranged evermore along a street, context is the way "objects, narratives, memories, and space are woven into a complex, expanding web—each fragment of which gives meaning to all the others," he writes. This translates in *Placing Words: Symbols, Space, and the City* to such insights as the symbiotic relationship between Manolo Blahnik shoes and the oft-reviled World Trade Center Freedom Tower: "It looked as if David Childs and Daniel Libeskind had found the parti beside the bed of one of those Sex *and the City* girls ... Both Manolo spikes and world's-tallest-building candidates depend for their dramatic effect upon breathtakingly excessive height combined with improbable slenderness."

These short essays, which first appeared in the *Royal Institute of British Architects Journal*, also suggest that celebrity architecture can be the urban-scale equivalent of a rapster's bling-bling, and that in our increasingly stratified society, the tracking bracelet Martha Stewart wore after leaving prison could be repackaged with a chic look as an upscale convenience device that would record your whereabouts but allow you to enter an airport terminal without passing through security. Sometimes Mitchell's approach is irritatingly glib, as when he distills Le Corbusier's theories into "Modernist Eye for the Beaux-Arts Guy." But Mitchell is onto something that most American architectural writers ignore: Design permeates our daily life, and it is changing just as quickly. *John King*



Boomer Buildings, Mid-Century Architecture Reborn, *edited by Michael J. Crosbie, with Mitchell/Giurgola Architects. Mulgrave, Australia: Images Publishing, 2005, 162 pages, $70.*

While postwar furniture is commanding record prices, buildings of the period are facing the wrecker's ball. The six case studies of renovations by Mitchell/Giurgola presented in this book show how cold war buildings can be made more useful, energy efficient, and attractive.



The copiously illustrated, sometimes redundant text explains how the architects analyzed each project's energy use, mechanical needs, curtain-wall performance, and structural stability. Crosbie writes, "In some cases, the original building's urban enmity and contextual boorishness are tamed with new wings that create hospitable courtyards. The results are born-again buildings revived at a fraction of the cost of a new facility ... and at the expense of far fewer natural resources."

All six renovations reenergize their surroundings. You would expect nothing less of their work on

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Books

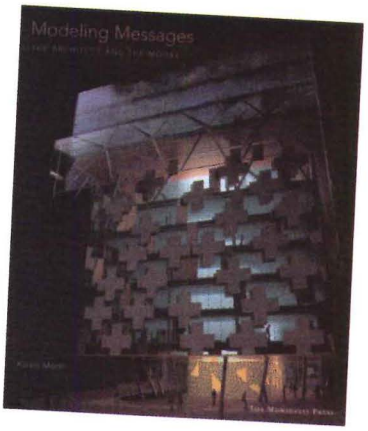
Powdermaker Hall at Queens College, because the architects designed it while preparing a master plan for the entire 73-acre campus with 35 buildings for 12,000 students. The architects replaced its light metallic skin with a new, better insulated one, operable windows, and paneling that breaks up the building's quarter-mile-long wall and relates to some historic Mission Style buildings left over from a reform school that occupied the site when the City University of New York acquired the campus in 1937.

At Plymouth State University and Keene State College, both in New Hampshire, the architects' remodeling of science buildings improved the campus experience while also providing better laboratories and meeting spaces, and at a K-12 school in southern Spain they consolidated and largely rebuilt 20 buildings.

The most impressive project of the group is the headquarters of Lighthouse International in New York City, an organization serving the visually impaired. Here, the architects replaced a six-story structure on East 60th Street with a 16-story tower and combined it with the organization's adjacent 14-story office tower, which they reclad in yellow brick with insulated ribbon windows. At the top, several stories of floor-to-ceiling glass now admit sunlight during the day and radiate intense white light at night, making the Lighthouse worthy of its name.

Boomer Buildings provides valuable ideas for renovations but might have been more useful if it had shown various architects' approaches. *Jayne Merkel*

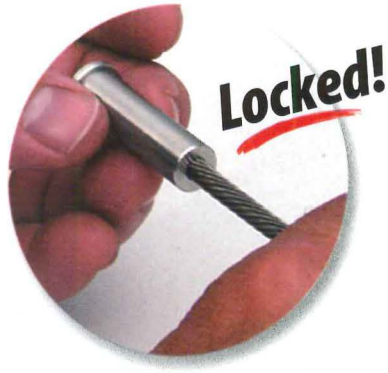
Modeling Messages: The Architect and the Model, *by Karen Moon. New York: Monacelli Press, 2006, 240 pages, $50.*



It comes with the territory: architects love models and can't resist a book about them. In this one, Karen Moon tells you what you already know, that models are useful in design development, they help communicate a design to clients and others, and they can be "wildly energetic representations of architects' visual and spatial concepts—essentially sculptural form." Many also know that since the 1970s, when galleries and museums began exhibiting models, they have gained traction as collectible art, spurred in part by the advent of Conceptual Art.

Alas, Moon is skeptical about the model's future. "The larger the model, the more difficult it is to keep; the smaller, the more easily lost; the more refined, the more liable it is to damage." Virtual models, sadly, pose no such problems.

Moon writes in a clear, if flat, voice about every aspect of models, from their history to the way they make use of materials, scale, and technical innovations. We know, however, that architects (like almost everyone else) read captions before turning to lengthy accompanying text and are likely to peruse this volume of intriguing images like a picture book. As such, it's often confusing. On many a right-hand page, you'll see a contemporary image, and to its left, one from 250 years ago. Captions frequently don't explain what they should, and images, instead of illustrating text, are often independent of it. *A.O.D.*



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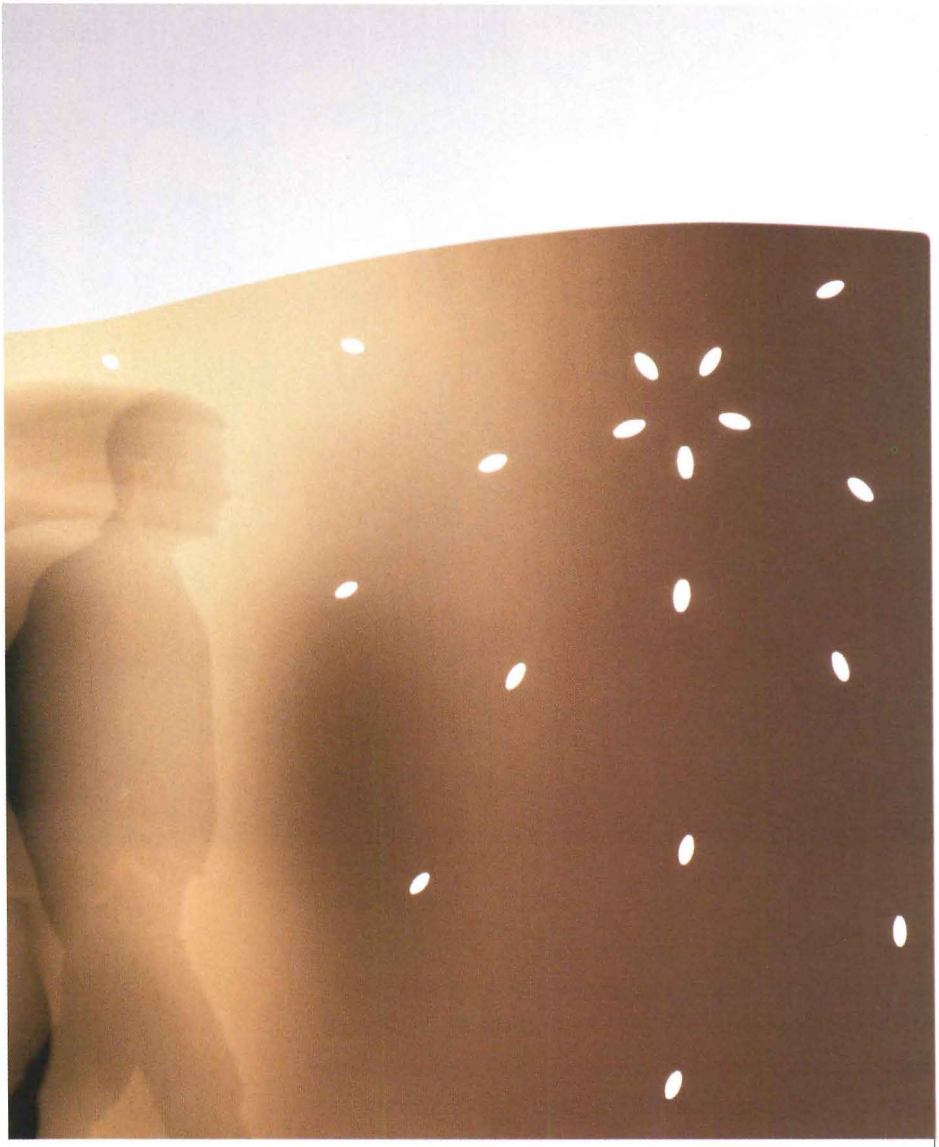

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By Rita Catinella Orrell

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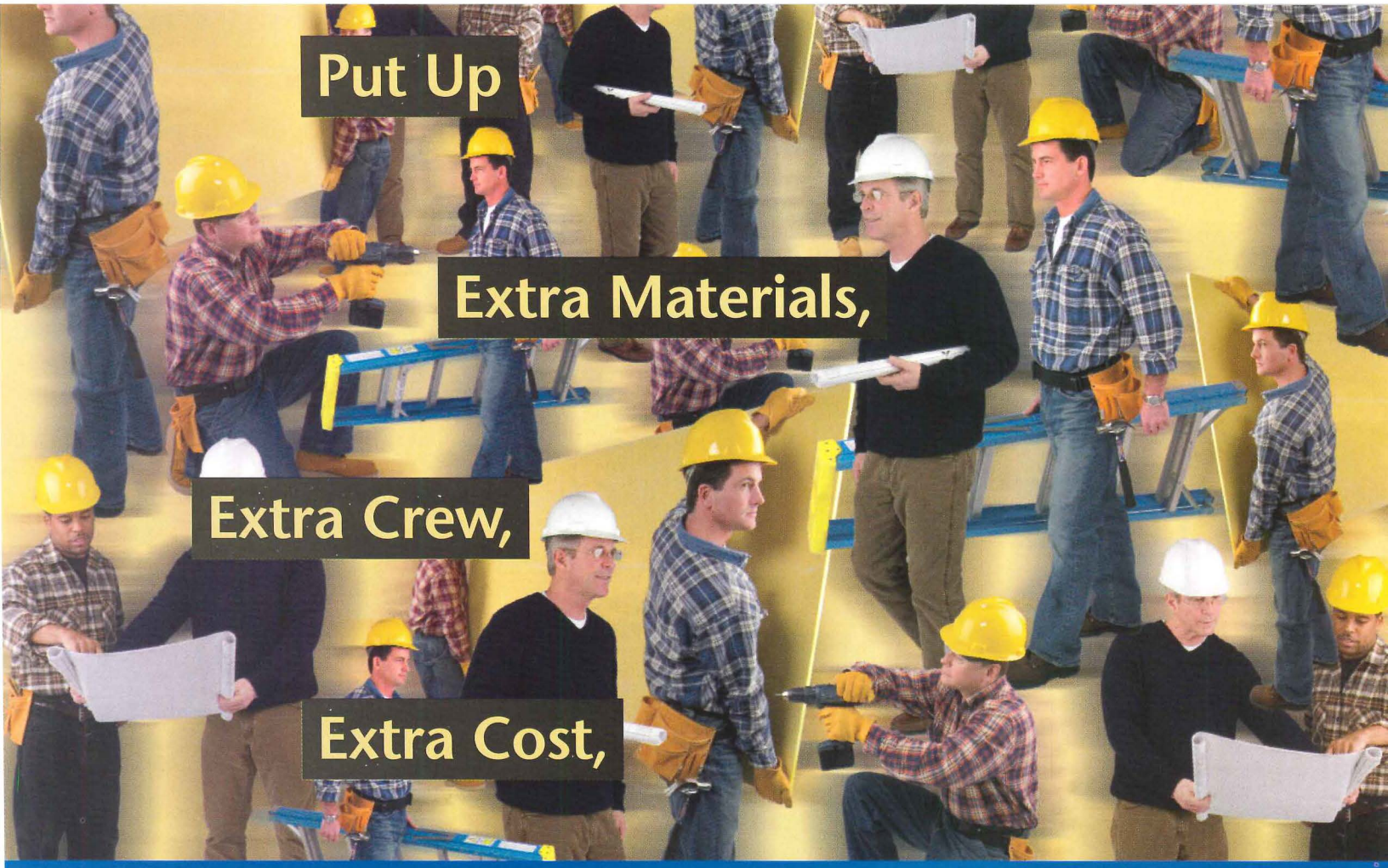
A chair back and seat made of formed Maplex C (top left). A bookshelf made of formed Maplex P with a decorative blue and white paper laminate (bottom left). A wall of Maplex C with punched out detailing (right).



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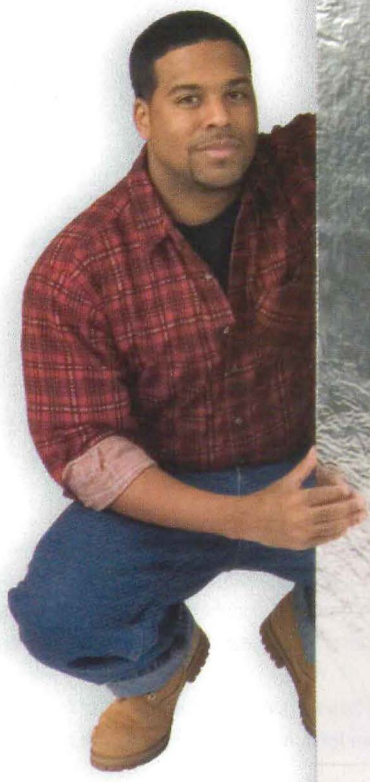

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Snapshot

By Beth Broome

Putting a playful twist on arts and letters

Kid's Republic, a children's bookstore in Beijing, introduces young people to reading not as a labor, but as a joyful activity. The store, which dismisses strict definitions of space, mirrors the limitless possibilities of children's imaginations, encouraging the kind of unbridled exploration that the world of literature can trigger.

The bookstore is in Riken Yamamoto's approximately 2-million-square-foot Jian Wai Soho project, a Beijing development of luxury high-rise apartments and low-scale commercial space [RECORD, March 2004, page 90]. Designing the interior of the bookstore came naturally to Japanese architect Keiichiro Sako, who, before establishing his own practice in Beijing about three years ago, had worked on Jian Wai Soho as a project architect on Yamamoto's team.

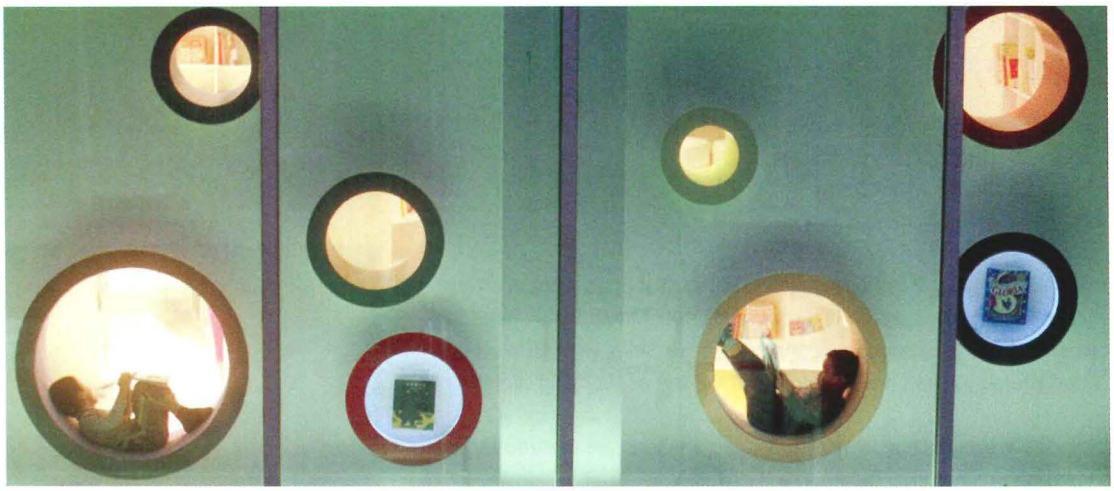
Approaching the design for the interior, Sako revisited his own childhood experiences. He realized that as a boy, he had made no separation between playing and reading. To him, reading *was* play.

Snapshot

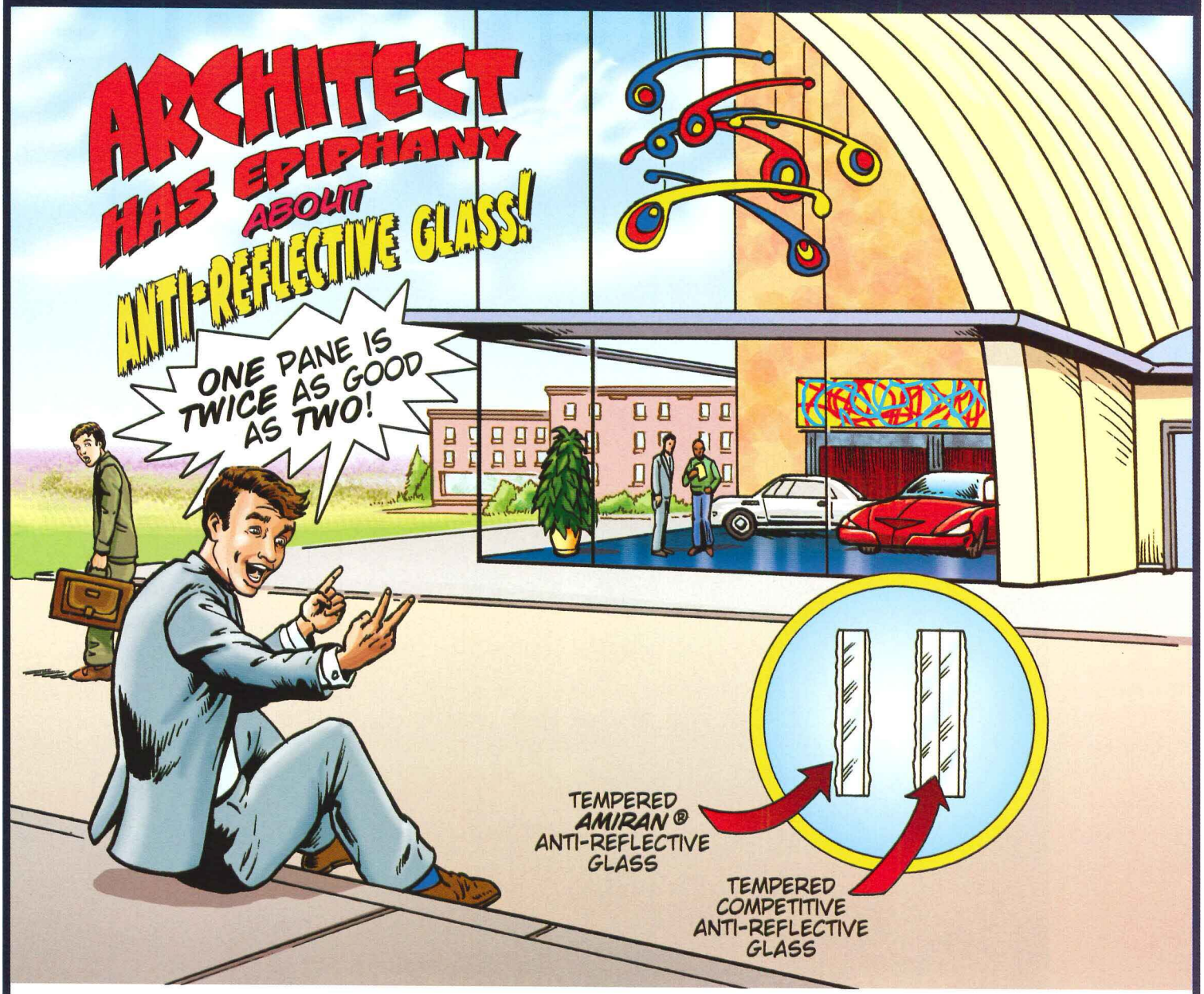
The 325-foot-long "Twisting Ribbon" carpet, which was specially created in China, winds its way through the bookshop, drawing together all elements of the space.

This awareness guided the direction of the fanciful environment Sako created for Kid's Republic, defined by two rainbow-striped ribbons of carpet. An event room for story hours is at street level, and upstairs is the bookstore. "I adopted a ribbon to connect spaces and elements that compose spaces," explains Sako. The "Wrapping Ribbon," which forms the event room, appears as a telescoped tunnel of 12 multicolored bands of carpet that widen in the middle and narrow at either end, blurring lines between floor, wall, and ceiling. A 325-foot-long multicolored carpet strip makes up the "Twisting Ribbon." This element rises up the entry stair and into the store, snaking across the ceiling, along a faux-marble floor, and through the space to form a bookshelf, table, and checkout counter, before following the handrail's path and flowing back down the stairs. Rather than establishing order by dividing the spaces into clearly defined components, Sako used the ribbons to fulfill a multitude of roles. "Sensible children do not need strict definitions," says the architect.

Sako took care to avoid intimidating, overburdened bookshelves, opting instead for manageably proportioned displays that leave room for movement and play. Various size portholelike windows provide reading nooks where children can literally curl up. Viewed from the outside, figures of young readers become decorative elements on the store's facade.



Like the merchandise it carries, Kid's Republic is intended to spark children's curiosity and provide a forum ripe for investigation. This space will bring a smile to the face of even the most serious reader. ■



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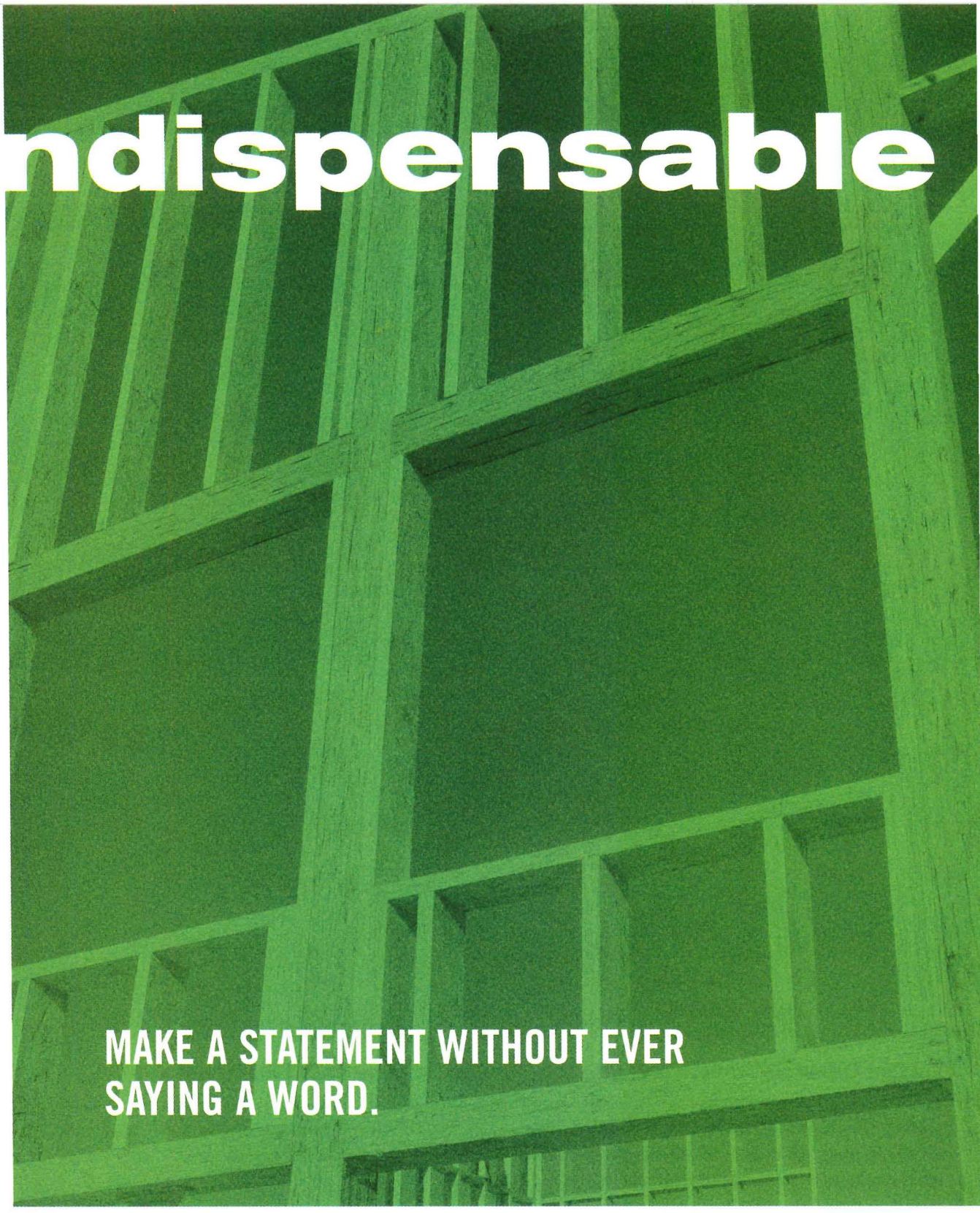

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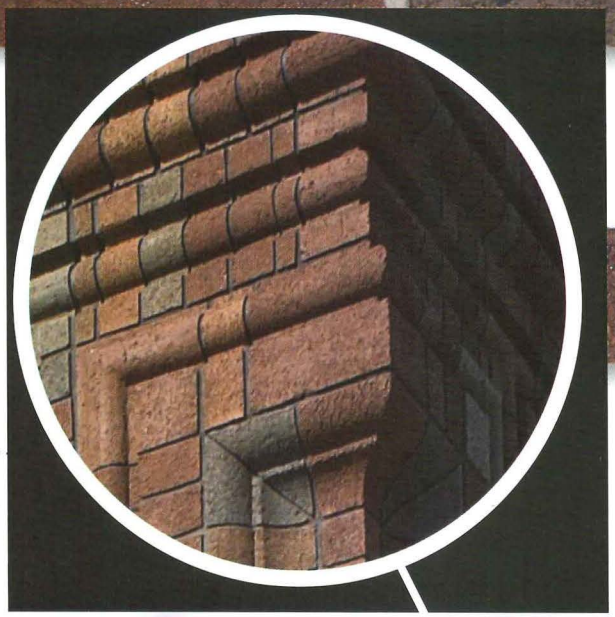

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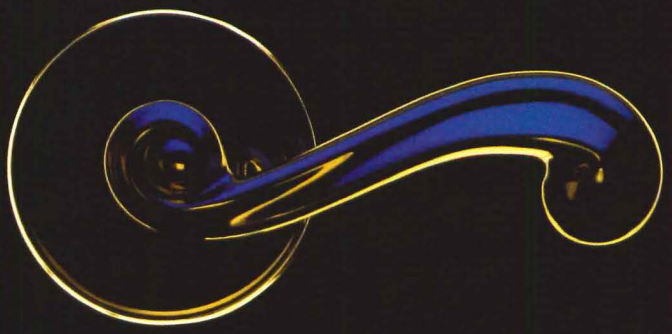

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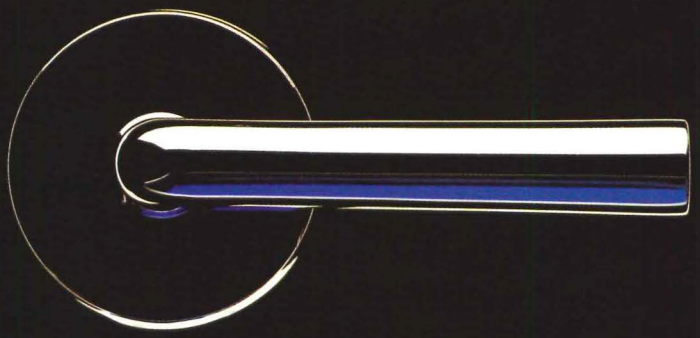

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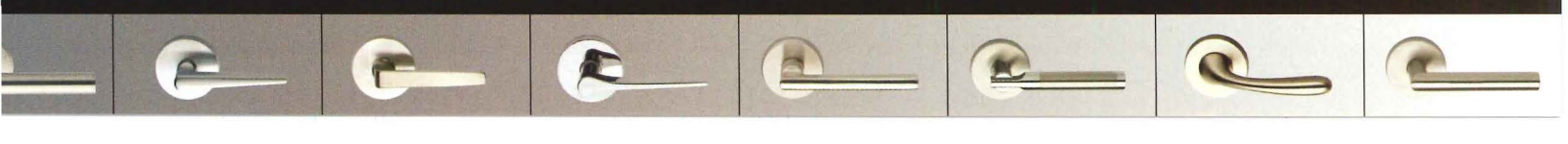

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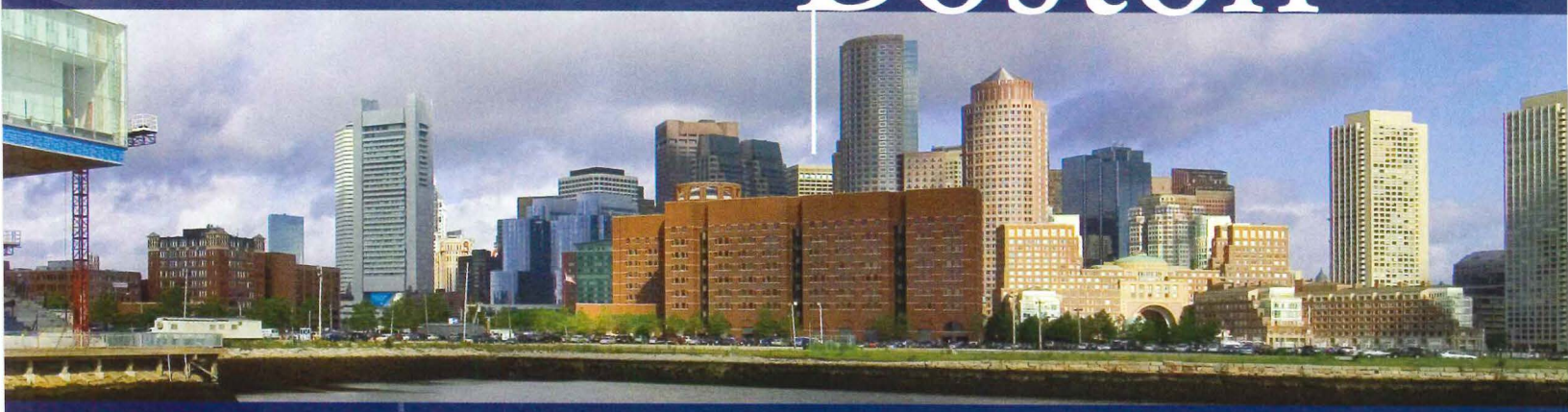

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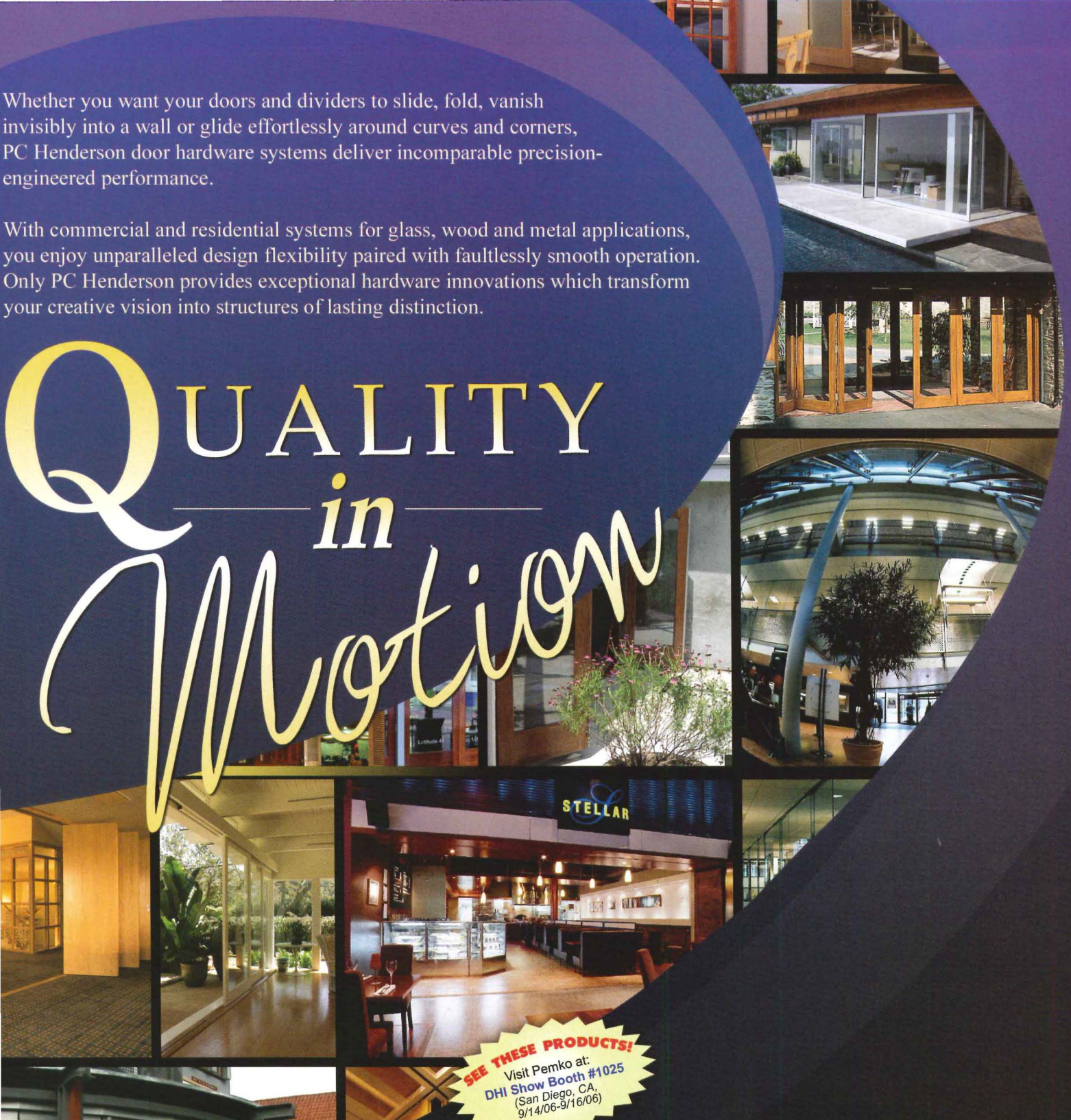

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By David Sokol

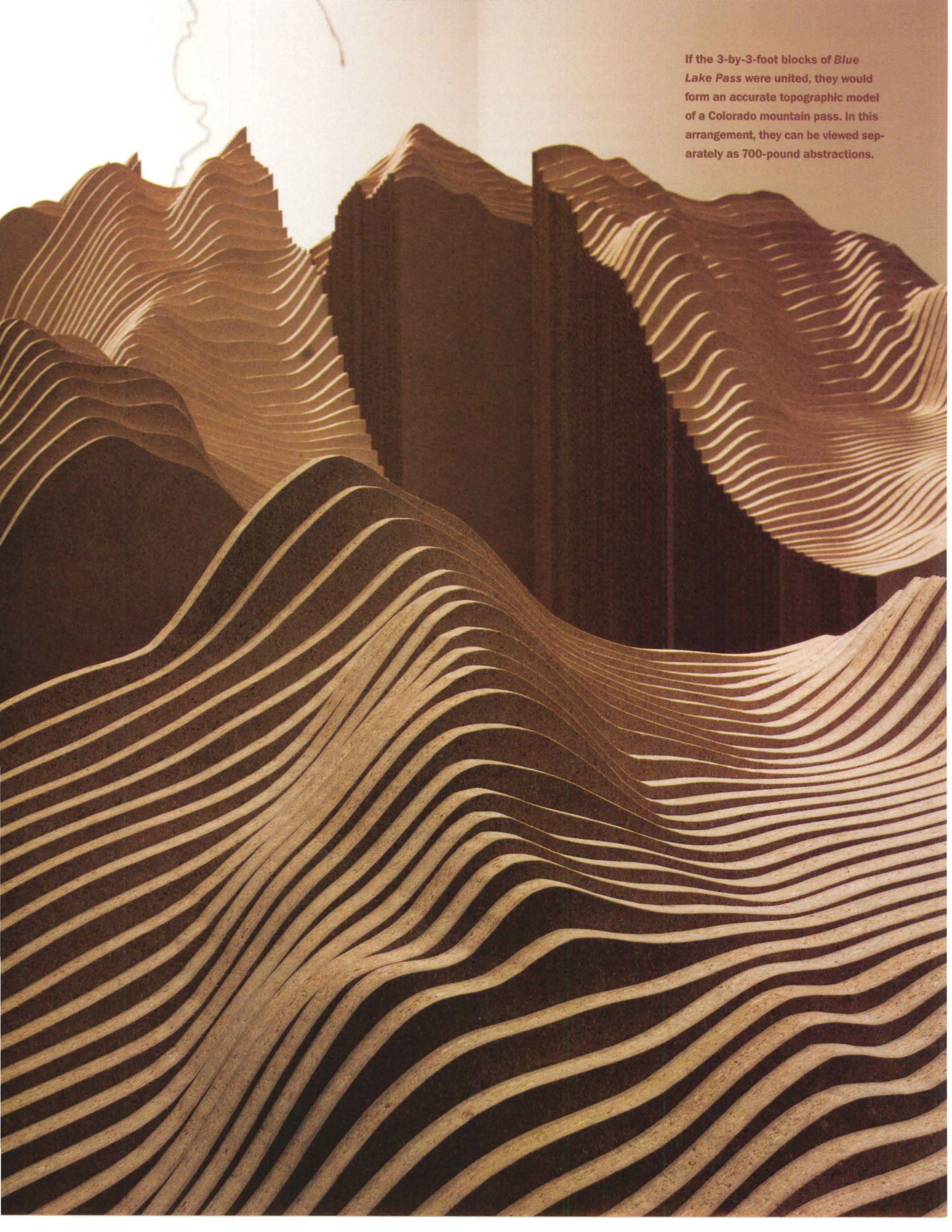
THE EXHIBITION *SYSTEMATIC LANDSCAPES*, AT THE UNIVERSITY OF WASHINGTON'S HENRY ART GALLERY, IS A HOMECOMING FOR ARCHITECT AND ARTIST MAYA LIN. WHEN SHE WAS FIVE YEARS OLD, SHE SPENT A YEAR IN THE UNIVERSITY'S HOUSING WHILE HER PARENTS FINISHED THEIR DOCTORATES. "IT WAS BEHIND THE DUMP, SO THERE WERE ALL THESE SEAGULLS," SHE RECALLS. "I THINK I EXPERIENCED MY FIRST EARTHQUAKE WHEN I WAS THERE, TOO. I REMEMBER WAKING UP TO DISHES SHAKING IN THE CUPBOARD." *(continued on page 92)*

David Sokol is RECORD*'s acting news editor. He writes for* Azure, Interior Design, *and* Metropolis, *and was managing editor of* I.D.

In the statement for *Systematic Landscapes*, Maya Lin writes, "Utilizing the way in which scientists and computers see our world ... I have started to translate that technological view into sculptural forms." The reference to pixelation in the sculpture *2x4 Landscape* embodies that translation.

Ground

On a 2,400-square-foot plan, *2x4 Landscape* suggests a mound-like earthwork. Built as a series of frame-mounted modules holding 55,000 pieces of lumber, the piece was fabricated off-site (photos, inset below), near the University of Washington campus.



If the 3-by-3-foot blocks of *Blue Lake Pass* were united, they would form an accurate topographic model of a Colorado mountain pass. In this arrangement, they can be viewed separately as 700-pound abstractions.

Water Line is based on a computer diagram of the contours of the Mid-Atlantic Ridge at Bouvet Island, 1,000 miles north of Antarctica. Lin increased the scale of the image and reconfigured it slightly, producing a sketchlike effect, before fabricating it in quarter-inch-diameter aluminum tubes. The sculpture fills the East Gallery, affording the visitor two unique perches: From the balcony above, corresponding to the surface of the water, and from the floor level, offering a journey comparable to tunneling beneath the Earth's surface.

(continued from page 86) Massive landforms, aerial views, the Earth's expressions of power: These are the motifs that appear in the Henry show, where Lin imagines and recreates terrains as giant maquettes that repeat simple material units, such as two-by-fours, particleboard sheets, and straight pins. Even though *Systematic Landscapes* tackles the same themes as Lin's 1998 traveling exhibition *Topologies*, she says the predecessor was "much more about objects." This effort is more akin to one of her landscape installations, though it takes over an environment that just happens to be a museum. But, she wondered, "Can I literally pull inside what I do outside without any loss of translation because it's an interior space?"

The scale of the exhibition's 25 commissioned works, filling 10,000 square feet of space, is totemic, lying somewhere between sculpture and environment—and forcing the visitor to straddle experiences of observation and habitation. The blockbuster *2x4 Landscape* is exemplary: Here, 55,000 cuts of local lumber, laid on the end grain and assembled in modular armatures, peak above 10 feet. The summit rises asymmetrically within the 2,400-square-foot plan, contains a large yet shallow dimple on one side, and conjures up multiple analogies. From one far corner, the piece evokes a cresting wave; from another, a hill city in miniature. Other views become almost purely graphic, showing off an undulant surface with endless zigzags or a random assortment of wood grains and lumber manufacturers' stamps.

And yet views are only part of the experience. On scheduled days, visitors may sign a waiver, don special footwear, and climb the giant form. Lin says that after completing the installation *the character of a hill, under glass* for an American Express facility in Minneapolis in 2002, "My automatic idea was: What would it be like to make a hill you can walk on and feel like you're touching the sky? You have desires, you have ideas like that, which sit in your head until the right time."

Lin differentiates explicitly between her art and architecture, even admitting, "I've had a much slower path because I've chosen not to choose." But doesn't *2x4 Landscape* blur that distinction? She hesitates, then explains, "Everyone's going to look at it and say: She's making a point of using architectural materiality. It is not a deliberate move on my part to state that I come from the architectural world. The two-by-fours represent, one, a common material, and two, a pixelated landscape you see bit by incremental bit."

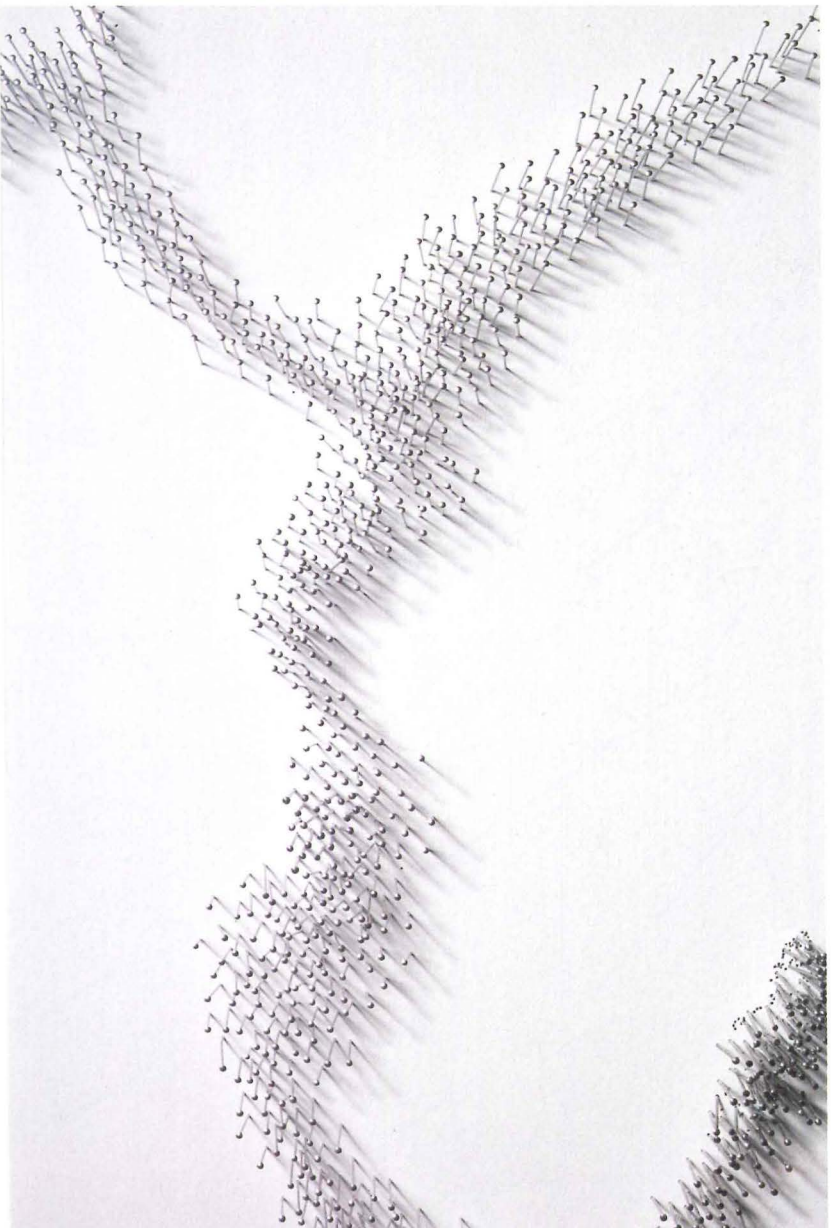
"Pixelation," a verbal shorthand for the high-tech means by which we map our planet's contours, unifies *2x4* with the other works on display. In *Blue Lake Pass*, endless layers of laser-cut particleboard represent the topography of a Colorado mountain pass, which Lin cleaved into 20 pieces, each weighing 700 pounds. The move seems arbitrary. But then again, so is science. Consider the units of a standard topographical map: The meter is but a platinum rod sealed in storage in France, and the foot represents the extremity of some long-ago human.

Lin gleefully adapts "exacting" scientific models for the show's other works, such as *Water Line*, a suspended, topographically distorted grid of extruded aluminum tubes. She began with the Woods Hole Oceanographic Institute's sonographically derived diagram of Bouvet Island, a tiny land mass 1,000 miles north of Antarctica, altering the lines slightly for artistic purposes. The sculpture suggests a computerized wire-frame drawing that wandered off the screen and grew to fill the Henry's 900-square-foot East Gallery. Taking similar liberties of interpretation, Lin created the *Bodies of Water* series, with stacks of plywood, each about 20 inches tall, that exaggerate the depths of the Caspian, Black, and Red Sea floors.

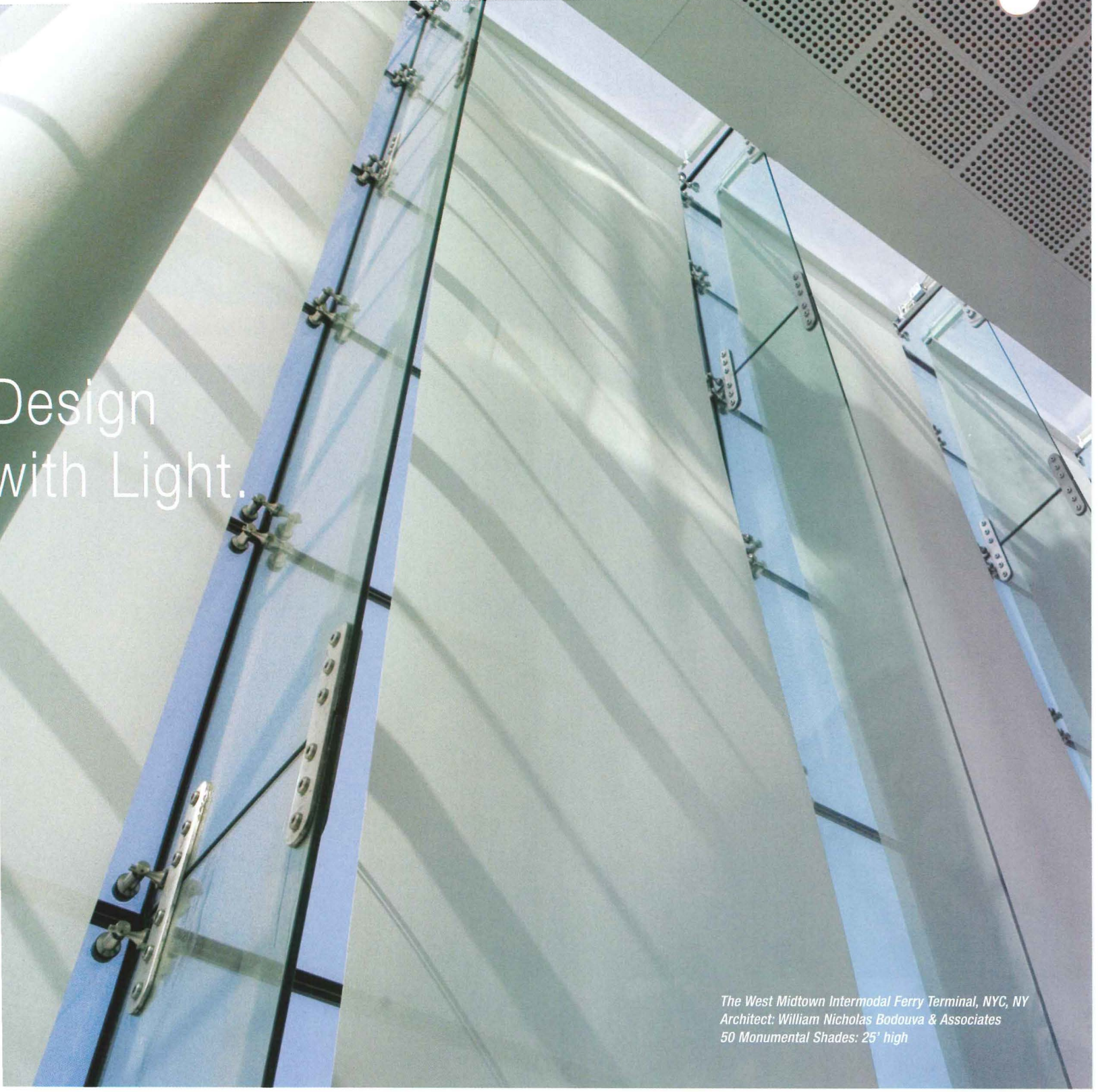
"If you look at 18th-century landscape painters and how they saw the natural world," Lin says, "[you'll see that] this work has a little bit of that romance. But we have very different tools for looking at the natural world." She notes the ecological message of these sculptures. *Bodies of Water*, for example, alludes to some of the world's most endangered ecologies, though you might not know it from the pristine works, surfaced in birch veneer.

A journey through the exhibition brings a certain feeling of omniscience: *Blue Lake Pass*'s multiple pieces allow you to walk at a leisurely pace examining chunks of what would otherwise be rugged ground to traverse. Meanwhile, you can view *Water Line*'s wiry form either from a balcony that corresponds to the point where Bouvet Island peaks above the ocean, or from the installation room's floor, which allows you to occupy space metaphorically beneath the Earth's crust. And the plinths on which *Bodies of Water* rest encourage the visitor to travel above, between, and below "natural phenomena" that are, in reality, impossible to access.

"These works," Lin says, "are about creating a space you walk through and that envelops you. They take you away, pulling you in a little bit." Conceding that *Systematic Landscapes* does occupy a middle ground between art and architecture, she adds, "Architecture and these sculptures are both experiential—but in very different ways." ■



Pin River **delineates the Columbia River in thousands of straight pins. Lin is installing works at seven sites along the river as part of the** ***Confluence Project*****, which commemorates habitats discovered by Lewis and Clark.**



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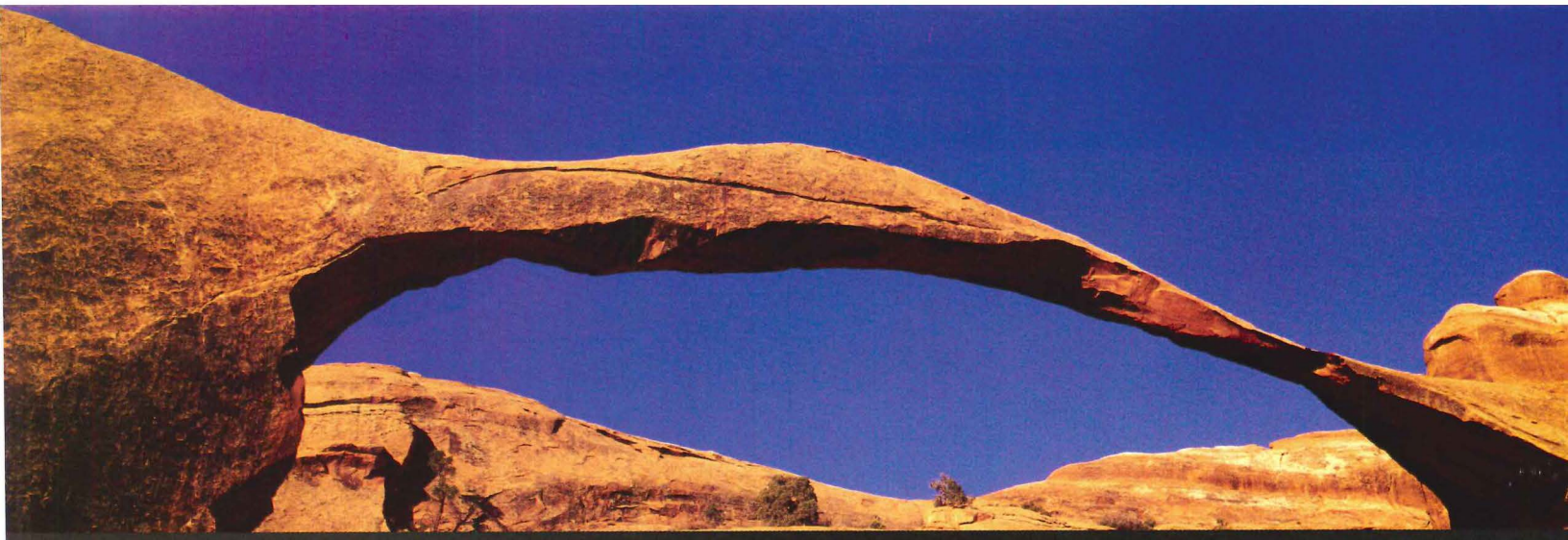

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Record Interiors 2006

Like a kaleidoscope, the brass-lined *Passage of Honour* at the Nobel Peace Center focuses your view on a dazzling multiplicity of images. In creating the Peace Center, a permanent exhibition venue in Oslo, architect David Adjaye draws on a richly eclectic mix of materials and geometries to transform an old rail station—and alter the visitors' perceptions visually, spatially, intellectually, and perhaps even emotionally. Here, the subject matter is global peace and strife, and Adjaye informs the highly experiential journey through the building with long, open-ended, tubelike passageways, framing complex interior views, and such varied surfaces as rubber, glass-reinforced plastic, and vibrant red resin, in addition to the brass.

All the projects in Record Interiors began with existing structures (even if, at an earlier time, the interior architect also designed the shell). And in each case, the new insertions compellingly alter our perceptions of the space. When, for example, you put your head back for a shampoo at Jun Aoki's Xel-Ha beauty salon, in Tokyo, your sense of depth is challenged by a view of the swirling and translucently luminous ceiling that seems to float cloudlike above. And at Tadao Ando's Morimoto restaurant, in New York City, lighting and transparency also play key space-altering roles. Here, you can look through the prism of a LED-lit wall, made of 17,400 water-filled bottles, each evoking a great chunk of ice. And at Karla, an event space in Miami, Florida, veil-like backlit walls and high-gloss epoxy floors simultaneously define and dematerialize each room's crisp edges.

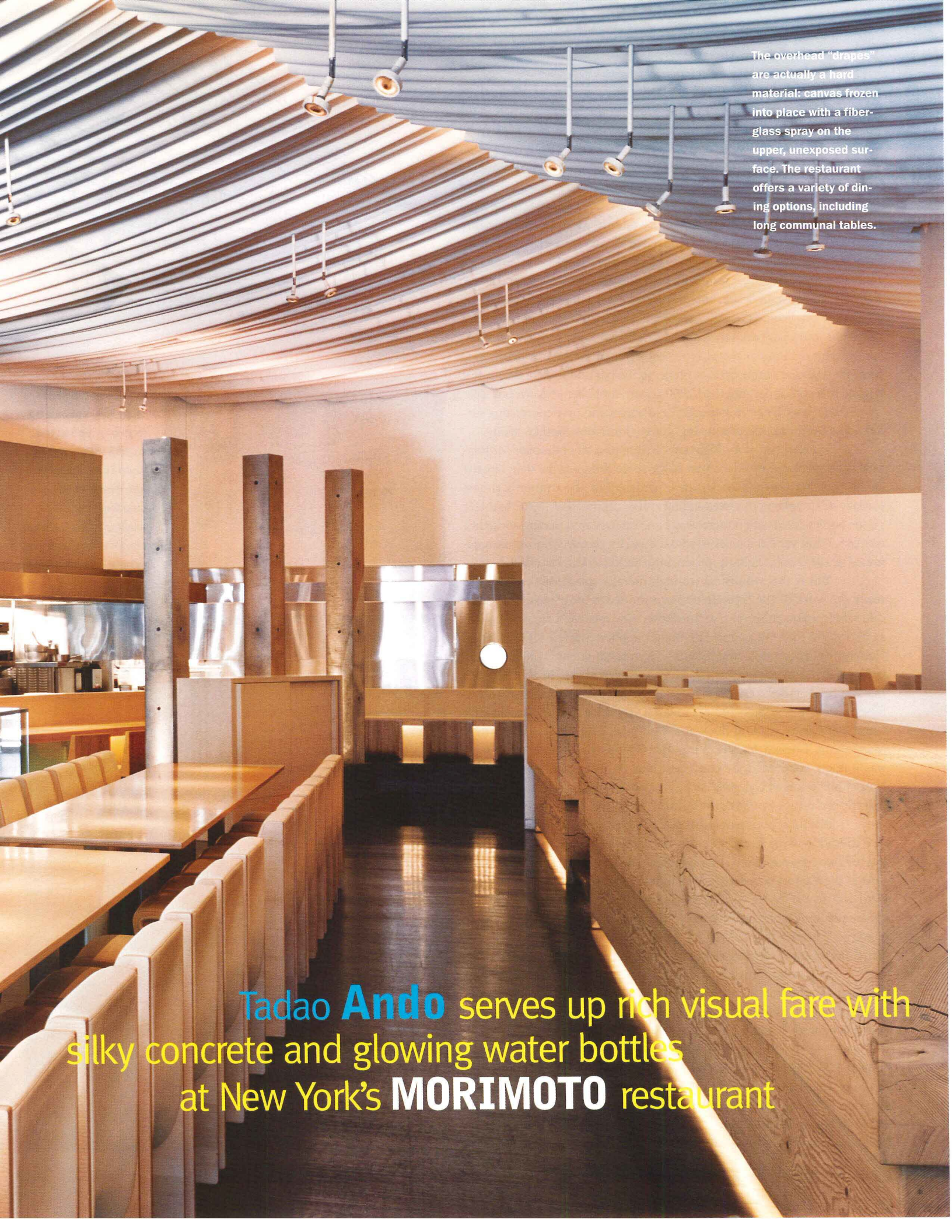
For KU64, a dental clinic in Berlin, Graft architects dispense with rectilinear forms, in favor of a bright yellow "dunescape" that makes you forget the dread or pain of the dental drill.

A material choice produces a shift not only in mood, but also in scale at Winka Dubbeldam's Schein Loft, in New York City. In lining the loft corridor's Caligariesque contours with bog-oak wood, the architect not only emphasizes the wood grain's supersize figure, but also generates strong pulsing rhythms throughout the space.

And the sense of spatial flow becomes particularly powerful at Thomas Heatherwick's La Maison Unique Longchamp, an upscale Manhattan retail space, where a highly sculptural steel-and-rubber stair surges like a great wave, propelling customers "upstream" to the selling floor, on the second story.

At Longchamp and the other projects featured in this issue, we encourage you to come on in, head up (or down) the stairs and around the bend to take in the spatially transformative experiences of Record Interiors 2006. *Sarah Amelar*

The architects featured:
1. Tadao Ando
2. Graft
3. Jun Aoki
4. Winka Dubbeldam
5. David Adjaye
6. René González
7. Thomas Heatherwick



The overhead "drapes" are actually a hard material: canvas frozen into place with a fiberglass spray on the upper, unexposed surface. The restaurant offers a variety of dining options, including long communal tables.

Tadao **Ando** serves up rich visual fare with silky concrete and glowing water bottles at New York's **MORIMOTO** restaurant

By Sarah Amelar

Flaps of persimmon-red cloth over the entrance of Manhattan's Morimoto restaurant flicker wildly in the breeze, animating the industrial brick-and-blackened-steel facade. A curiosity to passersby, the flame-bright scrims turn out to be a playful twist on a traditional *noren*, the curtain that hangs outside shops in Japan, signifying "open for business." Unlike a typical *noren*, this one is not of cotton, but of woven PVC weighted at the bottom, and it spans not a modest commercial doorway, but an almost theatrical 50-foot-wide arch. This supersize gesture offers a first taste of the space's inventive and, in many cases, oblique allusions to Japanese culture. Just as chef Masaharu Morimoto—a star of TV's *Iron Chef*—fuses Japanese sushi with such flourishes as *fois gras* and crème fraîche, the restaurant design borrows seasonings from eclectic sources.

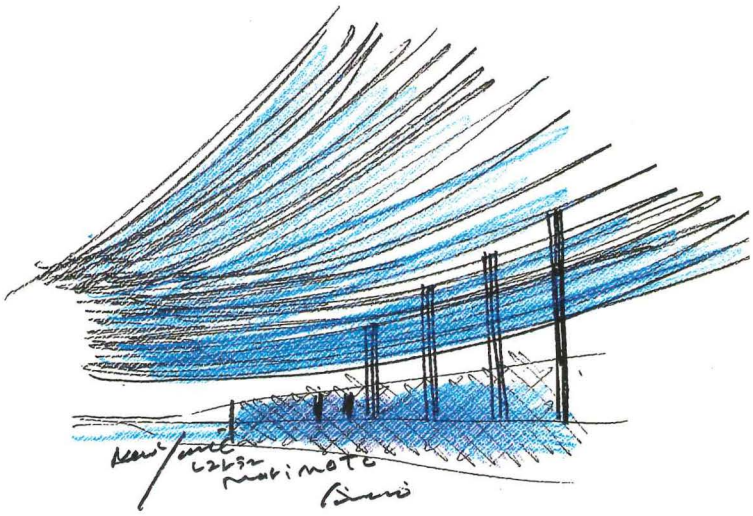
Right behind the *noren*, automatic doors glide open, revealing that this is not your classically sober, ultraserene Tadao Ando project. Certainly, concrete, his signature material, is present—notably in the stair descending from the 160-seat dining area, at grade, to the bar and lounge below. But beyond that cool, quiet gray, the 13,000-square-foot interior conveys a sense of spectacle in its dynamic convergence of angles, multiple contrasting surfaces, and overhead ripples coursing across a luminous, tentlike ceiling.

A nearly two-story-high water wall, angled off of the plan's orthogonal lines, plunges down the center of the space alongside the stair. Not the gently trickling waterfall of Japanese gardens nor the country's almost glacially still fountains, this freestanding wall is composed of 17,400 half-liter plastic bottles, filled with mineral water and screwed into electric-socketlike couplers. While vertical stainless-steel rods hold the couplers, horizontal bracing carries LED point lighting, producing a backlit shimmery effect.

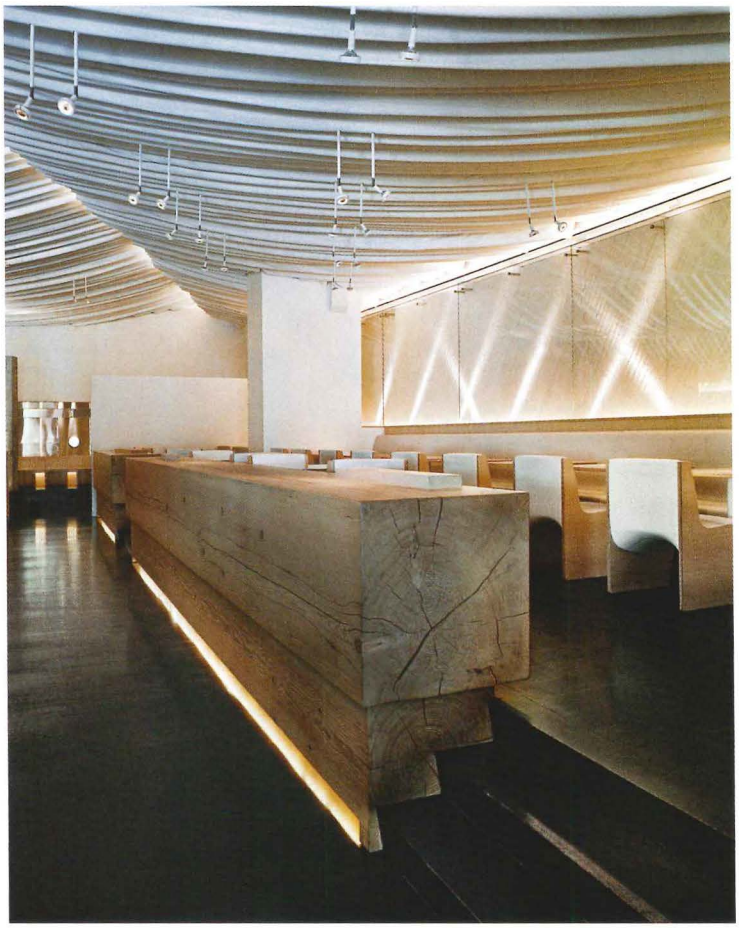
But is this whimsical (though literally splashless) exuberance really the work of the typically rather subdued Ando? "Restaurants are different from more 'serious,' architecture," he explains. "I recognize them as places for entertainment." His client, Stephen Starr, a self-described "longtime fan of Ando's" and "design-driven restaurateur," who had commissioned Karim Rashid for his Morimoto restaurant in Philadelphia [RECORD, November 2002, page 164], convinced the Japanese architect to take on this $6.5 million project in what was once the Nabisco Baking Company's gritty loading dock and basement. The space now borders Manhattan's Chelsea Market, a hip, quasi-industrial food arcade. Starr was initially concerned, he confesses, that the project might turn out "museumlike and all concrete," so he "respectfully let Ando know early on that the restaurant would need warmth." And, it seems, a lively spark.

Playful experiments with plastic water bottles are not, however, new to Ando's work. In recent years, he used empty ones in his traveling sets for an opera, conducted by Seiji Ozawa, and for temporary exhibition walls at the Suntory Museum, a 1994 building in Osaka of his own design. (Early in his career, he even built several modest restaurants—though apparently none with plastic bottles.) "I'm interested in bottles," the architect says, "because they're very basic household items that can become something else entirely different, depending on how you use them."

At Morimoto, as Ando readily acknowledges, the outcome—for the water vessels and the entire interior—evolved through a true collaboration of talents. To orchestrate the project, he chose Stephanie Goto, a young Japanese-American architect who heads Goto Design Group, a



The *noren* (hanging cloth, left) spans a 50-foot-long arch at the restaurant's entrance. Ando superimposed blackened-steel cladding over the existing facade. A huge, cracked Douglas fir log forms a counter (below).

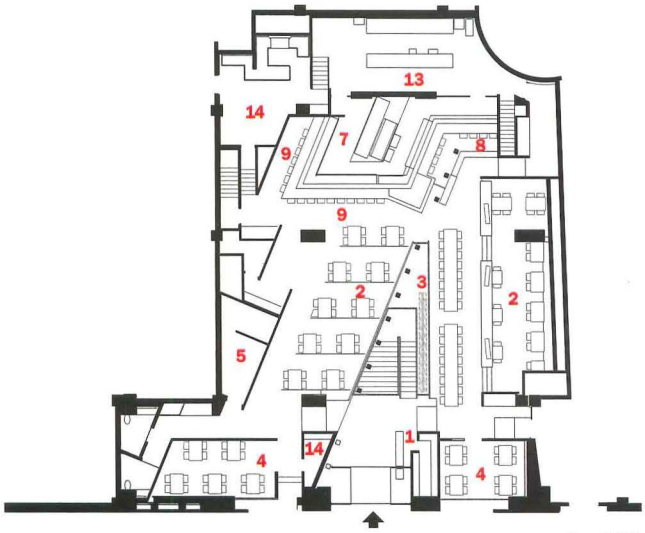


Project: *Morimoto New York, N.Y.C.*
Architect: *Tadao Ando Architects and Associates—Tadao Ando, principal; Masataka Yano, project architect*
Associate architect: *Stephanie Goto Design Group—Stephanie Goto, principal, New York project architect*
Engineers: *Leslie Robertson and Associates (structural); Thomas Polise (m/e/p); Langan (geotechnical)*

The stair descends from the dining area, at street level, to the bar below. LED point lights of two different color temperatures illuminate the bottle wall.

Ross Lovegrove, who masterminded all the furniture, had also, years before, designed the Ty Nant water bottles that screw into the wall's structure like light bulbs in a coupler.

Uplights cast "X"s on a rice-papered wall (opposite). Glass partitions, with a denser frit pattern toward the bottom, provide some privacy (opposite, at left). The cantilevered, poured-concrete stair, pinned at top and bottom, hangs from four of the square concrete columns, none of which actually touches the ceiling (this page, top and bottom).



STREET/ENTRY LEVEL

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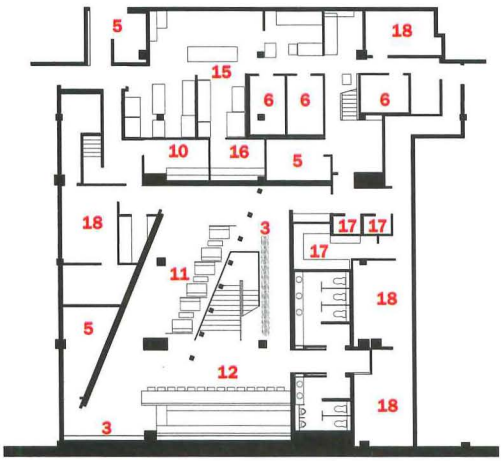
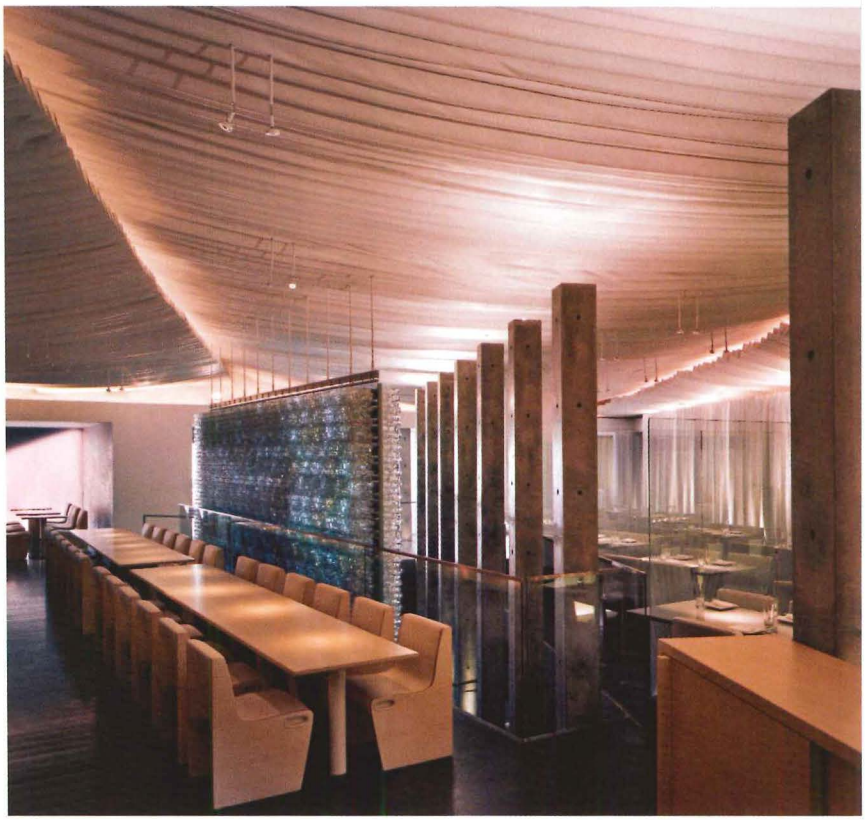
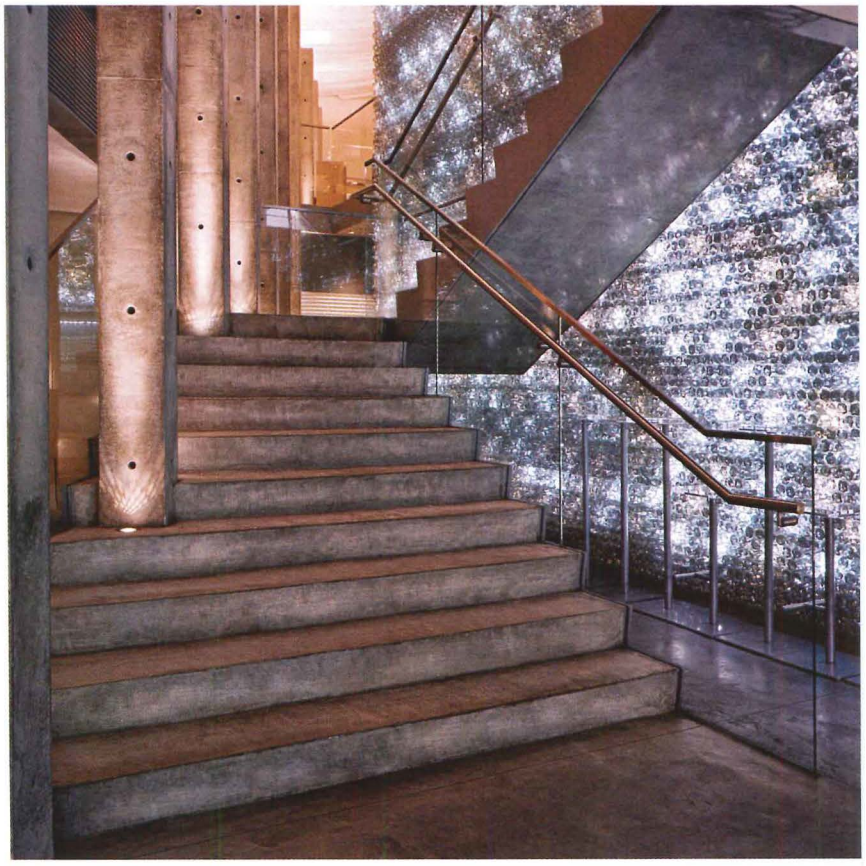
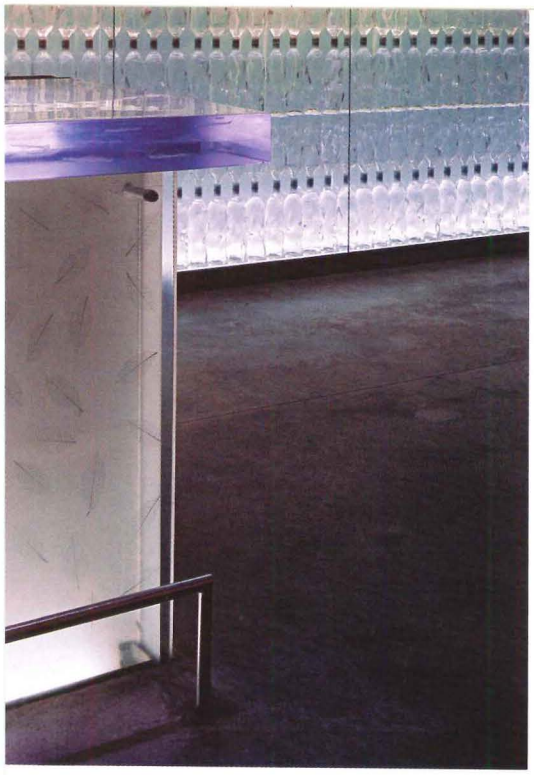


LOWER LEVEL

1. *Host/coat check*
2. *Dining*
3. *Bottle wall*
4. *Private dining*
5. *Storage*
6. *Walk-in refrigerator*
7. *Exposition kitchen*
8. *Omakase bar*
9. *Sushi bar*
10. *Manager*
11. *Lounge*
12. *Bar*
13. *Main kitchen*
14. *Dish washing*
15. *Prep kitchen*
16. *Chef's office*
17. *Staff only*
18. *Mechanical*







Ghostly leaf skeletons appear to float in the resin bar top (far left and opposite). Each bathroom stall offers views into an "infinity wall," containing silk flowers that the staff changes seasonally (near left). The lounge chairs look like concrete but are actually soft milled foam of varying densities (below).

small New York firm. She credits her earlier work as a project architect for David Rockwell with teaching her how to produce or, as she puts it, "creative-direct" an ambitious restaurant interior. "This is definitely Mr. Ando's vision and design, but if I had not been involved with every aspect," she admits, "the end result might have looked quite different."

Hand-selecting materials, processes, and skills from often unconventional sources, she hired Showmotion, a theatrical "theming" contractor for Broadway sets, to fabricate the dining area's rippled ceiling. Ando wanted the gently undulating surface to have a light, breezy quality, balancing the darkness of the oak floors he stained charcoal gray. And, says Goto, he also saw the overhead treatment as a metaphor for the raked stones in a Japanese garden. Though the ceiling's 44 panels appear as soft drapery, they are actually folds of cotton canvas frozen in place with fiberglass sprayed inch-deep on the unexposed surfaces. (Strong as a boat's hull, the suspended panels were designed to carry the weight of workers standing on them.) Then, lighting designer Arnold Chan, of Isometrix, gave this ceiling and the entire space a soft glow—in most places without visible light sources.

For the furnishings, Goto suggested London-based industrial/furniture designer Ross Lovegrove. "Ando and I might seem an unlikely combo: I tend to maximize organic form, while his work is more Minimalist and linear," Lovegrove says. But as he had noticed, Ando chose this "organic" work for several earlier projects, providing a successful foil for rectilinear concrete. To create furniture that would "fit elegantly and noninvasively" into Morimoto, Lovegrove says he started each piece as a cube and then eroded it from the inside. "Externally, the forms relate to Ando's work," he notes, "while internally, where they touch the body, they're more mine." One version of that cubic model, Lovegrove's chairs for the lounge downstairs, look like concrete (in homage to the architect), but are actually squishy, combining several densities of milled foam with a specially treated surface. So just as the dining area's ceiling, upstairs, appears soft but is, in fact, hard, these seats appear hard but turn out to be soft. "A sense of material discovery," says Lovegrove, "is very Japanese."

And there are many materials to discover here. The dining level includes a textured wall of rice paper and a huge, cracked Douglas fir log that serves as a counter. The water wall's bottles, evoking glistening chunks of ice, were designed by Lovegrove, years ago, for Ty Nant, a Welsh mineral water. And Chinese-made fritted-glass partitions, with a dot pattern growing dense toward the bottom, veil intimate dining enclaves within the larger room.

The lounge level, which took significant engineering to strengthen the foundations and keep a high water table at bay, has a low-key nightclub feel. Here, cedar wall panels, stained bright red, send a vibrant glow through crystal-clear, cast-acrylic barstools and a long resin bar top, embedded with delicate leaf skeletons. Even in the pure white bathrooms, a small spectacle awaits: A mirror trick behind each toilet presents endlessly multiplied views of flowers, receding into infinity. And beyond the bar is a variation on the central water wall, this one with bottles mounted end-to-end vertically.

Throughout the two floors, Morimoto serves up a rich mix of visual ingredients. But the muted palette of natural concrete, cotton canvas, and wood—like precisely prepared sushi rice—is what allows the space's more intense flavors to stand out. ■

Sources

Furniture: *Poltrona Frau (custom designs by Ross Lovegrove)*

Lighting: *National Cathode; Lightolier; ALM; LitLab; Lucifer; Exterior Vert; IO; Phillips; Times Square; B-Light; Ardee*

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

Vivid marigold surfaces enliven the dental clinic's two levels, reflected here in mirrors backing the staircase (right). Dot-screen images of humans lunge across the sinuous forms (opposite).

Graft renders dental visits spalike, complete with metaphoric beach dunes, at the sun-bright **KU64** clinic in Berlin

By Suzanne Stephens

The hot marigold hues of the swooping walls, floors, and ceilings in Berlin's KU64 dental clinic make you totally forget you are in the domain of the screechy drill and the softly intoned claim, "This won't hurt." In tackling the design of a place so many dread, Graft, architects with offices in Berlin, Los Angeles, and Beijing, sought to create a comfortably upbeat ambience. The clinic's location on the fifth and sixth floors of an office building overlooking Kurfürstendamm, a grand shopping boulevard, gave the designers an idea. "With ample sun coming through the south-facing windows, we thought this would be perfect for a beach scenario," says principal Lars Krückeberg. The "dunescape," as he describes the firm's design concept, surreally evokes a Baltic seaside resort, even down to the poolside-style chaise longues and the smell of burning logs from a metal stove in the waiting room (intended to bolster that "happy holiday feel"). The aroma of freshly roasted coffee wafting from a cappuccino machine further removes the client from thoughts of Novacain and pain.

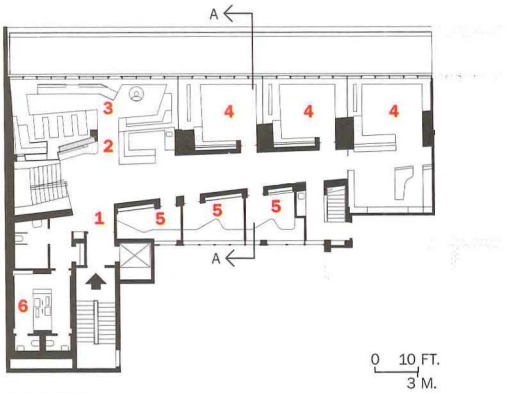
The 10,180-square-foot dental clinic, called KU64 after its Kurfürstendamm address, is an unusual commission for the young firm, formed in 1998. But Dr. Stephan Ziegler, who had seen a publication of Graft's outré Q! hotel, just off Kurfürstendamm [RECORD, September 2004, page 128], approached the architects. Ziegler was putting together a full-service clinic for eight dentists, complete with its own laboratories and preventive-care consultation for patients who desire a spa ambience with all their dental care. Clearly the space could not look anything like a dentist's office. And as Krückeberg points out, the old truism holds: "You must have a good client—and a good architect—for architecture to happen."

To create a sinuous, cocoonlike setting that would flow right from the entrance through the entire length of the main floor (but without a high price tag), the architects used drywall construction, surfaced in polyurethane with a colored sealant. They visually activated the fluid, 3D forms further by spraying them with enlarged dot-screen images of the human figure, cast in anamorphic perspective, and then applying a clear lacquer sealant. To counter the intensity of the marigold hue, Graft turned to burgundy for furnishings and accents on the floors and walls. As Krückeberg puts it, "We wanted something warm and dark, with a grand-hotel connotation." But apart from the burgundy, brightness abounds.

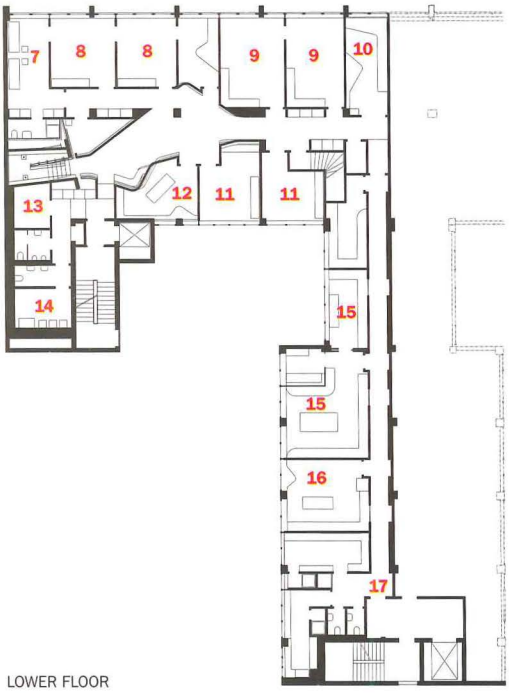
Glass windows between treatment alcoves allow daylight to permeate the spaces. Once the patient is ensconced in a treatment alcove, however, he or she is removed from view, below the eye level of other

Project: *KU64, Berlin*
Architect: *Graft—Lars Krückeberg, Wolfram Putz, Thomas Willemeit, principals; Tobias Hein, Karsten Sell, project architects; Sven Fuchs, Lennart Wiechell, architects; Björn Rolle, Markus Müller, project team*
Engineers: *KGG (structural); ICM Ingenieurbüro (mechanical, electrical)*

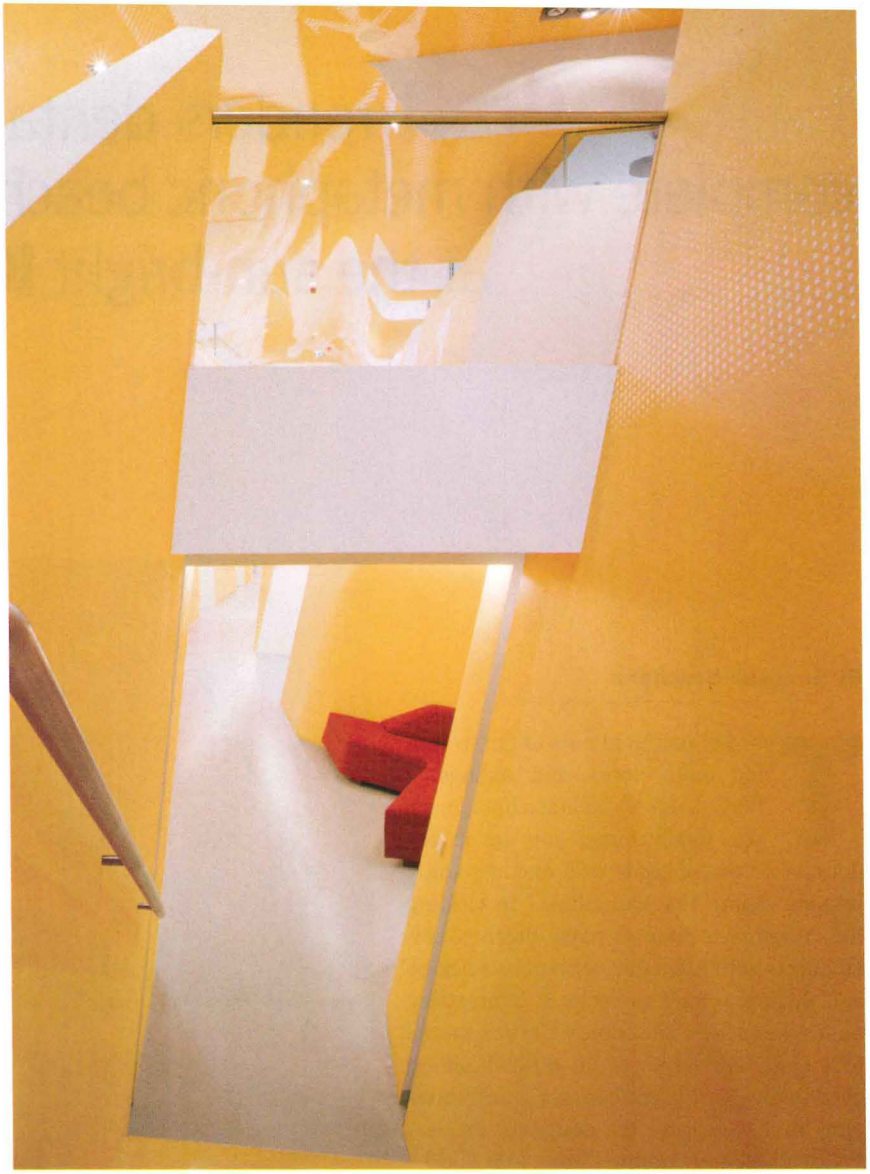
1. *Entrance vestibule*
2. *Reception desk*
3. *Waiting room*
4. *Treatment area*
5. *Office*
6. *Washroom*
7. *Recovery*
8. *Surgery*
9. *Orthodonture*
10. *Porcelain workshop*
11. *Prevention*
12. *Health consulting*
13. *X-ray*
14. *Technical*
15. *Laboratory*
16. *Communal space*
17. *Changing rooms*



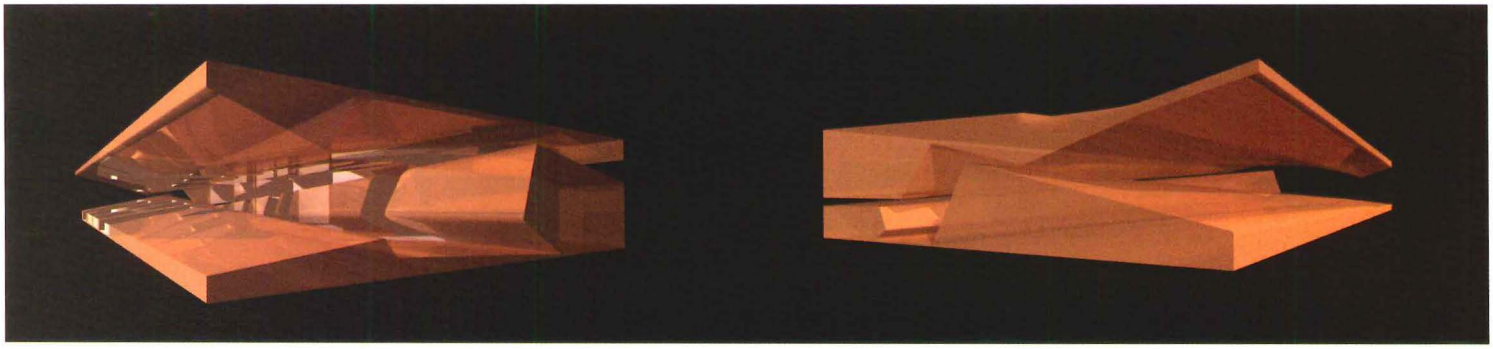
MAIN FLOOR



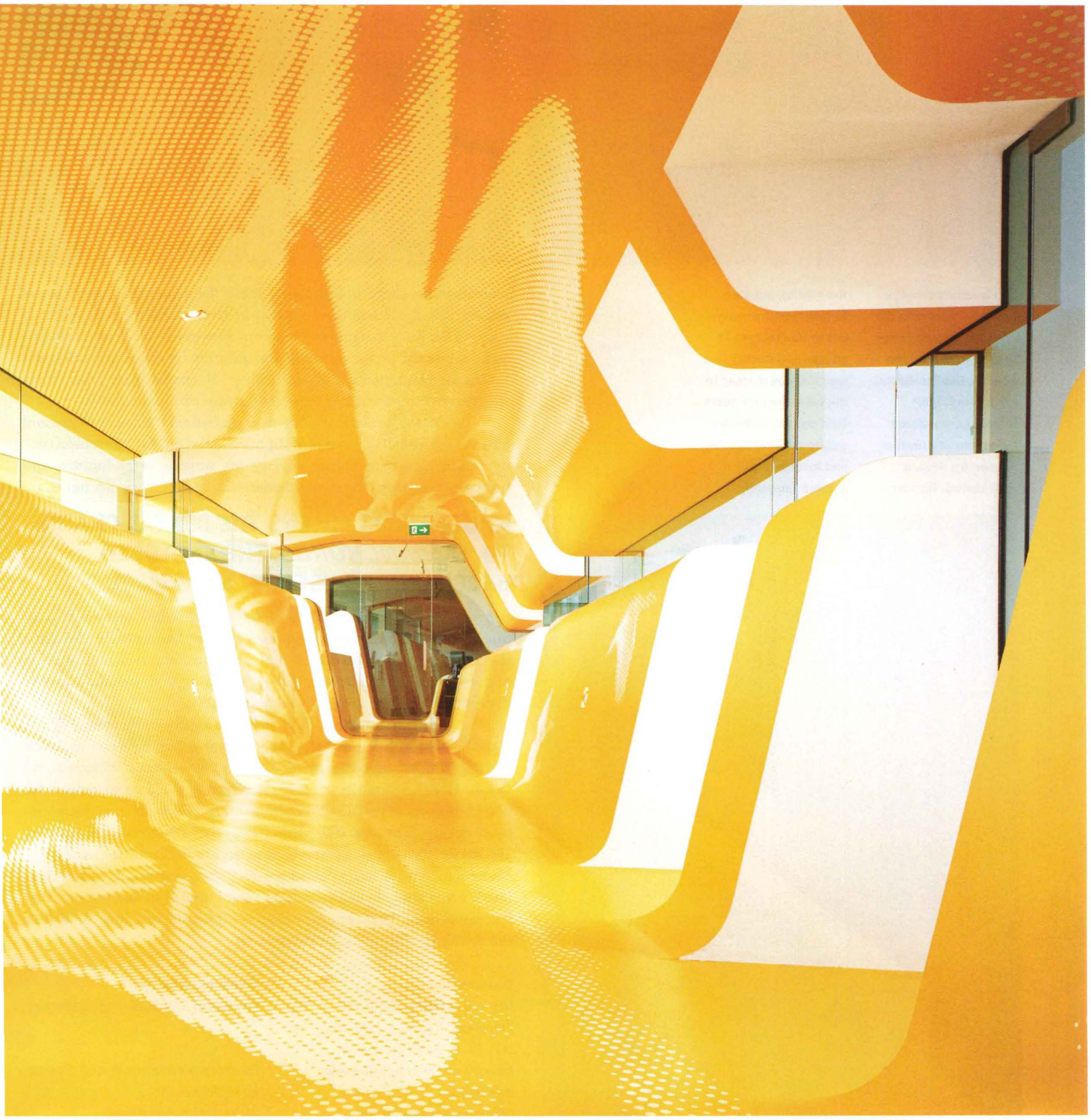
LOWER FLOOR

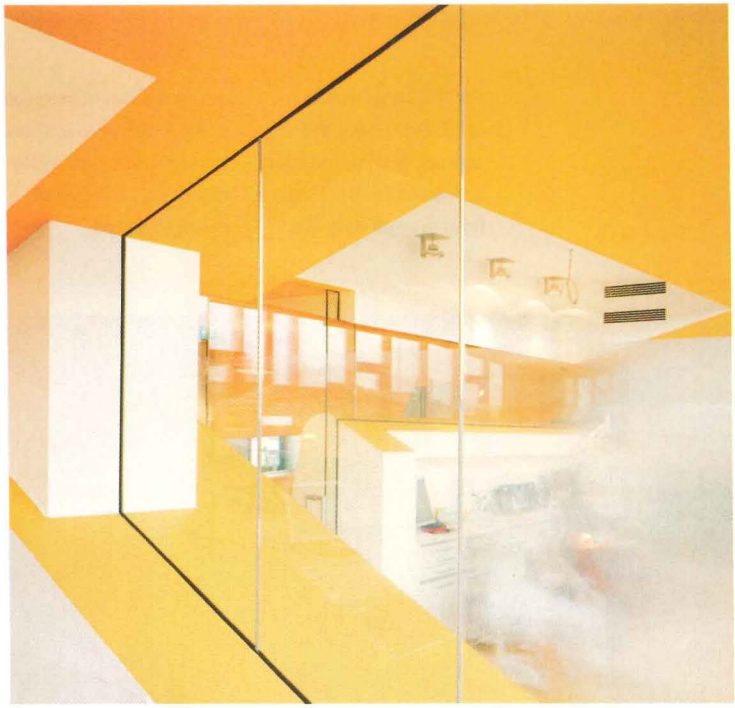


Burgundy fabric punches up lounge areas, as on the lower floor (above). Graft's computer-generated conceptual models (below left and right) suggest the sculptural plates, from which the spaces are carved.



For the clinic's main level, Graft gave the ceilings, floors, and walls curved contours, built from drywall that was painted a bright marigold, sealed with polyurethane, and sprayed with white dot-matrix images of human figures.





The treatment rooms have windows onto the corridor, allowing daylight to infuse all the spaces. But the dental chairs (top right) remain sequestered below the eye level of passersby. Also, a view-control film on the glazing appears to turn from transparent to translucent as people approach. For a rear hallway leading to the labs, the architects built out the white drywall to conceal lighting and inset planes painted burgundy.

patients in the corridor. Krückeberg likens the sequestered experience of occupying a dental chair here to "sitting in a *strandkorb*, the enclosed beach chair on the Baltic that protects you from the wind—only here it is about a sense of privacy." To increase the visual seclusion for the various treatment rooms, the architects applied a view-control film on the glazing that visibly shifts from transparent to translucent for passersby in the hallway.

On the lower floor, with more specialized treatment rooms and labs, the horizontal dunescape of the main hall yields to a canyonlike configuration, affording greater privacy for surgery, orthodonture, and implantations. Here, the color scheme relies less on marigold, but is still light—a Cabinet of Dr. Caligari rendered in yellow and white with touches of burgundy. For a long narrow corridor leading to the labs and a staff changing area, the architects both built out and carved back one side of the hallway and ceiling to reveal planes of burgundy behind the white drywall, with backlighting for volumetric effect.

KRÜCKEBERG LIKENS THE DENTAL CHAIRS TO "*STRANDKORBS*, THE ENCLOSED BEACH CHAIRS USED ON THE BALTIC."

In many ways, the concept for this exuberantly offbeat dental clinic fits well with the architect's general philosophy, based on botanical grafting. Krückeberg and partners Wolfram Putz, Thomas Willemeit, and Gregor Hoheisel (head of the firm's Beijing office) like to go beyond the boundaries of traditional architecture, grafting ideas from other disciplines to create fluid forms that blur physical boundaries between walls, ceilings, and floors. The approach seems to have worked brilliantly for Dr. Ziegler, whose clinic already stays open seven days a week, year-round. "I wanted to invent a new kind of practice" he says, "and I needed an innovative design that would make the patients very happy—which they are." Indeed. With all this ebullience, who needs laughing gas? ■

Sources

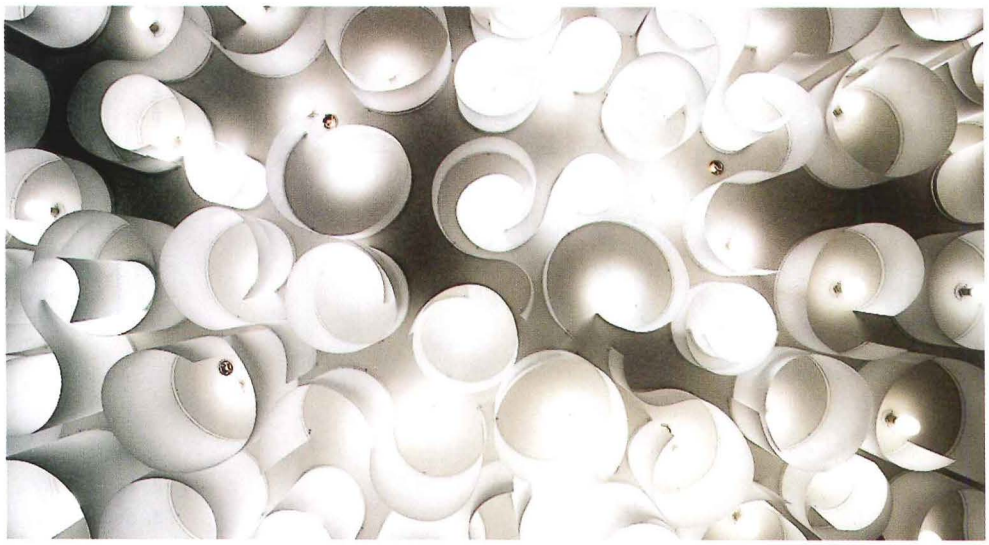
Drywall system: *Knauf*
Flooring: *Degussa AG Flooring (6th floor); Forbo (fifth floor)*
Interior ambient lighting and downlights: *Wever & Ducré*
Glazing view control film: *Lumisty*
Sinks, faucets: *Agape*
Fireplace: *Euroflues (Ergofocus style)*

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

On the dental clinic's lower level (below), swerving walls shield dental surgery and implant rooms, as well as recovery areas.

Curls of plastic-laminated *washi* paper swirling around fluorescent lamps cover the ceiling (this page and opposite), while custom steel furniture evokes hair-cutting tools.

Jun **AOKI** coifs the ceiling with luminous curls at **XEL-HA**, a new beauty salon in Tokyo's high-fashion district



By Naomi Pollock

At beauty parlors around the globe, scissors-wielding stylists routinely scatter shorn locks over the floor. But at Xel-Ha, a Tokyo salon designed by architect Jun Aoki, even the ceiling is strewn with curls. Combining a finish with a lighting system, Aoki covered the entire 2,336-square-foot surface with swirling sheets of plastic-laminated *washi*, a bleached-wood pulp paper, commonly used for lampshades in Japan. Each well-coiffed curl spirals loosely and eccentrically around a ball-shaped, 13-watt fluorescent lamp. "For the consumer, a visit to a hair salon is sometimes a special event," says Aoki. "A salon must be a little bit theatrical, plus a little bit cozy." Xel-Ha's dramatic cover is gentle on the eye but as head turning as a perfectly sculpted bouffant.

The decision to highlight the ceiling came in response to practical and aesthetic concerns. While the client, an established stylist, requested nondirectional, even lighting, the ceiling was one of the few places—amid sinks, brushes, and blow-dryers—where Aoki could leave his mark. After all, when customers lean back for hair washing, they often gaze upward (though in most salons, the vista is unremarkable). And to passersby on the street, the space—topping a three-story commercial building in Tokyo's Omotesando fashion district—reveals little more than its ceiling.

As realized, that lofty surface becomes most luminous and visible to pedestrians at night, during the salon's evening hours and training sessions for budding barbers and beauticians. But even during the day, the ceiling's articulated contours are in full view from the curving, car-free passageway that divides the structure's base into an L-shaped block for high-end retail and a freestanding corner boutique for Cartier. The building, by architect Jun Mitsui, is a 2005 addition to the quarter's retail landmarks, which include Aoki's Vuitton flagship, just down the street, and Herzog & de Meuron's Prada "epicenter" [RECORD, October 2003, page 92] next door.

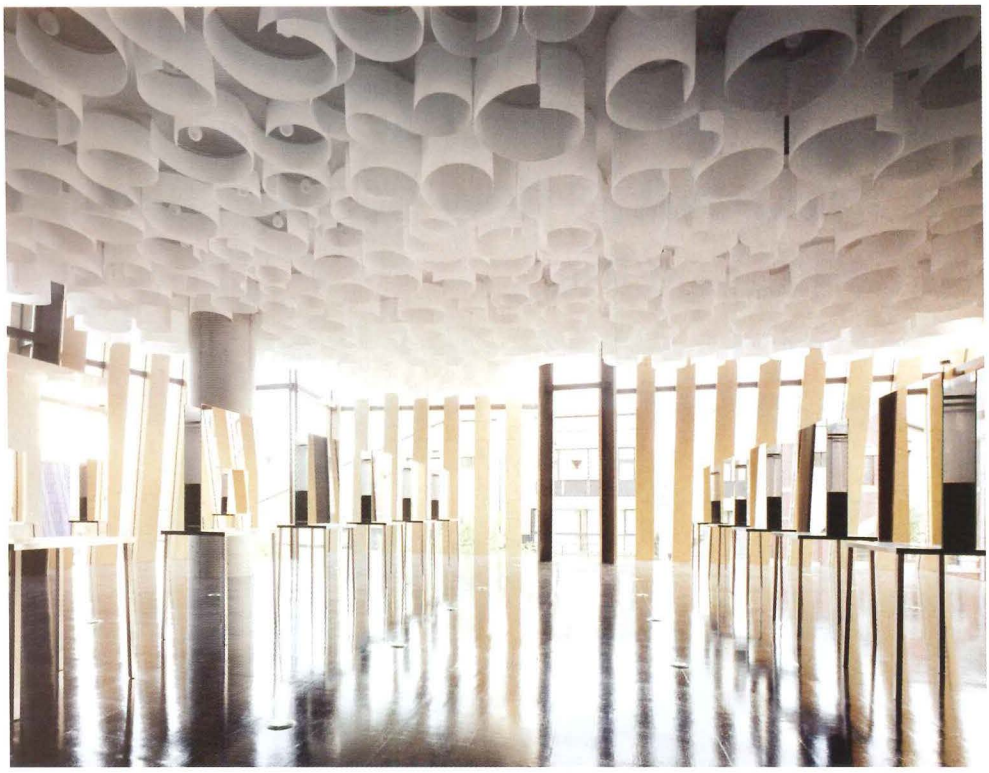
From the cobbled pedestrian way, a glass-enclosed elevator leads directly up to Xel-Ha. (Inspired by the owner's Mexican travels, the name is Mayan for "a place where water wells or is born.") The elevator opens onto the 3,746-square-foot salon, a single factorylike space divided into an open haircutting zone, to the left, and a secluded spa zone, to the right. For privacy and tranquility, the spa required a warren of treatment rooms behind full walls and doors. While hairstyling and spa areas needed clear separation, Aoki tied them together with a uniform material palette of dark brown surfaces, contrasting markedly with the ethereal white ceiling.

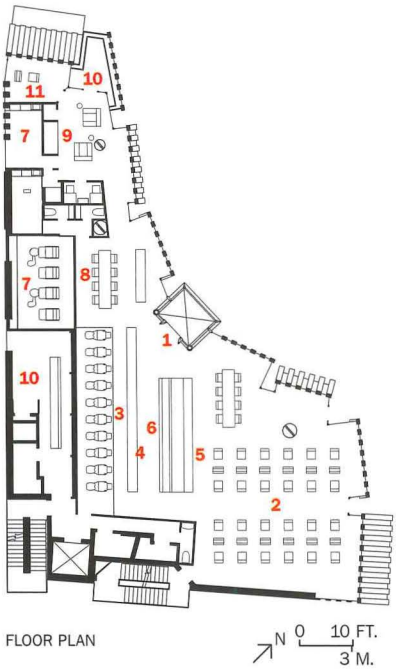
Aoki kept the overhead flow uninterrupted, where possible, by using low elements to subdivide the hair zone. Rising only three quarters of the way up, brown-lacquered customer lockers and a freestanding storage unit (topped by a glazed, champagne-and-water-stocked refrigerator) separate the shampooing chairs and basins that line the back wall from the cutting floor, with its 12, double-sided styling stations.

While the job called for durability, the architect sought expressive surfaces to set the mood. "If the materials are too smooth, the space doesn't feel relaxed," he explains. "But if they're too rough, it feels too relaxed." For the walls, he favored coarse chipped-wood board painted dark brown, camouflaging future dings; and for the floors, shiny brown plastic tile to endure chemical spills and constant sweeping. Overhead, Aoki achieved a luminous, cloudlike quality, as well as proper task lighting, by randomly distributing

Naomi Pollock is RECORD's Tokyo-based correspondent.

Project: *Xel-Ha, Tokyo*
Architect: *Jun Aoki & Associates—Jun Aoki, principal; Noriko Nagayama, architect in charge*
Lighting consultant: *ITL Company*
General contractor: *Bill Gates*





The cutting stations (above), just 19 inches deep, now have salon chairs (not shown). Hair-washing setups line one wall (below).

1. *Entry/elevator*
2. *Haircutting*
3. *Shampooing*
4. *Lockers*
5. *Refrigerator*
6. *Reception*
7. *Spa treatment room*
8. *Waiting*
9. *Nail salon*
10. *Outdoor space*
11. *V.I.P. room*

750 fluorescent lamps and 10 different spiral and S-shaped shades, varying from 8 to 20 inches in depth. To build this unusually complex ceiling, the contractor transferred the architect's sketch onto a mesh cloth, affixed to drywall, and traced over the irregular pattern with a marker. Guided by the dotted lines where the pattern crossed the mesh, he bolted the bulbs into place at intervals ranging from 14 to 32 inches, and surrounded them with curved metal frames to hold the milky white sheets, secured by plastic pins.

Adding to this material palette, Aoki designed delicately proportioned, mostly metal furnishings that evoke hairdressers' tools. Straddling the line between architecture and furniture, the 21-foot-long reception desk, abutting the customer lockers, is sharp-edged, with a stainless-steel top and brown lacquered sides. Stainless steel was also the material of choice for the cutting stations and waiting tables. Each station, only 19 inches deep, can accommodate a client on either side of paired mirrors, which sandwich a storage slot for blow-dryers and magazines.

Aoki's thoughtful material selection and formal articulation also respond to a larger scale: the building facade, which features concrete louvers tilting in various directions. Instead of competing with, bowing to, or ignoring the assertive louvers, he complements their tan hue by rendering Xel-Ha in multiple shades of brown and white, while mollifying the exterior's bold angularity with his graceful curves. In Japan, straight hair may still be the norm, but curls offer a welcome change. ■

Sources

Lampshade material: *Warlon*
Lighting: *ITL; Endo*
Furnishings: *Hill International; Takara Belmont; Bill Gates*

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

Sandwiched between the cutting stations' paired mirrors is a storage slot for blow-dryers and magazines. The ceiling's cloudlike lightness contrasts with the dark floor.

The entry opens onto the shorter leg of the L-shaped main living space, bordered by a terrace (opposite). The central spine (this page) facing the kitchen/dining area, is clad in bog oak.

In New York City, Winka **Dubbeldam** counters her building's cascading facade with the **SCHEIN LOFT's** horizontal rhythms

By William Weathersby, Jr.

A rippling curtain wall of bent glass flows dramatically down the front of architect Winka Dubbeldam's 11-story residential building, adjoining a 19th-century brick warehouse [RECORD, November 2004, page 198]. The two structures, in Manhattan's SoHo neighborhood, merge as one, with floor plates aligned to house 23 apartments. While the Modernist glass folds cascading beside the stoic historic structure call to mind a waterfall, a loft apartment on the eighth floor evokes another part of the forest. Here, Dubbeldam, with her firm Archi-Tectonics, created an asymmetrical circulation spine, clad in bog oak, that anchors the loft with unexpectedly fluid geometry.

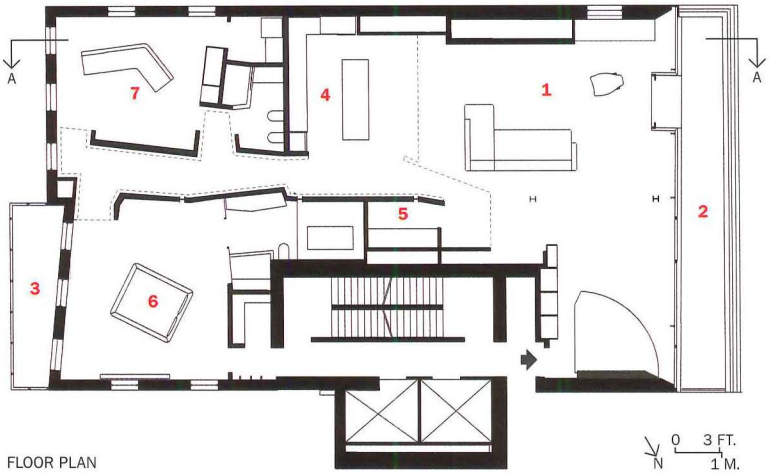
"The facade is a folded vertical landscape, and I wanted to internalize that notion," says the architect, who was commissioned to design the loft after she had completed the shell. For the two-bedroom apartment, she adds, "the undulating folds of the curtain wall are wrapped inside out." The facade's transparency morphs into the wood spine's expressive horizontality and planar rhythms.

Dubbeldam, who made one of the lower-floor lofts her own home, says she welcomed the assignment to craft another interior here. (Her firm had delivered the condominium units, ranging from 1,900 to 5,700 square feet, to the developer as Sheetrock-finished, open-plan spaces with 12-foot-high ceilings.) Artist and photographer Peter Schein was her client for the 3,200-square-foot, eighth-story apartment, a floor-through running from west to east and perched two levels above the complex's 19th-century section. "Peter was open to sculptural forms," the architect recalls, "but he requested a well-defined transition zone between public and private spaces." Generous art storage and low-maintenance, environmentally friendly materials were also priorities.

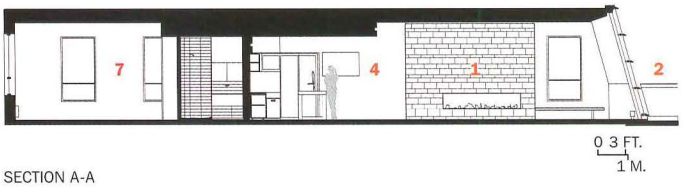
The apartment's entry opens onto the shorter leg of the L-shaped main living space. To the west, the slant of the floor-to-ceiling glazing, bordered by a terrace with sweeping views of the Hudson River and Lower Manhattan, immediately comes into view. The eastern wall introduces bog-oak-veneer plywood, a species Dubbeldam selected for its warm variegated hues. This sustainable material was waxed, formed into panels, and fitted into a black-metal framing system. Drawers within the wall accommodate art supplies and housewares, while the wall masks structural columns. Near the entry, an asymmetrical full-height section of drywall pivots to reveal a niche for oversize paintings and photography. As Dubbeldam points out, "The wall can be left open to create an ephemeral art installation."

Around the corner of the L, the fireplace's narrow, 7-foot-long

Project: *Schein Loft, New York City*
Architect: *Archi-Tectonics—Winka Dubbeldam, principal; Bittor Sanchez-Monasterio, Brooks Atwood, Ana Sotrel, project team*
Engineer: *Stanislav Slutsky (mechanical)*
Consultants: *Audio Video Systems (wireless integrated systems)*
General contractor: *New Industries*



FLOOR PLAN



SECTION A-A

1. *Living room*
2. *Terrace*
3. *Balcony*
4. *Kitchen*
5. *Darkroom*
6. *Bedroom*
7. *Guest/music room*

The long, slender fireplace aperture is set into a living-room wall of volcanic stone (right). A wood table for work or dining slides out from beneath the kitchen island (right). Canted wood walls of the central spine enclose the private domains of master bedroom (above and opposite) and guest room/music studio. The master bath, visible from the bedroom, is wrapped in slate tile and framed by aqueous blue glazing (opposite).

The master bath's tub features a spalike tile enclosure (top). A blue-glass wall injects a jolt of color (below left). The guest bath's mirrors amplify the room's geometry (below right).

A translucent glass door accessing the guest room/music studio contrasts with the bog-oak paneling. The shelves and credenza are of the same wood.

aperture slashes across the south wall, clad in smoke-hued volcanic stone. Beyond the seating area, a Parsons table pulls out from beneath the open kitchen's counter for work or dining.

The central hallway, connecting the living/dining/kitchen zones with the two bedrooms, delivers Dubbeldam's interior tour de force. Exploding the Cartesian grid, the bog-oak-clad wall panels cant at multiple angles, creating a sculptural effect evoking a Brancusi totem writ large. The corridor's walls remain bare, emphasizing the wood's natural patina. Overhead, an asymmetrical ceiling plenum masks HVAC systems and houses indirect fluorescent lighting. In addition to its aesthetic role, the central artery plays an environmental one. Its uninterrupted length allows cross ventilation between the western terrace and, on the loft's eastern edge, operable windows with a balcony.

Sections of the corridor walls pivot, becoming doors into the master bedroom and guest room/music studio. Oak flooring and bog-oak wall paneling wrap the spaces, which have built-in credenzas, shelving integrated into the walls, and furnishings kept to a minimum.

The master bedroom's adjacent bath lies behind a wall of blue glass, evoking water and enlivening the otherwise monochromatic sleeping area. A shower with blue glass tile rises near a tub set in a platform clad in black slate. Low-key, recessed lighting enhances the private-spa ambience.

In the spare and clean-lined guest bedroom/music studio, bog-oak shelves stagger across one wall. A translucent door allows light into an adjacent alcove and guest bathroom. And in the corridor, an artist's workspace is tucked behind a section of the bog-wood wall.

Dubbeldam, the in-house architect living just downstairs, continues to consult on Schein's loft. (She is currently working with the artist on installing vibrant custom rugs.) Fine-tuning this interior in a building of her own design remains a work-in-progress—one very close to home. ■

Sources

Curtain wall: *UAD*
Stone: *Stone Source*
Hardware: *Häfele; Dorma; Nanz*
Tub, faucets, toilets: *Atta; Boffi; Kohler; Duravit; Lefroy Brooks; DuPont*
Kitchen appliances: *Gaggenau; Miele; Sub-Zero*
Tile: *Nemo*
Paint: *Benjamin Moore*
Lighting: *Lutron; Lightolier*

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

From the reception area, coated in lipstick-red resin, the contrasting brass-lined *Passage of Honour* comes into view.

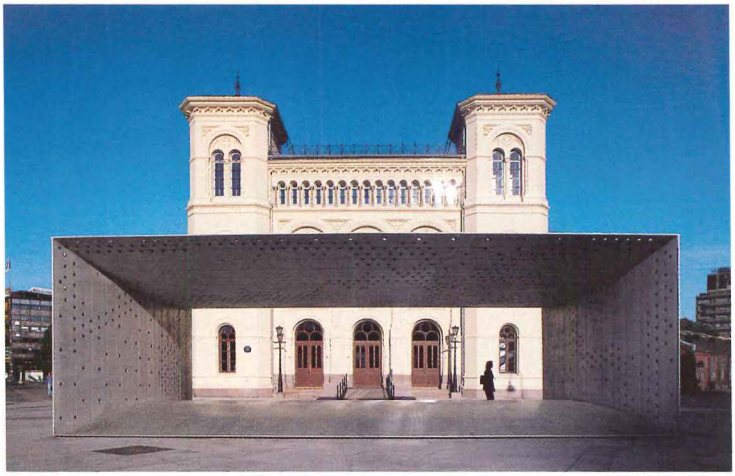
THE MAIN HALL

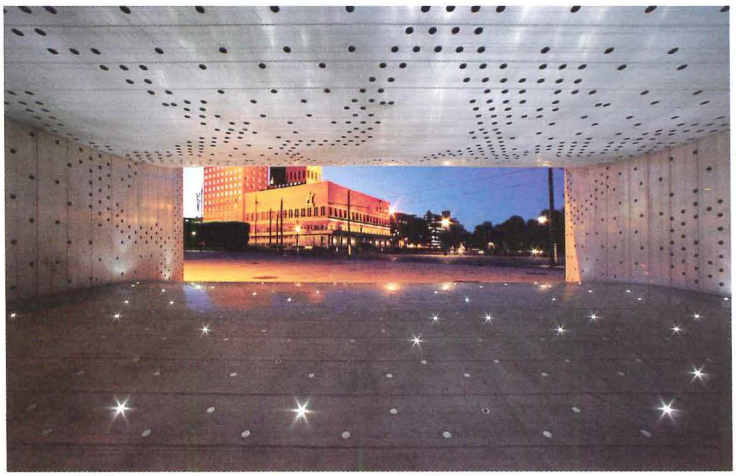
David **Adjaye** turns a former railroad station into the visually, intellectually, and spatially alive **NOBEL PEACE CENTER** in Oslo

By Raymund Ryan

Architecture and themes of peace sometimes coalesce in serene places, as in traditional Japanese gardens. But the task that faced London-based David Adjaye in designing Oslo's Nobel Peace Center involved the far more complicated issues of strife, as well as peace. The purpose of the center is to introduce visitors to the history of the Nobel Peace Prize since its inception in 1905, and host temporary installations revealing aspects of war and peace, humanity caught in inhumane conditions, and the struggle for human rights around the world.

The site—or, more precisely, the venue—for the project is Vestbanen, a small, late-19th-century train station that reveals little of its original function. Literally a stone's throw from the Oslo Fjord, this decommissioned, 16,000-square-foot station stands on an open plaza across from Oslo City Hall, a robust icon with twin brick towers. Selected through an interview process, Adjaye and his firm, Adjaye/Associates, were not permitted to make any major changes to the landmark-protected structure. So they took advantage of the urban space outside Vestbanen, placing a pavilion right in the path of dignitaries walking to the Nobel Peace Center from the annual award ceremony at City Hall.





Outside the Vestbanen building, Adjaye erected *Canopy*, a sleeve of perforated, sandblasted aluminum with a curved floor and ceiling (above and right).

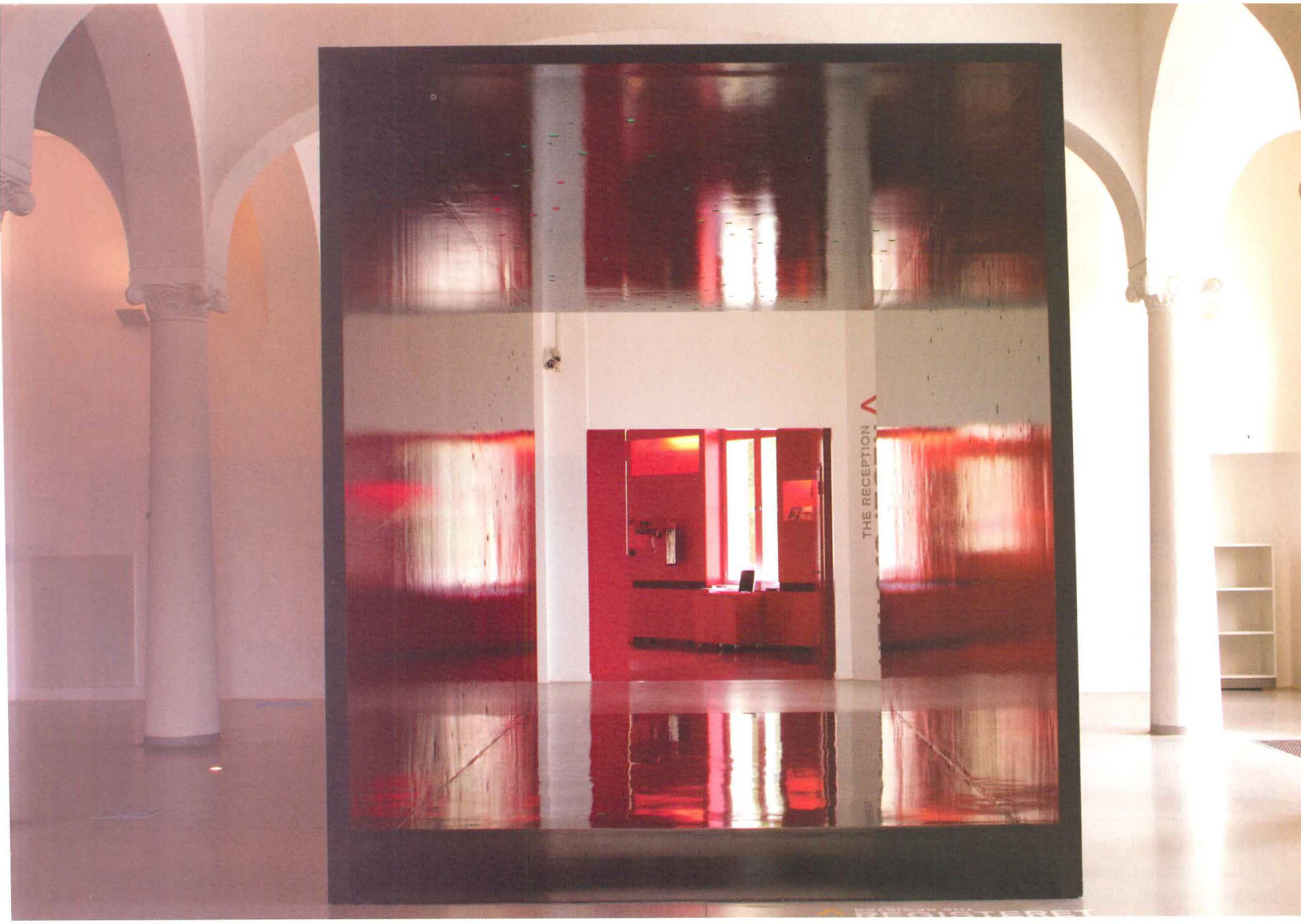
Called *Canopy*, the pavilion is a tubelike box, which, the visitor soon discovers, is akin to some of Adjaye's insertions within the Vestbanen building. A rectangular sleeve of sandblasted aluminum, with a curved floor and ceiling, *Canopy* remains open along its two longer sides. A walk (or bicycle ride) through it evokes the experience of traversing a small covered bridge. Pierced with many small holes delineating the world's continents, the shell uses aluminum that, ironically, was once slated for a Greek cannon boat.

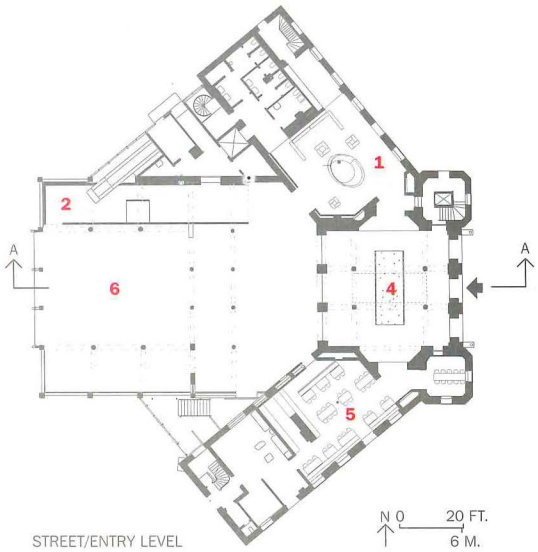
After passing through the freestanding *Canopy*, visitors can proceed indoors, into the Peace Center foyer, which Adjaye describes as "a deliberate void." Here, as with many of his projects, he says he intentionally attempted "to have no thresholds." A vivid green space to the left of the entry offers visual counterpoint to a glossy red one to the right. In between stands *Register*, a second sleevelike box, this one made of black GRP (glass reinforced plastic). Like *Canopy*, it is perforated, but its holes, representing major population centers, glow with green or red light, depending on that site's peaceful or warring status. Each puncture also emits the sound of a voice speaking in the respective city's language.

Adjaye chooses words like "jump" and "edit" to describe his scenographic approach to the dozen or so spaces inside the old railroad station. In places, he applied identifying finishes in radical fashion, as in the reception/bookshop area, where a vibrantly red resin covers the floor,

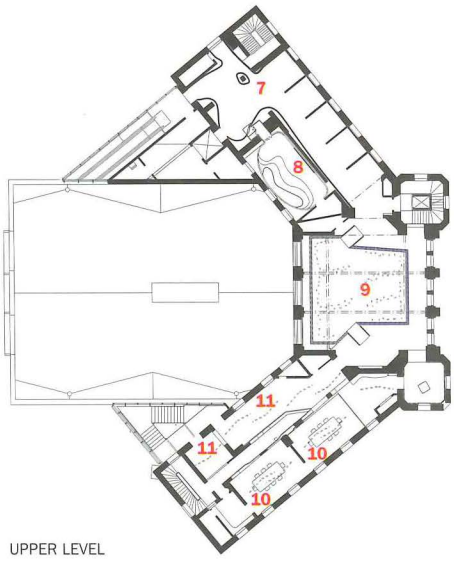
Raymund Ryan is curator at the Heinz Architectural Center in Pittsburgh.

Project: *Nobel Peace Center, Oslo*
Architect: *Adjaye/Associates—David Adjaye, principal; Monsour El-Khawad, Nikolai Delvendahl, project directors; Rashid Ali, Jennifer Boheim, Hannah Booth, James Carrigan, Caroline Hinne, Paul La Tourelle, Yuko Minamide, John Moran, Karen Wong, project team*
Local architect: *Anders W. Anderson*





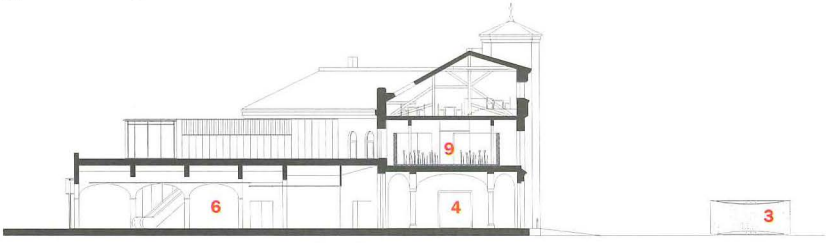
STREET/ENTRY LEVEL



UPPER LEVEL

Vibrant red resin coats the floors, walls, and torqued counter of the bookstore/reception area (above and opposite, bottom). Adjaye's insertions, such as *Register*, a sleevelike box (above and opposite, top), reframe the existing space.

1. *Reception/bookstore*
2. *"Passage of Honour"*
3. *"Canopy"*
4. *"Register"*
5. *Café de la Paix*
6. *Temporary exhibitions*
7. *Gallery*
8. *Cinema*
9. *"Nobel Field"*
10. *Education/conference*
11. *E-room (for interactive education)*



SECTION A-A

0 20 FT.
6 M.

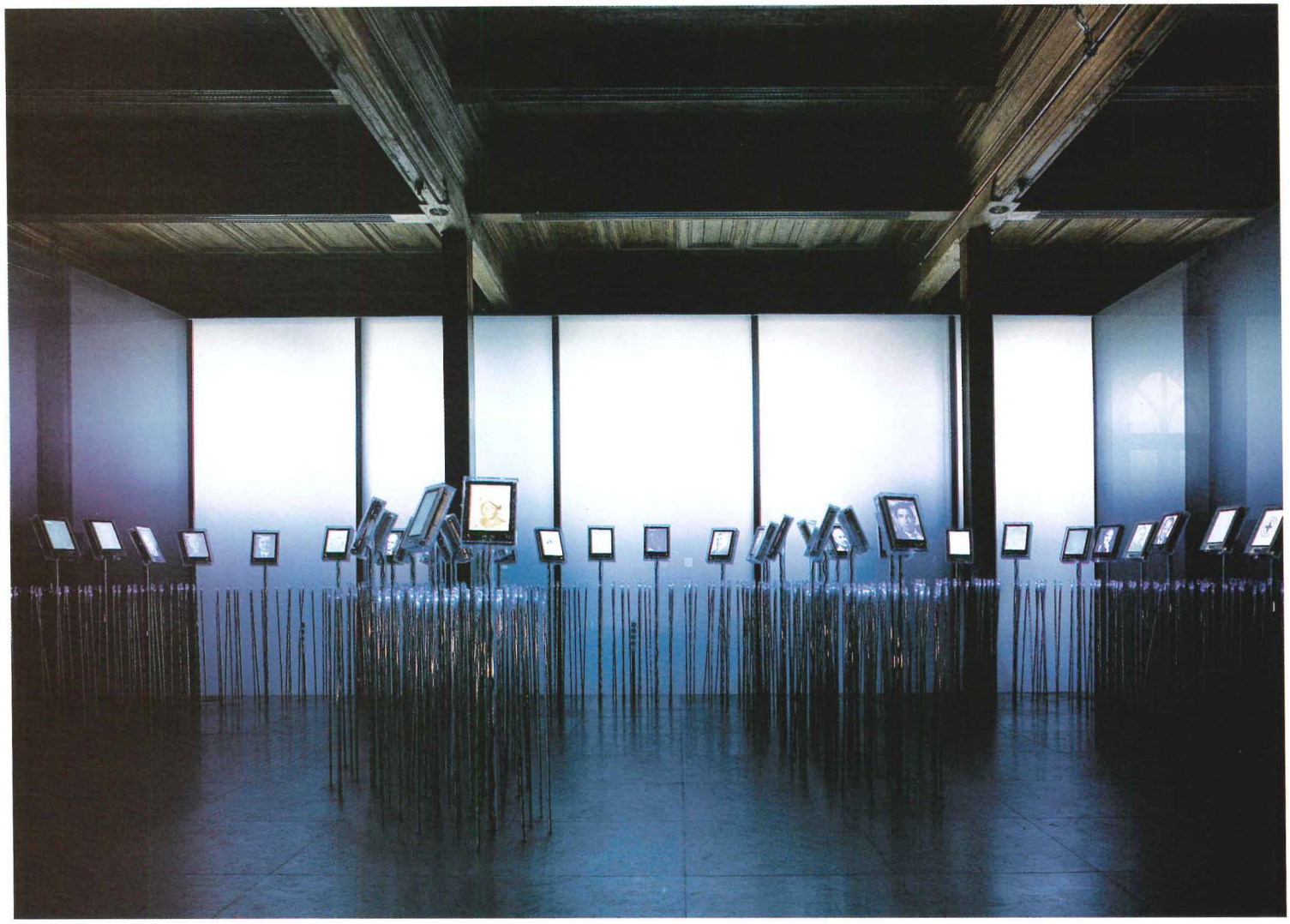
One end of *Register*'s tubelike form frames the café's green hues (top); the other catches the reception area's red glow (opposite).

walls, ceiling, bookshelves, display units, and the torqued sales-and-information counter. Perpendicular to the reception area, the architect inserted an additional room-size open box, this one entitled *Passage of Honour*. With flush sheets of brass lining its floor, ceiling, and two longer walls, the space is both seductive and momentarily disorienting, multiplying reflections in all directions. But soon the visitor's attention turns to a wall-like projection into the *Passage of Honour*, which presents a video on the most recent Nobel Peace Prize laureate.

A temporary exhibition space, adjacent to *Passage of Honour*, straddles the station's central axis, the terminus for lines once coming into Oslo from the west. An escalator leads up to a temporary gallery wrapped in cedar, as well as a felt-lined screening room. Directly above *Register* and beneath Vestbanen's restored coffered ceiling is *Nobel Field*. Here, translucent glass panels form a corral around a blue rubber floor, where acrylic stalks glow with LED lights and support small screens, bearing electronic portraits of past Nobel Peace laureates—Adjaye calls it "a digital garden." Developed with David Small, an MIT-trained designer of interactive graphics, these monitors activate when approached, each introducing a single Peace Prize winner.

Visitors then proceed to Vestbanen's south tower, where an interactive book relates Alfred Nobel's life story, and continue past *The Wallpapers*, a digital display with further information on the laureates, before descending a glazed stairwell back to ground level.

Inside the highly reflective, brass-lined *Passage of Honour*, visitors can view a video presentation on the most recent Nobel Peace Prize laureate.



Nobel Field **(above and left) features a blue rubber floor, where acrylic stalks glow with LED lights and support small screens, bearing electronic portraits of Nobel Peace laureates.**

Informality and glamour are hallmarks of Adjaye's work; he tends to treat an eclectic palette in Minimal fashion (with sublimated thresholds and few articulated joints) in pursuit of spatial effect. In Oslo, he plays new against old, and the temporal and temporary against the permanent. For the Peace Center's Café de la Paix, he collaborated with London artist Chris Ofili. (Adjaye had designed Ofili's home off London's Brick Lane in 1998, and the artist and architect collaborated on the installation of Ofili's work at the 2003 Venice Biennale.) They covered the café's walls and ceiling in shades of cool green: polygons caught in a crystalline web of golden yellow lines. It is, says Adjaye, "where you come to rest … a green envelope," an antidote to the fiery red reception area. Conceptually, these lines trace the network between the same cities *Register* represents. And so, this final interior, a place of refreshment after the exhibitions' lessons and richly varied spaces, celebrates the interconnectedness of the world. ■

Sources

LED: *Intravision; Crescent Lighting*
Lighting: *Nemo*
Flooring: *Flowcrete (resin); Dalsouple (rubber)*
Furniture: *La Palma; Azumi; Idema (custom design by Adjaye/Associates)*
Wallpaper: *The Archive Printing Company (custom design by Adjaye/Associates)*

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

Adjaye collaborated with artist Chris Ofili to create the center's Café de la Paix. Gold lines over green represent a global network of cities.

The reception area's 3D wall cover, made of paper, was designed by Tracy Kendall of London. Another artist, Alyson Shotz, created the hanging sculpture with oval magnifying lenses (in partial view).

René González transforms an old warehouse into KARLA, a serene and glowing event space and production venue in Miami

By Wendy Moonan

The interior—even its office cubicles (above)—engages in a dialogue with the garden (left).

"I wanted a sequence of spaces where we could bring clients to 'seduce' them," says Karla Dascal, founder of an event-organizing business that caters to such high-profile clients as Madonna, Ricky Martin, and the office of President George W. Bush. For her company, Karla Conceptual Event Experiences, Dascal envisioned "a place where clients could get inspired … with enough openness to let them imagine."

The new headquarters, simply called Karla, is just off Biscayne Boulevard in Miami's trendy Wynwood Arts District, occupying a 12,000-square-foot warehouse and an unbuilt adjacent lot of equal size. Dascal needed a venue for throwing parties, making sets (such as the wedding decor she created for an episode of TV's *Extreme Makeover*), and preparing floral arrangements for catered events. The program also included corporate offices, a conference room, a flower cooler, workspace, and ample storage.

Even before finding the warehouse property, Dascal signed on Miami architect René González. She was impressed by his installation for *Design Matters*, an exhibition of industrial design, fashion, and graphics that he curated in 2000 at Miami's Museum of Contemporary Art. As she recalls, "He applied common materials like bubble wrap in a way you would never use them. He made them very elegant." Dascal later sought out González and outlined her program for him. The event planner remembers explaining, "We're a full-service production company—we do weddings, art-related parties for collectors during Art Basel, branding and corporate identity work, and dinners for the President. I want a Minimal space whose materials speak to me."

A Minimalist approach suited González, who was born in Cuba but raised in south Florida, and had worked in Los Angeles for Richard Meier (on the Getty Museum) and Frank Israel before opening his own Miami firm, now with six architects. In converting the warehouse into Karla, González turned the property's empty lot into a lush, subtropical garden, which you must traverse to enter the structure. Here, huge, single-paned glass doors between lobby and garden heighten ambiguities in the indoor/outdoor relationship.

The building now features a simple floor plan with innovative material applications. Entry, conference room, and work space form a series of high-ceilinged, boxy white spaces, some with glowing, light-infused walls. The built-in reception desk seems to float above the high-gloss epoxy floor. Behind the desk is handmade, 3D white wallpaper by artist Tracy Kendall. Etched-acrylic, floor-to-ceiling panels, backlit through blue filters, define the reception area's other edges. The idea, says González, is to "create vertical planes that seemingly go on forever, emphasizing a volumeless quality of

Wendy Moonan is a contributing writer to Architectural Digest *and the antiques columnist for* The New York Times.

Project: *Karla, Miami, Florida*
Architect: *René González Architect—René González, principal; Monica Vazquez, project director*
Engineers: *Douglas Wood and Associates (structural); Vidal (m/e/p)*
General contractor: *Madison Construction*

Against high-gloss epoxy floors and luminous, backlit walls, the entry area presents sleek benches, a hunk of driftwood, and Shotz's hanging sculpture (above left). The conference room includes a blue resin table designed by González (above right). Each event gets its own installation (right).

Behind the reception area is a relaxed meeting space facing the garden, to the east. The clear acrylic chairs and high-gloss epoxy floor dematerialize visually.

MAIN FLOOR

N 0 10 FT. 3 M.

1. *Reception*
2. *Conference*
3. *Installation space*
4. *Open-office area*
5. *Executive office*
6. *Production and floral-design studio*
7. *Flower cooler*
8. *Warehouse space*

space." He furnished the entry area minimally, with sleek Italian benches, a hunk of driftwood that his client found, and a hanging sculpture with magnifying lenses projecting kaleidoscopic reflections onto the walls.

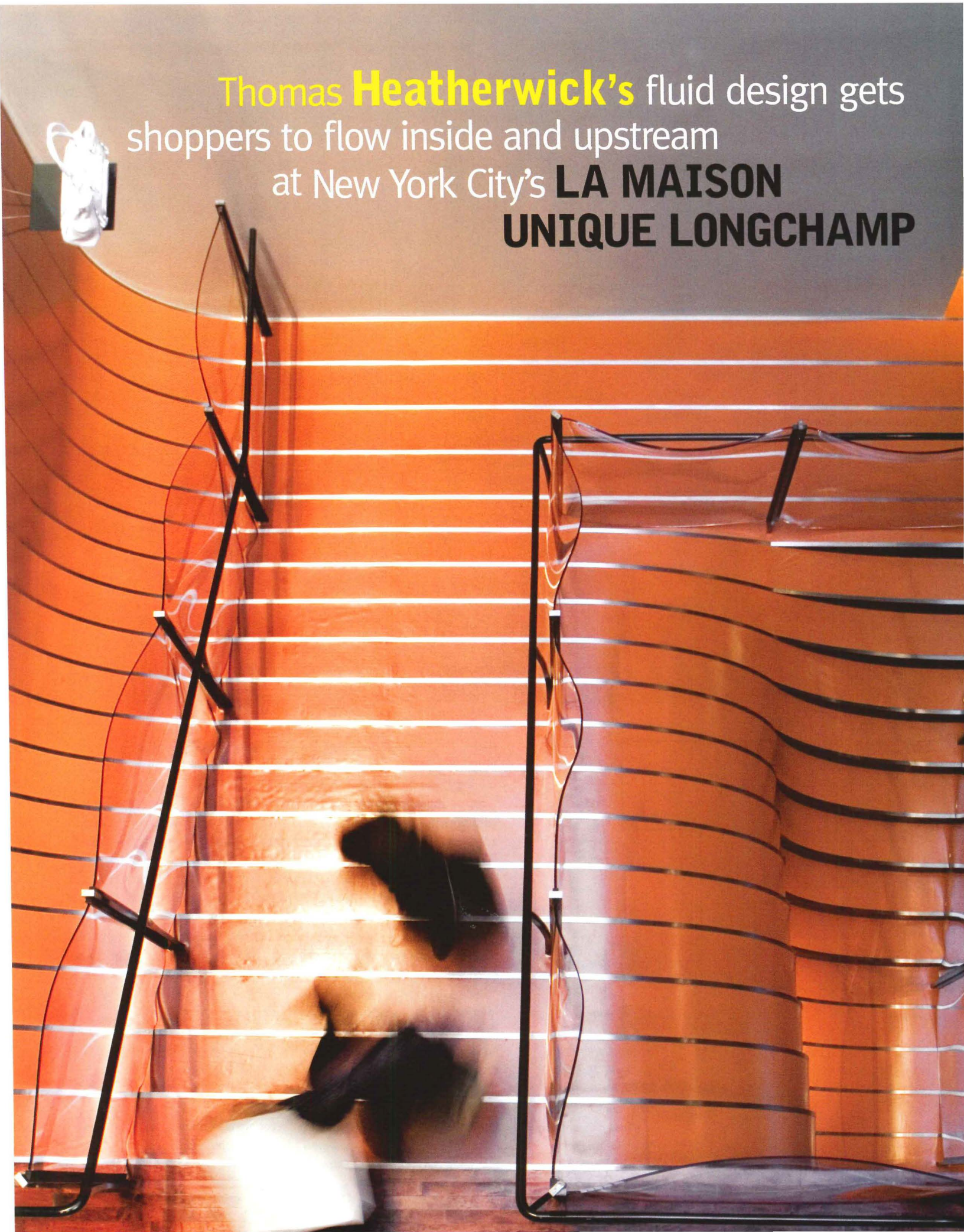
In a narrow conference room next to the entry area, Dascal meets with potential clients. In this area, two luminous, backlit walls of translucent acrylic cast reflections onto another seamless floor of shiny epoxy—all surfaces that dematerialize visually. The architect also designed the 12-foot-long table with a blue resin top. The custom light fixtures, made of Styrofoam cups, are by British designer Paul Cocksedge. While one wall has a monitor for video presentations, the opposite elevation alternates panels of clear and translucent glass, allowing glimpses of set-building, floral-arranging, and party-prep activities in the work space next door—a back-of-the-house peek intended to spark the imagination of the company's clients.

Earlier this year, the project won the 2006 AIA Honor Award for interior architecture. Now Dascal is talking to González about adding onto the place. "René captured exactly what I wanted here," she says. "It's luminous and has the opulence I was looking for." From the minute you walk in, it speaks of her enterprise—and ultimately seduces you. ■

Sources

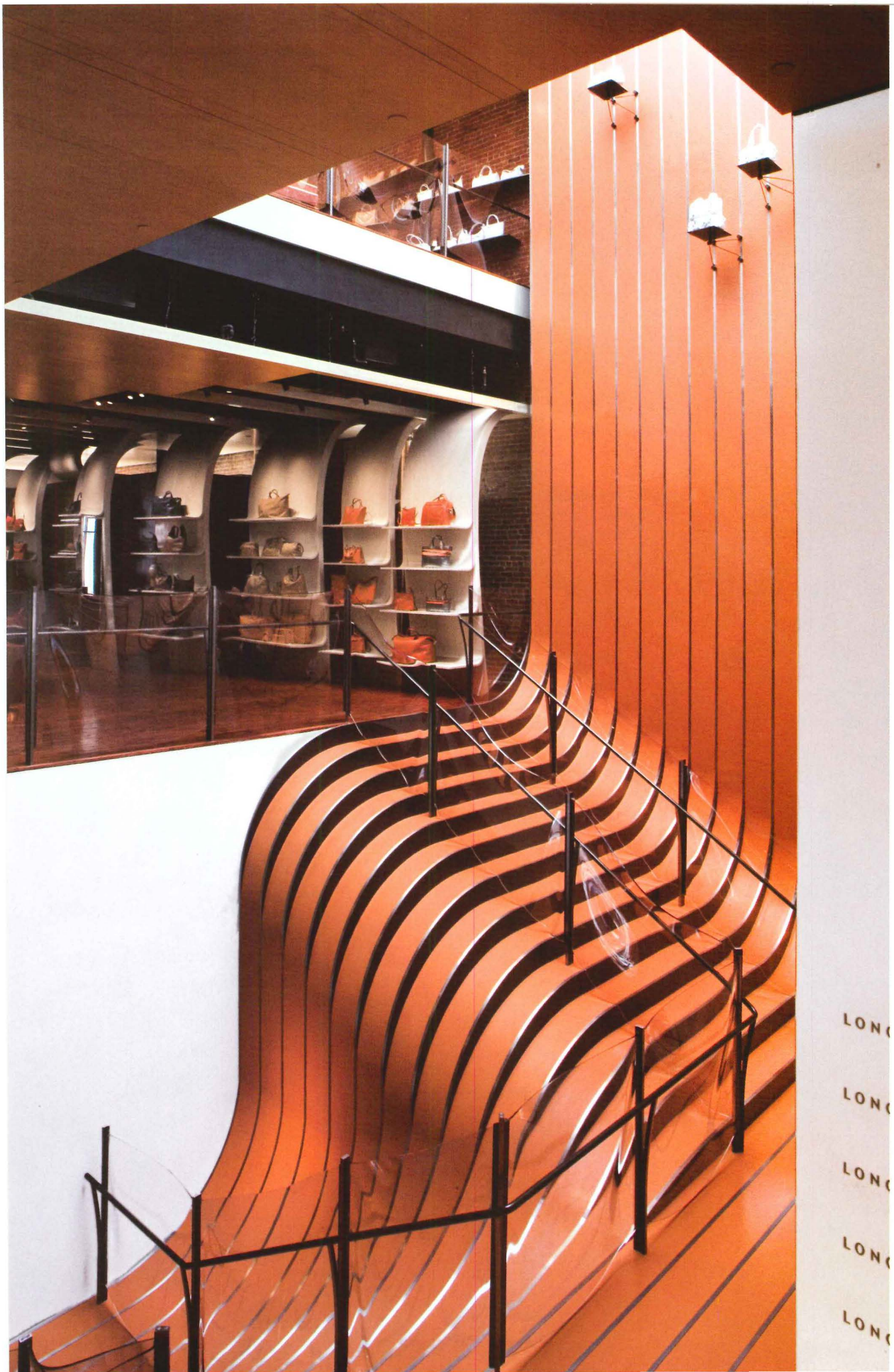
Aluminum storefront: *YKK America*
Lighting: *Bartco; Artemide; Luminis*
Plumbing fixtures: *Vallve; Duravit*

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

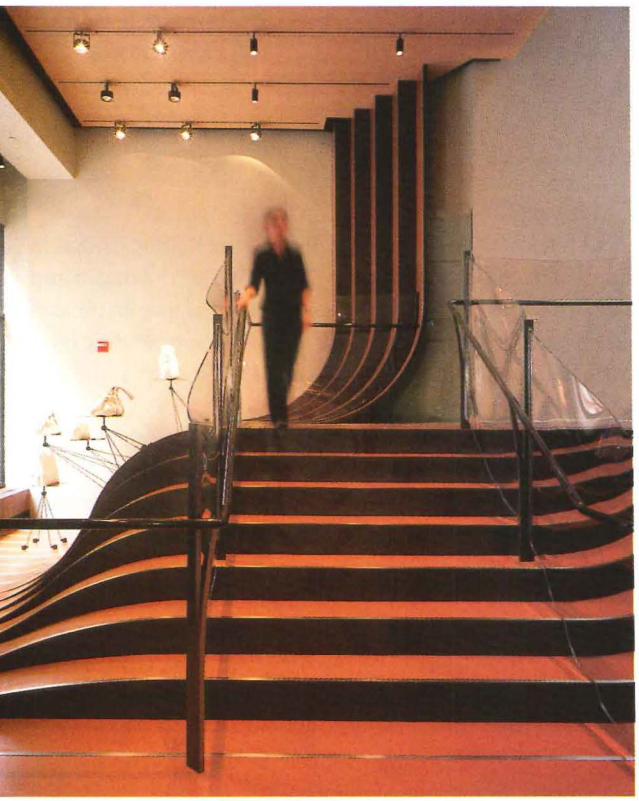


Thomas **Heatherwick's** fluid design gets shoppers to flow inside and upstream at New York City's **LA MAISON UNIQUE LONGCHAMP**

Seen from above, the grand stair's ribbons of rubber-coated steel resemble lines on a topographical map. Heatherwick envisioned the stair as a man-made landscape.



For the new stair (left and opposite two), Heatherwick Studio carved a 46-by-27-foot atrium, rising 60 feet, into the existing building. A skylight helps draw people upstairs. The designers used a thermoplastic material, instead of glass, to create the sensuously curving balustrades. Each of the 57 panels is unique.



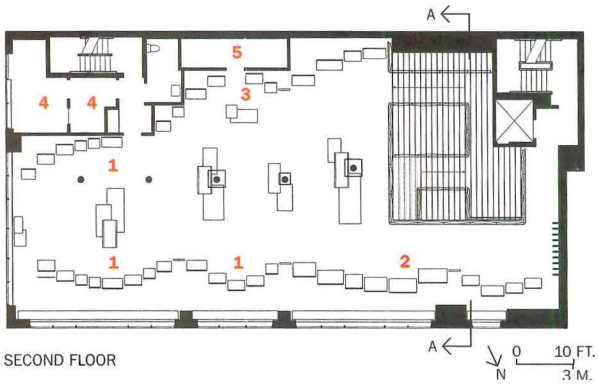
By Clifford A. Pearson

Zippers are both functional and sexy, holding things together while offering the promise of revealing what's hidden inside. At La Maison Unique Longchamp, a three-story retail facility in New York City's SoHo neighborhood, the London designer Thomas Heatherwick applies zipper principles to architectural space, teasing shoppers to come inside and see what's upstairs.

A flagship store for Longchamp, a French leather-goods company, the project resides in what Heatherwick describes as a "runty shoe box of a building" that posed all sorts of problems for creating a successful retail operation. The plain-Jane structure offered Longchamp ground-floor space that was not only limited to 1,500 square feet, but also squeezed awkwardly between a clothing store, in the prime corner spot, and a chocolate shop. But upstairs, Longchamp could spread out with a 4,500-square-foot second floor, and a newly added third floor with a 1,700-square-foot showroom plus a wraparound terrace for entertaining wholesale buyers. The challenge for Heatherwick was to grab attention with only a small streetfront presence and then entice people to schlep up a flight of stairs to the main retail space.

Trained at the Royal College of Art, Heatherwick runs a 38-person studio that designs everything from sculpture, such as *Sitooterie II*,

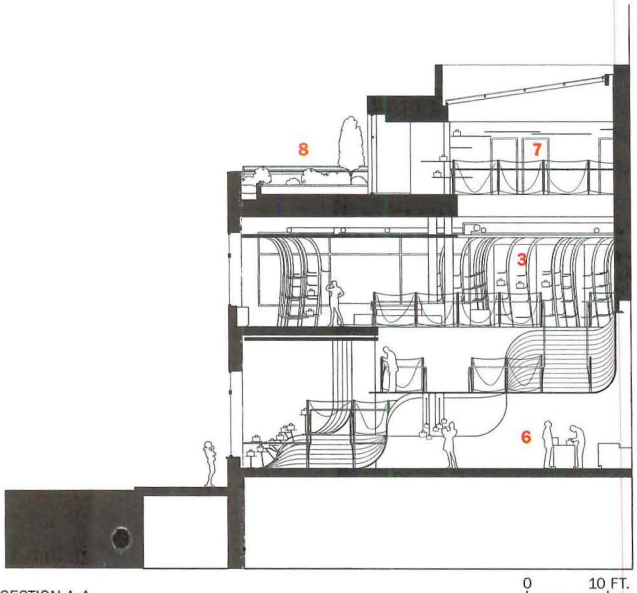
Project: *La Maison Unique Longchamp, New York City*
Designer: *Heatherwick Studio—Thomas Heatherwick, director; Tom Chapman-Andrews, project designer; Jem Hanbury, designer*
Architect: *Atmosphere Design Group*
Engineer: *Gilsanz Murray Steficek*
General contractor: *Shawmut Design & Construction*



SECOND FLOOR

1. *Handbags*
2. *Luggage*
3. *Leather goods*
4. *Office*
5. *Storage*
6. *Checkout*
7. *Showroom*
8. *Roof terrace*

Strips of laminated ash curl down from the ceiling to create shelves for handbags and other leather goods. Floors, seats, and display cases are maple.

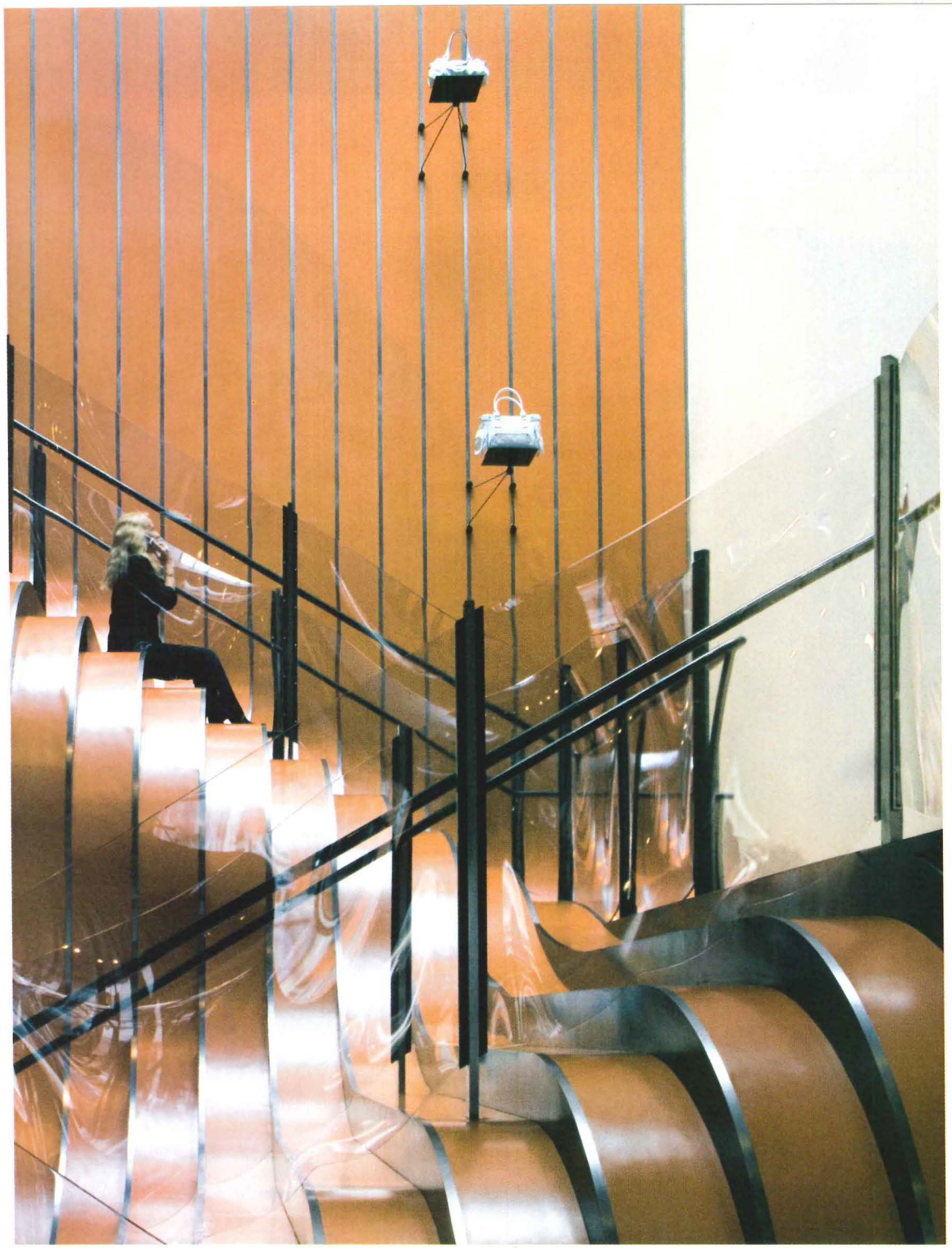


SECTION A-A

in Essex, England [RECORD, June 2004, page 131], to the Rolling Bridge, in London [RECORD, December 2004, page 230]. In 2004, Longchamp debuted a handbag designed by Heatherwick featuring a zipper that snakes up and around the outside. When unzipped, it reveals a satiny fabric layer inside and nearly doubles the bag's volume. Instead of a clasp at the top, hidden magnets close the bag.

The designer employed similar strategies at Longchamp's La Maison Unique, using undulating ribbons of rubber-coated steel to create a stair that seems to unfold as it rises, and orchestrating a procession from a tight, ground-floor lobby to the expansive second-floor retail. And as with the handbag, he found an inventive use for magnets—this time to secure light fixtures and shelves anywhere along the metal ribbons. Heatherwick calls the stair a "landscape," a topographical feature inserted within a 46-by-27-foot atrium, cut from the corner of the building. The atrium rises 60 feet to a sloped skylight and required 55 tons of steel. Daylight from the top of the vertical space helps draw people upstairs, he says, noting, "Like insects, people are attracted to light." When he envisioned the stairscape, he thought of "a hillside with goats climbing up winding paths."

Magnets, put to creative use, secure merchandise display cables to the stair's steel ribbons. Magnets also attach lights and display shelves to the ribbons, offering flexibility in merchandising.



Steel poles and channels hold curving balustrade panels of PETG. Used in the aerospace industry for windshields and other applications, PETG is a thermoplastic that Heatherwick heated in sheets, allowing the force of gravity to warp the material in the process. The designer considered flat-glass balustrades too lifeless for the curvaceous stair, favoring instead a material that would reflect and refract light in multiple ways.

After designing the remarkably fluid stair, Heatherwick had trouble figuring out how to deal with the necessary balustrades. "When we imagined standard flat-glass balustrades, it ruined the sense of movement," he says. "We wanted the glass to drape like fabric." Ultimately, his team decided against glass in favor of a thermoplastic called PETG (polyethylene terephthalate glycol), used in the aerospace industry for windshields. By heating the material in sheets and letting the force of gravity slump each one differently, the designer created 57 PETG balustrade panels that form an animated, transparent border, reflecting light in idiosyncratic ways.

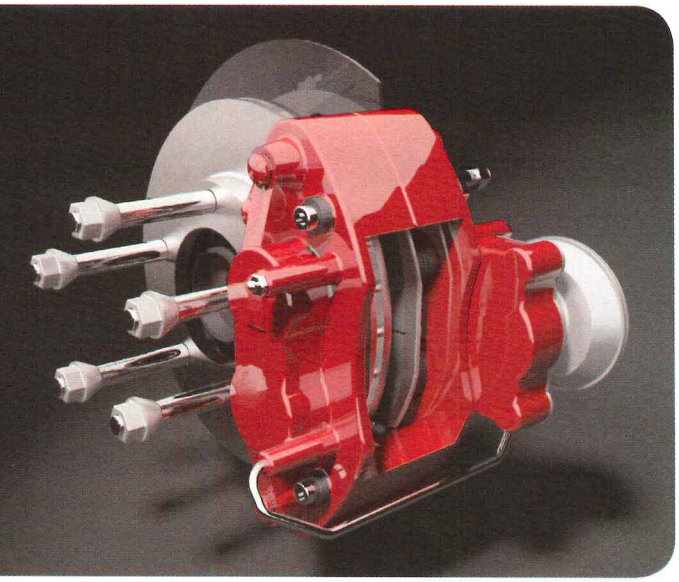
Just as Heatherwick bent the stair's rubber-and-steel ribbons so they morph from treads into a three-story wall, he treated the ceiling, flooring, and display shelves on the second story as a set of continuous surfaces. By creating a laminated-ash ceiling and peeling down strips, he created curving vertical supports for ash shelves. Dark maple settees and display cases continue the material palette of the floor boards, as if emerging from the surface below rather than sitting on it.

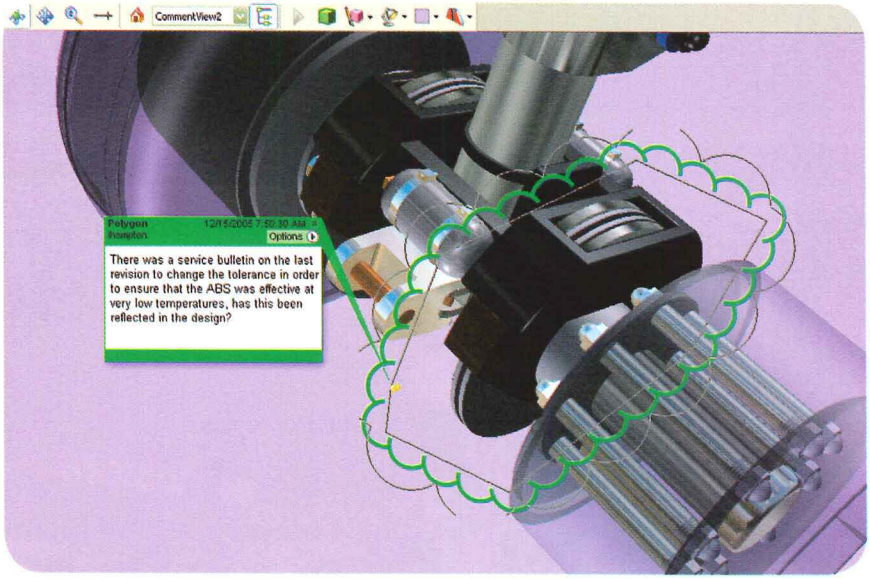
While big sculptural moves can sometimes come across as over-the-top, especially in a modest-size store, La Maison Unique exerts a curvaceous charm with a fresh zip to it. ■

Sources

Skylight: *Wasco Products*
Ash ceiling and maple partitions: *Imperial Woodworking Enterprises*
Resilient flooring on stairs: *Nora*
Ambient lights: *Litelab*
Thermoplastic balustrade: *Talbot Designs*

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





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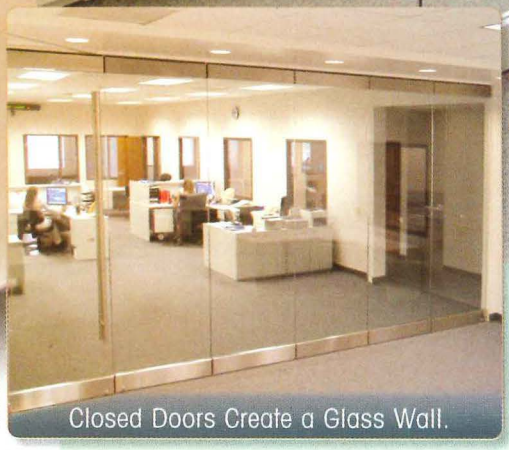

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FreemanWhite architects are so familiar with reinforced concrete and steel they naturally considered these two materials for the massive Village at Germantown, a senior living center in the heart of Tennessee. But when the budget for the 430,000-square-foot project was cut from $60 to approximately $40 million, the project team found the concrete and steel systems were too expensive. So they turned to engineered wood. In doing so, they found the answer to many other design challenges as well.

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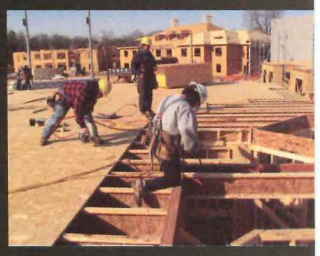

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By Russell Fortmeyer

The sun shines a little brighter in Aspen, Colorado. Since the city lies 7,945 feet above sea level, snow-covered mountains tend to reflect a dazzling light on clear winter days. While elevation certainly plays a role, the city expects its reliance on renewable resources like wind and hydroelectric—which accounts for 57 percent of its electricity production—to eliminate the dispersal of 42 million pounds of greenhouse gases from the atmosphere through 2010.

When the city selected Willis Pember, AIA, to design a public service and storage pavilion for its Wagner Park, the architect decided early on he would test the waters of Aspen's 2000 commitment to adopt green building initiatives.

"The City of Aspen likes to believe it was the first city in Colorado to produce its own electricity," Pember says. "So that myth was something we exploited to sell them on the idea of photovoltaics on the building." His final design, the Wagner Park Edge, incorporates a 3-kilowatt thin-film photovoltaic array sandwiched between two layers of glass mounted to a structural canopy blanketing the building. The array supplies the pavilion's needs while also contributing enough energy back into Aspen's electrical grid to power a typical single-family home for the year.

Although photovoltaics on buildings remains a curiosity for many architects, most people involved in the photovoltaics (PV) industry think projects like the Wagner Park Edge will become the rule in the near future. While the market for PVs has exploded, building owners expecting to see quick returns on investment still find the technology disappointing. As such, the additional benefit of energy production often follows as a bonus to the use of PVs as a highly visible sustainable billboard or as a path to points in the U.S. Green Building Council's LEED rating program.

Aspen's Wagner Park Edge includes a glass-laminated photovoltaic installation as its sole power source (above and right).

Steven Strong, of Solar Design Associates in Cambridge, Massachusetts, has experienced a surge in his energy consulting business in the past few years, owing to what he considers solar power's new "cool factor," a desire for more secure sources of power, and, especially, higher energy costs throughout the world. "Traditional economic analysis no longer applies; it's just that most people don't understand that yet," Strong says. "We're never going to return to the 1960s and 1970s where we had infinite amounts of cheap energy." Strong adds that the consideration of utility demand charges at peak periods of energy use, as well as the growing unreliability of the electrical grid, has led to an increased cost-effectiveness for PVs. "This is

CONTINUING EDUCATION

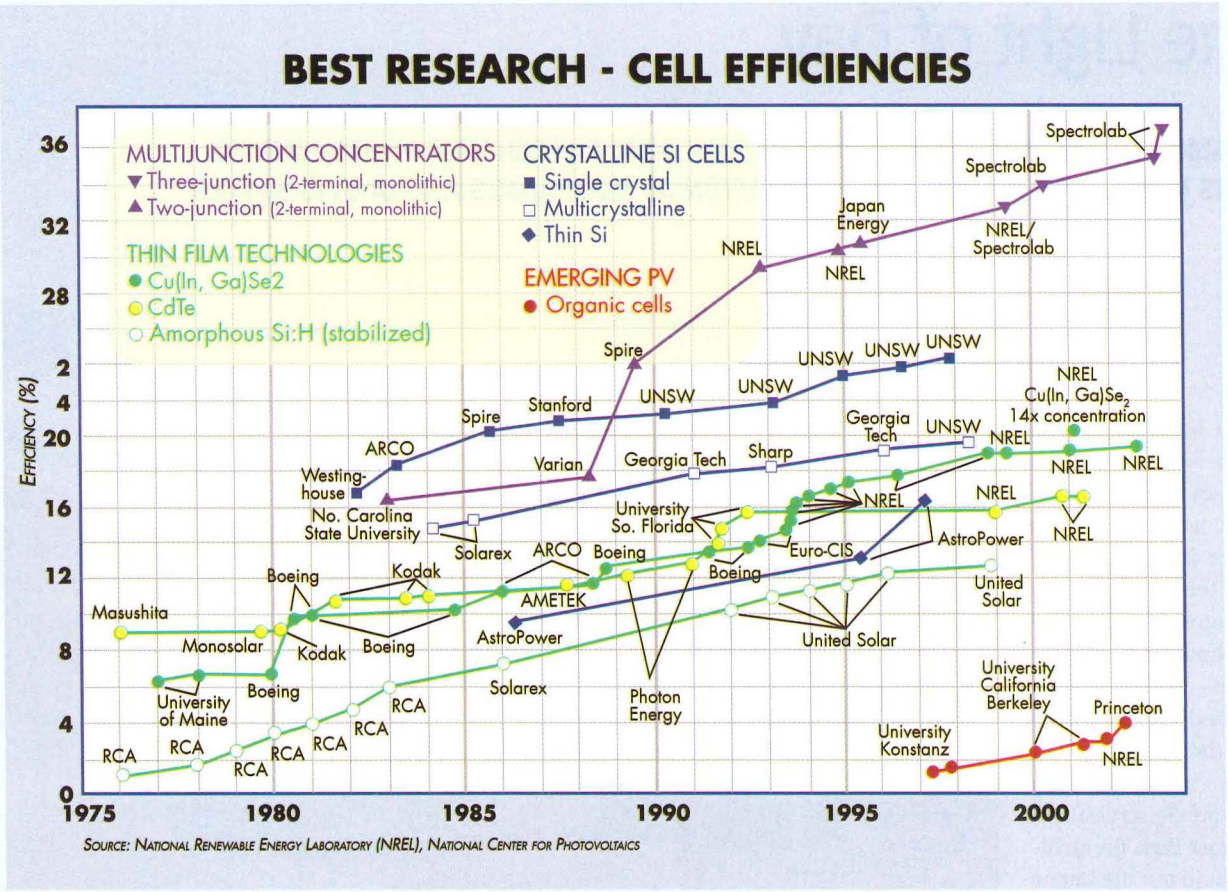
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ *AIA Continuing Education article. To receive credit, turn to page 156 and follow the instructions.*

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *Describe new options to incorporate photovoltaics into buildings.*
2. *Discuss the various incentives for using photovoltaic technology.*
3. *Compare the benefits of different types of photovoltaic cells.*

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



The National Renewable Energy Laboratory charts photovoltaic cell efficiencies for developments worldwide (left). Research and corporate development have led to a rash of new photovoltaic products, beginning with BP Solar's conventional silicon cells (opposite, top left) and Shell Solar's modules (opposite, bottom right).

a glimpse of the future, and it's not an aberration."

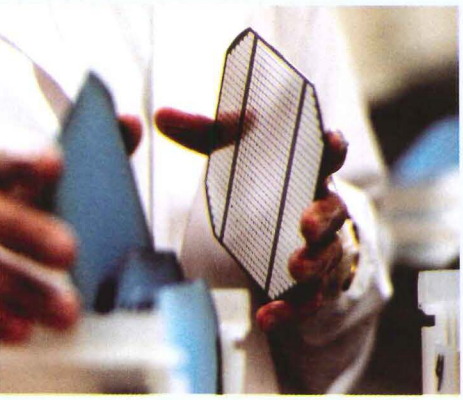
The availability of subsidies, as either a tax credit or an energy rebate, still compels many a decision to incorporate PVs into a project. Solar consultants and researchers, however, argue for a larger view, positioning PVs as a significant component of an overall energy-efficiency design strategy. Behind the scenes, manufacturers and university and government research teams endeavor to develop new PV technology, seeking to find PV solutions that balance energy performance with aesthetic value—something lacking in many past solar installations. Since the PV industry shares silicon production with the semiconductor industry, all of this increased development occurs with the backdrop of a serious silicon supply shortage—though the industry considers it merely a hiccup. Regardless of the issues, the building PV industry in 2006 is positioning itself to expect rapid growth in demand and technology in the coming years.

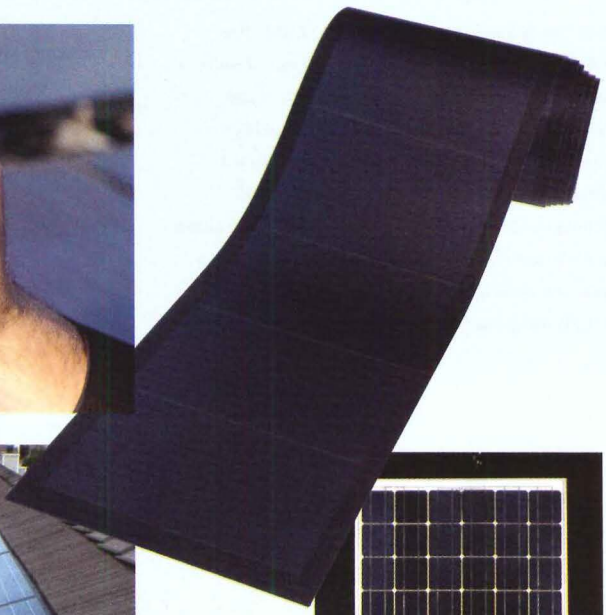
Research drives the industry

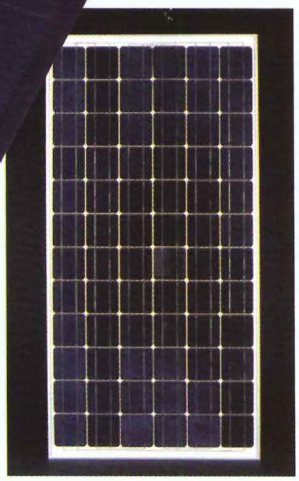
Although solar research in European countries and Japan has contributed significantly to the development of those countries' photovoltaic markets—the largest in the world owing to widespread government incentives—the U.S. funds a number of research projects through the Department of Energy to push PV technology in new directions. The U.S.'s National Renewable Energy Laboratory (NREL) in Golden, Colorado, coordinates many research efforts, acting as a clearinghouse of information and approaches to the development of PV technology, either through partnerships or its own projects.

Photovoltaic technology consists of four different typologies, which together account for nine different varieties of PV cells either in production or development (refer to the NREL chart for the best research cell efficiencies). The most common are single crystal and multicrystalline silicon cells, which the NREL estimates to represent more than 90 percent of the market. These cells, combined into modules, function as additional components to buildings: awnings, canopies, or rooftop arrays. Multijunction concentrators simply stack up these cells; a laboratory cell developed by Spectrolab and the NREL achieved an efficiency of 34 percent in direct sunlight, by far among the highest efficiencies recorded outside of purely theoretical models. Efficiency is measured as a ratio of the cell's actual electrical energy output to the available sun energy incident on the device. Commercially available cells can achieve anything from 5 to nearly 20 percent.

Most new building-integrated PV development uses thin film technologies, mainly because thin film PVs lower manufacturing costs and can be applied to more building materials. Amorphous silicon, or a-Si, is used in United Solar Ovonics' Uni-Solar thin-film products, garnering a 7.5 percent efficiency per NREL testing. Subhendu Guha, of United Solar, observes the difference between conventional silicon cells, at 250 micrometers thick, and thin film—which with no crystalline structure is half a micron thick and therefore much more flexible—is enough to substantially reduce installation costs associated with its use on building roofing membranes and other materials that are already components of conventional building. United Solar's researchers have recently turned their focus toward nanocrystalline technologies, with a crystalline structure somewhere between amorphous and single-cell silicon. A more predictable crystalline structure, Guha says, would allow for a lower cost







Newer technologies include thin-film photovoltaics, such as the organic cells in development at Georgia Tech (top middle); United Solar Ovonics' Uni-Solar product that rolls onto a building's roof (top right); and Kyocera Solar's photovoltaic roof shingles that have caught on with residential home builders in California (near right).

and, eventually, a higher efficiency.

Industry has also embraced other thin-film technologies. Shell Solar developed a copper indium diselenide ($CuInSe_2$) module that achieved a 13.5 percent efficiency last year. Cadmium telluride (CdTe) thin-film cells, which achieve efficiencies around 15 percent in laboratories, are still in development and aren't available commercially for large-scale use. A drawback of CdTe cells is the high toxicity of cadmium, which could pose environmental issues in the event of a fire.

All of these technologies generally depend on expensive raw materials and a relatively high manufacturing cost. The price of silicon rises and falls with demand in the semiconductor industry, which explains the current lag in supply for the PV industry. This lack of supply is a very real issue; United Solar's Guha says his company is sold out of product for the rest of 2006. These considerations have motivated research development of organic photovoltaics, which could be synthesized with chemicals any number of ways and are significantly thinner than even thin-film silicon cells.

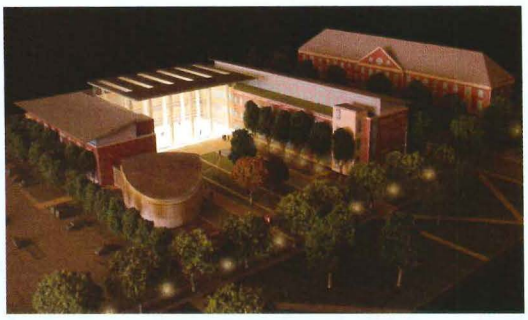
THE TRUE PROMISE OF ORGANIC PHOTOVOLTAIC TECHNOLOGY IS THE FLEXIBILITY OF ITS APPLICATION.

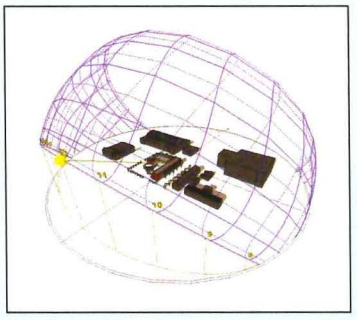
Dave Ginley, an NREL researcher, focuses on organic PV cells, which don't integrate silicon—a material with a finite production supply—in their production. While Ginley finds organics' infinite supply appealing, he thinks their true promise is the flexibility of their application. The bond structure of a conventional silicon molecule is a predictable crystalline structure, whereas organic molecules have a "hair" chain sprouting along the sides of their double-bonds. This hair can be tinkered with, in a way that adds or removes electrons, to develop a molecule with the exact properties you want. "This isn't to say we know what those exact properties are," Ginley says. "If we did, we'd be done, and we're not."

Organic PVs, though at least 10 years away from commercial application, offer the possibility of design considerations such as fabric structures and basically any surface that can withstand a printing process. Organic PVs also have the potential to lower costs, since a single metric ton of a petrochemical could supply all of the organic solar cells you would ever want to make. Where the thickness of silicon-based cells are measured in micrometers, organic PVs can be reduced to a few hundred nanometers, similar in production and use as plastics.

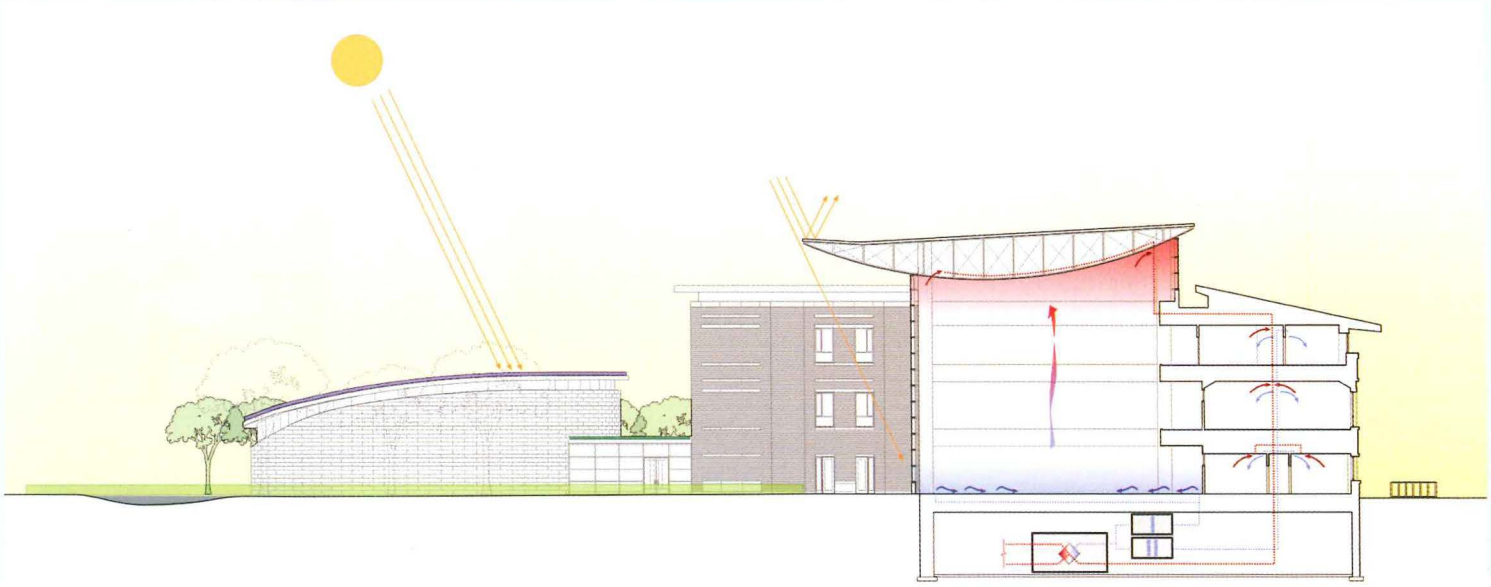
Bernard Kippelen, a researcher at the Georgia Institute of Technology and a partner in a related start-up company, Lumoflex, considers organic PV materials akin to an ink, capable of printing on any surface. "Because they are thin, absorb light fairly efficiently, and can be processed at room temperature, you can envision solar cells with fairly interesting form factors in terms of application," Kippelen says. Among the major obstacles organics must overcome, degradation ranks high. Kippelen says printing organic PVs onto any surface could potentially shorten the PV's lifespan, which is why he suggests the short-term use of organic PVs will be confined to small devices, like RFID tags or personal electronics. Eventually, this market could grow to include portable tents or large-scale fabric structures.

Among the remaining challenges for organic PV researchers, hastening higher efficiencies is key to the technology's success. Currently,





Atelier Ten is working with Pelli Clarke Pelli Architects in New York on the design of the Business Instructional Facility at the University of Illinois in Champaign-Urbana (near right). Atelier Ten developed a sun path diagram (far right) to chart the sun's angles of incidence across the building's surface in order to gauge the effectiveness of installing 4,000 square feet of photovoltaics on a section of the roof (below).



efficiency hovers between 5 and 6 percent, while organic PV's theoretical efficiency of 24 percent competes directly with silicon.

NREL's Ginley thinks the greatest potential for organics lies in the organic LED (OLED) industry, which could easily adapt itself to become a producer of organic PV products. "The ultimate would be OLEDS and solar cells where you could have a skylight that would make power by day and then at night make light," he says. Another advanced organic PV development has been spray-on technology, where PV cells are incorporated into a liquid that could be applied to a building surface. While the lifespan is short, Joop Schnoonman, director of the Delft Centre for Sustainable Energy in the Netherlands, has developed an aerosol spray-on PV cell using a mix of copper indium sulfide and titanium dioxide that has led to a longer lifespan and an approximate 5 percent efficiency. "We are trying to make a cheap production technology with cheap materials," Schnoonman says, adding, "Any shape of surface could be sprayed." Solar industry researchers and manufacturers view the flexible application of PVs to buildings as key to achieving widespread use in architecture.

THE PV INDUSTRY'S BIGGEST CHALLENGE LIES IN PRODUCING PANELS ATTRACTIVE ENOUGH FOR ARCHITECTS.

Building-integrated photovoltaics take off

The limited product applications and the perception of PVs as an additional cost to a building, as well as the owner-driven demand that PVs have a "payback" associated with their installation, has led many solar consultants to push toward building-integrated photovoltaics. "In a first-class building, the cost of the facade is significant, so the cost of putting photovoltaics on it versus granite or another material may actually be less," says Andrew Wilkinson, with Arup's Newcastle office in England. He adds that the photovoltaic industry's biggest challenge lies in producing panels and systems attractive enough for architects to want to incorporate them into their buildings. "The question we're asking now is, if you're given a free hand, what sort of module would you like," Wilkinson says.

While traditional PV installations—rectangular modules mounted to secondary roof structures—continue in wide use, in the past few years, a rash of new options has hit the market to address the aesthetic issues of PV use. Photovoltaic shingles, meant to replace conventional asphalt or concrete roofing shingles, have wide application in the residential market. Many manufacturers offer this type of product.

Kyocera Solar, a dominant Japanese company, has targeted the California market, which practically all solar consultants and manufacturers consider the third-largest market for PVs behind Japan and Germany, mainly owing to state government incentives. Kyocera offers the MyGen Meridian product, a polycrystalline silicon cell from Japan integrated into a product that seamlessly ties into concrete shingle roofs. Jesse Henson, based at Kyocera's U.S. headquarters in Scottsdale, Arizona, said building-integrated PVs owe their cost-effectiveness in large part to their ability to take advantage of existing labor on a job site. "We also need a more streamlined utility connection protocol," Henson says. "Now, each utility or municipality is different, so very few PV installers operate on a national level."

Other companies, such as Uni-Solar, make PV shingles for resi-

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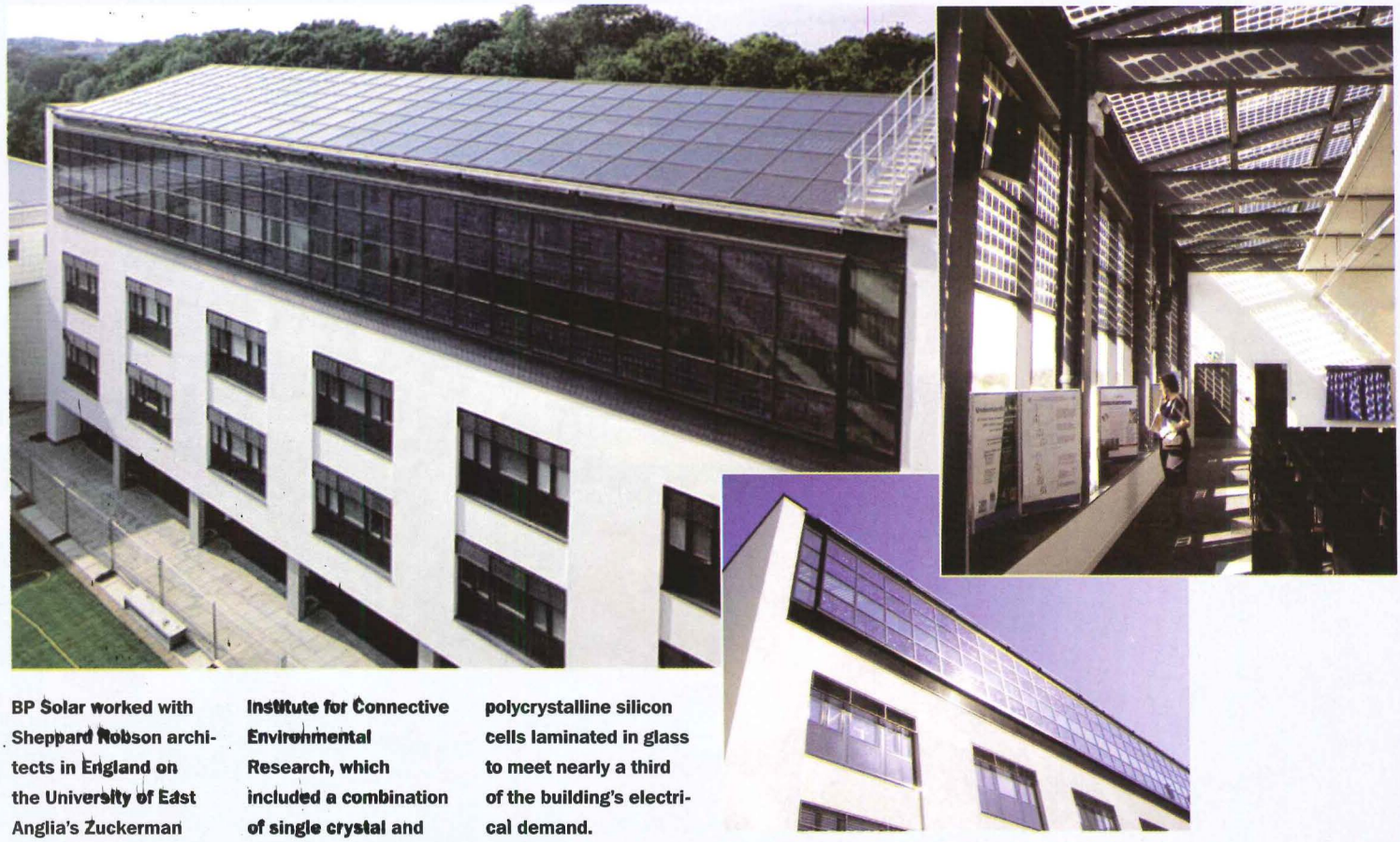

BP Solar worked with Sheppard Robson architects in England on the University of East Anglia's Zuckerman Institute for Connective Environmental Research, which included a combination of single crystal and polycrystalline silicon cells laminated in glass to meet nearly a third of the building's electrical demand.

dential use. Uni-Solar also manufacturers a roll-on PV cell that can be incorporated into roofing membranes to be deployed onto large-scale warehouse and manufacturing facility roofs. Konarka makes a similar product based on different technology. Solarworld, which bought Shell Solar's silicon PV business, originally developed by Siemens, produces a conventional silicon PV module that is most typical of rooftop applications. Many companies, such as BP Solar and Kyocera, produce PVs laminated between sheets of glass. Atlantis Energy, which produces glass-laminated PVs in Sacramento, California, supplied the Wagner Park project discussed earlier. Joe Morrissey, of Atlantis, said he is hopeful UL will begin to certify whole lines of PV products, as opposed to the project-by-project basis now in place. While limitless options are available to an architect, Morrissey said he spends a great deal of time explaining photovoltaics. "I feel like we're educators too much," Morrissey says. "We're really trying to get beyond that so people can understand the process of actually incorporating them into their buildings."

"THE DANGER IS THAT PEOPLE WILL VIEW PVS AS A TECHNOLOGY FIX," SAYS ATELIER TEN'S NICO KIENZL.

Advising nonresidential clients to invest in a large-scale PV installation should be part of an overall energy-efficiency design strategy, according to Nico Kienzl, a building energy consultant in Atelier Ten's New York office. "In most projects, it makes more sense to install an advanced lighting and control system, a better HVAC system, and a good building envelope, and then, if you have money to spare, you could install photovoltaics," Kienzl says. However, placing a PV installation in atrium glass or on a canopy can signify a client's commitment to sustainability, which Kienzl says often rightly overrides decisions based purely on payback. "The danger is that people will view PVs as a technology fix, when PVs alone are never going to get us there."

Kienzl begins a PV design proposal by creating a sun path diagram for the building. This diagram helps explain where it makes the most sense to install PVs on a building by indicating shadows from neighboring structures and zones with the highest incidence of sunlight during various times of the year. This information guides Kienzl in recommending building surfaces for PV use, as well as the most appropriate angle for PVs if they are installed on canopies or awnings. Determining what surface to use on a building exterior can sometimes run aground of warranty issues, since an awning supplier and installer may not certify the product if a PV contractor has affixed modules to them. Kienzl says any PV installation is often, if not always, an intense collaborative effort between the PV manufacturer and the design team, though this doesn't always need to occur during the initial construction of the building. "PVs are a great technology because the cells can always be added later," Kienzl says, noting that while only 5 percent of his projects contain PV installations, the majority of his clients consider them for their buildings.

Economics of photovoltaics

Time and again, economic factors contribute to the decision for or against PVs. Kyocera's Henson says the way utilities price electricity today ignores the externalities, such as environmental damage, of its true costs, which keeps PVs from becoming competitive with conventional energy-

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producing technologies. Nevertheless, Henson, like many in the PV industry, views this as a short-term problem in light of decreasing fossil-fuel supplies and increasing energy costs. The biggest market change, Henson says, occurred when governments created incentives for grid-connected PV installations, which helped shift the balance of demand for PVs away from their traditional market of off-grid applications for isolated buildings and infrastructure such as highway call boxes and signs.

Widespread government initiatives like those in Germany and Japan offering incentives for rooftop residential solar installations account for the key differences in the size of these markets compared with the U.S., and underscore the reason Japanese electronics firms dominate the PV cell production industry. PVs are now so standard in Japan, incentive programs have been phased out.

Ray Noble, with BP Solar in England, said government subsidies have helped spur development of rooftop and stand-alone installations, but haven't significantly encouraged building-integrated PVs. "This is turning into a real mass-production industry, though, so that will push down prices," Noble says, adding that he expects more oil companies to enter the business once PVs become directly competitive with nonrenewable energy sources. Noble also points out that since demand for silicon in the PV industry has eclipsed that of the semiconductor industry, which requires a higher grade of silicon, it's likely PV-grade silicon will go into production and further reduce costs.

Noble says many European countries, like Germany and Spain, have developed building-integrated photovoltaic incentive programs to lessen the aesthetic consequences of conventionally mounted rooftop and stand-alone systems. In cities such as London and elsewhere, he says, lack of space practically necessitates building integration of PVs.

The Bush administration has proposed the Solar America initiative, which would infuse nearly $150 million (an increase of $65 million from last year's budget) into research and production programs, but its adoption as policy has not been assured. While NREL's Ginley thinks research funding levels fall short in the States, he sees smaller companies making huge strides thanks to a ready supply of investment capital. "In a sense, PV may very well be the next large area of technology," Ginley says.

PHOTOVOLTAICS ARE NOW SO STANDARD IN JAPAN, INCENTIVE PROGRAMS HAVE BEEN PHASED OUT.

Gary Gerber, of Sun Light and Power in Berkeley, has been installing small residential rooftop PV modules since the 1970s, so he's seen the industry rise and fall with the times. This year, Gerber says they've had so much demand for their systems, which rely on PV cells from Mitsubishi, they can't always ensure the availability of product. Gerber, a board member of the California Solar Energy Industry Association, says the state's market has risen again thanks to the California Solar Initiative, a state-funded program that will pump $3.2 billion in incentives for PV installations over the next 11 years. "In 10 years, I really don't think we're going to need incentives," Gerber says. "People who don't use solar by then will be an oddity." ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "Selling the Light of Day" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 198).**
- **Fill out and submit the AIA/CES education reporting form (page 198) or download the form at www.archrecord.com to receive one AIA learning unit.**

QUESTIONS

1. What type of photovoltaics did Wagner Park Edge use?
- **a.** single crystal silicon cells
- **b.** multicrystalline silicon cells
- **c.** thin-film glass-laminated PVs
- **d.** organic PV cells

2. Over 90 percent of the photovoltaic market consists of which?
- **a.** crystalline silicon cells
- **b.** thin-film silicon cells
- **c.** organic cells
- **d.** amorphous silicon cells

3. The benefit of using thin-film PV is all except which?
- **a.** they can be applied to more building materials
- **b.** the lower installation costs
- **c.** they are more flexible than crystal silicon cells
- **d.** the raw material is in abundant supply

4. The benefit of using organic PV cells is which?
- **a.** they are readily available for commercial applications
- **b.** the raw material is in abundant supply
- **c.** they are more efficient than silicon
- **d.** they have a long lifespan

5. The major drawback of organic PV cells is which?
- **a.** they cannot be sprayed onto building surfaces
- **b.** they degrade easily
- **c.** their theoretical efficiency is low
- **d.** they are expensive to produce

6. California is considered which market for photovoltaics?
- **a.** the largest
- **b.** the smallest
- **c.** the third largest
- **d.** the second largest

7. The use of photovoltaics is encouraged by which?
- **a.** tax credits
- **b.** energy rebates
- **c.** an energy-efficient design strategy
- **d.** all of the above

8. Which type of photovoltaic can be printed on fabric?
- **a.** single crystal silicon cells
- **b.** organic PV cells
- **c.** thin-film PV cells
- **d.** multicrystalline silicon cells

9. Government subsidies and incentives have promoted which type of installation?
- **a.** commercial units
- **b.** building-integrated PVs
- **c.** residential rooftop units
- **d.** utility installations

10. Photovoltaic installers do not operate on a national level for which reason?
- **a.** only California uses photovoltaics
- **b.** all installers are headquartered in Arizona
- **c.** the only certified installers come from Japan
- **d.** each utility or municipality is different

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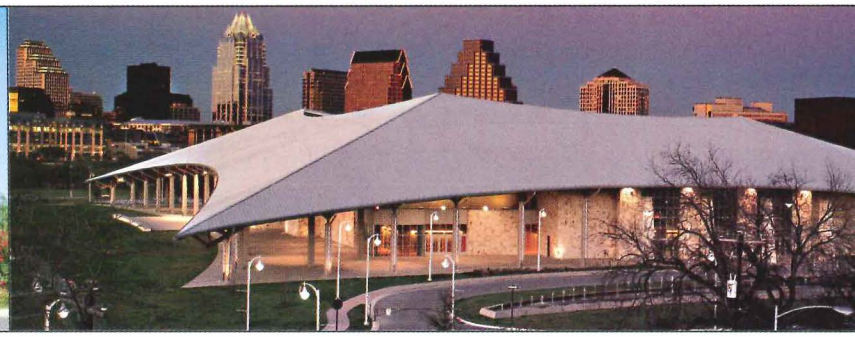

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Composite wood industry watches developments in California

In the coming months, California regulators could approve strict limits for formaldehyde emissions from composite wood products. The standards, if adopted, would have a profound impact on panel manufacturers, importers, and retailers that do business within the state's borders and beyond.

The regulations, proposed by the state's Air Resources Board (CARB), and released most recently in draft form in June, call for implementation in two phases. By July 2008, producers of particleboard, medium-density fiberboard (MDF), and hardwood plywood must reduce emissions to levels that many U.S. manufacturers are already achieving. A more strict set of limits would go into effect in July 2010, when producers of particleboard and hardwood plywood would be required to reduce emissions to 0.08 parts per million and 0.03 ppm, respectively. Manufacturers of MDF would have another two years to meet 0.08 ppm levels.

The regulation is primarily targeted at urea-formaldehyde (UF) resins, the most commonly used binder in composite wood products. The UF binders continue to cure and off-gas throughout a product's life, explains Tom Lent, technical policy coordinator of Healthy Building Network, a national network of green building professionals and environmental advocates.

Formaldehyde has been shown to cause cancer in animals and may cause cancer in humans, according to the U.S. Environmental Protection Agency. Other health effects include eye, nose, and throat irritation, fatigue, and skin rash, says the agency. Industry groups, like the Formaldehyde Council, counter that the chemical is naturally occurring and is even produced by the human body. The group maintains that emissions from products like plywood "are well below levels that could produce adverse health effects."

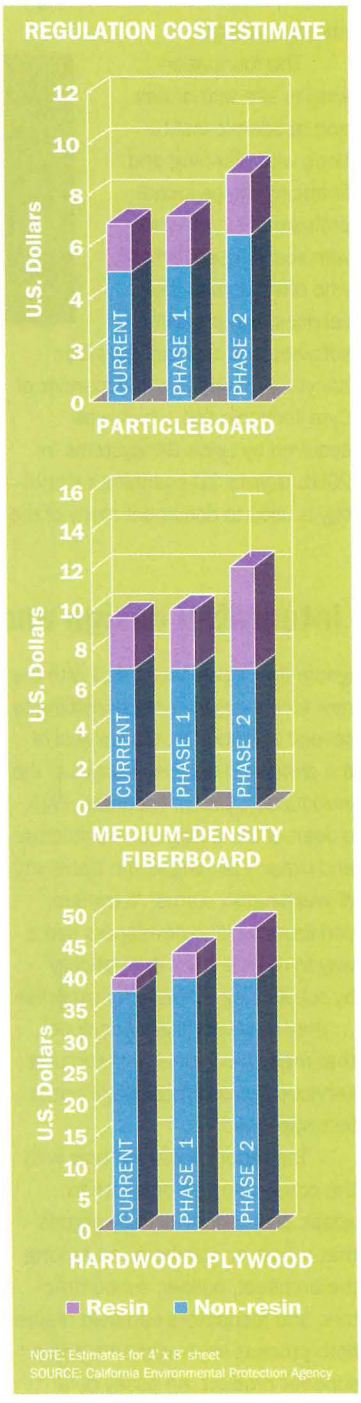
Pushing technology

Manufacturers are most concerned about the second-tier thresholds. "We can meet Phase I with current technology," says Darrel Keeling, particleboard manager of Roseburg Forest Products, but notes, "the Phase II reductions will force technology and have the potential to put quite a few people out of business."

Several manufacturers, including Roseburg, offer products that would comply with the proposed Phase II limits, in addition to their traditional UF panels. However, they typically market these boards for use in projects where indoor air quality is of particular concern, and sell them at a higher price because they use more expensive, but lower-emitting binders. "We cannot produce all of our [board] with these alternative resins. It is feasible only for small volumes," says Chris Leffel, vice president of marketing and sales for SierraPine, a composite-panel manufacturer that offers several fiberboard products with no added formaldehyde.

Manufacturers worry that the regulation will increase prices of composite wood products. They also point out that emissions levels of imported products will be hard to verify, giving foreign manufacturers an unfair advantage. Enforcement "is one of the biggest holes in the current draft," says Keeling. "It leaves the door wide open."

In response to manufacturers' concerns, CARB is working on a laboratory testing procedure and a chain-of-custody documentation system. "These tools will help compliant companies by weeding out those that break the law. Enforcement provides a level playing field," says Gennet Paauwe, a CARB spokeswoman. Refinement of these provisions is one reason that a final hearing on the measure was recently postponed from September to January 2007, she says.



CARB admits that prices will increase for wood composite products if the measure is implemented. The cost of particleboard, for example, would go up by 30 percent, according to the agency's estimates. However, proponents of the regulation maintain that prices would eventually fall as the measure pushes research and new resins are developed.

At least one manufacturer is not waiting to see the outcome of the California regulations to develop cost-competitive alternatives to UF-based resins. Columbia Forest Products is almost complete with conversion of its seven North American hardwood plywood plants to a manufacturing process that employs a patented soy-based adhesive. The company says that although the switch involved a "multimillion dollar" capital investment, the adhesive is a cost-neutral alternative to UF resins and produces a stronger and more moisture-resistant product.

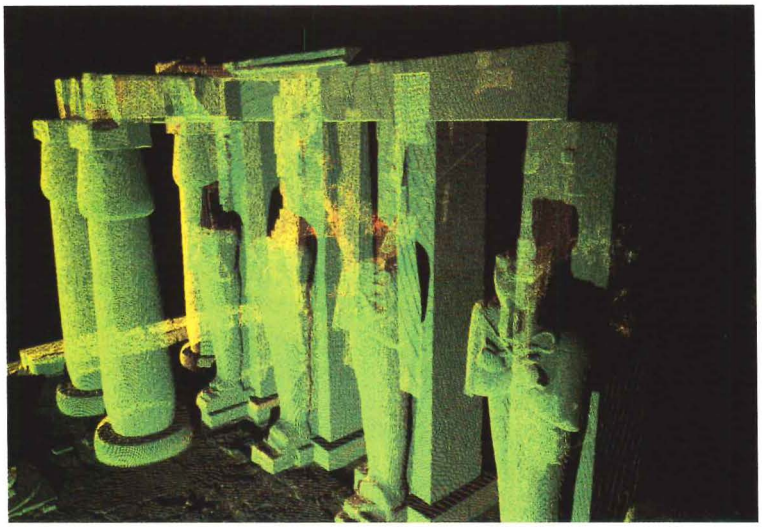
In addition to these reported performance advantages, the manufacturer also points to benefits to its employees. "If we could eliminate formaldehyde from our production line, why wouldn't we do it?" asks John McIsaac, Columbia public relations manager.

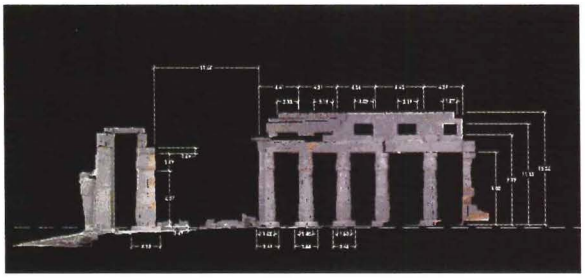
Obsolescence

Approval of the CARB regulations could make one of the credits in the U.S. Green Building Council's LEED rating system redundant in California, and perhaps across the country, as manufacturers push for uniform standards. Projects that use composite wood products with no added UF earn a point for indoor environmental quality under the LEED system. Says Lent optimistically, "Implementation of CARB's second-tier regulations could mean that we wouldn't need [that credit] anymore." *Joann Gonchar, AIA*

Tech Briefs

Open-access digital archive of international archaeological sites set to launch





These images of the Ramesseum, in Luxor, Egypt, are representative of the material in the CyArk archive.

Conservators, architects, academics, and armchair archaeologists will soon be able to access detailed digital documentation of some of the world's most famous cultural sites via the Web.

At press time, the nonprofit Kacyra Family Foundation (KFF) was slated to launch its CyArk 3D Heritage Archive in mid-August. The open-access www.cyark.org will initially include documentation of nine sites as diverse as the South Dakota gold rush town Deadwood; the ancient Khmer capital Angkor, in Cambodia; and Pompeii, in southern Italy. Foundation officials hope the archived material will be used for site management, restoration, and education.

The monuments, many of which have been designated World Heritage sites by the United Nations Educational Scientific and Cultural Organization, have been documented with a variety of techniques. The core technology is 3D laser scanning, which uses a tripod-mounted laser device to scan objects and produces a digital collection, or "cloud," of points in three dimensions. This data can be reassembled to create other media, including detailed 3D models, dimensioned 2D drawings, and animations.

The foundation assists site authorities and academic institutions with planning and financing; helps locate professional surveyors with scanning equipment, who often donate their services; and provides software and training, says Ben Kacyra, KFF director and founder of Cyra Technologies, which was acquired by Leica Geosystems in 2001. (Cyra's 3D scanning technology is used to document many of the archived sites.) "Finally," he says, "we are a repository for the information."

Although only a handful of sites will initially be featured, KFF plans to expand CyArk quickly, not necessarily limiting it to projects documented through the foundation's involvement or to those using Cyra's technology, says Kacyra. "Our ambition is to help in 3D scanning, high-definition documentation, and archiving of the top 100 to 150 endangered heritage sites worldwide in the next five years." *J.G.*

Report touts benefits of integrated design and tackles obstacles hindering adoption

The construction industry is in the midst of transformation, and architects run the risk of becoming irrelevant unless they adapt. This is the message of the American Institute of Architects' *Report on Integrated Practice*.

Released in June at the institute's annual convention, held this year in Los Angeles, the report is a collection of essays that explore the problems of fragmentation in the construction industry and the benefits that can be achieved from building information modeling (BIM). It is intended to provoke discussion of how business models, project delivery methods, and liability and reward structures must change to facilitate a more collaborative design and construction process.

The compilation helps architects understand why they cannot ignore the issues associated with the new technological tools. According to several contributors, the survival of the profession itself is at stake. In the introduction, Daniel Friedman, FAIA, a dean of the College of Architecture and Urban Planning at the University of Washington, warns: "If owners, constructors, and developers see a way to reduce costs dramatically by substituting software for expertise ... they may very likely conclude that many traditional architectural services are unaffordable, if not in fact obsolete."

The report deals not only with the consequences of failure to adapt. It also convincingly argues that a deeper collaboration among the architect, builder, subcontractors, and fabricators can help realize both process improvements and a superior product. An essay by a team from the Kansas City–based firm BNIM, makes the case for virtual design and construction as a tool for creating more sustainable buildings, an endeavor "which relies heavily on an integrated systems approach to drive energy and resource efficiencies."

Each of the report's 10 chapters is contained on a single 34-by-44-inch sheet of paper that folds to 8½ by 11 inches for storage in a sheathlike box. Although the presentation is attractive and allows for the use of informative graphics, it is impractical. For example, it would be difficult to read the essays on an airplane. Later this fall, the report will be available as PDF documents on the institute's Web site, at www.aia.org, in what will hopefully be a more manageable format.

Quibbles with the presentation aside, the compilation does an excellent job of helping architects understand the business, cultural, and educational issues surrounding integrated practice. It is not intended, however, as a primer to help architects incorporate BIM into their work. The report is an "awareness piece," rather than a practical how-to guide, says Norman Strong, FAIA, a partner at Miller/Hull and chair of the AIA's Integrated Practice Discussion Group—the committee that assembled the report.

The group has other initiatives under way that could eventually help firms adopt the new tools more readily, including a collaborative effort with the Associated General Contractors of America and the Construction Users Roundtable to develop new standard contracts. *J.G.*

National Kaohsiung Performing Arts Center
International Competition
Taiwan, R.O.C
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Timetable

First Stage Material Submission Deadline	December 5th, 2006
First Stage Judging Session	December 7th & 8th, 2006
First Stage Finalists Announced	December 8th, 2006
Second Stage Judging Session	March 22nd & 23rd, 2007
Final Winner Announced	March 23rd, 2007

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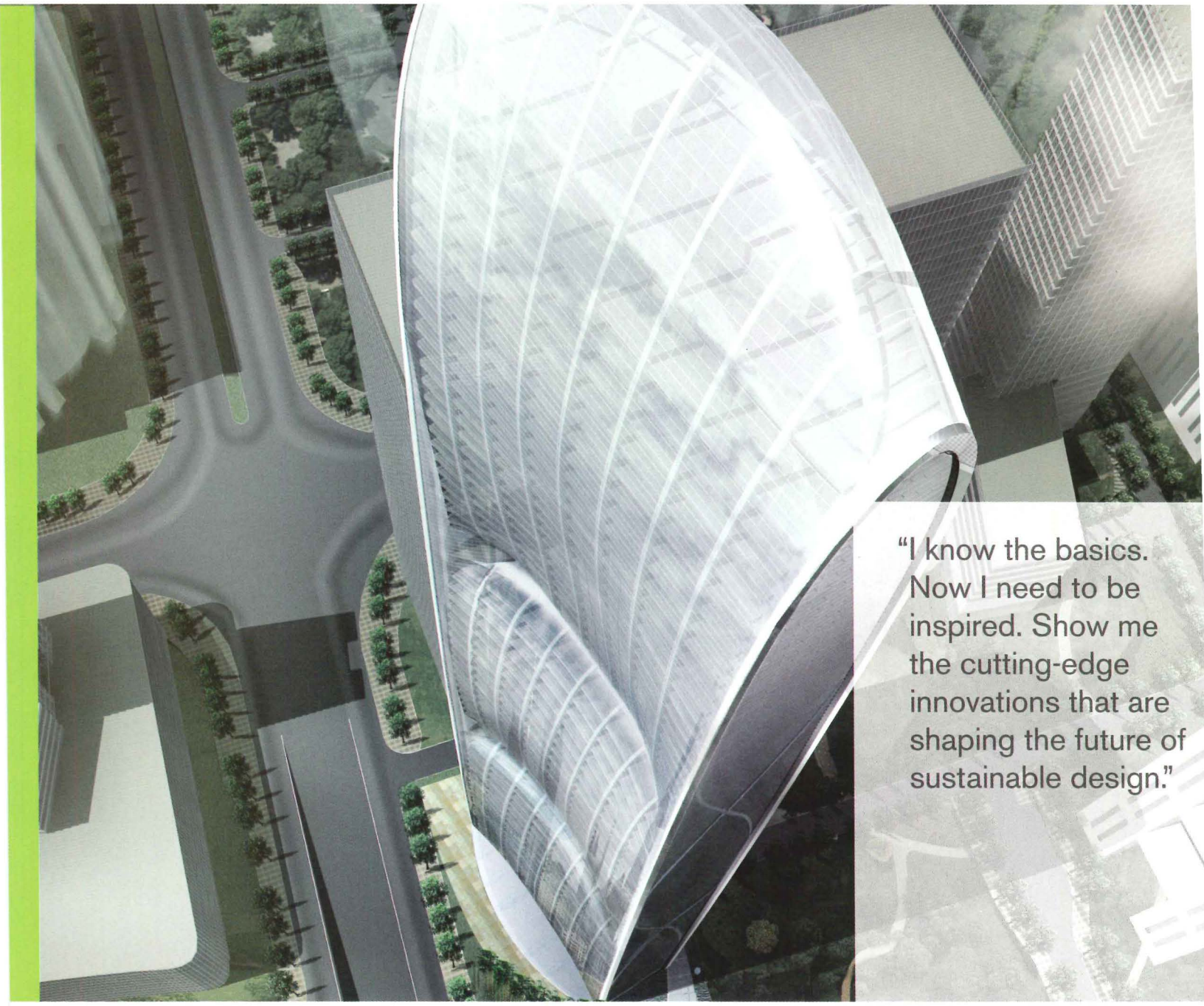
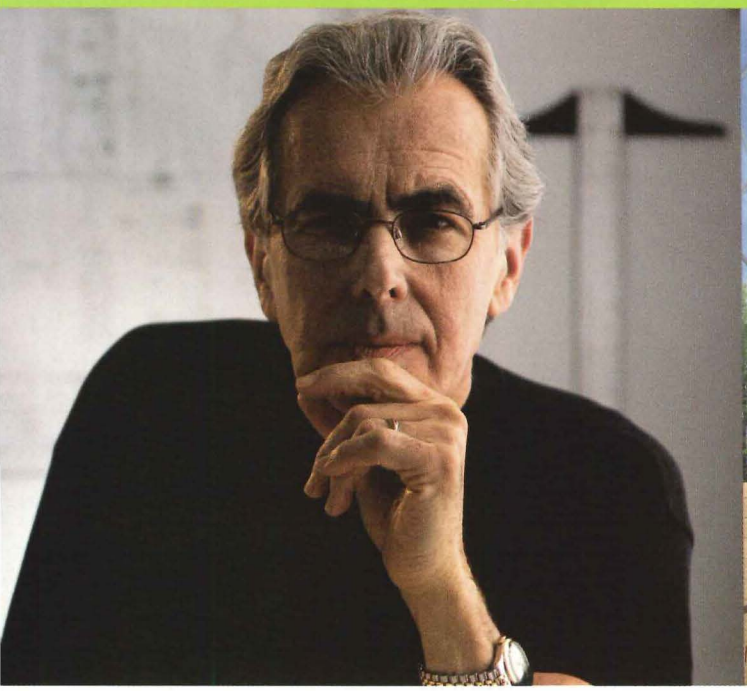


Skidmore Owings and Merrill's Pearl River Tower (above and right) will be built in Guangzhou, China. It's designed to produce more energy than it consumes, and is just one of the case-study buildings that will be presented at the conference.

NNOVATION

ustainable design that makes you say, "Hmm!"



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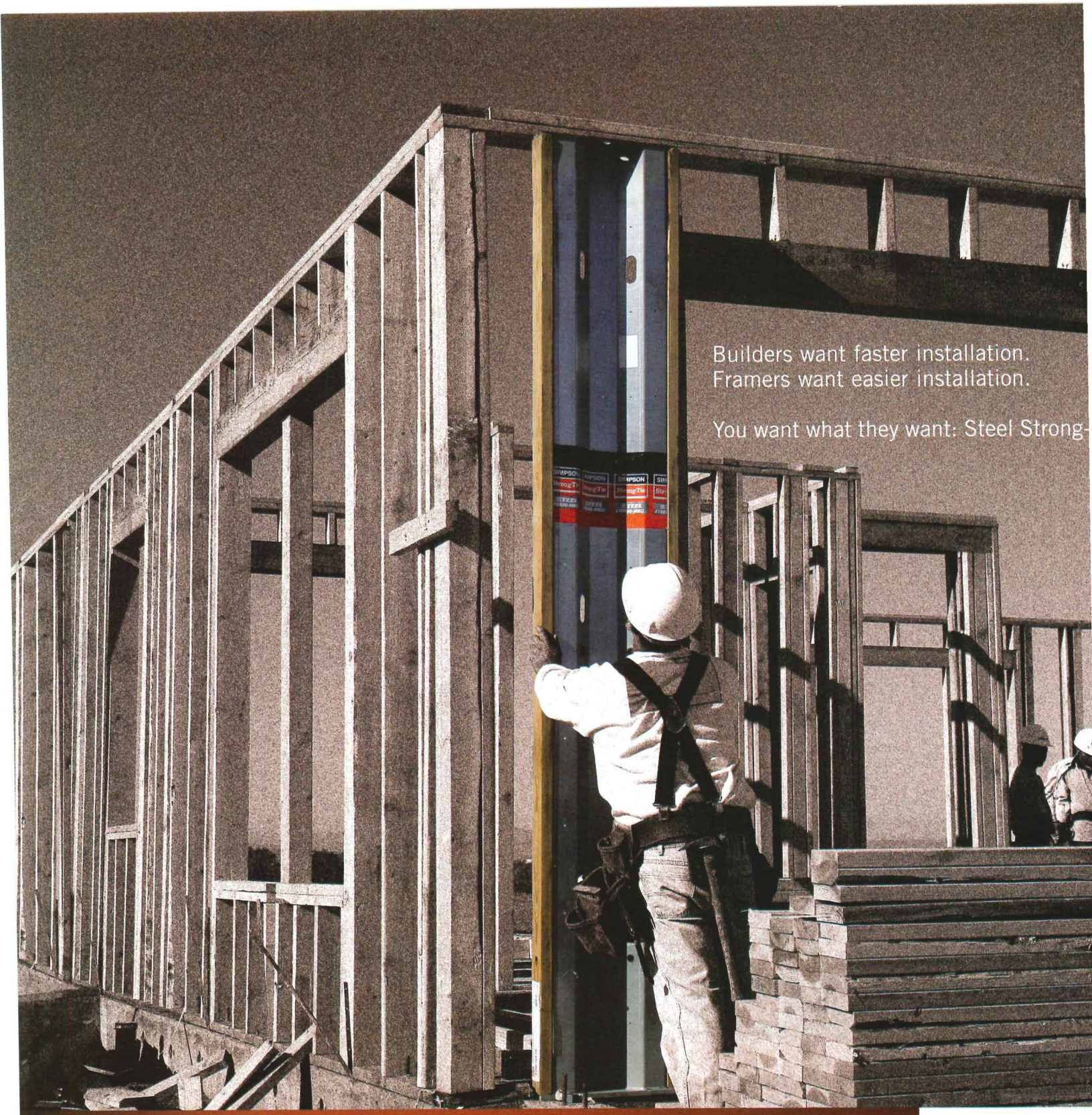

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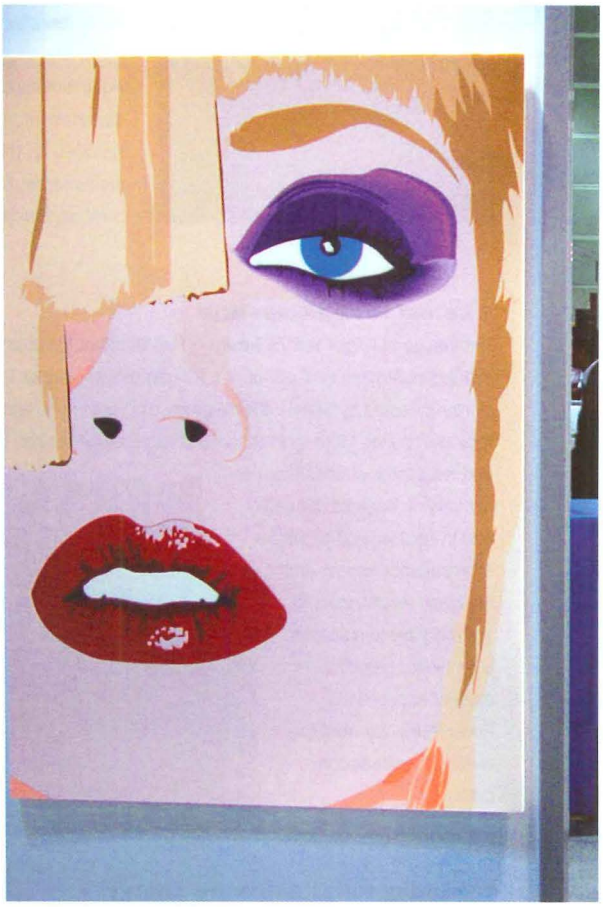
Products

Materials

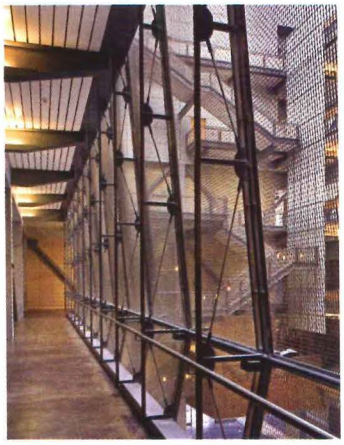
The **metal, wood, and plastic** materials featured this month are not radical introductions to the architectural market, but rather, dependable options enhanced in ways that make them more interesting to work with, from new uses for bamboo to **plastic roofing panels that save energy.** *Rita Catinella Orrell*



Dye sublimation process "tattoos" solid surfacing

DuPont Corian continues to push the boundaries of solid surfacing, and in turn, remains a vital supplier to the architectural and design community. The latest patent-pending technology developed for the material is Dye Sublimation in Corian, manufactured exclusively by R.D. Wing Company of Kirkland, Washington. Dye Sublimation is a new three-step heating transfer and compression process that allows any image or graphic to be transferred onto Corian. The end result is an image that, like a tattoo on skin, actually becomes a part of the Corian surface. With the aid of computer software, special water-based inks and low-absorption paper are laid out on a sheet of Corian. A heating device is put in contact with the printed paper and Corian, both of which are heated on a vacuum table to ensure the inks vaporize and permeate into the Corian matrix. Upon cooling, Corian reverts to its nonporous state, permanently transferring the image, photograph, logo, or pattern onto the surface of the material. The printed Corian can then be repolished and thermoformed in the same way as unprinted Corian. Depending on the image provided, the image transfer can be produced as small as a coin or up to 30" x 40" without seaming or panelizing. A rapid cycle time allows fast turnaround for proofing, sampling, and the production of signs, logos, tiles, and other design elements. R.D. Wing Company, Kirkland, Wash. www.blimages.com **CIRCLE 201**

Examples of Dye Sublimation applications include decorative Corian tabletops with prints of M.C. Escher's famous works *Drawing Hands* (top left) and *Rind* (below left). A colorful Pop Art graphic (above) showcases how the process can be used to create an attention-grabbing feature wall.



◄ Safety mesh system

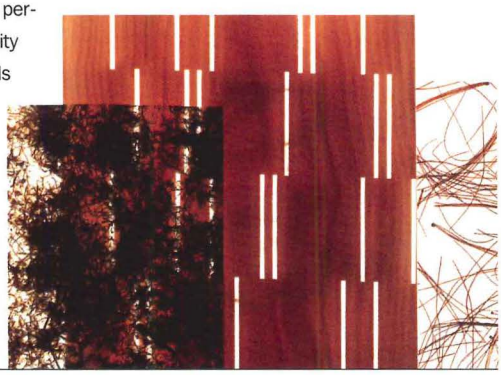
For the atrium of the 300,000-square-foot Kendall Square Biotech Laboratory in Cambridge, Massachusetts, a Cambridge Architectural Security & Safety mesh system was specified to provide fall protection using panels of metal fabric within railings. The metal fabric was used in combination with wood for lateral stability. The lab's interior materials intentionally mimic those specified on the exterior. Cambridge Architectural, Cambridge, Md. www.cambridgearchitectural.com **CIRCLE 202**

▲ ► Better behaving beams

iLevel Trus Joist Commercial, formerly Trus Joist, has introduced a new family of commercial framing products to the market. The TimberStrand LSL beam (above) allows for the drilling of multiple holes and has capacity for larger holes up to 4⅝". Parallam PSL beams and columns (right) reach up to 60' long. Thick section beams and headers eliminate field assembly and allow connections using common hardware. iLevel Trus Joist Commercial, Federal Way, Wash. www.iLevel.com **CIRCLE 203**

▼ Latest resin competitor

The inaugural line of Veritas ResinArt Panels offers limitless colors, textures, and encapsulated interlayers in 4' x 8' or 4' x 10' panels with gauges from 1/16" to ½". Design-directed by Shaw-Jelveh Design, the Veritas line lets each designer customize their own panel. More than 30 solid colors provide classic, tinted neutrals, and current and forecasted shades that permit varying degrees of opacity and translucency. The panels offer superior impact and chemical resistance and are available in a special UV-inhibitor blend for exterior applications. Robin Reigi, New York City. www.veritasideas.com **CIRCLE 204**



► One beautiful ending

New from San Francisco–based Smith & Fong Company, Plyboo End Grain Block (right) is available in 3' x 6' slabs and is ideal for tabletops, kitchen butcher-block, and other horizontal surfacing applications. The Plyboo EndGrain Block material is 1½" thick and is available in natural or amber, or in custom color stains. According to the manufacturer, the bamboo product will soon be available in flooring. Smith & Fong offers a range of sustainable materials, including Strand and Neopolitan bamboo and Durapalm, made from plantation grown coconut palms. Robin Reigi, New York City. www.robin-reigi.com **CIRCLE 205**

▼ Growing tulips and extra energy

In the Netherlands, greenhouses are among the largest consumers of fossil fuel. By constructing an experimental widespan greenhouse with GE's Lexan ZigZag sheet double-wall polycarbonate roofing panel, the Hydro Huismann horticulture company intends to produce more energy than it will use. Lexan ZigZag offers higher light transmission than single pane glass and insulation similar to multiwall glass or polycarbonate sheet. These energy-efficient properties will enable approximately a third of the heat generated in the greenhouse to be sold as surplus. GE Plastics, Pittsfield, Mass. www.geplastics.com **CIRCLE 206**

▲ Handy bamboo

Bamboo continues to work its way into more building product categories: In addition to its ability to be sustainably harvested every three to five years, its durability makes it a good replacement for hardwoods in interior finishes and flooring. InPro's bamboo handrail and chair-rail products, an extension of the company's EnviroGT line, are available in both a lighter natural bamboo color and a rich brown hue created through a "carbonizing" process. Materials can be ordered in 13' stock lengths or in preassembled units. InPro Corporation, Muskego, Wis. www.inprocorp.com **CIRCLE 207**

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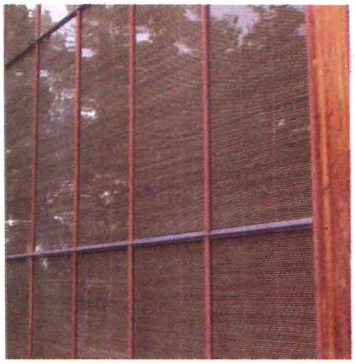
Product Briefs

► Modular shelf system

The as4 Modular Shelving System is a component-based shelving and furniture system handcrafted of solid wood and cold-rolled steel bar. Featuring a wide and growing range of components, such as drawers, desktops, and cabinets, the system can be configured as bookshelves or for home-office, A/V center, or retail-display applications. A Web-based companion design tool helps customers envision a configuration by dragging and dropping virtual components into position. Atlas Industries, Brooklyn, N.Y. www.atlaseast.com **CIRCLE 208**

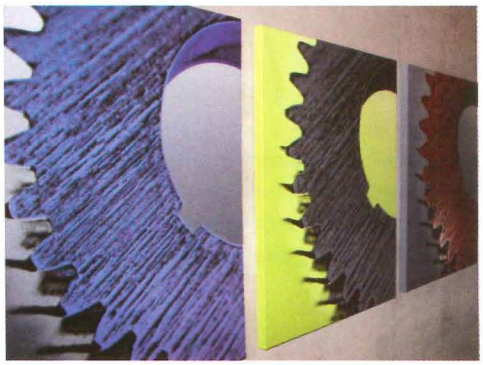
► Wood grid controls light



Okawood insulating glass offers a new way to integrate the warmth of wood into curtain-wall glass. The system is composed of two panes of glass, with a wood grid placed between the panes that provides solar protection yet still allows daylight to enter. The type and width of wood, as well as the intervals within the grid, can be customized. The Solar Heat Gain Coefficient for Okawood using standard dark red meranti wood is 11 to 28 percent (depending on the angle of incidence), and light transmission is estimated to be approximately 14 percent. Schott N.A., Elmsford, N.Y. www.us.schott.com **CIRCLE 209**

▼ Artwork geared for an urban loft

For the Fahrenheit Lofts project in San Diego, Décor on Walls collaborated with the architects to design several art pieces depicting a repetitive concept in different colors and shades. Inspired by the look of contemporary urban loft living, where mechanicals and concrete are exposed, an industrial gear was chosen as the main motif. For each one of the floors and the hallways of the common areas of the building, a different layout and color scheme was used. The art was produced on 100 percent cotton fine art canvas in a gallery wrap effect. Décor on Walls, Hollywood, Fla. www.decoronwalls.com **CIRCLE 210**

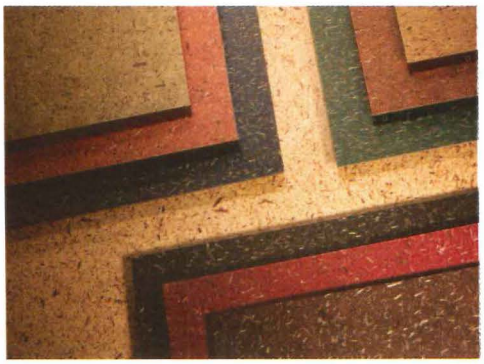


◄ Fabric as a sketch pad

Michael Graves, FAIA, has designed his first contract textile collection inspired by studies from his visit to Rome as a student in the 1960s. Made with Crypton fabric and distributed exclusively through CF Stinson, the collection includes nine jacquard patterns available in 95 colorways. "In this collection for Crypton, I recall in a subliminal way the magnificent and picturesque landscapes of Tuscany and Umbria through expressive pattern and color," says Graves. Crypton's stain, odor, and microbial resistance permanently encapsulates each fiber, enabling stains and spills to be easily cleaned. CF Stinson, Rochester Hills, Mich. www.cfstinson.com **CIRCLE 211**

▼ Laminate with a tropical flavor

Abacá, a new line of decorative laminate surfaces from Lamin-Art, is manufactured using recycled banana fibers and kraft paper and contains approximately 40 percent post-industrial recovered content. Named for a species of banana harvested primarily for its fiber used in the production of rope and twine, Abacá recycles residues from banana harvesting into an organic-looking, high-pressure decorative laminate. The fibers are sprinkled over an array of background colors to yield a random, nondirectional design and texture. Suitable for both horizontal and vertical applications, the line comes in 10 natural hues in 4' x 10' sheets, and a standard thickness of .048". Lamin-Art, Schaumburg, Ill. www.laminart.com **CIRCLE 212**



► A century-old classic

To commemorate one century in business in 2006, Sloan Valve Company has added the new Royal Classic to its manual Flushometer product line. The model is a replica of the flush valve that Sloan's founder W.E. Sloan introduced in 1906, and features the original Royal's bell-like top and white porcelain handle. The model features the dual-filtered fixed bypass diaphragm, which keeps debris from clogging the Flushometer and prevents valve run-on; the nonhold open handle that automatically shuts off regardless of the handle position; a nonadjustable, water-conserving design; and the Bak-Chek control stop. It is available in brushed-nickel, polished-nickel, polished-brass, chrome-plate, and gold-plate finishes. Sloan Valve Company, Franklin Park, Ill. www.sloanvalve.com **CIRCLE 213**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Product Briefs

◄ Fatal concoction

Walla Walla Environmental has introduced Bug-Juice Insecticide Paint Additive, the only insecticide paint registered by the EPA for both exterior and interior usage, according to the manufacturer. When mixed with water-based latex paint, oil-based paint, stains, or sealers, Bug-Juice-treated paint kills cockroaches, mosquitoes, ants, silverfish, and flying insects. Recommended uses include crack and crevice treatment on walls, floors, ceilings, floor drains, and trash chutes in apartment buildings, private homes, and in commercial applications. Walla Walla Environmental, Walla Walla, Wash. www.wwenvironmental.com **CIRCLE 214**

◄ Luxury commercial kitchen

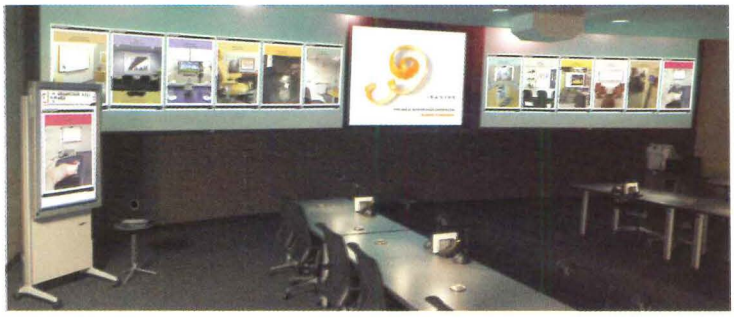
Bulthaup has established a commercial division catering to multiple-unit residential real estate developers. Each project is prepared on a custom basis using the same product as would be used by any residential customer; there is no "contractor-grade" line. As of spring 2006, bulthaup had either installed or was slated soon to install more than 1,000 commercial kitchens in the U.S., including units for the Drill Hall project (left) located in Highland Park, Illinois, by Chicago-based architects Robyn Morgenstern Rosenblatt and Jennifer Morgenstern. bulthaup, Roseland, N.J. www.bulthaup.com **CIRCLE 215**

► Custom wood flooring

Founded in 2005, T. Morton Custom Wood Flooring lets specifiers choose the species, length and width, finish techniques, and special surface treatments for a range of freshly milled or antique/reclaimed solid or engineered wood flooring. Domestic offerings include steamed birch, Canadian maple, walnut, and cherry, while imported woods include afrormosia (Central and West Africa's version of teak), sapele (also known as African mahogany), and knotty Caribbean pine. T. Morton Custom Wood Flooring, Kenosha, Wis. www.tmorton.com **CIRCLE 216**

▼► Architect-designed lines

Appoggi, a new contender in the contract furnishings market, has introduced a series of affordably priced chairs, bar stools, ottomans, and tables designed by five renowned architectural and design firms. Michael Graves, FAIA, contributes two collections, Joinery and Dorsey, which reflect his traditional design aesthetic. Gluckman Mayner Architects offers the Minimalist Gemini Collection, while Arquitectonica's Nido Collection (bottom) includes soft curves and a retro-Modern design. The Rockwell Group's Uni-Form Collection (below) is made of molded plywood and will include an upholstered version in green leather. Finally, SHoP Architects' Slice Collection is the smallest group, with three pieces: a club chair (above), dining chair, and bar stool. Appoggi, Bedford, Mass. www.appoggi.com **CIRCLE 217**



▲ The wall as your flipchart

PolyVision introduced the Thunder Virtual Flipchart System at this year's NeoCon show in Chicago. Changing the definition of what a flipchart is, the system is a series of large-format displays whose content can be simultaneously shared over any network with other similarly equipped rooms, as well as among participants on personal computers. A group easel allows input and sharing of any media image, and multiple pages are then "posted" or projected onto the wall in high resolution, allowing all of the information to remain visible to all participants throughout the meeting. Each page created in the meeting is saved on the system and can be displayed, edited, retrieved, printed, or e-mailed. PolyVision, Suwanee, Ga. www.polyvision.com **CIRCLE 218**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

The Natural Carpet Company

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A mold-free building–like a virus-free body–begins by defending the skin.

Much attention has been focused in recent years on mold caused by failures of internal systems, like plumbing and air conditioning. Thanks to that scrutiny, serious internal failures have become somewhat less common.

Meanwhile, though, moisture constantly assaults a building's exterior walls–from rain, snow, soffit-leakage, or condensation–and has done so forever. As a result, it's inevitable that moisture will infiltrate the dark cavities of exterior masonry walls.

And while moisture-penetration of masonry walls is far more predictable than moisture from internal sources, it's also far more costly to remediate. So it's vital to expel that moisture–quickly, dependably, and cost-effectively.

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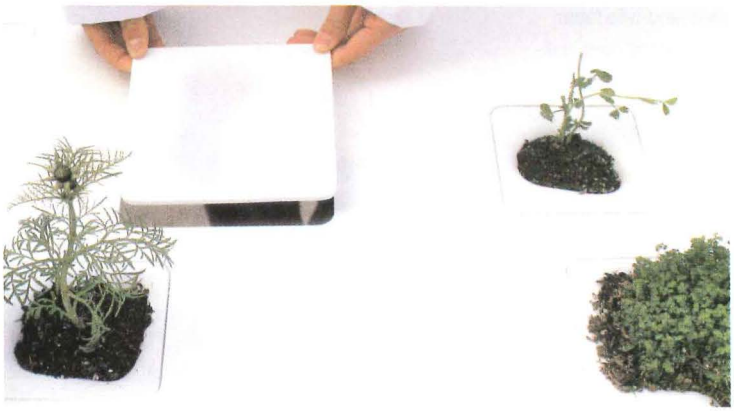
Product Briefs

ICFF

At this year's ICFF, quirky new products and reissued classics stood out. Featured here are a few examples of products that reimagine basic types of furniture, lighting, wall coverings, and even hot tubs. *Diana Lind*



◄ Customizable cutouts

Nondesigns is a Pasadena-based design firm that covers everything from architecture to furniture to graphic design. It is apropos then that Topo, its table made of Corian, styrene, and steel, is correspondingly multifunctional. By letting customers choose where to place CNC-milled cutouts and mounds, the possibilities for organizing the topography of the table are endless. Topo's inserts form a miniature landscape on the table's surface and can be used for anything from stashing away office supplies to planting herbs, or they can be removed to provide space for computer cords. Also on display from Nondesigns was the Wet lamp, comprising an unusual series of glass lamps with a water-submerged light bulb at its center. When a silver rod is slid into the water, the lamp turns on and becomes brighter as the rod is submerged. Nondesigns, Pasadena, Calif. www.nondesigns.com **CIRCLE 219**

▼► Portable hot tub

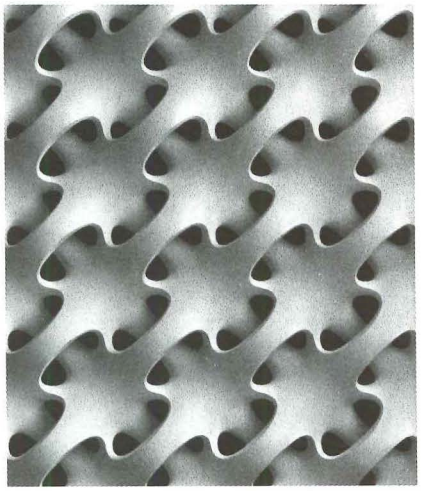
Designed by Floris Schoonderbeek, Dutchtub is a new take on the centuries-old European bathing culture. While maintaining the cultural importance of a communal soak, the signature orange-colored tub distinguishes itself by focusing on modern priorities: It is transportable, lightweight, and not dependent on electricity. The tub turns bathing into an event—a side table with a built-in ice-bucket (left) and a wok for cooking meals (right, on burner) allow for easy entertaining, while additional options include trailers for moving the tub from place to place. Once the polyester bath is filled with water and its wood-fired stainless-steel heating system is started, it takes 2 hours to heat 200 gallons of cold water to 100 degrees Fahrenheit. Dutchtub, Arnhem, the Netherlands. www.dutchtub.com **CIRCLE 220**

▲ Truss-inspired furniture collection

Truss, a 10-piece collection from Context Furniture that includes chairs, tables, benches, and casegoods, riffs on the basic architectural element of the truss. Made of Baltic birch plywood, the pieces could fit in anywhere from a residence to a library to a school. Appropriate for such a streamlined collection, the furniture comes in colors such as red, white, espresso, and moss gray with a choice of laminate or wood veneer. While the library desk and occasional table affect a retro look with their simple forms, the pieces are all CNC-milled and flat-packed, thus appearing contemporary, not nostalgic. Context Furniture, Royal Oak, Mich. www.contextfurniture.com **CIRCLE 221**

▼ Screen scene

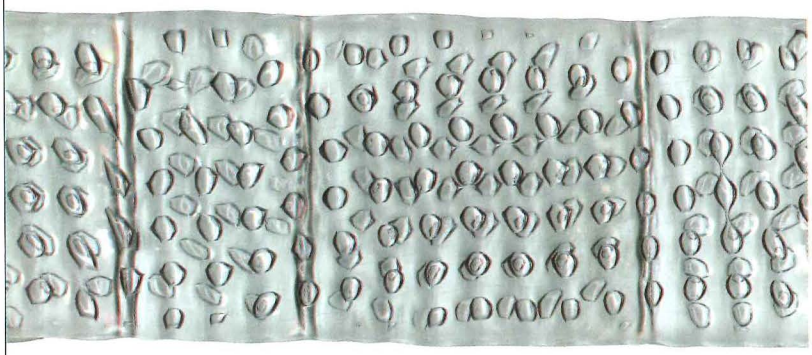
Erwin Hauer's renowned series of mid-20th-century screens that feature repeating abstract shapes have long been admired by the design community but were often too expensive to replicate for individual projects. Now, Hauer and his three partners, who form Erwin Hauer Studios, are using modern digital technology and production methods to reissue select designs from the Continua series of screens. Three of Hauer's classic designs along with one new design are available in custom configurations and sizes. The company has most recently been commissioned to create a 25' indoor/outdoor bas-relief wall for a Manhattan residential high-rise. Erwin Hauer Studios, New Haven, Conn. www.erwinhauerstudios.com **CIRCLE 222**



Product Briefs ICFF

► Embossed wall panels

Inhabit Living, founded by husband-and-wife team Jennifer and Mike Tuttle, debuted the Wall Flats wall-covering collection at this year's ICFF. Wall Flats embossed panels are made of recyclable molded paper pulp and add texture to vertical surfaces. The prefabricated panels come in 18" x 8" rectangles with adhesive strips on the back. They are available in packs of 10 panels in three streamlined patterns—Shangri-La, Bud, and Seesaw (right)—that recall the forms of modern tiles. While Wall Flats are currently produced only in off-white, they can be painted other hues. Inhabit, Indianapolis. www.inhabitliving.com **CIRCLE 223**



▲ Glass of bubbly

Bubble Glass, created by the Los Angeles design duo PadLab, takes its name from the process of controlling the placement of air bubbles in glass to embed patterns, images, and text. PadLab takes a client's desired image—anything from a pattern to a drawing—and incises it into sheets of glass that are then kiln-fused into a uniform panel. As a result, air bubbles are trapped precisely in place. PadLab collaborates with clients and architects to form these customized sheets, which may be used for architectural installations, lighting, and fine art. PadLab, Los Angeles. www.padlab.com **CIRCLE 224**

◄ Industrial chic

Like many of the lighting options debuted by smaller companies at ICFF, Zinoo Park's Spaghetti Chandelier combines whimsy with irony. This piece turns the prim chandelier on its head: In an intentionally sloppy assembly, the ubiquitous orange electrical cords often associated with industrial applications form the bowl of a chandelier. Hung from the cords are standard light bulbs—11 in the small version of the chandelier and 21 in the large—that can be arranged as the installer wishes. The chandelier's small and large sizes feature diameters of roughly 31½" and 40", respectively. Zinoo Park, Seoul. www.zinoopark.com **CIRCLE 225**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Palms *The Jerde Partnership* Photo courtesy of BASF Wall Systems (Senergy)

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Product Briefs

SIDIM

Last May, Montreal's interior design show, SIDIM, displayed a range of local and international talent. *Josephine Minutillo*

► Rock on

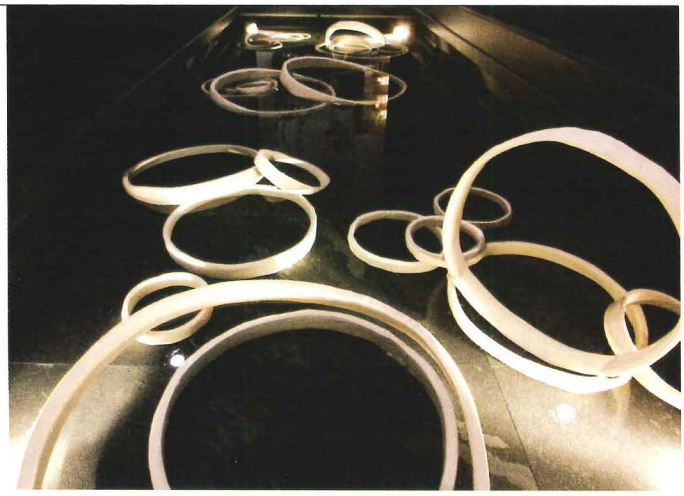
Recipient of the Best of Canada Award earlier in the year at the Toronto Interior Design Show, the Mamma rocking chair was still causing a stir at SIDIM. Created by young, Montreal-based designer Patrick Messier in anticipation of the birth of his child, the undulating chair is made from a single piece of fiberglass finished with a special high-gloss urethane. The design for the exaggerated curves was developed from a mathematical grid. Éditorial, Montreal. www.editorialliving.com **CIRCLE 226**

◄ Folk story

A pair of young Québécois designers, Frédéric Galliot and Vincent Hauspy, together form Erratum designers, whose clever and varied collection drew raves at SIDIM. Their Folk bench is a fresh take on the traditional wood bench. Made from a single sheet of steel, the powder-coated bench can be used indoors or out. Folk measures 15" high x 30" long x 12" wide. Erratum Designers, Montreal. www.erratum.ca **CIRCLE 227**

► Clay station

A native of Quebec, renowned ceramicist Pascale Girardin's presentations at SIDIM are always a highlight. Her aquatic installation at this year's show was representative of some of her most recent work. A frequent collaborator with architectural firms, including fellow Canadians Yabu Pushelberg, Girardin created more than 80 installations for luxury hotels and restaurants in North America and abroad in the past year alone. Pascale Girardin, Montreal. www.pascalegirardin.com **CIRCLE 228**



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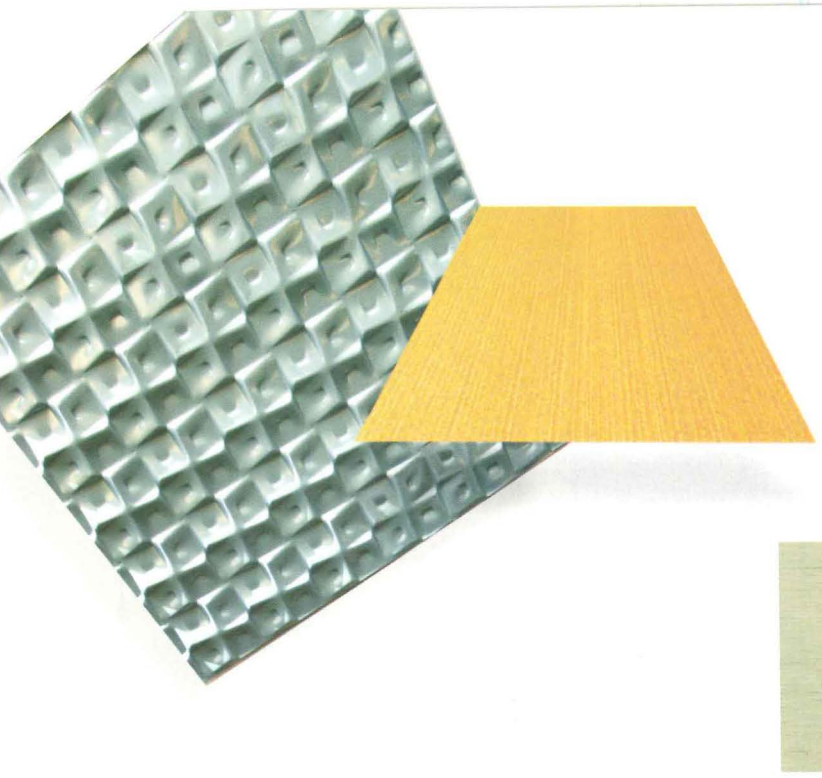
Gypsum board systems help builders maintain tight construction schedules the year-round

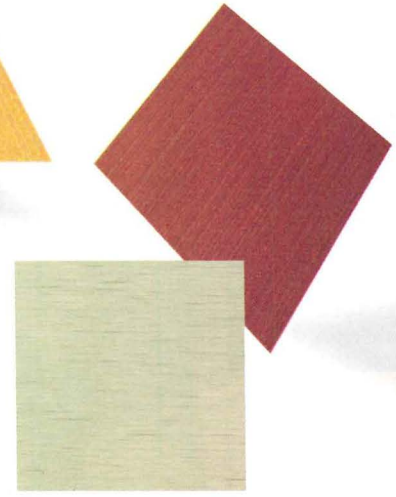
Gypsum Board Area Separation Walls

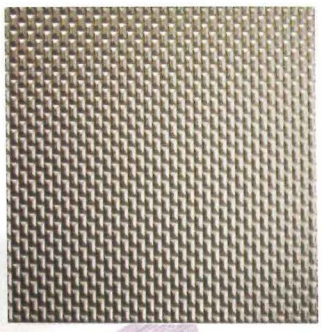
Effective fire resistance and sound attenuation have long been important considerations in the construction of multifamily dwellings, such as townhouses, condominiums, and apartments. Both objectives can be met inexpensively through the use of gypsum board area separation walls—sometimes referred to as fire walls, party walls, or townhouse separation walls. Gypsum area separation walls are easy to erect and secure, meet all building code requirements, and have fire-resistance ratings that easily reach two hours or more.

Gypsum board area separation wall systems weigh no more than 10 pounds per square foot when erected—far less than alternate construction materials. In most cases, gypsum board's light weight eliminates the need for costly footers or foundation modifications. In fact, many

systems can be erected directly onto a poured concrete slab. And, thanks to their relatively light weight, they can be installed up to four stories in height, depending on the manufacturer.







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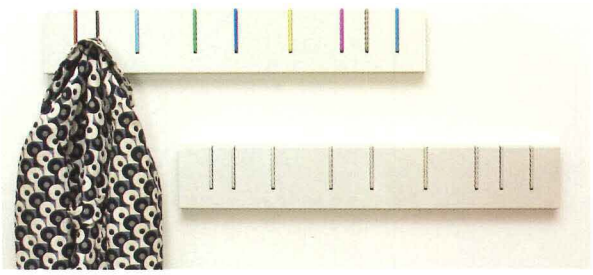
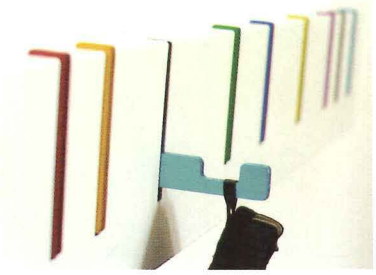
Product Briefs

Brooklyn Designs

The fourth annual Brooklyn Designs fair was held last May in the borough's DUMBO neighborhood. *D.L.*





▲ Get hooked

Desu Design, a company originally based in Los Angeles but now located in Williamsburg, Brooklyn, introduced seven new products at Brooklyn Designs. Minimalist and mainly manufactured in neutral colors, the products often walked the line between art and furniture. One standout from this year's collection was Symbol, a coatrack. Symbol is the result of Desu Design's quest to improve the prevailing aesthetic of ordinary coat hooks. When a coat needs to be hung, Symbol's hooks slide out; when not needed, the hooks lay flat on the sleek base. Made of anodized aluminum, the piece is available in monochrome or customized colors. Desu Design, Brooklyn, N.Y. www.desudesign.com **CIRCLE 232**

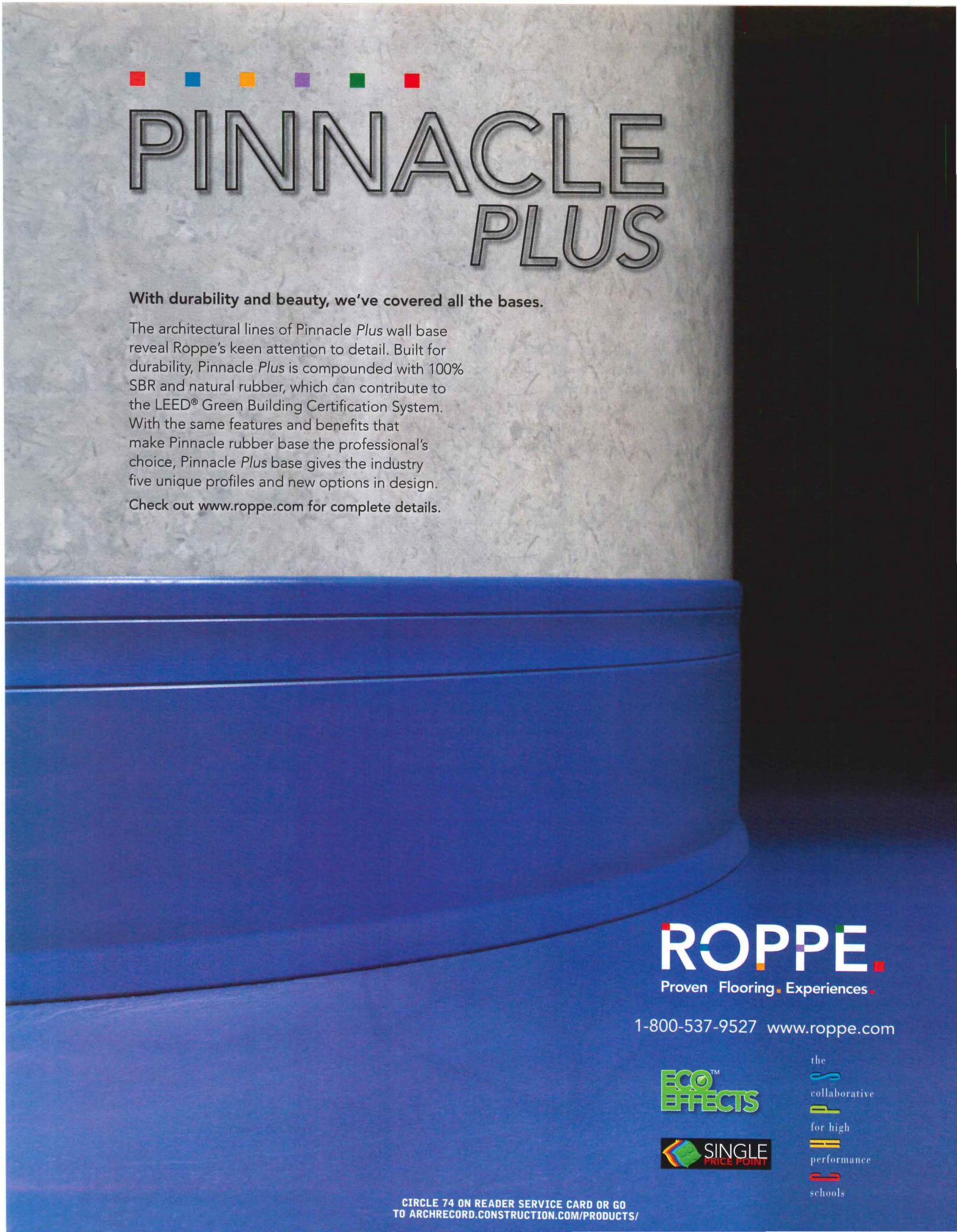
▼ Materials make a comeback

Environmentally friendly products, made of recycled materials that reflect a modern, urban aesthetic, stole the show. Palo Samko is a woodworker whose three-year-old company debuted two lines of ecofriendly furniture this year. His Walnut Line is composed of chairs, cabinets, and tables made of walnut wood. These forms allude to the sleek lines of mid-20th-century furniture but have a softer, less-industrial look to them. His Recycled Line is made from scraps found on construction sites. Using plywood, old construction beams, and railway beams, Samko renders these unsophisticated materials as polished desks, benches, and lamps that ironically convey both urban grit and refinement. Palo Samko Woodworker, Brooklyn, N.Y. www.palosamko.com **CIRCLE 233**

► Chirpy table

Like many of the exhibitors at Brooklyn Designs, Uhuru Design stresses its commitment to the environment in its products. Most of the pieces in its BK Collection are made with recycled or reclaimed materials, ranging from hardwood scraps used for a coatrack to a medical IV stand reconfigured for a lamp. The 48"-square Bird Table (right) exemplifies Uhuru's funky aesthetic. The coffee table's steel frame is blackened with a patina and sealed with a wax finish, while the top comes in either walnut or cerused white oak. A ¼" reveal between the base and the top causes the top to appear to float. Screen-printed on the wood is a bird graphic (here, in robin's-egg blue). Other graphic elements are also available. Uhuru Design, Brooklyn, N.Y. www.uhurudesign.com **CIRCLE 234**

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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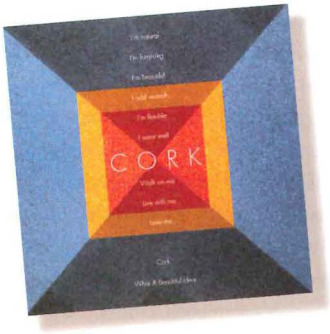
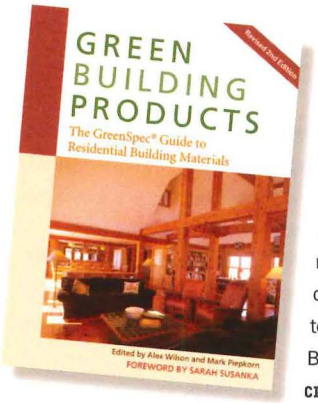


A free brochure from the Portuguese Cork Association offers info and design tips on how to apply cork to the construction of environmentally friendly homes and businesses. For a copy, send an e-mail with contact info to abeautifulidea@corkusa.info. Amorim Flooring, Hanover, Md. www.realcork.org **CIRCLE 235**

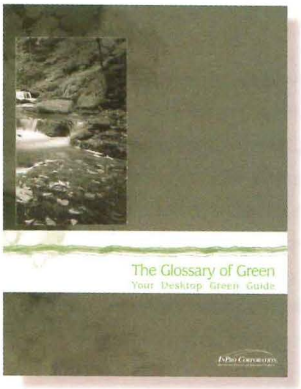


Greener home building

Copublished by BuildingGreen and New Society Publishers, *Green Building Products* features nearly 1,600 products from the GreenSpec database of green building products for residential projects [McGraw-Hill publishes *GreenSource* magazine with BuildingGreen]. All phases of residential construction are covered, from sitework to flooring to renewable energy. BuildingGreen, Brattleboro, Vt. www.buildinggreen.com **CIRCLE 236**

Green lingo glossary

InPro has published a newly revised *Glossary of Green* booklet that covers 100 of the most common terms, phrases, and definitions used in sustainable design and construction. InPro's sustainable offerings include the EnviroGT line of handrails, wall guards, and corner guards made of 100 percent recycled high-density polyethylene and FSC-certified wood. The company also operates a Vinyl Recycling Program. InPro, Muskego, Wis. www.inprocorp.com **CIRCLE 237**



Recycling program brochure

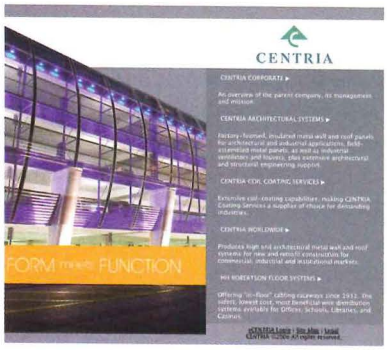
Armstrong is offering an eight-page brochure describing its ceiling recycling program that enables building owners to ship old acoustical ceiling tiles from renovation projects to an Armstrong ceiling plant rather than sending them to a landfill. The brochure also includes a listing of the different categories in which Armstrong ceilings can contribute to LEED credits. Armstrong World Industries, Lancaster, Pa. www.armstrong.com/environmental **CIRCLE 238**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Product Resource: On the Web

www.centria.com

Centria has launched a new Web site with improved user navigation, upgraded search tools, and additional content, including the new Centria Institute. The site could offer more animation and interaction and suffers from an "online brochure" feeling, but it does provide clear and complete product information, project photos, technical details, and load-span tables.

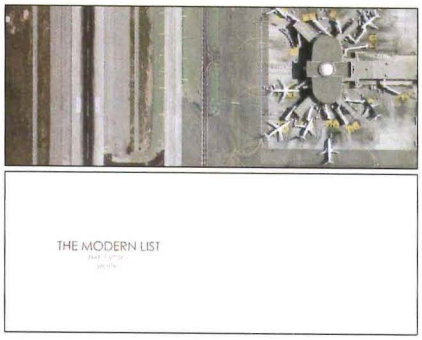


www.inhabitat.com

This design blog, started by a graduate architecture student, focuses on objects and spaces that are "eco-friendly, multipurpose, modular, and/or interactive." Recent product entries include the flat-packed Zebra Chair, designed by Dieter Paul, and light-sensitive wallpaper by Front Design.

www.themodernlist.com

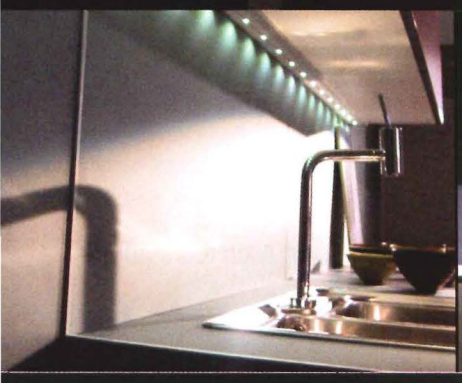
Intended to be a Modernist guide to Manhattan and Seattle, this site covers showrooms, museums, bars, restaurants, and other hot spots. The map is not interactive, the list is incomplete, and a small font size makes it hard to read, but the site is a good idea and has much potential.

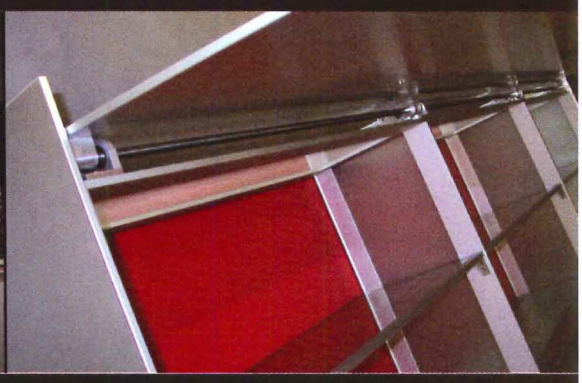


www.designbeans.com

Available in English, Italian, and Spanish, this blog, designed and edited by Milanese industrial designer Gimena Gomez Paz, is perfect for the international-product-design junky. Paz's entries seem to be less frequent, yet more in-depth and readable than typical design blog entries. Archives go back to July 2003.

Kitchen Design: Gabriele Centazzo





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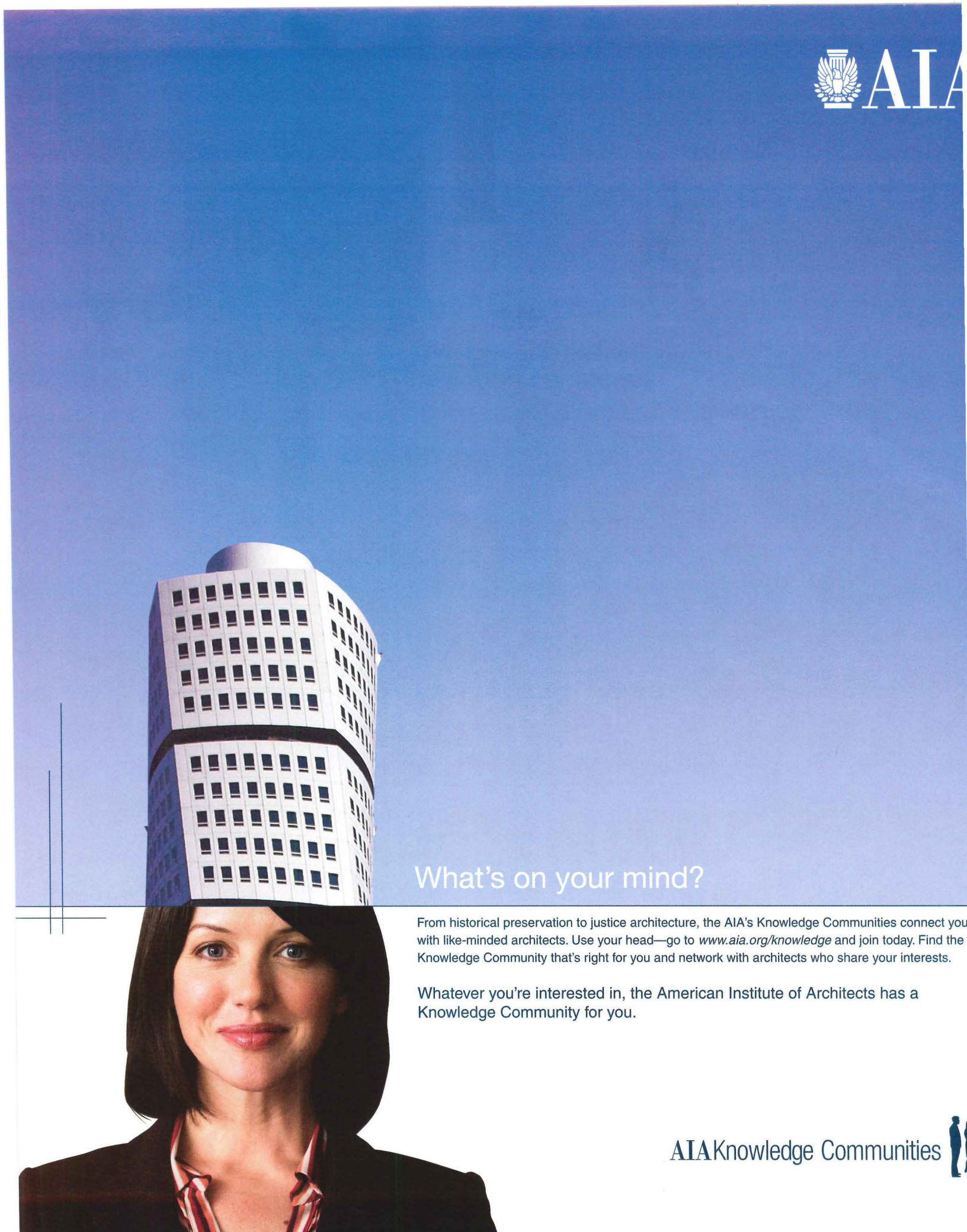
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Dates & Events

New and Upcoming Exhibitions

Rural Studio: Education of the Citizen Architect
Auburn, Ala.
September 5–November 5, 2006
An exhibition of the Rural Studio, an internationally acclaimed program of architectural education within Auburn University's School of Architecture, which has educated over 450 citizen architects in the classroom of Hale County, Alabama. At the Jule Collins Smith Museum of Art, Auburn University. Call 334/844-1484 or visit www.auburn.edu.

10th International Architecture Exhibition of the Venice Biennale
Venice
September 10–November 19, 2006
In its 10th year, this international exhibition is directed by Richard Burdett and dedicated to cities, architecture, and society. Two collateral sections will complement the theme of the international exhibition: *Cities of Stone*, curated by Claudio D'Amato Guerrieri, and *City-Port*, curated by Rinio Bruttomesso. Fifty countries will be represented. For more information, call 39 041 5218711 or visit www.labiennale.org.

Learning from North Lawndale: Defining the Urban Neighborhood in the 21st Century
Chicago
September 14–November 19, 2006
There are many common threads between Chicago's North Lawndale and other low-income neighborhoods in the process of gentrification throughout the country. An abundance of empty lots and a legacy of city deinvestment, absentee landlords, and abandoned buildings are some things these places share. Also present are a core of determined residents and supportive religious and social institutions. The Chicago Architectural Club selected North Lawndale as the site for the 2006 Burnham Prize Design Competition to explore 21st-century urban issues. This exhibition represents all the entries submitted for the first phase of the competition. The finalists will be included in the upcoming exhibition, *Learning from North Lawndale: Past, Present and Future*. At the Chicago Architecture Foundation. Call 312/922-3432 or visit www.architecture.org.

The Architecture of Ratcliff: A Retrospective on 100 Years of Distinguished Architecture
Oakland
October 1–December 31, 2006
Highlights of this exhibition include photographs of architectural landmarks in California designed by the Bay Area's Ratcliff firm. Among the projects featured are the Oakland Airport Terminal II; Mills College, in Oakland; the Wells Fargo Building, in Berkeley; the University of California, Berkeley Life Sciences Building; the Veteran's Administration Hospital in Palo Alto; Berkeley City College; Kaiser Permanente Medical Center in Fresno, and many more. The show is being held at the Oakland Museum of California. For additional information, call 510/238-2200 or visit the firm's Web site at www.ratcliffarch.com/centennial.

Dates & Events

Ongoing Exhibitions

Joe Colombo: Inventing the Future
Weil am Rhein, Germany
Through September 10, 2006
One of the most successful designers of his time, Colombo produced design classics such as the Elda armchair, the Universale chair, and the Alogena lamp. Colombo died in 1971 at 41. Produced in close cooperation with his estate, the exhibition—the first international retrospective of Colombo's work—presents an abundance of never-before-shown materials. These include early original objects and prototypes of his most important furniture designs, as well as many original rough sketches, plans, brochures, architectural models, and several films and original photos. At Vitra Design Museum. For more information, call 49 76 21 702 3200 or visit www.design-museum.de.

Prairie Skyscraper: Frank Lloyd Wright's Price Tower
Washington, D.C.
Through September 17, 2006
Organized by Price Tower Arts Center, in Bartlesville, Oklahoma, in cooperation with the Frank Lloyd Wright Foundation, in Scottsdale, Arizona, *Prairie Skyscraper* will present for the first time a comprehensive selection of the arts center's collection of historic artworks and objects relating to the Price Tower, including never-before-exhibited Wright documents and drawings from its own holdings and from those of the Wright Foundation's archives. The exhibition will be held at the National Building Museum. For more information, call 202/272-2448 or visit www.nbm.org.

Crafting a Modern World: The Architecture and Design of Antonin and Noemi Raymond
Philadelphia
Through September 24, 2006
Antonin Raymond (1888–1976) and Noemi Raymond (née Pernessin, 1889–1980) were married in 1914 and worked as partners in design for more than 60 years. Through their work, the Raymonds were able to forge a meaningful connection with the ancient traditions of Japan that widened the visual as well as the nonvisual possibilities of Modern design. This retrospective includes some 200 works, including drawings, models, photographs, videos, furniture, and other objects. At the University of Pennsylvania School of Design. For information, call 215/898-8323 or visit www.design.upenn.edu.

Artist's Choice: Herzog & de Meuron
New York City
Through September 25, 2006
The seventh exhibition in MoMA's *Artist's Choice* series, in which contemporary artists are invited to select, juxtapose, and comment on works from the museum's collection. Drawing from across the museum's departmental collections, the internationally renowned architects Jacques Herzog and Pierre de Meuron approach the project not as conventional art curators, but as architects. At the Museum of Modern Art. To reach the museum, call 212/708-9400 or visit www.moma.org.

Best of Friends: Buckminster Fuller and Isamu Noguchi
Long Island City, N.Y.
Through October 15, 2006
The relationship between the artist Isamu Noguchi and visionary designer and inventor Buckminster Fuller is illuminated in this special exhibition, which includes models, sculptures, drawings, photographs, film footage, and letters. At the Noguchi Museum. Call 718/204-7088 or visit www.noguchi.org.

Team 10: A Utopia of the Present
New Haven
September 5–October 20, 2006
In 1956, several young architects from England, France, the Netherlands, and Italy were charged with organizing the 10th meeting of the International Congress of Modern Architecture (CIAM), a formal gathering of proponents of Modernism. This multimedia show pays homage to the coterie of pan-European architects who, challenging the orthodoxies of Modernism in post–World War II Europe, raised issues of urban design that continue to reverberate in architectural discourse today. This exhibition draws on a range of resources and media that includes correspondence, transcripts, tape recordings, photographs, drawings, and film. At Yale's landmark Art and Architecture Building. For more information about the exhibition, call 203-432-2288 or visit www.architecture.yale.edu.

Insight Out
Knislinge, Sweden
Through October 22, 2006
An exhibition of eight American artists showing site-specific installations in the Park, in the Stable, and in the Sculpture Yard surrounding the Wanas medieval castle. The work investigates subject matter such as architecture, narrative, scientific processes, and psychological perception. At the nonprofit Wanas Foundation. Call 46 44 660 18 or visit www.wanas.se.

Zaha Hadid
New York City
Through October 25, 2006
The first woman to be awarded the distinguished Pritzker Architecture Prize, which she won in 2004, Hadid is internationally known for both her theoretical and academic work, as well as a portfolio of built projects that have literally "shifted the geometry of buildings." This exhibition provides a comprehensive look at her projects worldwide. True to Hadid's interdisciplinary approach to architecture, there is a wide range of mediums on display, including painting, drawing, large-scale urban plans, proposals for international design competitions, building designs for contemporary cultural and sports facilities, and documentation of current projects under construction. At the Solomon R. Guggenheim Museum. Call 212/423-3500 or visit www.guggenheim.org.

Seattle Architecture Foundation Tours
Seattle
Through October 28, 2006
Seattle Architecture Foundation connects people to architecture through popular guided walking tours, exhibitions, youth programs, and public forums—programs that inspire participants to engage in shaping their community. Visit www.seattlearchitecture.org.

Cantilever-Chairs: Architectural Manifesto and Material Experiment
Vienna
Through October 29, 2006
The Cantilever-Chair represents one of the most significant examples of avant-garde design of the 1920s. These steel-tube chairs stem from the Bauhaus movement and the German Werkbund, and still challenge architects and designers today to experiment anew with their form and material. The exhibition covers more than 80 years of innovative suspension design with chairs by Marcel Breuer and Ludwig Mies van der Rohe, right up to Tom Dixon and Ross Lovegrove. In the MAK Study Collection Rooms. Visit www.mak.at.

The Chicago Architecture Foundation Architecture River Cruises
Chicago
Through November 19
Led by trained volunteer docents, these cruises are well known as highly enjoyable as well as educational. They visit 53 historic sites that include the Wrigley Building, Merchandise Mart, the

Dates & Events

Tribune Tower, Sears Tower, Marina City Towers, River City, and many more. The docents also provide background information on the lives of many of Chicago's famous architects and firms: Daniel Burnham, Graham Anderson Probst, Bertrand Goldberg, Mies van der Rohe, Helmut Jahn, Skidmore, Owings & Merrill, and Kohn Pedersen Fox. The cruises start on the lower level of the Michigan Avenue Bridge, at the southeast corner, just below the Hyatt Regency Chicago Hotel. Call 312/902-1500 or visit www.architecture.org.

The Loop: Designs for a Vertical City
Chicago
Through November 25, 2006
An exhibition of original conceptual and design drawings, working blueprints, and hectographs from the historic archives of D.H. Burnham and Company. ArchiTech's collection of vintage photographs by Richard Nickel and Aaron Siskind capture the heroic era of building in Chicago's famed Loop, the epicenter of skyscraper invention. At ArchiTech Gallery. Call 312-475-1290 or visit www.architechgallery.com.

Investigating Where We Live
Washington, D.C.
Through November 26, 2006
Celebrate the opening of this new exhibition showcasing the results of the National Building Museum's five-week outreach program "Investigating Where We Live" (IWWL). IWWL teaches young people to use photography as a tool for exploring and documenting neighborhoods in Washington, D.C. Through this process they gain an understanding of city planning, architecture, photography, and exhibition design. As part of a partnership with the Anacostia Community Land Trust, participants explored three neighborhoods in the Southeast quadrant of the city. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Some Assembly Required:
Contemporary Prefabricated Houses
New Haven
Through February 2, 2007
This exhibition featuring the work of eight contemporary architecture studios demonstrates how far prefabricated homes of the digital age have come from the "straight-off-the-assembly-line" look of the mid-20th century. At the Yale School of Architecture. Call 203-432-2288 or visit www.architecture.yale.edu.

Lectures, Conferences, and Symposia

Lecture: The Virginia State Capitol:
Restoring Jefferson's Iconic Building
Washington, D.C.
September 7, 2006
The Virginia State Capitol, designed by Thomas Jefferson and completed in 1788, is currently undergoing a large-scale restoration and expansion. James Wootton, executive director of Capitol Square Restoration Council, will discuss the $93 million project, which is adding 25,000 square feet to the capitol (currently the second smallest in the nation), including a new entrance, a visitor's center, and a café located under the south lawn. This project is taking place among the renovation and rehabilitation of several state buildings on Capitol Square in Richmond, Virginia. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Promosedia 2006:
International Chair Exhibition
Udine, Italy
September 9–12, 2006
An overview of the world of chairs as well as tables, this show includes products for residential use, contract, office, and community, and features everything from upholstered to outdoor furniture. With vendors from over 120 different countries, the exhibition is a major reference point for the international trade. At Quartiere Fieristico Showgrounds. Call 39 0432 745 611 or visit wwww.promosedia.it.

High Performance, Green
Commercial Buildings
Washington, D.C.
September 13, 2006
With 40 percent of U.S. primary energy consumed by buildings, companies large and small are implementing energy-efficient design and building strategies to reduce energy consumption. Nonprofit organization Southface Energy Institute has worked with companies like IKEA and the Atlanta Community Food Bank, helping them meet high-performance green building guidelines. Dennis Creech, cofounder and executive director of Southface, will talk about the benefits to and strategies for improving building energy consumption. He will also talk about Southface's own headquarters, the Eco Office, which will showcase the best "off the shelf" energy and environmental technologies for small

commercial buildings. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

London Design Festival 2006
London
September 15–30, 2006
Established in 2003 to celebrate and promote London as the creative capital of the world, the London Design Festival (LDF) has rapidly grown to become one of the key constituents of the U.K.'s burgeoning festival season, along with London Fashion Week and the London Film Festival. Disciplines include architecture, fashion, furniture, textiles, craft, product, digital, interiors, and jewelry. Visit www.londondesignfestival.com.

Livable Communities: Walking, Working, Water Conference
Seattle
September 15–17, 2006
This conference will explore the balance between urban development and the environment, focusing on opportunities related to walking, working, and water. Using the past, present, and future of Seattle and the greater Puget Sound region as a point of departure, the conference will discuss national issues and how those issues affect the host community. At the Seattle Marriott Waterfront. Call 800/242-3837, 202/626-7300, or visit www.aia.org.

Film: Modernism on Film: The Architecture of John Lautner
Washington, D.C.
September 16, 2006
Modernist architect John Lautner began his career in Los Angeles and grew to be known for his visionary creations. The film *The Spirit in Architecture: John Lautner* (58 min.) explores the architect's profound designs through interviews with historians, critics, collaborators, clients, and Lautner himself. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

The 12th Asian Conference of Architects and 27th Arcasia Council Meeting
Beijing
September 17–22, 2006
This year's conference theme is "The Transition of Cities and Architecture in Asia" and is hosted by the Architectural Society of China (ASC). Keynote speakers include Wu Liangyong, China; Kenneth Yeang, Malaysia; Zhang Jinqiu, China; and Choon-Soo Ryu, Korea. For information, call

Dates & Events

86-10-88082234, 88082237 or visit http://www.chinaasc.org .

Lecture: Structure, Identity, and Existence in the Work of Team 10
New Haven
September 18, 2006
The distinguished architect and author Kenneth Frampton will deliver a lecture in connection with the exhibition *Team 10: A Utopia of the Present*. At the Yale School of Architecture. Call 203/432-2288 or visit www.architecture.yale.edu.

Symposium: Team 10: Thoughts on a Shiny New Brutalism
New Haven
September 21, 2006
This symposium, offered in conjunction with the Yale exhibition on Team 10, examines the legacy of the group as it intersects with contemporary architectural thought and production. Long marginalized, the work of Team 10 and its core protagonists Aldo van Eyck, Alison and Peter Smithson, Giancarlo de Carlo, and Shadrach Woods is the subject of renewed historical and theoretical interest as architectural discourse turns once again to the intersections of architecture, urbanism, infrastructure, landscape, and society. At the Yale School of Architecture. Call 203-432-2288 or visit www.architecture.yale.edu.

CERSAIE 2006
Bologna, Italy
September 26–30, 2006
The world's largest international exhibition of ceramic tile and bathroom furnishings will feature over 1,000 exhibitors from 32 countries. This year's seminar program includes Thomas Mayne, 2005 Pritzker Prize winner and cofounder of Morphosis and SCI-Arc, and renowned Italian architect Massimiliano Fuksas, as key speakers. Designed by architects Dante Donegani and Giovanni Lauda, Cersaie's large central exhibit is inspired by the evolution of the bathroom from an essential functional room to a more complex space. This "oasis of wellness" will be constructed using Italian ceramic tiles and bathroom fixtures from leading manufacturers and explore new trends in color, texture, and shape. At the Bologna Fairgrounds. Visit www.cersaie.it or www.italiatiles.com.

The International Forum on Architectural Criticism 2006 (IFAC '06)
Singapore
September 27–28, 2006
This inaugural forum will be a unique and state-of-the-art biannual event featuring prominent speakers and critics with diverse educational backgrounds and professional experiences. The forum provides a platform for an international community of architectural critics to formally debate and discuss the context, roles, and the many dimensions of architectural criticism through discourse. At Meritus Mandarin Singapore. Call 65/6878-6138 or visit www.upremascollege.com.

Resurfacing the City: A Lecture Series
Houston
September 27–October 18, 2006
This lecture series will examine the renewed role of landscape and its emergence as an important motif in the discourse on architecture and urbanism. It will bring together the most innovative practitioners and thinkers of landscape as urbanism. James Corner of Field Operations will present the opening lecture. At the Museum of Fine Arts, Brown Auditorium. Call 713/348-4876 or visit www.rice.edu.

Urban Waterfronts 24: Celebrating 20 Years of Excellence on the Waterfront
Portland, Ore.
September 28–30, 2006
The Waterfront Center's annual international conference. For more information, call 609/884-7997, 202/986-2549 or visit www.waterfrontcenter.org.

Symposium: The Dynamic Economies of Asia and Global Wellness—Opportunities for the Pittsburgh Region
Pittsburgh
October 3, 2006
This symposium raises scholarship money for Carnegie Mellon School of Architecture students. The goal is to connect the business, medical, policy, architecture, and the academic fields to recognize ways to adapt metro regions into a global economy. At Carnegie Mellon School of Architecture, McConomy Auditorium and Rangos Ballroom. Call 412/268-9554 or visit www.andrew.cmu.edu.

The 16th Annual METALCON International Conference and Exhibition
Tampa
October 3–5, 2006
The event includes new product exhibits, a com-

Dates & Events

prehensive educational program, and live-action demonstrations of the latest products and techniques for roofing, architectural, and structural applications of metal—long recognized as a green material for its high durability, recycled content, and recyclability. At the Tampa Convention Center. Call 800/537-7765 or 617/965-0055, or visit http://www.metalcon.com/.

Pacific Crossings: 2006 AIA Northwest & Pacific Region Conference and AIA Committee on Design Fall Conference
Hong Kong and Shanghai
October 16–22, 2006
AIA Hong Kong in collaboration with the AIA Committee on Design hosts *Pacific Crossings*, a weeklong event that merges the 2006 AIA Northwest & Pacific Region Conference with the AIA Committee on Design Fall Conference. Beginning in Hong Kong and concluding in Shanghai. For information, visit www.aiahk.org or call 852/2882-6011 or 202/626-7468.

Competitions

Imagining Penn Center: A National Student Design Competition to Plan New Life for Philadelphia's Central Civic Space
Deadline: September 15, 2006
Penn Center is one of Center City Philadelphia's most important spaces, housing Suburban Station, office towers, retail, and public plazas. Originally conceived by the late Edmund N. Bacon, Philadelphia's renowned former planning director, Penn Center changed the face of the city when it was built in the 1960s as one of the largest and most ambitious downtown redevelopments of its time. Today, Penn Center is vastly underutilized by the public, yet it holds great potential for revitalization. The Ed Bacon Foundation challenges students to imagine the site's potential and to generate ideas for restoring this important space as a modern Philadelphia epicenter and icon. For additional information on the competition, visit www.edbacon.org/penncenter.

Fire Station Design Awards Program
Deadline: September 15, 2006
The Fire Industry Equipment Research Organization (FIERO), in conjunction with the International Association of Fire Chiefs (IAFC) and *Fire-Rescue* magazine, invites submissions for its awards program to encourage excellence in fire station design. The awards program is being held as a part of FIERO's 5th National Symposium on Fire Station Design. To learn more, visit www.fierofirestation.com.

BSA's 2007 Research Grants in Architecture Program
Deadline: September 22, 2006.
Individuals and teams (architects, academics, designers, product developers, students, etc.) in the national design and construction industry seeking support for an original research project are encouraged to submit applications to the BSA's 2007 Research Grants in Architecture program. The BSA is again offering up $75,000 in research grants to designers nationwide. This program supports original research projects. Call 617/951-1433 or visit www.architects.org/grants.

Inter-school Student Design Competition
Washington, D.C.
September 24–25, 2006
Teams of students from the Washington, D.C., area's four accredited schools of architecture will participate in a daylong design competition held in the National Building Museum's Great Hall.

Dates & Events

Each team will consist of one student from each school. Museum visitors can view this charrette in progress, as the teams work on a design project announced that morning. Winners of the juried competition will be announced at an award ceremony and reception. At the National Building Museum. For registration call AIA/D.C. at 202/667-1798 or e-mail info@aiadc.com. For information, call 202/272-2448 or visit www.nbm.org.

The 5th Tile of Spain Awards of Architecture and Interior Design
Deadline: October 31, 2006
Sponsored by the Spanish Ceramic Tile Manufacturers' Association (ASCER), these awards recognize outstanding architectural and interior design projects using ceramic tiles from Spain. Prizes totaling 45,000 euros are being offered. The competition is open to professional architects, interior designers, architectural engineers, landscapers, and decorators of all nationalities. Entries may represent new construction, renovation and restoration projects, urban development projects, or exterior landscaping. Visit www.spaintiles.info/awards.

The 2nd Annual JELD-WEN Student Door Design Contest
Deadline: November 1, 2006
Individuals are invited to create and submit original designs for residential front doors, focusing on the theme of "honoring architecture." Visit www.jeld-wen.com/studentdesign to learn more.

2007 Palladio Awards
Deadline: November 15, 2006
Submissions are now being accepted for the 2007 Palladio Awards. The sixth annual competition will recognize outstanding work in traditional design for commercial, institutional, and residential projects.The Palladio Awards program is coproduced by *Traditional Building* and *Period Homes* magazines. For more information, visit www.palladioawards.com.

3rd Annual Eye for Why
Deadline: December 18, 2006
A U.S.-based design competition that encourages students to think differently by designing products that solve everyday problems. Entries submitted by participating students must exemplify a product that solves a problem, works well, and provides a real advantage over existing offerings. The competition is open to students at any of the

Dates & Events

NASAD accredited degree programs or individual student members of IDSA. Visit www.dyson.com/designaward.

2007 International Bamboo Building Design Competition
Registration deadline: December 31, 2006
Submission deadline: January 15, 2007
Bamboo Technologies of Maui has launched the first International Design Competition for Structural Bamboo Buildings. Some of the winning entries will be chosen for manufacture by the world's premier builder of international-building-code-approved bamboo homes. The competition is open to architects, builders, designers, and students anywhere in the world. Visit www.bamboocompetition.com.

Insight Pro Microwave Drawer Kitchen Design Contest
Deadline: March 1, 2007
The contest will recognize professional kitchen designers for the most inspired kitchen designs that incorporate one of Sharp's innovative Insight Pro Microwave Drawer cooking appliances. Sharp will select five winning designs that will be announced publicly at the Kitchen and Bath Industry Show 2007 in Las Vegas. The winning designers, along with the homeowners with the winning kitchens, will each receive Sharp AQUOS Liquid Crystal Televisions. For more information, visit www.sharpusa.com/drawerdesigncontest.

2007 Aurora Awards
Deadline: March 9, 2007
Builders and architects who have demonstrated excellence and creativity when designing hurricane-resistant structures are invited to submit projects to the 2007 Aurora Awards, a design competition recognizing projects in the Southeastern United States. Solutia, a manufacturer of polyvinyl butyral (PVB) interlayers for impact-resistant glass, is sponsoring a new category in the competition. The Safe & Secure Award will recognize builders, designers, architects, and other home building professionals who incorporate—and meet or exceed code requirements for—impact-resistant windows and doors for safety, and use other design elements that minimize the effects of hurricanes and other disasters on residential structures. For more information, visit www.theauroras.com.

E-mail event and competition information two months in advance to elisabeth_broome@mcgraw-hill.com.

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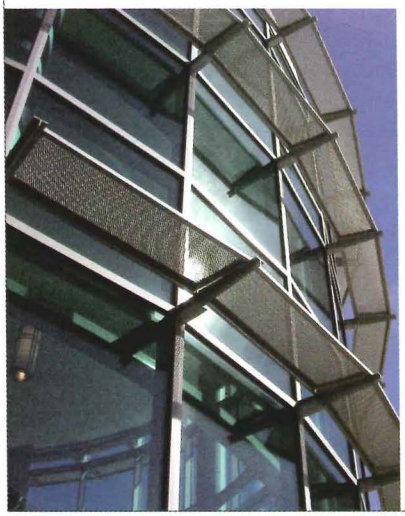

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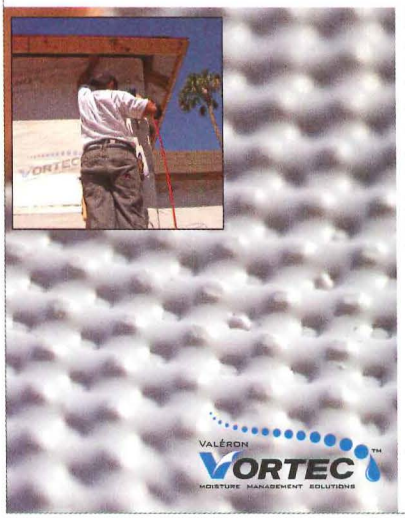

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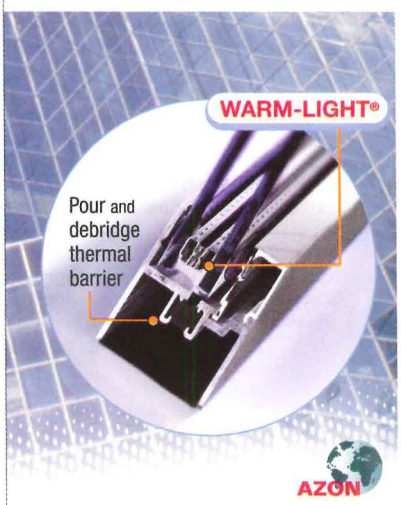

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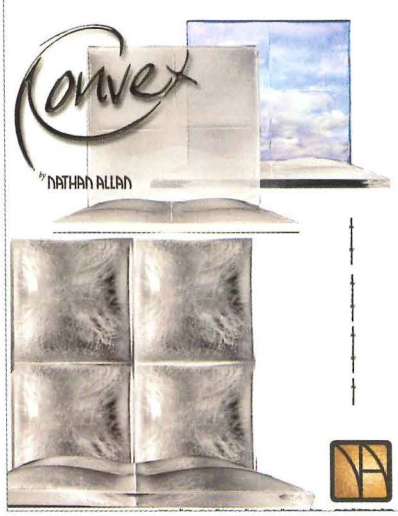
3D Glass

Nathan Allan Glass Studios Inc.



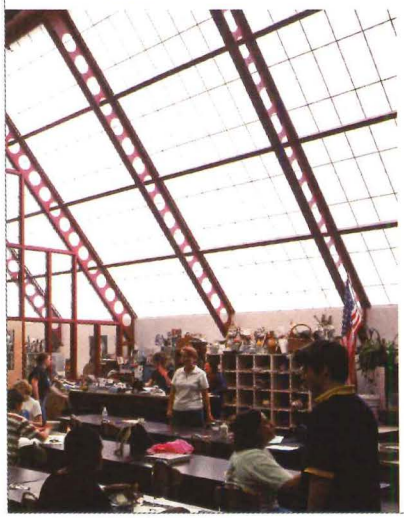
"Convex Glass" was produced and developed with the renowned architectural firms of Janson / Goldstein and Front Inc, in New York City. Convex Glass is the first real 3D Glass, produced in Geometric type patterns. Both surfaces are shaped so that dimensional viewing can take place from either side of the glass. Convex Glass can be produced in 1/4-in., 3/8-in., 1/2-in., 5/8-in. and 3/4-in. single layered panels, and can be safety tempered.

604-277-8533 ext.225
www.nathanallan.com

| Circle Reader Service #165

High-Performance Translucent Building Systems

Kalwall Corporation



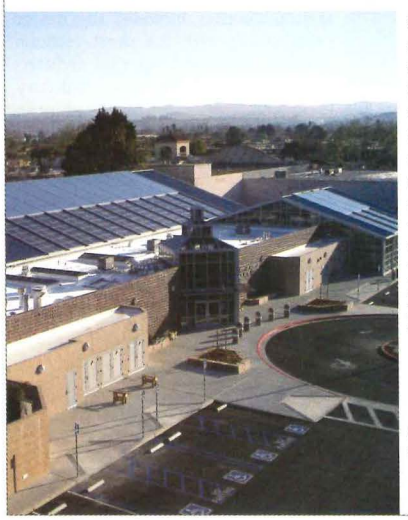
Gathering LEED® points through daylighting can greatly impact any project. Kalwall's highly insulating, diffuse-light transmitting, translucent skylights, wall systems and replacement windows are uniquely suited to achieve the desired results. The use of Kalwall can contribute points in the categories of Sustainable Sites, Energy & Performance, Materials & Resources, and Indoor Environmental Quality. Kalwall has been supplying state-of-the-art daylighting solutions for over 50 years.

800-258-9777
www.kalwall.com

| Circle Reader Service #163

Retractable Roof Enclosures & Skylights

OpenAire Inc.



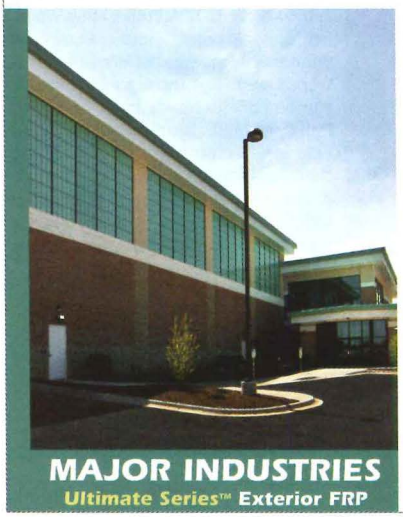
Custom-designed retractable roof structures and operable skylights capable of spanning up to 140-ft. At the touch of a button, motorized panels retract to open up to 50% or more of the roof area. OpenAire can span up to 140-ft. and do custom designs (domes, barrel vaults, biparting, etc.) using its exclusive maintenance-free, thermally broken aluminum framing. These enclosures and operable skylights are perfect for indoor waterparks, pools, atria, and anywhere that you want to bring the outside in.

800-267-4877
www.openaire.com

| Circle Reader Service #166

Translucent Daylighting Panels

Major Industries, Inc.



Guardian 275® Translucent Daylighting Panels long recognized for their energy efficiency, light management qualities, and cost-effectiveness are now better than ever. New technology Guardian 275® Translucent Daylighting Panels feature Ultimate Series™ exterior face sheet for great color stability, longer life, and the best-ever performance for your translucent daylighting needs.

715-842-4616
www.majorskylights.com

| Circle Reader Service #164

Anti-Reflective Glass

Pilkington

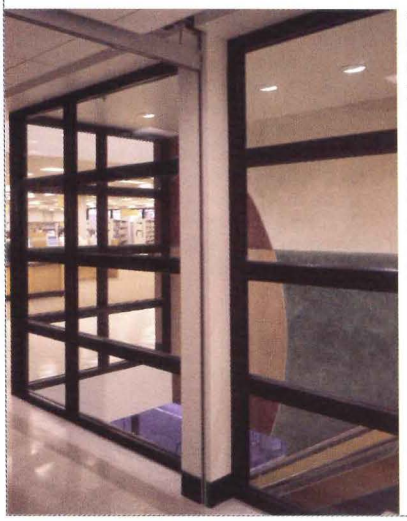
OptiView™ Anti-Reflective Glass minimizes glass reflections by reducing visible light reflectance to less than 2%, while blocking more than 99% of UV transmittance using Pilkington's online pyrolytic process, OptiView™ Anti-Reflective Glass offers more size flexibility than other anti-reflective glass products. Being a laminate, OptiView™ Glass provides excellent acoustic control and superior safety and security performance. Pilkington OptiView™ is a practical choice for retail storefronts, showrooms, and other applications where an anti-reflective product was never an option.

800-221-0444
www.pilkington.com

| Circle Reader Service #167

Fire-Resistant Glass Products

Pilkington North America - Fire Protection Glass



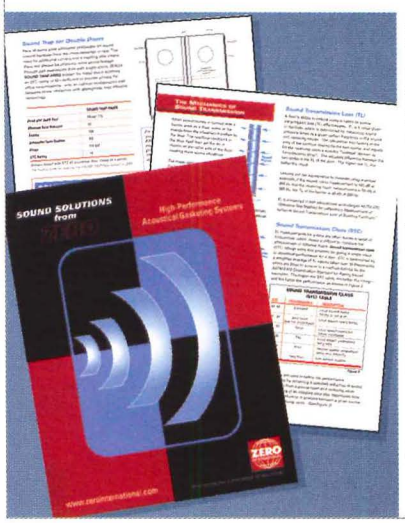
The Pilkington Pyrostop™ fire-resistant glass products are made from special laminates of glass and transparent intumescent interlayers that create an opaque barrier against heat, flames and hot gases. Blocking the radiant heat during a fire is the key to protecting the occupants as well as the rescue teams. Pilkington Pyrostop™ and Pilkington Pyrodur™ are available through Technical Glass Products.

800-426-0279
www.fireglass.com

Circle Reader Service #168

Sound Solutions

Zero International, Inc.



A definitive guide to understanding the science of sound as it applies to doors and door openings. This 20-page brochure discusses the principles of acoustics and noise problems, explains the transmission of sound and how it's measured, provides a good working knowledge of STC ratings for door openings, along with an understanding of the role of gasketing in achieving the needed STC values. The brochure's second half discusses the steps for practical application, plus specific gasketing and components for maximum sound control. Free in printed form or on the Web.

800-635-5335
www.zerointernational.com

Circle Reader Service #171

Fire Rated Aluminum Framing

SAFTIFIRST

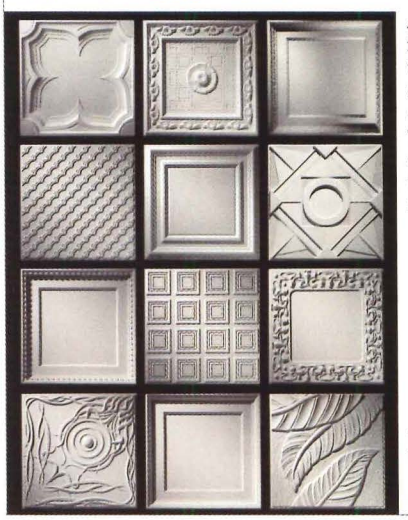
With SAFTIFIRST's SAFTIfire Frames, rated 45-min. to 2-hr., you can create the maximum barrier against fire and radiant heat while providing attractive framing that meets all the temperature requirements of the national building codes. Design flexibility of multiple forms makes for easy installation, creating a sleek, attractive profile.

888-653-3333
www.safti.com

Circle Reader Service #169

Ornamental Plaster Ceiling Tiles

Above View Mfg., By Tiles, Inc.



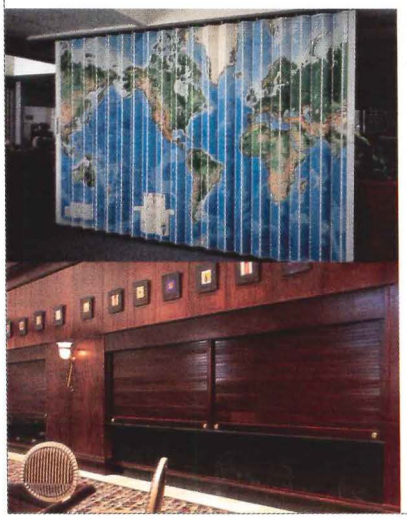
Above View ornamental plaster ceiling tiles are fabricated from a non-toxic, non-combustible, proprietary composition. They drop into any standard 15/16-in. T-Bar grid system. There are more than 50 standard designs, custom design work, and 1,300 custom colors and faux finishes available upon request.

414-744-7118
www.aboveview.com

Circle Reader Service #172

Doors for Interior Architecture

Woodfold-Marco Mfg., Inc.



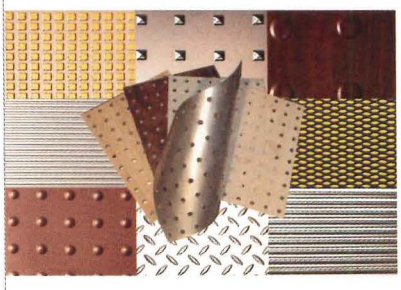
Some will say that nothing is more beautiful than wood. Woodfold-Marco would agree. Woodfold custom made accordion and roll-up doors (available in hardwood and non-hardwood finishes as well) are both functional and beautiful. Woodfold-Marco has models available for use as sight, security, and acoustic applications. Its solid hardwood roll-up doors coil conveniently overhead. And, to assure on time completion of your projects, Woodfold-Marco has the industry's best production cycle. Fax number 503-357-7185

503-357-7181
www.woodfold.com/AR

Circle Reader Service #170

Plastic Embossed Sheets

Architectural Products by Outwater, LLC



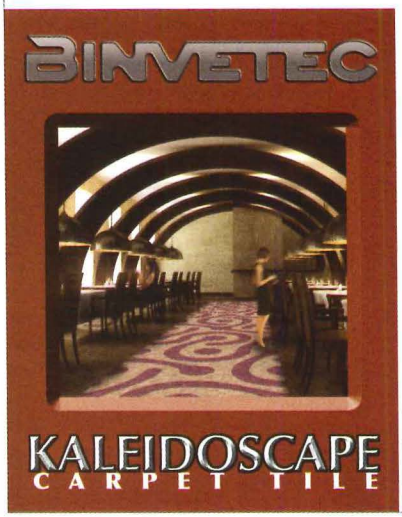
Manufactured of thermoplastic styrene in a variety of unique, trendy 3-D textures to simulate the look of real metal, Outwater's "Structure" Plastic Embossed Sheets are not only lightweight, unbreakable and easy to install using ordinary adhesives, but because of their highly flexible nature they are also well suited for use in unorthodox applications such as those with curved surfaces. Free 1,100+ page master catalog.

800-835-4400
www.outwater.com

Circle Reader Service #173

Carpet Tile

Binvetec, LLC



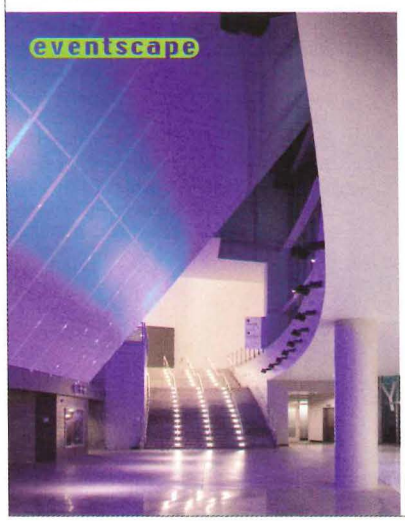
Kaleidoscape Carpet Tile with TractionBac non-adhesive installation system is the only modular floor covering solution that can create a wholly non-repetitive and free-flowing pattern from a single tile design. They can also be arranged in groups to create myriad patterns. Available in nine color combinations, they can be used to create entire wall-to-wall floor coverings, runners, or assembled together to make six-tile area rugs (6-ft. by 9-ft.).

714-731-2369
www.binvetec.com

Circle Reader Service #174

Custom Framed Fabric Light Wall

Eventscape Inc.



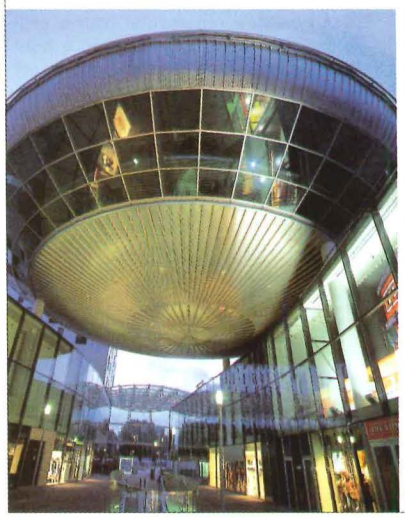
A custom sloping panelized frame and fabric wall system built for the 408-ft.-long concourse of this new arena in Stockton, CA. Colored lighting illuminates the 21,000-sq.-ft. surface. Just one example of the numerous custom wall and partition solutions engineered and fabricated to meet your specifications. View their complete portfolio on Eventscape's web site. "Create without boundaries."

416-231-8855
www.eventscape.net

Circle Reader Service #177

Standing Seam Systems

Corus Building Systems



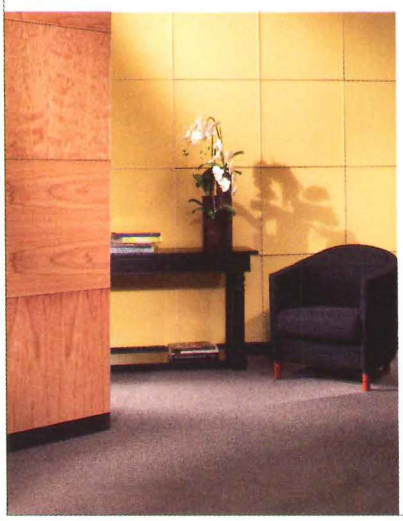
Kalzip aluminum standing seam is a durable and low-maintenance roof system that provides superior performance and design flexibility for all environments. Kalzip is available in various widths, lengths and gauges, is available in other materials and finishes and can be formed into stunning shapes to complement any building design. Email kalzip-na@corusgroup.com

219-476-7625
www.kalzip.com

Circle Reader Service #175

Innovative Interior Wall Panels

Fry Reglet Corporation



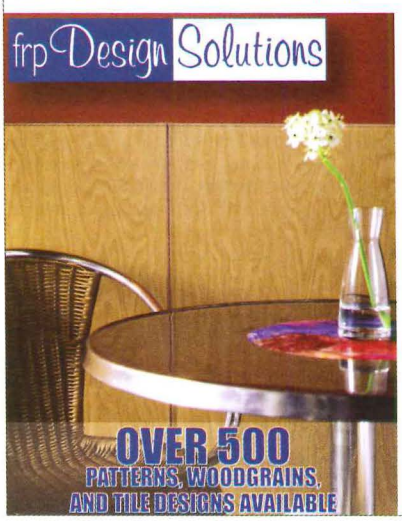
Fry Reglet's Graph is a grid system of decorative panels that rivals expensive millwork. A prefabricated aluminum gridwork and proprietary clip allows Graph panels to be applied quickly, securely and in perfect position. Graph provides architects and designers with many distinctive surface options for interior commercial and retail applications. For more information or a GRAPH sample kit, call Fry Reglet at 800-237-9773 or visit www.fryreglet.com.

800-237-9773
www.fryreglet.com

Circle Reader Service #178

Decorative Wall Panels

Crane Composites / Kemlite Company



frpDesign Solutions is a family of decorative wall panels that provides an alternative to traditional wall coverings such as ceramic tile, wood paneling or vinyl wall coverings. Offering both functionality and design, products in the frpDesign Solutions line are made of a moisture-resistant frp panel with a decorative finish that includes myriad colors, patterns, and woodgrains, as well as a tile-look panel. Available with over 500 choices, frpDesign Solutions is easy to install and maintain. For more information, visit Kemlite on the web.

888-332-6377
www.frpdesignsolutions.com

Circle Reader Service #176

Stainless Steel Floor System

Gage Corporation

The Gage Stainless Steel Floor System is a durable, high-tech flooring solution designed in Italy for purity of form and ease of installation. The embossed stainless steel finish has been specifically designed to prevent traffic wear and is virtually indestructible. "The system is the solution."

866-855-4243
www.gageverticalsurfacing.com

Circle Reader Service #179

Translucent Panels

Hitchcock Fleming & Associates, Inc.

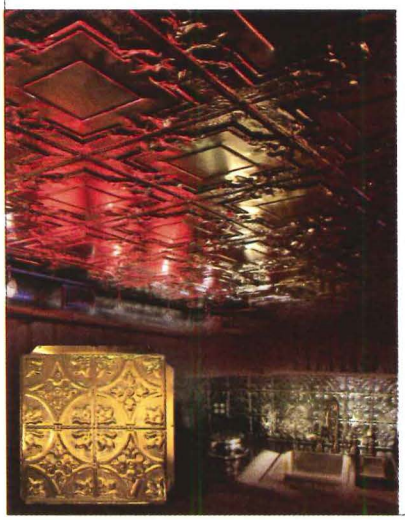
Veritas™, the newest and most design-forward system of translucent ResinArt™ Panels, is destined to challenge and inspire designers and architects worldwide. Veritas ResinArt Panels are available in limitless colors, encapsulated interlayers, and textures, and can be formed and fabricated to meet your specifications. Call Veritas for more information, or visit www.veritasideas.com.

330-376-2111
www.veritasideas.com

Circle Reader Service #180

Authentic Tin Products

The American Tin Ceiling Co.



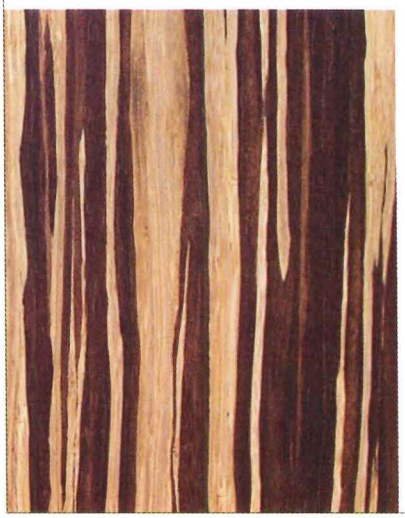
One of the largest manufacturers of authentic tin ceilings panels, offering over 30 of the finest embossment patterns and over 50 high quality powder coat finishes. Exclusive distributors of the innovative SnapLock™ and 3D Dropin tin ceiling panels. Eight designers provide free phone consultation six days a week. Orders shipped direct worldwide. Fax number 941-359-8776

888-231-7500
www.americantinceilings.com

Circle Reader Service #183

Bamboo Material

Smith & Fong Plyboo



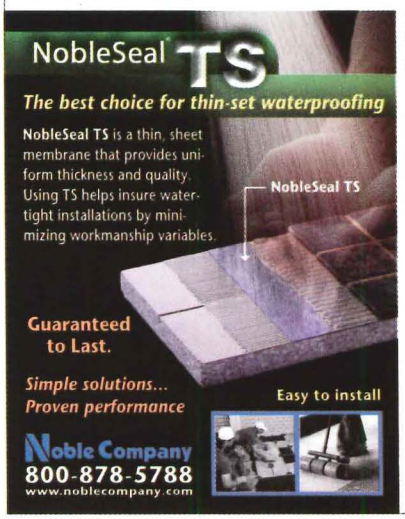
Neopolitan™ is their response to what's new in the bamboo world. Made of bamboo strand, this plybamboo material is available in both a sheet good and a flooring product. Applications include cabinetry, furniture, store fixtures and flooring, and this material meets 6.0 LEED™ requirements.

866-835-9859
www.plyboo.com

Circle Reader Service #181

Thin-Set Waterproofing

The Noble Company



NobleSeal® TS is a thin, sheet membrane for waterproofing and crack isolation of thin-set tile or stone. TS can be bonded to a vertical or horizontal substrate, and tile can be bonded to TS. It's ideal for shower floors, walls and drying areas. NobleSeal TS can be flood tested as soon as the bonding agent has cured (usually overnight). This helps insure watertight installations. TS is recommended for wheelchair accessible showers and other applications where a full mortar bed is not desired.

800-878-5788
www.noblecompany.com

Circle Reader Service #184

Crystallized Glass Ceramic Architectural Panels

Technical Glass Products

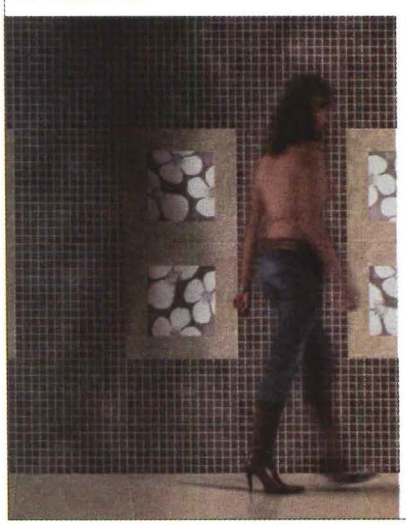
Neopariés® and Neopariés® LT are lighter yet stronger than granite. Commonly used for cladding interior and exterior walls, flooring, and counter or tabletops, they are virtually impermeable and not subject to freeze-thaw damage, penetration by rust, mortar or other staining substances. Contact Technical Glass Products at (888) 397-3473 or www.tgpamerica.com.

888-397-3473
www.tgpamerica.com

Circle Reader Service #182

Mosaic Wall Covering

Viva Ceramica



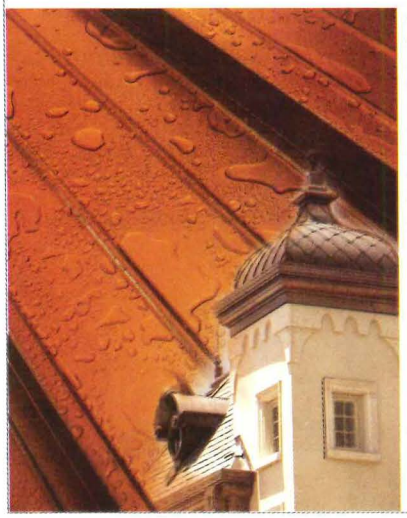
Even though they had introduced Central Station at Cersaie 2005 as a color through porcelain floor tile series, it was easy to convert it to a wall covering. It's just so adaptable with its suggestions of metal and its decorative squares and circles in crackle glaze. And both the big diameter and the 30cm square are ideal for minimalist mosaic decors in bathrooms or on walls in public areas.

www.cerviva.it

Circle Reader Service #185

Architectural Sheetmetal Products

CopperCraft



CopperCraft creates meticulously formed dormers, spires, cupolas and other specialty sheet metal products using copper and other quality metals. Their Old World craftsmen will work with your ideas to develop custom pieces for most any project. Their parent company, Fabral, manufactures high quality architectural metal roofing and cladding systems.

800-486-2723
www.coppercraft.com

Circle Reader Service #186

Art Presentation

Walker Display Incorporated

Life's all about change and so is Walker Display when it comes to art presentation. The Walker system frees you to explore all your options. No-More-Holes frees you to rearrange your artwork with ease and speed. Embrace change!

800-234-7614
www.walkerdisplay.com

Circle Reader Service #189

Column Mount Mailbox

Custom Home Accessories, Inc.

The Manchester cast aluminum mailbox insert can be mounted into a column, pilaster or wall. There is a choice of three decorative designs, in five rich powder coat finishes. Other quality features include: corrosion-resistant hardware, weather-resistant door seal, and a galvanized masonry box. A matching address plaque and newspaper box are also available.

800-265-0041
www.mailboxes.info

Circle Reader Service #187

Central Vacuum System

Beam Industries

The Beam Serenity® Plus Central Vacuum System and Beam Advocate™ Power Team provide "Cleaner, healthier living. Built in." The Beam Serenity Plus Central Vacuum System improves indoor air quality. It's the only central vacuum system that is clinically proven to relieve allergies. And it is rated by builders as the highest quality central vacuum system available.

www.beamvac.com

Circle Reader Service #190

Perforated Filler Pull-Outs

Rev-A-Shelf, LLC.

The 434 series transforms decorative fillers into storage pullouts. Accommodating 30-in. tall Wall cabinets as well as Base cabinets with 3-in. and 6-in. width versions, the 434 features full-extension ball bearing slides, black pegs and stainless steel panels that allow you to store everything from cookware to cleaning accessories. Email rasmarketing@rev-a-shelf.com

800-626-1126
www.rev-a-shelf.com
IWF Booth #2844

Circle Reader Service #188

Unique Storage & Filing

Aurora by Richards-Wilcox

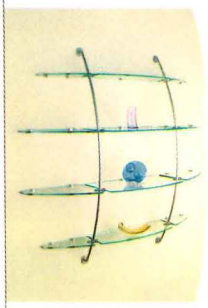
Aurora® Times-2 Step-Up, Step-Down™: It's a simple concept, two tall "steps" on the upside, two small steps on the "downside" to give you plenty of compact multimedia storage and filing. The task area is great for printers, fax machines, copiers, phones, mail meters and more. Units come as a bank of four in letter or legal sizes in an eco-friendly finish in 26 beautiful colors. Order a variety of different heights and accessories.

800-877-8456
www.aurorastorage.com

Circle Reader Service #191

Shelving Display

Gyford Productions



Introducing the new SOLAR ECLIPSE shelving display. This one-of-a-kind elegant yet sturdy shelving unit will add a sense of artistry to any space. The system is made from stock aluminum components and combined with custom designed plexiglass shelves. Gyford can ship in a matter of days and customize to infinite possibilities. Combine the SOLAR ECLIPSE shelves with their Archer shelves in your next design project and make a statement.

775-829-7272
www.luxar.ch

| Circle Reader Service #192

Tub & Shower Valve

Zurn Plumbing Products Group

Temp-Gard III, manufactured by Zurn AquaSpec® is a single-handle pressure balancing mixing tub and shower valve, with an ADA-compliant handle, chrome finish, and a heavy duty ceramic control cartridge with a stainless steel balancing piston. It features a built-in reverse connection capacity and two integral service stop/check stops and an adjustable temperature limit stop. The four-port valve body has a tub port plug included for shower-only applications. The valve inlet, shower outlet, and tub outlet are standard with half inch N.P.T. female thread connections.

877-987-6669
www.zurn.com

| Circle Reader Service #195

Silver Certification for Solar Shading System

MechoShade Systems

Mecho®/5 with EcoVeil™ is the first complete solar shading system to receive Silver Certification from MBDC. With this certification, MechoShade Systems has set a new industry standard for high quality and eco-friendly technology. For more information on Mecho®/5 with EcoVeil™ visit www.mechoshade.com or call 718-729-2020.

718-729-2020
www.mechoshade.com

| Circle Reader Service #193

Architectural Ceiling Fans & Lighting

G Squared Art

Balanced design that is light and airy. Moving sculpture... The San Francisco ceiling fan is a GOOD DESIGN Award winner by Mark Gajewski. Whisper quiet, powerful, reliable and beautifully made. Also available without a light kit. Lifetime warranty. Buy great fan and lighting designs on G-Squared Art's website or call Monday through Friday from 7am to 5pm PST.

877-858-5333
www.g2art.com

| Circle Reader Service #196

Clean-Lined Outdoor Furniture

Modern Outdoor

Modern Outdoor offers three complete lines of high-style, clean-lined environmentally conscious outdoor furniture. The Modern Outdoor Collections are commercial grade products designed for use in all manner of public spaces—restaurants, hospitality, parks, resorts, hotels—yet have an aesthetic that is perfect for a residential client's backyard setting. Their products now come in ipe or polyboard, stainless steel or powder-coated steel, and a natural composite material. They offer net pricing to qualified members of the trade. View the entire collection online.

818-785-0171
www.modernoutdoor.com

| Circle Reader Service #194

Concealed Emergency Lighting

Concealite Life Safety Products

Concealite's 5000 Series emergency lighting is stored behind a panel in the wall or ceiling, until needed, to preserve architectural and interior design while meeting all national and state code requirements. The 5000 Series is designed for installation in gypsum board, plaster, concrete, brick or acoustical tile applications.

605-542-4444
www.concealite.com

| Circle Reader Service #197

Dream Firms

What makes some architecture firms the best places to work?

Facing a nationwide shortage of architects, top U.S. architecture firms are waging an epic battle to lure the best and brightest. The focus of the competition is creating more attractive places to work. But can firms really do much to be better? National firm leaders think so. Here's what they tell job shoppers:

1. Consider the fundamentals.

"It's the quality of the projects you're working on, combined with the architects' interaction with firm principals," says Timothy S. Reedy, CEO of Miami-based Arquitectonica. "We've got a huge variety of projects all over the world, and that's most important." High–profile buildings attest to other positive traits, adds William W. Hastings, principal of Nashville's Hasting Architecture associates: "It's a circle: The great project attracts the great people who create the great culture which leads to the next commission."

If project quality leads, then large multi-nationals have an edge, says Bill Hellmuth, AIA, president of St. Louis-based Hellmuth, Obata + Kassabaum (HOK). "Today we can have more project types and more interesting work than just about anybody else," he explains. Plus, there's the allure of global travel: "We can offer that option to work in Shanghai or Edinburgh, and that really makes a difference in career development," adds Ray A. Landy, AIA, president of DMJM-HN in Los Angeles.

2. Look for teamwork.

Not every firm can boast work in exotic locales, so many firms tout healthy team dynamics at home.

"Young folks might worry they'll get lost in the shuffle," says Keith Boswell, AIA, a partner at Skidmore, Owings & Merrill (SOM). "That's why our San Francisco office is studio based and team oriented. When people are part of a team, they're more likely to ask questions and, more importantly, offer opinions." Collaborative spirit at Cincinnati-based FRCH bridges architects, branding specialists and web designers. "It's a cool environment because of all these different disciplines and backgrounds. Each person brings a unique perspective," says Mike Otto, FRCH manager of human resources. Ideally, teamwork engages all ranks, adds Meg Brown, director of HR at Perkins& Will: "Everybody wants to work with Ralph Johnson, and though we're a big firm we don't feel like one. He's just a phone call away,"

Even an office layout can affect interaction, adds Otto, describing FRCH's four floors of totally open-plan offices. The workplace also advertises core design philosophies, as at Hastings' environmentally friendly adapted warehouse. "We designed it for the LEED rating and an enjoyable environment, but we got lucky: It also attracts great people," Hastings relates.

3. Check for extracurriculars.

Beyond office design, look for signs of a stimulating, renaissance organization, says TJ Gottesdiener, an SOM partner in New York. "We have a professional development committee that puts on weekly seminars in the office, mostly at lunchtime for continuing education, and two or three evenings a month. It's very successful," he explains.

Other firms emphasize the after-hours calendar, keeping a busy slate of activities ranging from yoga classes to picnics. "We play our own clients in softball games and go to concerts," says Dominick Tringali, AIA, president of Dominick Tringali Architects (DTA), Bloomfield Hills, Michigan. "But mostly we experience great architecture together, hosting parties at places like Meadow Brook Hall."

4. Ask about career development.

Many activities support professional advancement, too. "We put a lot of effort into our Intern Development Program," or IDP, says Tim Milam, AIA, managing director of FXFowle, New York, including a twice monthly "Seminar Series" on design and technical topics. Detroit-based SmithGroup schedules weekly jobsite tours, and Atlanta based Thomspon, Ventulett Stainback (TVS) created "ID Charrette," in which interns competitively tackle IDP topics.

Another common benefit targets practice milestones: Many firms reimburse for professional memberships and exams for architectural registration and LEED certification.

5. In pay and benefits, creativity counts.

Yes, money matters too, so top firms offer competitive – and creative – packages. Fast growing shops like DTA boast of profit sharing, while TVS extends an employee stock-ownership plan. Such windfalls needn't be planned: Perkins & Will recently handed out spontaneous cash bonuses. "It had that 'wow' factor, but it was also a retention and recruitment tool," says Brown

Flexible work schedules are a hot seller, too. The day starts as early as 5am at DTA, while some HOK employees telecommute one or two days per week. SmithGroup offers 15 Fridays off in exchange for 8.5 hour days, with no use-it-or-lose-it penalty at year's end.

Principals quickly note that consistency and mutual trust vastly outweigh benefits in retaining great employees. And even when the fit is perfect, the best people might wander away. But a great place to work lures them back, says Reedy: "We're very happy about our return-after-departure rate."

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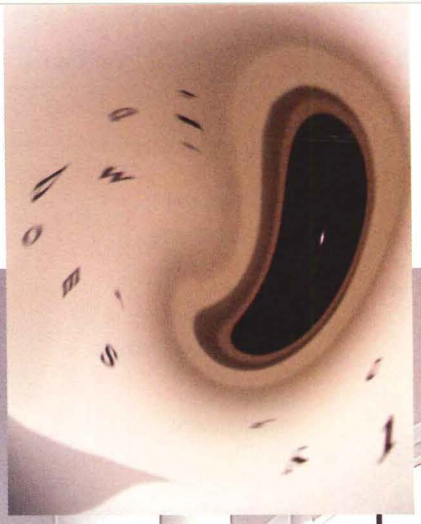

Inside the Wall (House 2)

From the pages of ARCHITECTURAL RECORD 2001

John Hejduk's legendary Wall House 2, designed in 1973, and built in Groningen, Holland, in 2001, now accomodates an artist-in-residence program where artists explore its interior spatial qualities.

Historically, the wall marks the threshold between interior and exterior. John Hejduk, however, confounded this model. In Wall House 2, the late architect envisioned the wall not as a means of dividing space, but rather as the space itself.

In diagram, the house is composed of two walls, with a long wall doubling as a corridor intersecting with an exaggerated concrete "front" wall. The three-story curvilinear living spaces project outward from this flat plane, while an elevated study is extruded from the corridor wall on its opposite end. In moving around the interior, the resident (or visitor) must repeatedly pass through the front wall, while staying within the corridor wall.

This constant negotiation of the boundary calls into question the concept of the interior, for it is the interior that lies on either side of the house's front wall. Passage through the front wall no longer indicates entry or exit, but rather provides the nebulous architectural experience of being in a wall.

Originally designed for Hejduk's fellow Cooper Union faculty member, landscape architect Ed Bye, the Wall House remained purely conceptual for almost 28 years, until it was built speculatively in 2001 by the Dutch firm BAM. The house lingered on the market until 2004, and then was sold to an art foundation, which established an artist-in-residence program there. When the house was published in 2001 [RECORD, November 2001, pages 150–55], the interior had been left incomplete, with rough concrete floors, a lack of wall finishes, and no utilities. Now Otonomo Architects of Groningen, in collaboration with the late architect's daughter, Renata Hejduk, has completed the interiors, adhering to Hejduk's original plan for white walls and gray floors (in contrast to his polychromatic exterior).

Artists stay in the house for three months and exhibit their work there. The program's inaugural exhibition, held in winter 2006, by Javier Marchán (inset, top), explores Hejduk's spatial proposition. The artist gives the surface of the wall a three-dimensionality that underscores its deployment as an architectural experience, not as an inert tectonic element. *John Gendall*

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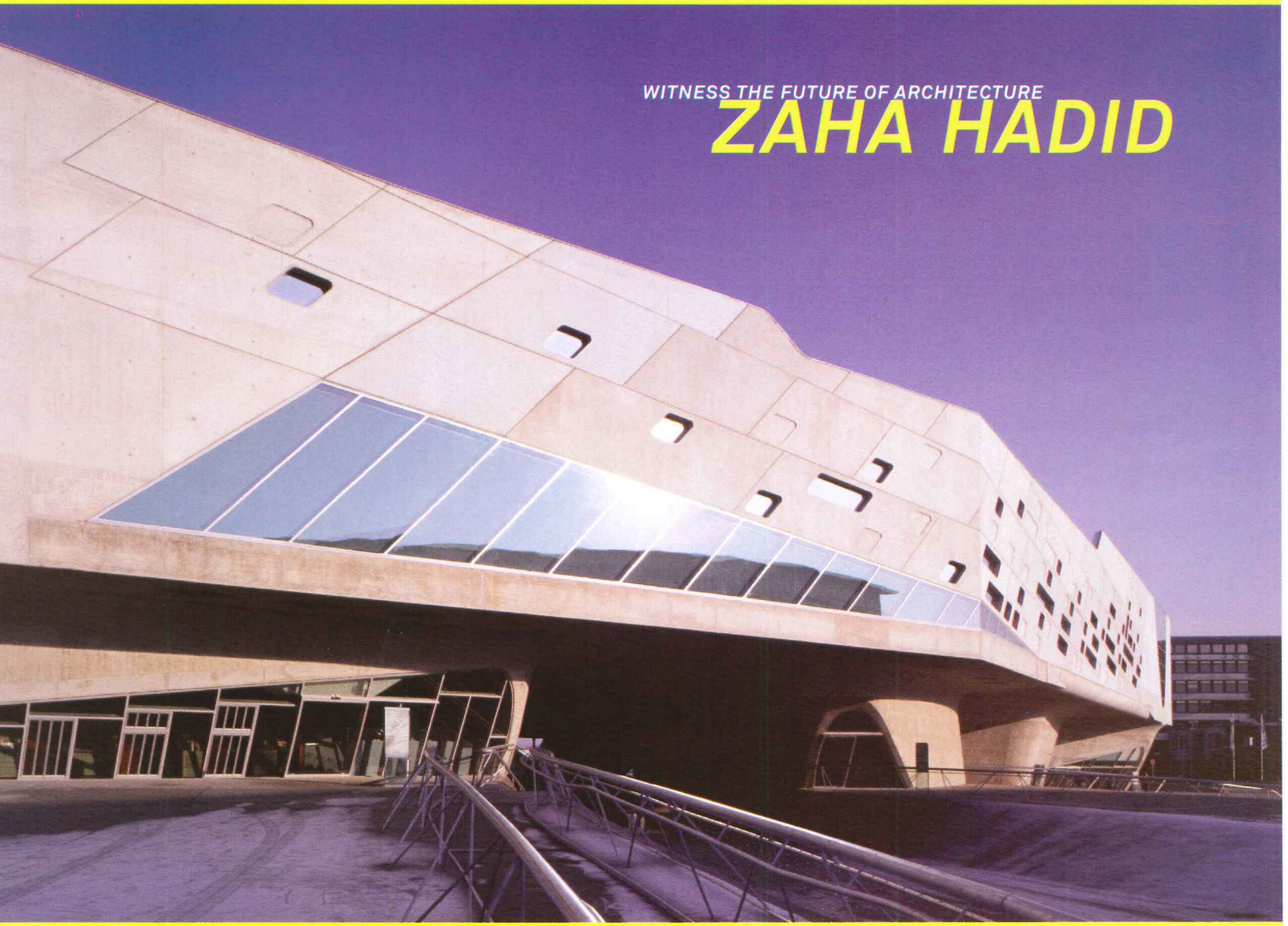

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