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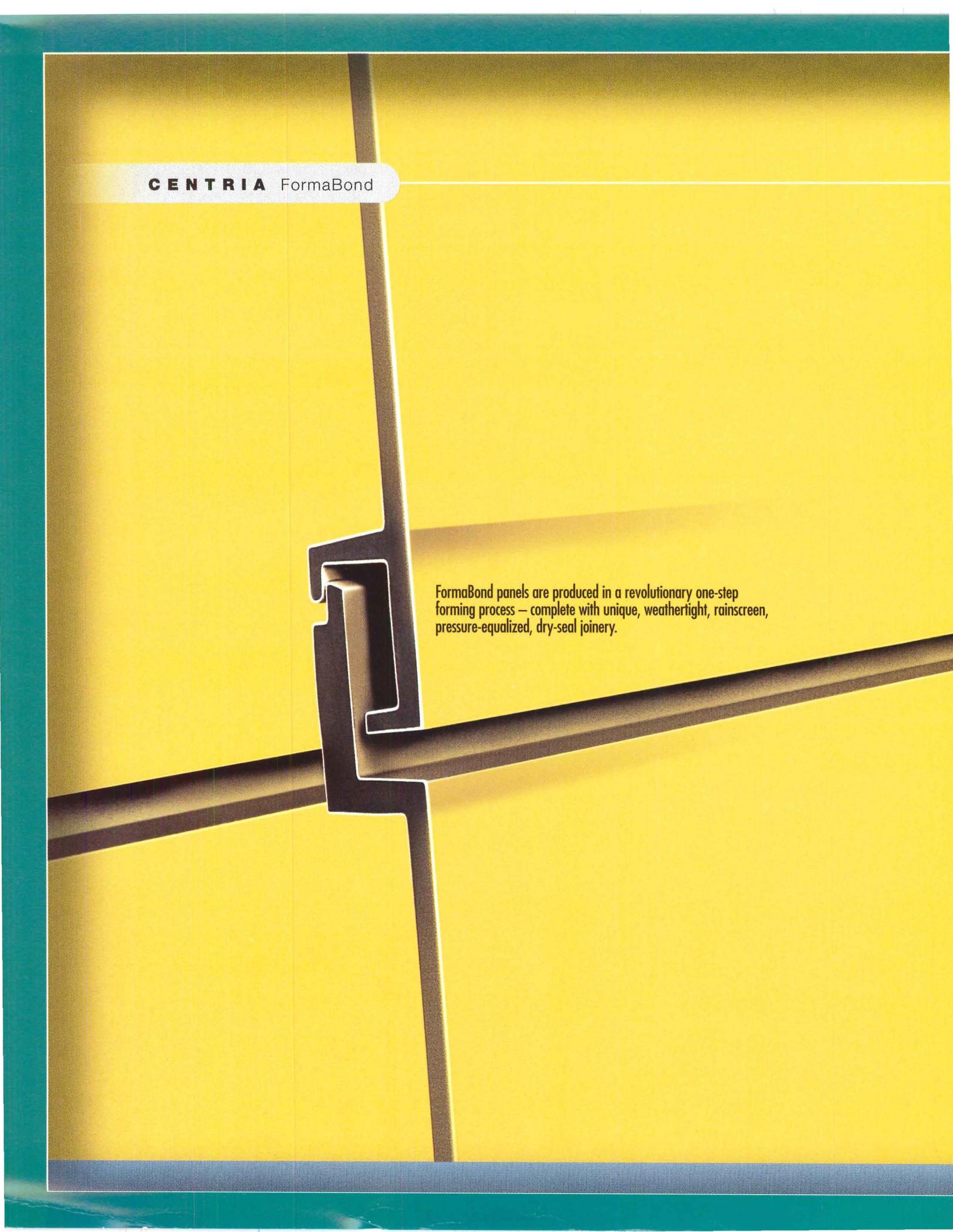
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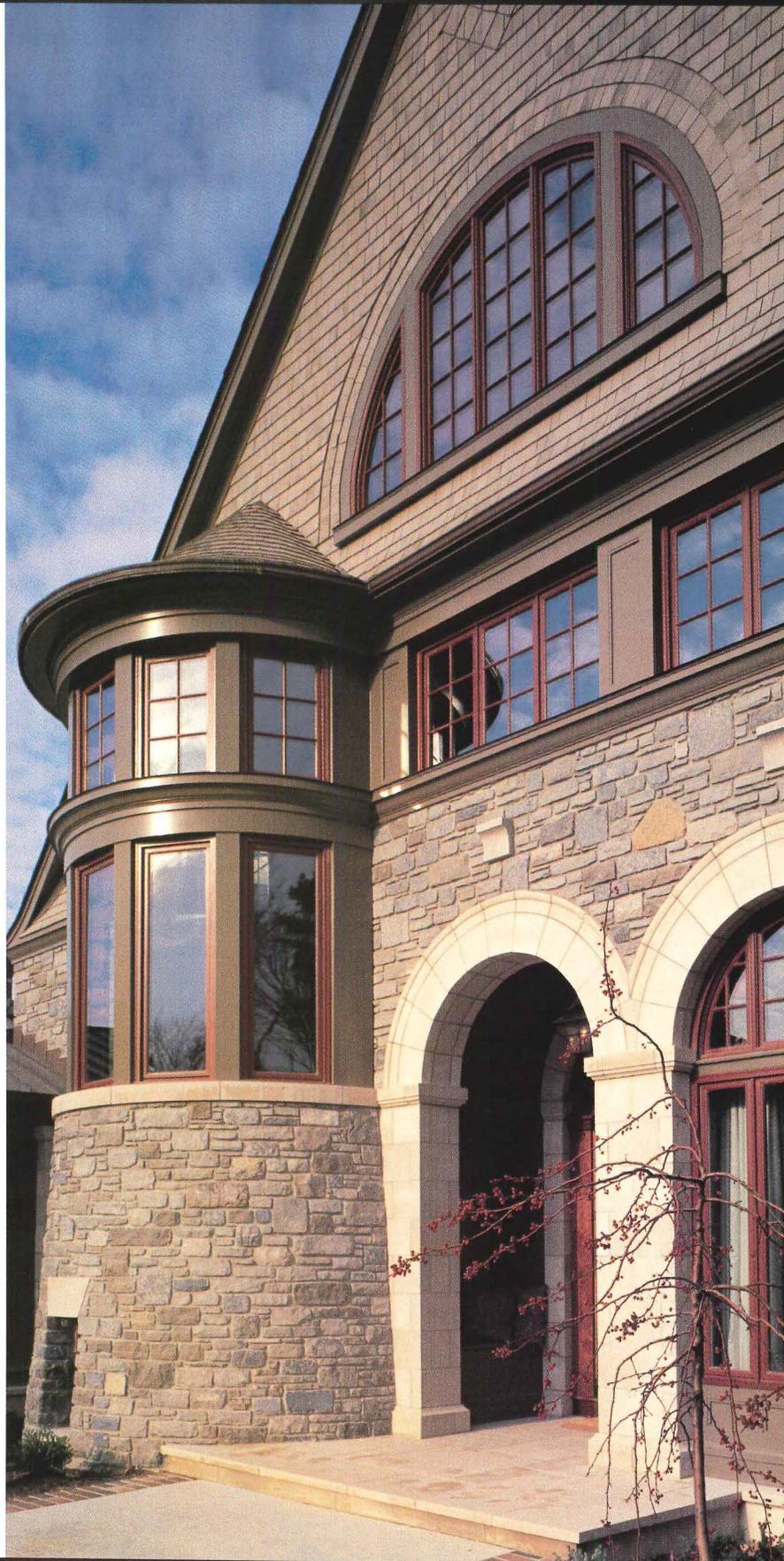
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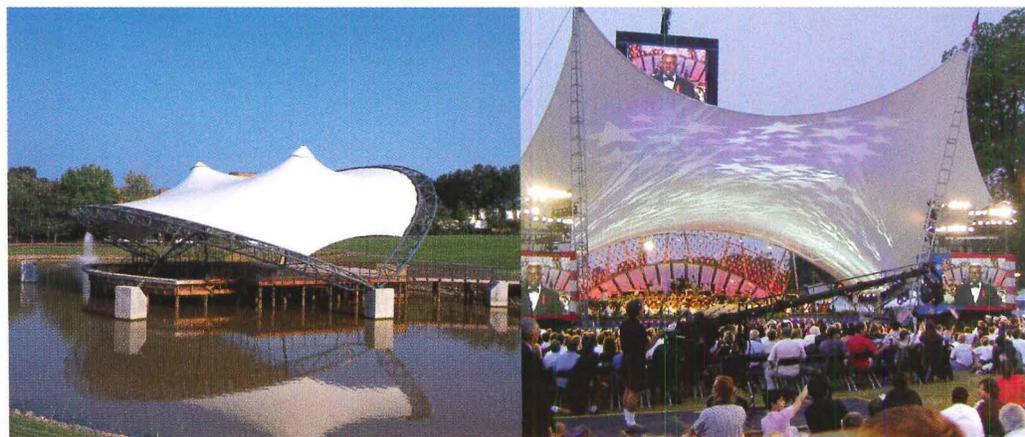


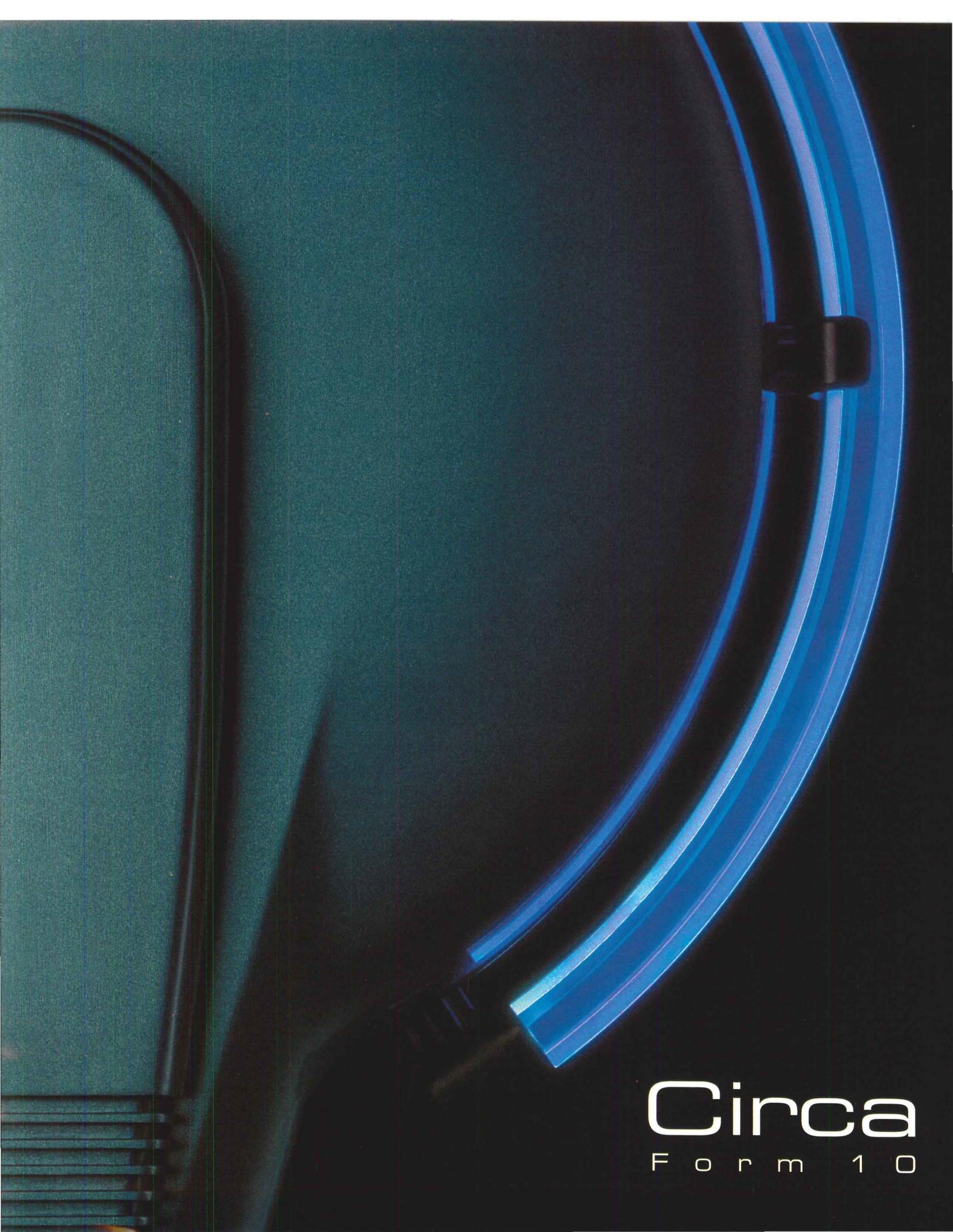
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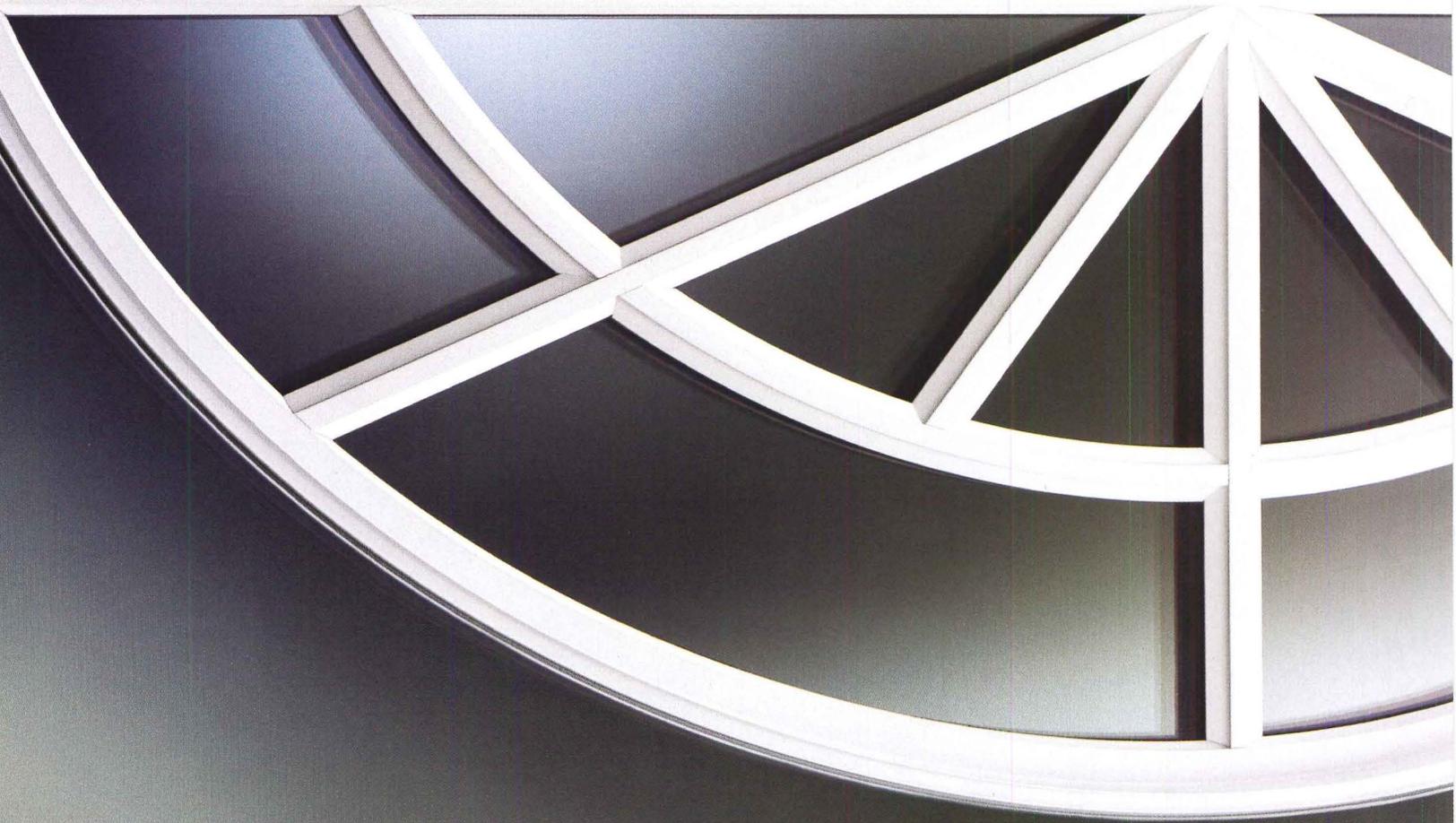
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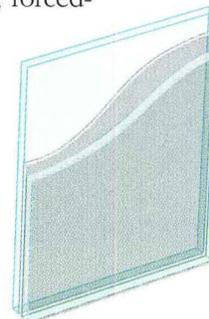


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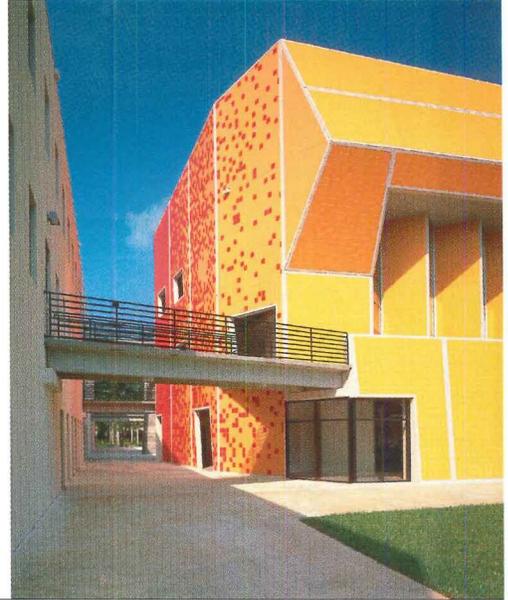
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On the Cover: Prada Tokyo by Herzog & de Meuron. Photograph by Christian Richters
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*You can find these stories at www.architecturalrecord.com, including expanded coverage of projects, and Web-only special features.

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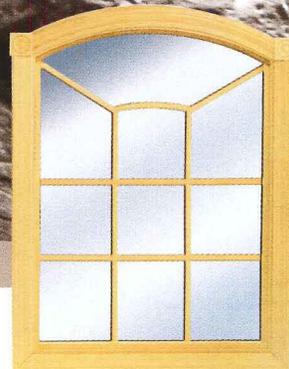
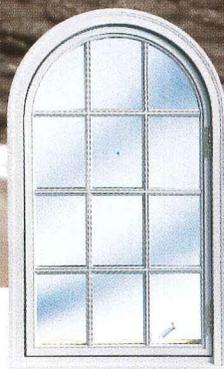


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Projects

Walk this way! Take a web-only walkthrough of the Dia: Beacon Museum in New York, which came about through a collaboration between artist Robert Irwin and the architectural firm OpenOffice. Additionally, you'll find projects featured in this month's issue.

Digital Practice

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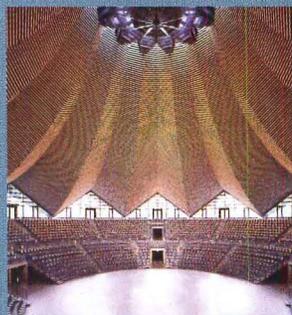
Affordable Spaces

Design: Check out this husband-and-wife team from North Carolina who are trying to redefine suburban living with their innovative yet affordable single-family homes.

Raising Arizona

Work: Meet Jorge Colón and Mark Roddy, two young designers who helped the AIA Arizona chapter design their new headquarters, a 1920's Neoclassical building in downtown Phoenix for pro bono.

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Building Type Studies: Performing Arts Centers

Break a leg!

Take a look at four performing arts centers where performers share the spotlight with buildings, from Berlin to Rockford, Illinois. Plus, see ten additional projects on the web, not featured in the magazine.



Photography by Benny Chan/Fotoworks

Residential

Homes with Style

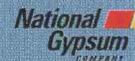
The theme for this month's residential section is all about moderately priced homes that don't sacrifice design for cost. See projects from Canada, California, and Missouri.

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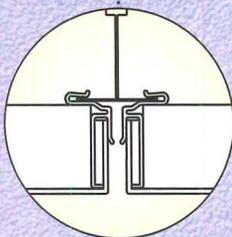


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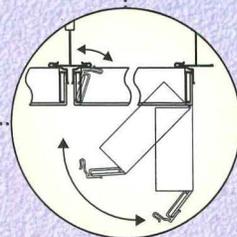
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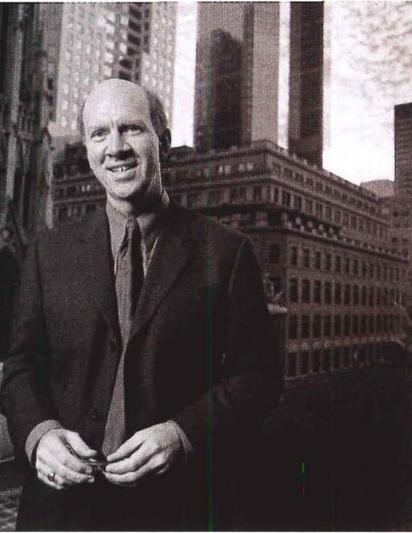


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Camp Paradise

Editorial

By Robert Ivy, FAIA

Now that we've shaken off the dust from the spate of annual summer conventions, it's time to take a breather and reflect on which conferences made a difference for us, and which were merely exercises in stamina.

Perhaps it is the fog, which envelops the pines in lush coolness. Perhaps it is the remote site beside the sea, a 3-hour drive from urbane San Francisco. Whatever the rationale, California's Monterey Design Conference takes you out of your workaday self and sets you in a rarified state of mind. For a number of years, California architects have looked forward to this event, a biennial gathering on the green fringe of paradise, as a two-and-a-half-day design fest. Monterey Design qualifies as a retreat in the most positive sense: a gathering of like minds in a rustic setting, removed from distractions and focused on a central topic.

Other design conferences, including Aspen's more celebrated version, have been at the creativity business longer, mixing the design disciplines up in transcendent settings, though few can sport 600 dedicated architects all in one place. At the other extreme, Monterey's more businesslike kin, the traditional convention or trade show, demand a certain busyness mixed with business—a juggling act, balancing seminars on serious topics with self-help courses, canned speeches with spontaneous encounters. We've all been there. In Monterey, however, you cannot get that busy: Cell phones and laptops and fax machines simply don't work well so far down the road. Unplugging from the grid is part of the point.

Nothing succeeds like simplicity. Sited in Pacific Grove, California, along the sublime Pacific and occupying a rambling shingled series of wood-framed structures formerly housing a YWCA camp (part of which had been designed by Julia Morgan in 1913), the conference invites you to shuck off your cool quotient, slip on a pair of jeans, and kick back. Think Haystack School meets über design camp. Meals are served in a cavernous cafeteria, but with wine (it is California, after all). Like summer camp, rooms lack

cooling, relying on Pacific breezes, which waft in from the sea. The stars fill the night sky. They show movies before bedtime.

All day long, halfway up a hillside in a former gym, the architects feast on design. From morning on into the night, a packed house shares the intimacy of a darkened hall, where ideas flow like water. The crowd includes a seasoned blend of professionals, a mixed salad of the green with the famous. After breaks for the intermittent sunshine, they hustle back inside for presentations and discussions (this year's topic was "Doing Good"), including those by an anointed few—a small group of younger, lesser-known architects from a half-dozen offices tapped as "emerging talent." Based loosely on the Emerging Voices series initiated by New York's Architectural League, California's hybrid version blooms just this once, every two years.

Throughout a full conference day, interspersed among the stars and the formal discourses, younger architects get center stage. To see them laying out their own philosophies and design decisions before former employers and future collaborators creates a kind of magic—something you might have misplaced back in school, here resurrected and shining. Their invigorating ideas provide a tonic for those of us more seasoned or cynical about the state of practice. The emerging talent alone is worth the ticket price.

Other architectural organizations could learn from the Monterey Design Conference. Power-packed, perhaps too tightly scheduled, the time at Monterey races by. When we were young, camp came and went, leaving us ready for school, but with the taste of summer as deep as our tans. Like camp, Monterey lingers, but not nostalgically or superficially: This conference leaves you with a fundamental, energetic kick. Part of its joy lies in anticipating a repeat experience, same time, two years later.

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Letters

The world is watching ...

Regarding your "open letter" on the WTC, Amen! This is an issue that should be beyond politics on every level. The project team should be free of politics in their efforts, for this project is not just for the people of New York, it is for all of us who witnessed the horrible events on September 11. They deserve the unwavering support of everyone so they can, as you said, "make it sing."
—Harry N. Harris, Jr., AIA
H. Michael Hindman Architects
Brentwood, Tenn.

Your open letter to David Childs and Daniel Libeskind is a clever conceit for an editorial, reads well, and has an appropriate emotional charge. But in the interest of promoting the success of this promising but very

difficult project, you have unnecessarily elevated the role of these two individuals to Howard Roarke-like status. Hundreds of architects, engineers, consultants, and related professionals are about to begin an intense collaboration to realize this dream. They too deserve the profession's broad acknowledgement and support. The general public may clamor for stars, but less celebrity-making and more collaborating is called for by the profession.

—Ellen A. Watts AIA
Tsoi/Kobus & Associates
Cambridge, Mass.

Designing for growth, a must

I have just read the August issue of RECORD. It is outstanding. The subject of growth and how to design for it at the regional scale is a critical

one, now and for the future. Of course, the growth of mega-suburbs here in Florida is at more than an incoming high-tide level; it is a veritable storm surge. As is pointed out in James Russell's article ["When Suburbs Become Mega-Suburbs," page 76] there is really no place immune from it. Architects must step up our participation in the process of taking charge of it, or we will be in deep trouble indeed.

There is one quick step I believe you can take right away. James Russell's article is comprehensive, focuses well on the issue, and is very readable. There is no doubt in my mind that his article should be given the widest possible public exposure in the national press. Can't ARCHITECTURAL RECORD contrive to make that happen? The

general public is hopelessly "snow-blinded" by the blizzard of uncontrolled development and helpless to grasp what is going on and its consequences. This article might at least help awaken more people to the urgency of the situation, and to the fact that architects can help.

—Roy F. Knight, FAIA
Tallahassee, Fla.

In the August issue of RECORD, James Russell laments the failure of "well-meaning architects and planners" to control development around the outer edges of communities. He calls on architects and other design professionals to point out the important links between transportation, development, and quality of life.

Many architects and planners in Washington State have done just

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Letters

that—with tangible results. In the early '90s, allied design and environmental groups pushed for passage of the Growth Management Act (GMA). Washington's law borrowed some concepts from Oregon (growth boundaries) and Florida (development tied to infrastructure improvements). But it added a new twist: A strong element of local control. Unlike those states, Washington's approach is "bottom up" rather than "top down."

The GMA allows jurisdictions to determine their own ways of managing growth, as long as they meet the act's objectives, such as protection of wetlands and affordable housing. Also, communities must demonstrate how they will accommodate additional population forecasted by the the state. Note that the question is how to, not whether to, accommodate growth. The presumption is that communi-

ties will act in good faith, which most have done commendably.

In the subsequent 12 years since the law went into effect, development around the edges of the the Puget Sound metropolitan area has dramatically slowed, with far more development occurring within established city centers. Whole new forms of housing, mixed-use, and infill development have occurred. A decade ago, the real estate industry insisted that there was no demand for these forms of development. Now, developers cannot build these new forms of development fast enough.

This fundamental shift in development patterns has also opened up countless opportunities for architects, by fueling a public demand for higher quality development. Local architects and those from elsewhere in the world have designed denser housing, retail centers, and town

centers. Moreover, scores of splendid civic buildings have been built.

Russell is right. Advocacy can clearly make a difference.

—Mark Hinshaw, FAIA
LMN Architects
Seattle

MacBurbia

The term Megaburbia is perhaps too kind for what is happening with the nation's "suburbs." Most dictionaries define mega (derived from the Greek word *megas*, meaning great) as great, large, or extraordinary (i.e., mega-hit, mega-bucks, mega-star). The current suburbs are anything but that. The term Franchise City could be a possibility. "Macburbia" also seems fitting. The MAC prefix could be for Massive Acreage Consumption or Massive Anything Consumption, which is more all-encompassing. Mac-Attack would take on a new meaning, replacing the laid-back and not exactly exciting term "sprawl!"

—John M. Ciasto, AIA
Via e-mail

Destination definition

Robert Campbell's "Architecture as Geology?" [Critique, June 2003, page 61] and subsequent responding letters raise the issue of what might be a useful metaphor to bring to the practice of architecture, if not to "define architecture"—something that no one from Vitruvius to this day has done to anyone's satisfaction. But if geology is a candidate, perhaps geography is perhaps a better one. Architecture can be understood as a site, a landscape, a geographical phenomenon. Architecture is the name we give to the meaningful building of the human landscape. Our role as designers is to interpret this content.

—Eugene Kupper
Professor Emeritus, UCLA

Corrections

In the September issue [News, page 50], the two images of the Seattle Opera House should have been credited to Lara Swimmer/ESTO.

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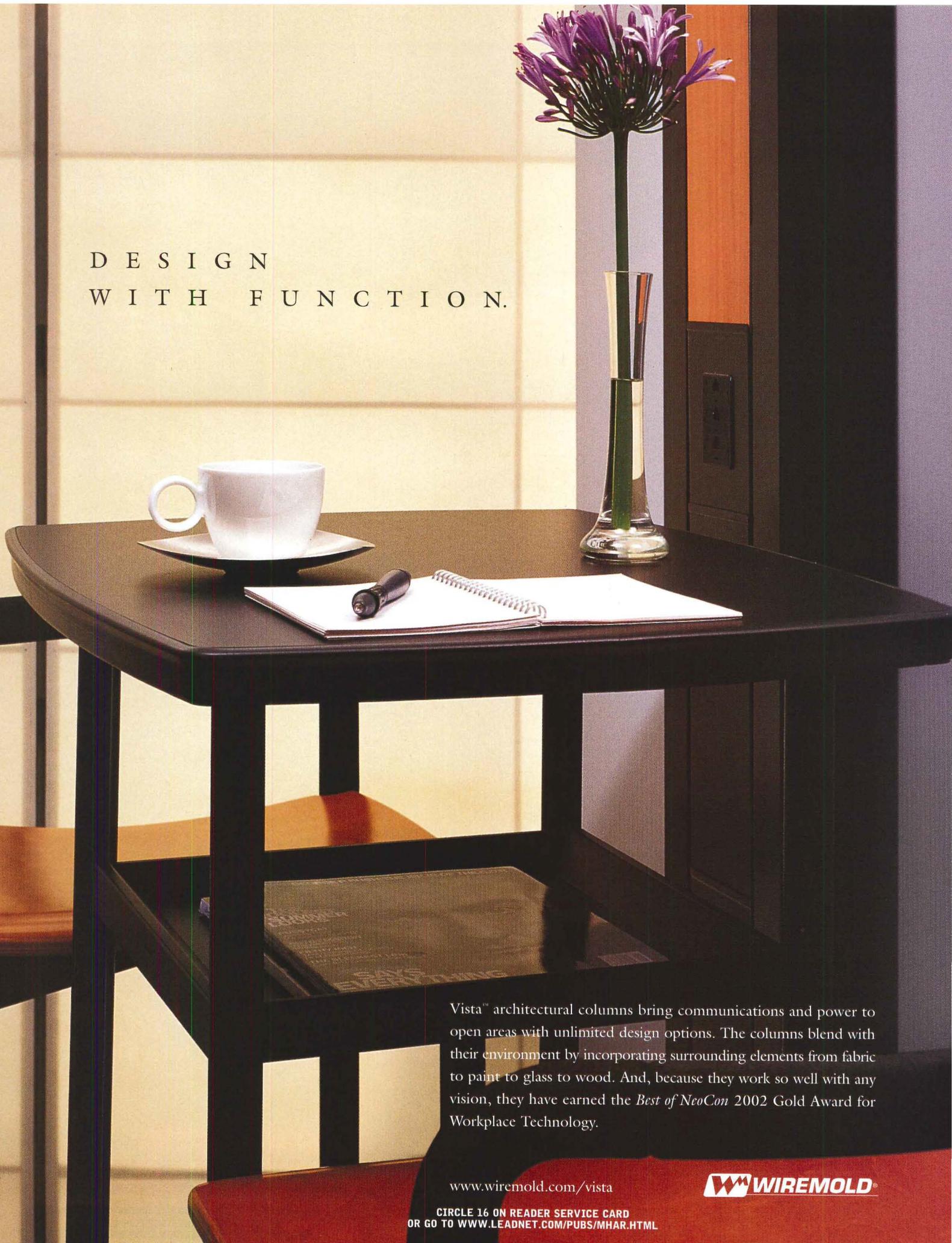
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Significant progress at WTC accompanied by building boom in Lower Manhattan

Construction is moving ahead rapidly in Lower Manhattan, most notably at the most carefully watched construction site in history: that of the former World Trade Center.

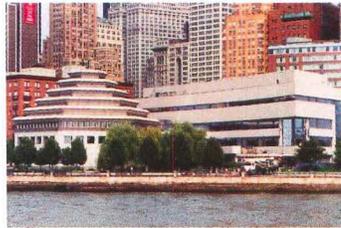
The four-story, \$544 million temporary Path terminal, located in the center of the WTC site and designed by Port Authority chief architect Robert Davidson, FAIA, is taking shape. Platforms, tracks, and a structural skeleton are mostly in place. Named World Trade Center Station, the structure is 85 percent built, says Port Authority director of priority capital programs Anthony Cracchiolo. "We're working practically around the clock," says Cracchiolo, in a statement that sums up much of the work in the area.

A nearby pedestrian bridge, designed by Earth Tech, is also close to completion. Located at the northwest corner of the WTC site, it will cross West Street along Vesey Street.

The 300-foot, preengineered, paneled truss bridge will be clad with perforated stainless-steel corrugated panels and fiberglass FRP panels. Both the bridge and the station are slated to open in November.

Meanwhile, Lower Manhattan is flush with newly completed construction, all started after the September 11 attacks. The first, completed on September 5, was the Millennium High School, a 100,000-square-foot building located at 75 Broad Street, which was finished in only eight weeks by HLW Architects.

On the same day came the opening of the Solaire, the first residential tower completed under Battery Park City's new green-building guidelines. The Rafael Pelli, AIA-designed 27-story luxury building includes innovative features such as a blackwater treatment



New projects include (clockwise from top left): the Museum of Jewish Heritage's new wing; temporary PATH station; Vesey Street Bridge; Solaire.

plant and photovoltaic panels integrated into the building's facade.

Soon after came the completion of the new 83,000-square-foot Morgenthau Wing at the Museum of Jewish Heritage, also located in

Battery Park City, and dedicated on September 15. It includes an auditorium, a memorial garden by Andy Goldsworthy, a café, an education center, an event hall, and an exhibitions gallery. *Sam Lubell*

Revised WTC Plan

Libeskind's "refinements" include slimmer towers

In his first public presentation since February, Daniel Libeskind released detailed revisions of the World Trade Center site master plan.

The new plan, presented at the offices of the Lower Manhattan Development Corporation on September 17, is strikingly similar to the original. It maintains major elements, such as the 1,776-foot Freedom Tower, exposed slurry walls of the original World Trade Center, and space for a memorial and cultural facilities.



New plan (above); old plan (insert).

The most dramatic change is the thinning of the site's office towers in order, Libeskind said, to "reduce density," providing more

open space and fewer physical obstacles.

"This has been very interesting and very important work," said Libeskind at the presentation. "We're moving ahead to deliver the plan so people can come to the site."

The slimmer office buildings, with smaller cores, will also allow for more retail space in adjacent areas, LMDC officials said. Other changes will include a new park to the south of the site, the transfer of bus parking away from the site, new underground ramps and infrastructure, and the formal incorporation of the Deutsche Bank Building site at 130 Liberty Street. *S.L.*

Original WTC models on display in Washington, D.C.

An exhibition of the original World Trade Center presentation model opened on September 25 at The Octagon, the museum and headquarters of the American Architectural Foundation in Washington, D.C.

Entitled *The World Trade Center Model: Preserving a National Treasure*, the exhibition, curated by Sherry Birk, director of the Octagon, includes the model built by the office of Minoru Yamasaki between 1969 and 1971, as well as photos and videos. It will be on display until December 3, and will then move to New York's Skyscraper Museum. *S.L.*

Record News

OFF THE RECORD

Columbia University named professor **Mark Wigley** interim dean of the Graduate School of Architecture, Planning, and Preservation. The university did not say when it will name a permanent dean.

Ed Friedrichs, president and C.E.O. of **Gensler**, is leaving to "pursue personal interests in speaking, writing, and consulting." The company will be moving to a "self-governing, self-managed approach."

The **Urban Land Institute** has awarded **Vincent Scully** its 2003 J.C. Nichols Prize for Visionary Urban Development.

Cedric Price, an influential British architect and visionary theorist, died on August 10 of a heart attack. He was 68. Price is best known for unbuilt projects like Joan Littlewood's Fun Palace (1961-64).

Rafael Viñoly Architects and **Nichols Brosch Sandoval & Associates** have won an architectural competition to design the new hotel at the Marriott Convention Center Headquarters in Washington, D.C.

Lord, Aeck & Sargent has completed renovations on Atlanta's **High Museum of Art**, originally designed by Richard Meier.

Chester Lindsey, who designed Seattle's tallest building, now called the Bank of America Tower, died on August 16 of natural causes.

RIBA has short-listed projects by **Herzog & de Meuron, Foster & Partners, Ian Ritchie Architects**, and others for its 2003 **Stirling Prize**. Results will be announced October 12.

The **Clark Art Institute** in Williamstown, Mass., is commissioning its second project by **Tadao Ando**: a 40,000-square-foot, \$17 million arts and education center called Clark Graylock.

An interview with Kevin Rampe

Kevin Rampe is president of the Lower Manhattan Development Corporation

ARCHITECTURAL

RECORD: *Are you afraid you won't be able to fill office spaces at the World Trade Center?*

KEVIN RAMPE: Our vacancy rate downtown is 12.5 percent, and that's equivalent to midtown. For an area that suffered the worst terrorist attack in history, that's pretty damn good. I have no fear whatsoever that we won't fill the buildings. We're building a 21st-century complex with state-of-the-art buildings and transit, all located near a site that is without equal. Within the decade, we'll have a direct connection to Newark and Kennedy Airports. We're putting \$750 million



Kevin Rampe

into a telecommunications network. Lower Manhattan is poised to be the place to be.

AR: *What is the status of a proposed museum and cultural center downtown? How many square feet will it be? Will it include City Opera?*

KR: We have asked cultural institutions from around the world to share their interest and ideas. We have over 600,000 square feet. We're

continuing to work with the opera to see what opportunities there are. Nobody's been assured a spot on the site, and there has been no commitment to anybody.

AR: *How will you prevent overcommercialization on the site?*

KR: I think the Libeskind plan does an excellent job by framing the memorial area with cultural buildings. We want to build a strong 24/7 community. Strong retail is important to that. There could be up to 1 million square feet of retail on the site. I think what's important is that we provide a separation between the memorial areas and the retail areas. We're working to

make sure that happens.

AR: *Could a transportation hub harm existing landmark buildings?*

KR: We're working closely with the community to maintain the historic character of Lower Manhattan. There are buildings that are going to be knocked down. But unless you consider architecture from the '70s to be historic, it's not a problem. We are trying to incorporate a landmark building, the Corbin Building, into the design. S.L.

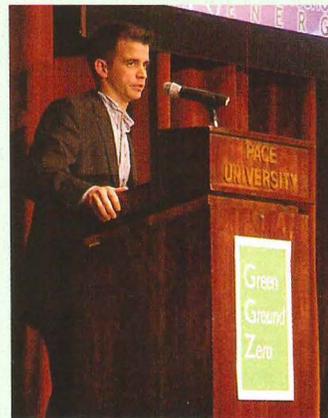
Note: Responding to protests about construction on the site of the Twin Towers, Rampe stated on September 10: "I want to make one thing very, very clear: We will never, ever build commercial or retail space where those towers once soared to the heavens. We will build a memorial that will make our nation proud."

www For continuous updates on the planning of Lower Manhattan, visit our special section at architecturalrecord.com.

Contest hopes to spur green development around Ground Zero

On September 4, noted green architect William McDonough, FAIA, gave a keynote address at Pace University to launch an international competition soliciting green development schemes for downtown New York. The competition is being organized by Green Ground Zero (GGZ), a nonprofit group founded by activist Erik Stowers. Stowers said the competition is intended "to transform Lower Manhattan into a showcase for cutting-edge technologies and a working model and prototype for future green cities worldwide."

The competition's director, Neil Chambers (pictured below), works as an intern architect with Jacobs Engineering on green infrastructure projects. Proposals for downtown may include energy-efficient buildings, transit centers, and parks and recreational facilities. Awards will be given in five categories: energy; light and air; construction; greenery, water, and waste; and ecology.



Submissions that address the areas immediately adjacent to the World Trade Center site are encouraged to focus on ways to green the existing redevelopment plan, rather than creating new schemes. The competition's jury will be chaired by Randolph Croxton, FAIA, principal of New York green-design firm Croxton Collaborative. The AIA-New York chapter is donating its new Center for Architecture for judging.

Although GGZ's leaders have not yet had direct contact with LMDC officials, they hope the winning schemes will provide food for thought for those rebuilding downtown. "We want to make people aware that you can make sustainable buildings in a very dense urban area," said Chambers in an interview with RECORD. "And we have an obligation to treat [the WTC] as special." The deadline for entries is Monday, October 20. Competition details are available at www.greengroundzero.org. Deborah Snoonian

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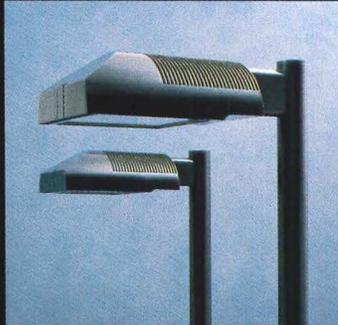
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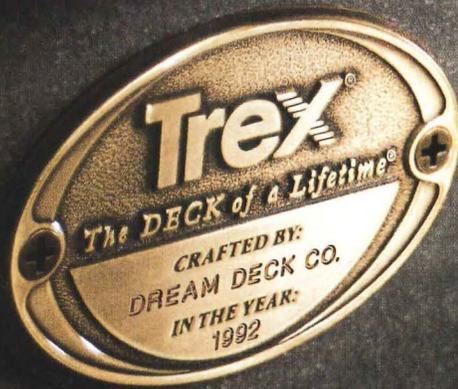
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Green buildings kept working during the blackout ... sort of

Just because a building is sustainable doesn't mean it is blackout-proof. This was the lesson learned by two New York projects of Kiss + Cathcart, specialists in photovoltaic (PV) and other alternate building systems.

The first, 4 Times Square, the home of Condé Nast, was designed in 1998 by Fox & Fowle Architects. Kiss + Cathcart developed the array of PV curtain-wall panels that cover much of the skyscraper's top six stories and can produce 15 kilowatts of power.

Unlike diesel backup generators, 4 Times Square's supplementary power systems (two natural gas fuel cells along with the PV array) feed into the Consolidated Edison power grid. The building's arrangement with the utility required that they be shut down during a blackout, to enhance safety for utility workers who might be working on power lines. The firm supports the power company's rules, but Douglas Durst, copresident of the Durst Organization, the building's owner, told *The New York Times*, "We thought it was pretty dumb."

Kiss + Cathcart's other green project, a 500-square-foot Solar Classroom in the new Stuyvesant



4 Times Square (left), and Stuyvesant Cove Park's Solar Classroom (above).

Cove Park in Manhattan, worked during the blackout. Three kilowatts-worth of interlocked PV panels cover this extruded-aluminum and polystyrene structure. But classroom administrator Jonathan Cramer says that while the building was "up and running," with subway and other transport services suspended, "no one could get there."

Despite the glitches, Gregory Kiss, firm principle, thinks "widespread use of renewable generation in buildings makes enormous sense." Pending new safety features and regulatory clarification, ecofriendly techniques, he says, "would reduce stress on the utility grid quite a bit, and could very well prevent blackouts from happening in the first place." *Thomas De Monchaux*



Santa Monica school gains buildings, loses architecture program

Over the next few years the Santa Monica Community College (SMC) campus in California will undergo an architectural metamorphosis as a result of a \$160 million bond measure that passed last spring earmarking funds for modernization and infrastructure improvements.

As a result, the school is scheduled to start construction on 20 new building projects in the next year, including an eye-catching, \$6 million new Main Stage Theater designed by Leo A Daly, Los Angeles (rendering above).

The 300-seat-theater complex features an "origamilike" angular roof, a grand entry lobby, and full backstage capabilities, including a sound and lighting room, lobby, and dressing rooms, as

well as classrooms and offices.

Yet, despite the building frenzy, SMC is experiencing a budget crisis that has affected nearly every department and has dissolved four programs, including architecture.

Though architecture students were referred to other state two-year and four-year programs, many have had a difficult time finding space in classes. Pasadena City College engineering and technology instructor Coleman Griffith expressed concern for the SMC students trying to get into Pasadena's architecture courses. "One SMC student came to a closed class, desperate to be allowed in so she could continue her second-year requirements."

Bruce Smith, SMC spokesperson, noted, "It is indeed a supreme irony that at a time when we are forced to make painful cuts in the operation of our college, we have \$160 million to build facilities and modernize our campus over the next 10 to 12 years. But we believe that SMC continues to be an outstanding institution that will do its best to meet our students' needs." *Allison Milionis*

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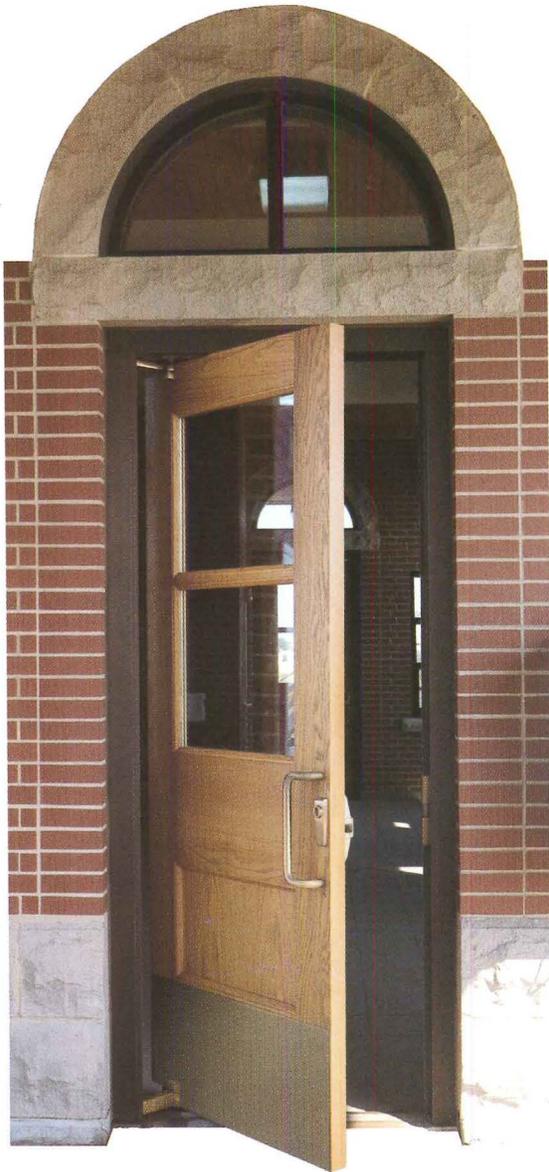
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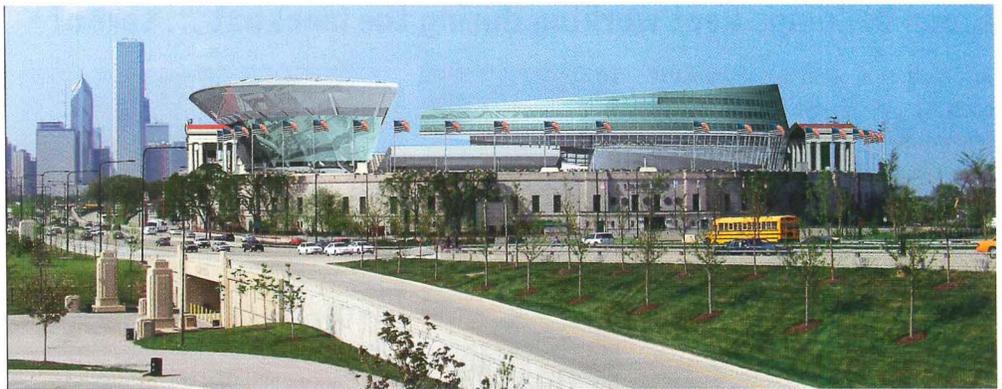
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Record News



Revamped Soldier Field draws praise and ire in Chicago

Almost three years of fractious debate were replaced by bright lights, glistening steel and glass, and competition on the gridiron when Chicago's Soldier Field reopened with a Monday Night Football game on September 29th.

But the provocative new 1,600,000-square-foot, \$606 million stadium, designed by Boston-based Wood + Zapata with master planning by local firm Lohan Caprile Goettsch, should continue to be emblematic of the city's current divisions over traditional and contemporary architectural aesthetics.

The original Soldier Field was a 120,000-seat behemoth designed by Holabird and Root in 1923, with twin Doric colonnades atop the east and west sides of its elongated Greek amphitheater layout. The Chicago Bears made it their home in 1971. Piecemeal retrofits during the 1970s and 1980s enclosed the north end of the complex, reduced its seating to 66,950, and added skyboxes that compromised the integrity of the historic colonnades.

Wood + Zapata have inserted a boldly asymmetrical seating bowl within the semi-circular confines of the old stadium, retaining the historic colonnades as part of a continuous, streetlike concourse in the space between the old and new structures.

Tony Montalto, the lead designer, explains that Wood + Zapata "created two separate buildings—a high-end, enclosed structure for suites and club seats at the east side and an open grandstand at the west."

The architects stress their structure's contemporary spirit in contrast to the Classical framework by dramatically flaring the geometries of the grandstands, the skyboxes, and the overall facade.

Donna Robertson, dean of IIT's College of Architecture, is a fan of the project's bold asymmetries. "I like it a lot," she exudes. "The cleavage

(the various angular cuts that separate the different grandstands and boxes from each other) makes connections to exterior views, and you're aware that this public place is connected to the city," she explains.

But since the unveiling of the design in November 2000, many have seen the size and style of the renovation as incompatible with the existing historic structure and the Classically inspired Museum Campus buildings located immediately north of Soldier Field. Other critics have bemoaned custom-tailoring a supposedly public stadium for a private entity such as the Bears.

David Bahlman, president of the Landmarks



Soldier Field at a distance (top); at field level (above).

Preservation Council of Illinois, remains unmoved by any positive critical reaction that has greeted the opening of the stadium. Its legacy, he declares, "will be a monumental example of what not to do to a historic structure. It's much worse than we thought it would be," he explains. "The new structure violates and changes the historic structure."

But Chicago Sportscaster Cheryl Raye-Stout dismisses the naysayers with a more practical response. She has watched new homes for the White Sox, Bulls, and Blackhawks open to tepid architectural reviews during the past dozen years. "You can't please everyone," Raye-Stout observes, "but you have to get the inside right." *Edward Keegan*



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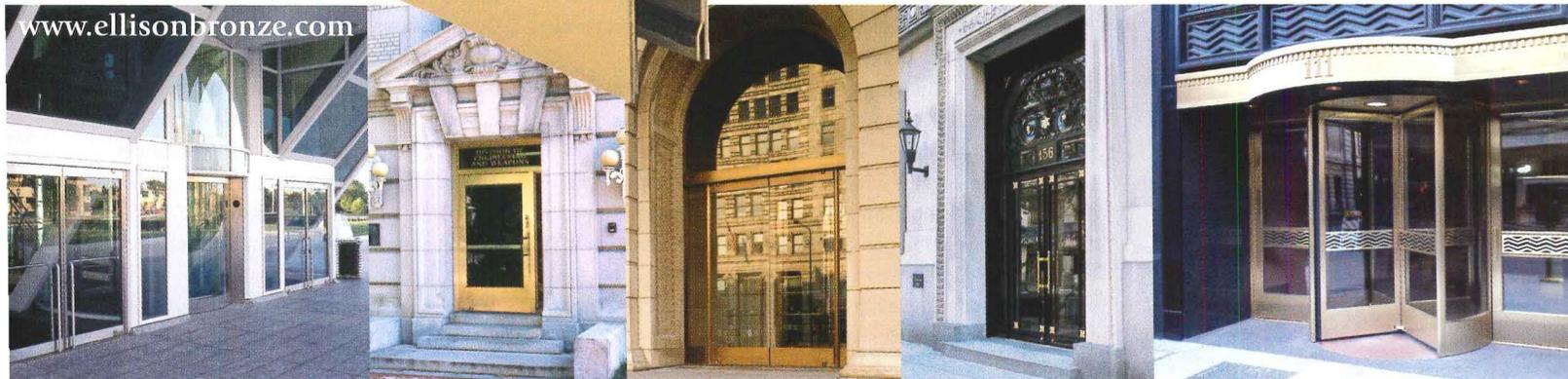
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Record News

AIA to open New York Center for Architecture

On October 7, the American Institute of Architects New York chapter will open the Center for Architecture, a 12,000-square-foot space in Manhattan intended to become the city's hub for building design.

The center, located on the first floor and two subfloors of a former industrial building at 538 LaGuardia Place (between Bleeker and West Third Streets), cost \$2.5 million. Designed by New York firm Andrew Berman Architect, it features a 64-foot-wide glass facade and will include galleries, a lecture hall, a library, meeting rooms, and administrative offices for the AIA New York and the New York Foundation for Architecture.

The spacious, highly transparent space draws daylight into all floors and is meant, says AIA New York executive director Fredric Bell, FAIA, to be a resource for the entire community.

"It's not a clubhouse for architects," he says. "It's a place where design professionals and residents can come together to have an open discourse."

The center's opening will kick off New York Architecture Week, six days of architecture-



The opening of the center will kick off Architecture Week.

related activities. Events at the space include *Going Public*, the center's inaugural exhibition that highlights public works throughout the city, and an exhibition of New York City planning projects called *Live/Work Skyline Street*.

Other events are "Design-in," a 16-hour, 80-speaker marathon of architectural thinking and drawing (participants will include Brad Cloepfil, AIA, Guy Nordenson, J. Max Bond, FAIA, and Bruce Fowle, FAIA, among many others); a presentation of Oren Safdie's play *Private Jokes*, *Public Places*, a comedy about an architecture school critique; student workshops; and a benefit gala. Mayor Bloomberg will formally launch Architecture Week on opening day. S.L.



Openhousenewyork will open doors throughout the city

Openhousenewyork, a new nonprofit organization, is sponsoring a program featuring citywide tours of buildings and sites usually closed to the public, which will take place October 11-12, the last two days of Architecture Week.

The idea originated in Glasgow, Scotland, in 1990, and has spawned similar events in London and Toronto. The roster includes 75 off-limits sites in all five boroughs, including Gracie Mansion (New York's mayoral residency), the top of Washington Square Arch, and the catacombs of Green-Wood Cemetery in Brooklyn.

How did the organization convince so many places to open up? "With very few exceptions,

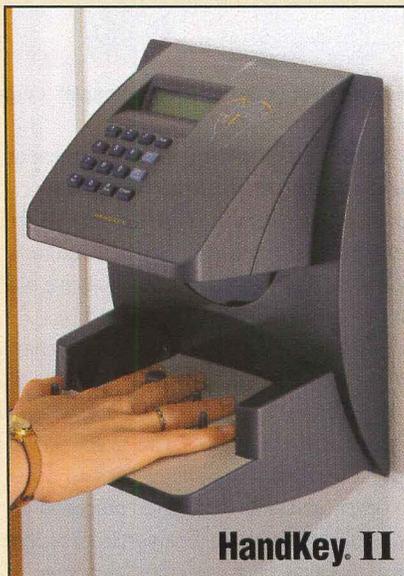
most people get it. [Owners] understand that in addition to being a great civic gesture, it also raises their building's profile," says Scott Lauer, Openhousenewyork's executive director and founder. Lauer adds that the proliferation of architectural events and attention to architecture is not only exciting for architecture fans like himself (he's an architect on leave from Anderson Architects), but "all point to a renewed public interest in architecture and design." More information is available at www.openhouseny.org S.L.

Gracie Mansion (left); Seguire Mansion (center); New York Public Library's Humanities Library (right).

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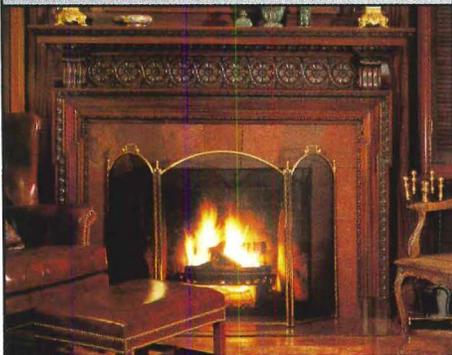
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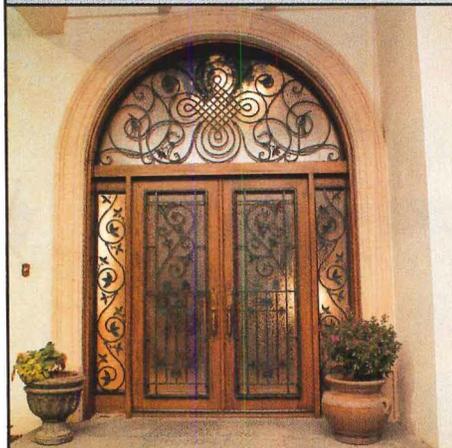
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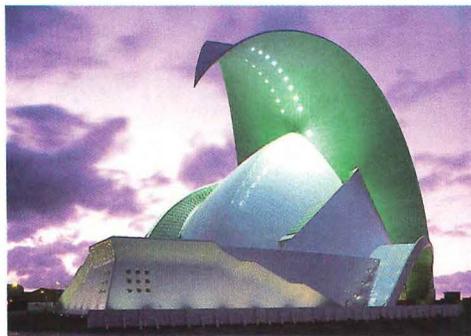
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Record News

Calatrava takes on music halls; first step, Tenerife



Calatrava's Tenerife Auditorium opened last month.

Since his addition to the Milwaukee Art Museum in 2001, Santiago Calatrava has completed few blockbuster works. But the lull is about to end in a big way, with a new building type for the designer: large music halls.

New halls include Calatrava's Tenerife Auditorium in the Canary Islands, which opened on September 26; an Opera Hall at the City of Arts and Sciences in Valencia, Spain, scheduled to open this spring; and a hall for the Atlanta Symphony Orchestra, which is still on the boards.

Calatrava, who had previously only designed

smaller music spaces, says he is particularly excited to be leaping into this building type because he is a longtime lover of music. "When I was a child, on Sunday we always made a break and listened to music."

The 186,000-square-foot, \$74.8 million Tenerife project includes a 1,660-seat concert hall and a 428-seat chamber music hall. Built mostly of poured-in-place concrete, broken ceramic tiles, and granite, the glittering building's acoustics (enhanced by convex reflectors) were tested inside a 1:10 scale model. The structure prominently features a "Wing," a wavelike shape inspired by the water on which the hall sits, rising 197 feet up from the base of the building.

The wing is monumental, Calatrava says, "in order to signify the building in relation to the scale of the city." A building like this, Calatrava says, "can change the image of a city, and even change the image that citizens have of their own city." The opera is part of a slew of design projects upgrading the harbor of Santa Cruz, Tenerife's capital, that include Herzog & de Meuron's Contemporary Art Museum and AMP's Presidency Building. S.L.

Gehry and others designing free medical centers

Frank Gehry has completed his first building in the United Kingdom—free of charge. Gehry waived his design fee to build a \$2 million, 2,152-square-foot "Maggie's Centre," a cancer-care facility, at the Ninewells Hospital in Dundee, Scotland.

Opened on September 25, the center is conceived as a "friendly little clubhouse," says Gehry. It consists of a small, lighthouse-inspired tower and a building with a pleated stainless-steel roof and curved walls. The project is a tribute to Gehry's longtime friend, architect/author Charles Jencks, and his late wife, Maggie, who died of breast cancer in 1995.

Earlier in 1995, as Maggie was undergoing chemotherapy treatment in Edinburgh, she recognized the need for more emotional assistance to cancer patients. Spotting a nearby storage barn, Maggie and Charles decided to transform it into a cancer-support center. Opened in 1996, the building was converted by architect Richard Murphy. It was posthumously named after Maggie.

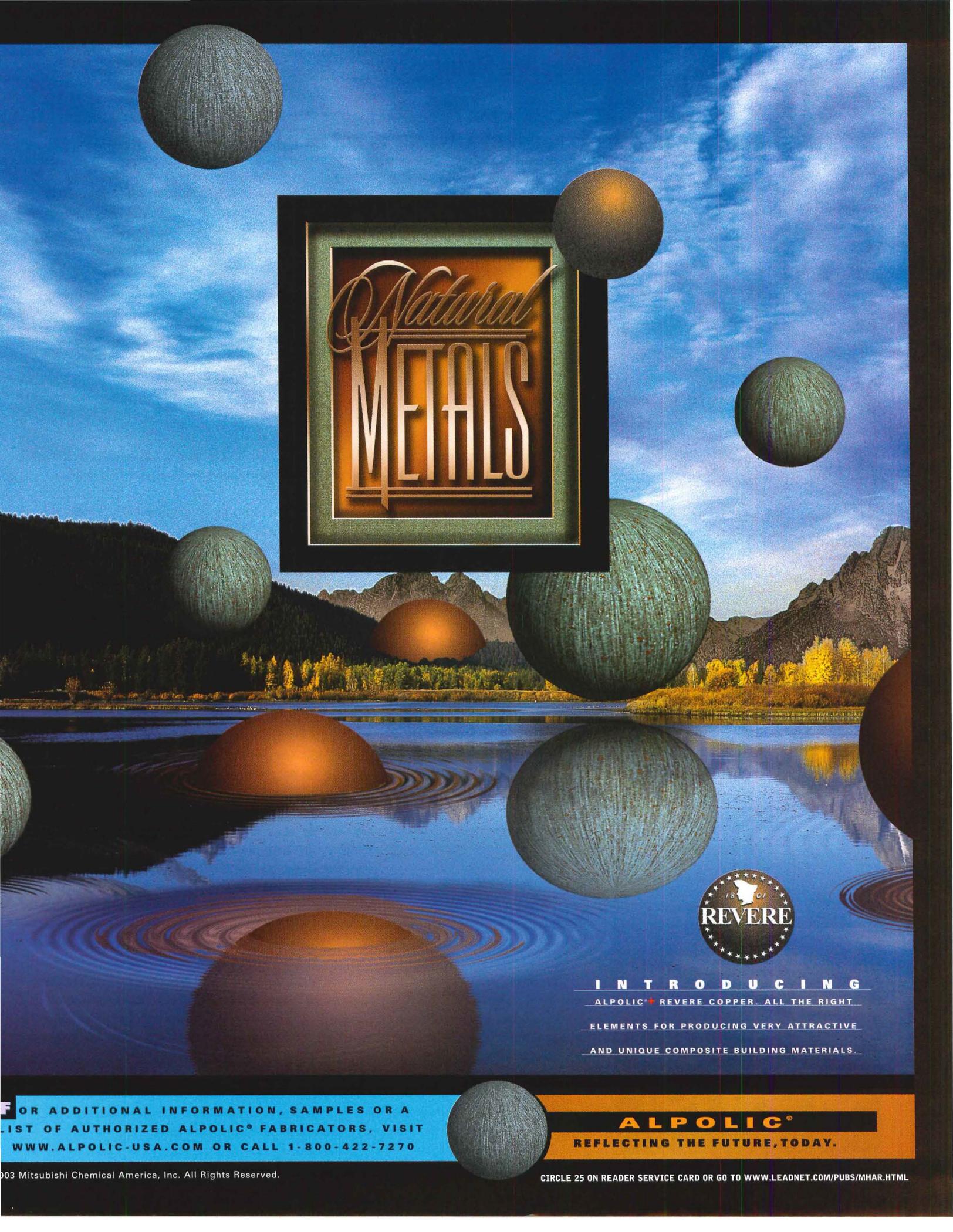


A model of Gehry's design for the Maggie's Centre.

Today, Maggie's Centres treat thousands of people annually. There are 10 new centers planned throughout the U.K. Each aims to create a healing atmosphere through architecture, enabling patients to deal with their illness in a noninstitutional setting.

In November, a new \$1.2 million, Richard Park–designed center opened in Glasgow. Another \$2.4 million Maggie's Centre, designed by Zaha Hadid, in Kirkcaldy, Fife, is scheduled to break ground later this year.

Other architects working on proposed centers (all are donating their services) include Daniel Libeskind, on a center in Cambridge; Lord Richard Rogers, on one in London; and Piers Gough, on one in Nottingham. *Tony Illia*



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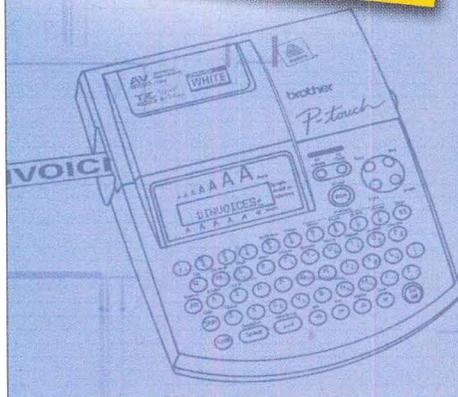
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Record News

Pennsylvania Avenue to get face-lift and security boost

On September 4, the National Capital Planning Commission (NCPCC) approved final plans to redesign Pennsylvania Avenue in front of the White House.

The stretch of road, between 15th and 17th Streets, has been closed to traffic and littered with temporary barriers since the Oklahoma City Bombing in 1995. Plans to redesign the area were further delayed by the 9/11 terrorist attacks.

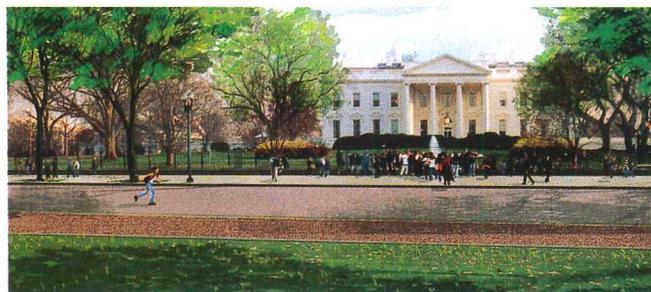
The new plans, developed by Michael Van Valkenburgh Associates, concentrate on both security and beautification.

They call for the replacement of the bulky, temporary barriers on Pennsylvania Avenue and on Jackson and Madison Places with simple, fluted bollards. Other changes include new, more "natural looking" paving (replacing black asphalt); a new planting scheme that calls for a row of American Elms; new, traditional-style light fixtures; and new security booths.

"It's remarkable how this plan has reopened the street to the people," said NCPCC chairman

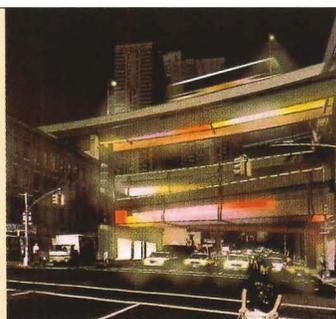
John Cogbill III. The plan, he adds, is designed for an easy return to vehicular traffic (the bollards, for instance, can retract automatically), which he hopes will happen "in the foreseeable future."

Congress has already allocated \$11.1 million for planning and design of the project, while



A rendering of planned improvement for Pennsylvania Avenue.

the president's budget calls for \$15 million for construction, which is being managed by the Federal Highway Administration. Slated for completion by the 2005 inauguration, the project is one of the first of the commission's National Capital Urban Design and Security Plan, which addresses improved security measures around Washington, D.C. S.L.



Port Authority to get needed face-lift

Though it serves as many visitors' introduction to New York City, the Port Authority Bus Terminal remains a hulking green eyesore. But Pasanella + Klein Stolzman + Berg Architects (PKSB) is on a mission to at least partially change that.

The firm is starting work this month to transform the barren concrete ramps to the bus terminal, known as the "triple bridges," that bridge over Ninth Avenue, and to clad the building's Ninth Avenue facade in titanium.

PKSB's bus-ramp design consists of a scaffold with a stainless-steel, chain-link mesh platform that acts as a scrim for bright, metallic colors, which will be applied to the ramps themselves. Lighting was designed by Leni Schwindinger, who recently completed lighting for the Seattle Opera.

Execution of the facade will involve cladding the building's Ninth Avenue surface with 6,000 square feet of silver-nickel titanium, similar to the cladding of the Guggenheim Museum in Bilbao.

Back in 1996, the firm won a competition organized by the Clinton Community Board to transform the ramps. The project has since expanded to include the facade wrap as well as a new facade for the Port Authority's building across the street.

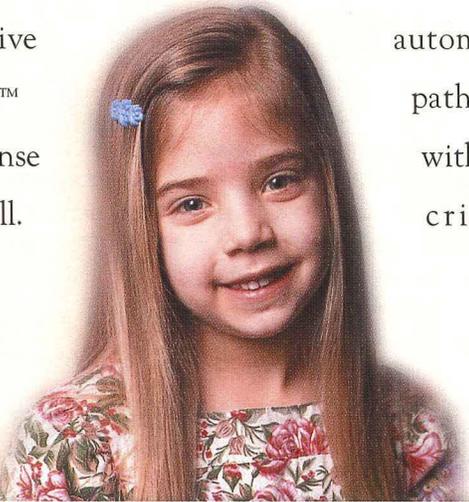
All projects will be designed to coordinate with the bus ramps.

"Neighbors saw it as a dividing line instead of a gateway," said Kentaro Tsubaki, the Triple Bridges' project manager of the ramp entry. "The idea was to make it brighter and more pleasant. Not scary, but accommodating." Construction is expected to be complete by Fall 2004. S.L.

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Record News

Chicago competition considers new designs for church

What does a city do with large, beautiful churches that have closed?

The Archdiocese of Chicago closed a number of its churches in the past two decades in response to the shifting of the city's Catholic population. In an effort to consider the adaptive reuse of these churches, the archdiocese approached the Chicago Architecture Foundation (CAF) to sponsor an invited competition this summer to consider options. The competition focused on St. Boniface Church, a Romanesque Revival church on the city's west side that closed in 1989.

The competition, organized by adviser Reed Kroloff, asked four Chicago firms to develop schemes for adaptive reuse in a 72-hour charrette. The firms were Booth Hansen Associates, Studio/Gang Architects, Brininstool + Lynch, and annex/5, the in-house design studio of A. Epstein and Sons International.



Plans by Studio/Gang Architects (above) and annex/5's (below).



The few competition rules called for the designs to preserve the church building and to use a nearby school facade somewhere on the site.

A jury that represented architect, client, and developer selected the design by Brininstool + Lynch as the winner. The firm's proposal includes a health clinic in a new building, a community center in the church—with a large glass-enclosed room above the nave for child day care—and housing for 57 families in two new buildings adjacent to the church. The jury noted that the Brininstool + Lynch design “communicates a sense of history and community.

The design projects quietness and stability, and includes substantial flexibility for future uses.”

The purchaser of the property will be encouraged to consider the competition designs for redevelopment. *John E. Czarnecki, Assoc. AIA*

New Vegas strip planned for China's Macao

Macao, a group of islands on China's southeast coast, may become the next Las Vegas, thanks to an American developer's ambitious plans to create a Vegas-style strip there.

This summer, Las Vegas Sands, owners of the Venetian Hotel and Casino in Las Vegas, announced plans to move forward with the project, which will take place on a 550-acre site in Cotai, a piece of reclaimed land within Macao. The development is planned to include 17 to 20 resorts with 50,000 hotel rooms, shopping, entertainment, and casinos. Anchoring the project will be a re-creation of the Venetian Hotel currently in Las Vegas.

The company has enlisted SOM to create a master plan for the project, which includes land use, building codes, traffic management, and landscaping. The design calls for a tropical, landscaped megacomplex with open spaces and plentiful walkways, says SOM partner John Kriken, FAIA. Much of the plan, he adds, is intended to improve on troublesome aspects of Las Vegas, such as traffic congestion and difficult pedestrian passage.



SOM's master plan for a Vegas-like strip in Macao.

“We hope we will create something very workable in terms of the things that have been difficult over the years in Las Vegas,” he says.

Serious consideration has also gone into improving the “family” atmosphere in Macao, a city currently infamous for gangs and corruption. Creation of a “critical mass” of similar uses, as opposed to the current norm of freestanding casinos in an urban environment, is one element in this plan, says Kriken.

SOM will work together on the plan with EDAW, which will direct landscape architecture. SOM says that 40 percent of work for its San Francisco office is based in China. *S.L.*

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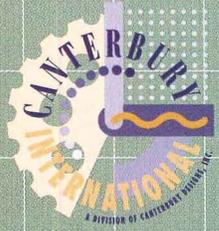
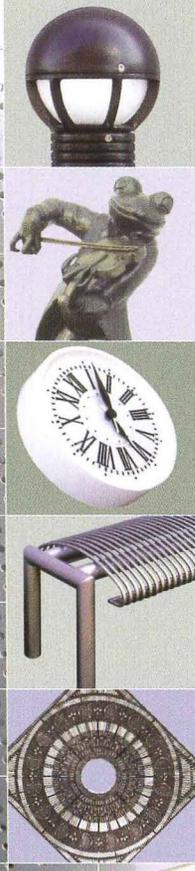
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Record News

Radical Architecture rolling along in Midwest

After the opening of Zaha Hadid's Rosenthal Center for Contemporary Art in Cincinnati, smaller cities (read: not Chicago) in the Midwest continue to add avant-garde schemes and big names to the

Louis, which opened on September 22. Built for \$7 million, the building, striking in its simplicity, features curved, interweaving concrete walls, a steel mesh overlay, and high windows that stress natural light and diversity of space.



Design for Coop Himmelb(l)au's Akron Museum.

Coop Himmelb(l)au is a more marquis name. The firm's Akron design, completed this summer—and its first U.S. project—is by all standards radical. The building's exterior will be sheathed in a silver-gray metal panel and prominently features

architectural landscape. The last few months have brought an amazing roll call: the opening of Allied Works' Contemporary Art Museum in Saint Louis, the announcement that Architectural Research Office (ARO) will be designing the Detroit Motown Museum, the completion of Coop Himmelb(l)au's design development for the new Akron Art Museum, the ground breaking for Jean Nouvel's, Hon. FAIA, futuristic Guthrie Theater in Minneapolis, and the design completion of the Museum of Contemporary Art in Madison, Wisconsin, by Cesar Pelli, FAIA. A slew of other projects are also under way.

a glass lobby that radiates in extreme angles and even wraps over the museum's existing facilities. The building is now ready for construction.

Meanwhile, the selection in August of ARO for Detroit's Motown Center, located on the site of the former Motown Headquarters, brings the city an inventive and



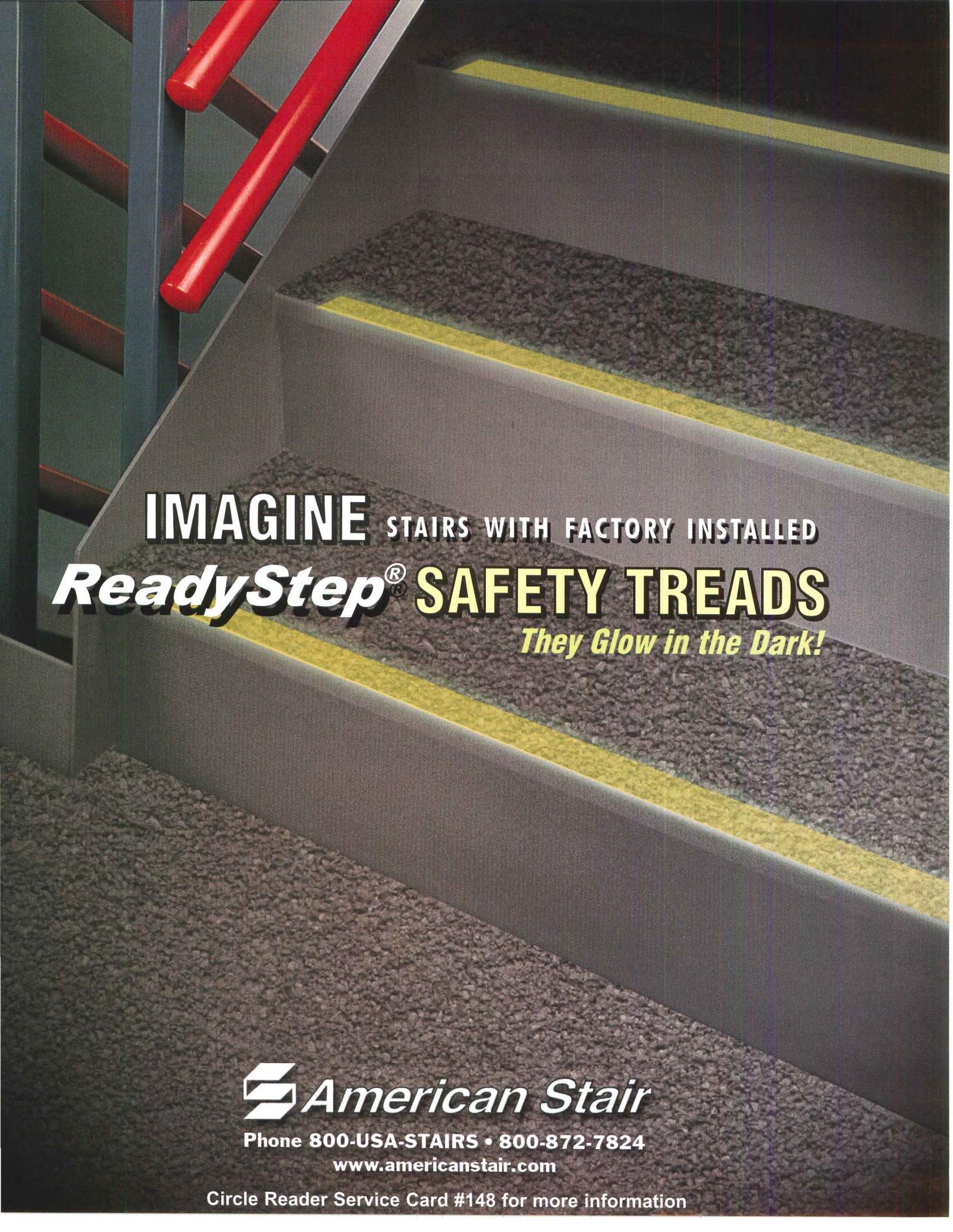
Model, St. Louis Contemporary Art Museum.

"To me it's a little bit of a trickle down of the Bilbao effect," said Ned Cramer, curator for the Chicago Art Foundation, who suggests that the international desire for transformative, landmark buildings has hit the Midwest a little late, but has nonetheless hit it hard. The emergence of new firms and creative schemes, he adds, is his favorite element of the new building boom.

technologically savvy team that has been named a finalist for this year's Cooper-Hewitt National Design Awards.

An example of this emerging work is Brad Cloepfil, AIA, and Allied Works' two-level Minimalist Contemporary Art Museum in Saint

Other major vanguard projects on the horizon include Herzog & de Meuron's addition to the Walker Center for the Arts in Minneapolis, which should be complete by 2005; the Kansas City Performing Arts Center by Moshe Safdie, FAIA, slated for completion in 2007; and Sejima and Nishizawa's Toledo Art Museum Center for Glass, set for early next year. S.L.



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Record News

Spire of Dublin first sways, then inspires

Such tallies aren't taken, but the recently completed Spire of Dublin is probably the tallest sculpture in the world. The 394-foot-tall, stainless-steel monument, completed this summer, was designed by Ian Ritchie Architects to sway in the wind like a tall reed or blade of grass.

Many hours of research at steel



foundries and fabrication shops went into the design, said Robin Cross, the project architect. The spire is built cantilevering into the ground with dampeners to absorb the shock from the structure's movement, which can range up to 3 feet at the apex. The reflective steel is also designed to shift its visual character with subtle changes in daylight and cloud patterns.

Unlike many Irish monuments, the spire is not intended to memorialize or grieve. Instead, it's a beacon of hope for the country's future.

"Irish politics is ridden with monuments to past injustices. We're attempting to break from that. We want to make a monument to the future. The monument points to the sky and connects people with more optimistic thoughts," says Cross. S.L.

New Selfridge's store reshapes Birmingham

On September 4, Birmingham, England, opened the "Bullring," a \$787 million, 1.2-million-square-foot retail development.

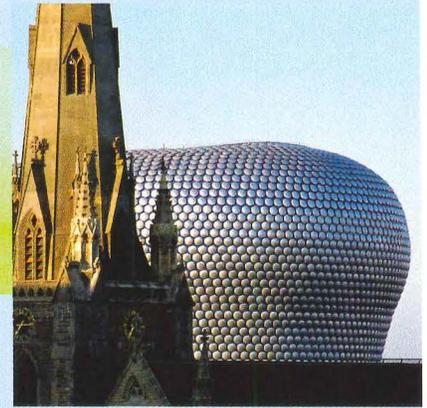
The most striking architectural element of the project is a new Selfridge's department store, designed by London-based architects Future Systems. The massive (270,000 square feet), polymorphous structure is covered with a skin of 15,000 spun-aluminum disks, each about 2 feet in diameter.

Its alien facade presents a striking contrast to the nearby Gothic St. Martin's Church and has become something of a sensation in this quiet, generally down-on-its-luck town.

"It will go on postcards, no doubt about that," says Jan Kaplicky, a partner at

Future Systems, who is proud that the building is so iconic that it requires "no sign on the door."

The building, Kaplicky says, was slated to be a "typical Postmodern" department store, but the idea was changed, to his relief. "You find a building like that in any American or European city. What's the point of doing that?" he says. S.L.



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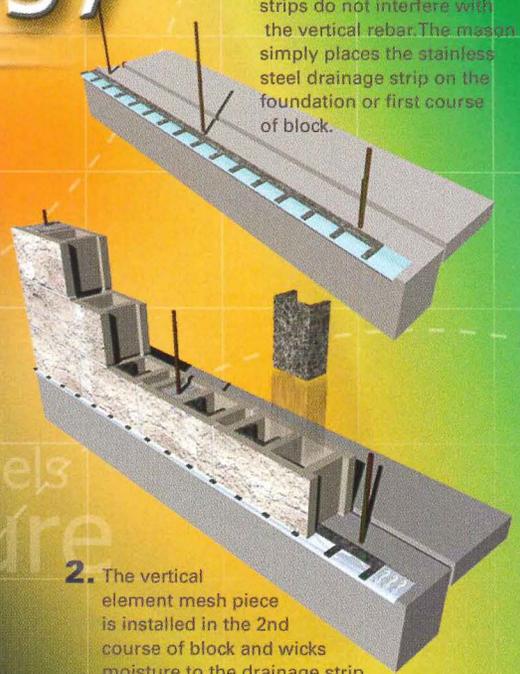
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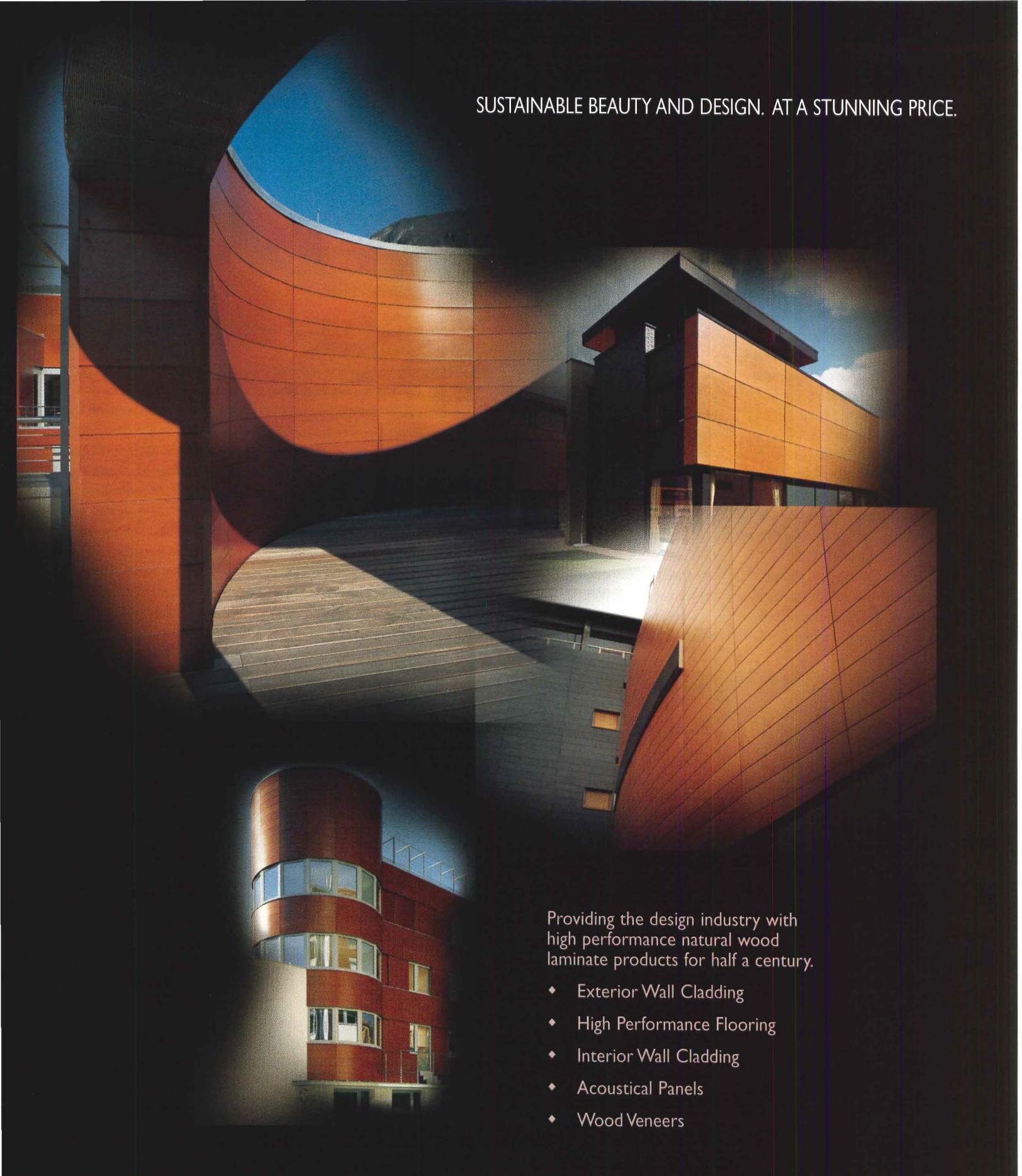
2. The vertical element mesh piece is installed in the 2nd course of block and wicks moisture to the drainage strip.

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Record News

Municipal Art Society talking with JetBlue about JFK's TWA terminal

Pressed for time in the long, complicated battle over saving Eero Saarinen's TWA terminal at JFK airport, the Municipal Art Society (MAS) has been proposing alternative plans for the building to JetBlue Airlines, the terminal's potential tenant.

Frank E. Sanchis, the Society's president, has been meeting with JetBlue president Dave Barger, and Richard Smyth, VP for JFK Redevelopment, since July to suggest alternatives to the Port Authority of New York and New Jersey's master plan for the terminal. TWA is a legendary landmark building by Eero Saarinen that has been out of use since 2001.

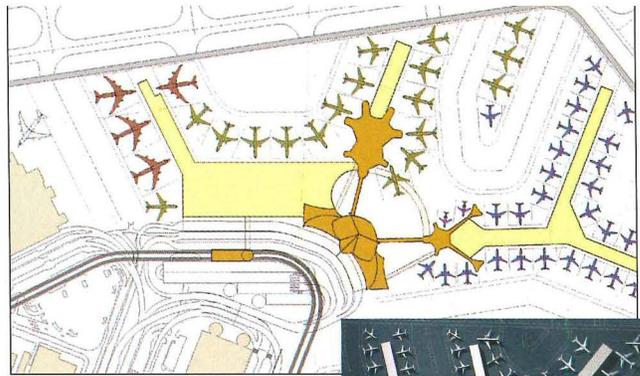
The Port Authority's current plan includes keeping the terminal out of aviation use and surrounding it with a new JetBlue terminal.

Returning the JFK terminal to aviation use, the Port says, is unrealistic because of size restrictions and security limitations, among other reasons. The Port is seeking new occupants and says it has received several interested responses.

MAS, on the other hand, feels the Port's plan for the terminal will jeopardize the life of the building because there is no guarantee it will remain economically viable.

"It is going to cost someone a lot of money to keep it intact. There's no guarantee that will happen," says Vicki Weiner, director of historic preservation at MAS. The Port's plan, MAS also fears, will disconnect the terminal from its intended views of the tarmac and airplanes.

MAS first presented its plans, developed by noted terminal design



The MAS plan for the TWA terminal, in progress (above), and the Port Authority plan (right).



expert Hal Hayes, AIA, to the Federal Aviation Administration (which will soon decide the terminal's fate) and the Port last fall. Their plan will make the JFK building a check-in center, preserve views of the tarmac, and provide linkages to future separate concourses.

JetBlue has criticized MAS's ideas, spawning new versions of the plan that are still being formulated.

Talks with JetBlue have been useful, said Sanchis, although no agreement has been worked out. Future talks will also include the Port Authority, says MAS.

"They (JetBlue) certainly have expressed interest about talking about alternatives with us," he says.

JetBlue's Smyth confirms he has looked at MAS's plans, but says he hasn't reviewed the newest versions thoroughly enough to make a final decision. Regardless, he says, the maintenance of the TWA terminal will remain a major concern.

"We don't want a deteriorated building in front of us," he notes. The FAA will decide the terminal's fate shortly. S.L.

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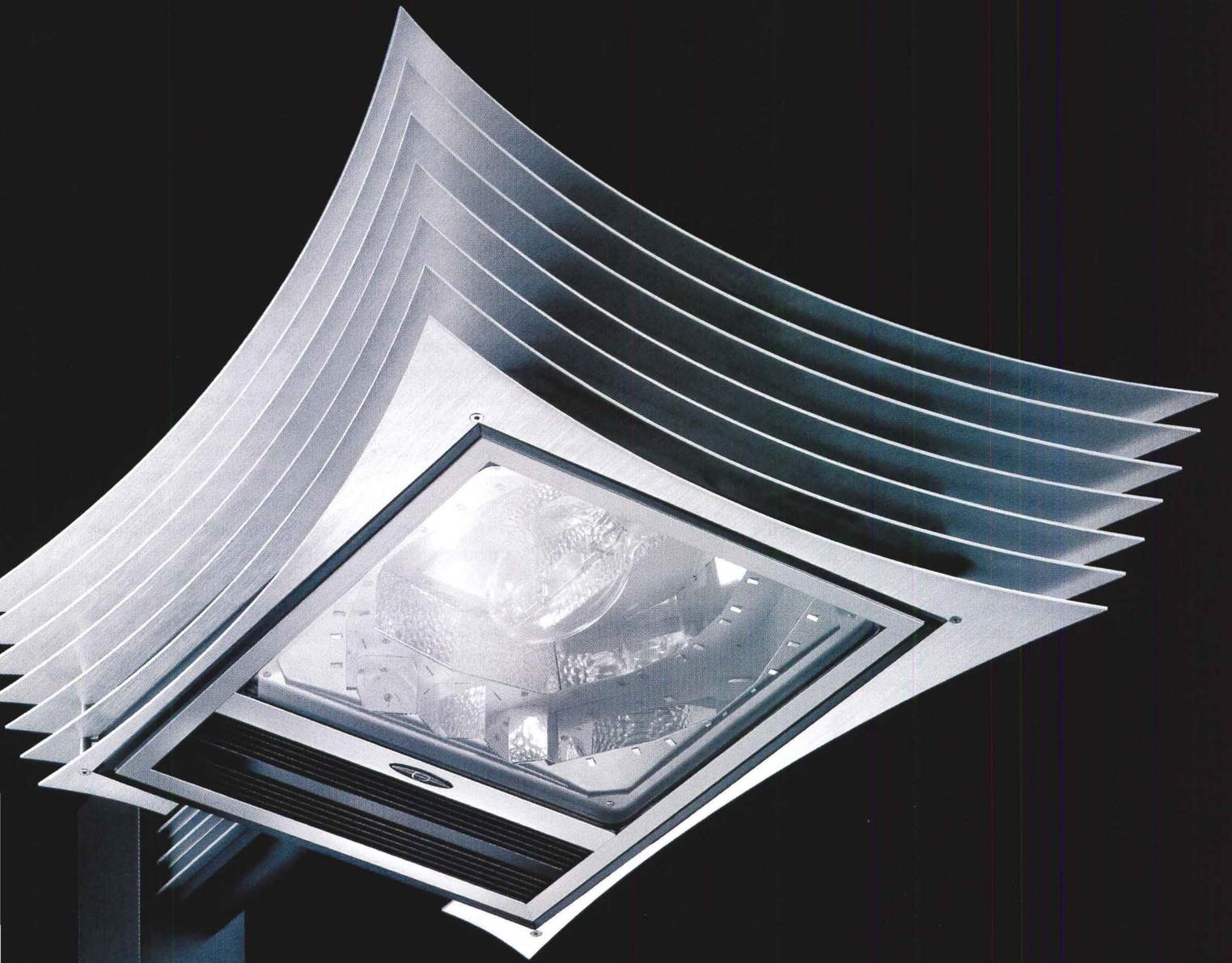
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News Briefs



Rendering of the Marine's museum.

Marines break ground on new museum

Ground was broken in late September for the National Museum of the Marine Corps, designed by Fentress Bradburn Architects as the focal point of the Corps' 135-acre Heritage Center in Quantico, Virginia. Completion is scheduled for November 2005.

The design for the 108,000-square-foot, \$42 million building features a 210-foot mast, which tilts at a 60-degree angle to recall Marine Corps imagery, including the Iwo Jima flag raising, Howitzer

cannons, a bayoneted rifle, and a jet taking off.

Forty-five-foot tall concrete walls flank the museum's main entrance, providing a performance area for Marine Drill Teams while also meeting the security-mandated 150-foot standoff distance.

The museum's exhibitions, designed by Christopher Chadbourne and Associates, will use multimedia and artifacts to help visitors understand the experience of being in the Marine Corps. *Andrew Blum*

Berlin's Holocaust Memorial

After much delay, the first slab of Berlin's new Holocaust Memorial was erected on August 16.

The \$29.4 million, 204,500-square-foot project, designed by Peter Eisenman, FAIA, consists of 2,751 slate-

gray concrete steles, ranging from 3- to 15-foot tall. The stark pillars are symmetrically spaced over an uneven 5-acre site, between Brandenburg Gate and Potsdamer

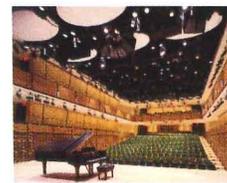
Platz. The somber grid of tablets is meant to evoke feelings of loss and isolation as a meditative tribute to the 6 million Jews killed by the Nazis.

The project, first introduced in 1988, has been mired in disputes over cost, location, and materials. After final design approval on June 25, 1999, wrangling continued over project details and construction contracts. The memorial is now scheduled to open in May 2005.

Tony Illia



Construction on Eisenman's memorial.



Zankel Hall at Carnegie.

The cube-shaped, 644-seat theater, on the site of what was once a performance space and then a movie theater, was designed by Polshek Partnership and structural engineers

Robert Sillman and Associates.

Acoustic requirements, and the desire for more space, called for the removal of more than 6,300 cubic meters of bedrock from beneath the building. Demand for unobstructed views required the extraction of the structure's supporting columns, a precarious operation that moved load first to temporary shoring and eventually to the new concrete walls of the structure.

"Putting the thing in there was a little bit like brain surgery," says Richard Olcott, FAIA, a partner at Polshek.

The work has created a spacious structure (30 feet from floor to ceiling) that, Olcott explains, "reminds people we're in Carnegie Hall, but not that we're in the basement." S.L.

New Theater at Carnegie Hall

Built on the basement level of Carnegie Hall in New York, Zankel Hall at Carnegie opened on September 12.

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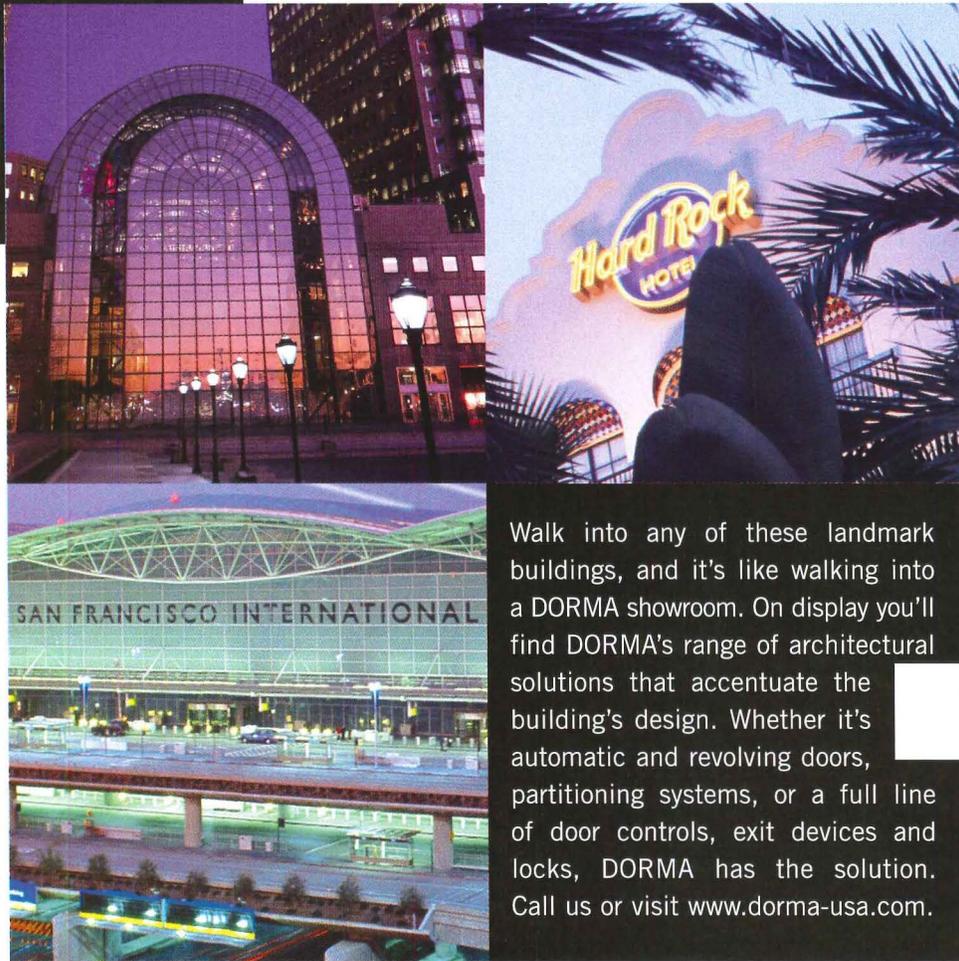
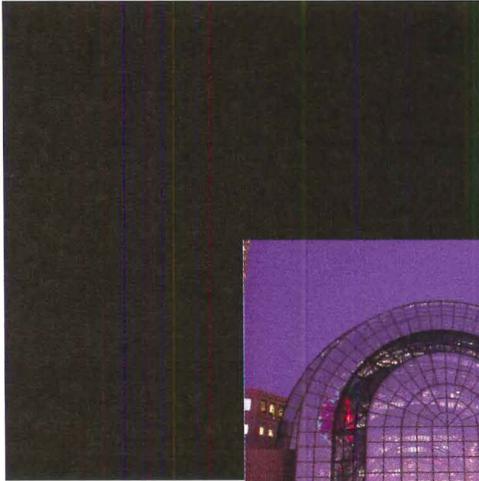
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Dates & Events

New & Upcoming Exhibitions

The Snow Show New York City

October 3–November 8, 2003

An exhibition documenting the collaboration between artists and architects who have worked together to design installations made of snow and ice in Lapland, Finland. At the Scandinavia House. Call 212/847-9724 or visit www.amscan.org.

Samuel Mockbee and the Rural Studio Birmingham, Alabama

October 5, 2003–January 4, 2004

The late Samuel Mockbee, founder of Auburn University's Rural Studio, was an idealist who put into practice one of the boldest programs in contemporary architecture. This exhibition includes three built structures, a selection of Mockbee's personal notebooks, a dozen models, photos of completed projects, and large-scale paintings by Mockbee. At the Birmingham Museum of Art. Call 205/254-2565 or visit www.artsbma.org.

1950–2000: Theater of Italian Creativity New York City

October 10–26, 2003

This exhibition, designed and cocurated by architect Gae Aulenti, brings everything from Fellini and Ferrari to Versace and Vespa together in a celebration of Italian design and style from the last half of the 20th century. Featuring over 300 works—including furniture, fashion, industrial design, film, art, and music. At Dia Center, 545 West 22nd Street Call Karen Brooking or Trisha Lawton at 212/353-1383.

Light and Illusion, an Art Show Benefiting the Family Center

New York City

October 17, 2003

A collaborative exhibition of installations created by architects and designers that investigates the ability of art to reveal truth or create illusion. Each team has chosen its own approach to incorporate light in the installation and relate it to The Family Center, founded in 1994 to create a more secure present and future for children whose parents have a life-threatening illness. At Joan Sherman Decorative Arts. Call 800/212-4522 or visit www.familycenter.org.

Masonry Variations

Washington, D.C.

October 18, 2003–April 4, 2004

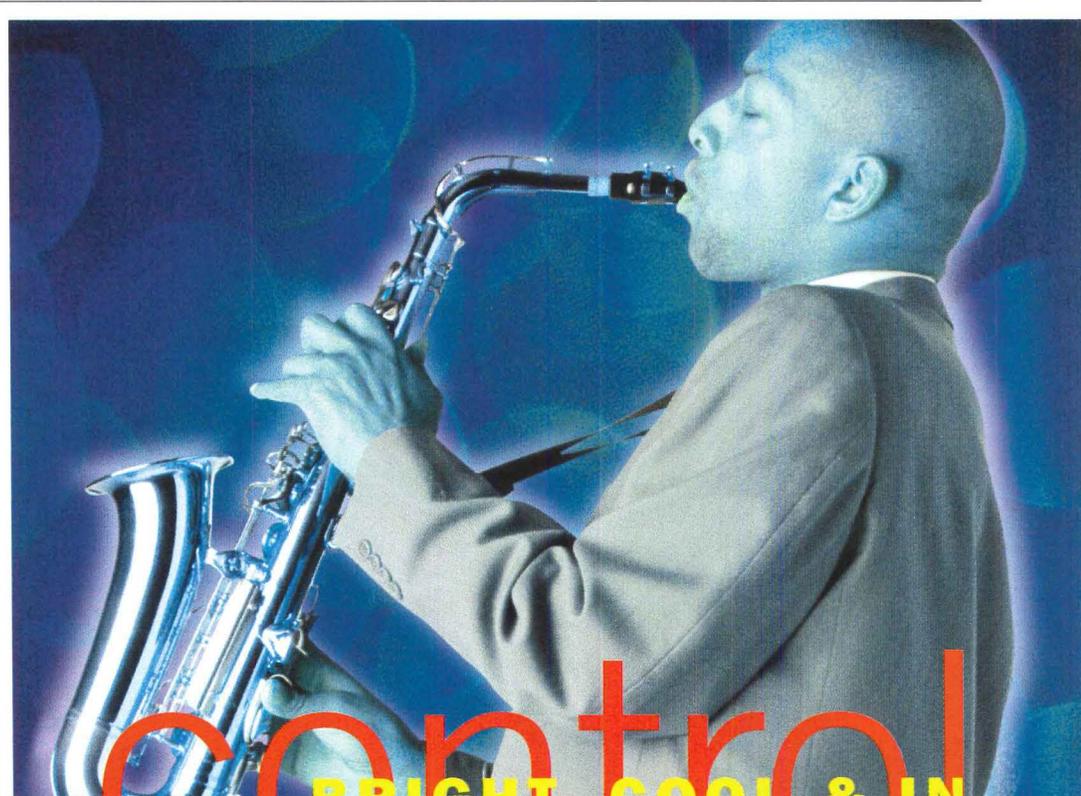
The versatility and potential of stone, tile/terrazzo, brick, and concrete block are explored by four cutting-edge architects working with master craftsmen of the International Union of Bricklayers and Allied Craftworkers. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Ongoing Exhibitions

Frank O. Gehry: Work in Progress Los Angeles

September 7, 2003–January 26, 2004

The exhibition highlights Gehry's unique design process through an examination of his firm's current projects and commissions. At the Museum of Contemporary Art (MOCA). Call 213/626-6222 or visit www.moca.org.



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Dates & Events

Up, Down, Across: Elevators, Escalators, and Moving Sidewalks **Washington, D.C.**

September 12, 2003–April 18, 2004

The exhibition will explore how these ubiquitous technologies have transformed our buildings, our cities, and our lives. Though these devices are mundane by virtue of our familiarity with them through daily use, *Up, Down, Across* brings to light the enormous impact they have on architecture and movement throughout the world. For further information, call 202/272-2448 or visit www.nbm.org.

Marcel Breuer: Design and Architecture **Weil am Rhein, Germany**

September 13, 2003–April 25, 2004

As designer and architect, Marcel Breuer was one of the most influential figures in the history of 20th-century design. This retrospective highlights the contribution the former Bauhaus student made to the field. The show also presents Breuer's somewhat neglected architectural output. It is the first exhibition to duly document both his design and architecture. At the Vitra Design Museum. Call 49 0 7621/702-3200 or visit www.design-museum.de.

Of Our Time: 2002 GSA Design Awards Show

Washington, D.C.

March 27–October 19, 2003

Through models, drawings, and photographs, this exhibition documents the 24 public projects that received the design award honor last year. The projects demonstrate how regional heritage can be integrated with the latest building technology to create dynamic, functional, and attractive structures, spaces, and artworks for the 21st century. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org for more information.

National Design Triennial 2003:

Inside Design Now

New York City

April 22, 2003–January 25, 2004

The Triennial is a review of cutting-edge trends and future horizons in design practice, from architecture, interiors, and landscape design to product design, graphic design, fashion, and new media. At the Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit www.si.edu/ndm.

Katie Grinnan: Adventures in

Delusional Idealism

New York City

July 24, 2003–January 4, 2004

Evoking contained, self-sustaining ecosystems and utopian communities, Grinnan uses moldable plastic and computer-altered images of corporate spaces to create large-scale photo sculptures and installations that envelop the architecture of the Whitney Museum at the Altria Sculpture Court on 42nd Street. Call 917/663-2453 or visit www.whitney.org.

Celebrating Saint Petersburg

New York City

June 11, 2003–January 25, 2004

Reflecting the splendor and cosmopolitan culture of the czarist court, the selection of approximately 75 objects, dating from about 1700 to the early 20th century, includes exquisitely crafted furniture, silver, porcelain, jewelry, and other luxury items of Russian, as well as French, English, Swiss, and German manufacture. At the Metropolitan Museum of Art. Call 212/535-7710 or visit www.metmuseum.org.

Lectures, Conferences, Symposia

The National Bridge Conference

Orlando, Florida

October 19–22, 2003

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Dates & Events

techniques and innovations for precast-concrete bridge designs. The program will be held in conjunction with the third annual International Symposium on High Performance Concrete. For more details, call 312/786-0300.

Graham Foundation Lecture on Paul Rudolph's Florida Houses Chicago

October 21, 2003

A giant of 20th-century architecture, Paul Rudolph began his career designing beautiful and intimate beach houses on the west coast of Florida. With 50 years distance, we are now able to see the Florida houses, some 60 projects created between 1941 and 1962, as a distinct body of work that came to represent the possibility of locally inspired American Modernism. At the Arts Club of Chicago. Call 312/787-4071.

2003 ASLA Annual Meeting and Expo New Orleans, Louisiana

October 30–November 3, 2003

Among the scheduled speakers during the ASLA 2003 Annual Meeting and Expo are Steve Thomas, host of the PBS television show *This Old House*; noted political commentator James Carville; Dr. Richard Jackson; and noted author Joel Kotkin. Call 1-888/999-ASLA or visit www.asla.org/meetings/am2003/neworleans.htm.

NeoCon East with Government Interiors and Buildings Show East Baltimore, Maryland

November 6–7, 2003

NeoCon East is a business-oriented trade show and exposition of inspiring solutions for the design and management of the built environment for interior design, interior architecture, and facility planning for the design industries. At the Baltimore Convention Center. Call 1-800/677-6278 or visit www.merchandisemart.com.

McGraw-Hill Construction Architectural Record Innovation Conference New York City

October 8–9, 2003

Inventors, scientists, and visionaries will come together to address architects and builders about how advances in materials science and manufacturing technology are poised to change building design and construction. Speakers and panelists include world-renowned architects, a Nobel Laureate, a nanotechnologist, a world-class inventor, plus innovators/designers from Audi, Boeing,

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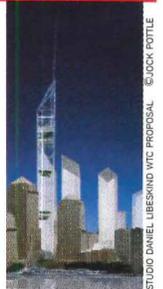
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October 8 Rooftop Landscapes: Reinforcing a Sense of Place

Susan K. Keiler, ASLA,
Principal of the
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Philadelphia



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October 16 Variations on a Theme

Stanley Tigerman, FAIA, curator of *Masonry Variations*, leads architects Julie Eizenberg, Carlos Jiménez, Jeanne Gang, and Winka Dubbeldam in a discussion of their masonry installations

October 21 Daniel Libeskind

Principal of Studio Daniel Libeskind

Exhibitions

**Up, Down, Across:
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Escalators, and
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through April 18, 2004



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Design Architect: Moore Ruble Yudell

Executive Architect: Bennett Wagner & Grody



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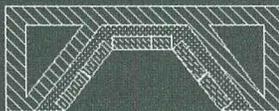
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Dates & Events

DuPont, Permasteelisa, Arup, and more. At the Westin Hotel. To register, call 212/904-4634.

18th IAKS Congress Cologne, Germany

November 5-7, 2003

The International Congress for the Design, Construction, Modernization, and Management of Sports and Leisure Facilities will cover sports facilities for the Olympics 2006 Soccer World Cup in Germany, along with other topics. Visit www.saia.org.za/kznia/18thIAKScongress.html.

Competitions

Rome Prize Competition New York City

Deadline: November 1, 2003

The American Academy in Rome, one of the leading overseas centers for independent study and advanced research in the arts and the humanities, invites applications for the prestigious Rome Prize competition. Call 212/751-7200 or visit www.aarome.org.

Chi-Chi Earthquake Memorial Competition

Registration deadline: November 30, 2003

Submission deadline: December 15, 2003

The goal of this competition is to select a design proposal for the Chi-Chi Earthquake Memorial that can provide an innovative solution for the project that responds to the social, political, and cultural issues that developed in the wake of the disaster. For more information, visit www.ccemc.921erc.gov.tw.

Palisades Glacier Mountain Hut Competition Berkeley, California

Deadline: December 5, 2003

An international competition for the design of a 60- to 80-person wilderness-base camp facility for overnight stays near the trailhead leading to the Palisades Glacier in the Sierra Nevada Mountains of Central California. Visit www.ced.berkeley.edu/competitions.

Send dates and events via e-mail two months in advance of event or competition deadline to ingrid_whitehead@mcgraw-hill.com.

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Sustainability is an often-used term these days. Well, consider the drinking fountains installed in the Oats Park School in Fallon, Nevada. Built originally in 1915, the school is now being renovated as the town's Performing Arts Center.



To maintain as much of the original flavor as possible, the Arts Council decided to retain the twin Haws drinking fountains that line the main entrance. What's the opposite of planned obsolescence? Haws, of course!

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Tampa Prep students can learn a lot about problem solving by studying the school's new dome





Tampa Preparatory School's dream of a geodesic dome for one of its new buildings ran into a problem. The project was cost prohibitive. But problems can lead to opportunities in the hands of talented, dedicated people. So rather than giving up on the idea of a dome, the architect and structural engineer partnered with design engineers from Vulcraft and came up with a solution that's beautiful, highly functional and within budget.

The spectacular dome they created is constructed of arched steel joists and deck that fan out from a center support column. And because of the ultra-precise design, manufacturing and installation of the joists, ceiling panels were able to be cut in advance and simply set in place on top of the bottom chord angles. Attention to detail like that is a sure way to hold down costs. It improves functionality too, because the air space between the panels and the roof decking provides plenty of room for ductwork, wiring and easy accessibility.

The Tampa Prep dome is one of many examples of Vulcraft's desire and ability to do more than manufacture steel joists and deck. We're ready at a moment's notice to partner with architects and engineers in creating successful solutions in design and construction.

So when you're ready for your next project, contact any of our seven plants across the country and let us in on your plans. We'll do our homework and come up with the answers you're looking for.

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archrecord2

FOR THE EMERGING ARCHITECT

DEPARTMENTS

Once again this month, archrecord2 ventures outside of the supposed epicenters of the Design world in New York and California to find exciting Work in North Carolina and Arizona. First, the Borden Partnership tries to redefine suburban living with a raft of innovative home designs. Then, meet two young architects who designed the Arizona AIA headquarters in Phoenix. For our other regular departments, Live and Talk, be sure to visit archrecord2 on the Web.

DESIGN

Voting yes on Proposition 20

Gail Peter Borden lives in a Modernist 1950s house in a suburban neighborhood in the Raleigh/Durham area of North Carolina with his wife and partner, Brooke. The suburban condition has profoundly affected Borden's work, both his designs and the research he conducts at North Carolina State University, where he is a professor in the School of Architecture. For the past seven years, Borden has been studying Modern single-family homes and has periodically produced designs, as well, including the Rubber-banded House, which was shown in this space in December 2002. Now the Borden Partnership, as the couple's firm is known, has produced a large-scale project Borden calls 20 Propositions for Suburban Living.

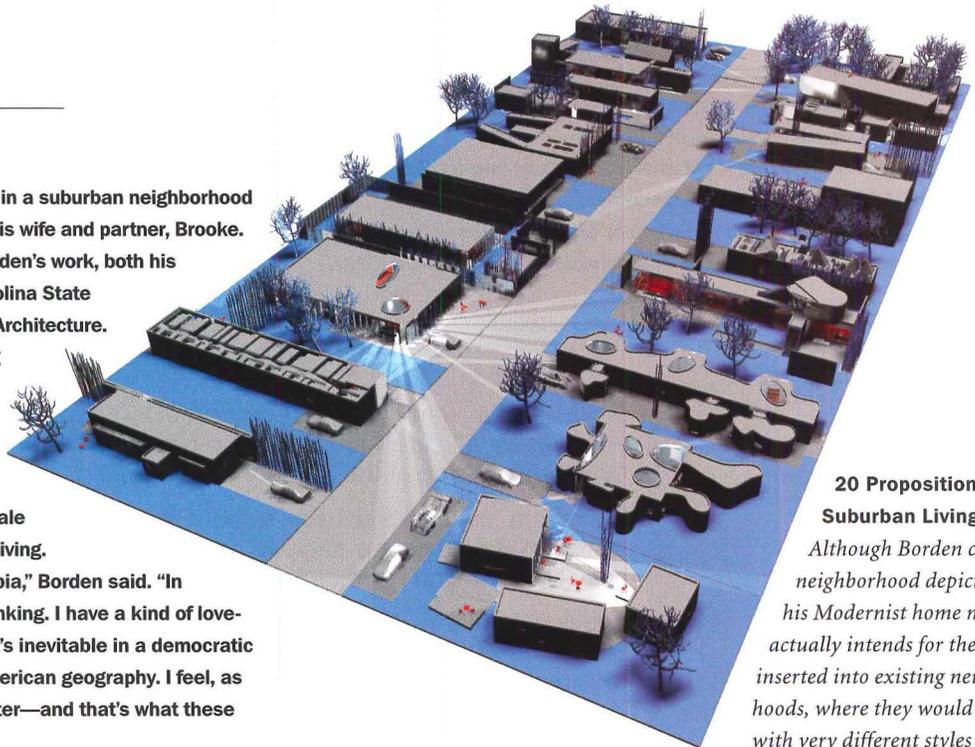
"I was born in suburbia, I was raised in suburbia," Borden said. "In many ways, it's kind of been the lifeblood of my thinking. I have a kind of love-hate relationship with it, because to some extent it's inevitable in a democratic and capitalist system, and in the context of our American geography. I feel, as a culture, that's where we are, but we can do it better—and that's what these houses are trying to do."

Most of the Borden Partnership's work so far has been research or competition design—although the team has also done some renovation projects—but Borden considers these designs far from impractical.

"I've been trying a variety of methods of deploying these," Borden said. "Anywhere from trying to build my own house, which is probably on the horizon, to doing a spec house."

According to Borden, what separates these houses from other Modern houses is the price. As part of the project, Borden broke down the costs of each phase of construction for six of the 20 houses, each of which assumes a 60-by-120-foot lot. Each of the three-bedroom houses would cost between \$100,000 and \$150,000, not including the land.

"There's plenty of high design out there," Borden said, "but trying to make it affordable is what makes these unique. There's a social conscience that wants to tap a market that's been ignored. It's not hard to make a beautiful home for a lot of money, but you have to work harder to do it less expensively."



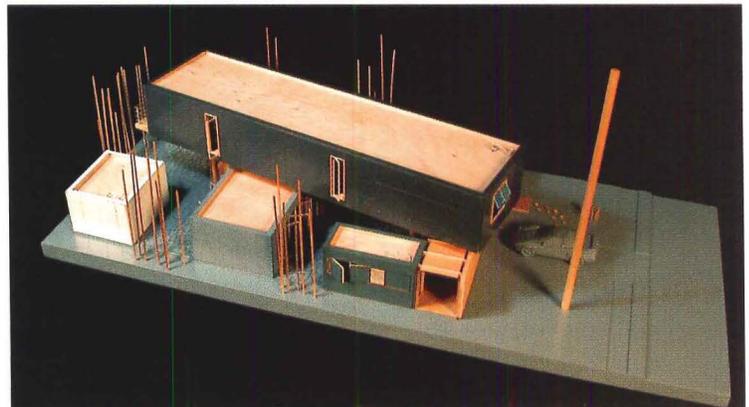
20 Propositions for Suburban Living, 2003

Although Borden created a neighborhood depicting all of his Modernist home models, he actually intends for them to be inserted into existing neighborhoods, where they would coexist with very different styles of houses.

Program House, 2003

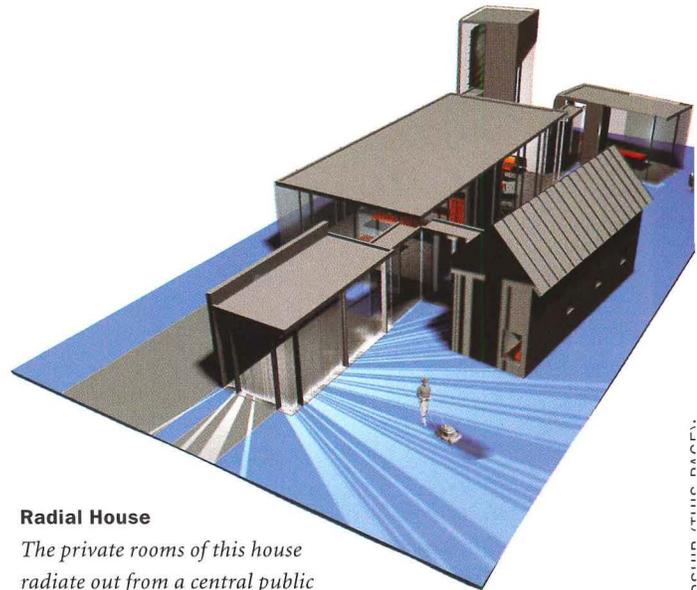
In this house, the program dictates the form. Separate pavilions on the lower floor are designed to be built

in phases. The second-floor "sleeping box" partially shelters the open space that connects the downstairs pavilions.



Constellation House, 2003

This house shifts some of the traditional responsibility of walls to the roof. Only three doors break the solid wall plane, but skylights of various sizes bring several intensities of light into the house. The shafts of the skylights also give the exterior its form.



Radial House

The private rooms of this house radiate out from a central public area. Each of the satellite pavilions takes on an individual form that reflects its use and context.

Borden envisions these houses being built in conventional "builder" neighborhoods, where they would be interspersed with more traditional home designs. He'd like to see them act as a sort of virus, infecting people's ideas of what single-family home design can be.

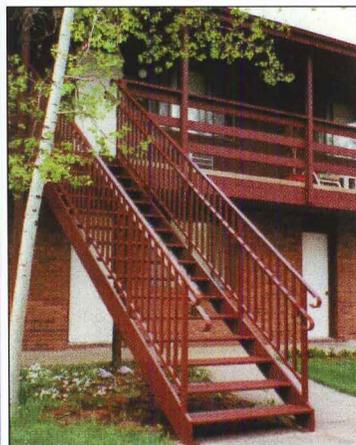
"These houses are examples of what we can do, of how architecture can insert itself into this sort of forgotten landscape," he said.

The perception that Modern-style homes are less desirable than traditional ones will likely be Borden's biggest impediment to building these designs,

but he thinks that if a few of these houses can get built, people will begin to realize that good design can add value to a home.

"People are adding a lot to their programs: rec rooms and wine-tasting rooms, and that sort of thing," Borden said. "But those things don't really increase the quality of the space; they just add to the list of room names you can write on the floor plan." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more of the 20 Propositions for Suburban Living, and to submit your own work.



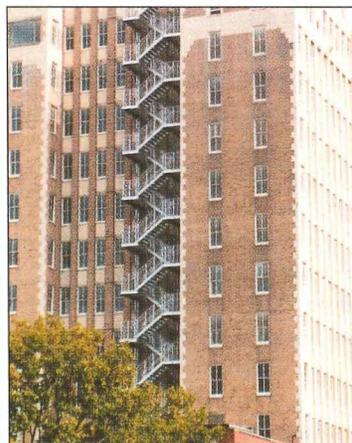
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WORK

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In early 2001, AIA Arizona obtained a lease for the second floor of a 1920s Neoclassical-style building in downtown Phoenix. The 4,400-square-foot space would serve as the organization's new headquarters, but first they needed someone to design it—for no pay.

The AIA called for a unique design competition, a one-day charrette, to be held in the space itself. At the end of the day, two young designers, Jorge Colón and Mark Roddy, were declared the winners.

"When Jorge and I started to work together," Roddy said, "we had competed separately in local competitions, and I thought it was a good idea to work together."

The models that the two built on the day of the competi-



For the AIA Arizona headquarters in Phoenix, Roddy and Colón inserted simple, Modern forms into the raw space of the 1920s building.

tion hardly changed at all in the design process, which inserted simple, Modern forms into the raw space.

"We work for separate firms, where we see projects change and get watered down," Colón said. "But here's a project where the integrity hasn't changed, and that's great."

Both designers and their client are happy with how the space turned out, with few exceptions.

"The one thing that really bugs me is that the workmen who replace lamps and whatever step on the hori-



zontal pieces," Roddy said. "I want to go in and clean up their footprints."

"Sometimes," Colón said, "as we visit the space for various AIA functions, one of the staff members will pull us aside and tell us how much they enjoy the space. In terms of this being pro bono work, that's great repayment." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more stories about emerging designers' careers.

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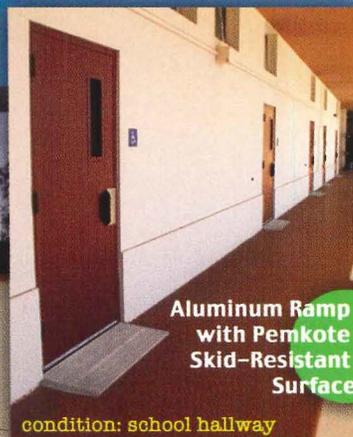


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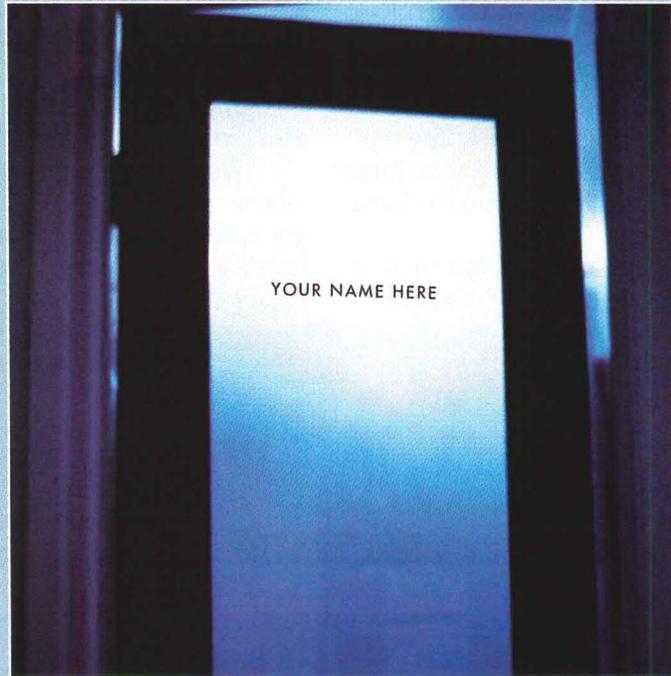
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Programming regains importance during tough times

Practice Matters

By Satish Rao, Assoc. AIA

DEPARTMENTS

Clients have always known that architects can save them money by designing space that can be constructed economically. Now, a new generation of building owners and facility managers is catching on to the fact that employing architects to do programming may help them save even more. Clients who are looking for every possible way to cut costs know that “real estate costs can have a significant impact on profitability,” according to Lori Walker, a principal at NBBJ Architects in Seattle. For the many architects who haven’t done much programming, the following review of what programming does and how it produces value for clients should be useful.

Programming can help owners analyze the way they do business; how much space they need; how it will be organized; and what the cost implications of different alternatives will be. Architects can help them tighten operations, streamline work flow, and function more efficiently. This new interest in programming reflects the current U.S. economy. During the late 1990s, the owners of both institutions and high-tech companies were wooing prospective employees with generous and costly amenities, as well as trying to gain investors and enhance branding by using image-building architecture. Today, things are different. Lewis Goetz, FAIA, of Group Goetz Architects, a Washington, D.C., firm specializing in workplace environ-

ments, says, “Clients are now cutting back on such amenities and increasing the proportion of work areas.” Private offices are giving way to open-plan, collaborative spaces, and work areas that enhance multitasking are gaining popularity. It is also clear that clients are reassessing how their companies function as organizations. They are eliminating redundancies and curtailing nonessentials as growth projections are getting more conservative. And, as stockholders force corporations to be more fiscally responsible than they were the 1990s, extravagant image-building architecture has fallen out of favor. But doing programming in this more conservative business climate means that there are new issues for architects to consider.

The first is to clearly describe the degree to which cost will be regarded as a design criterion. “Blue skying”—the practice of envisioning idealized and often unaffordable solutions—is less prevalent now. When the program is based on economic reality, it is easier to keep the client focused on the essentials. User requirements should be evaluated to verify that they coincide with the new goals of the organization. The program therefore must identify a first phase that will be self-sufficient in supporting the client’s operation and not rely on future phases to function effectively.

Less urgent requirements can then be relegated to a later phase. In the past, when funding was often not in doubt, phasing was often

merely the response to a deferred cash flow or anticipated growth. Now, phasing serves to identify what the client can initially afford to build, and later phases might never get built if the anticipated growth doesn’t materialize.

Next, you need to learn everything possible about the client’s operation and building type. If you are not familiar with the operational and economic dynamics of your client’s business, immerse yourself in them before and during information-gathering interviews for the program. Some architects advocate becoming “squatters,” that is, working at a company’s facility for a few days or weeks in order to observe its work flow.

THE FISCALLY CONSERVATIVE CLIMATE MEANS CLIENTS NOW NEED ARCHITECTS TO CONSIDER DIFFERENT ISSUES.

Some businesses require more space during certain times of the year, so tune in to your client’s annual business cycles. If they want to reduce square footage, you might suggest that they consider removing redundancies by dovetailing tasks—although you should make it clear that your purpose is not to help managers cut jobs.

The next important step in programming is data gathering, through interviews with the client, users, and other stakeholders. The current emphasis on running lean and mean has made the role of the client’s chief financial officer more important than ever. Jasna Bijelic, Associate AIA, a principal at Davis,

Carter, Scott, a Virginia A/E firm, says, “Architects are now using automated models.” For instance, Kevin Pennington, project director at this firm, has created a customized Excel spreadsheet that can be formulated to quickly translate a change in square footage data into resulting changes in parking requirements, unit mixes, and so on. This dynamic program permits immediate assessment of the down-the-line financial impact of each proposed change. As a fundamental part of the programming process, architects should assess the cost implications of each new need or idea that emerges.

After you’ve started getting an idea about your client’s work flow

and what their financial priorities are, you can start developing a list of the spaces and support systems needed. This has changed, too. Multitasking is gaining in popularity, so space is no longer customized for specific uses. Standardized modular workstation types are the rule today. These enable work spaces to be adapted to the changing needs of staff, and increase flexibility, says Lewis Goetz. Dr. Andrew M. Laing, managing director of DEGW North America, an international design consultancy focused on the changing nature of work, supporting technologies, and places, goes further. “Technological developments,”

Satish Rao, Assoc. AIA, is director of project management for Torti Gallas and Partners, Fairfax, Va.

Practice Matters

Basic Steps for Successful Programming

Programming transforms the client's goals into a statement of needs and design parameters. In case you haven't done it lately, here are the basic steps:

- Determine the client's vision and goals for the project: What they want to achieve, and why.
- Interview client groups, including users, to gather and categorize data: occupancy parameters, space guidelines, site data. Be a facilitator; don't impose your preferences. Filter out data not relevant to design.
- If necessary, do background research on the client's operation and building type.
- Understand and analyze the processes: people, goods, information, services, circulation. Identify the required activities, spaces, equipment, furnishings.
- Distinguish between needs and wants; prioritize needs based on congruence with goals, beneficial returns, and costs. Determine phasing.
- Compile a set of requirements, both numerical and qualitative, for each indoor and outdoor space.
- Write a clear, concise statement of the problem and design goals. Address image and character, function, relationships, ambience, and costs.

says Laing, "are enabling people to be increasingly mobile outside and within the office. This mobility challenges many conventional assumptions, such as that sharing workplaces is the exception rather than the rule." Traditional concepts of hard-copy document storage are changing, too. "Increasing attention is being given," continues Laing, "to knowledge management as an important component of office design, to ensure that paper as well as electronic information is managed collectively."

Teleconferencing affects the need for large conference rooms and big pinup surfaces, replacing them with more small conference rooms that double as work centers, equipped with sophisticated multimedia equipment and increased acoustical treatment.

Finally, once the problem has been defined and the client's needs have been identified and categorized, draft the program statement. This is the link between the program and the design. It must clearly and con-

cisely convey the client's goals and needs and suggest alternative directions for design, without committing to a single solution. A program is not a series of problem statements, but must supply the designer with the information needed to create innovative solutions that will satisfy the client's objectives.

Programming, design are one

Many clients prefer to use specialists for programming and want to choose their design architects later. But continuity between programming and design has many benefits.

First, an architect who is knowledgeable in the design of a specific building type knows what information will be needed when the time comes for making design decisions. For example, complex buildings such as laboratories have highly interdependent building systems. If any aspect of this interdependency is neglected during programming, the design architects usually end *(continued on page 214)*



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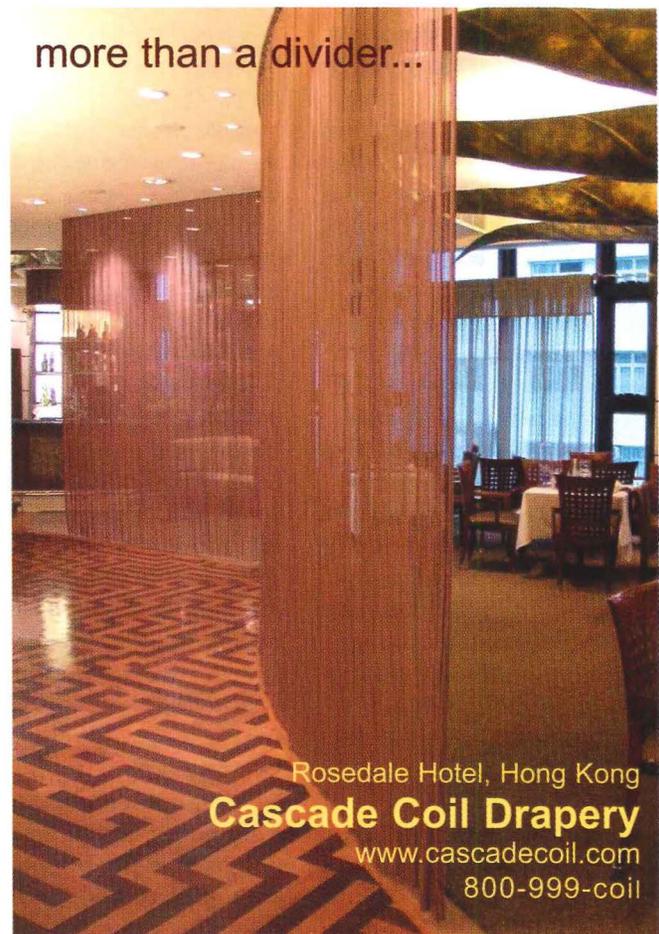
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The Project

The challenge here was how to work within the confines of the 1980’s structure. The spectacular view with floor to ceiling windows had to remain. The structural layout of the building did not permit relocation of walls, therefore leaving one design option; an island with a single wall of cabinets.

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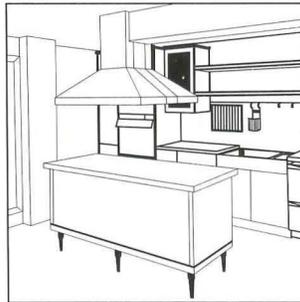


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Architectural Concept



Kitchen Designer's Contribution



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The Concept Starts Here

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Will Bruder Architects, Ltd., Phoenix, AZ



Emerson Sauna
Salmela Architect, Duluth, MN



Messenger House II
Brian MacKay-Lyons Architect Limited, Halifax, NS



Outdoor Classrooms
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Milanville House
Joe Levine, Bone / Levine Architects, New York, NY

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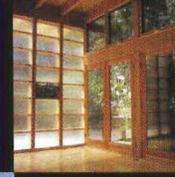
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Bauer and Wiley Architects, Newport Beach, CA



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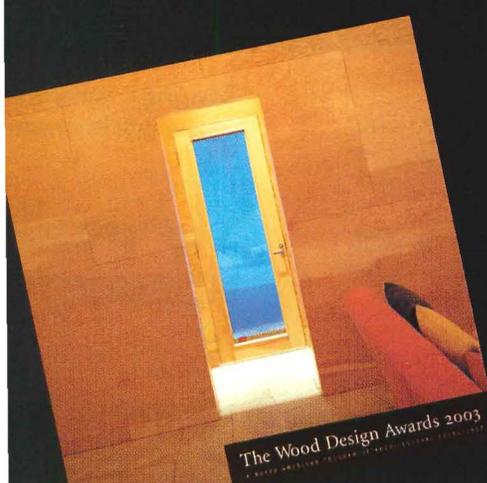
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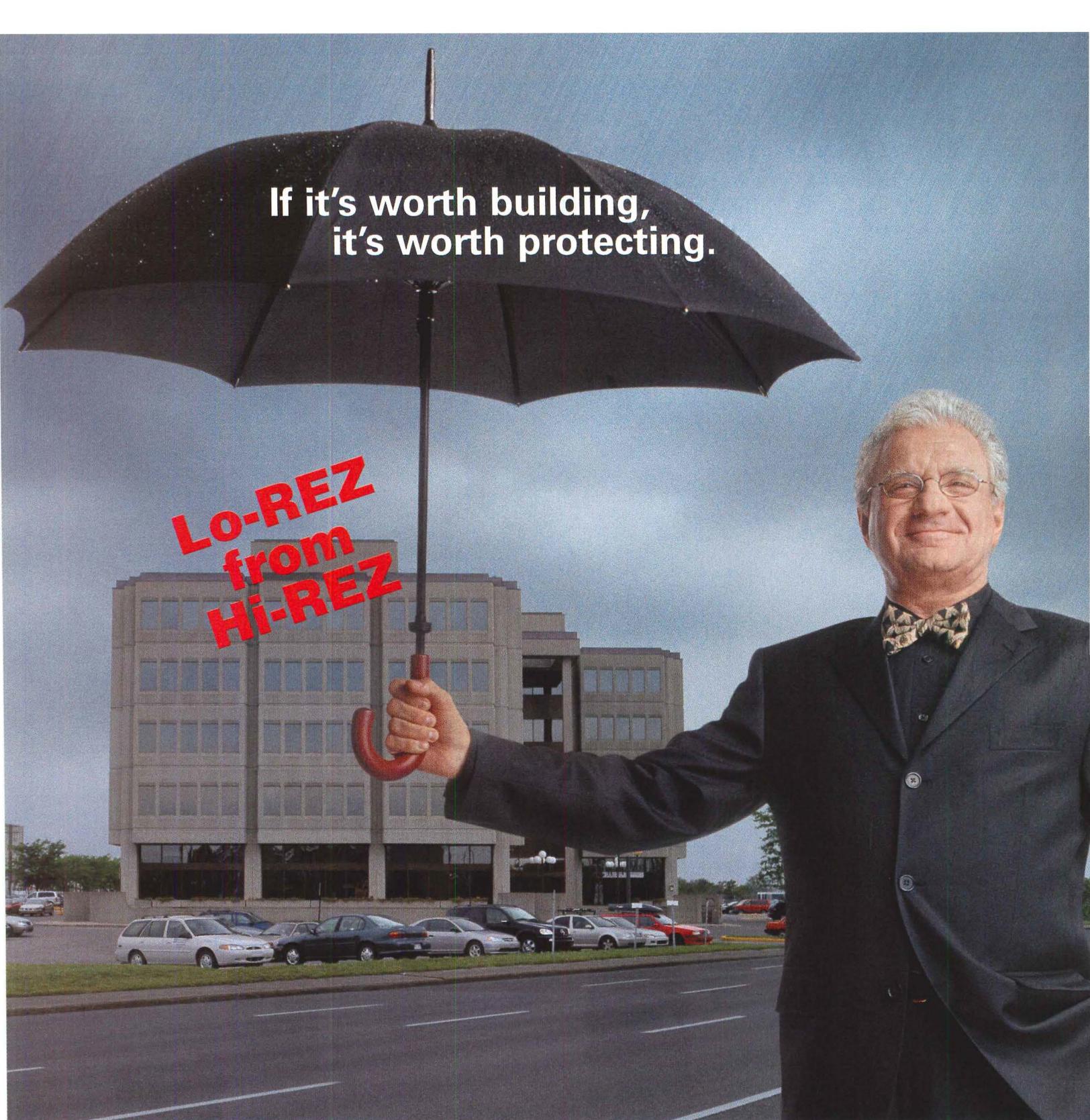


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Italian hill town: Picture-perfect and subsidized to stay that way

Critique

By Robert Campbell, FAIA



The view of Pienza and its surrounding fields has a timeless quality, increasingly split from today's economic reality.

The whole world is becoming a theme park. Or, as the poet Wallace Stevens noted many decades ago—long before Warhol—everything in our time has a tendency to turn into art.

In July, I spent a few days in the Orcia Valley—the Val d'Orcia—in Italy, just south of Siena. When first seen, the valley appears to be a patchwork quilt of small farms on rolling land presided over by a mountain, Monte Amiata, Italy's largest extinct volcano. Dark

Robert Campbell, FAIA, is the Pulitzer Prize-winning architecture critic of the Boston Globe and was a fellow in the National Arts Journalism program at Columbia University this spring.

cypresses stand as vertical accents, alone or in groups. They inhabit and humanize the landscape even when there are no people visible. Nestled among the cypresses are the pale stucco villas of the landowning families and the smaller farmhouses of their dependents. Nothing could look more peaceful, more authentic, more beautiful.

Maintaining appearances

But as I, and the group I traveled with, were soon to learn, the Val d'Orcia is not what it seems. It is, to a surprising degree, a theme park, maintained for tourists by subsidies from the European Union and local government. There are few farmers

left on the farms. Young people head for the cities. Farming, which once was a form of share-cropping, is now done centrally with tractors, as it is in American agribiz. But the appearance of small farms is scrupulously maintained for the sake of its beauty and its appeal to tourists.

And those other villas and farmhouses? They've been bought up and restored as vacation homes, we were informed, by "billionaires and actors." And indeed, the day I got home, my July issue of *Architectural Digest*, the magazine version of *Lifestyles of the Rich and Famous*, featured a former monastery in the Val d'Orcia that has been converted, by a retired

American C.E.O. and his wife, into a lavish home.

Similar things are happening in other towns of Tuscany where tourism also rules. Siena, with a population of 39,000, plays host to one million overnight visitors each year and an astonishing five million day-trippers, who come by excursion bus and stay, on average, a mere two hours and 45 minutes.

Influenced by early visits

The group with which I visited the Val d'Orcia calls itself the Seaside Pienza Institute. It was founded by three proponents of the New Urbanism: Robert Davis, the developer of the model town of Seaside in Florida; Ray Gindroz, head of Urban Design Associates in Pittsburgh; and Leon Krier, godfather of the New Urbanism and planner of the British new town Poundbury.

Like other New Urbanists, Davis, Gindroz, and Krier think the Modernist city of office parks, strip malls, and gated sprawl isn't a good idea. And as it happens, both Davis and Gindroz were deeply affected, as young men, by visits to the hill village of Pienza in the Val d'Orcia. They started their institute with the thought of bringing a variety of experts each summer to Pienza to talk about ways to create better towns. This was the second such conference. Other prominent New Urbanists, such as Andres Duany and Liz Plater-Zyberk of Miami and Dan Solomon of San Francisco, were also among the group.

Pienza is an appropriate place

Critique

to talk about city design because it is the product of urban renewal. A hometown boy became Pope Pius II in 1458 and invested heavily to build a new cathedral, a papal palace, a town hall, and other buildings, all clustered around a central piazza he named after himself. Pius transformed a sleepy medieval hill village into an urban masterpiece, the first *città ideale* of the Renaissance.

Urban concentration

Pienza is as logical as it is beautiful. Streets run north and south from an east-west spine street. Those that open to the north are twisty, to baffle the wind, while those that open to the south, where there are breathtaking views over the valley, are straight.

Activity concentrates at the main piazza, where “the important buildings declare themselves,” in

Krier’s words. Scale is astonishing. The entire town occupies, within its walls, just 11.5 acres. Boston’s Public Garden, by way of comparison—not the Common, just the Public Garden—is 24 acres. Depending on how you count, there are maybe 30 streets and a half-

PIENZA IS THE PRODUCT OF URBAN RENEWAL—CIRCA 1458, WHEN A HOMETOWN BOY BECAME POPE PIUS II.

dozen small piazzas in Pienza’s less-than-a-dozen acres. You leave the town with an amazed sense of how much life is possible on a tiny piece of land.

But Pienza, like Siena, is suffering. The average citizen is now more than 60. The kids tend to split. Pienza is a World Heritage Site, so designated by UNESCO, and like Siena it is overrun with tourists.

“They bite and run, they spend a few

Euros,” the mayor told us. Tourists contribute nothing for the infrastructure that supports them: toilets, water, street cleaning, bus parking, and so on. The town knows that its history and beauty are now its prime assets, but it hasn’t yet found a way to convert those assets into an economy that can retain the younger population. The need is to strike a balance between preservation and opportunity. “We can’t

crafts, items that may actually have been made in Turkey or Hong Kong, where labor is cheaper. This is the kind of homogenization of culture that’s occurring worldwide, as local goes global.

In Siena, the head of the tourist agency, fighting back, visits the city’s retirement homes to collect traditional recipes from the older women, which she then puts on restaurant menus.

Rent a farm

The Italians don’t talk about theme-parking the Val d’Orcia. They talk about *agri-turismo*. In the old estates, you can now rent a former peasant farmhouse for your vacation, or even the bedroom of a former grand duke. You get pleasant quarters, great views, a sense that you’re visiting the past, and maybe a modern swimming pool. You can take a course in traditional gardening or cooking. Most important, you get to watch the time-honored process of making wine or bread, after which you consume the result.

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Critique

Something important has changed. The process has become the product. A rural lifestyle, or the enactment of it—not wine or bread—is what is being sold.

Government subsidies, rich outsiders, and agri-tourists are preserving the physical fabric of the beautiful towns and farms of the Orcia. Maybe it's better to deep-freeze the rural landscape than let it decline into sprawl.

But you have to wonder. What would America be like if the same ethic had been applied here? Take Vermont, another place of beautiful valleys. In Vermont at the peak of farming, in the mid-19th century, 80 percent of the land was cleared. Today, the state is 80 percent forest. No doubt Vermont was prettier then than it is now. When farming began to fail, should the government have stepped in to convert Vermont into a subsidized scenic agricultural park?

Should it have remained that for the past 150 years?

Fetishizing the past

We held some lively discussions in Pienza on these issues. Some disdained the whole idea of subsidies as irrational. They pointed to a

MAYBE IT IS BETTER TO DEEP-FREEZE THE RURAL LANDSCAPE THAN LET IT DECLINE INTO SPRAWL.

recent subsidy for growing sunflowers, now abandoned, that briefly turned the whole valley into a sea of yellow. Leon Krier, with Churchillian rhetoric, warned against the unpredictability of public handouts. "Diabolically unforeseeable subsidies should not be relied on," he growled, and spoke of "the Babylonian confusion of language" typical of government planners.

Others were skeptical of what

was seen as a fetishizing of the past. "Beautiful places decline gracefully," said one, who announced he preferred ugly places where things could change more easily. We discussed the future of Pienza itself. It was suggested that rather than letting the town sprawl, there should instead be created a nearby "Pienza Nuovo," which one speaker described as "a live-work mall enclosed against the weather and designed by Bramante."

Making nature

In Pienza, I was reminded of a once-famous line of English poetry: "God made the country, and man made the town," wrote William Cowper in the 18th century. This is the Romantic view of nature versus development that has dominated Western thought for the past 200 years.

But it is a false view. In the Val d'Orcia, people made the country, and they continually remake it. Even the tall cypresses were originally imports from Asia. They are the products of human endeavor, and they therefore speak not of stasis but of change.

There is a paradox in the Val d'Orcia. It is this: The world must remain the same, and it must change. It must reassure us and support our identities by embodying memory and continuity. Yet it must also promise us, and especially those who are young, a better and brighter future. This is the paradox of all places. In Pienza and the Val d'Orcia, it is vivid. ■

Such a development would provide an environment of possibility for young people who don't want to feel they are reenacting the past. But it would do so without invading the historic town.

It was also suggested that Pienza might achieve a "niche monopoly." It might, for example, become the place in the world where talented people gather to design better places.

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From industrial relic to brave new world: The High Line gets a second chance

Exhibitions

By Fred Bernstein

Designing the High Line.

Exhibition designed by LOT/EK Architecture, Gary Handel, and Paula Scher, at Grand Central Terminal, New York City, July 10–26, 2003. Web site designed by Robert Greenwood (www.thehighline.org).

Saving the High Line—the abandoned railroad just south of Manhattan’s Jacob K. Javits Convention Center—has gone from lost cause to almost-sure-thing. New York City recently allocated \$15 million to the project, and its new zoning plan for Chelsea treats the line as a permanent feature.

Victorious in politics, the High Line’s advocates have turned to architecture. Their problem: converting a rusting railroad that sweeps past fourth-floor windows, without so much as a stairway or an elevator, into a usable public amenity. Last spring’s “ideas competition” garnered 720 entries from 36 countries; in May, a jury that included Steven Holl, Marilyn Jordan Taylor, and Bernard Tschumi settled on half a dozen winners. Many of the entries were lighthearted, with swimming pools, roller coasters, and windmills installed on the elevated platform. But several competitors had darker visions; one proposed installing jail cells between the line’s massive steel beams. As for the access problem, solutions ranged from crystalline elevators to a giant

seesaw (proposed by Michael Rock, of the hot graphic design firm 2x4).

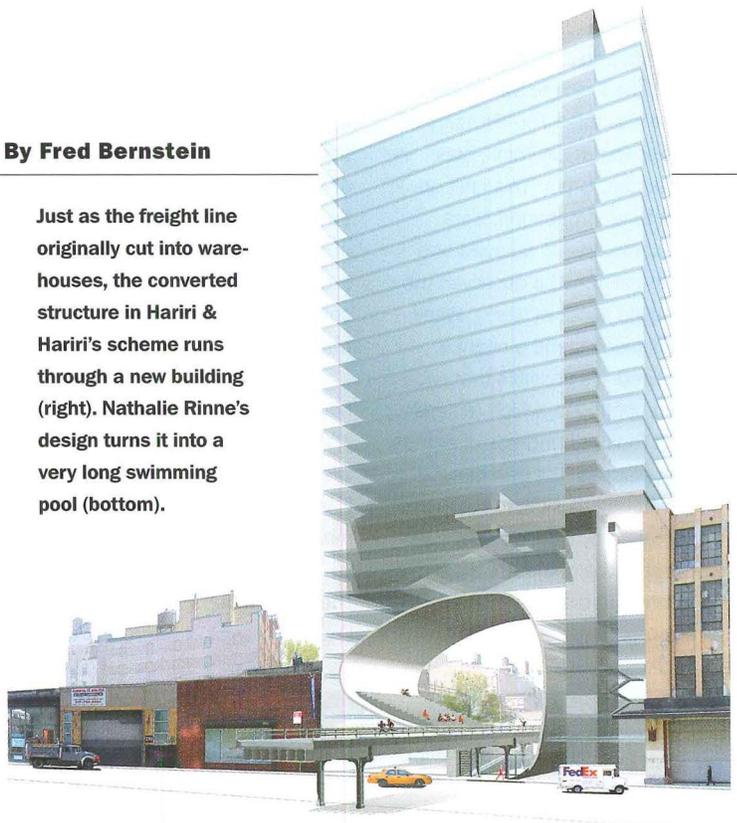
In July, dozens of schemes went on display in Grand Central Terminal’s former waiting room, Vanderbilt Hall, around a tentlike movie theater in which a film of the High Line’s celebrity supporters played continuously. The exhibition was itself a model of how to make something useful from an obsolete, but stirring, public space.

The winners attracted most of the attention, with visitors imagining swimming Nathalie Rinne’s mile-long High Line Pool and wondering if the rusty railroad could really be made watertight. But the most interesting entry turned the line into a sieve, by subtracting pieces of the structure to create a kind of gritty jigsaw puzzle. That entry, by Ernesto Mark Faunlagui of Hoboken, was a tantalizing homage to the late conceptual artist Gordon Matta-Clark, who used a buzzsaw to turn buildings into sculptures, but never had a “canvas” as long as the 1.5 mile-long High Line.

Before the show came down, all 720 entries were posted on a Web site (www.thehighline.org), possibly the first time so many solutions to a design problem have been gathered on the Web. The site provides a look at work by dozens of established designers (among the “losers” are Winka Dubbeldam and Richard Gluckman; the best-known winner is Hariri & Hariri).

Perusing the winning (and losing) entries suggests two rules for entering architecture competitions: First, give your project a name—

Just as the freight line originally cut into warehouses, the converted structure in Hariri & Hariri’s scheme runs through a new building (right). Nathalie Rinne’s design turns it into a very long swimming pool (bottom).



Fred Bernstein is a regular contributor to RECORD, Blueprint, Metropolitan Home, and Oculus.

Exhibitions

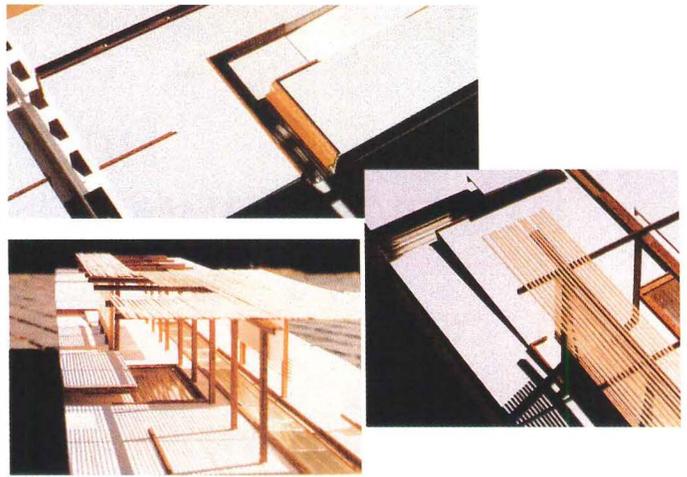
Proposal for Renovating the High Line on the West Side of Manhattan won't cut it. Best to have something catchy—like Veldt Way (from Jurgen Riehm of 1100 Architect) and *El-Topia* (Alex Gorlin). But portentous names also grabbed the jury: the Matta-Clark homage was titled *The Brutality of Disappearing*. Then: think, alas, in two dimensions. "This isn't an architecture competition; it's a poster competition," quipped one magazine editor who observed the bleary-eyed jurors at work. Weak graphics didn't stand a chance.

Indeed, it's possible that wide-open competitions, which require jurors to look at hundreds of entries per day, will spell the end of subtlety in architecture. A sketch by Wright, or a squiggle by Gehry, would have been lost in the computer-aided din.

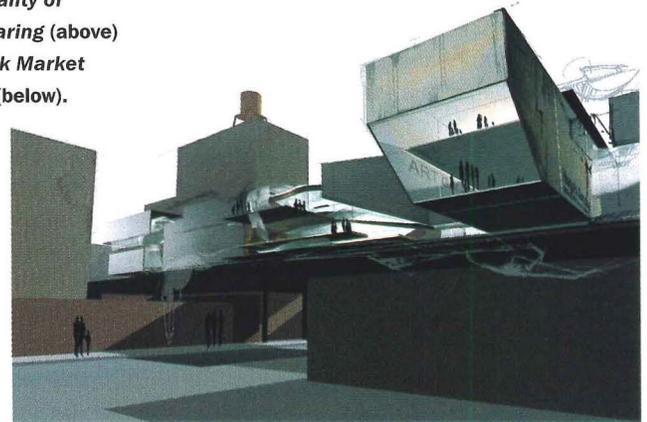
Compounding the problem: On the Internet, each entry—60 by 40

inches in real life—is reduced to a tiny JPG image. Robert Greenhood, who designed the competition Web site, said that he wanted to make sure that each submission could be viewed on a single screen—that is, without scrolling. But that makes most of the text unreadably small, and enlarging it doesn't help—as the letters grow, they pixelate into oblivion (the real brutality of disappearing!). Future competitions might ask contestants to submit their text by e-mail; the e-mails could then be made available separately on the Web.

Of course, the real show will begin when an architect is hired and plans for the line's reconstruction are made public, probably next year. Friends of the High Line will have to manage the transition from seesaws and roller coasters to reality. The competition Web site will be an important point of reference. ■



Cool names get jurors' attention: *The Brutality of Disappearing* (above) and *Black Market Crawler* (below).

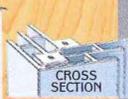


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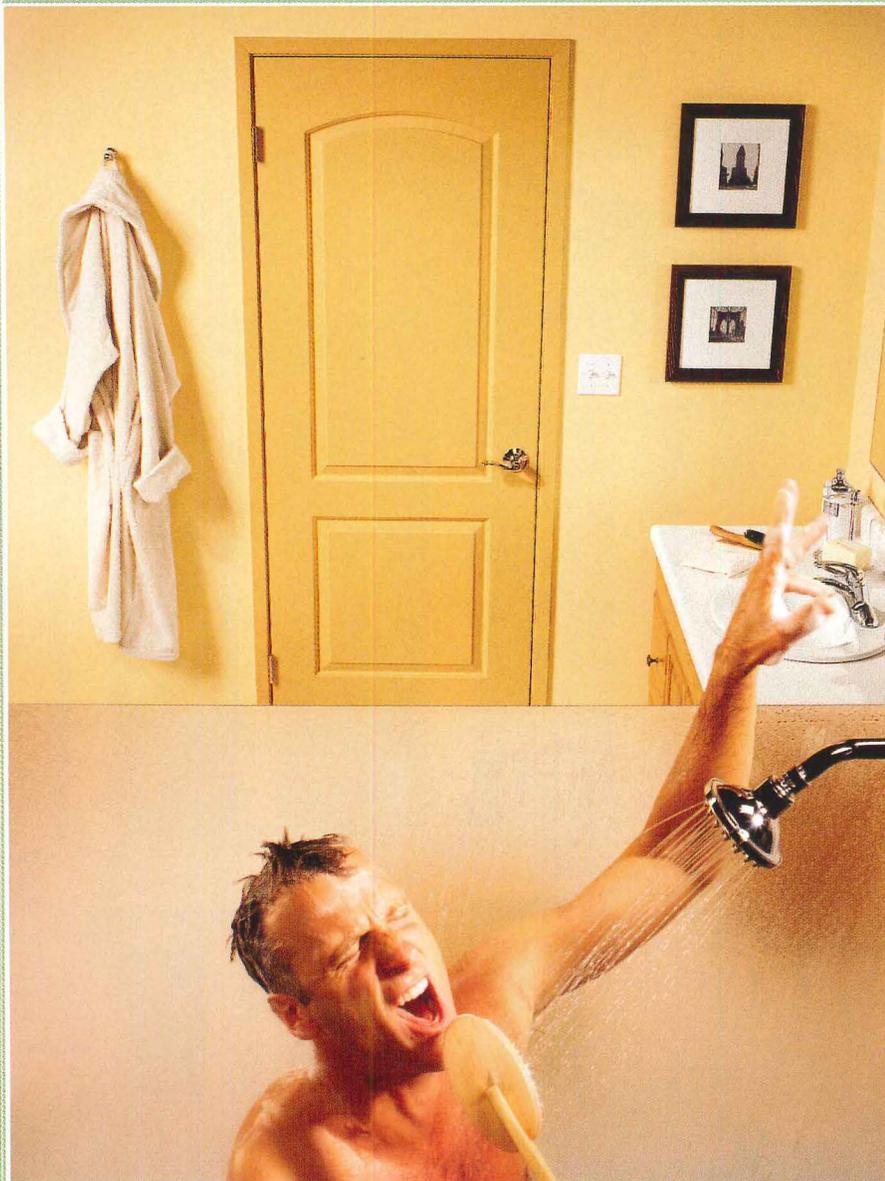
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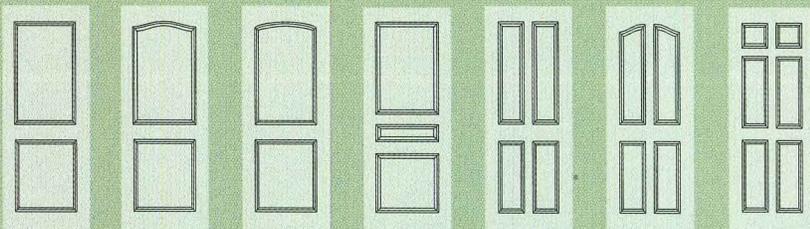
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Snapshot



By Diana Lind

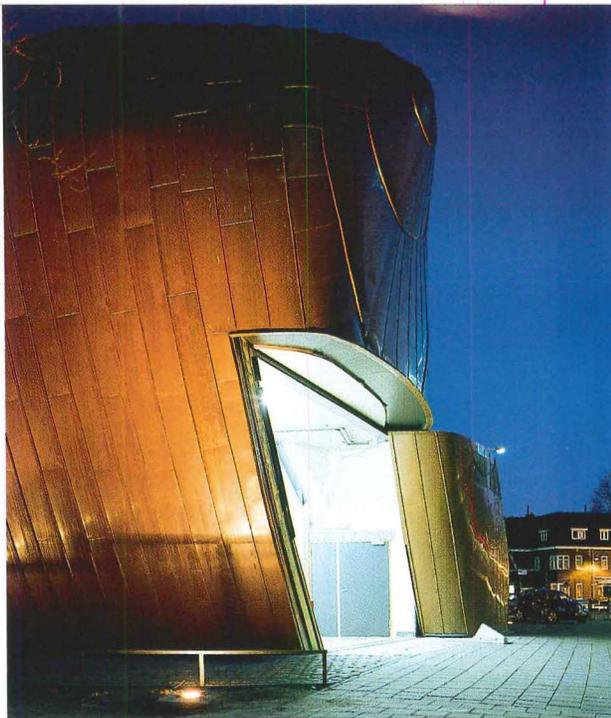
He's heard people say it looks like everything from a peanut to a fish—and a host of other animals—but architect Erick van Egeraat, of Erick van Egeraat Associated Architects in the Netherlands, says his firm's design for Popstage, a live-music venue, evokes “a voluptuous seashell.”

While the resemblance to a seashell might seem arbitrary, it refers to the way shells, such as conches, can carry sound. Popstage meets strict acoustical requirements for live performances and is composed of an inner and outer shell. A completely closed structure of plywood and insulation, the inner shell defines the spatial program of the structure and was designed to guide the audience's perspective toward the stage. The outer shell's form mimics that of the inner shell and accommodates the “back house” requirements of the auditorium. A 3.28-foot air gap separates the two shells. Open since October 2002, the auditorium has attracted audiences of up to 650 people for a variety of international acts.

A sleek and shiny music hall pops up in the Netherlands



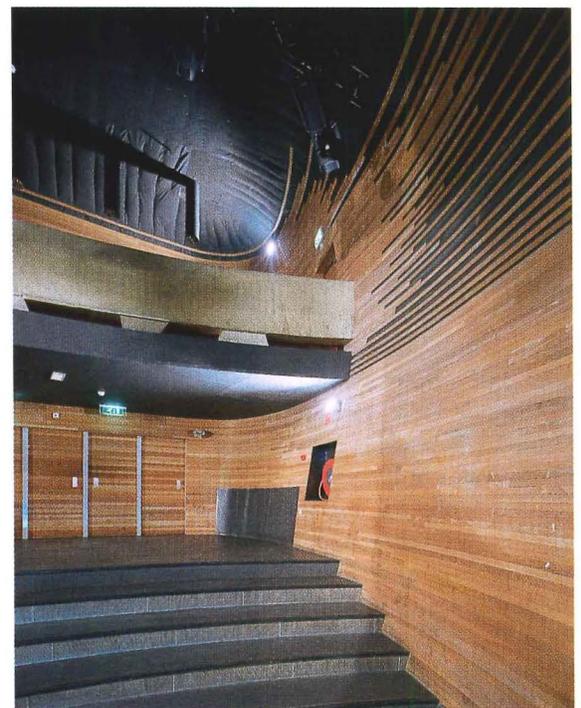
Snapshot



Bucking the trend toward transparency, the concert hall's undulating interior (bottom left and right) can only be seen when the hall's doors are open for a concert (left).

Created for the municipality of Breda, in the Netherlands, the concert hall is just one piece of a larger urban development program headed by the Office of Metropolitan Architecture (OMA) to reinvent an abandoned military campus. Despite its futuristic appearance, Popstage was built on the site of a former officers' mess hall, a building dating back to 1899. The remainder of the original building now butts up against one side of the concert hall and was recently converted by Erick van Egeraat Associated Architects. It houses a café that serves 150 people, as well as public facilities and offices on its upper floor.

While Popstage is accessible through the café area, it is seemingly unapproachable from the street. Except when a show is in progress and the concert hall's doors are flung open to welcome visitors, its doors retract to hide in the building's seamless exterior. The sleek carapace, a covering of poured-in-place concrete with preoxidized copper-skin cladding, forms an impenetrable facade that leaves passersby to guess what is contained inside. With a footprint of 17,222 square feet and a gross volume of 230,605 cubic feet, the structure can be viewed from the "entertainment zone" of Breda. Regardless of what people compare the concert hall to, its striking urban presence is assuredly original. ■



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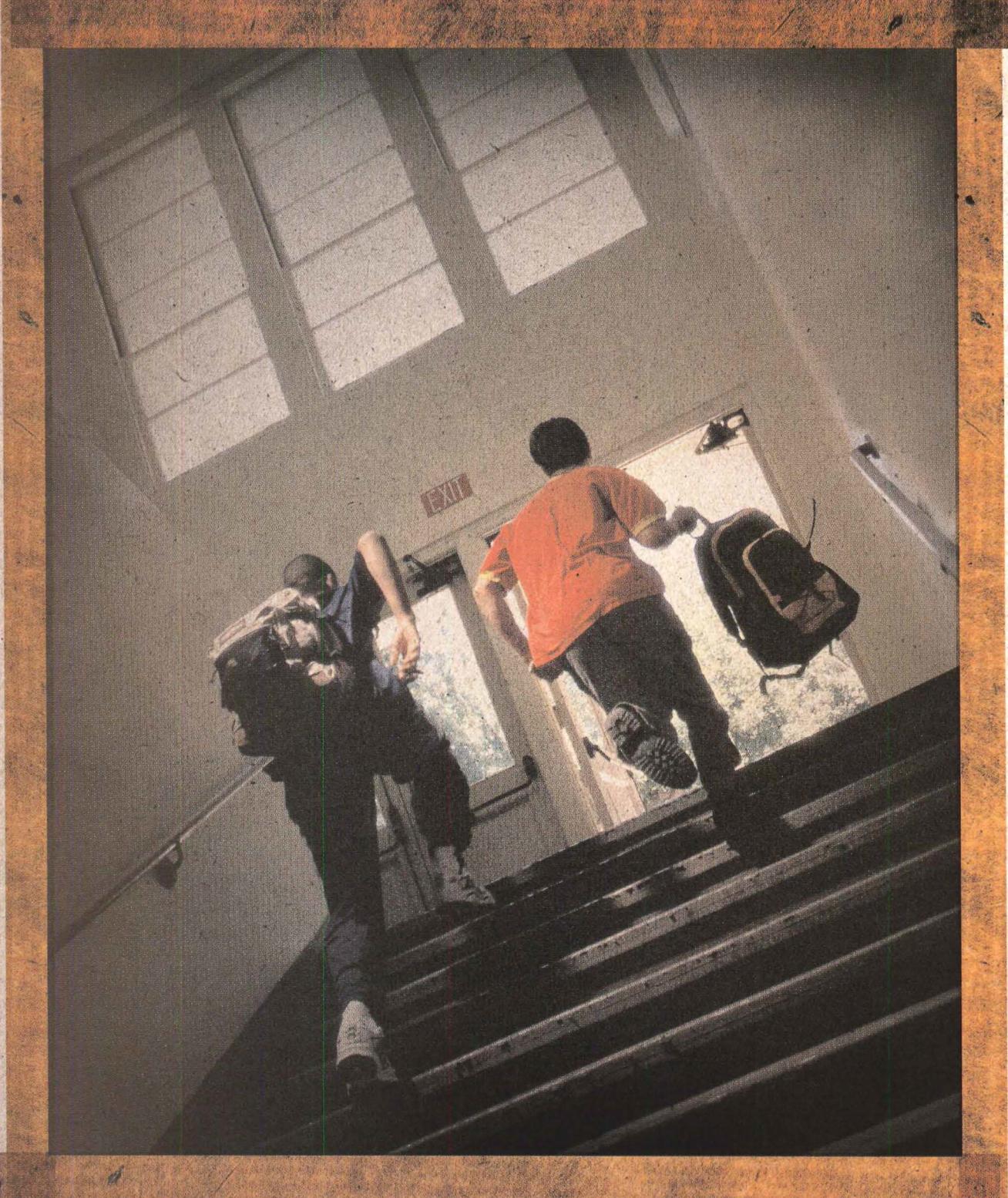
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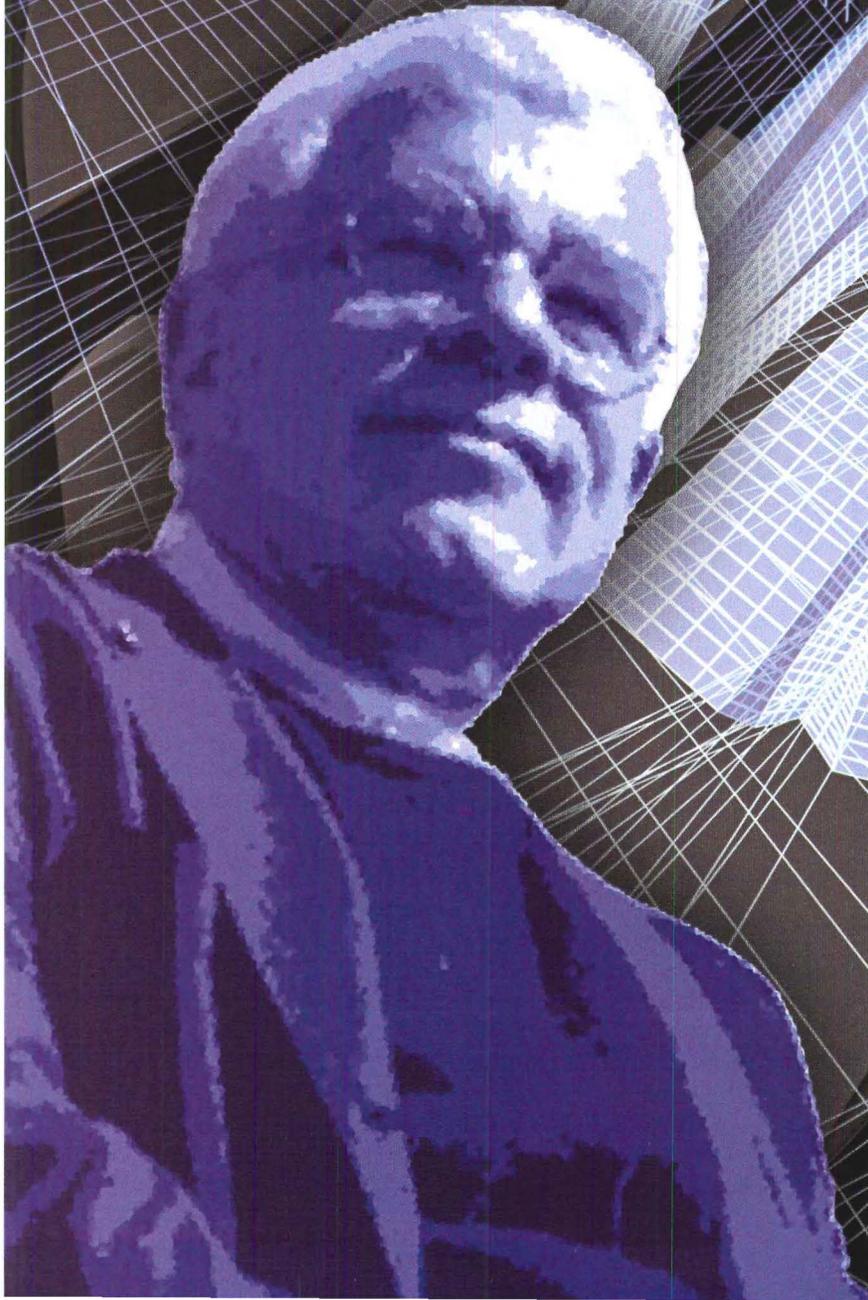
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Challenging Norms



Eisenman's obsession

By Robert Ivy, FAIA

During his entire career, Peter Eisenman, FAIA, has carved out a distinctive reputation as a theorist, practitioner, and teacher. Recently, his book *Giuseppe Terragni, Transformations, Decompositions, Critiques* (Monacelli Press), which Eisenman spent 40 years writing, has been published. Meanwhile, his largest work to date, the 810,000-square-foot City of Culture of Galicia, in Santiago de Compostela, Spain, is in construction. In addition to Eisenman's longest and largest undertakings, other major projects—the Arizona Cardinals football stadium in Phoenix, and the Holocaust Memorial in Berlin—are being built. ARCHITECTURAL RECORD's editor in chief Robert Ivy recently talked to Eisenman about his role in architectural culture.

AR: You are known for engaging theoretical ideas and challenging norms. What do you see as your mission in doing that?

PE: First of all, I do not know if I have a mission. I'm not a missionary. I might have been, 20 or 30 years ago. Because of my nature, the kinds of questions that I ask of my work—the questions that interest me—seem to challenge norms. For example, at Yale I teach a course on Brunelleschi, Alberti, Bramante, Palladio, and Serlio, because the students do not know anything about these architects. History is about people who have challenged norms, and these people in their own ways have done that. Rudolf Wittkower pointed out in 1937 that Carlo Rainaldi's Santa Maria in Campitelli in Rome challenged norms in 1662—the norms that Borromini himself had challenged and then established. So at Yale, we'll be comparing Borromini's San Carlo alle Quattro Fontane with Santa Maria in Campitelli.

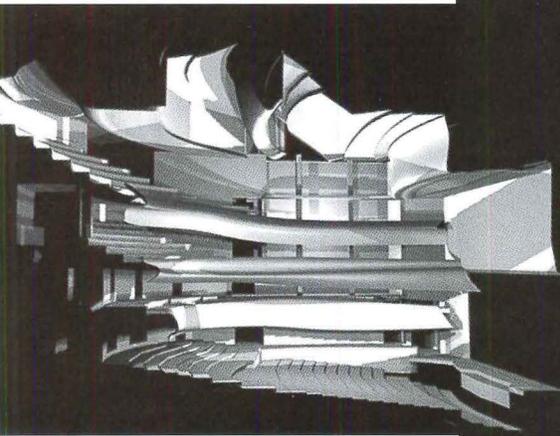
AR: Yours is an intellectual pursuit.

PE: I am interested in intellectual pursuit, but I do not consider myself an intellectual. I also do the *Times* crossword puzzle on Sunday, I read mystery stories, I look at the Internet, and play solitaire. I would not call that intellectually challenging. I get up at 5:30 in the morning, and by nine o'clock I have written what I need to write and read what I need to read. And I'm done. And the rest of the day—I would not call running an architectural practice an intellectual pursuit.

Peter Eisenman (opposite), shown with his volumetric analysis of the City of Culture of Galicia, Santiago de Compostela, Spain (1999, in progress).

1. Francesco Borromini: San Carlo alle Quattro Fontane, Rome, Italy (1637–41; facade begun in 1665).

2. Carlo Rainaldi: Santa Maria in Campitelli, Rome, Italy (1663–67).



3

3, 4. Eisenman Architects: interior perspective of the music theater (above) and model (below), City of Culture of Galicia, Santiago de Compostela, Spain (1999, in progress).



4

AR: So you leave the meditative realm and leap into the real world. Yet few would characterize your work as single-minded or pragmatic.

PE: Nobody says, “Well, what is the idea behind this?” All they care about is what it costs and what it looks like. As long as the clients are convinced that you, the architect, know why you did it, they will go a long way. I have very conservative clients, politically, who are willing to take risks because they have a sense that psychologically they can afford it. They come to me not because of aesthetics, comfort, or familiarity. They believe I will give them something that they may not be comfortable with in the present, but which may be good for them in the long run.

AR: Don’t most people want comfort—not what is good medicine?

PE: They do absolutely. Why not? That is what makes the world the way it is. As Nietzsche said, if there weren’t this world, there would not be the other world.

AR: One of the fundamental facts about architecture or any sort of vital human pursuit is the possibility of defining yourself—to realize yourself; to continue to come into being, so to speak. Are you someone who is in this constant state of self-definition?

PE: Anyone interested in self-definition is both a narcissist and egocentric. What’s interesting about constantly growing and self-defining—forget the purely psychological reasons, the egocentric and narcissistic reasons—is that if you do not have those qualities, you do not move. I am faster now than I ever was. I can process information faster. I can make decisions faster. I’m 70 years old and have most of my best work ahead of me, a good part of which is being built right now. And you know, I haven’t won all the prizes, or received all the commissions. I haven’t made all the money. And now I watch some of my colleagues trying to figure out what can they do—how come they are no longer being invited to design this or that. And I say, “But you’ve already done all those things: You’ve climbed the mountain, and I am still climbing.” And I suppose I keep reinventing mountains to climb because I do not think I’d like to be at the top of the mountain. I would feel very uncomfortable looking down.

AR: You have described an interest in topological geometry in relation to your project in the City of Culture of Galicia in Santiago de Compostela. What about landscape? This is a borderline realm of ideas that is both geophysical and abstract. What is in that marriage of architecture and landscape?

PE: First, let me go back to something Rosalind Krauss [art critic and theorist] said. She said that the animating device in the 1970s was the photograph—the photograph was a record of an event. In this sense it was an index, which was an attempt to modify the iconic value of the object. What is the problem with an icon? The object-as-icon is based on the metaphysics of presence [a belief in a unifying force behind truth and knowledge], as opposed to pure presence.

So, my own work in architecture attempts to produce a series of photographic plates or indices in the sense that Krauss was talking about: I have taken existing maps and superposed them to reduce their iconic, historical, and pictorial value. But the Santiago project is slightly different: It is no longer merely an index of these superpositions. For example, in Santiago, my idea was to superpose a Cartesian grid onto the existing, organic, medieval “grid,” and warp or deform them with a topological grid that projects upward. This produces lines

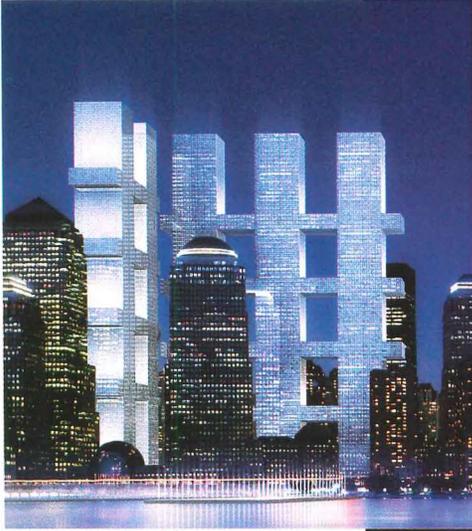


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5. Eisenman Architects: construction as of May 2003 of the first of six buildings of the City of Culture of Galicia, Santiago de Compostela, Spain (1999, in progress).

of force that were never a part of projective geometry. They mutate in the third dimension. This has a powerful impact on the ground surface. It is a way of dealing with the ground not as a single datum, not as a foundation, not as something stable. It disrupts its iconic value, turning it into an index.

6 **AR:** *Could you explain more about index?*



6. Richard Meier & Partners Architects, Eisenman Architects, Gwathmey Siegel & Associates, Steven Holl Architects: rendering, World Trade Center site design proposal, New York City (December 2002).

PE: It is a bit like a footprint in the sand. Pull the foot away and you know the foot has been there. But depending on the weight, and the impact of the foot hitting the sand, et cetera, there is always an index of force. If I take a clay ball and I throw it at you, and I hit you with it, it is going to deform you in a certain way. Computers have been able to simulate how these types of forces deform things. That is what we are trying to do at Santiago. What you see is the index of a throw.

AR: *What about architecture vis à vis the landscape? Isn't the ground a neutral palette?*

PE: The ground is never neutral. There is always a figure/ground dialectic. In Santiago, the ground is now figured, and figures erupt out of the ground. It was impossible to do individual buildings in Santiago, because they were part of a single idea of landscape. If there were only one or two of the mound buildings, they would have become expressionist objects. When they are part of the landscape, they become something else.

AR: *The excavation of Santiago looks like an ancient city. It is enormous.*

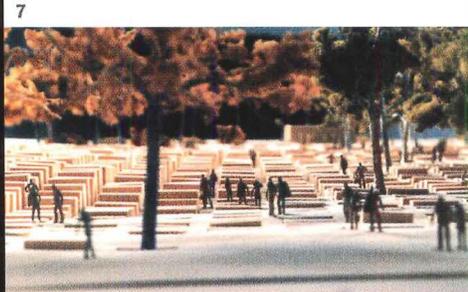
PE: That is true. The scale is that of giant earthworks. These mounds are 60, 70 feet high. We cut 600,000 cubic meters of rock material. We will be able to restore some of it to the site when the construction is finished.

AR: *Could you have done your latest work without the computer—merely as plastic investigation? Is this science and other sorts of human intelligence coming together?*

PE: First of all, there is no question that the Santiago project is a response to Gehry's Guggenheim in Bilbao. It was clear from the competition that's what the client wanted. The people short-listed in the competition—Rem Koolhaas, Jean Nouvel, Daniel Libeskind—are an indication that they wanted something out of the ordinary. So Santiago was an answer to Bilbao, but that response could not have been made if we did not have the computer programs to generate the kinds of superpositions that created a new form of built landscape. Frank uses the computer to create icons; we use it to make an index.

The computer is necessary, but the central issue for me is philosophical: Jacques Derrida says that "architecture will always mean," and Rosalind Krauss says that "architecture will always have four walls." These two statements define the metaphysics of presence in architecture. It is interesting that Derrida questions the hegemony of metaphysics in philosophy, but he seems perfectly content to let it remain in architecture. In fact, post-structuralism questions the entire edifice of metaphysics—except in architecture. The underpinning of Western thought for 200 years, since Immanuel Kant, has been based on an idealist metaphysics. On the one side there is Gehry (the artist), and the computer. On the other, there are ideas. I attempt to put those things together, along with taking a risk, to challenge the metaphysics of presence.

AR: *OK. But back to the computer. What role does the computer play in your creativity?*



7, 8. Eisenman Architects: model of Memorial to the Murdered Jews of Europe, Berlin, Germany (1998, in progress).

PE: I do not use the computer. I do not even do e-mails. We have a group of bright kids who know how to use these programs. I set the theoretical premises. But we work back and forth between the computer and physical models.

AR: *And do you really care if the spectator or visitor knows about the ideas—the theoretical premises—behind the work?*

PE: We try to find a way to capture in form something that is not expressionism, but which has a density and layering of ideas—which causes information to blur and become something else—affect perhaps. Throughout history, events have been determined by the difference between objective and subjective reality. Subjective reality has to do with spectacle and the media. It implies a passive condition in the observer. Effects of the object become affects in the subject.

The media distances you from experience. What architecture does that media does not do involves the body, the mind, and the eye simultaneously.

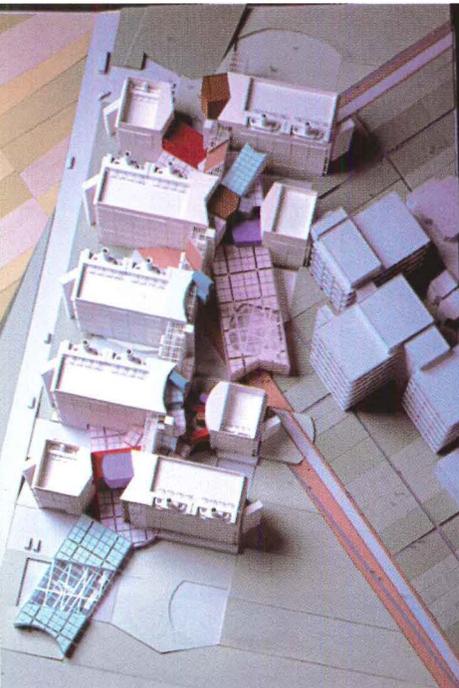
AR: *But how is this thinking reflected in other projects that you are working on? What about the World Trade Center competition?*

PE: Maurice Blanchot says that after the Holocaust, it is no longer possible to represent such excessive acts in language. One can no longer make an icon or a symbol as representational conditions in the traditional way. In our project for the Lower Manhattan Development Corporation competition [RECORD, February 2003, page 31] we attempted to make an index. This is similar to what I did in Berlin for the Holocaust Memorial project, where I took two topological surfaces—one on the ground and one in the air—and connected the dots—a minimal presence. In the WTC site, the shadows of the absent towers were an index. But don't forget there were four energies at work on that project. It is not a Peter Eisenman project, nor a Richard Meier, Charles Gwathmey, or Steven Holl project. We all drew. The sketches I did were an attempt to create an index—a grid in the air and a grid on the ground. One was the footprint of the other.

I love our scheme. We wanted to examine the possibility of doing an urban project that was both a memorial and that could be built. The project was probably too sophisticated and problematic to win popular approval. It was not in touch with the expressionism that the victims' families seemingly wanted. Our project shunned expressionism. It was both an index that could become an icon, and it also was practical. It did not do things that the New Urbanists would want—it did not bring the street grid through. At the WTC site, I thought we had designed a memorial square where this red paving seemed to seep into the city—an important symbolic gesture. Particularly important for us was that the entire project was on grade, and the memorial was part of the fabric of the city.

AR: *But you talked about the need for an affect in the memorial. Where is the affect for you, and what about the affect for the other people?*

PE: *Schindler's List* had all of the affect that people needed to deal with the Holocaust. They love that. Or Jim Freed's Holocaust museum [United States Holocaust Memorial Museum] in Washington. But for me, those ideas about memorialization are laden with too much sentimentality. Memory is not nostalgia. Our memorial in Berlin has little or no iconography, nothing symbolic, and it is this absence, like the silence of a psychiatrist, that will allow people to come to terms with their repressed feelings. I would not say that Libeskind's project was any more affective. His presentation that day at the Winter Garden [World Financial Center], on December 18, 2002, was,

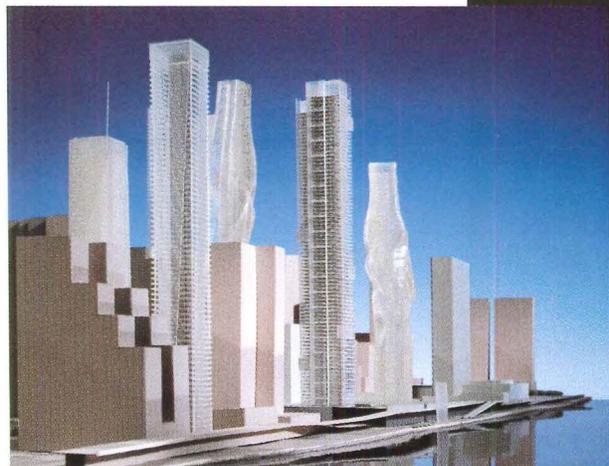


FEATURES

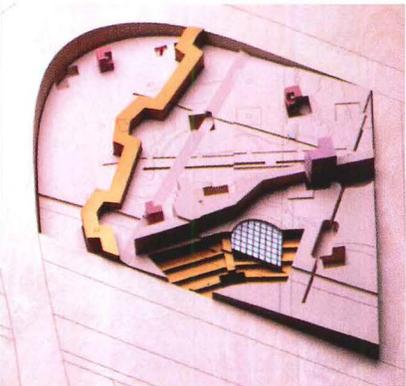
9. Eisenman Robertson Architects with Michael Heizer: model of Biocentrum, Frankfurt, Germany (1987).

10. David Childs and Marilyn Jordan Taylor of SOM, Eisenman Architects, Hardy Holzman Pfeiffer Associates, and Richard Meier and Partners: model of FSM East River Project, New York City (2001).

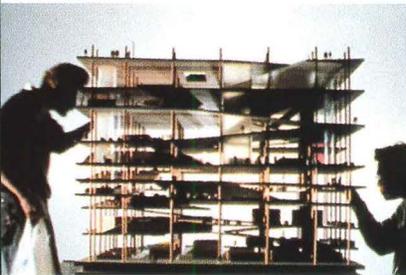
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11. Eisenman Robertson Architects with Jacques Derrida: model of La Villette, Paris, France (1987).

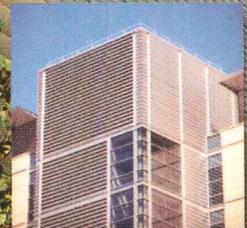
12. OMA: model of Deux Bibliothèques, Jussieu, Paris, France (1993).

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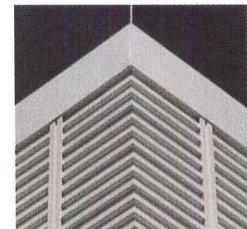
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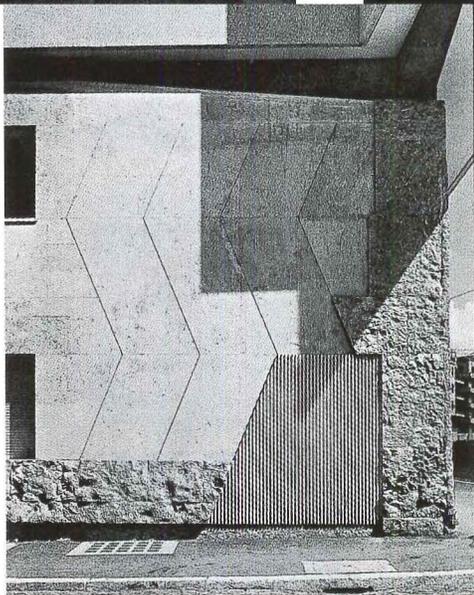
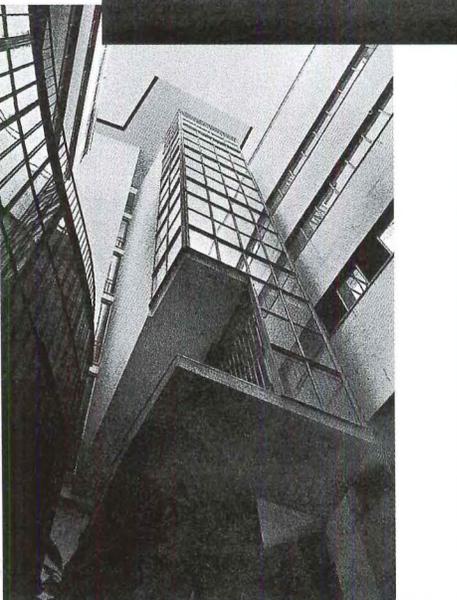
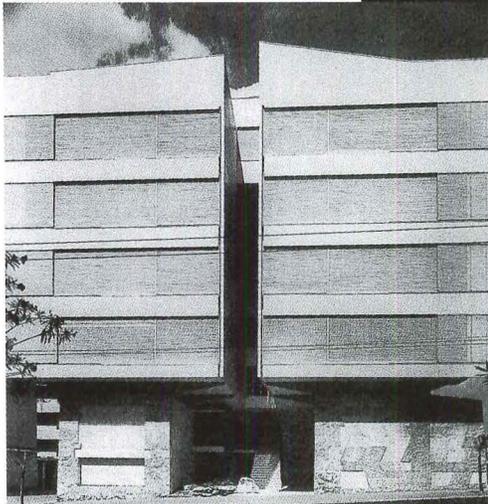
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13



13. Luigi Moretti:
Casa Girasole, Rome,
Italy (1947–50).

AR: *Is this your first large-scale collaboration with other architects?*

PE: Earlier I worked with Jacques Derrida on a project for La Villette [Paris, 1987]; with Michael Heizer on a competition for the Frankfurt Biocentrum [1986–87]; and with Richard Serra on the Berlin Holocaust Memorial [1996 to the present]. Richard Meier and I teamed up with David Childs on the Con Ed project [FSM East River Project, New York City, 2001]. In that one, we ended up each doing our own tower. For Ground Zero, we consciously said we want less architecture, less personality, less signature. We wanted to do something that did not recognize any of us individually. And I believe philosophically that was the right thing to do.

Was it difficult? Yes, extremely so. What was difficult was not the idea, but getting the egos to stay with the idea and not do their own thing. Even though everybody agreed on what we were doing, each one's interpretation looked different. Those meetings, and there were a lot of them, were like being in a sauna [RECORD, March 2003, page 65]. For me and for Steven, it was not easy—Steven almost quit. Charlie was the moderator. There were tensions everywhere. And we each had to keep our respective offices running, as well.

AR: *You often say you like to challenge people in terms of your architecture.*

PE: The architecture we remember is that which never consoles or comforts us. In a course I taught last spring at Princeton, we examined 10 canonical buildings designed between 1950 and the present day. They were all deviant buildings that became canonical because of their deviance. Luigi Moretti's Casa Girasole in Rome can be considered the first Postmodernist building. Whatever he wants to call it, Robert Venturi also recognized it early on, as did Reyner Banham. I also included Rem Koolhaas's Jussieu Library scheme [for the Jussieu University, Paris, 1993], because it was the best example of his use of horizontal slabs becoming routes in themselves. We also analyzed Libeskind's Jewish Museum in Berlin, and Gehry's Case Western Reserve building [Weatherhead School of Management, 2002] in Cleveland.

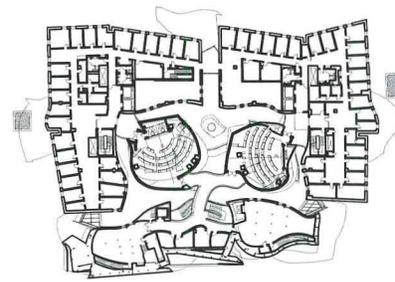
I picked Case Western because it evolved from an index: The floor plan at Case Western comes out of Schinkel's Altes Museum and Stirling's Staatsgalerie in Stuttgart. The plan of Schinkel, the plan of Stirling, and then the plan of Gehry represent an evolution. Then Gehry takes the plan and twists it into the third dimension. It is the only project that starts from Cartesian geometry and transforms it.

AR: *In looking at these buildings as part of a history, how do you feel about your role in history? How do you want to be remembered in 100 years?*

PE: A 100 years from now, I want to be remembered for my ideas. I would argue that without ideas I would not be able to continue. I would not know what to do. I do not do function. I do not do icons. My work is a constant process of uncovering. Do not forget, there is no new history. The architects I am going back to are all still there. They do not move. I move. And so, there is a constant renovation, a constant rereading, reinterpretation, reinvention.

Life, as in the case of Dr. Faustus, is a bet with the devil. Ultimately, he can give you fame, fortune, and power, but in the end, if you choose these, he wins. The one thing he cannot give or take away from you is your history. ■

14



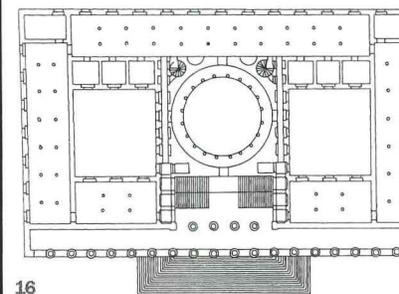
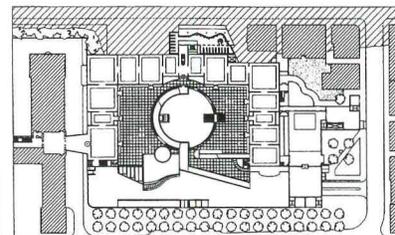
14. Gehry Partners:
second-floor plan,
Peter B. Lewis Building,
Weatherhead School of
Management, Case
Western Reserve
University, Cleveland,
Ohio (1996–2002).

PHOTOGRAPHY: COURTESY PRINCETON ARCHITECTURAL PRESS (13);
COURTESY GEHRY PARTNERS (14); COURTESY THAMES AND HUDSON (15);
COURTESY CALMANN & KING (16)

**15. James Stirling and
Michael Wilford:**
upper-gallery plan,
Neue Staatsgalerie,
Stuttgart, Germany
(1977–83).

**16. Karl Friedrich
Schinkel:** entry-level
plan, Altes Museum,
Berlin, Germany
(1823–33).

15



16

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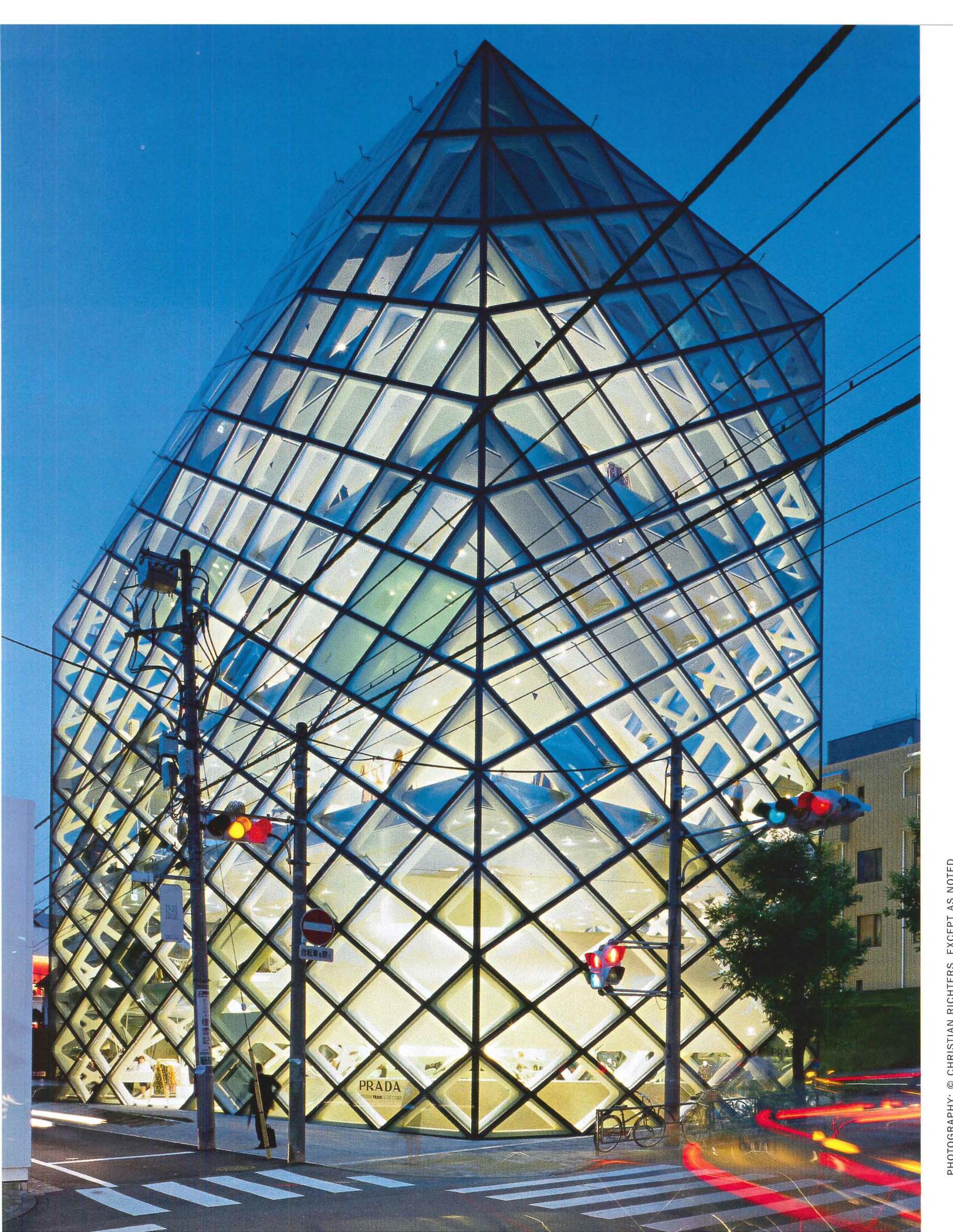
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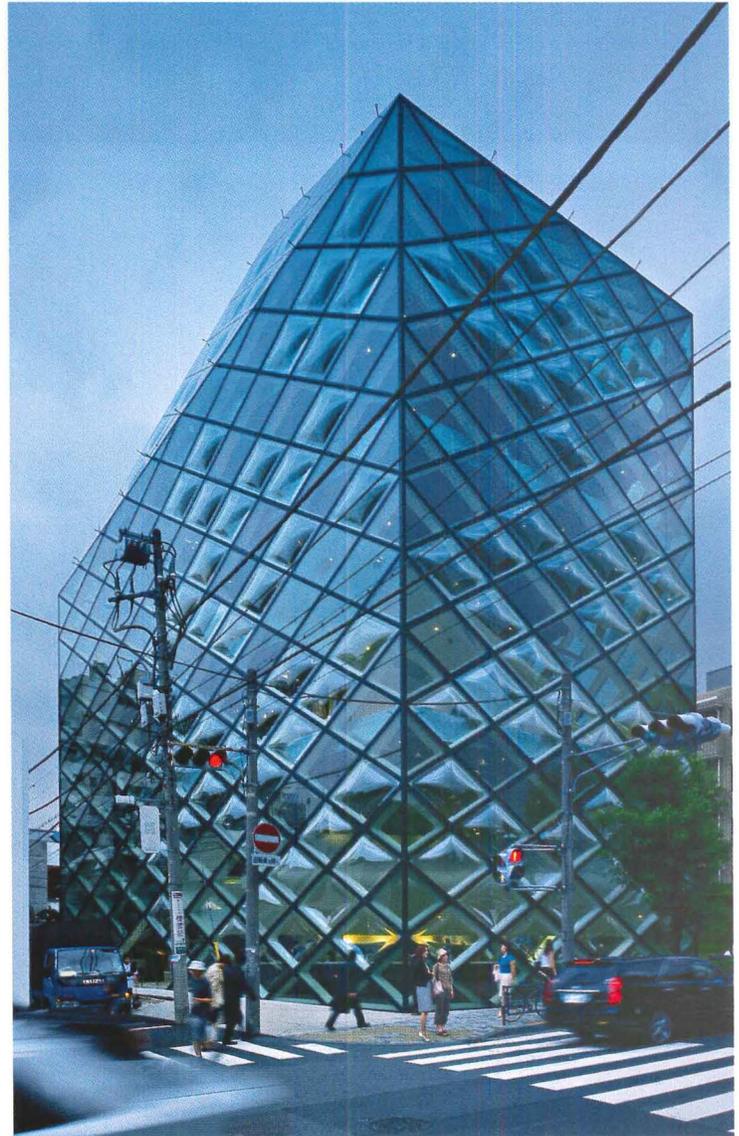
Herzog & de Meuron fuse structure and fashion in creating a showcase for showing off at the new **PRADA TOKYO** store

By Clifford A. Pearson

With its folded jewel-box form wrapped in exotic glass panels, Herzog & de Meuron's Prada Aoyama Tokyo building takes the ancient Japanese art of packaging into the 21st century. Like a shimmering, modern kimono or some kind of high-tech gift wrap, the facade of the new store in the center of Tokyo both reveals and conceals what lies within and makes the act of opening or getting inside as interesting as whatever happens to be there. Ironically, the building's clearly foreign origin—an alien body with unfamiliar skin and a strange way of holding itself—only enhances its appeal. Perhaps more than any other people, the Japanese are fascinated by what's foreign, a legacy of their two centuries of isolation under the Tokugawa shoguns and their skill at adopting new ideas and fashions.

Change and cultural memory resonate throughout this project. No one in Tokyo (or anywhere else) has ever seen a retail outlet quite like this. Yet every Japanese will appreciate the building's ambiguous delineation of indoors and out and the abstract play on the concept of *ma* ("nothing" or "emptiness"), which informs its open, continuous interior space. Herzog & de Meuron has pulled off the difficult trick of designing a building that's simultaneously strange and familiar.

The building's transparent, crystalline form contrasts with its heavier, more rectilinear neighbors and seems to imply both a geological permanence and the effervescence of an architectural bubble. Somehow, structure and fashion become one here, an appropriate fusion for a flagship store of one of Europe's hippest purveyors of global style. Along with shops in New York City (completed in 2001), Los Angeles (under construction), and San Francisco (being reconsidered)—all designed by Rem Koolhaas/OMA—Tokyo Prada functions as one of the company's "epicenters," iconic locations that imprint the Prada image in the minds of consumers while also providing space to sell a few shoes and handbags. In the high-stakes game of luxury retailing—which gets particularly intense in a place like Japan, where shopping is considered a form of self-expression—Prada isn't the only company using architecture to shape its brand



PROJECTS

Project: Prada Aoyama Tokyo, Tokyo, Japan

Architect: Herzog & de Meuron—Jacques Herzog, Pierre de Meuron, partners; Stefan Marbach, Reto Pedrocchi, Wolfgang Hardt, Hiroshi Kikuchi, Yuko Himeno, Shinya Okuda, Daniel Pokora, Mathis Tinner, Luca Andrisani, Andreas

Fries, Georg Schmid, project team

Associate architect and planner:

Takenaka Corporation—Michio Jinushi, Shinobu Chiba, Kenji Takeshima, Shuji Ishikawa, Ken Kurita

Engineers: WGG Schnetzer Puskas and Takenaka (structural, mechanical, and electrical); Waldhauser Engineering (HVAC)

Consultants: Emmer Pfenninger Partner AG (facade); Arup Lighting (lighting); Derivative Inc. (tube projection content); AMO (snorkel content); Frédéric Sanchez (sound shower content); Sato Facilities Consultants (cost management)
General contractor: Takenaka Corporation

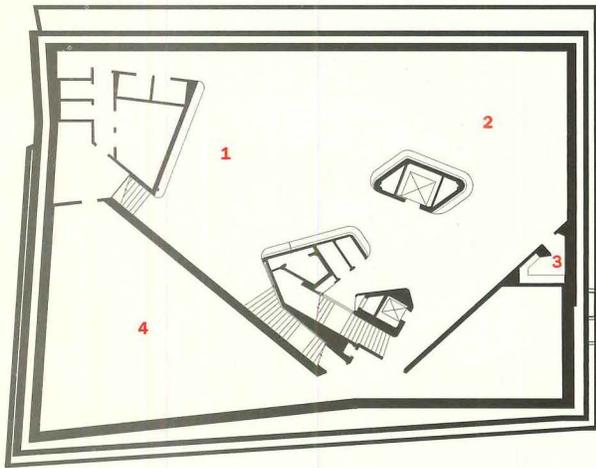
The architects treated the building as an object of desire, like a gift box inserted into Tokyo's dense fabric, pushing it up against the street edge (above) and letting it shine at night (opposite).



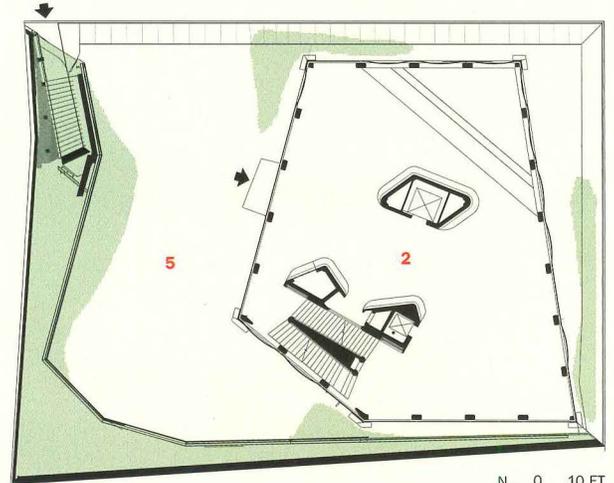
In a city with very little public open space, Prada's small plaza (left) comes as a welcome amenity where people can meet and admire the moss-covered perimeter walls. Visitors enter either from the plaza onto the main floor (left and detail, right) or from the street, where a small pavilion (right in photo at left) houses a stair to the basement level. The building, which stands out among its nondescript neighbors (above left), contains 840 rhomboid panes of glass, 205 of which curve out, 16 curve in, and the rest are flat.





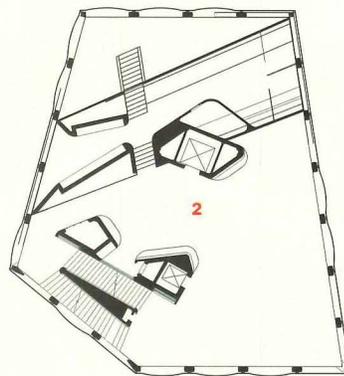


BASEMENT

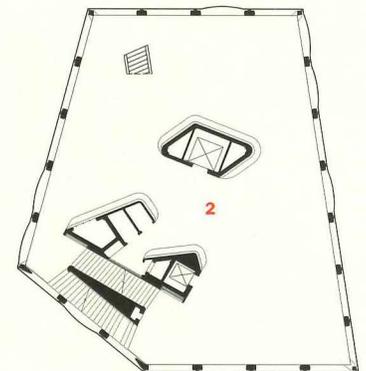


FIRST FLOOR

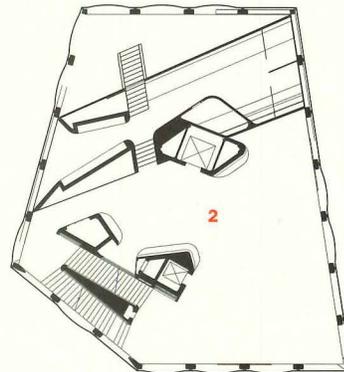
1. Café
2. Shop
3. Counter
4. Storage
5. Plaza
6. Office space
7. Event space



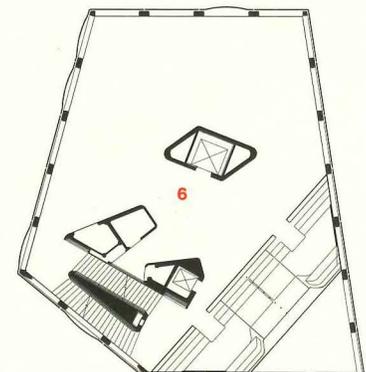
SECOND FLOOR



THIRD FLOOR

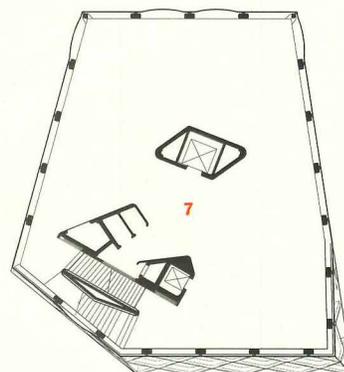


FOURTH FLOOR

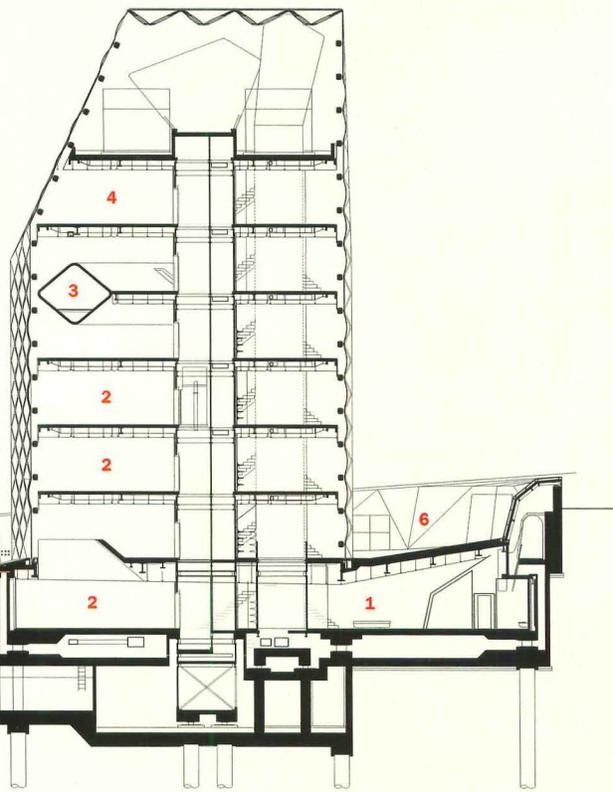


FIFTH FLOOR

While traditional retailing wisdom favors large floor plates, Prada Aoyama Tokyo, stacked like a *bento* box, stands as an eight-story exception (seven floors above grade and one below). The floors range in size from 7,800 square feet for the basement to 1,550 square feet for the top level. Most floors have about 3,000 square feet of space.

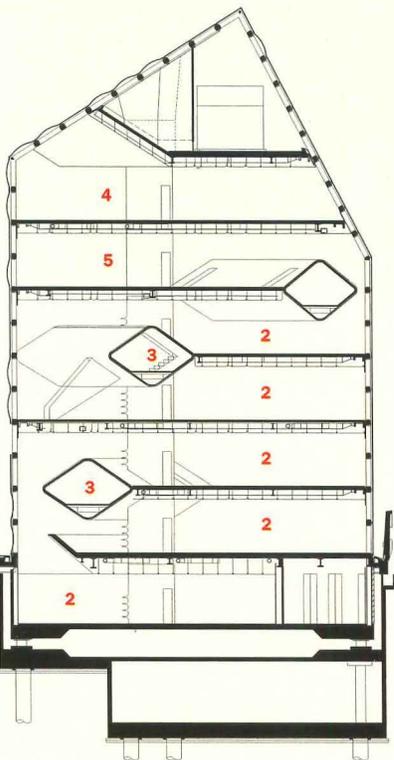


SIXTH FLOOR



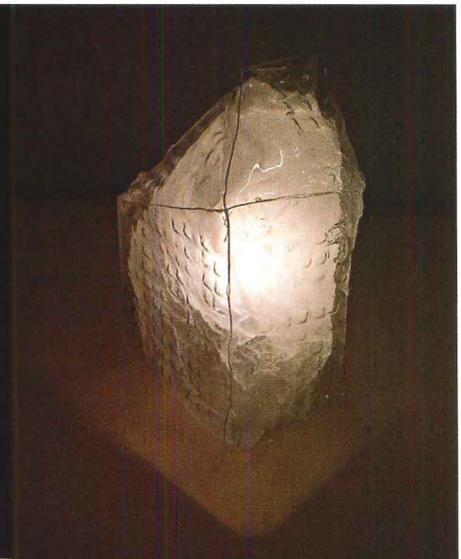
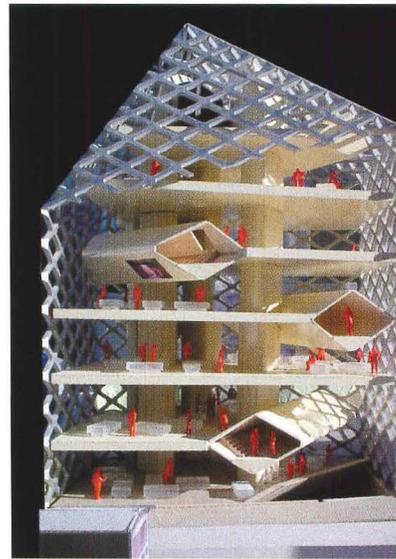
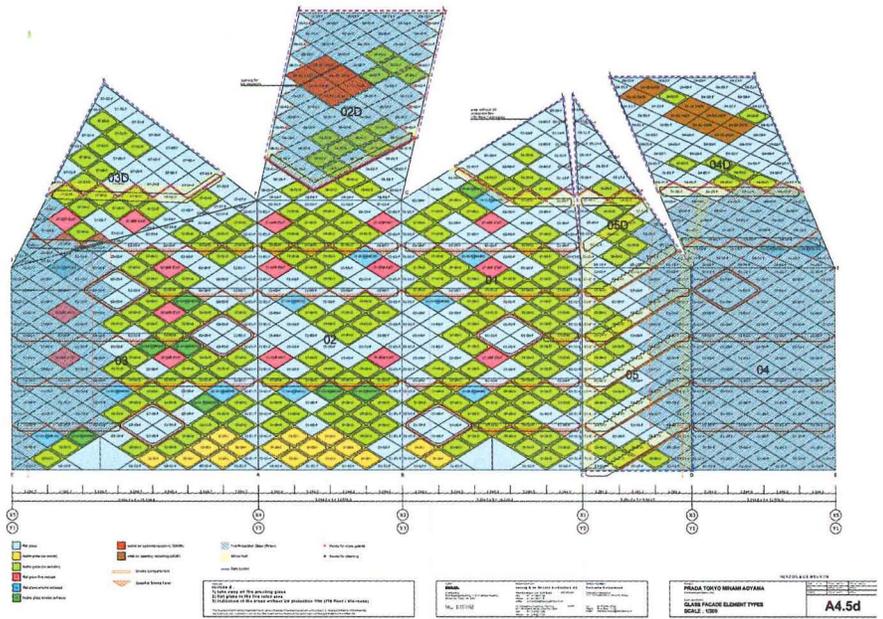
EAST-WEST SECTION

- 1. Café
- 2. Shop
- 3. Tube
- 4. Event space
- 5. Office
- 6. Plaza



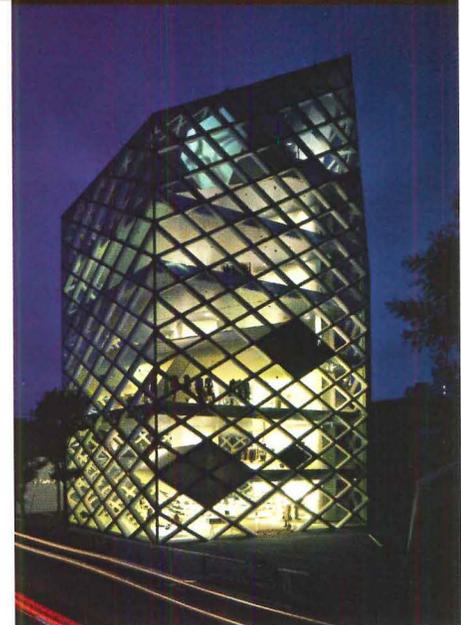
NORTH-SOUTH SECTION

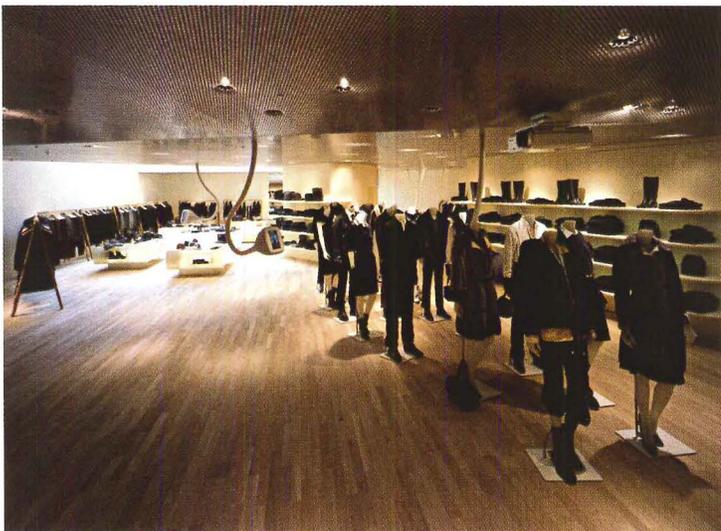
0 20 FT.
6 M.



A model (above right) shows an early scheme to treat the building as a lamp with a double skin. Eventually, the architects took a different direction, in which a single skin is part of the building's structure. Horizontal tubes with dressing rooms inside (above) serve a structural role, as well. At night the finished building glows (right).

PHOTOGRAPHY: © NACÁSA & PARTNERS (NIGHT SHOT)





To create a unified interior, the architects treated the inside surface of the facade grid with the same cream-colored acrylic paint as the shelves and walls (above and left; opposite, bottom). Tables (opposite, top) were kept low so shoppers could see the entire display from above. Recesses in the fiberglass tables recall monodose packages for medicines.

identity and generate buzz in the media. In Tokyo alone, Hermès boasts a new glass-block store in Ginza designed by Renzo Piano, and Louis Vuitton has opened a stunning glass-and-metal-mesh building by Jun Aoki on Omotesando Street, right around the corner from Aoyama.

After being hired by Prada in 1998 and visiting the site in Tokyo, Herzog & de Meuron decided to treat the project as “a house and a plaza” inserted within the dense but relatively low-scale fabric of Aoyama, an older commercial district that has seen a resurgence in popularity in recent years. “We didn’t want the building to sit on the street in the same squat and stocky way as its neighbors,” state the architects in a book published by Fondazione Prada on the project. So they pushed their building a little higher than the area’s typical four stories, made it more slender, and created an adjacent plaza that would offer a rare public open space in a city not known for its greenery. In a town like Tokyo, where real estate is so precious, leaving part of a property empty is as much a display of luxury as any collection of couture leather.

The 30,000-square-foot building’s faceted form derives from the requirements of the local zoning code, say the architects. After sketching the permitted building volume during the early stages of the design process, they decided they liked the way it looked and the regulatory logic

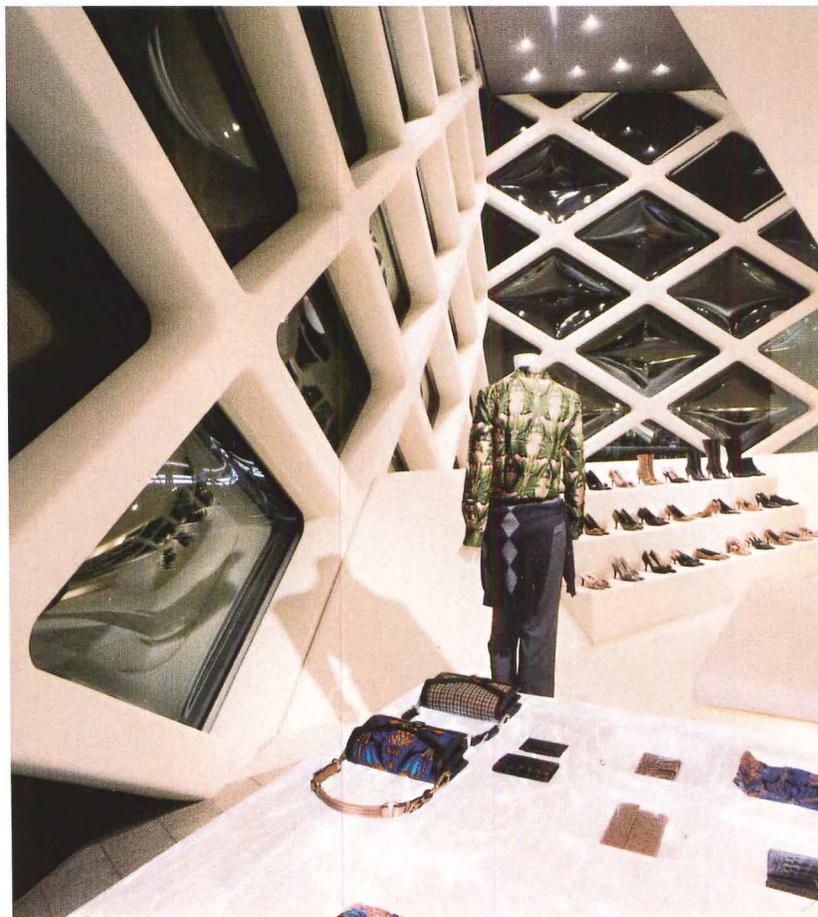
INSIDE, THE ARCHITECTS CREATED A TOPOGRAPHY OF DISPLAY, WHERE VIEWING, SHOWING, LOOKING, AND EXHIBITING ENGAGE THE SHOPPER.

behind it. The crystal-like shape was simple and distinctive and reminded the architects of a child’s drawing of a house or a medieval bag, known as a bursa, that held precious objects.

At first, the architects imagined the building with a double skin, glowing from within like a paper lamp. The concept of wrapping the building and opening up only parts of the facade intrigued them. But the double skin would have eliminated too much floor space inside, so they dropped the idea and instead explored a bubbled-glass facade that would represent a departure from Modernism’s typical use of flat glazing. Inspired by the concave display windows at Simpsons department store (now Waterstone’s bookstore) in London, the architects decided to use curved glass panes that would act as a multitude of showcases—some concave to focus attention on merchandise inside, some convex to draw shoppers’ gaze outdoors, and some flat to contribute to an irregular building surface. The goal was to play with the notions of indoors and out, seeing and being seen. “The facade becomes almost a sort of interactive screen. Really low-tech,” write the architects. “When the glass bends toward you, you are being observed. You are being pushed back. But when it curves away from you, it invites you in.”

To create a sense of one seamless space inside the building, Herzog & de Meuron departed from the usual structural system of a thick load-bearing core and stacked floor plates. Dividing loads among three vertical shafts, a series of horizontal tubes slicing through the interior volume, and a rhomboid facade grid—all made of steel—the architects were able to open up the building’s interiors and devise a system in which envelope and structure become one. A uniform finish of cream-colored acrylic-resin paint covers all interior surfaces (including the aluminum profiles around steel members), so “structure, space, and facade form a single unit,” say the architects. In addition to being part of the structural system, the horizontal tubes are actually habitable spaces, serving as intimate rooms for displaying and trying on merchandise.

As every consumer knows, Prada promises an aesthetic experi-





Horizontal tubes (this page and opposite) offer intimate spaces for relaxing and include “snorkels” equipped with video screens and “sound showers” (left in photo above). Dressing rooms at both ends of each tube have glass walls with an electrically charged film that can change from clear to opaque.



ence, not just a place to shop. (How else to justify those prices?) Herzog & de Meuron understands this as well, beginning the show even before shoppers get to the site. Poking above its neighbors and capturing attention from a block away with its peculiar glass skin, the building alerts everyone that something remarkable is going on here. When visitors arrive at the plaza, they discover sloping perimeter walls covered with moss: a living, green surface enclosing the property. They enter the store either directly from the plaza or by way of a stair at the northwest corner of the site, which leads to a café and retail space below street level.

Inside the store, the architects created what they call “a topography of display,” a landscape where “viewing, showing, looking, exhibiting” engage the shopper. It’s all about perception, say the architects: of the merchandise by the customer, of one customer by another, of the city by everyone inside. Herzog & de Meuron worked on every interior element, from the translucent fiberglass display tables in which merchandise sits in shallow indentations to the animal-hide-covered clothes racks. They also helped develop a series of electronic media displays, including images projected onto interior surfaces, video screens fitted into “snorkels” that snake within reach of shoppers, and “sound showers” that look a bit like snorkels but transmit music and other kinds of audio.

With the horizontal tubes cutting through the building’s interior volume at different angles and on different levels, and the roof

folding in at three different slopes, the spatial experience changes as shoppers move from one floor to another. Not wanting to interrupt the flow of space, the designers kept display tables low and used no interior partitions. Instead, merchandise is displayed on the tables, on freestanding and suspended clothes racks, and on shelves pushed up against the walls of the core elements or the sloped sides of the tubes. Perhaps the most unusual spatial experience lies within the tubes, where angled ceilings and built-in leather sofas establish an intimate, privileged atmosphere. While the middle section of each tube works as a small lounge, the two ends have fitting rooms separated by glass that can change from clear to opaque.

For all its unusual design, Prada Aoyama Tokyo works in many ways as an old-fashioned Japanese gift box. As Roland Barthes once wrote, “The box acts the sign: as envelope, screen, mask, it is worth what it conceals, protects, and yet designates.” Indeed, on Herzog & de Meuron’s building there is barely any sign saying *Prada*. The architecture is the sign. ■

Sources

Curtain wall: *Josef Gartner GmbH*

Furniture production: *Ram Contract*

Elevators: *Schindler Elevator*

Snorkel casing: *John Lay Electronics AG (Panasonic CH)*

Snorkel, sound shower: *Shutoken
Matsushita Technical Service Company*

For more information on this project, go to Projects at

www.architecturalrecord.com.



The yellow "generator" houses an art gallery and media center, while the red generator (opposite) offers an auditorium with a roof terrace where films can be projected on the back wall.

Bernard Tschumi creates an academic village in suburban Miami for the **FIU SCHOOL OF ARCHITECTURE**

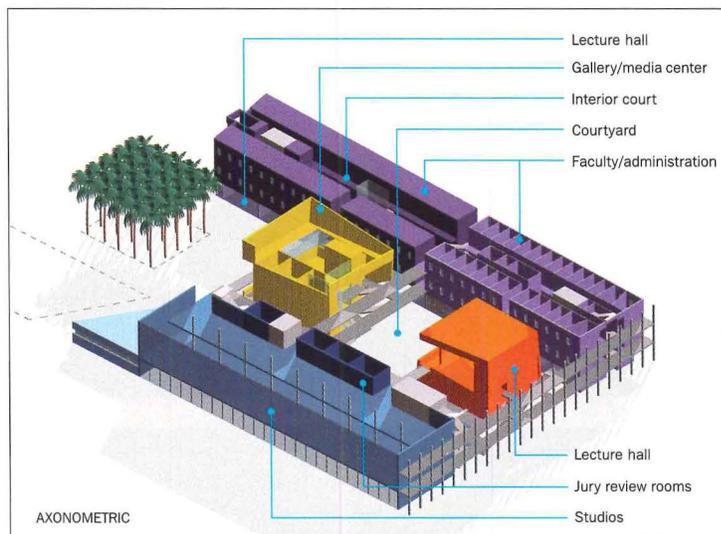
By Clifford A. Pearson

No matter how much they may bellyache, most architecture students understand that their emerging identities as design professionals are forged in the long, hard hours spent together in studio. But how does a school create such intellectual (and emotional) bonds when most of its students are commuters who juggle jobs and course work and leave campus as soon as their classes are over? That challenge faced Florida International University when it decided in 1996 to upgrade its preprofessional architecture program into an accredited school of architecture housed in a building of its own. A generic 1970s campus in flat, suburban Miami and a tight, state-university budget made shaping a strong identity that much harder.

Architecture—as both a process and a place—would play an essential role in creating a sense of community among itinerant students, realized William McMinn, who was lured south from Cornell to shape the new program and become its dean. McMinn was a pro at such efforts, having started the architecture school at Mississippi State University and one in Saudi Arabia and headed programs at Louisiana State and Auburn University, in Alabama, as well as Cornell. Supported by the university's president, Modesto Maidique, an engineer by training who has a deep interest in design, McMinn convinced the state government to let the school select an architect for its new building through a design competition. “We argued that this was a special case—a building for architects by architects,” recalls McMinn, who has now retired as dean but still teaches at FIU. “A competition would also give the architecture program greater visibility” at a university with 34,000 students, he explains.

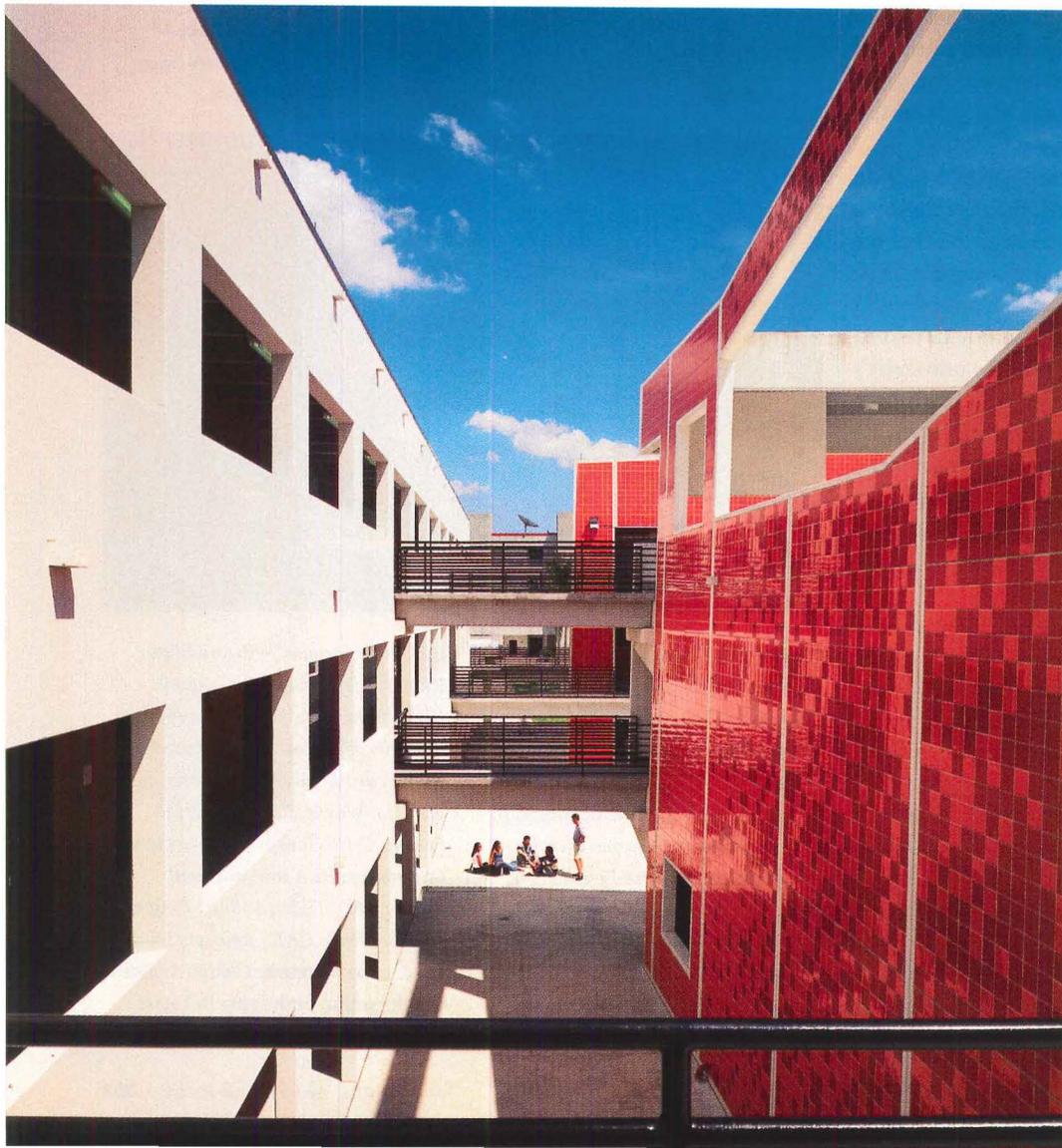
“We felt the building and how it was created had to be an educational process open to the students at every step,” adds McMinn. So the school sent out a call for qualifications, invited seven firms to be interviewed in a public forum, asked four to develop schemes and present them to the students and faculty, and then selected Bernard Tschumi Architects of New York and Paris to design the 102,000-square-foot building in collaboration with BEA International of Coral Gables. “Clarity of idea and excitement of form were what made Tschumi's scheme so appealing,” states McMinn.

Tschumi's design, which inserts two boldly colored pavilions between a pair of straightforward “bar” buildings, skillfully balances the need to assert a clear identity with that of fitting in. “I saw this building in terms of concept and context,” explains Tschumi. The concept, and thus the plan, recall Tschumi's architecture school outside of Paris at Marne-la-



Project: Paul L. Cejas School of Architecture Building, Florida International University, Miami, Florida
Architects: Bernard Tschumi Architects—Bernard Tschumi, AIA, principal; Anne Save de Beaucueuil, project architect; Johanne Riegels Oestergaard, Valentin Bontjes van Beek, Joel Rutten, Robert Holton, William Feuerman, Roderick Villafranca, Kim Starr, Peter Cornell, Kevin Collins, Tom Kowalski, Andrea Day, Michaela Metcalf, project team;

BEA International—Bruno Elias Ramos, AIA, principal; Gustavo Berenblum, AIA, Juan Pedro Alvarez, Andrew Sribyatta, Susan Laredo, Juan Pedro Alvarez, Alex Flores, Jose Gaviria, Wayne Dennis, Marta Secasa, Celso Gonzalez, project team
Engineers: BEA International (structural); Tilden Lobnitz Cooper (mechanical); CAP Engineers (civil)
Landscape architect: Charles A. Alden
Construction manager: Biltmore Construction

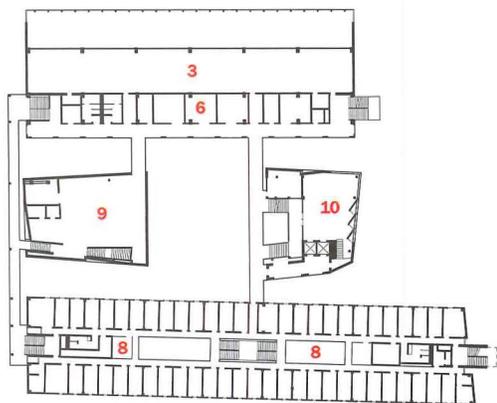


By clustering the buildings together, the architects made the in-between spaces as important as the ones inside. Bridges and covered outdoor stairs act as social areas as well as pedestrian circulation (left, top and bottom). Entering the school from the east, visitors walk past a grid of palms that echoes the massing of the gallery/media pavilion (above). On the west, the buildings face a major access road through the campus (opposite, top). Like a town square, a paved courtyard at the center of the project serves as the main social space for the school (opposite, bottom).

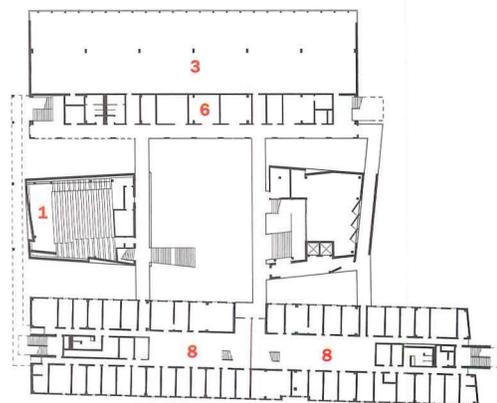


1. Auditorium
2. Gallery
3. Studios
4. Classrooms
5. Courtyard
6. Review rooms
7. Model shop
8. Faculty offices
9. Roof terrace
10. Media room

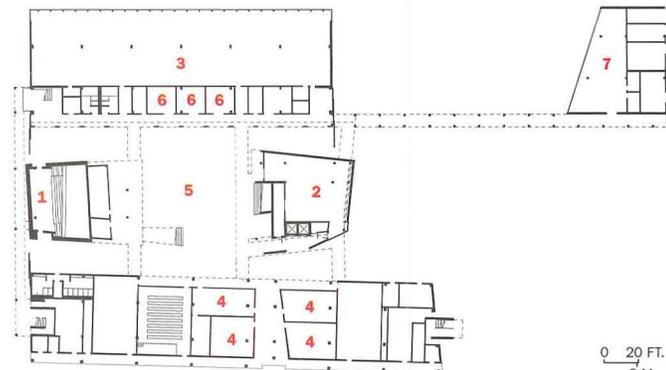
A skylit atrium with open stairs provides a sense of community to the office block (right). A three-story-high curtain wall, engineered to withstand hurricanes, brings north light and views into the design studios (opposite).



THIRD FLOOR

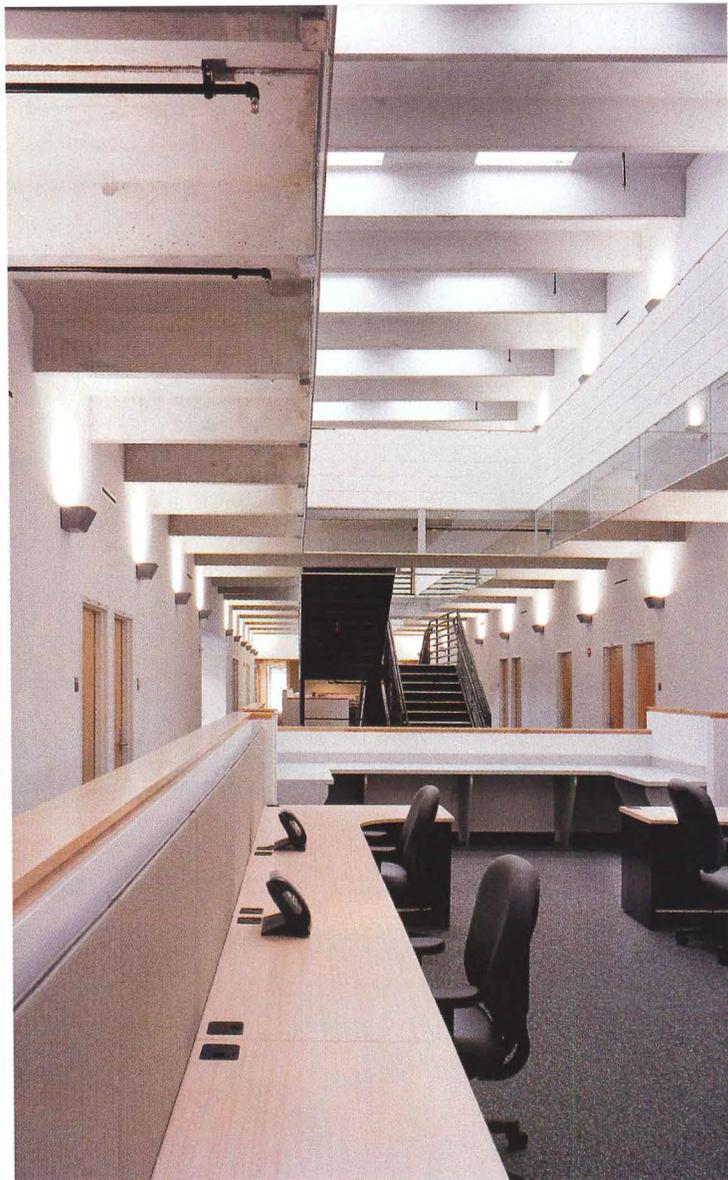


SECOND FLOOR



FIRST FLOOR

0 20 FT.
6 M.



Vallée, which opened in 1999 and featured a pair of dramatic spaces for social gathering set within more generic blocks for offices, studios, and classrooms. Since the educational program was essentially the same for both schools, Tschumi chose to replicate the general idea in Florida. The contexts—both cultural and physical—vary considerably, though, so the architectural expression of each project developed quite differently: sleek metal forms and an indoor courtyard in France, colorful ceramic tile and a variety of outdoor spaces in Florida.

Set near the main entrance to the campus on a wide, palm-lined road, FIU's architecture school presents a restrained face to the rest of the university. Crisp, white elevations of precast concrete punctured by repetitive openings for windows and walkways show that architects can behave. But two boldly colored, eccentrically faceted pavilions poke above and push out from this neutral wrapper, hinting at something less predictable going on here. Tschumi calls these structures—one housing an art gallery and media center and the other an auditorium and roof terrace—"generators," because they provide the spaces where much of the school's social energy develops. Places of gathering, these generators overlook a central courtyard served by outdoor stairs and covered balconies that help animate the common areas. A grove of 16 palm trees on the east side of the site serves as a green generator, accompanying the red auditorium and the yellow gallery/media center.

As he has done in other projects, such as the Zenith Concert



Hall in Rouen, France [RECORD, June 2001, page 102], and Lerner Hall at Columbia University [RECORD, November 1999, page 94], Tschumi shaped the pavilions by analyzing how people will move around and through them. Charting such “vectors” and factoring in the movement of cooling breezes, the architect sculpted a pair of engaging forms, then wrapped them in red, orange, and yellow ceramic tiles that give the ensemble a hot Latin flair.

North of the pavilions, Tschumi placed the design studios in an open, three-story block and glazed the entire northern elevation to bring in plenty of daylight and take advantage of a view to a pond. On the courtyard side of the building, he lined up review rooms and wrapped each floor with an 8-foot-wide outdoor corridor that allows students and faculty enough space to stop and chat without blocking other people from passing. If enrollment grows in the future (from the 375 students taking studio courses now), the building can be extended to the east. Faculty offices occupy the upper two floors of a long bar building south of the courtyard, with classrooms on the ground level.

By breaking the project into four buildings and clustering them together, Tschumi and his colleagues created an academic village. “The rest of the campus has a loose, suburban character, so our response was to do something tighter, more urban,” says Anne Save de Beaurecueil, the project architect.

Given a construction budget of just \$130 a square foot, the

architects decided to use tilt-up, precast-concrete panels that work as both building envelope and structure. The precast contractor turned out to be an excellent collaborator, says Tschumi, and helped develop a system of double T-beams and three-story-high panels manufactured with window openings and lintels in place, some of which reached 50 feet by 15 feet. Although the architects originally thought they would use steel frames for the special forms required by the pavilions, in the end they were able to work with the contractor to build the irregularly shaped structures with precast concrete.

“This building is already reshaping the identity of our school,” states Juan Antonio Bueno, who became dean after McMinn stepped down in 2001. With its central courtyard, outdoor corridors, balconies, and bridges, the complex encourages social interaction and communication, says Bueno. And by engaging students and faculty in a dialogue with strong architectural forms and lively spaces, the building is helping to change a commuter culture into one where students stay on campus for special events and those long hours in the studio. ■

Sources

Precast concrete: Coreslab Structures

Ceramic tile: ICI Tile

Curtain-wall glazing: Alumiglass

Metalwork/handrails: CAD

Construction and Fabrication

For more information on this project, go to Projects at

www.architecturalrecord.com.

DIA: BEACON, a collaboration of artist **Robert Irwin** and architect **OpenOffice**, asks:
Do museums need architecture?



Over the last couple of decades, museum building has entailed an irony for many working artists: The architectural container too often upstages the art. Now there is Dia:Beacon, which makes a powerful case for the Museum Without Architects. By entrusting the transformation of a former package-printing plant in Beacon, New York, to Robert Irwin, an artist, the Dia Art Foundation disdained the prevailing trophy-museum ethos—a typically iconoclastic move for this quirky yet influential institution. It was founded in 1974 by Philippa de Menil and Heiner Friedrich in large part to realize the visions of artists who were leaving studios and galleries behind in favor of landscape-scale manipulations of earth and structures. Significantly, Dia enabled sculptor Donald Judd to convert a complex of abandoned air force buildings in Marfa, Texas, into a movingly austere setting for his and like-minded artists' work [RECORD, January 1993, page 82]. Judd's obsession with the setting of the work took him down an architectonic path. He stripped each Marfa structure to create environments as elemental as the series of carefully spaced boxes he would align within them. It is Judd's sensibility that infused the entire Dia project.

With 240,000 square feet of new exhibition space to supplement the foundation's Chelsea facility in New York City, Dia now can display objects that had long been in storage. Other works, so ambitious that they existed only on paper, have been executed at last. At Dia:Beacon, architecture "is conceived as a frame for the work," writes curator Lynne Cooke, not "an art form in its own right." Cooke and Dia:Beacon director Michael Govan selected Irwin because his own work is concerned with the nature of vision itself, according to Govan. "We're not supposed to see what he's wrought but have what he's made change our perceptions."

Dia:Beacon does have an architect, the OpenOffice Arts + Architecture Collaborative, of New York City. With Irwin, Govan, and Cooke, "we were engaged in deriving an appropriate context, in acts of subtraction," says partner Galia Solomonoff. In transforming the factory, they took away fixtures, ductwork, and conduit to reveal the power of the vast structure, lit entirely from above by skylights and clerestories. Irwin moved the entrance from the east to the north elevation, where it faces a parking lot with a grid of flowering trees selected by Irwin to reflect the seasons. To direct the visitor to the experience of art as quickly as possible, he dispenses with a conventional lobby, forcing the visitor through a small, dark, mausoleumlike vestibule. It opens to two vast, identical galleries bathed in daylight of almost clinical evenness. In both, the alternating squares and circles of Walter De Maria's *Equal Area Series* lead the eye to windows Irwin cut into the south elevation, 490 feet distant.

That is, in sum, the experience of Dia:Beacon. In each of its galleries a series of related works by a single artist swim in a luxurious vastness of space, brilliantly daylight. Achieving this experience was far more difficult than it looks. "The kinds of effort you would put into the last 20 percent of the design of a new building—the details—is what we spent our entire process on," explains Govan. So the old, rusted steel corner guards stayed piquantly on the concrete columns. The wood floors were pickled to a lighter color, but "you can see all the scratches and marks of use," notes Irwin. "We saw lots of opportunities to create architectural vistas and special moments," explained Solomonoff, "but Dia did not want design that called

attention to itself or presented work in a way that the artists had not intended." Adds Alan Koch, an OpenOffice partner who, with Linda Taalman, has now formed TK Architecture in Los Angeles, the singular focus on the experience of the art ran contrary to the architect's training. "To edit yourself out is a kind of metaphysical process, but a meaningful one."

The means by which the architecture recused itself ranged from the discreet to the obsessive. OpenOffice worked with Arup to arrange rooftop HVAC units so they would not cast shadows through the skylights and ganged high-velocity air diffusers between rows of monitors to avoid running ductwork. A smoke evacuation system eliminated the need for sprinkler pipes and heads. They custom sized bare fluorescent tubes to visually recede by fitting them exactly into the light-monitor bays.

The displayed works of many of the artists deal explicitly with such architectural concerns as space, proportion, light, and materiality—and it is understandable that the artists would regard an assertive container as interfering with their intentions. Accommodating the untitled series of 15 subtly varied plywood boxes by Donald Judd inspired the only significant architectural change in the entire museum's structure. A low bay in the clerestory section was raised to free space to flow around each box as

Judd intended. The weathering steel geometric voids cast into the floor of Michael Heizer's *North, East, South, West* are each as mesmerizing as a deep pool, but this work can exert its primordial power because Dia installed it in its own 40-by-150-foot space. (Not shown in the photo on page 114 is a code-required glass enclosure added later.)

Achieving an ineffable, unself-conscious quality may seem like the most quixotic of occupations for artists, but Dia admirably helps them make their case. Where does that leave the art of museum architecture? The architectural experience here does not depend on a dramatic atrium or an elegantly wrought stair, but it does extend to the gorgeous abundance of space and light—qualities any architect

can relate to. Dia does not hew to the prevailing conservation wisdom that demands highly precise control of temperature and humidity or that permits "naturally lit" galleries only if daylight is so elaborately diffused that it offers no viewing benefit. In this way, Dia challenges accepted curatorial assumptions as well as architectural ones.

Dia does not position itself as a model for other institutions, Govan says. It only strives to be true to the specific concerns of a specific group of artists. But the power of the result can't be denied. It could alter the course of museum design. ■



A Hudson River factory offered 292,000 square feet for exhibitions. Artist Richard Serra chose a former freight shed for his *Torqued Ellipses* (opposite).

Project: Dia:Beacon, Beacon, N.Y.

Architect: OpenOffice Arts + Architecture Collaborative—Alan Koch, Lyn Rice, Galia Solomonoff, Linda Taalman, Jay Hindmars, Astrid Lipka, Leif Halverson, Howard Chu, Martin Hagel, Damen Hamilton, Anoo Raman, Alisa Andrasek, Ava Hamilton

Engineers: Arup (m/e/p); Ross Dalland (structural)

Sources

PVC roofing: Sarnafil

Steel windows and skylights: Crittall

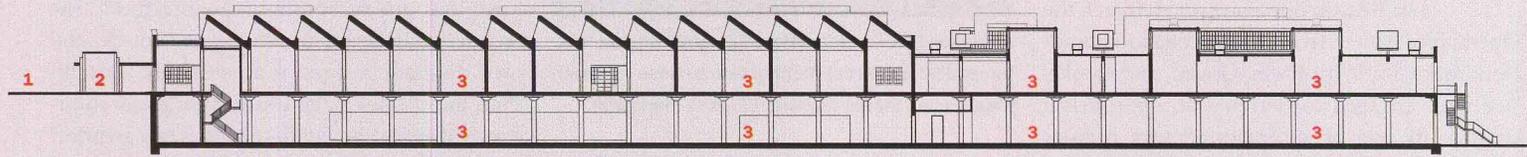
Sliding fire doors: American Metal Door

Lighting: Hadco; Zumtobel; Lightolier

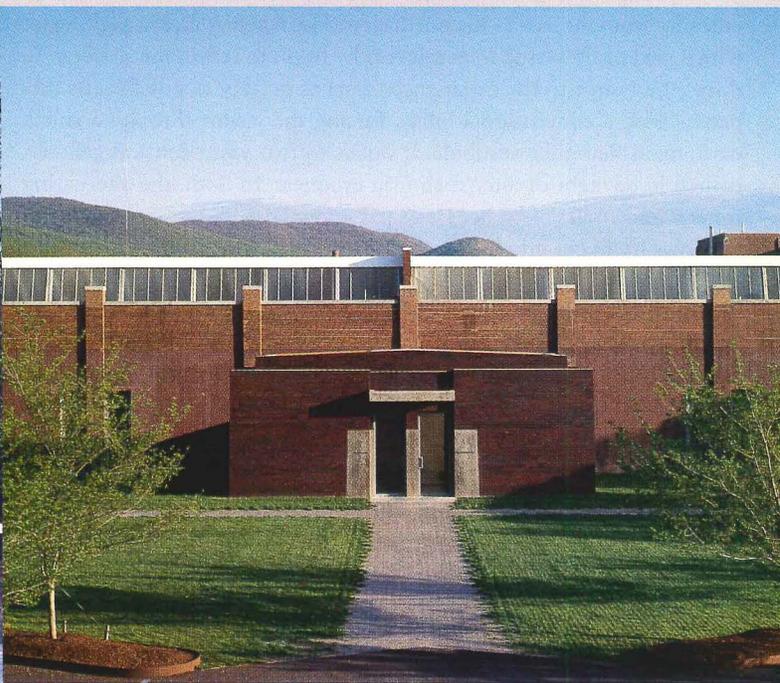
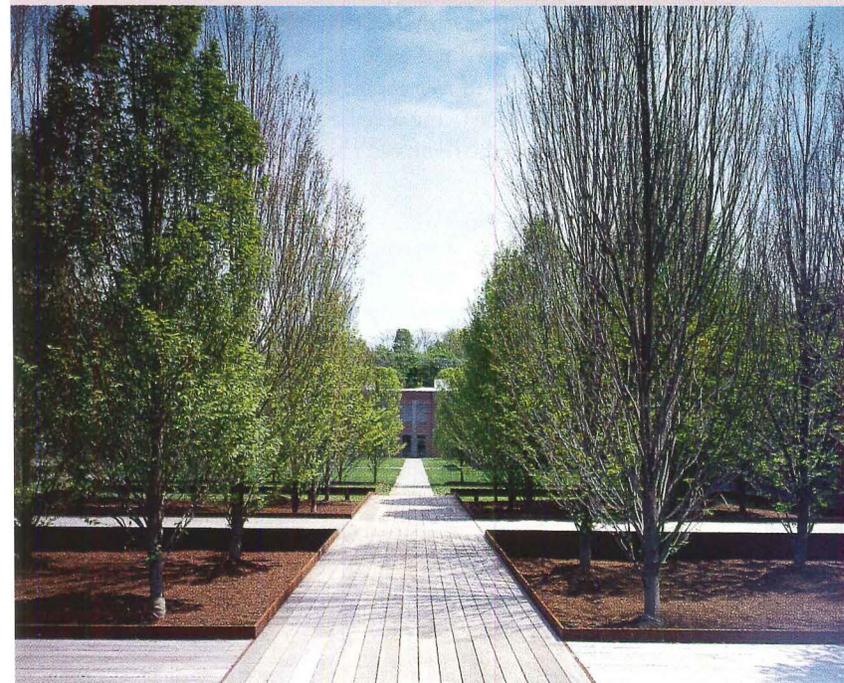
For more information, go to Projects at www.architecturalrecord.com.



- 1. Exterior "lobby"
- 2. Entry
- 3. Exhibition



SECTION A-A





In Dia's huge galleries, Andy Warhol's *Shadow Series* can be seen in its 102-part entirety (opposite, top). An axis Irwin cut across the entire building (visible beyond the colorful metal sculptures of John Chamberlain, above)

helps visitors orient themselves in the vast structure. Dia suppresses the stairs (here leading to upper-level galleries devoted to Louise Bourgeois, bottom right), normally an opportunity for a bit of architectural bravado.

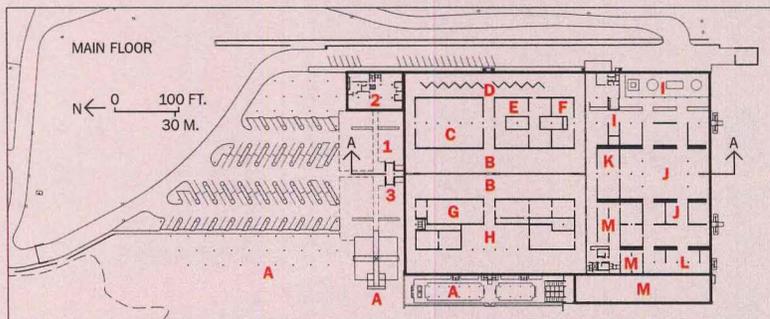
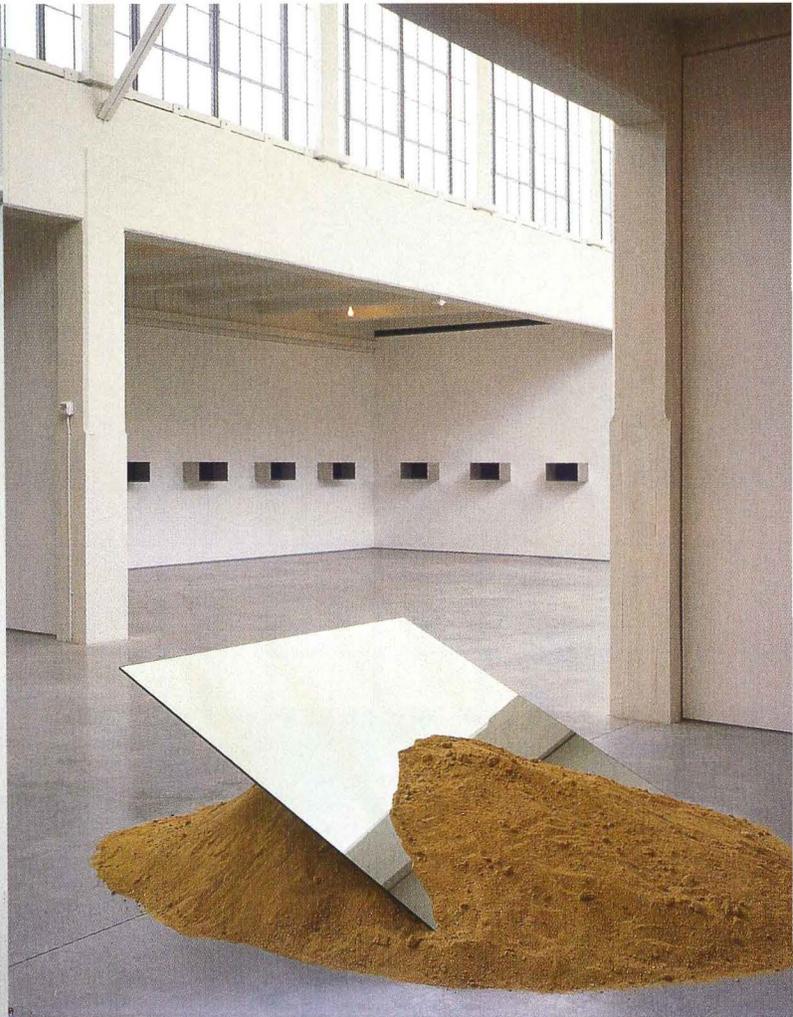
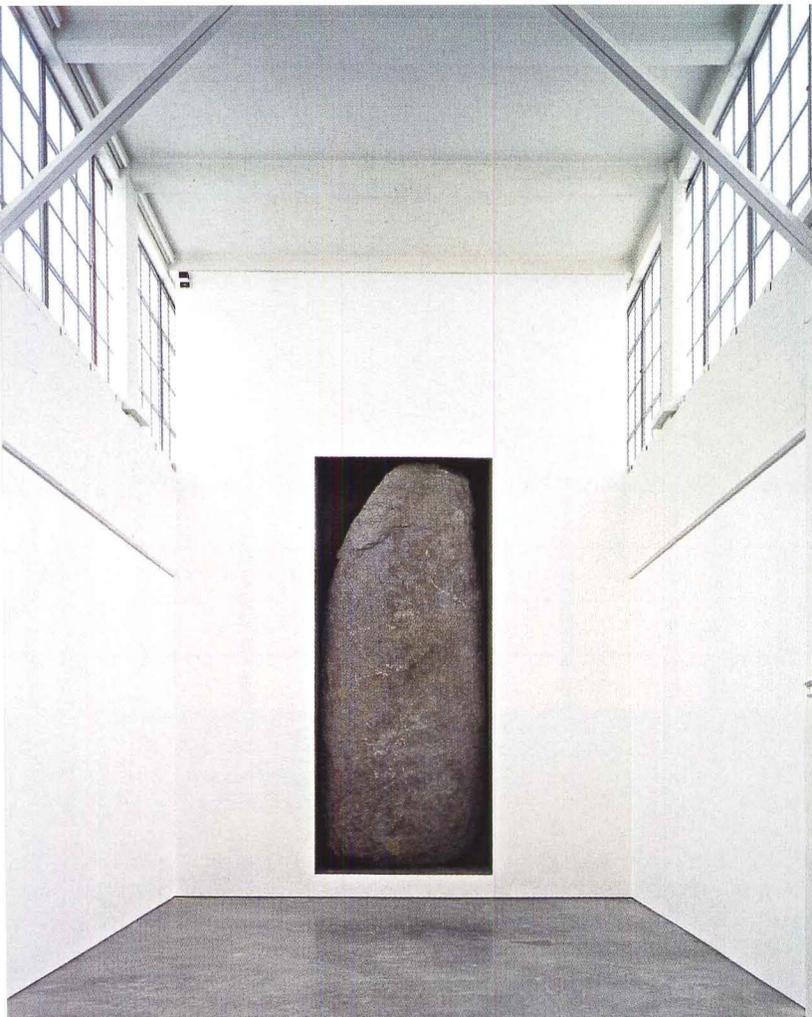
Two long galleries just inside the entrance display De Maria's *Equal Area Series* (bottom left). Irwin set the entrance symmetrically, perpendicular to an axis linking a bosc of trees to the ticketing annex (opposite, bottom two).





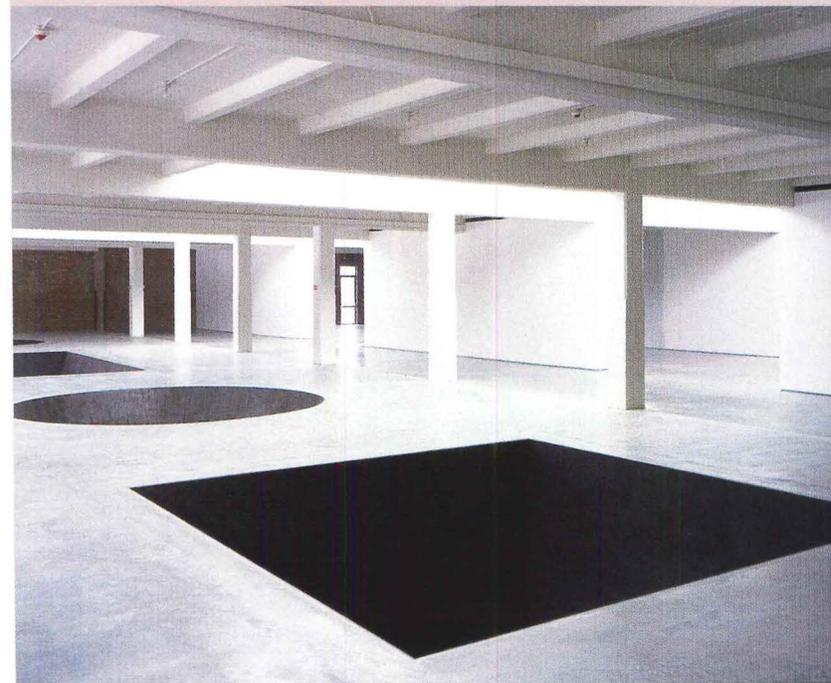
"So much money spent on architecture in the name of art ... is wrong," wrote the late Donald Judd, one of many artists of the 1970s and later who decried assertively architectural museums. Dia raised part of the ceiling (formerly the height of the alcove beyond) to create an appropriate setting for this untitled Judd work.

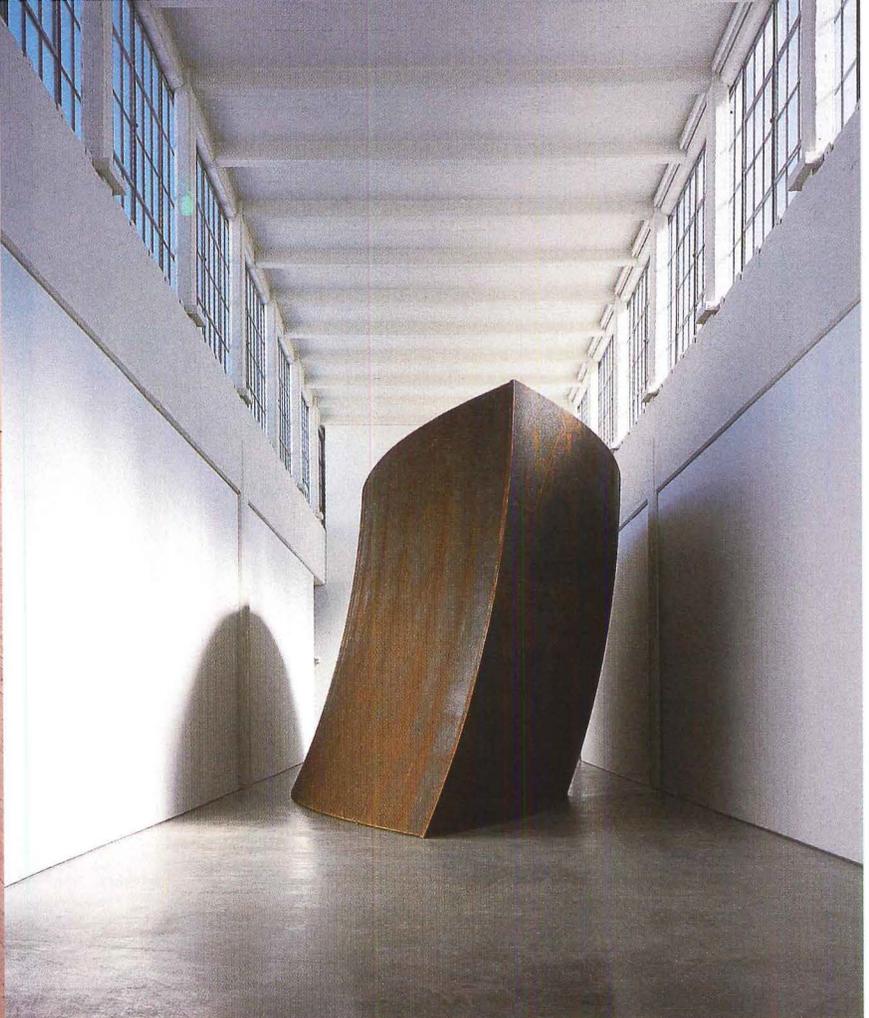




1. Exterior "lobby"
2. Ticketing/café/
bookstore
3. Entry

- | | |
|-------------|----------------|
| A. Irwin | H. Chamberlain |
| B. De Maria | I. Heizer |
| C. Warhol | J. Judd |
| D. Flavin | K. Richter |
| E. Darboven | L. Beuys |
| F. LeWitt | M. Serra |
| G. Palermo | |

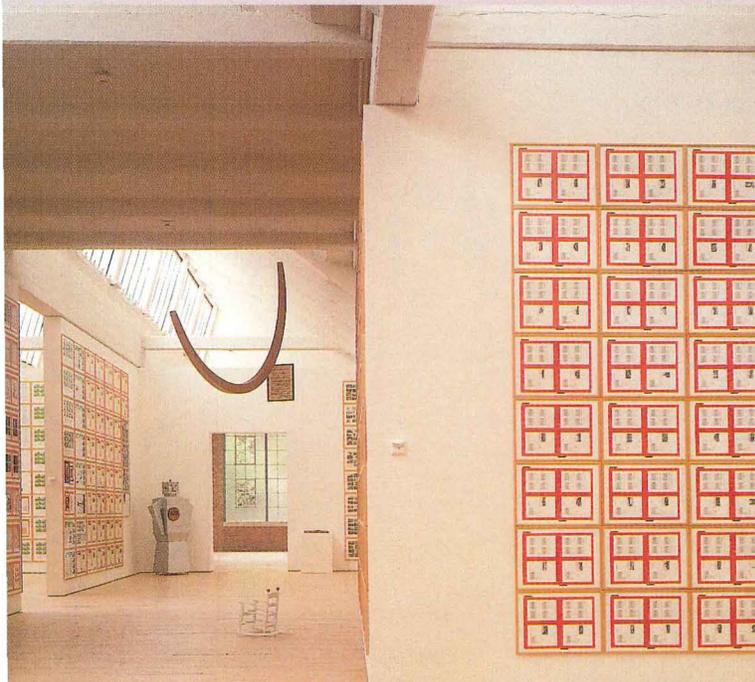




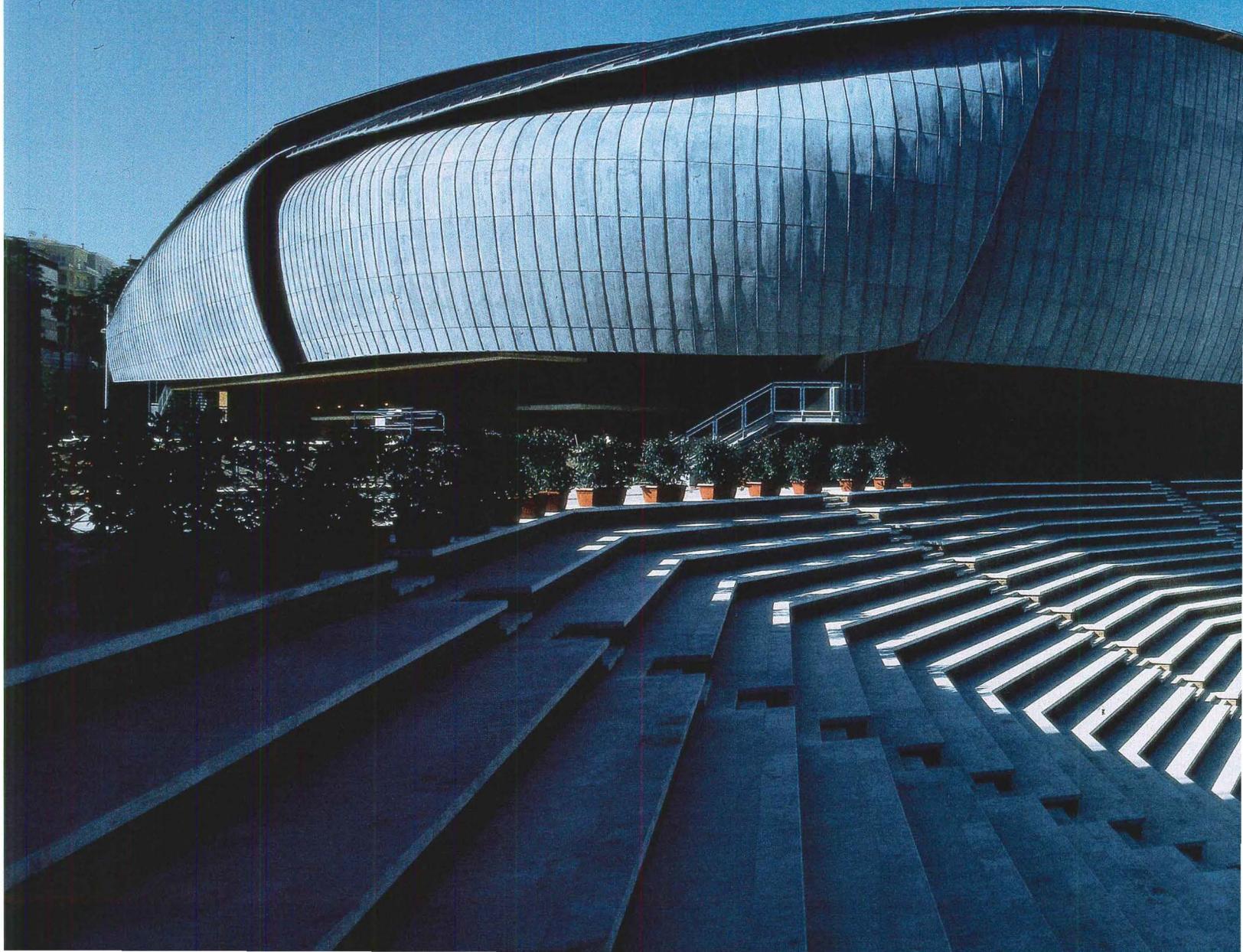
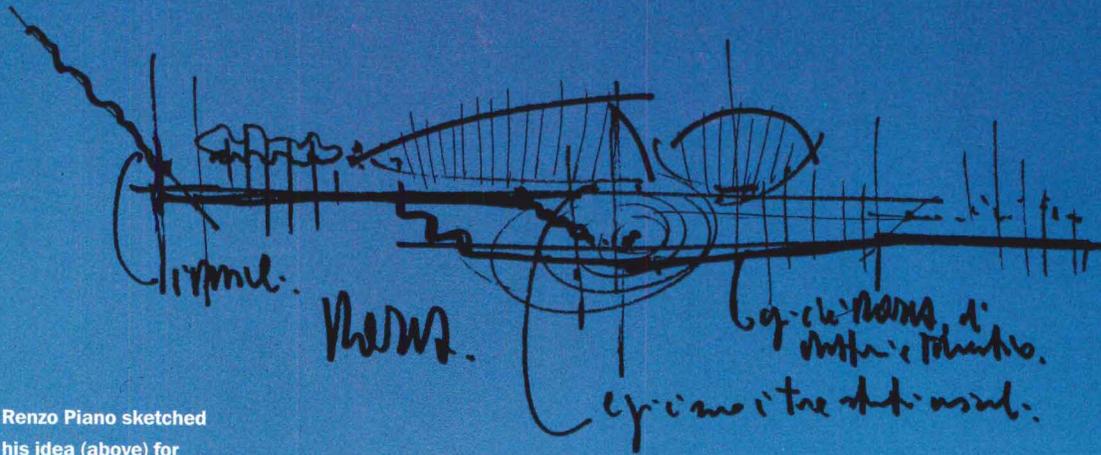
Architectural elements are the media of many Dia artists (clockwise from opposite, top): Confinement and weight in Michael Heizer's *Negative Megalith #5*; weightless light versus soil's heft in Robert Smithson's *Leaning*

Mirror; the denial of the perspective vanishing point in Walter De Maria's *Equal Area Series*; a tensile power in Richard Serra's *Union of the Torus and the Sphere*; a milky refraction of light in Gerhard Richter's *Six*

Grey Mirrors; a monumental serialism in Hanne Darboven's *Kulturgeschichte 1880-1983*; space built in light by Dan Flavin (untitled); an elemental sublime in the carved voids of Heizer's *North, East, South, West*.



Renzo Piano sketched his idea (above) for three concert halls arranged around an amphitheater (below). His auditoriums' scarablike roofs feature lead cladding with curves derived from a torus (or donut) form.



With the **CITY OF MUSIC** in Rome, Renzo **Piano** sets out to transform frayed urban fabric into new “connective tissue”

By Joseph Giovannini

Embarking on a major architectural commission in Rome is a bit like taking your mother-in-law on your honeymoon: Someone protective and possessive is watching. The history and architectural patrimony of Rome weigh heavily on any architect desiring to insert a new building into its fabric. And its citizens have long viewed modern architecture with suspicion and reluctance. Angels tread cautiously.

Mussolini landmarked historic Rome, but like a palimpsest, the city remains unfinished, rife with opportunities for layers of development. In 1994, Renzo Piano Building Workshop won a competition to design the City of Music, a complex of auditoriums, movie theaters, shops, and gardens on Rome's outskirts. The 12-acre site, along Via Flaminia, between the residential Parioli hills and the low-lying 1960 Olympic Village, was a parking lot of rough repute, located at the transition between a traditional, dense European city and its suburban fringes. Olive trees lent this no-

Joseph Giovannini, an architect, is the architecture critic for New York magazine.

man's-land its only site feature. Nearby stand two stadiums by Pierluigi Nervi, as well as his Corso di Francia, an elevated highway cleaving the neighborhood. Though quasi-derelect, the designated land was still Roman, and therefore untouchably holy to local architectural vigilantes.

Coauthor of Paris's Pompidou Center, Renzo Piano is an unreconstructed Modernist—and also a dedicated urbanist. Instead of creating monumental objects of formal purity for Rome, he proposed a catalytic act of urban initiative: buildings intended to knit an almost irreconcilably torn edge into a continuous field, extending from Parioli to the Olympic Village. Piano aspired to bring this sorry, leftover ex-parking lot into the living city

Project: *City of Music, Rome*

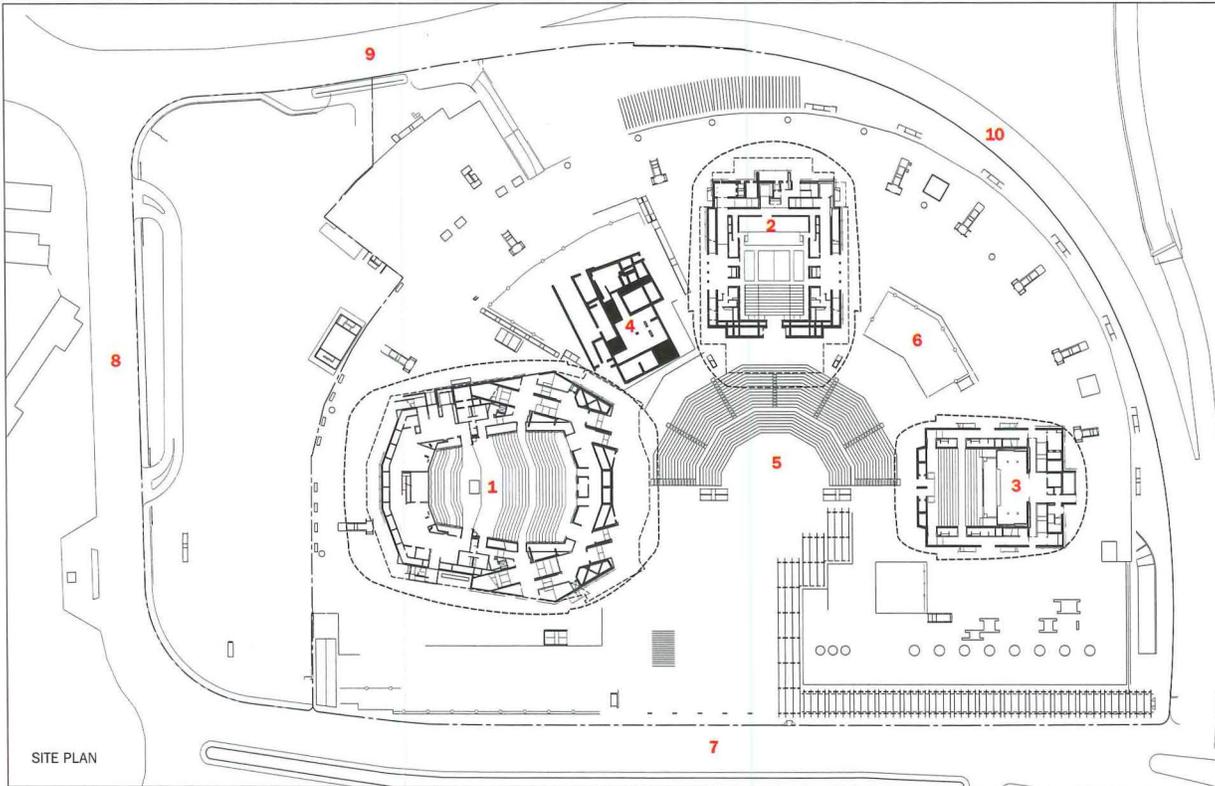
Architect: *Renzo Piano Building Workshop—Renzo Piano, principal; S. Scarabicchi, partner in charge*

Engineers: *Studio Vitone & Associati*

(structural); Arup (structural: competition phase); Manenes Intertecnica (mechanical)

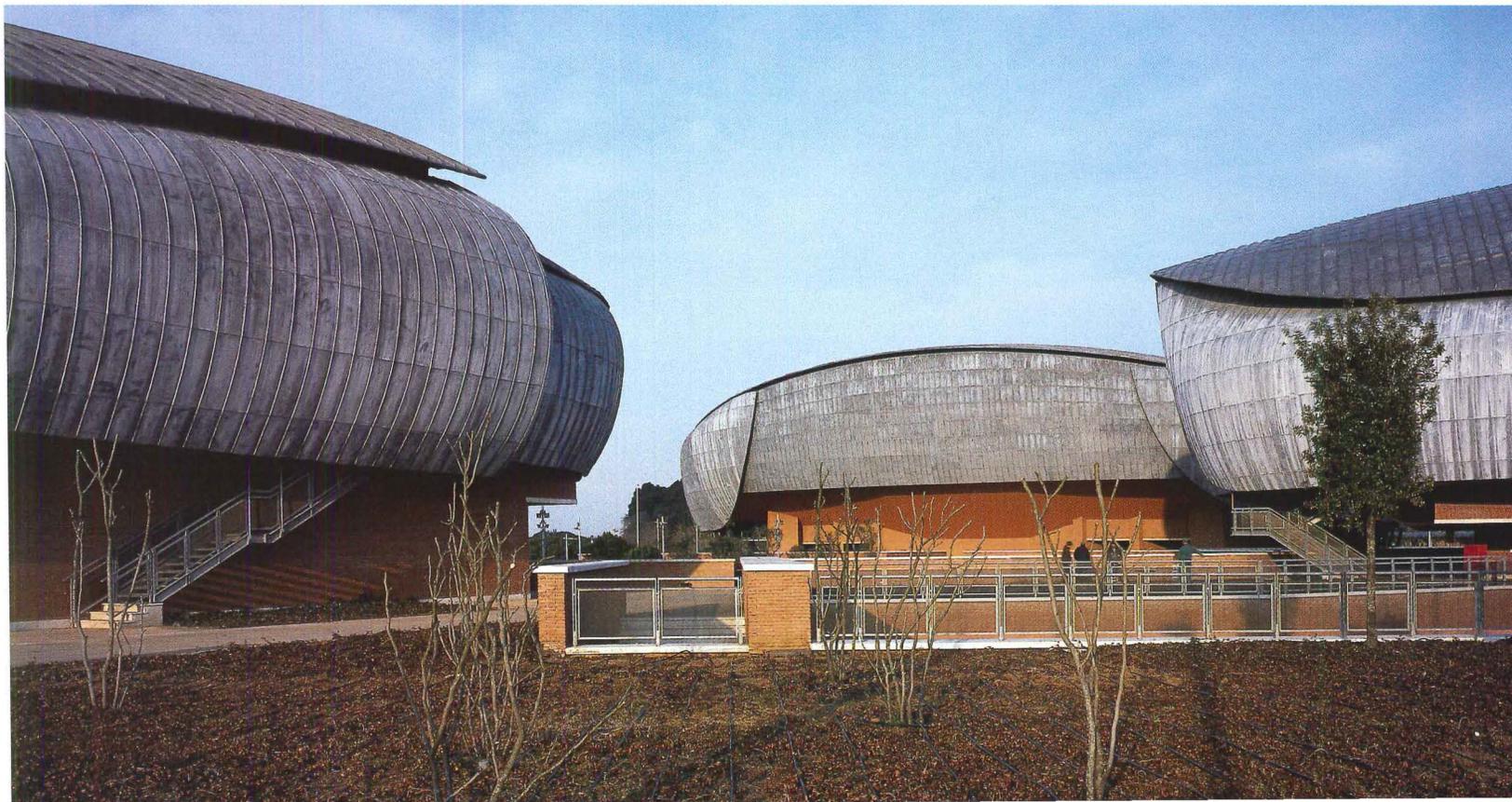
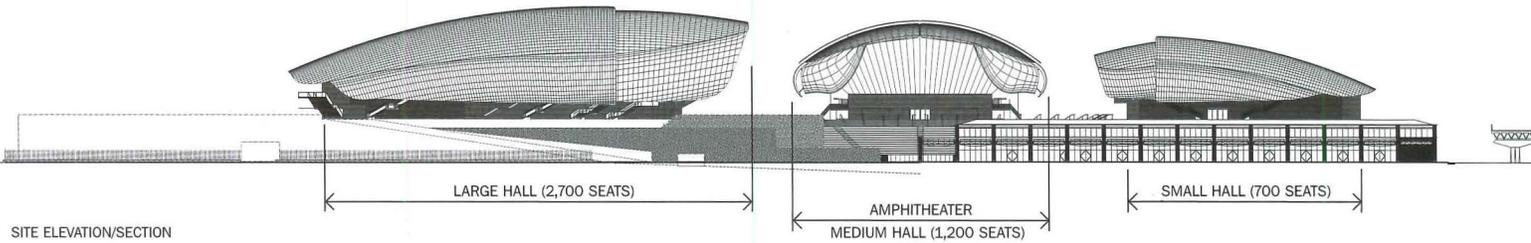
Consultants: *Müller (acoustics); F. Zagari, E. Trabella (landscape)*

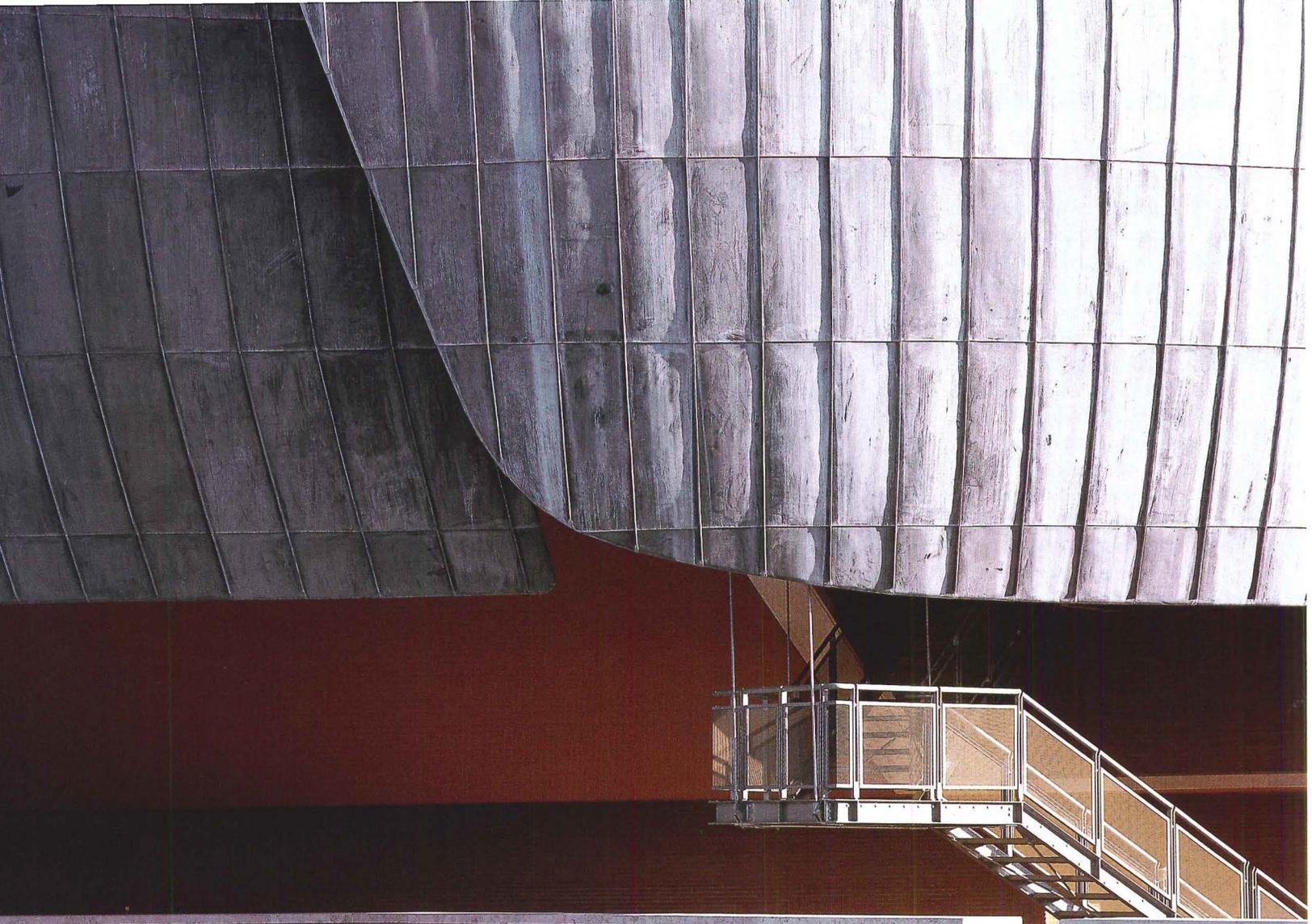




1. Symphony hall
2. Medium-size hall
3. Small hall
4. Archaeological zone
5. Amphitheater
6. Patio
7. Via Pietro de Coubertin
8. Via Giulio Gaudini
9. Viale Maresciallo Pilsudski
10. Viadotto Corso di Francia

The 12-acre site (left) was difficult, with highway interchanges cleaving surrounding neighborhoods and significant grade changes from the Parioli hills to the Olympic Village. The use of Roman brick (below) is one of the ways Piano cedes to the larger urban fabric.





by generating connective tissue. Urban design took precedence over architectural object; and architectural object, in turn, reinforced urban design. In envisioning his City of Music, he ranked Rome as high as the music.

In an apparent inversion of the priorities for a symphony hall of civic stature, Piano fronted stores and cafés along the street, deploying architectural program to generate street life along an urban corridor. This wide colonnaded street promenade, protected beneath a continuous glass roof and canvas awnings, turns deep into the site at its eastern corner, pivoting under the awnings toward an expansive urban piazza, served by a café-restaurant. A semicircular amphitheater of travertine rings the piazza and leads up to a glazed semicircular corridor, serving as the entrance and base for the three auditoriums hovering, partially cantilevered, above it.

The auditoriums stand in an elevated park on Parioli's street level, leading to an urban knuckle between the neighborhood and park—the only connection possible between the two amid a tangle of roadways abutting a steep hillside. With bases clad in Roman brick and tops sheathed in curved carapaces of lead tile, the performance halls appear as objects embedded in the upper register of Piano's newly generated urban fabric. With strata like the beds of time, the complex's layers climb along the topography—from piazza to amphitheater, park, and auditoriums—connecting with the city in both plan and section.

In a fortuitous irony, confirming Piano's reading of a layered urbanism, the site excavation for this project uncovered a 4th-century villa. To accommodate the ruins, the architect adjusted his scheme, spacing

Piano structured the lead-tile-clad roofs (above) on arcuated gluelam beams (top right), which rise from steel struts pivoting off the auditoriums' brick bases. The curving roofs accommodate fire stairs beneath them. A year into construction, site excavators discovered the remains of a 4th-century Roman villa. Accordingly, the architect adjusted his scheme, widening the space between two of his auditoriums, to exhibit the archeological dig on permanent, open-air display (bottom right).



THIS PAGE, MIDDLE AND BOTTOM

Another View: The City of Music From a Local Vantage Point

By Paul Bennett

It's difficult to overstate the expectation that has attended the design and realization of Renzo Piano's auditorium complex in Rome. Critics might say that nothing significant has been built here in 30 years. Certainly, the 1994 announcement that Piano had won a competition to build Europe's largest natural (or unamplified) acoustic music center in the heart of Rome drew unrestrained exuberance from the city's architectural community.

Some of the optimism derived from the process itself: an international competition that signaled a tectonic shift in local building politics. "Before 1994, no great architect wanted to build in Rome," recalls Francesco Ruperto, a young architect. "They were scared of the corruption. But running a competition sent a message to the world that we're capable of doing architecture fairly." He credits this project with initiating a renaissance in Rome: In the past seven years, Zaha Hadid, Richard Meier, and Massimiliano Fuksas have all won major commissions here.

Great expectation also focused on Piano, indisputably the most successful Italian architect today. The choice had a sense of inevitability: People felt that in the Italian capital, as opposed to New York or Paris, he would surely do his greatest work.

But most important, Roman architects and critics expected a building that would raise the city onto the contemporary global stage—hoping, in some sense, for a Bilbao.

The results have drawn a decidedly mixed response.

Part of the problem has been lethargy. The construction of the auditorium complex—three separate halls, each sized for a different type of music, plus an open-air

Paul Bennett, a Rome-based writer, is a former editor of Landscape Architecture magazine.



amphitheater—has dragged on for nearly 10 years. Although the city inaugurated the project on three separate occasions (December 2001, April 2002, and April 2003), the structures are not, in fact, complete. At the time of this writing, scaffolding still stands along the site's western edge.

The causes for delay have been myriad. In 1996, a year into construction, excavators discovered ancient Roman ruins on-site, launching an archaeological investigation that pushed off work another two years. Then came a lawsuit with the contractor. Next, the mayor who had originally championed the project was replaced by one far less sanguine. Then, a controversy ensued over Piano's laminated wood roof trusses, sparked by one politician's unfounded claim that the members wouldn't be strong enough. And, finally, programmatic changes emerged as the client waffled over the complex's evolving needs.

Few people blame the architects for the delay. In fact, most local praise applauds Piano's Herculean ability to overcome what may be the planet's most fearsome bureaucracy: the slothful, change-adverse ministries that oversee and regulate design and construction in Rome.

"No one else could have pulled

it off," says Livio Sacchi, an architect and critic. "Piano is famous, powerful, and transpolitical. His greatest success is the fact that his buildings exist at all."

Still, the delays have raised questions about Rome's ability to execute major architectural commissions. Massimiliano Fuksas's convention center is not yet under construction. And while Meier's Millennium Church nears completion (four years behind schedule), his Ara Pacis museum has become, once again, mired in politics.

Now that the critics have had time to consider Piano's complex on its architectural merits, they are beginning to criticize it. The main complaint—uttered by architect and critic alike—is that the buildings break the Modernist rule of form following function. Their overriding aesthetic features, the scarablike roofs, correspond to interior functions only in the large hall, where the inside was shaped to transmit sound. The medium-size and small halls are both simple square boxes with curved roofs plopped on top.

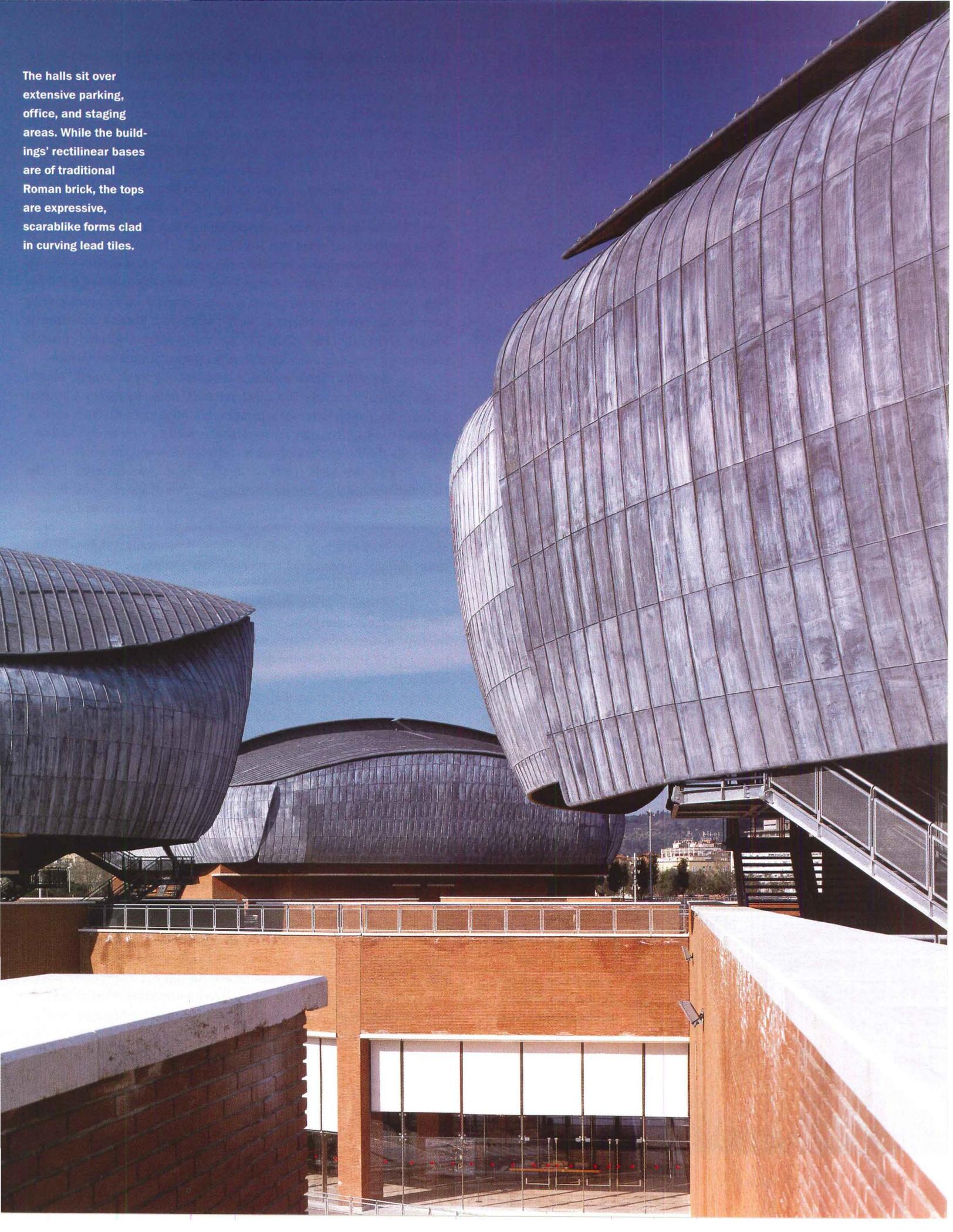
The other object of criticism concerns the urbanism—or lack thereof—in the design of the structures. The auditoriums lie in what Piano calls a "fractured gap": a con-

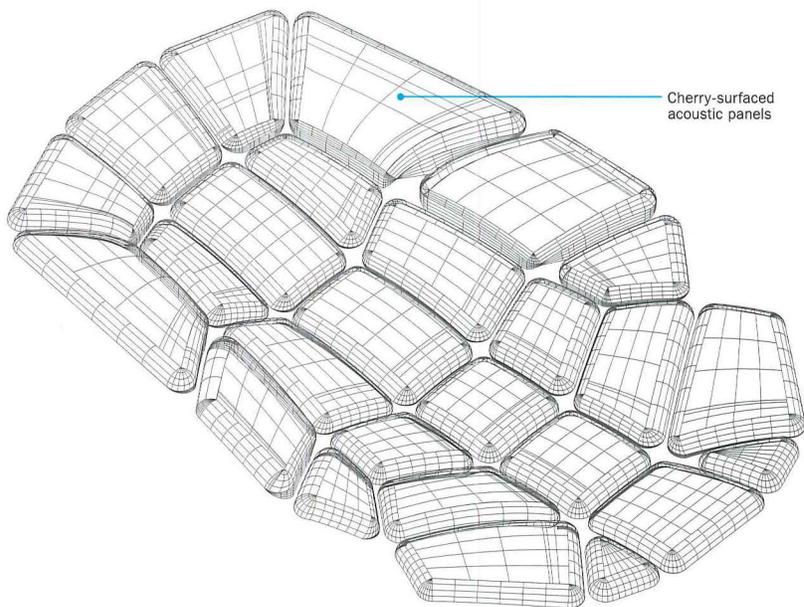
fluence of residential neighborhoods on the edge of the city center, sliced by highway interchanges. In order to "sew" these elements together, as partner in charge Susanna Scarabocchi puts it, the project was conceived as landscape first and buildings second. The concept was to leave nearly half the 12-acre site for vegetation. "We wanted to give the city a garden," says Franco Zagari, the architect entrusted with the landscape design. The idea was also to engulf the buildings in a sea of stately shade trees.

As realized, however, the garden widens the gap. To preserve the archaeology underground—and accommodate the large volume of offices, staging space, and a sizable parking garage—the architect elevated the three halls above the surrounding grade. To the south, toward the residential neighborhood of Parioli, the garden—a vertical wall of vegetation that Piano's office has dubbed "Giardino Pensile," or hanging garden—actually creates a barrier separating the auditoriums from Parioli, and therefore Parioli from Rome's northern neighborhoods. A black iron fence, enclosing the entire site and offering its only entrance on this side, leads to an emergency ramp, but usually remains bolted shut. Although a playground lies tantalizingly in sight of the hillside houses, residents can only reach it by walking all the way around the park along busy streets.

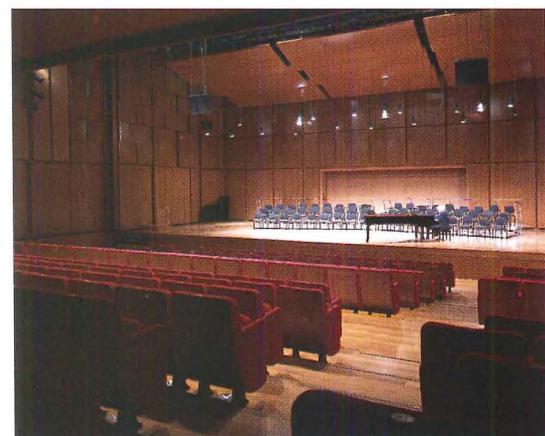
In contrast to negative press within Italy, the international press has received the project favorably, typically focusing on the zoomorphic roof forms and use of materials—primarily brick and lead—derived from Roman building traditions. Many of the articles talk about a new architectural spirit awakening here. But Romans remain unconvinced. Maybe the auditoriums are to blame. Or maybe they've just come to symbolize a city that outsiders have always idealized and denizens only bleakly understand. ■

The halls sit over extensive parking, office, and staging areas. While the buildings' rectilinear bases are of traditional Roman brick, the tops are expressive, scarablike forms clad in curving lead tiles.





Cherry-surfaced acoustic panels



The two smaller concert halls (above and left) are highly flexible acoustically, with adjustable cherry ceiling and wall panels. But the most elaborate acoustic forms belong to the symphony hall (top), where 26 ceiling hulls are sized and shaped to disperse sound and resolve echoes.

the halls to reveal a now-permanent display of the villa as on open-air dig.

Piano the Modernist did not establish a tabula rasa in Rome, as he had at the Pompidou. Instead, he drew on ancient urban typologies—piazza, amphitheater, and colonnaded street—to construct a new fragment of the city as an extension of the old. Rather than invoke greater times through vacant rhetoric, as had Fascist architecture, his scheme enlisted program—stores, cafés, promenades—to animate the urbanism.

At the Pompidou, Piano and Richard Rogers had summoned oil-refinery imagery, declaratively breaking with traditional city design. But some 30 years later in Rome, a capital keenly aware of its millennial roots, Piano deepened the sense that his buildings belong. He did so by constructing a typological composite with details and materials—Roman brick, travertine, and canvas awnings—saturated with memory, but freed from historicist style. In the piazza and surrounding embankments, olive trees provide another reference to the city's past. Piano's urbanism is Roman in semantics and syntax: The materials and typologies have historic resonance, generating a meaningful urban context for his auditoriums.

The client, Santa Cecilia, a centuries-old music society, needed concert halls of three sizes: 700, 1,200, and 2,800 seats, respectively. Clustered auditoriums require acoustic separation but often share facilities such as rehearsal rooms. Here, only the semicircular podium with an enclosed corridor links the theaters to each other and to services and amenities.

For the halls' exterior shells, Piano was inspired by the Neapolitan mandolin, rendered here as segments of a torus (a mathematically derived donut form). Ingeniously structured on arcuated glulam beams, the roofs rise from pivoting steel struts off each auditorium's brick base. The lead tiles help isolate the spaces acoustically. While affording some climatic control, the carapaces also accommodate exterior fire escapes and are shaped to bounce sound into the outdoor amphitheater.

On the interior, the small and medium-size halls are flexible, with adjustable ceiling and wall panels for varying acoustic needs. But the two smaller auditoriums seem like preludes to the magisterial symphony space. Inspired by the dynamic asymmetries of Hans Scharoun's Berlin Philharmonie, Piano sited the orchestra platform midway between the hall's center and rear, allowing for seats behind the performers. Angular side walls and balconies modulate vertical surfaces, while 26 double-curved, cherry-surfaced hulls, sized and shaped to disperse sound and overcome echoes, erupt across the ceiling. The forms take on a strange beauty calibrated to a science unintelligible to the eye. Relatively shallow, the hall is contoured to compress a clear, bright sound and distribute it evenly.

This cultural center is the mature work of a practitioner who understands architectural issues from urban design down to tiny structural joints. If the application of Roman brick verges on the generic, it allows the buildings to cede to city life—the very activity the scheme's configuration and program try to stimulate. Piano reserves the moment of greatest architectural intensity for the large hall interior, a tour de force of complex beauty.

The project has given a much-needed shock to Rome's system of approvals and construction—a scenario hardly tested since Nervi's time. Piano's complex has helped clear the way for other contemporary works.

The City of Music has renewed Rome's tradition of innovation. By orchestrating city life, it extends the urban edge and earns the sense of place it so brilliantly creates. ■

Sources

Auditorium seats: *Poltrona Frau*

Lighting fixtures: *Guzzini Recanati*

Window frames: *Capoferri*

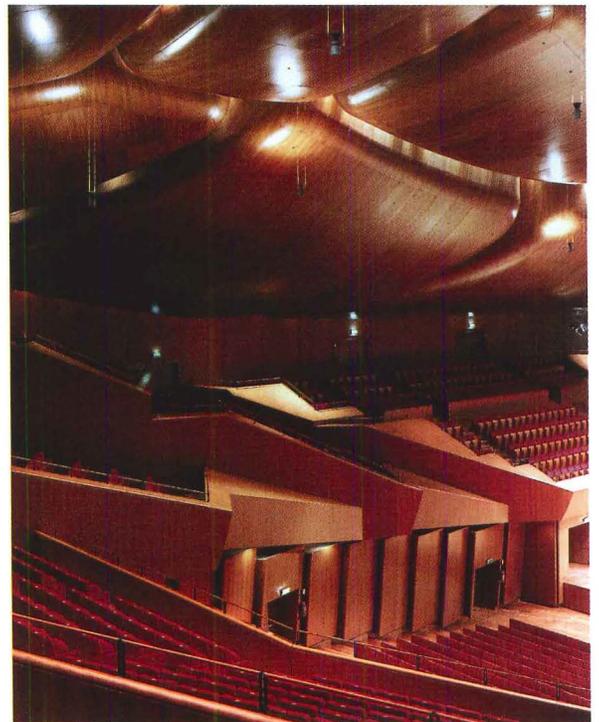
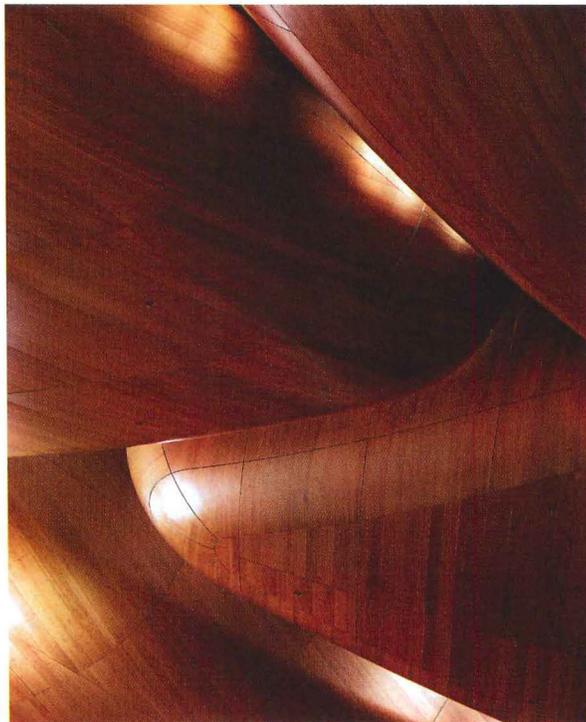
Bricks: *Cosma Costruzioni*

For more information on this project, go to Projects at

www.architecturalrecord.com.



Piano placed the orchestra platform midway between the center and rear of the symphony hall (above), allowing for a tier of seats behind the performers. In addition to clustered ceiling hulls (detail, near right), angular side walls and balconies (far right) play both visual and acoustic roles. This relatively shallow hall was contoured to compress a clear, bright sound and distribute it evenly, all the way to the most distant seats.



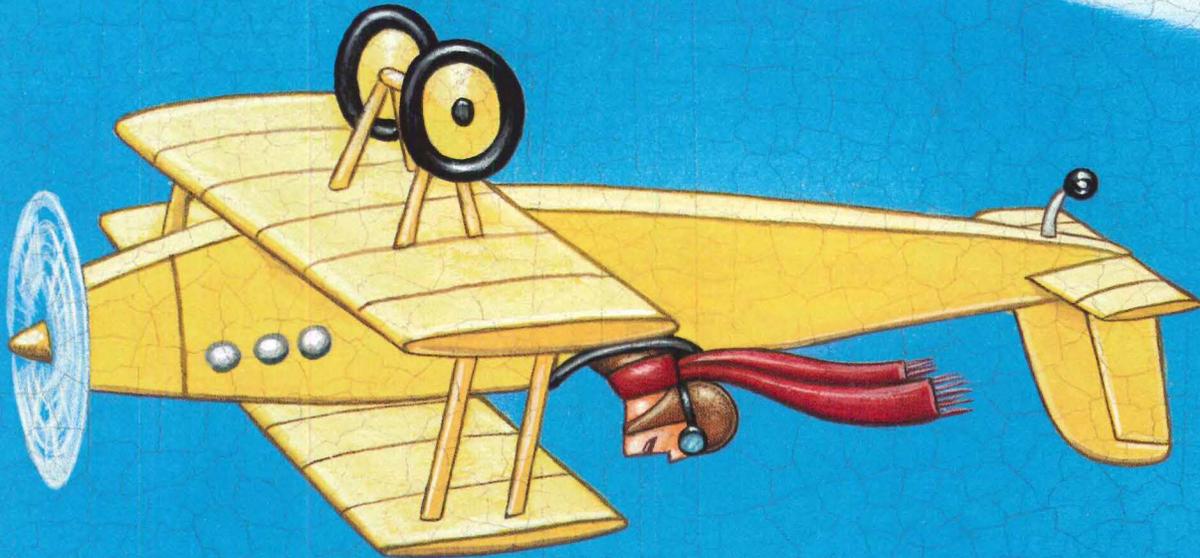
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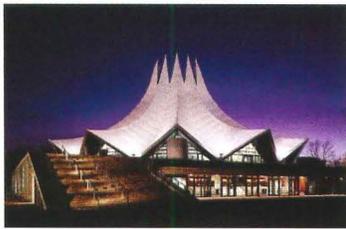
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PERFORMING ARTS

Poetry of Performance

PERFORMING ARTS ARCHITECTURE IS LIKE STORYTELLING—A TEXT WITH A DRAMATIC EFFECT THAT CONTRIBUTES TO THE GOAL OF HEIGHTENING THE IMAGINATION OF THEATERGOERS.



1.

Berlin, Germany

Near the Berlin Wall, on the vast, high-profile site of the former Anhalter train station, unconventional drama unfolds for modern Germans.



2.

London, England

The Hampstead Theatre needed a new home that would continue and expand the company's honored tradition of experimental work.



3.

Dayton, Ohio

Cesar Pelli has created a luminous Wintergarden, providing an exciting gathering space for an iconic theater that enlivens downtown Dayton.



4.

Rockford, Illinois

Opening and closing, revealing the stars at night or mitigating wind and weather, the Starlight Theatre offers a dramatic outdoor performance space.

By Jane F. Kolleeny

The world is buzzing with news of the openings of some of the most astonishing performing arts centers ever built—Gehry's Disney Hall in Los Angeles, Renzo Piano's Rome Auditorium in Italy, the Tenerife Opera House in the Canary islands by Calatrava, Polshek's Zankel Hall at Carnegie Hall in New York City, to name a few. This line-up of trophy projects designed by a list of who's who in architecture represents the quintessence of an explosion of arts activity in the field that has been under way for the past 20 years.

Josh Dachs, principal at Fisher Dachs Associates, a leading theater consultant, points out that there is not one right way to design a theater, but there are things that make theaters good or bad. "We are in a star- and brand-name-driven architectural environment. When architects embrace and address the problems of how to make great performance space, they succeed brilliantly; if they ignore the central problems, falling back on style and branding, they generally fail miserably." This is surely not the case with the four performing arts centers included here.

Performing arts centers serve to propel us out of our private worlds into the shared imaginative space of audience and performers, where social energy moves between the viewers and the stage. "If live performance does not offer this unique experience, there is a lot of competition to make people stay at home," says Richard Pilbrow, chairman of Theatre Projects Consultants and a well-known theater consultant. One way this is accomplished is by creating intimacy, possible even in such large venues as the Schuster, in Dayton, Ohio, where balconies and boxes bring the audience into close, dynamic rapport with the stage. Hampstead Theatre in London has a flexible stage that adapts in size to each production, while the Neues Tempodrom in Berlin features three different auditorium volumes—one large, one small, and a third aquatic stage for an unusually engaging experience. Finally, the Starlight in Rockford, Illinois, modulates space by opening and closing its roof like the petals of daylilies. These flexible solutions all respond to the need for audience/stage intimacy.

Our featured theaters bring community together on the exterior as well. Hampstead takes the lead in transforming an important neighborhood that includes a library, sports center, and housing, set in a landscaped framework. The Tempodrom exists within an urban development that includes a new park and promenade. The Schuster includes a high-rise office/condo promising to invigorate the city center at night. And the Starlight resides on a previously undistinguished college campus that is nourished by this performance venue. Externally and internally, these performing arts projects contribute substantially to the communities they serve. ■

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

Neues Tempodrom Berlin, Germany

1

VON GERKAN, MARG UND PARTNER RECREATED BERLIN'S "GATEWAY TO THE SOUTH" WITH A NEW CULTURAL ICON AND PUBLIC SQUARE.

By Sara Hart

Architect: Von Gerkan, Marg und Partner—Meinhard von Gerkan, principal; Stephan Schütz, project manager; Nicolas Pomränke, Ulrike Bruttloff, Matthias Wiegelmann, Wilfried Schoo, Helga Reimund, Doris Schäffler, Kristian Uthespencker, Patrick Pflaid, team
Architect of record: Specker Plantec
Consultants: Krupp Stahlbau (structural/steel); Ingenieurbüro Krentel (structural/base); Schlaich Bergemann und Partner (roof consultant); Energie System Technik (mechanical); BeSB Schalltechnisches Büro (acoustical); Conceptlicht Helmut Angerer (lighting)

Size: 135,000 square feet
Cost: \$34 million
Completion date: March 2002

Sources

Concrete and wood: Ingbau
Aluminum: Mantel; Dörnhöfer
Built-up roof: Dachland
Skylights: Dörnhöfer
Underwater sound system: Micky Remann

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

In 1980, a nurse named Irene Moessinger inherited a large sum of money and with some friends founded the Tempodrom, near the Berlin Wall, for the purpose of staging unconventional performing arts events. Some 200,000 spectators have attended performances in two tents each season since it opened. After moving to a second location in 1984, the Tempodrom found a permanent residence on a vast, high-profile open site created by the demolition of the Anhalter train station, which was irreparably damaged during World War II.

Program

The program of the Tempodrom was influenced as much by the significance of the site as it was by the function of the performing arts arenas. The Anhalter terminal had been famous as the “gateway to the south” and was the second-largest train shed in Europe. As such, it took on historical importance in the sweeping revitalization of Berlin’s infrastructure and public amenities after reunification. The program called for establishing maximum public access in and around the facility, so that it might blend in with a new park and a promenade created to take visitors past the ruins of the train station’s entrance portal and across the old railway lines.

The client wanted the building’s form to reflect the original performing arts venue, which was a large



tent flanked by a smaller one. Tentlike modesty and flexibility became Tempodrom’s trademark, which the client wanted to keep. The new program called for the same type of amphitheater volumes, one large and noisy, one smaller and intimate. Unlike the original Tempodrom, the new facility was to have a third arena—an aquatic stage for an entirely different kind of audience participation.

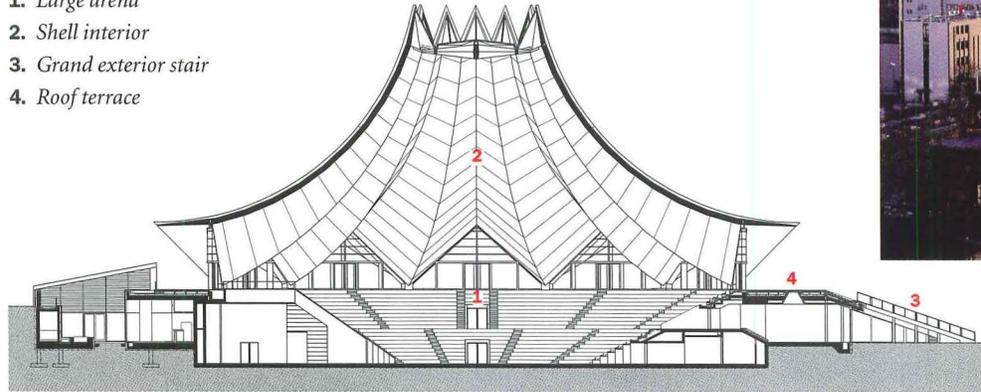
Solution

First of all, Von Gerkan, Marg und Partner (GMP) retained the tent idea. This time, however, the architects gave the performing arts center permanence by recreating the tent form in concrete, steel, and wood and stretching it to a height of more than 120 feet above the larger of the two arenas.

The tent structure rests on a one-story concrete and steel plinth generously glazed at multiple entrances. A wide flight of stairs on the exterior leads the public to a wooden-clad roof terrace on top of the plinth, which functions as a beer garden in the summer or a party area for performance-related events.

The large arena, with seating for 3,800, recalls the boisterousness of the circus—a container for bright lights, big sounds, and special effects for a variety of activities, including rock concerts and sports events. In contrast, the small arena seats a mere 400 and provides a more intimate setting for chamber music and staged readings. Radiating from these focal points, a series of tertiary spaces—entrances, a bistro, conference rooms, and lounge areas—share a low-key glamour ren-

1. Large arena
2. Shell interior
3. Grand exterior stair
4. Roof terrace



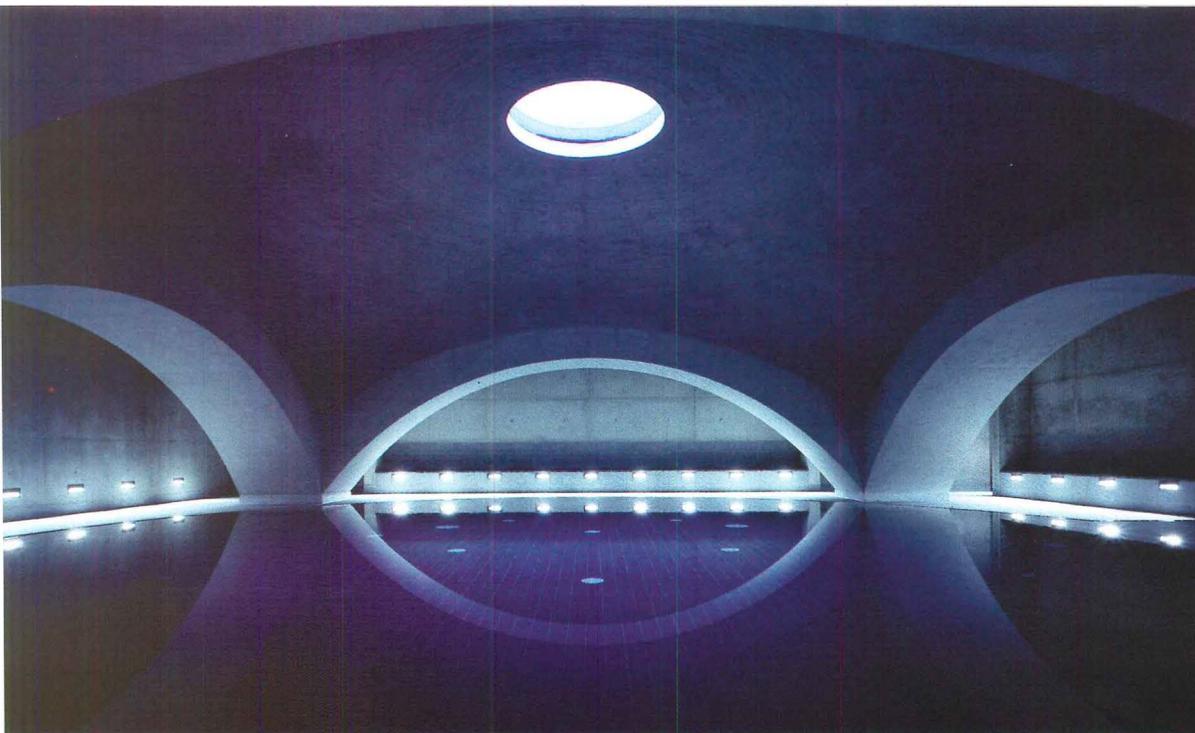
SECTION A-A

0 20 FT.
6 M.



The tentlike form of the Tempodrom is composed of a folded steel-plate structure clad in concrete panels.





In the Liquidrom (left), visitors bathe in luke-warm saltwater while listening to soothing music from underwater speakers and four sound columns. The main spaces of the complex (below) are finished in natural materials, such as fair-faced concrete, stone, and wood. The interior of the tent (opposite) is faced with wooden acoustical boards fixed to a plasterboard shell.



dered largely in fair-faced concrete with polished, poured asphalt floors.

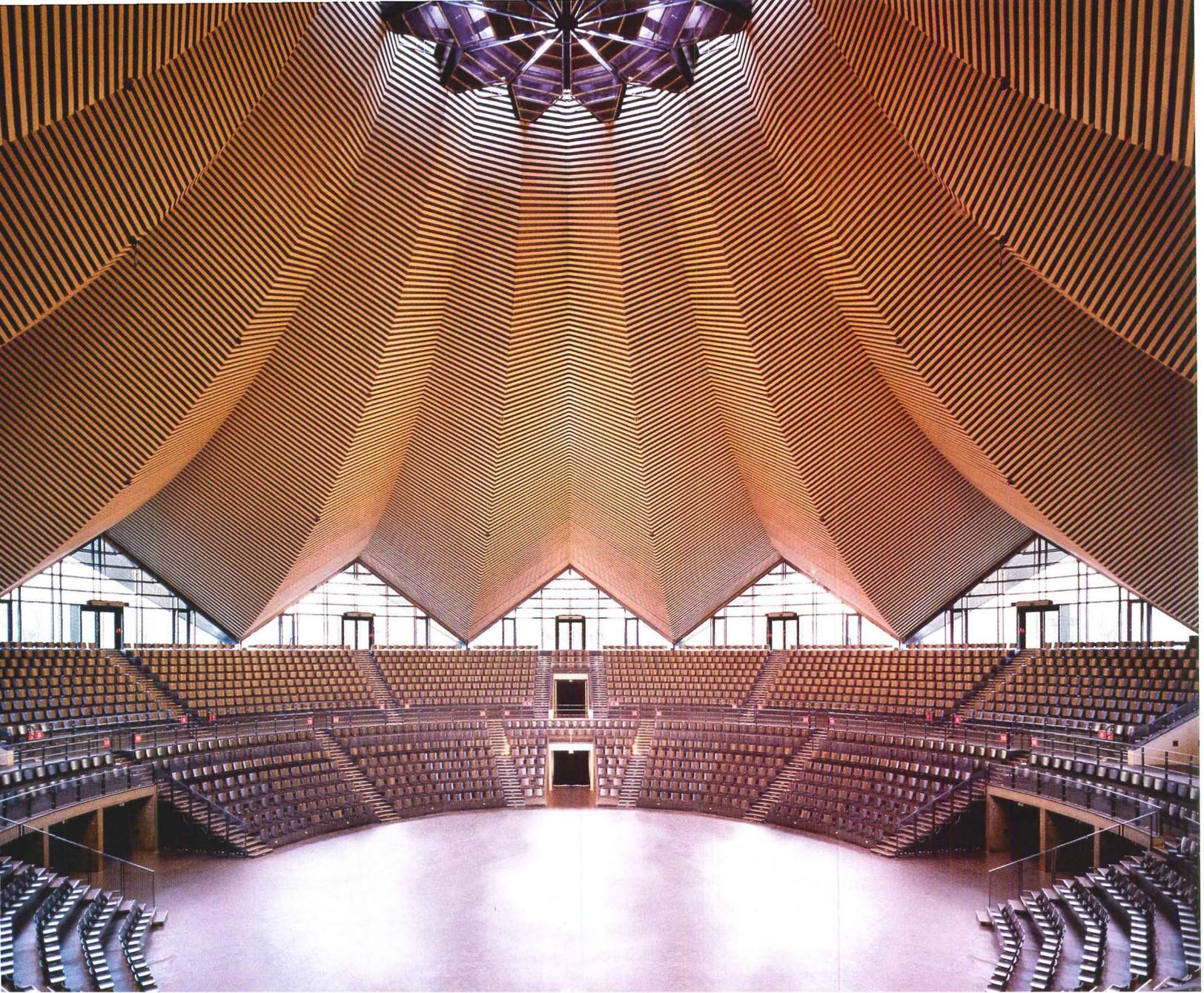
Finally, GMP added a third arena, the Liquidrom, where circus tent meets thermal bath. Billed as an aquatic stage and the seemingly logical spin-off of the land-based arenas, Liquidrom is a saltwater basin, 43 feet in diameter, covered by a concrete shell, where people come to “bathe in light and music.”

Commentary

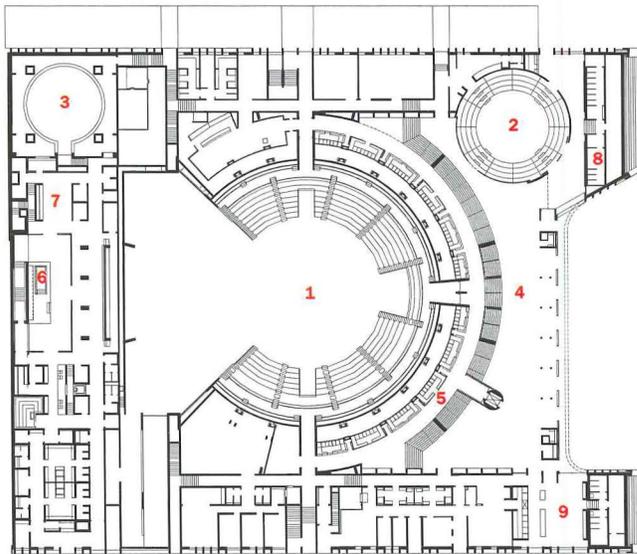
GMP’s success lies in its counter-intuitive approach. Open access, daylight, and views to the park seem to be antithetical to any serious theater design. And yet, because the Tempodrom’s mission is an egalitarian and experimental one, such openness was the motivating force for the architects. And it works well at the urban-design level as a high-profile symbol of Berlin’s aggressive urban revitalization.

GMP found a lean architectural language for expressing the client’s functional and formal needs, as well as the city’s civic pursuits, by using unpretentious materials and familiar forms. Of course, GMP’s success can and should be measured at the tiniest observable level, in the exquisite execution of the details and their modulations. At every level, the Tempodrom’s presence is another benchmark in Berlin’s cultural renewal. ■

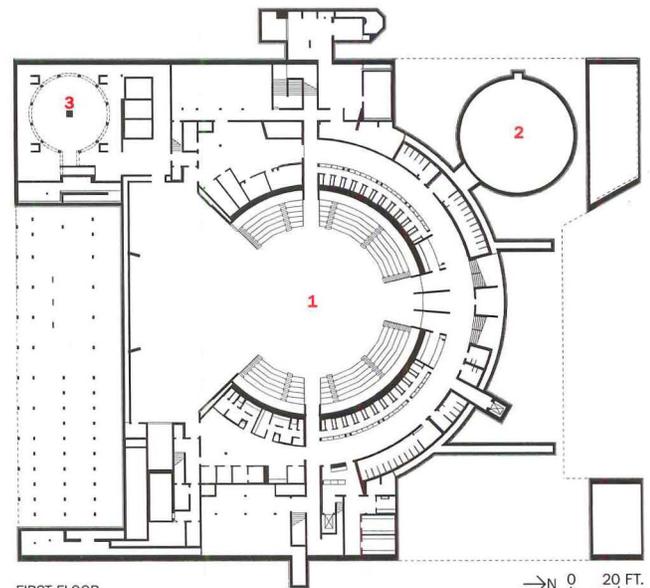




- 1. Large arena
- 2. Small arena
- 3. Liquidrom basin
- 4. Entrance foyer
- 5. Cloakroom foyer
- 6. Plunge bath
- 7. Liquidrom entrance
- 8. Bathrooms
- 9. Bistro



GROUND FLOOR



FIRST FLOOR

→N 0 20 FT.
6 M.

Hampstead Theatre

London, England

2

BENNETTS ASSOCIATES GIVES A NEW FACE TO A VENERABLE THEATER COMPANY THAT CARRIES ON THE MAGIC OF INDEPENDENT PERFORMANCE ART.

By Lucy Bullivant

Architect: *Bennetts Associates Architects—Rab Bennetts, Denise Bennetts, Simon Erridge, Yvonne Gibbs, Anja Grossman, Bjork Haraldsdottir, Michelle Hood, Steve McKay, Chris Pope, Elisabeth Stockinger, David Tordoff*

Client: *Hampstead Theatre Foundation*

Engineer: *Curtins*

Consultants: *Gustafson Porter (landscape architect); Robert Bryan (lighting); Theatreplan (theater consultant); Arup Acoustics (acoustics); Martin Richman (artist); Buro Four (project manager); Bucknall Austin (cost consultant)*

Size: *43,000 square feet*

Cost: *\$9 million*

Sources

Curtain wall: *Reynears*

Exterior precast-concrete

columns: *Trent Concrete*

Zinc cladding: *Rheinzink*

Roofing: *Alumasc*

Glazing: *Pilkington; Trent Design Group (skylights)*

Seating: *Steedeck*

Upholstery: *Kradrat*

Lighting: *Marlin; Nafren Light*

Cabinets: *A. Edmonds*

Acoustical ceilings: *SAS*

Hardware: *Tom Planck*

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

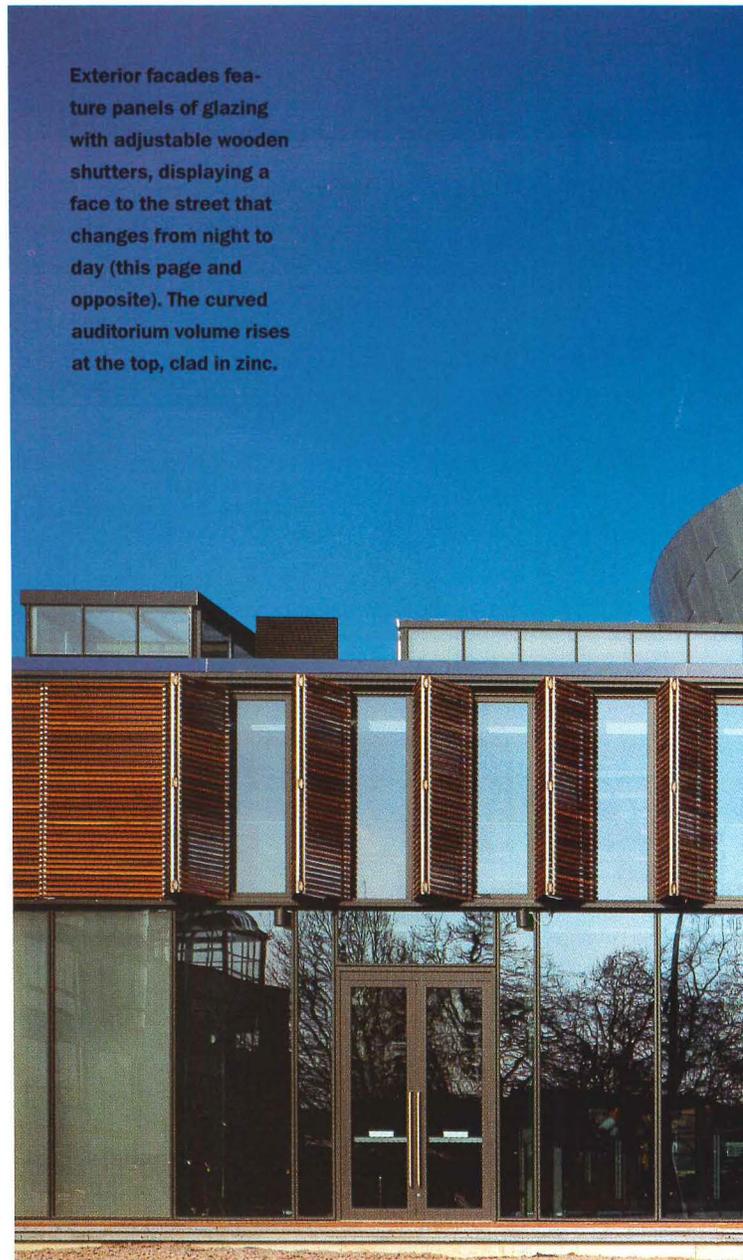
The makeshift premises that the Hampstead Theatre had occupied since 1962 did not seem to be a liability to its mission, since the building's funkiness reinforced the experimental productions for which the company was known. The troupe continues its tradition of contemporary work in its new, recently completed venue, but with a far more ambitious and longer-term vision.

Program

Do you need to be an expert in theatrical design to be the architect of a prestigious performance space? Rab Bennetts, partner with his wife Denise in the London architectural practice Bennetts Associates, thinks not. Commissioned by Hampstead Theatre to create a new home for its activities, the duo has designed a space with real presence and magic. "I guess we have a layman's instinct for theater. We are experienced in urban design and public commissions. That track record provided a good foundation for this project," says Rab Bennetts.

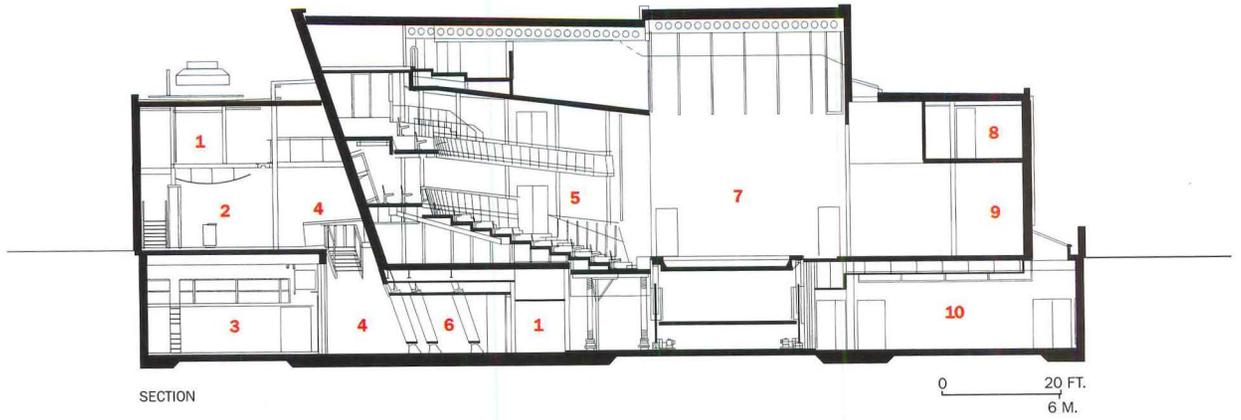
Many theater directors rely on their capacity to improvise marvelous performances in whatever space they have, but if artistic aims are to be reconciled with the need for an appealing theater environment for a growing community, adequate facilities must be provided. Artistic director Jenny Topper badly wanted to double the house's 175 seats. Hidden away in run-down

Exterior facades feature panels of glazing with adjustable wooden shutters, displaying a face to the street that changes from night to day (this page and opposite). The curved auditorium volume rises at the top, clad in zinc.



PHOTOGRAPHY: © PETER COOK

- 1. Toilets
- 2. Bar
- 3. Education space
- 4. Foyer
- 5. Auditorium
- 6. Meeting room
- 7. Stage
- 8. Dressing room
- 9. Scenery workshop
- 10. Rehearsal room



The seating can be reconfigured for proscenium, thrust, or in-the-round performances and varies from 150 to 325 (right). The interior wood paneling carries over from the exterior and is accompanied by cheerful, brick-red seats (below).



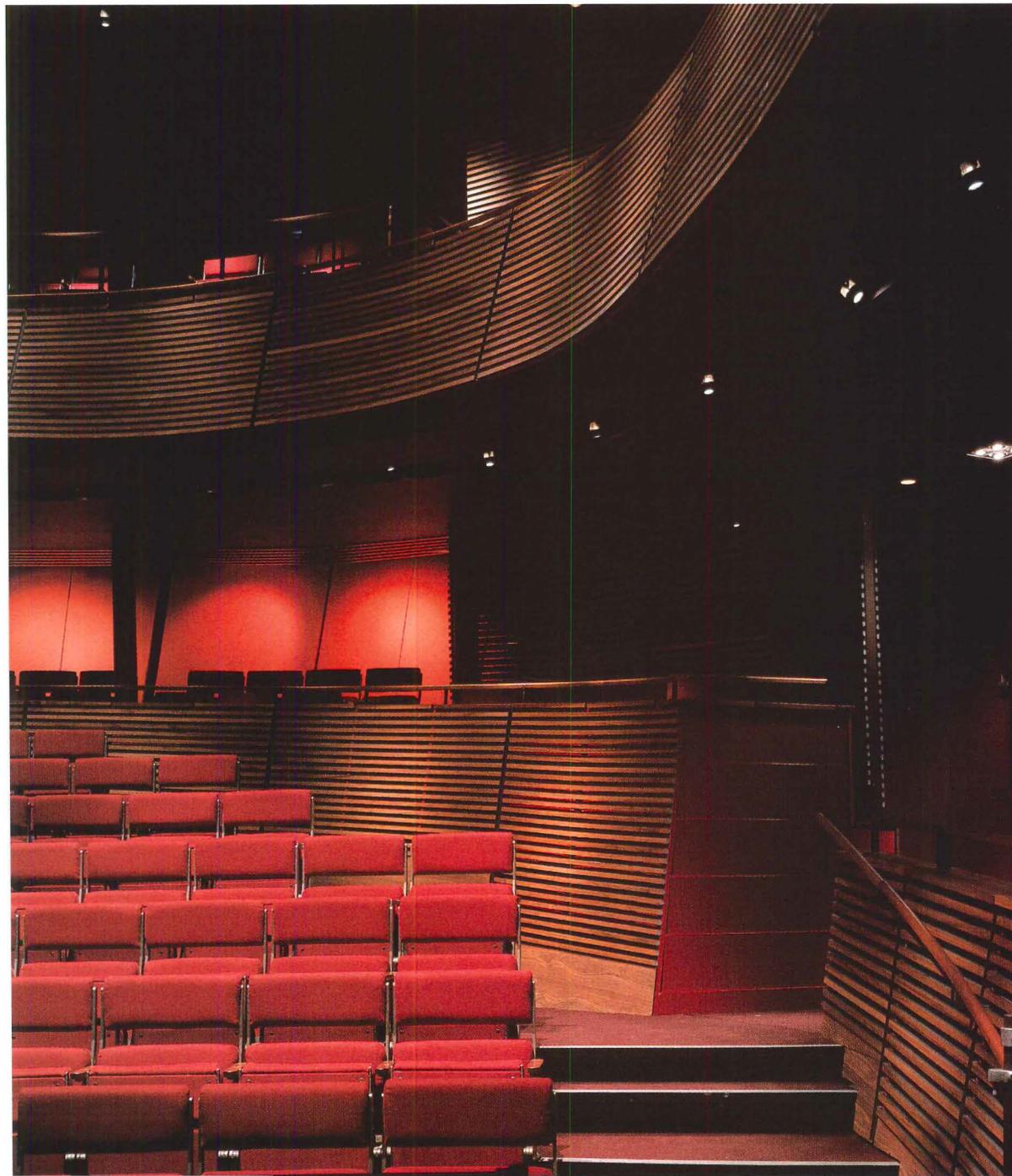
surroundings, the theater was not attracting a large audience. It clearly needed reinvention.

The architects created a master plan for the whole block as well as a new building, giving the theater a more public face on the street. A simple, rectangular pavilion in an urban park, it has two floors above-ground and one below. The client's request for a generously proportioned foyer space was amply met with a lobby featuring a café/bar that sits on the main axial route from the entrance. This pivotal space connects the performance hall with informal meeting areas, and the street with the grassy slope and adjoining children's playground (to be landscaped by Gustafson Porter) at the far end of the building. Ramped bridges lead to the auditorium, whose zinc-clad exterior rises dramatically from the basement foyer like the hull of a ship. Here, a reception area adjoins a studio beneath the bar. Above the bridges, a row of offices with street-facing windows culminate in the green-room, a social hub for both employees and players on the building's east side. This links with a corridor of dressing rooms set at a right angle.

Solutions

An upbeat street facade of glazing, timber slating, and colored-light panels by artist Martin Richman responds to the client's interest in balance—they didn't want an icon on the street, nor did they want the building to be self-effacing. The timber screens covering the long facades echo the aesthetic of the screens within the auditorium.

The resolution of the auditorium is the theater's foremost strength. Avoiding the typical 1960s black-box theater space, a flexible stage and a compact auditorium can adapt to each production. The visually dynamic elliptical layout, supported by a tilted balcony, maintains intimacy and connection between actors and audience. There are light metal technical grids for lighting instead of the visually impeding bridges



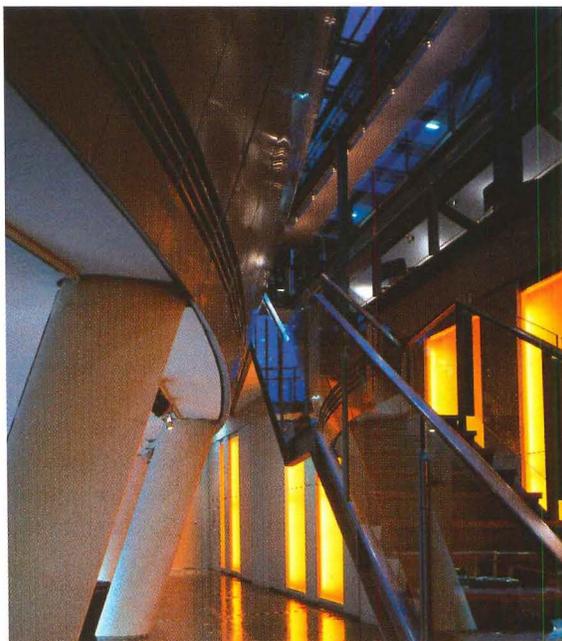
found in some new auditoriums. The downside of choosing a curved shape for the auditorium is that it can result in rogue sound reflections and disorienting acoustic effects. The architects counteracted this problem by using slatted walnut screens and balcony fronts made of materials with a high degree of acoustic transparency, which visually define the elliptical shape of the room.

Behind these elements lie concealed fixed plasterboard walls and panels in convex and faceted patterns that scatter sound around the room. The most stringent theater critics are more than satisfied, and the auditorium has the flexibility regular playgoers expect. The hydrolic stage and the front bank of seats can be taken out and dropped into the basement with a stage lift, creating a thrust stage with seating on three sides.

The lobby fulfills the client's requirement for a space as translucent as possible. "The idea was to get natural light right down to the bottom and express the volume all the way up from the basement," explains Rab Bennetts. Tough and tactile, with zinc bar tops and steel stairs, it confidently mediates between the steel-framed pavilion of the building and the sculptural form of the auditorium.

Commentary

The architects applied to the design of this project their sound urban design ideas and pedigree in the creation of advanced working environments, rather than a track record in theater design. The result is an exemplary and welcoming cultural facility that is humane and rational, rather than iconic. In addition, the new theater takes the lead in the transformation of an important neighborhood. Phase two will entail the refurbishment of a library originally designed by Sir Basil Spence and the creation of housing and a new sports center by Sir Terry Farrell in a newly landscaped framework. Bennetts Associates' design is a catalyst for creating something for everyone. ■



Once inside, it is clear that there are two stories aboveground and one below, with the foyer interconnecting the space that mediates between the rectangular perimeter and the curving auditorium. A series of bridges and ramps leads from one to the other (above and left).

Benjamin and Marian Schuster Performing Arts Center Dayton, Ohio

3

CESAR PELLI & ASSOCIATES BRIGHTENS DOWNTOWN DAYTON WITH LIGHTS, THEATER, ACTION.

By Benjamin Kline

Design architect: *Cesar Pelli & Associates—Cesar Pelli, FAIA, principal; Fred Clarke, FAIA, collaborating design partner; Mitchell Hirsch, AIA, team leader; Gina Narracci, senior designer*

Architect of record: *GBBN Architects—Joseph T. Schwab, AIA, principal; Pat Moore AIA, project architect*

Client: *Second & Main Limited (during construction); Arts Center Foundation (current)*

Engineers: *THP Limited (structural); Heapy Engineering (m/e/p)*

Consultants: *Theatre Projects Consultants (theater planning); Jaffe Holden Acoustics (acoustician)*

Size: *Performing Arts Center—168,500 square feet (performance area); 175,000 square feet (tower)*

Cost: *\$77 million*

Sources

Trusses: *SOFAB (in the Wintergarden)*

Metal/glass curtain wall: *Waltek*

Exterior cladding: *Global Clay Marseilles*

Roofing: *Firestone*

Windows: *Alumitech Windows*

Glass: *Viracon*

Skylights: *Supersky*

Fixed seating: *Alpha Seating*

For more information on this project, go to Projects at

www.architecturalrecord.com.

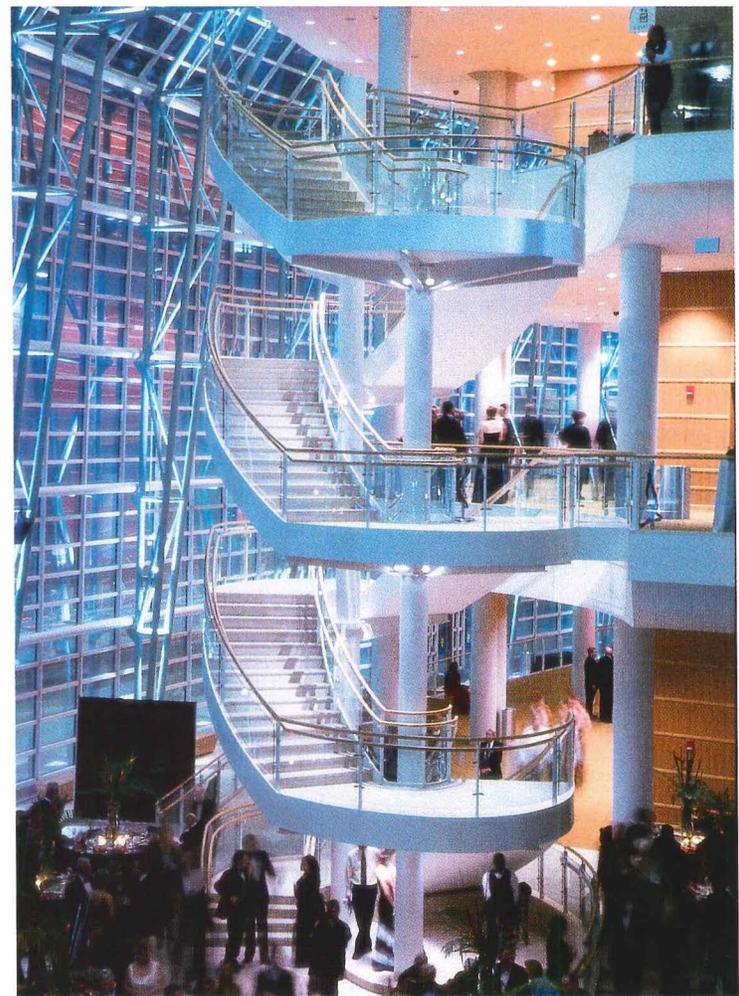
Architect Cesar Pelli wanted the patron to have a magical moment of anticipation and pleasure before the curtain rises in his Benjamin and Marian Schuster Performing Arts Center. Dayton, an industrial city enjoying a revival, wanted a new concert hall to replace its 2,500-seat Veterans Memorial Auditorium with the acoustics of a wrestling arena—one of its functions in the 1950s. Once the site and the requirements of the project were determined, Pelli was hired to design the elegant new theater complex, the latest in a long list of Pelli works incorporating glass-walled rooms.

Program

Instantly nicknamed the “Schu,” the facility includes a 2,300-seat auditorium; a black-box rehearsal space that doubles as a reception area for cocktails and banquets; an 18-story office/condo tower with below-grade parking for 150 cars; and a new restaurant called Citilites. Pelli tied those elements together with the Wintergarden, a glazed public atrium set back in a convex sweep from the corner of Main and Second Streets.

Pelli’s idea of an evening at the theater is “a long series of delightful experiences, moments out of the ordinary, that will make the performance more intense.” With 13,000 square feet of marble, 1,900 panes

Benjamin Kline is the architectural writer for the Dayton Daily News.

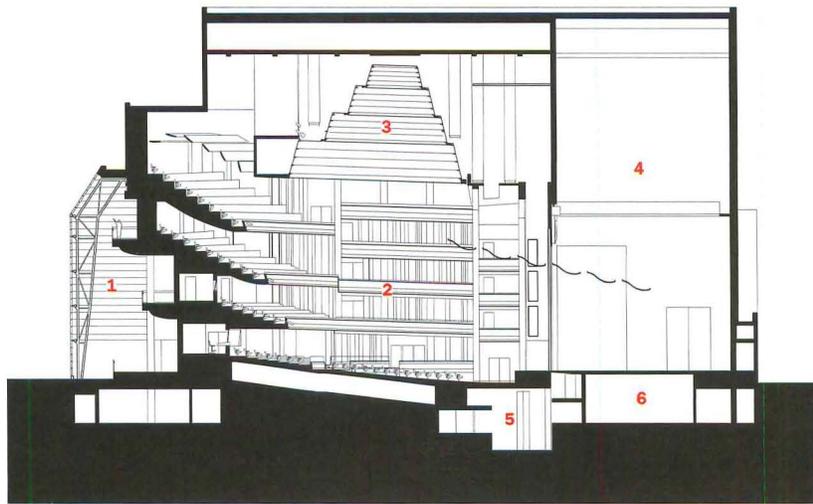


of pearled white glass, boldly exposed steel trusses, and curving balconies and stairways to and from the theater, the Wintergarden provides such an external exclamation and internal kick. It is not yet familiar, but Pelli says time and careful programming will change that. He can point to his 1973 Commons at

nearby Columbus, Indiana, as an example of a glass room that has remained popular and useful.

Solution

Pelli’s challenge was working with a site too shallow (220 by 455 feet) to accommodate the theater, its backstage facilities, and a typical lobby at



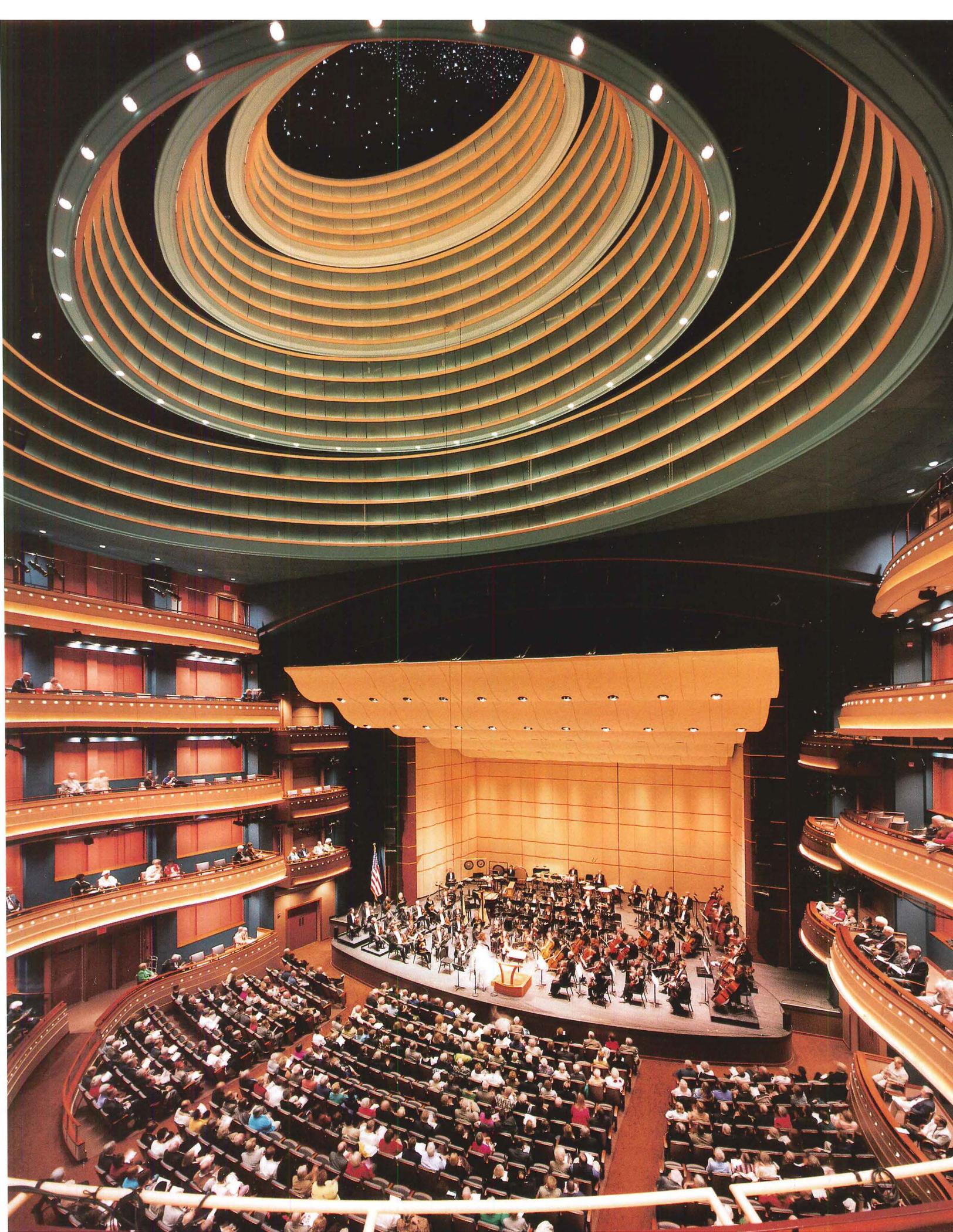
SECTION A-A

0 30 FT.
9 M.

1. Wintergarden
2. Mead Theater
3. Tiered ceiling
4. Stage house
5. Orchestra pit/stage lifts
6. Trap room

Outside, the theater consists of a big, dark-brown-brick box atop a red one. At the front facing State Street, the grand lobby, or Wintergarden, welcomes the theatergoer with its balconies, sheer heights, palm trees, and visibility to the street, creating a dramatic gathering place (opposite).





the front. His solution was to use the 12,500-square-foot Wintergarden as the lobby, restaurant forecourt, and ticket office. The glass extends as a bright but narrow promenade along Second Street to the entry on Ludlow.

Within the theater, eyes are drawn upward 90 feet to a domed ceiling on top of four elliptical cone sections, stacked and tipped toward the stage. The deep blue dome contains some 2,000 fiber-optic lights representing the stars in the sky over Dayton the night of December 16, 1903—the night before Dayton bicycle makers Wilbur and Orville Wright achieved the first powered, sustained flight at Kitty Hawk, North Carolina. The theater has a taut layout with a loge and two upper balconies seating, respectively, 388, 509, and 482 persons. The orchestra seats 940.

Outside, the theater is essentially a big brown-brick box atop a bigger redbrick box. The back is nicely articulated with orange, brown, and beige brick segments that look, at a glance, like discrete structures. The tower extends straight up, with curved east and west surfaces softening its effect.

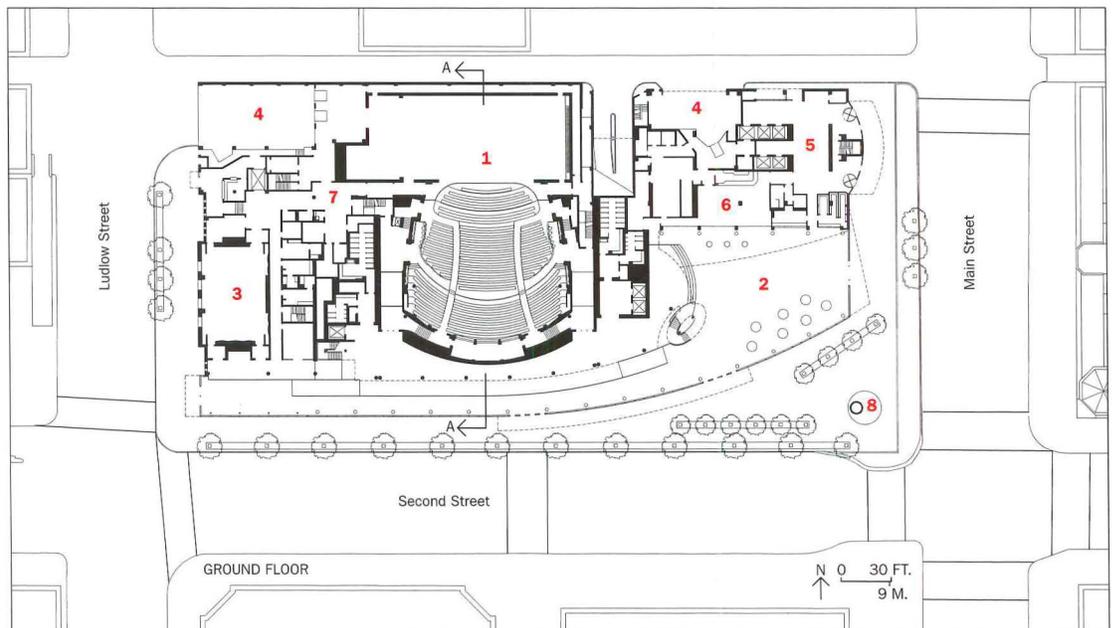


Commentary

Like any new building, the Schu will take a while to fit into the memory of its community. A beloved old department store stood on this site and is not forgotten. Dayton, with its extraordinary 120-foot rights-of-way, did not need another windy plaza, and residents are demonstrating that by spending little time outside the Schu.

The theater is a success. For *Phantom of the Opera*, it had a million-dollar sales week, a Dayton first. A variety of performances has been packing the place. Acoustics are said to be excellent. The look of the theater, with steep sides and sharply curving balconies, gives it an old-world feel and, for some patrons, a bit of added excitement: Precipitous angles give the illusion of danger.

This month, the AIA Ohio is holding its convention in Dayton and will include some sessions at the Schu. At that time, the architectural community will get a chance to appreciate the new center in person. ■



The Wintergarden's three-tiered series of curving balconies and stairways (above) connect dynamically with the auditorium. The performance hall itself

(opposite) features a steeply vertical ceiling with 2,000 fiber-optic lights that simulate stars shining in its deep, blue dome, 90 feet above.

- | | |
|---------------------------|-----------------------------------|
| 1. Mead Theater | 5. Tower lobby |
| 2. Wintergarden | 6. Restaurant |
| 3. Mathile Theater | 7. Performer/stage support |
| 4. Loading dock | 8. Plaza beacon |

Bengt Sjostrom Starlight Theatre, Rock Valley College, Rockford, Illinois

4

FOLDING AND UNFOLDING LIKE ORIGAMI, STUDIO/GANG ARCHITECTS' THEATER BRINGS FLEXIBLE OPPORTUNITIES TO ITS AUDIENCES.

By Blair Kamin

Architect: Studio/Gang Architects—Jeanne Gang, AIA, Mark Schendel, AIA, and Kathleen O'Donnell, AIA, principals in charge; Junko Goseki, Juliane Wolf, Kara Boyd, project architects; Michan Walker, Odile Compagnon, William Emmick, Thomas Alman, team; Yasushi Koakutsu, Michelle Linden, Viola Metzger, Dominick Soltys, model makers

Client: Rock Valley College

Engineers: Dewhurst MacFarlane and Partners (structural); Consulting Construction Services (m/e/p)

General contractor: Sjostrom & Sons

Size: 135,000 square feet

Cost: \$8.5 million

Sources

Steel frame for roof and proscenium building: Metal Fabricators

Roof panel structure: RLD

Fixed seating: American Seating

Lighting: Lampas; Prescolite; Altman

Roofing: Grace Ice & Water Shield; Firestone; Master Sheet Metal

Doors: Polygal USA

Interior finishes: Disdero Lumber; Schmeling Building Supply; Bailey Lumber

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

Moving roofs typically shelter massive sports stadiums, but rarely do they play a leading role in the design of small-scale, outdoor theaters. At the \$8.5 million Starlight Theatre in Rockford, Illinois, Chicago architect Jeanne Gang, AIA, incorporated this technology into a relatively inexpensive, yet elegantly sculptural, design in which the drama begins long before the stage doors slide open.

Program

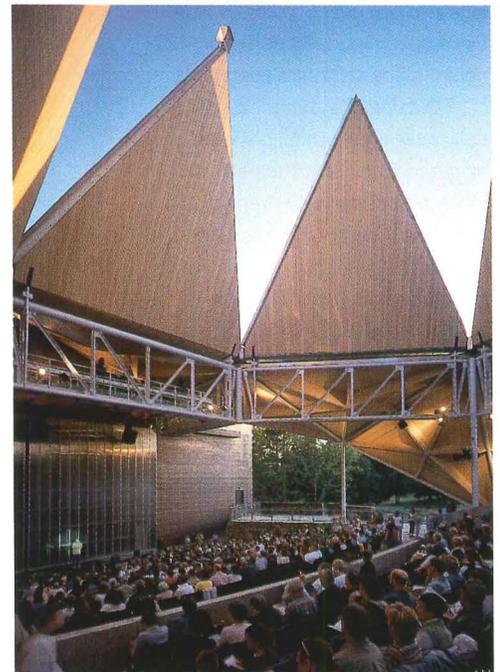
Starlight Theatre, a 36-year-old outdoor community theater on the undistinguished suburban campus of Rock Valley College, wanted to increase the quality and scope of its programs. But its ticket sales and revenues were limited because it was at the mercy of the weather. Gang and her firm, Studio/Gang O'Donnell (now Studio/Gang Architects), were charged with expanding and improving Starlight's old home: an amphitheaterlike, concrete bowl with a small stage that seated 600. According to Mike Webb, director of the theater, "We wanted to maintain a tradition of open-air performances, yet we sought new flexibility that would enable us to expand the season and allow performances even when it rained." In addition, Starlight desired amenities for patrons, such as public toilets, and advanced

Pulitzer Prize winner Blair Kamin is the architecture critic of the Chicago Tribune.

theater facilities, including sophisticated fly space. Like most nonprofits, however, it had big dreams but little money.

Solution

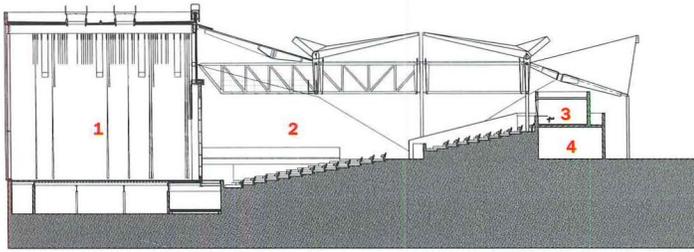
Recognizing that its client had limited resources, Studio Gang/O'Donnell devised a three-phase plan that allowed Starlight to expand gradually and gracefully. Phase one, completed in 2001, expanded the seating bowl to 1,050 seats and created a curving, 18-foot-high concrete structure at the back of the theater to house toilet rooms and ticket booths [RECORD, December 2001, page 82]. Gang dematerialized the concrete mass with portholelike windows set in the pattern of constellations. When backlit at night, they provide a marquee-like element of fantasy. The concrete wall also endowed the theater with a sense of procession, forcing patrons to enter from the side and teasing them along rather than revealing the building's drama all at once. Behind the concrete wall, an outdoor plaza offers that rare thing in Rockford: A place for people to get out of their cars and socialize.



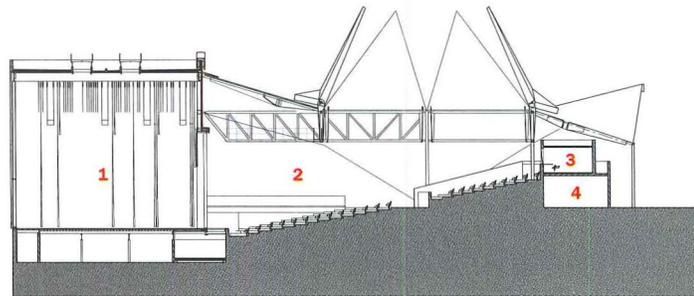
In the 2001 plan, concession stands are tucked within a new lower level, which was clad in a local, rough-hewn stone—the lone contextual gesture to the buildings of the Rock Valley College campus. The second phase, finished in 2002, shows how Gang successfully emphasized the sensuality of other materials. Consisting of a 50-foot-tall, copper-clad fly tower, the addition shelters a full proscenium stage house and fly equipment that vastly expands Starlight's ability to display multiple sets. Instead of velvet curtains, the stage has sliding, translucent weather doors adapted from airplane hangers. Because it is indoors, it also doubles

The appropriately named Starlight Theatre reveals its nature when the center of the roof opens as six panels rise in succession. As seen by the audience, the resulting void is shaped like a star, and, doubly delightful, the star reveals the distant constellations in the night sky.





SECTION SHOWING ROOF IN CLOSED POSITION



SECTION SHOWING ROOF IN OPEN POSITION

0 20 FT.
6 M.

1. Proscenium
2. Seating bowl
3. Control booth
4. Ticket building

The silvery, skeletal structure of the roof plays off the gold-hued mass of the fly tower. The result is almost otherworldly.

as a rehearsal space.

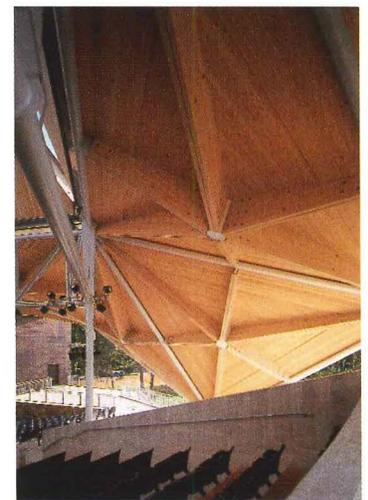
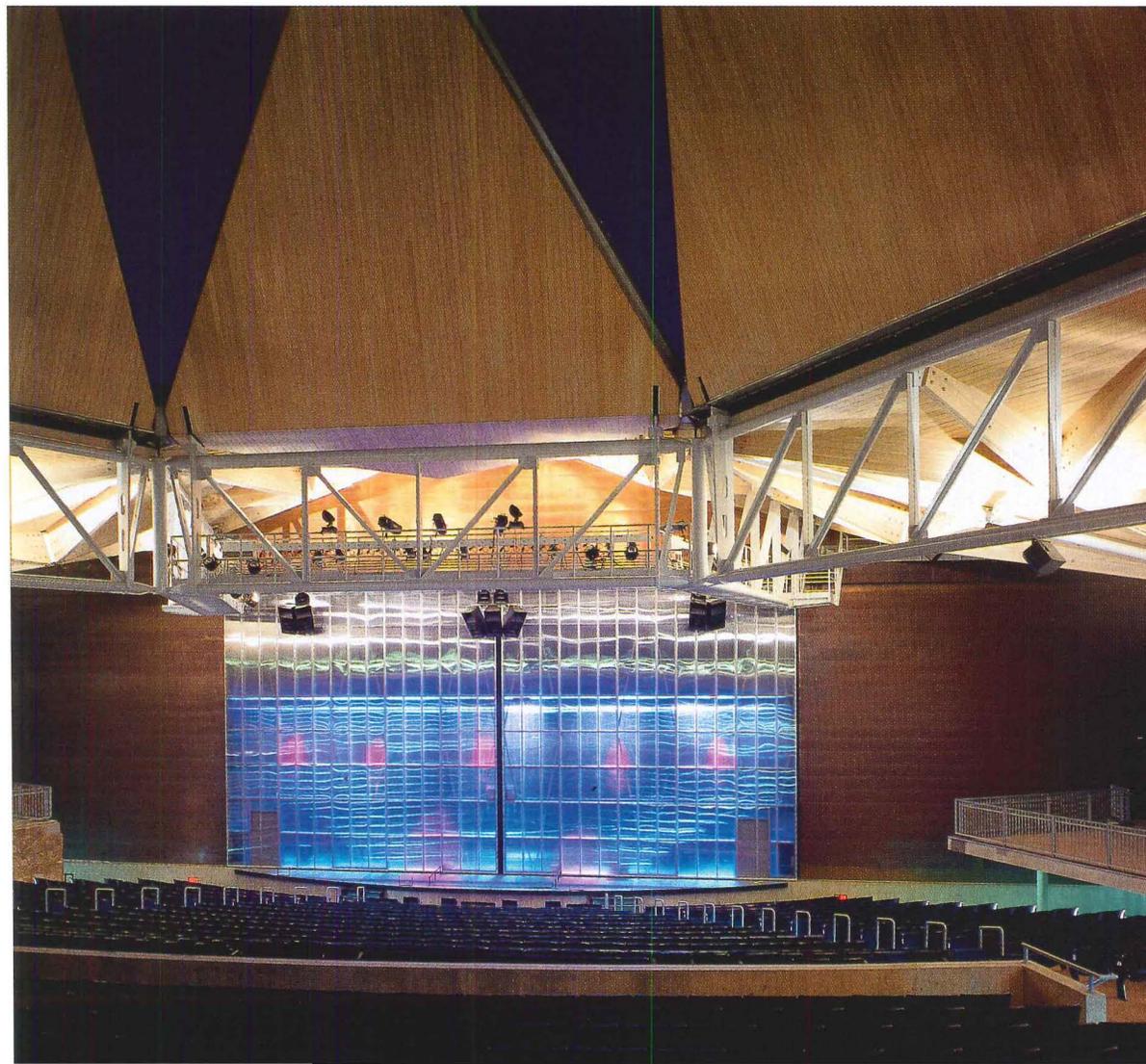
For the third phase, which made its impressive debut this spring, Gang worked with Uni-Systems, a Minneapolis firm that specializes in moving structures, to create the theater's crowning touch: a moving roof that opens like the petals of a flower. The faceted roof consists of triangular, stainless-steel-clad panels supported by steel columns and trusses. The panels on the perimeter are fixed; some fold down to provide a sense of enclosure for the audience, turning ceiling into wall. The real visual drama, however, lies in the center of the roof: With the click of a computer mouse, six panels rise in succession, with one lifting just before the one alongside it. Seen from directly below, the resulting void is, appropriately for the Starlight Theatre, shaped like a star.

While patrons invariably look upward with a sense of wonder, they don't see or hear the electric motors that Uni-Systems carefully hid within the roof. At the same time, the 15-ton

weight of all the roof panels is masked by a structural solution that marries elegance and cost savings. Gang designed the roof panels so they could be built off-site, saving on scaffolding costs. The steel panels were built first, and then self-supporting Douglas fir infill panels strong enough to be lifted by a crane were plugged into them. The arrangement allows remarkably thin steel panels and their supporting columns to appear more like the underside of an umbrella than a massive bridge pylon.

Commentary

Though the Starlight Theatre is hardly faultless—the Douglas fir infill panels lack visual richness, and the building's profile is, at times, overly exuberant—it is nonetheless an ingenious, innovative design. At once airy and sheltering, revealing views of nearby woods and allowing cool night air to move through the pavilion, the project engages us sensuously and subtly. Its three parts form a varied but coher-



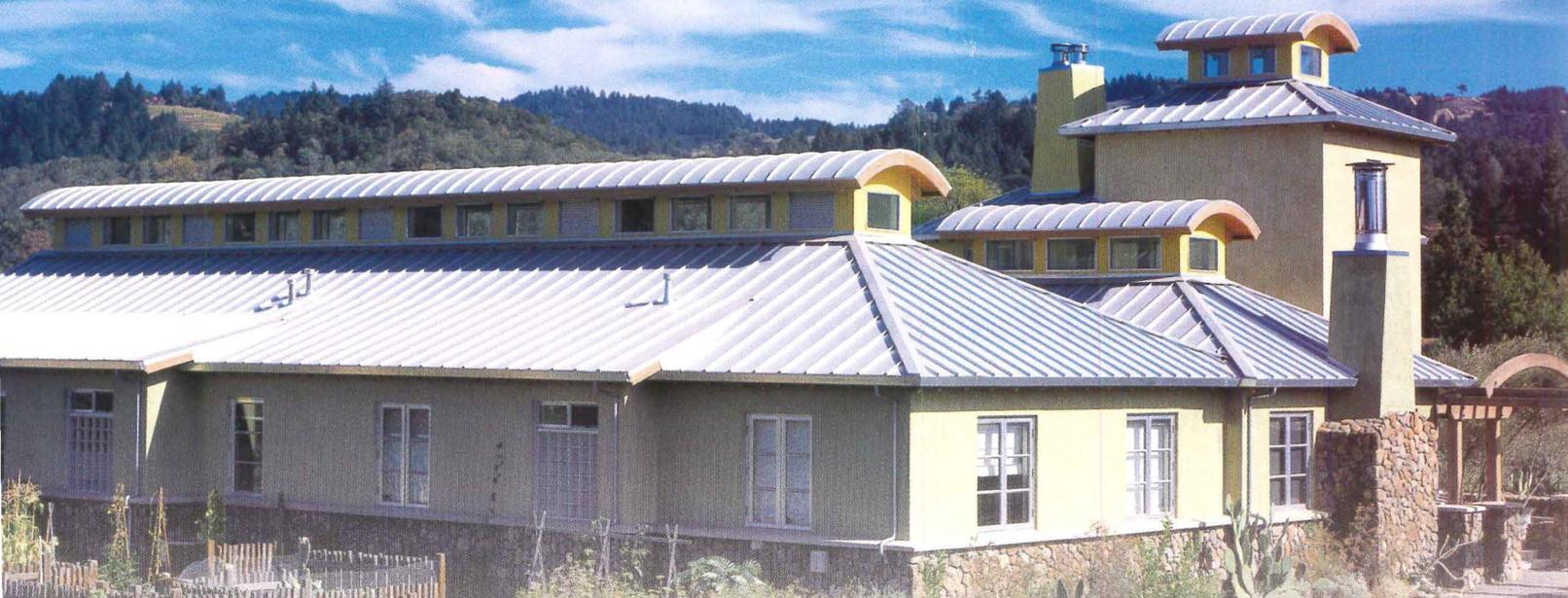
ent whole that works especially well in counterpoint, as when the silvery, skeletal structure of the roof plays off of the gold-hued materiality and massiveness of the fly tower. The result is powerfully sculptural, almost otherworldly.

In contrast to hulking retractable stadium roofs, this theater's roof more resembles origami—delicate, folding, and human-scaled. Here, organic geometry and kinetic elements merge to solve practical problems and create a richly choreographed architectural drama. ■

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Performing Arts Complexes are Evolving From Shoebox Venues Into Multipurpose Arenas

ARCHITECTURE HAS BECOME PART OF THE ACOUSTIC STRATEGY WHERE FUNCTIONS COMPETE

By Sara Hart

Three of this month's performing arts projects—the Tempodrom in Berlin, the Hampstead Theatre in London, and the Schuster in Dayton—incorporate unique programmatic elements not usually associated with performance centers. Dayton sought a new performing arts complex to help redevelop the city's downtown; similarly, Berlin envisioned a beacon for a freshly revitalized and heterogeneous area on the site of a famous train terminal. By contrast, London planned a theater with a sound problem to solve—the question was how to create acoustic isolation without expensive detailing for the Hampstead Theatre.

Atypical construction methods were employed in all cases in order to add functions without compromising the performance objectives of the theater spaces. To appreciate fully the scope of each project and the challenges it posed, readers should refer to the Building Type Studies, beginning on page 125, in tandem with this article.

Under the big top

The commission for the permanent residence for the Tempodrom (page 126) included a history of tent structures: the 20-year old production organization for concerts, experimental theater, and alternative art forms came with explicit design stipulations. Having formerly resided in two tents in two different locations, the Tempodrom



The Tempodrom in Berlin is a folded-steel-plate structure with 5-inch-thick concrete infill panels. A temporary tower was erected to support the frame during construction.

client group asked for another tent form, as it had become a symbol strongly identified with the facility.

Rendering a tensile fabric form in the permanent materials of concrete and steel required finesse. Hamburg, Germany-based architects Von Gerkan, Marg und Partner (GMP) designed the 120-foot-tall, load-bearing structure out of folded steel plate, stiffened to support 5-inch-thick, precast-concrete slabs. The result looks amazingly tent-like, yet is composed of solid elements. The panels are insulated on the interior and covered with two layers of plasterboard to provide fire protection for the steel components. The shell's exterior is coated with a white PVC (polyvinyl chloride) film that acts as the finish and protects against the elements. The tent rests on 12 steel columns, which transfer the loads to the reinforced-concrete base, which surrounds the 3,800-capacity arena.

The Hampstead Theatre (page 130) uses a similar structural strategy: a solid concrete base with a lighter steel frame supporting the roof and the perimeters. Such massiveness was required in both cases as a way to solve acoustic and structural problems simultaneously.

Quiet wrapper around the spoken word

Stylistically, the Hampstead Theatre stands in stark contrast to the flam-

CONTINUING EDUCATION



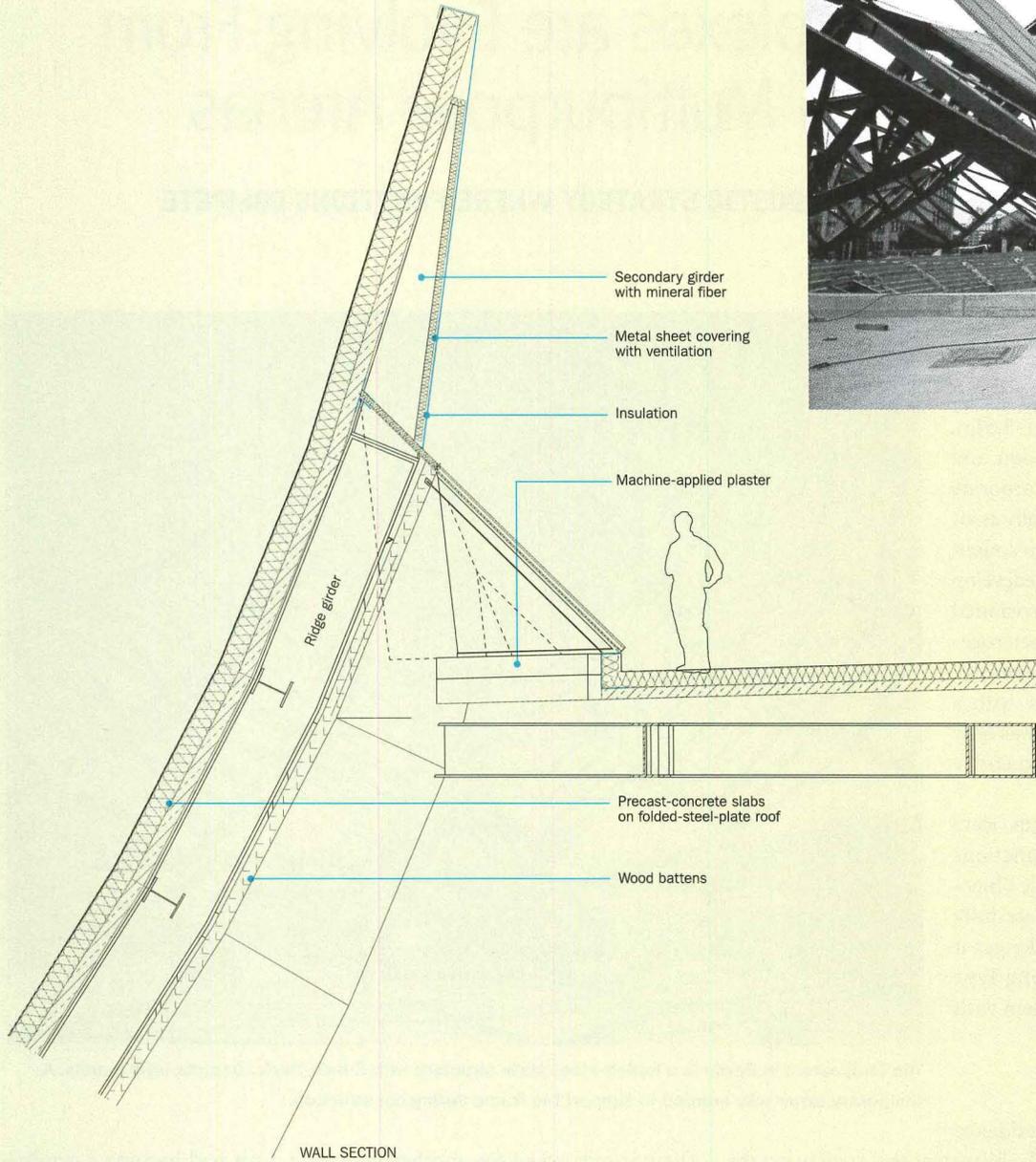
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 150 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Describe acoustic solutions used in performing arts centers.
2. Explain what challenges are presented to acoustic engineers when reconciling competing acoustic requirements in multipurpose arenas.
3. Explain what architectural strategies can be employed as substitutes for complex acoustic detailing.

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



Raising the roof at the Tempodrom

The contractor built a temporary tower where the opening of the tent-like, concrete-and-steel roof was to be located. Then, using a crane, the star-shaped steel ring beam was raised to the top of this tower. The primary girders were welded to the star points of the ring beam. Secondary girders were attached, and finally the precast-concrete panels were lifted into place (above).

boyant Tempodrom, even though they both replace inadequate, but famous, predecessors. Like the Tempodrom, the Hampstead is modest in size, as performing arts centers go, but in this case the client did not want an icon. Designed by London-based Bennetts Associates, the project features unusual planning. First, since the theater showcases spoken-word performances, the client specified that the audience be able to hear and understand an actor whispering onstage. Secondly, in order to avoid reliance on complex, expensive acoustic detailing, acoustic performance had to rely on the building's structure and fabric. This strategy further affected the choice of ventilation methods, plant location, room configuration, and materials.

The building was conceived as a freestanding pavilion isolated from its neighbors. Despite the apparent openness of the site, however, constraints on building footprint and height resulted in a sizable basement extending beyond the line of the above-ground structure. This earth-sheltered basement annex provided the ideal acoustically remote location for most of the noisy mechanical plant. The air-handling equip-

ment for the two performance spaces is located here, linked to the theaters by large, low-velocity duct runs, which help reduce the transmission of plant noise. The mechanical plant itself is generously sized, with components carefully selected for individual acoustic performance rather than packaged convenience. Both the auditorium and education studio air supply and exhaust operate quietly.

CIRCULATION ROUTES AND VOIDS CREATE INTERSTITIAL SPACES, WHICH PROVIDE A GOOD DEGREE OF ACOUSTIC SEPARATION.

Ian Thompson of Arup Acoustics and project architect Simon Erridge collaborated on the acoustics plan. The main auditorium and the stage are enclosed within a steel-framed, in situ concrete enclosure. The enclosure is, in turn, surrounded by naturally ventilated support spaces, such as offices and dressing rooms. Circulation routes and voids create interstitial spaces, which provide a good degree of acoustic sep-



The steel tent rests on 12 steel columns, which transfer the loads into the massive reinforced-concrete base (left).

aration without creating the need for complex and expensive fully isolated construction.

Design studies of the auditorium shape indicated an early preference for semicircular or elliptical plans, which offered intimacy and connection with the stage. While their curved shapes bring the audiences closer to the performers, they can lead to focusing of sound from the stage, resulting in rogue reflections and disorienting acoustic effects. The aim was to create an acoustically intimate room in which sound would be neither focused nor excessively absorbed.

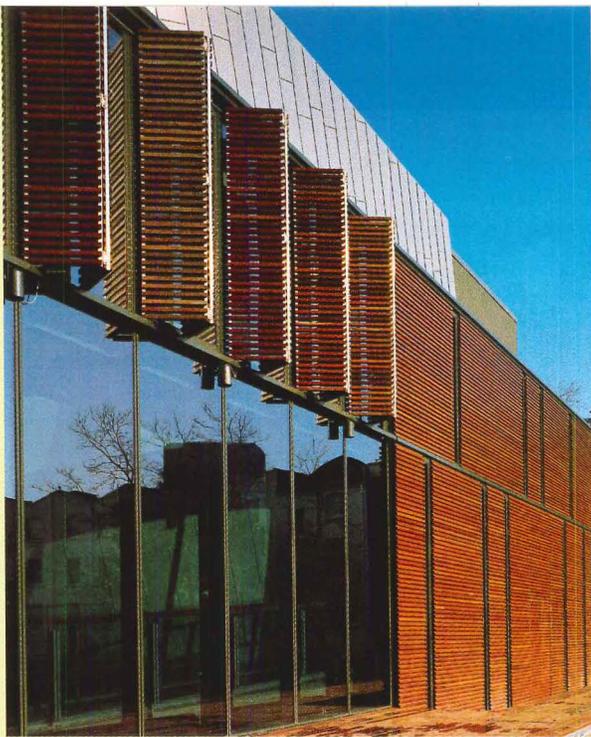
The solution lay in developing a language of joinery screens and balcony fronts to visually define the curved shape, and to construct the elements from materials with a high degree of acoustic transparency. Behind these screens, fixed walls and panels could be shaped in convex or faceted patterns to scatter sound around the room while remaining hidden from view.

Study models and calculations revealed that screening formed from 1-inch timber slats with 1-inch gaps provided the best visual and

acoustic effects. On the balcony fronts, these slats conceal faceted MDF (medium density fiberboard) panels. Against the side walls of the auditorium, full-height slatted screens conceal large radius plasterboard wall linings—a strategy similar to the interior of the Tempodrom. Apparently, plasterboard and wood batten work as well for levels approaching 100 decibels (at the Tempodrom) as for the spoken word.

BOTH THE TEMPODROM AND HAMPSTEAD EMPLOY ENVIRONMENTAL CONTROLS THAT ARE NOT NORMALLY ASSOCIATED WITH THEATERS.

At Hampstead, the plaster and wood interior lining extends outside to the building envelope, where the facades employ alternating timber slats and glazed openings. Whereas the timber slats on the interior provide acoustic transparency, on the exterior they provide sun

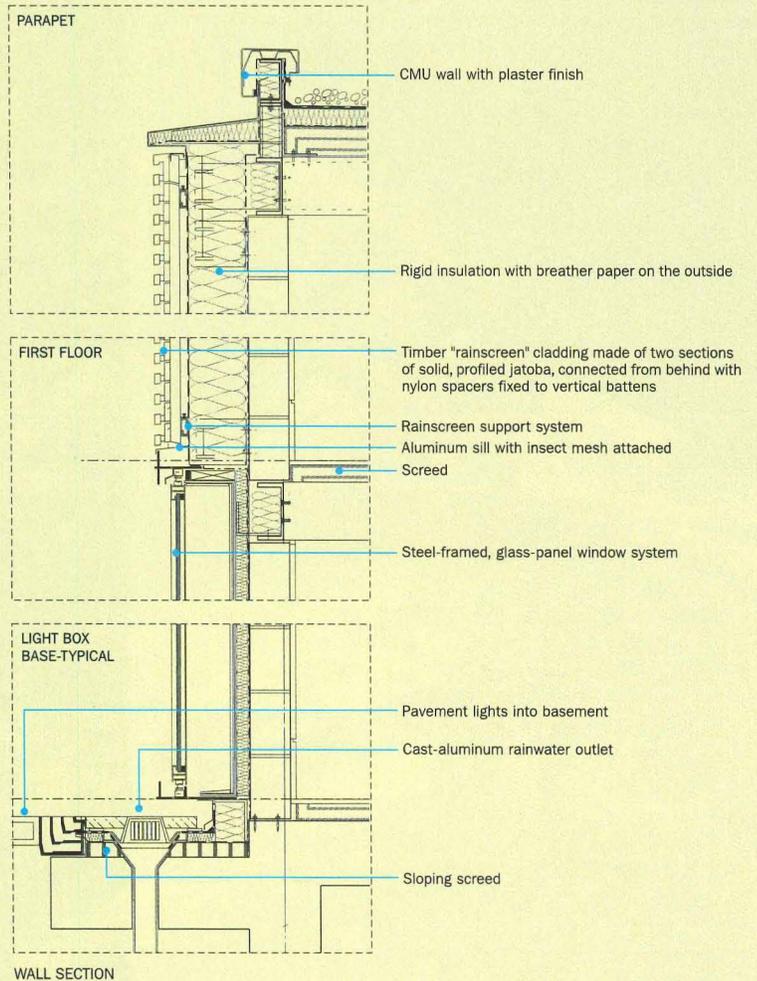


Hampstead Theatre's subtle exterior

The exterior walls employ a screen of jatoba wood (a very dense hardwood with

tremendous shock-resistant qualities) to keep out the rain and shade the sun. Assembly comprises continuous panels that fit in between narrow

glazed slots without vertical joints. An artist's light boxes displaying colored light have a galvanized-steel tray and are fitted with pivots and a latch for access.



shading. Large glazed openings serve as light boxes for colored display, designed by the well-known light artist Martin Richman (see wall section, above).

Both the Tempodrom and Hampstead employ environmental controls not normally associated with theaters. The design of the Tempodrom, which received financial incentives from the environmental-aid program funded by the European Union, followed the EU's strict guidelines. Consequently, the architects increased thermal insulation in the floors, walls, ceilings, and tent roof, which reduced the amount of energy consumption dramatically. A heat exchanger used for air-conditioning is located underground, where it absorbs either ambient heat or cold, which further reduces the need for power.

Meanwhile, Hampstead goes further, relying on natural ventilation in all areas except the auditorium. Here, the architects chose a displacement ventilation system. Tempered air rises below the seats through large ducts that lower the air speeds and ventilation noise to an absolute minimum.

Cultural revitalization in Ohio

Cesar Pelli and Associates designed the largest project of the three, at 430,000 square feet and occupying an entire city block. More than a cultural institution, the new Benjamin and Marian Schuster Performing Arts Center (page 134) brings a multipurpose redevelopment project to downtown Dayton. Three major components define the complex: a multiuse

THE ATRIUM HUGS THE BACK OF THE THEATER, POSING A DIFFICULT ACOUSTIC INTERFACE BETWEEN THE TWO SPACES.

performance hall (home to the Dayton Philharmonic Orchestra, the Victoria Theatre Association, and the Dayton Opera Association), an atrium-cum-winter garden, and an 18-story office and residential tower with underground parking.

The seven-story winter garden, the focal point of the development, serves as a public anteroom for the theater in much the same

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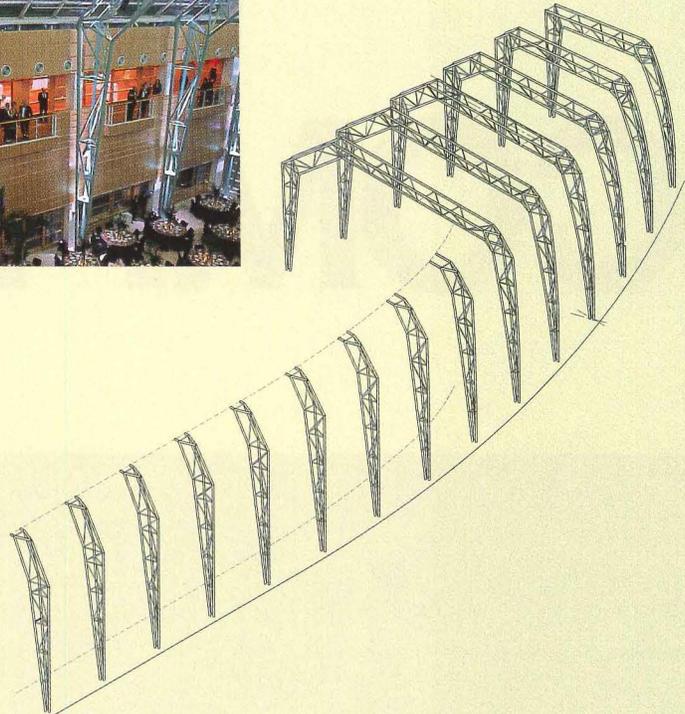
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Multitasking in Dayton

The winter garden adjacent to the large theater at the Schuster Performing Arts Center is a multipurpose space, with a restaurant and stage for bands, receptions, and speeches. Cesar Pelli originally designed an atrium that was all glass (below). Value

engineering results suggested that a solid roof would reduce costs. Acoustic studies confirmed that, in addition to cost savings, the ceiling of a solid roof could be installed with acoustic-absorption devices, which would significantly reduce unwanted sound reflections.



way as the plaza at New York City's Lincoln Center. In order to emphasize its civic duties and cultural authority, Pelli chose to glaze the entire atrium. The winter garden hugs the back of the theater, potentially posing a difficult acoustic interface between the two spaces. Mark Holden, president of Jaffe Holden Acoustics, suggested that the complex com-

AS CULTURAL COMPLEXES EVOLVE INTO MULTIPURPOSE ARENAS, THE CHALLENGES FOR ACOUSTIC ENGINEERS INCREASE.

ponents be separated by an acoustic joint (basically just an air space). Because Dayton is in a high-risk seismic zone, the joint had to be 5 inches wide to prevent the components from banging together during an earthquake.

Furthermore, after Jaffe Holden's studies of the curtain wall bent into the roof form showed unwanted sound reflections, and value engineering showed higher costs for an all-glass envelope, the roof became

opaque. The solution chosen for the acoustics in Ohio was similar to those used in both the Tempodrom and the Hampstead Theatre—wooden slats spaced to create a transparency, backed by another material. At the Schuster, the wood ceiling system is made of $\frac{3}{4}$ -by-4-inch select natural maple strips with 1-inch spaces between the members. Acoustic fiberglass lies on top.

All three projects use mass as an acoustic barrier. At Schuster, thick masonry walls isolate fans, and ducts lined with acoustic materials limit operational noises to the equipment rooms. In addition, the entire theater—orchestra pit, stage, and audience areas—is enclosed by massive concrete slabs and CMU walls, which block all external sounds. In other words, a brass band can be playing in the winter garden while a soft aria serenades in the theater, and never the twain shall meet.

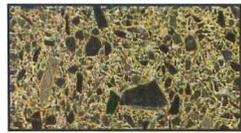
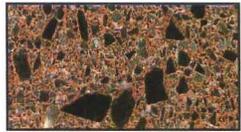
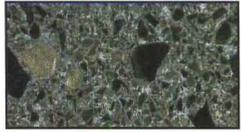
Sounds like innovation

Cultural complexes are evolving into multipurpose arenas in the same way that sports arenas have morphed into retail and entertainment ven-

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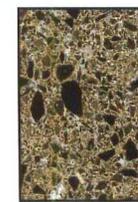
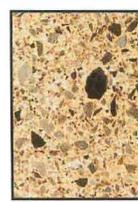
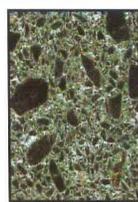
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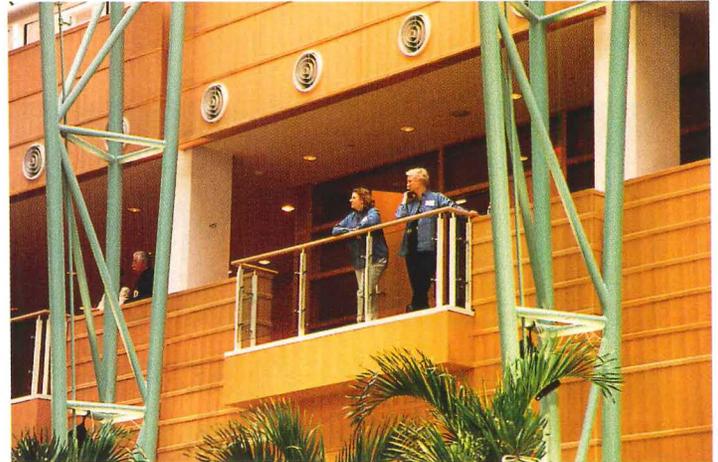
ues. This trend will continue, says Russell Cooper, principal at Jaffe Holden Acoustics, challenging the acoustic engineers. Nonetheless, architects will see opportunities to reconcile what purists continue to see as conflicting agendas. “Few cities besides Washington, New York, and Los Angeles can support the single purpose, shoebox theater,” says Cooper. “The dollars are astronomical.”

Engineers have learned how to use structural breaks between noisy areas, “breaking the steel or concrete structure and creating an

CULTURAL COMPLEXES ARE EVOLVING INTO MULTIPURPOSE ARENAS, IN THE SAME WAY THAT SPORTS ARENAS HAVE MORPHED INTO ENTERTAINMENT VENUES.

acoustic joint between them,” says Mark Holden, “then using lighter-weight structures like steel studs/drywall or lightweight precast to block the rest of the sound transmission, as done at the Schuster Theater.”

“In all-steel buildings, we have incorporated acoustic blocking masses, where a piece of steel structure such as a beam is strategically encased in poured concrete just at the point that dampens the transmission of sound between the buildings. Modeling the structure allows us to pinpoint that location,” he continues.



The atrium structure is separated from the theater wall by an acoustic joint.

When there are two noisy spaces, one on top of the other, that must be acoustically isolated from one another, acoustic engineers use floating concrete floors or resiliently suspended walls and ceilings to create box-in-box constructions.

In all such projects, acoustic issues should be addressed from the beginning of the design process, as these three examples illustrate. Many acoustic solutions lie in the architecture itself. ■



AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read “Performing Arts Complexes are Evolving From Shoebox Venues Into Multipurpose Arenas” using the learning objectives provided.
- ◆ Complete the questions below, then fill in your answers (page 210).
- ◆ Fill out and submit the AIA/CES education reporting form (page 210) or download the form at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. The Tempodrom, the Hampstead Theatre, and the Benjamin and Marian Schuster Performing Arts Center all use what acoustic barrier?
 - a. glass
 - b. wood
 - c. mass
 - d. space
2. At the Schuster Performing Arts Center, what isolates the noise of fans from the theater spaces?
 - a. an earth slab
 - b. thick masonry walls
 - c. acoustic batting
 - d. dampers
3. At Schuster, the winter garden is described as which?
 - a. completely glazed
 - b. seven stories high
 - c. the focal point of the development
 - d. all of the above
4. In order to separate the sounds in the theater from those in the winter garden, which solution was used?
 - a. an acoustic joint
 - b. triple-pane glazing
 - c. mass
 - d. wood slats
5. At the Hampstead Theatre, how is noise kept to a minimum without complex acoustic detailing?
 - a. small ventilation ducts are used
 - b. a displacement ventilation system is used
 - c. air is introduced from the ceiling
 - d. natural ventilation is used
6. At Hampstead, the most acceptable acoustic effect was achieved by using which?
 - a. MDF board
 - b. elliptical shapes
 - c. plasterboard
 - d. 1-inch wood slats
7. The curved shape at Hampstead was used for which reason?
 - a. to achieve visual intimacy
 - b. to connect stage to audience
 - c. to recreate an artist’s design
 - d. to reduce sound reflections
8. The Tempodrom in Berlin was designed to resemble a circus tent for which reason?
 - a. to keep a consistent visual image
 - b. to use new technology
 - c. to recreate an artist’s design
 - d. to experiment with precast-concrete shapes
9. The Tempodrom is described as which?
 - a. a concrete form made of fabric
 - b. a tensile form made of concrete and steel
 - c. a plasterboard structure covered with fabric
 - d. steel columns with a steel, tentlike roof
10. At Hampstead, all the following conditions in the basement level are true except which one?
 - a. it is smaller than the footprint of the building
 - b. it extends beyond the line of the above-ground building
 - c. it houses the air-handling plant for the complex
 - d. it provides an ideal acoustically remote location for the noisy equipment and generously sized ductwork



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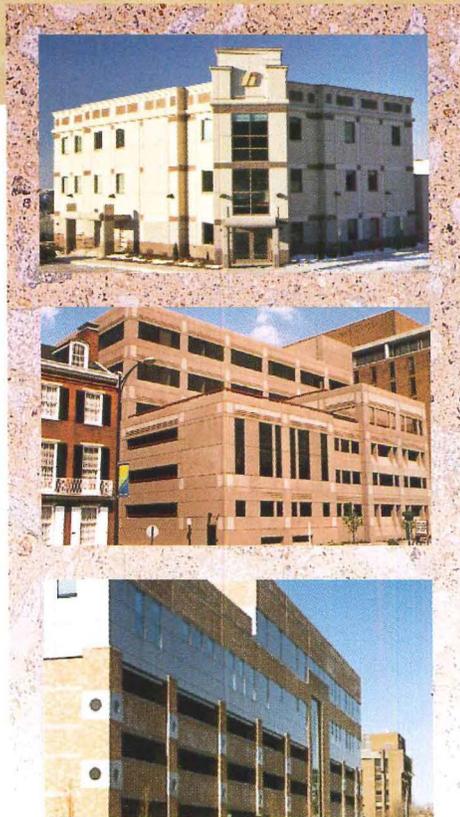
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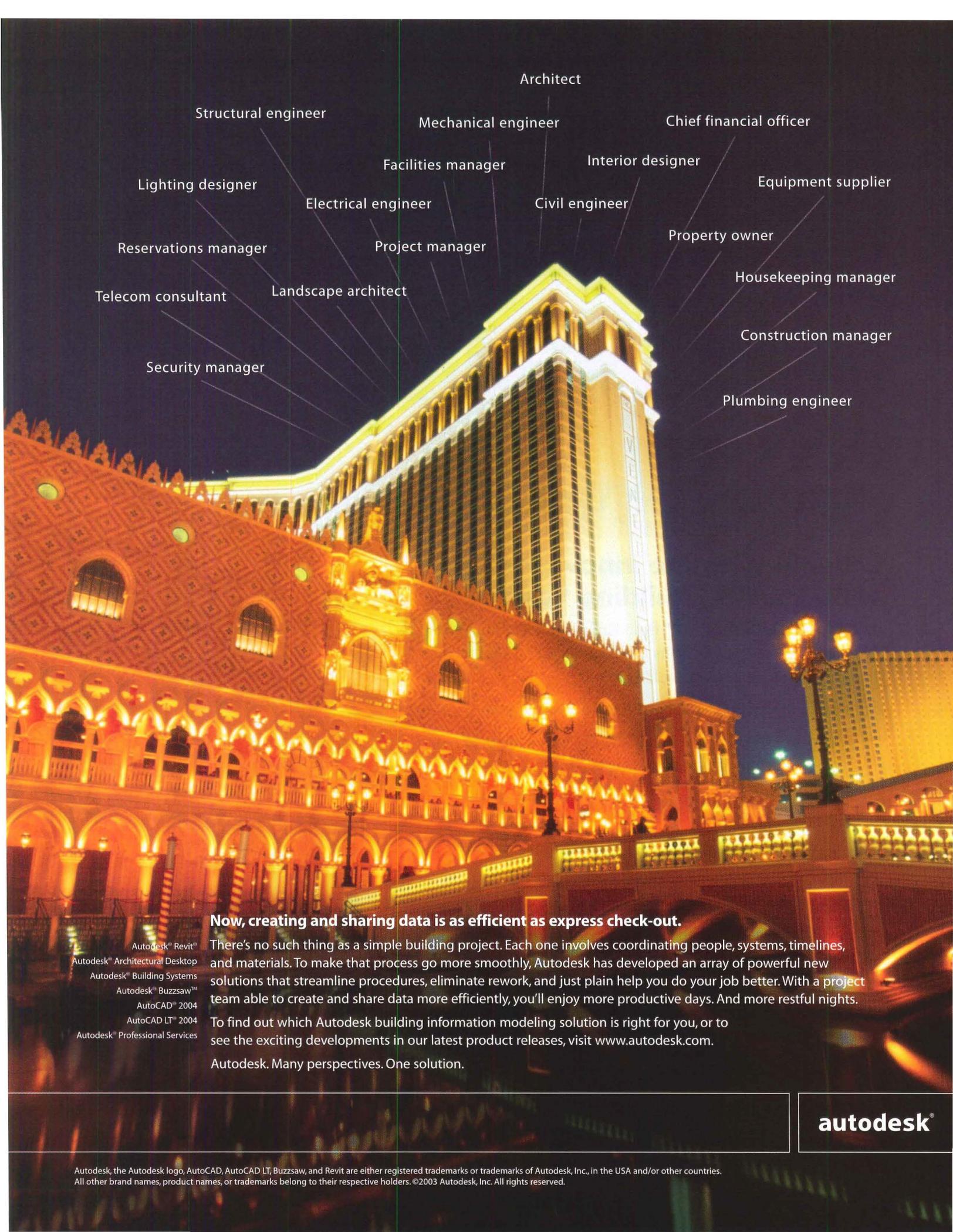
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Digital Architect

IT skills: A key to career success?

By Alan Joch

As the competition for plum appointments and perhaps a partnership at a choice firm heats up, architects look for every advantage to distinguish themselves from their colleagues. Increasingly, these competitive strengths include more than just design skills and a creative eye. Educators and principals at large architectural firms say that IT skills, if promoted correctly, can sometimes open the door to the boardroom. "The firms we are feeders to are very committed to computing," says Dr. Mark J. Clayton, executive associate dean of the College of Architecture at Texas A&M University in College Station. "There is clearly a career path for architects who focus on IT."

But a basic proficiency with PCs and CAD software isn't a rare skill set anymore. "Technical expertise is not the badge of honor it used to be," says Ken Sanders, FAIA, vice president and chief information officer in the San Francisco office of Gensler Architecture, Design & Planning. To make an impact on progressive practices today, architects need to demonstrate a sophisticated understanding of many different types of technologies. In addition to stalwarts like CAD, rendering, and modeling software, architects hoping to use

technology as a fast track also must be adept with applications that streamline communications with clients, manage project schedules, and crunch return-on-investment numbers. Added points come with the ability to create Web sites, as the Internet becomes a ubiquitous communication tool for firms wanting to connect with clients and community groups. Similarly, Web technology helps practices create intranets to distribute in-house expertise to the entire staff in the form of electronic resources such as detail and image libraries, marketing materials, and project schedules.

However, IT training in itself isn't enough. Fast-trackers also need the creativity to see how new technology can be applied to their firms and projects in innovative ways. "It's less a skill set and more an openness and willingness to look for new ways of doing business," says Jonathan Cohen, AIA, principal of Jonathan Cohen and Associates in Berkeley, California, and chair of the AIA's Technology in Architecture Practice committee.

Old school lives

Unfortunately, not every architectural firm embraces technology as a strategic business tool. Firms vary widely in their views of the importance of technology and may either promote or pigeonhole technology-savvy architects. Some staid firms regard technology as an annoyance or a support function, and in those cultures, becoming "the IT guy" may be a fast path to nowhere, Cohen says.

He recalls one consulting assignment with an East Coast

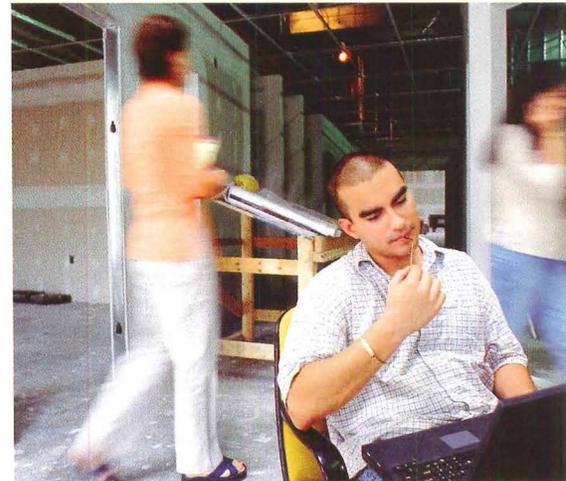
architectural firm that was managed by a group of founding principals approaching their 70s. This "very old-school" firm benefited from a second tier of managers who had risen through the ranks and came to understand that architectural practices were changing. "They had an inkling that technology was becoming an integral part of that practice," Cohen says, "but they couldn't penetrate the existing culture." If a firm's principals won't listen to new ideas, lower-ranking architects may find it challenging or impossible to bring about technology-based changes, and in turn, they may not secure career rewards for their expertise. "Firms that have been successful [in the past] often cling to the oldest methods," he adds.

On the other hand, progressive firms view IT expertise as having strategic value that pushes the boundaries of their practice to attract new clients and bring about greater work-flow efficiencies.

"In firms like that, a person sits at the management table and helps set the direction of the firm," Cohen says. "Those are the firms doing exciting things."

By following her IT interests, Jill Rothenberg, principal and chief information officer at ADD Inc in Cambridge, Massachusetts, landed a seat in the boardroom. Joining the firm in the 1980s as a junior-level interior designer, she became

involved with the IT group because of a desire to do "something new," she recalls. A decade ago, the firm named Rothenberg head of IT, a role that eventually became an entrée into senior management. "Many architectural firms would only consider making an architect a principal," she says. (Rothenberg herself is an architect, but given her career path, prefers not to use her AIA designation). "But technology has become integral to our practice. Because of this, the executive management values my contribu-



Young architects are typically very computer-savvy, but just knowing how to use software won't get them far without other crucial job skills.

tion to the direction and success of the firm."

New pressures

As a tool for getting ahead, technology expertise differs depending on whether someone is new to the profession or a veteran, says Patrick Mays, AIA, principal and chief information officer with the Seattle office of NBBJ. Junior members will

Alan Joch is a technology and business writer based in New England. Contact him at ajoch@monad.net.

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Digital Architect

be held back if they don't have enough technical proficiency to interact with clients, understand the construction process, create good designs, or deliver work on time. "These areas aren't directly related to technology, but it would be hard to do these things without being sophisticated about the programs

need to learn how to use PowerPoint better," Mays says.

The challenge of riding the IT wave to a senior-level promotion may be greater than ever before, partly because of how difficult it is to maintain an edge in both architectural practice and technology, Rothenberg adds. "Before, if you had

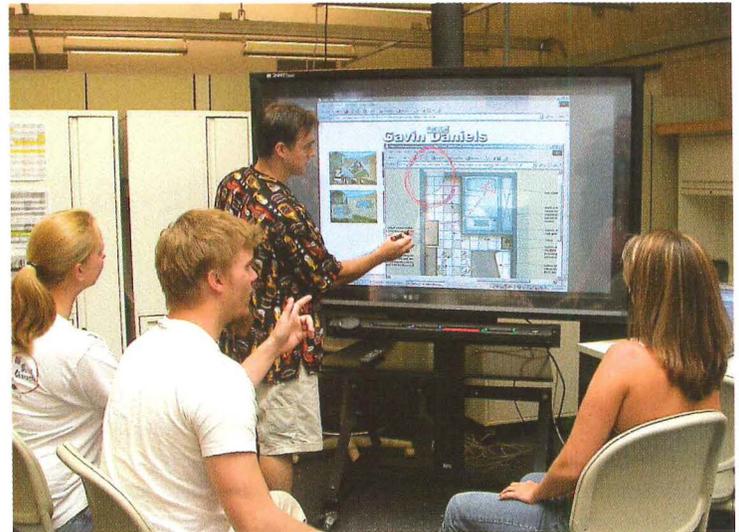
YOUNG ARCHITECTS MUST KNOW NEW TECHNOLOGY TO GET AHEAD, BUT ONCE THERE, KEEPING CURRENT IS A CHALLENGE.

we're using [to do these jobs]," Mays explains. "It's a broader use of technology than just for design."

By contrast, NBBJ judges senior staff members by different performance measures, such as the success of the projects they're managing, or the number of projects they are able to secure for the firm. "If someone is bringing in a ton of work, no one is going to say, 'You

a good hand and could draft well, it stayed with you the rest of your life. Today, that's not enough. Software applications and hardware are constantly changing. As you try to stay on top of your projects, it's difficult to stay current with all the new hardware and software that's coming out," she says.

She says that this puts greater pressure on older, more established



At Texas A&M University, educators prepare students for practice by having them use technology not only to design, but also to collaborate and communicate with their project teams. Here, master's students use a portable plasma display to conduct paperless design reviews with peers in other studios.

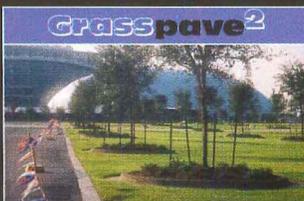
architects than on new graduates. And if senior managers develop business skills at the expense of IT knowledge, they risk losing rapport with younger associates, a possible detriment to further career advancement. "Two people recently told me

they felt the junior staff did not respect them as much because they didn't know how to open up a CAD file and make simple changes to it," Rothenberg recalls. "This came from someone who was a superior project manager, and from

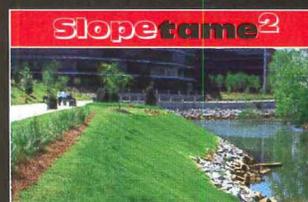
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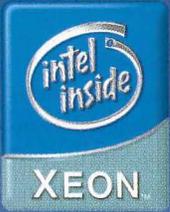


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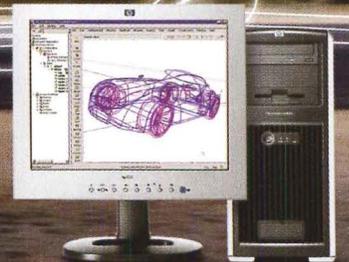
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a person with design expertise." The disrespect "affects their abilities to share in some of the responsibilities of getting jobs done," she says.

To keep its designers technologically current, ADD Inc organizes "lunch and learns," midday workshops in which staff architects instruct others in how to use important applications. At Texas A&M's architecture school, a pilot program is under way to develop and test a distance-learning program, where architects can take courses for master's degrees via the Internet. Such a program would naturally demand IT proficiency of its students.

Even if technology helps an architect achieve a desired career milestone, IT expertise alone doesn't guarantee continued success. The job of senior executives is to focus on client relationships and other duties that go beyond producing

new designs. People who don't use CAD or graphics software every day stand little chance in mastering the increasingly complicated programs, Gensler's Sanders believes. "As people do more client interaction, it becomes harder for them to stay up to speed on all the new technology tools," he says, which keeps senior executives behind the technology

WHEN INTERVIEWING, ARCHITECTS WITH STRONG IT SKILLS SHOULD ASK FIRMS ABOUT THEIR TECHNOLOGY STRATEGIES.

curve, even when today's computer-savvy new grads start to populate boardrooms. "The tools people use as young practitioners are not what the next group of young practitioners will be using," he points out.

Cultural guide

If finding a technology-friendly culture is key to success, how can

architects spot compatible firms? Cohen advises candidates to scour a potential employer's Web site for hints as to its IT savvy. In addition, IT pros should take advantage of industry contacts. "People who are knowledgeable understand that in any given city there might be three or four firms that are especially forward-looking. Talk to people who work in those firms," Cohen says.

Clayton believes that a discussion about IT as a strategic tool should be a focus of the interview

they seem adept in the technology, then that's probably a good firm to hang out with."

In the end, the question isn't so much whether technology-savvy architects enjoy competitive advantages, but whether architectural firms today can afford not to cultivate in-house expertise, Cohen says. Citing what he calls the architectural profession's "slow trend of marginalization" as the construction-management industry arose and began to dominate project execution, Cohen believes new practice models, including virtual networks composed of designers, engineers, contractors, and materials suppliers, could return architects to the central role they once played in the building process. "Architects could be at the hub of the digital enterprise if they understand the technology and are willing to experiment with functional process changes," Cohen says. Resisting change and not promoting the people who can bring it about "is the riskiest choice of all." ■

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John and Shirley Reynolds custom-built their two-story home in early 1991. Windows are wood, manufactured in accordance with the Window & Door Manufacturer's Association (WDMA) IS-4 Industry Standard for Water Repellent Preservative Non-Pressure Treatment for Millwork. The windows are painted. The roof design includes minimal overhang. The automatic sprinkler

system sits directly beneath lower level windows.

In winter, the Reynolds' home is subject to near-constant rainfall. In summer, windows are kept moist by the sprinklers. The home is still in relatively good repair, and the Reynolds did not find it necessary to repaint the exterior.

They recently sold the home, however, and new owners contend that lower level windows show evidence of wood decay. A call to the manufacturer

reveals that, despite representations when sold that the windows would not experience defects for "at least" 10 years, there is no warranty coverage.

Because most common wood species have little resistance to decay, some form of chemical preservative is necessary to protect lumber from rot and from the attack of insects and fungi.

Window and door manufacturers for a half-century have employed various chemicals and a variety of methods to treat window and door components to repel insects, fungi and moisture.

A search for a more effective solution with lessened environmental impact has led an Oregon manufacturer to a new process that 1) treats wood under pressure and using vacuum techniques—allowing nearly complete saturation (most processes rely on a surface coat to repel moisture and insects) and 2) uses a relatively new chemical formulation in place of solutions common to the industry.

The pioneering venture, in concert with a chemical company specializing in wood-treating systems, replaces the "dip" common to the industry. Preliminary test data, says the manufacturer, suggests the process is highly effective. In addition, full-penetration treatment reduces the possibility that the "envelope of protection" afforded by the treatment will be broken in assembling and installing the woodwork, says a manufacturer's representative.

Treated wood typically has eight times the useful lifespan of untreated wood, according to calculations by the American Wood Preservers' Institute (AWPI).

Most of us are familiar with the most common forms of wood treatment: creosote, the black or brownish oil made by distilling coal tar is widely evident as the preservative for railroad ties and, frequently, utility poles. Contemporary outdoor construction nearly always is done with pressure-treated lumber characterized by a green cast and the incisor marks of the treatment process.

We are most likely, however, unfamiliar with less apparent forms of treatment. It may be surprising to some to find that most millwork used in

CONTINUING EDUCATION

Use the learning objectives below to focus study as you read **Wood Decay: New Technology for an Age-Old Problem.**

To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 163, then follow the reporting instructions on page 210 or go to the Continuing Education section on archrecord.construction.com and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Understand the various causes of wood rot.
- Become aware of alternate treatment practices, the history of wood preventatives, and the long-term benefits of preventative treatment.
- Develop an understanding of a new highly effective wood treatment process.



Left: Three unpainted L-joints in our greenhouse after 29 months exposure. The middle one is treated with the new process (machined from treated stock), with an untreated one to the left (one of 3 of 10 that had not already failed), and on the right (fungus growing out) is a IPBC dip treated L-joint. Right: L-joints and window units in Hilo.

wood windows are subject to some form of preservation technique.

Globally, wood preservation is a \$10 billion industry and is a science of intense interest worldwide. A “Google” web search of the subject results in a half-million hits. Annual North American production of treated lumber is estimated to be in the range of 6-to-7 billion board feet.

The 300-member, Stockholm-based International Research Group on Wood Preservation this year will disseminate roughly 150 technical documents on subjects as arcane as “Effects of methylene bithiocyanate on morphology and ultra-structure of a sapstain fungus,” and as topical as “Environmental Impacts of CCA (chromated copper arsenate) Treated Wood.” In February, 2004, the Florida Interdisciplinary Center for Environmentally Sound Solutions (FICISS), under the sponsorship of the National Science Foundation, will host several thousand attendees to the “Environmental Impacts of Preservative-Treated Wood Conference in Orlando.”

Because environmental restrictions are creating changes in the wood preservation landscape, and because of the emergence of new treatment technologies, this continuing education piece will look at wood preservation—from the perspective of the U.S. millwork industry—and discuss water-based processes which, though they have been around for nearly a half century, are likely to become industry standards in this era of environmental sensitivity. It will look at alternative treatment methods that have become standard throughout the industry standards and describe the new water-based process which soon will replace existing treatment methods for all of the product line of the manufacturer.



Top: L-joints during exposure in Hilo with differences in mold on paint. Bottom: Greenhouse setup of L-joints for artificial spraying of water.

Treatment methods generally differ by wood species, but, in general, the replacement cost of treated wood over its lifetime is much lower than that of untreated wood, which has a shorter useful life, says the American Wood Preservers Association (AWPA).

Although not used in millwork, chromated copper arsenate (CCA), which serves as a fungicide and insecticide (and which gives the green cast to outdoor decks, picnic tables and playground equipment) is topical because the U.S. Environmental Protection Agency (EPA) has announced a ban of its use. Fearful of the effects of arsenic exposure, the U.S. will ban CCA products for residential use after January 2004. The European Commission has announced a partial prohibition on the use of CCA-treated timber, to take effect after June 2004. The reasoning: scientific studies suggest that, over time, arsenic slowly leaches from CCA-treated wood products, the rate dependent upon rainfall, soil PH and the age of the structure. EPA Administrator Christie Whitman announced in February 2002 a “voluntary” decision by the lumber products industry to move from arsenic-based preservation techniques to alternative wood preservatives. The EPA is not recommending, however, that existing structures or surrounding soils be removed or replaced.

As is the case with outdoor lumber manufacture, millwork preservation incorporates water repellants, fungicides and insecticides in the manufacturing process. In most millwork preserving systems “active ingredients” are carried into the wood by petroleum-based solvents, most typically applied today through a “dip” method, no more complicated than it sounds, in which untreated lumber is dipped into a tank of preservative to make the wood resistant to decay and insect infestation.

Effective water repellent preservatives retard the impact of moisture on wood and, thereby, help reduce dimensional changes in the wood.

Fungi and Insects Feast on Wood

The two principal organisms responsible for destroying wood are fungi and insects.

Fungi are microscopic organisms that consist of threadlike structures and depend on organic matter for food. There are three types of wood fungi:

- **Mold:** grows on the surface of wood, consuming sugars and other carbohydrates. It gives the wood a ‘woolly’ or powdery appearance but does not affect timber strength.
- **Sapstain:** these fungi are pigmented and discolor or stain infected timber. Sapstain fungi don’t affect timber strength but do make small holes in cell walls and membranes, making it more susceptible to rot.
- **Decay:** is the most destructive form of fungal attack. Three types occur: *brown*, *white* and *soft rots*. These utilize the cellulose and lignin in cell walls, quickly weakening timber strength.

Insects involved with wood destruction are, generally, either termites or beetles. However, wood wasps, moths and carpenter ants are problems in some

areas. Insects feed on wood, damaging it by chewing and boring into it. Some insects do negligible structural damage while others, such as termites, can leave only a thin outer shell of wood, the inside being completely hollow.

In 1931, a Defense was Mounted

Chlorinated phenols, principally pentachlorophenol (penta or PCP), were one of the earliest preservatives used in protecting millwork from decay. This solvent-based system was introduced to the millwork industry in about 1931. Chlorinated phenols were highly effective, but for environmental reasons, the EPA in 1986 restricted the use of PCP.

Today, hundreds of sites across the country, like that of the former Penta Wood Products treatment facility south of Duluth, Minn., are under remediation. A 1987 investigation of the Penta site disclosed that groundwater at the site was contaminated with PCP. About 4,800 tons of arsenic-contaminated soil (from related ammonia copper arsenate use) have been excavated and a groundwater treatment program, expected to last up to 30 years, was begun this summer.

One brand name that became synonymous with penta was "Woodlife." In 1984, due to pending EPA restrictions, 3-iodo-2-propynyl butyl carbamate, commonly referred to as IPBC, replaced penta as the fungicide in Woodlife, and is still used today by many in the millwork industry. IPBC is not an effective insecticide, however. An insecticide, "chlopyrifos," is commonly added to Woodlife for pest control. The newest version of Woodlife uses a petroleum solvent as a carrier for the active ingredients. It is commonly applied using the dip system.

Penta was a very effective decay preventative, and since its ban, manufacturers say that they have seen a "creeping" increase in incidents of wood decay.

Another treatment product, Pilt, which used Tri-N-Butyltin Oxide (TBTO), became available in 1976. Pilt is an acronym for preservative in-line treatment. Like Woodlife, it uses a solvent-based dip system. In 1990, IPBC largely replaced TBTO.

The New Process

In 1998, a major Oregon-based window and door manufacturer began investigating new alternatives in wood preservation technology for millwork. The objective was to find a reasonably priced system that increased decay resistance and diminished environmental impact.

Water replaces petroleum-based solvents as the carrier for the active ingredients—tebuconazole as the fungicide. Tebuconazole is an organic triazole biocide, that is stable and leach resistant in wood, effective against wood decay fungi, but of uncertain effectiveness as an insecticide. Therefore, a proven insecticide—imidacloprid—is blended into the solution. Both tebuconazole and imidacloprid are among ingredients certified by the Window and Door Manufacturers Association's Hallmark Certification Program. The repellent is a proprietary emulsion that differs from paraffin-based repellents commonly used throughout the industry.

"From an environmental standpoint, this system results in a 97 percent reduction in VOCs (volatile organic compounds). That, alone, is a huge benefit," says the manufacturer's technical director. "The water-soluble process produces little or no wastewater, unlike oil-based processes that produce both significant quantities of process wastewater and metal-containing sludge." In addition, pressure treatment permits manufacturers to use solutions with considerably lower chemical concentrations to achieve comparable effect.

The process, referred to as "full-cell," is this:

- Treating chemicals are delivered and stored in holding tanks.
- Chemicals and water are mixed in a treating solution.
- A charge of wood is sealed into an 84-ft.-long pressure vessel and a vacuum is applied to remove air from the chamber—and, as much as possible, from the wood.
- The vacuum is released, flooding the containment vessel with chemical solution, and 150 psi pressure is applied until the wood will take no more preservative.



- Pressure is released, the solution drained from the chamber, and a final vacuum is applied to recover solution.
- The vacuum is released, the pressure vessel opened, and wood removed. The process takes about two hours, and up to 10,000 board feet can be treated in a single charge. The system now produces up to 500,000 board feet of treated lumber per week.
- Wood is transferred to a computer-controlled dehumidification kiln. Boards are immersed in the solution in the process, not merely surface-treated. The result is that the solution penetrates the wood, not merely coats it.

Other Treatment Alternatives

Alternative lumber treatments are available. These alternatives are free of arsenic, chromium, and other preservatives classified by the EPA as hazardous. However, they may contain ingredients that are synthetic or that are not yet evaluated by the National Organic Standards Board (NOSB).

Borates (boric acids and borax) have long been used for alternative wood protection and are used in all types of lumber, logs, and plywood. Boric acid is a synthetic substance allowed for use in organic crop production as a "structural pest control, [not in] direct contact with organic food or crops."

Borate wood treatments will penetrate to the center of the wood when the wood is dipped, especially when the wood is freshly cut, or when seasoned wood is re-wetted. However, because borates are water soluble, they will leach from the wood when in contact with water in the soil, leaving the wood unprotected. Thus, borate-treated lumber is commonly used only in locations that are at least six inches above the ground and protected from excessive rain. Borate-treated wood is not considered suitable for unprotected outdoor use, such as for fence posts or poles, but is suitable for most building construction purposes.

Ammoniacal Copper Citrate (CC) is a recently developed wood preservative that has 62.3% copper as copper oxide and 35.8% citric acid dissolved in a solution of ammonia in water. The treated wood initially will have a slight ammonia odor, but the odor dissipates soon after treatment. The copper protects against decay and insects, and the citric acid helps distribute the copper inside the wood.

Copper azole (CBA) is a wood preservative with active ingredients of copper, boric acid, and tebuconazole (azole), a synthetic organic carbon product used in fungicides. Copper azole has 49% copper as CU, 49% boron as boric acid, and 2% azole as tebuconazole dissolved in a solution of ethanolamine in water. CBA lumber use must be discussed with your certifying agents before any application and use, and written into your Organic System Plan. The EPA has not yet established use and handling precautions for wood treated with copper azole.

Alkaline Copper Quaternary Ammonium (ACQ®) is a wood preservative—containing copper and quaternary ammonium compound (quat) as active ingredients—that protects against rot, decay, and termite attack. It is the most common CCA replacement. Quat is a product commonly used in commercial disinfectants and cleaners. It acts as a co-biocide. Some copper does leach from ACQ-treated lumber, making it unsafe for garden use. And because copper is highly toxic to marine life, ACQ is not recommended for aquatic environments.

A Preservation Chemical Glossary

Timber preservation works by treating wood to make it unsuitable for attacking organisms. This is generally achieved by impregnating wood with toxic chemicals that poison or make it unpalatable. The main wood preservative chemicals are:

- **Creosote:** is produced by the high-temperature distillation of bituminous coal. The distillate consists of solid aromatic hydrocarbons, and tar acids and bases. Creosote is toxic to fungi and insects, is relatively insoluble in water, and is generally low cost. The pungent odor, oily finish and its propensity to leak and stain surrounding material makes it less desirable in some situations. Creosote is used where timbers are in contact with the ground or in buildings that have a high decay hazard such as railway sleepers. Fence palings and battens. It is also effective in marine structures.
- **PCP:** or pentachlorophenol (C_6Cl_5OH) was used for many years as a fungicide. It also affords good protection from insects when dissolved in heavy oil. It is ineffective against marine borers. Many countries have banned the use of organochlorines such as PCP, because of their broad toxicity and persistence in the environment.
- **TBTO (Tri-N-Butyltin Oxide ($C_{24}H_{54}OSn_2$)):** is another oil-soluble chemical like PCP. It is generally used with the addition of an insecticide (eg, dieldrin or lindane) to treat exterior joinery. While it leaves the surface clean for finishing work, it does break down in UV light.
- **CCA:** or copper-chrome-arsenate is a broad spectrum preservative that has no major limitations. The copper and arsenic are the fungicide and insecticide respectively, while the chromium fixes the chemical to the wood. The chemical penetrates wood well, is odorless, and surfaces can be painted once dried. CCA treatment is the most common for outdoor or ground contact uses. The chemical can be used in both terrestrial and marine environments.
- **Boron:** salts are another broad spectrum preservative, effective against fungi and most insects with low toxicity. The main problem with boron treatment is that it is water-soluble and doesn't chemically bond to the wood. It can therefore be leached out and can only be used in low hazard environments such as house framing.

Preservation Processes

There are a number of types of treatment techniques utilized in wood preservation:

Pressure Impregnation uses vacuum and pressure to obtain chemical penetration of permeable timbers, while controlling the amount of preservative retained. The timber must be free of stain and be less than 30% moisture. Many treatment schedules are used, the pressure fluctuations and timing being distinctive in each.

The Bethell process is the most important of the treatment processes and achieves about 90% of the theoretical maximum uptake in radiata pine. The Lowry treatment is designed to achieve maximum penetration with a low retention of preservative. Retention is around the 60% of theoretical maximum. The Rueping process is used principally with preservative suspended in hot oil such as creosote and PCP where a low net retention is desired for some hazard categories. Net retention here is as low as 40-50%. The Alternating Pressure method utilizes repeat applications of pressure and vacuum to force preservative into green wood.

Vapour Phase utilizes the fact that some Boron esters boil at low temperatures. The liberated gas can be drawn into timber where it reacts with water and condenses. For this reason, timber must be very dry (less than 5-6 percent moisture content) or only low penetration is achieved. Treatment of framing timber in the drying kiln is possible and can offer considerable cost savings.

Vacuum treatments utilize volatile organic solvents to transport the preservative into the wood. It is designed to treat dry profiled or machined wood. TBTO is typically used, being introduced to the timber by either a double vacuum or low-pressure cycle. The advantage of this technique is that there is no dimensional swelling as associated aqueous treatments and wood can be painted within a couple of days of treatment.

Diffusion is used to introduce boron salts to green timber. The timber is sprayed or dipped in the preservative solution and block stacked (without fillets). The wood is then tightly wrapped and left for a number of weeks during which the boron salts diffuse into the wood. Thicker timber may require a second dip to top up the salt levels. For this technique to be successful the timber must have a moisture content over 50 percent. If the timber surface dries out, the process may not work at all, or be uneconomically slow. Another method using the diffusion process is called double diffusion. This works in the same manner except two successive chemical treatments are used. The second chemical treatment ($Na_2Cr_2O_7/Na_2CrO_4$ and Na_2HAsO_4) precipitates with the first ($CuSO_4$) to form a non-leachable preservative.

The Reynolds learned from their window manufacturer: that despite common preservation techniques, wood decay can occur, and that preventing “overexposure” to moisture must include these steps:



- Eliminating exposure of the product to excessive wind and water loads.
- Adding gutters or water breaks, awnings or barriers (natural or artificial).
- Eliminating exposure of the product to irrigation and sprinkling.
- Eliminating building design features that allow water to pool at window (fenestration) openings or to come in contact with the end grain of the wood like pop-outs, improperly sloped sills, contact with brick, masonry, or stucco, insect nests, or incorrectly installed flashings.

Homeowners, they are told, may find it possible to repair doors or windows that have not been “structurally” damaged.

A professional wood restorer using the proper equipment, processes and materials MAY be able to repair at a cost significantly less than the

cost of replacing the product. If the homeowner chooses to replace the product, he/she is advised to choose products that are certified as treated to the most current version of the WDMA IS-4 standard. Homeowners are further advised to properly maintain window products by:

- Painting with a high-quality exterior trim paint and regularly maintaining the paint finish. Prior to painting, all wood-to-wood joints where water can penetrate should be sealed using a high quality sealant.
- Inspecting products at least twice a year, immediately touching up any breaks in the sealant or paint film and contacting the manufacturer at the first sign of any softness or discoloration in the product. ■

CLICK FOR ADDITIONAL REQUIRED READING

The article continues online at archrecord.construction.com/resources/conteduc/. To receive AIA/CES credit, you are required to read this additional text. The quiz questions below include information from this online reading. To receive a faxed copy of the material, contact Joyce Richter, (888) 535-3936 or email joycer@jeld-wen.com.

LEARNING OBJECTIVES

- Understand the various causes of wood rot.
- Become aware of alternate treatment practices, the history of wood preventatives, and the long-term benefits of preventative treatment.
- Develop an understanding of a new highly effective wood treatment process.

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 210. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—archrecord.construction.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

- Q:** 1. According to the American Wood Preservers' Institute, the life span of treated wood is typically how many times the useful lifespan of untreated wood?
- A:** a. Two
b. Four
c. Six
d. Eight
- Q:** 2. What common form of wood treatment is the black or brownish oil made by distilling coal tar and widely evident as the preservative for railroad ties?
- A:** a. Creosote
b. Sapstain
c. Boron
d. PCP
- Q:** 3. Wood preservation is a _____ industry.
- A:** a. \$5 billion
b. \$10 billion
c. \$15 billion

- Q:** 4. Which treatment technique is used to introduce boron salts to green timber?
- A:** a. Pressure Impregnation
b. Vapour Phase
c. Vacuum Treatments
d. Diffusion
- Q:** 5. Which wood preservative chemical is appropriate for marine structures?
- A:** a. ACQ
b. Creosote
c. PCP
- Q:** 6. Which types of wood fungi is the most destructive?
- A:** a. Mold
b. Sapstain
c. Decay
- Q:** 7. In the “full-cell” treatment process described, what is the maximum amount of lumber that can be treated in a single charge?
- A:** a. 5,000 board feet
b. 10,000 board feet
c. 15,000 board feet
- Q:** 8. Borate-treated wood is not considered suitable for unprotected outdoor use such as fence poles
- A:** a. True
b. False
- Q:** 9. Copper azole (CBA) is widely used with established EPA guidelines for use and handling.
- A:** a. True
b. False
- Q:** 10. What is the most common CCA replacement?
- A:** a. Copper Azole
b. Alkaline Copper Quaternary Ammonium
c. Ammoniacal Copper Citrate

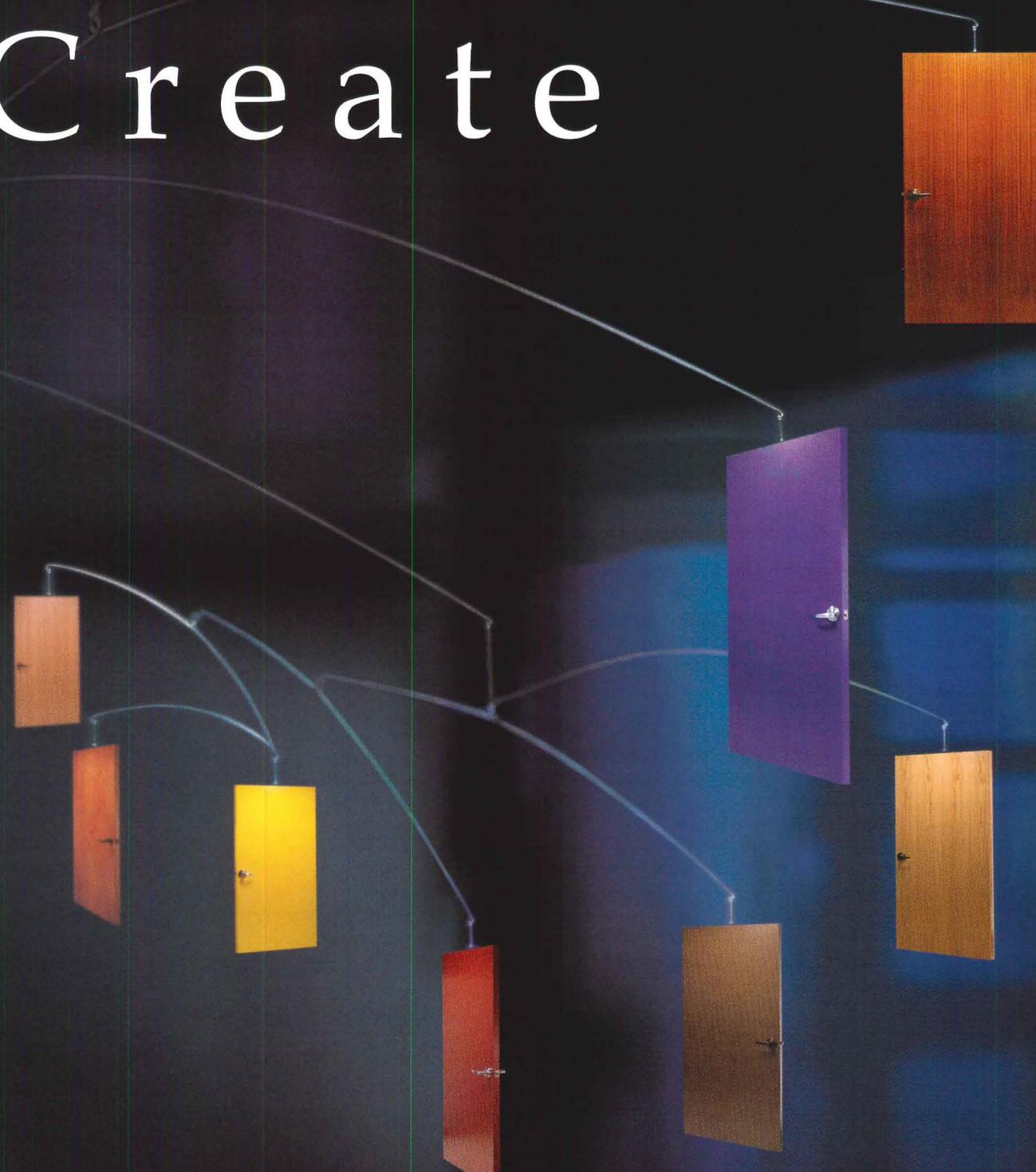


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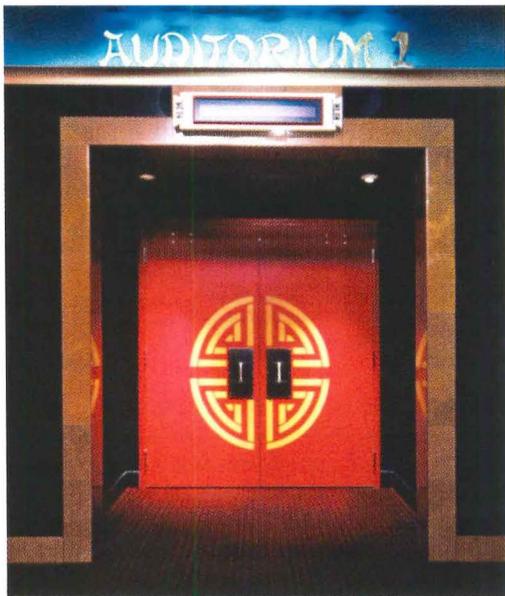
A mobile sculpture consisting of several rectangular doors of various colors and finishes (including wood, purple, yellow, red, and orange) suspended from a central point by thin wires. The doors are arranged in a cascading, branching pattern against a dark background.

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VI Architectural
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One of the most innovative, new aspects of decorative laminates is the ability for the designer to customize the design of the laminate.

VT INDUSTRIES PRESENTS

Selecting and Specifying High-Pressure Decorative Laminate Architectural Doors

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Today's high-pressure decorative laminate (HPDL)-faced doors have improved dramatically over the past three decades. Advances in manufacturing equipment and materials have resulted in smoother visual surface characteristics resulting from wood substrates that are more uniform, combined with changes in adhesive and hot-press technology to create

a stronger HPDL-to-wood bond. Enhanced gluing and manufacturing technology, such as applying the edge before face material, has addressed edge chipping and delaminating issues encountered by HPDL users from the '60s, '70s and '80s.

On the surface, improvements in computer and printing technology have created sharper, more complex printing techniques used to make the laminate's decorative layer deliver greater

visual detail and contrast. In addition, use of pearlescent inks can provide the decorative layer with greater visual depth, or dimension. This enhancement is especially evident in select HPDL wood grain designs that rival the realistic appearance of many wood veneers.

Surface properties of laminate have improved with new surface resin chemistry and additives, resulting in a variety of tactile finishes. Laminate manufacturers offer several surface textures that, when combined with a solid color or printed design, offer visual, tactile and even maintenance benefits.

Enhanced door manufacturing and construction techniques have created laminate-clad architectural doors engineered to comply with a broad range of industry requirements for accessibility, security and life safety without sacrificing visual aesthetics. Core materials used in the construction of these doors typically consist of recycled or recovered content, or lumber from forests that have been certified to meet standards for environmentally responsible forestry practices.

Looks Can Fool You

Basically, HPDL is a sandwich of phenolic resin-coated kraft papers covered with a high-grade decorative print paper layer that is compressed under high pressure and heat for an extended period of time (approximately 1,400 psi at 280-300 degrees F for 54 minutes). While most laminate manufacturers use similar resins and processes in producing HPDL, their designs and resin curing techniques are different and considered proprietary.

Performance standards for HPDL are established by the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD 3-2000 (see Table 1). NEMA also sets the standard for low-pressure laminate (Melamine), which is a single, thin sheet of decorative paper that is saturated and compressed under low pressure (approximately 600 psi) at 392

CONTINUING EDUCATION

Use the learning objectives below to focus study as you read **Selecting and Specifying High-Pressure Decorative Laminate**

Architectural Doors. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 169, then follow the reporting instructions on page 214 or go to the Continuing Education section on archrecord.construction.com and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Understand how today's technology creates a better-engineered product than available in the past.
- Know the construction, life safety and sustainability features of high-pressure decorative laminate wood doors.
- Include high-pressure decorative laminate wood doors to enhance and improve a variety of environments

TABLE 1
NEMA Test Requirements for HPDL
Test NEMA Requirements

Wear Resistance:	
Wear Value (cycles)	400 min.
Dart Impact Resistance.....	300MM
Impact Resistance: (Inches dropped)	35
Dimensional Change:	
% MD, Max.....	0.6%
% CD, Max.	1.0%
Room Temp. Dimensional Stability	
% MD, Max.....	0.6%
% CD, Max.	1.0%
Resistance to Boiling Water.....	No Effect
Resistance to High Temperature	Slight Effect
Radiant Heat Resistance.....	100 sec. Min.
Stain Resistance.....	Unaffected by reagents 1-10; moderate 11-15
Light Resistance	Slight Effect
Cleanability	20



Decorative laminate wood doors are available in a full range of colors, patterns, wood grains and metallic designs with the look of brush aluminum to help the architect brighten a room or set a mood. They can choose to include the warmth of wood, or design bold new looks with custom laminates that incorporate many images – from company logos to fine art.



Decorative laminates allow architects to choose from an array of wood species that some consider an improvement on nature. From popular cherry and oak to lacewood, mahogany and teak, the designer can incorporate grain, color and finishes without the inconsistent flaws, knots and imperfections of wood veneers.

degrees F for 20 seconds. It is mostly used for constructions such as kitchen cabinets and is not intended to be as durable as the HPDL used on architectural wood doors. A comparison of HPDL and Melamine is presented in Table 2.

The number of kraft/phenolic layers in each sheet of HPDL determines its thickness. Over the years, thickness for various grades of laminate have been decreasing without a noticeable loss of performance. Laminate used for HPDL architectural doors has gone from .062-inch to .048-inch (1.2mm), which is thick enough to hide telegraphing of the door substrate while providing the impact resistance needed in high traffic areas. Standard laminate thickness to meet the Window and Door Manufacturers' Association (WDMA) quality standard is .050-inch (1.3mm). Different laminate manufacturers use a variety of descriptions for this grade of laminate, including "Horizontal," Grade 10" or "General Purpose" grade.

Surface textures are transferred from stainless steel plates to the top surface as the paper layers are bonded together during manufacturing. Once the pressure cycle is completed in a hydraulic press, the backside of the laminate sheet is sanded to provide better adhesion in fabrication and the edges are trimmed.

In addition to the matte finish considered the standard for most decorative laminate doors, HPDL manufacturers now offer several surface textures that provide visual, tactile and even maintenance benefits. Finely beaded textures, for example, resist smudges and finger marks making it ideal for use in high-traffic areas. Another surface finish imparts the feel of woodgrain ticking with the look of hand-rubbed oil, making it hard to

distinguish HPDL wood grain doors from actual wood veneer doors.

One option is a "holographic" laminate which offers a surfacing option featuring a degree of light play and sparkle for use on wood doors in areas like movie theaters where a special effect is desired to enhance the interior experience. There is a patented process that involves a coating of microscopic particles of aluminum oxide across the surface of the laminate, creating a shield that resists daily wear and abrasion that's 2 1/2 times the standard set by ANSI/NEMA LD-3. Other premium surface finishes available include:

- The look and feel of a painted door
- The texture of natural leather or orange peel
- The visual appearance of corrugated cardboard
- A slightly raised intricate texture reminiscent of fine woven fibers
- A small-scale textured finish that imparts a bright, durable surface
- High-gloss finishes for applications that require maximum smoothness and reflectance.

Laminate manufacturers offer hundreds of up-to-date design options, including solid colors, textures, faux metallic, and a wide range of patterns and appearances. These new design options are popular in education, health care, hospitality, day care centers, entertainment, office and retail environments.

TABLE 2
Face Material Performance

NEMA LD 3-2000	Standards	HPDL	Melamine
3.8 Ball Impact Resistance Scope: This test measures the ability of high-pressure decorative laminate to resist fractures due to impact by a polished stainless steel ball, weighing 224 ± 3 grams.	50" minimum	58-66" (exceptional impact performance)	15"
3.13 Wear Resistance Scope: This test measures the ability of the surface of high-pressure decorative laminate to resist abrasive wear-through of the decorative layer.	400 cycles minimum	700-1,000 cycles, solids, patterns or woodgrains (exceptional wear performance)	400-500 cycles, solid colors; 125-150 cycles, patterns or woodgrains
AWI 8th EDITION, Section 1300 and WDMA I.S. 1-A QUALITY STANDARDS	Face Material	Recognized as quality standard	Does not meet minimum standard

Doors to Learning

In elementary schools and shared learning space, designers, parents, teachers and students are becoming more aware of the impact that color and design have on behavior and morale. There are studies indicating that children feel safer in schools transformed by color. As a result, schools are witnessing an increase in the use of bright, youthful colors at the elementary and middle school levels.

Colorful doors not only provide a design aesthetic; they often designate specific grade levels. At Galva-Holstein Elementary School in Iowa, bright red HPDL doors and matching lockers are part of a bold color scheme that distinguishes the lower grades from an adjoining high school. In general, elementary school students are seeing more color in their schools than past generations, says Galva-Holstein Elementary School architect Jim Champion, AIA, who is with FEH Associates, Inc., in Sioux City, Iowa. FEH has designed hundreds of schools throughout the Midwest region.

For middle schools and high schools, Champion prefers more subdued colors. At the Galva-Holstein Middle School, Champion selected HPDL doors with a light wood pattern that is complimentary



At Galva-Holstein Elementary School in Iowa, bright red HPDL wood doors and matching lockers are part of a bold color scheme that distinguishes the lower grades from an adjoining high school. At Galva-Holstein Middle School, Champion selected HPDL doors with a sycamore woodgrain pattern that is complimentary to other interior treatments.

to other interior treatments. At the nearby Cherokee Middle School, Champion used decorative laminate wood doors with a subtle face pattern. From a distance, the pattern appears solid, but up close it has a micro-texture that is better at concealing fingerprints than totally plain colors. At the college and university level, doors are often traditional woodgrains, such as Maple and Oak. Over the last several months, nearly 10,000 dormitory doors featuring HPDL oak woodgrain faces have been installed at Kent State University.

Custom HPDL doors, featuring images designed into the decorative paper, are gaining popularity in elementary schools. The cafeteria doors at one North Carolina school are created with bright-colored forks and spoons set against a solid background. Variations might include band instruments designed into music room doors and numbers identifying the math room. HPDL manufacturers can print any type of design including murals, logos, room numbers and other graphics for reproduction in a laminate form used to surface the face of the door.

Today's custom laminate technology is a noticeable improvement over earlier techniques that required manually piecing different colored papers together, which was time-consuming and created a dirt trap along the seams. The older method was also chip-prone, unlike the new custom process which incorporates all the colors and graphics into a single piece with no seams. Because the custom process involves one-of-a-kind laminate designs, the manufacturing process involves several steps, requiring additional weeks from the time an approved layout is received to shipping and door fabrication.

HPDL doors resist degradation often seen on wood doors in cafeterias or fast-food restrooms where greasy handprints can cause embedded dirt that requires the door to be refinished or replaced. HPDL doors can be wiped down with glass cleaner to remove smudges or fingerprints, and are tolerant of disinfecting detergents used in health care facilities. Stains from pencil marks and inks, such as felt tipped pens, are removed using a solvent, such as denatured alcohol, fingernail polish remover, mineral spirits or paint thinner. At Kent State University, maintenance personnel were able to clean off permanent marker graffiti from HPDL-faced dormitory doors by using ordinary hair spray and a dry cloth.

Water-based paints are removed with an ammoniated household detergent, while varnish, lacquer and oil base paints are easily removed using proper solvent or paint remover.

A Healing Environment

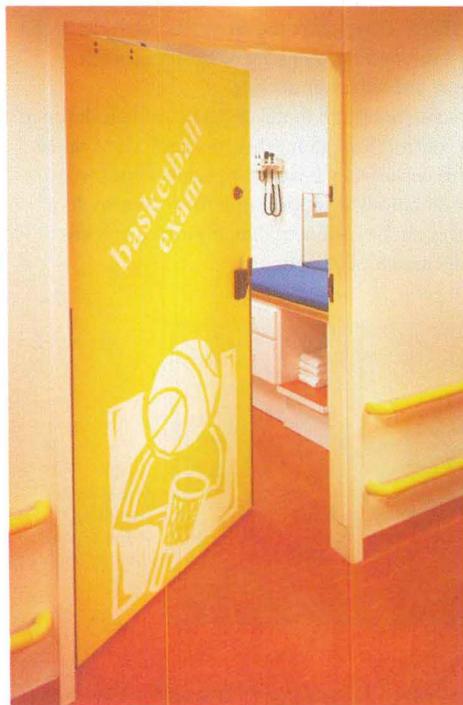
Just as color has been shown to impact behavior, productivity and morale in schools and the workplace, research has drawn a connection to its ability to help heal, notes a design director for a major laminate manufacturer. The designer points out that non-traditional hues and color-filled neutrals represent a new direction for health care design, except in pediatric care units where bright colors dominate. This new color palette includes spice tones, serene greens, neutral colors and ecological blues. A trend of diminished interest in solids is shifting emphasis to an abstract category referred to as "fractured solids" that appear as solids at a distance, but up close, have textural complexity. Surfaces that have high visual texture—whether it's micro-texture or a larger, heavier texture—have nearly replaced solids for HPDL countertops.

Woodgrains representing lighter-colored species such as oak remain a mainstay in health care facilities where they tend to promote a cheerful healing environment and fit in well with a wide range of interior treatments. Honey-colored mid-tones also are finding their way into new health care environments as Maple, Cherry and other fruitwood species gain popularity.

Pediatric floors of hospitals are using custom laminate doors to create a more child-friendly atmosphere. One hospital features a sports theme with footballs, basketballs and other images set against bright-colored backgrounds. Other pediatric settings feature children's artwork displayed at the eye level of the child to make them feel at ease. HPDL doors are sometimes incorporated into color-coded corridor systems designed to guide visitors to their destinations.

Attention to detail is essential when specifying doors for health care facilities. Patient room doors must comply with American Disabilities Act (ADA) accessibility standards for medical care facilities. Specifications call for easy-to-operate handles, heavyweight hinges, low spring power door closers and other special hardware. Doors must be wide enough to allow easy access to hospital gurneys and wheelchairs. Lead-lined doors for rooms where radiation exposure exists require special hardware and handling requirements due to their extra weight.

All HPDL doors are durable in high-traffic areas and stand up to a variety of cleaning solutions used by housekeeping personnel as part of their daily maintenance. Laminate surfaces do not support bacterial growth.



Custom HPDL doors with colorful designs are being used in pediatric clinics and hospitals. Because these are essentially one-of-a-kind, handmade products, additional time and processing are required to produce each sheet of laminate.



HPDL architectural wood doors resist smudges, scratching and finger-marks that can mar veneer wood finishes, which is a feature especially appreciated by hospitality housekeeping personnel.

When Uniformity Counts

A trend in recent years has been the expanded use of HPDL wood doors by major hospitality chains and in the restaurant and lounge industry. HPDL wood doors are being selected by the lodging industry for their visual appeal, lasting durability, ease of maintenance and uniformity of appearance. As in the health care industry, light, natural-colored woodgrain patterns dominate hotel design, although designers for leading laminate manufacturers are beginning to see more use of residentially inspired colors, patterns and textures.

Typically, architectural wood doors are selected to complement the aesthetic design of interior space, whether it is modern and minimalist or luxuriously elegant. The use of exotic and abstracted woodgrains and dark woodgrain coloration are starting to be used as designers and architects are more willing to experiment with new materials, products and hues.

Hotel and motel architects, as well as housekeeping employees, appreciate the ability of laminate doors to resist smudges, scratching and finger-marks that can mar veneer wood finishes. Laminate never needs to be refinished and maintains its appearance throughout the lifetime of the product.

The outdated perception among some architects that laminate edges may be pulled loose or chip over time has been addressed by hot press construction that forms a superior bond between the core and facing material. Manufacturing technology, which applies the HPDL edge before the face material, locks in the edge laminate so it's protected from peeling, chipping or breaking, while minimizing the seams for a more attractive appearance.

Another consideration for some hotel and motel designers is their desire to provide visual uniformity and control throughout their properties and name brand franchise operations. This consistency is harder to achieve with wood veneer doors, which can vary dramatically in appearance from door to door. Using laminate, facility managers can be confident that any add-on rooms or replacement doors will faithfully match existing doors.



It is possible to purchase decorative laminate doors with the laminate edges applied before the face material, which protects the edges from peeling, chipping, or breaking.

ADA Standards also apply to lodging facilities, which must be accessible to persons with a wide range of disabilities, including those with mobility impairments who use wheelchairs, canes, crutches, or walkers. Under ADA, "All doors and doorways (except shallow closets) into and within all guestrooms and suites (including guestroom bathrooms, kitchens, and connecting room doors) shall provide 32 inches of clear opening width measured when a hinged door is open 90 degrees or a sliding door is fully opened (ADA Standards 9.4; 4.12.5.)"

Architectural wood doors are engineered with solid, particleboard cores encapsulated by stiles, rails and crossbands that help dampen sound transmission. Doors are tested in conformance with the STC (Sound Transmission Class) performance standards (American Society for Testing and Materials [ASTM] E90-90 and E 413-87). Testing is conducted in a facility accredited by the U.S. Department of Commerce, National Institute of Standard and Technology (NIST). The manufacturer is required to provide test results of STC ratings from the approved testing facility.

Typically, solid core wood doors carry an STC rating of between 22 and 24, which is sufficient to prevent loud speech or a television from becoming an annoyance. Under some conditions, it may be necessary for the manufacturer to install perimeter gasketing and drop seals to achieve some STC ratings. Using acoustical lite kits, it is possible for STC 39 doors to maintain their full acoustical rating.

Security ratings are based on ASTM testing standards covering door assemblies of various materials and types of construction to deter unwanted intruders and frustrate the commission of "break-in" crimes. The door must be capable of sustaining an impact from a weighted ram pendulum system without damage to its stiles. Testing is conducted by an independent testing agency, although there's no requirement for third party oversight of the test doors during their construction.



TOP 10 HPDL DESIGN TRENDS

1. Personalizing and customizing spaces with exciting and exotic laminates.
2. Adding luster and depth with special effects surface finishes.
3. Producing realistic representational images of natural materials.
4. Indulging in a flight of fanciful patterns and playful designs.
5. Using environmentally friendly and easy care products.
6. Looking for material that offers continued cost savings.
7. Relying on maintenance-free surfaces.
8. Specifying finishes that are as durable as they are beautiful.
9. Logging on to online tech support for easy door specifications.
10. Looking for door manufacturers that offer a lifetime guarantee.

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CLICK FOR ADDITIONAL REQUIRED READING

The article continues online at archrecord.construction.com/resources/conteduc/. To receive AIA/CES credit, you are required to read this additional text. The quiz questions below include information from this online reading. To receive a faxed copy of the material, contact Amanda Paulsen at 1-800-827-1615 (ext. 210), APaulsen@vtindustries.com.

LEARNING OBJECTIVES

- *Understand how today's technology creates a better-engineered product than available in the past.*
- *Know the construction, life safety and sustainability features of high-pressure decorative laminate wood doors.*
- *Include high-pressure decorative laminate wood doors to enhance and improve a variety of environments*

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 214. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—archrecord.construction.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

- Q:** 1. Which of the following statements about today's HPDL wood doors is accurate?
- A:** a. Finger marks and smudges are hard to remove from laminate-clad doors
b. HPDL doors comply with a broad range of industry requirements for fire safety, accessibility and security
c. HPDL door manufacturers are responsible for interpreting local fire codes
d. All HPDL wood doors are endorsed by the Forest Stewardship Council
- Q:** 2. Performance standards for high-pressure decorative laminate are established by what organization?
- A:** a. ANSI/NEMA
b. WDMA
c. ASTM
d. Underwriters Laboratory
- Q:** 3. What is the standard laminate thickness to meet the Window and Door Manufacturers' Association (WDMA) quality standard?
- A:** a. .044-inch
b. .050-inch
c. .062-inch
d. .068-inch
- Q:** 4. What effect does applying laminate edges before the face material have on HPDL doors?
- A:** a. It protects edges from peeling, chipping or breaking
b. It eliminates the need for an additional edge-sealing system to meet positive-pressure fire door requirements
c. It eliminates the need for perimeter gasketing and drop seals to achieve higher STC ratings
d. It improves ASTM security ratings
- Q:** 5. What is the effect of using hot press technology to construct HPDL architectural doors?
- A:** a. It provides surface texture on the laminate
b. It creates a stronger HPDL-to-wood-bond
c. It provides greater visual depth, or dimension
d. It creates a high-gloss finish
- Q:** 6. Which of the following is an advantage of HPDL-clad doors over veneer covered doors?
- A:** a. Consistent color match and uniformity of appearance
b. Lifetime-of-installation warranty
c. Factory-machined for commercial hardware preparation
d. Available in both positive-pressure and negative-pressure fire door constructions
- Q:** 7. Which of the following descriptions applies to custom HPDL doors?
- A:** a. Less expensive than standard decorative laminate patterns
b. Only available in orders of 100 sheets or more
c. Recommended when quick turnaround is required
d. One-of-a-kind laminate designs
- Q:** 8. What is the impact and wear performance of HPDL face material, according to NEMA LD 3-2000?
- A:** a. Below average
b. Average
c. Above Average
d. Exceptional
- Q:** 9. Which of the following statements is inaccurate?
- A:** a. The thickness of HPDL is determined by the number of kraft/phenolic layers
b. Melamine is compressed at approximately 600 psi at 392 degrees F for 20 seconds
c. High-pressure decorative laminate and Melamine have equal impact resistance
d. HPDL is recognized as the quality standard by AWI and WDMA.
- Q:** 10. Fire doors with 45-, 60- and 90-minute rating levels are usually constructed from what type of core material?
- A:** a. Particleboard
b. Stave lumber
c. Mineral
d. Structural Composite

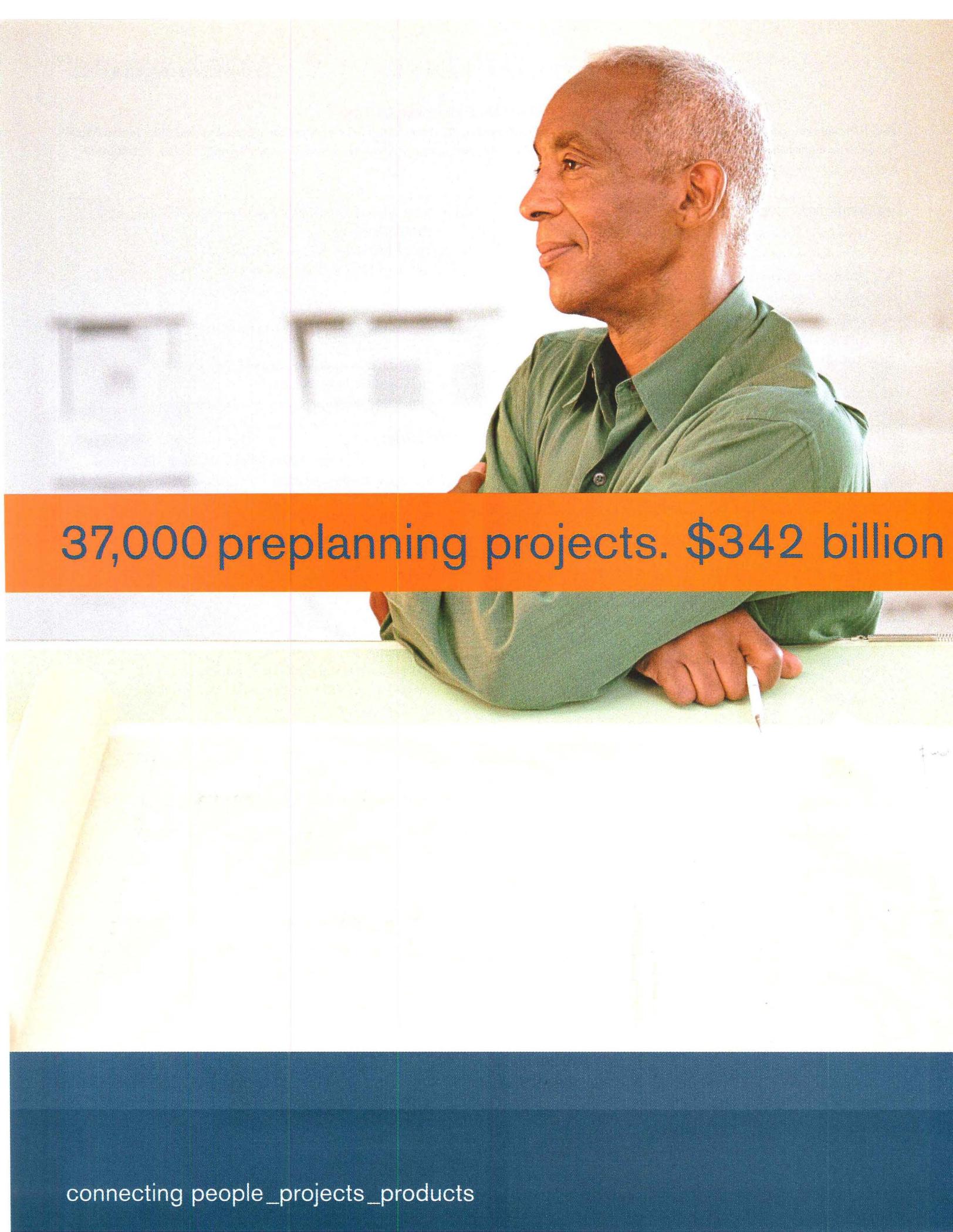


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Residential

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BRIEFS

Enterprise Foundation awards

Five architects committed to community development will spend the next three years helping to revitalize low-income areas at locations throughout the country as recipients of the Frederick P. Rose Architectural Fellowship Award. Each fellow receives a \$40,000 annual stipend plus benefits and will work directly with a nonprofit development organization in need of their services.

The Zero Energy Home A national program is under way to create new homes that consume less energy than they produce.

The Zero Energy Home (ZEH) combines active renewable energy resources—like solar and wind power—with aggressive energy-efficiency techniques. Funded by the U.S. Department of Energy through the National Renewable Energy Laboratory, the program has four teams across the country working on the projects. To find out more, go to www.eere.energy.gov/buildings/zeroenergy.

As suburbia grows, waistlines expand The near total automobile dependency of suburban living is one of the chief reasons why it is contributing to medical problems from obesity to depression and high blood pressure. *The American Journal of Public Health and Health Promotion*

jointly released data indicating a significant connection between sprawl and obesity and hypertension. A vocal group of urban planners, including the New Urbanists, have embraced the studies as proof of their contention that small-town life works best.

Students undertake urban-planning strategies

Students from four L.A. high schools participated in a partnership with the Urban Land Institute to redevelop a five-block area of a theoretical city, turning their concepts into three-dimensional models and an RFP, the kind that developers submit to governments. Called UrbanPlan, the program awarded more than \$10,000 in scholarship funds to five top-ranking teams. Students walked away feeling they had developed research, team-building, and problem-solving skills.

He says, she says According to statistics from NAHB, about 40 percent of homes have his-and-her areas, moving well beyond the two-sink bathroom to include complete his-and-her bathrooms, garages, closets, libraries, exercise rooms, and cooking stations.

Increasing numbers of Gen

Yers buy homes The 25 and under crowd, which has traditionally dominated the rental housing market, has surfaced as the fastest growing home-buying segment of the population in the past 10 years, according to the National Association of Realtor's interpretation of census data. While people under 30 traditionally delay home ownership until they wed, many are tired of paying rent and eager to invest in something other than the stock market.

Jane F. Kolleeny

In these days of low interest rates, economic uncertainty, and travel paranoia, the draw of familiar home ground increases. Not all of us can afford a palatial mansion to live in, nor would we want to—doing more with less challenges us to tackle the potential of affordable style. As evidenced by the immense popularity of HGTV, the vast number of magazines on residential housing, and the success of companies like Design Within Reach that offer high-quality products for the home at reasonable cost, this trend is not going away any time soon. People have discovered the joys of hands-on exploration of innovative home solutions, and the resources to undertake such tasks are increasingly available.

The three modestly priced homes featured here cost \$150 or less per square foot. They derive their low price from factors that can include location; the use of local, recycled, or base materials; minimal finishes and details; simple floor plans; and off-the-shelf products. Overall, they demonstrate that elegant design can arise from ingenuity, not necessarily from an excess of funds. *Jane F. Kolleeny*

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Residential News

The American Institute of Architects Announces the **Third Annual Housing PIA Award Winners**

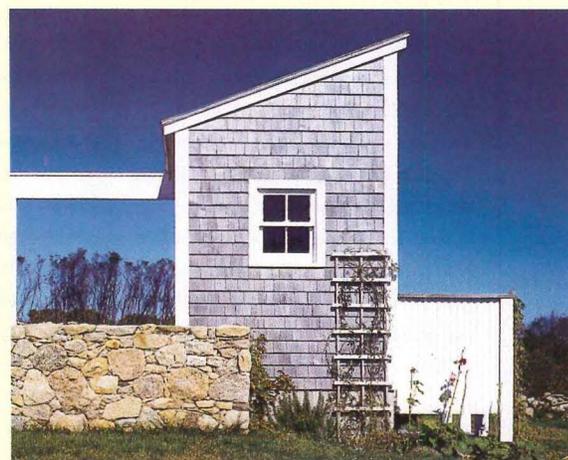
SINGLE-FAMILY CUSTOM



Project: *Cyronak House*
Location: *Block Island, R.I.*
Architect: *Estes/Twombly Architects*
Client: *Charles and Judith Cryonak*

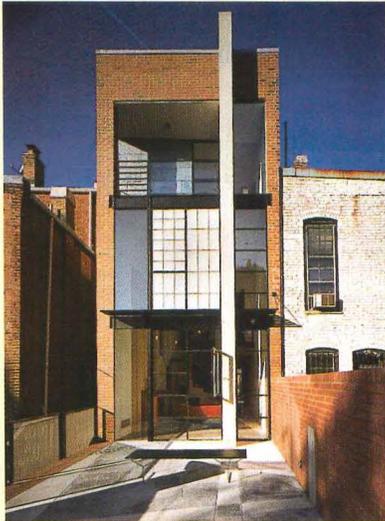
The client sought a home to capture the simplicity and ruggedness of the island's local vernacular. The resulting two-story, shingled house

with attached shed, deck, and terrace resonates harmoniously with the sun-bleached farm buildings of the area. The flexible sliding barn doors on the first floor create a three-season living area that connects charmingly with the surrounding windblown island environment. One juror called it "a tiny, tight design with a big presence."



An outstanding jury gathered earlier this year to review 138 submissions in four categories of housing. Serving as jury chair, John Klockeman, AIA, remarked on the consistently high quality of design and innovation in the work. Comments by individual jurors similarly reflect the excellence of the projects. In addition to Mr. Klockeman, Carol Burns, AIA, J. Carson Looney, FAIA, and Michael Pyatok, FAIA, proved advocates of socially responsible as well as high-caliber housing design in making their selections. The winning projects show that thoughtful design, with or without a restricted budget, can serve as a pillar of integrity in a variety of community types. *Jane F. Kolleeny*

Project: Calvert Street
Residence
Location: Washington, D.C.
Architect: Robert M. Gurney,
 AIA
Client: Mary Fitch and
 Ron O'Rourke



Sited on a narrow lot in the historic city center, this town house was an eyesore that remained in disrepair for years. The new owners saw the site constraints as an opportunity for an imaginative solution. A sensitive renovation resulted in a thoroughly modern, warm, and intimate home with light-filled spaces and a one-bedroom rental unit. Unusual, rich materials added to its appeal.



SINGLE-FAMILY MARKET



Project: Chiricahua Villas
Location: Scottsdale, Ariz.
Architect: B3 Architects, a
 Berkus Design Studio
Client: Desert Mountain
 Properties

Part of a desert enclave community, this grouping of large, single-family houses blends in with the dramatic rock outcroppings of the hillside, giving the homes the character of European country villas. "A

fine example of high-end development," said one juror. The spacious houses feature amenities that include unobstructed views of the desert, a golf course, and the distant city lights. These flexibly designed residences are geared to an upscale "empty-nester" clientele, who require guest living accommodations and enough space to easily facilitate social gatherings and private functions.



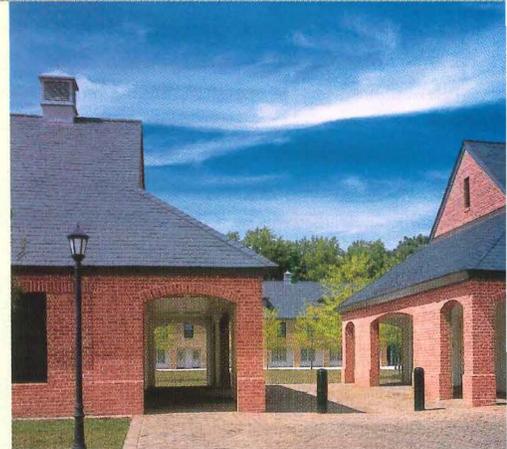
Residential News

MULTIFAMILY HOUSING



Project: Edward T. Lewis
 Quadrangle Residence Hall
Location: St. Mary's City, Md.
Architect: Muse Architects
Client: St. Mary's College

Situated on a historic campus, this housing complex fits easily into the larger context and includes three dorm buildings and a fourth with recreational and study areas. A central courtyard unifies the complex and features an elliptical lawn surrounded by gravel walkways. The neo-Georgian, Colonial design conveys a rustic charm. Rows of chimneys pop up above the roofline and the long, low-lying roofs create intimate outdoor spaces and a colonnade that spans the length of the buildings.



Project: Colorado Court
Location: Santa Monica, Calif.
Architect: Pugh Scarpa
 Kodama
Client: Community
 Corporation of Santa Monica

This five-story housing complex is sited on a prominent downtown lot and features 44 studio units for tenants who earn well under the median income. A

unique collaboration of architect, government, and developer, the project incorporates energy efficiency far above the standard and brings the worlds of design and affordability together with unprecedented environmental responsibility. One juror called it "an entirely self-sufficient project designed with innovation and an honest use of materials."



Project: Montage
Location: Palo Alto, Calif.
Architect: Seidel/Holzman
Client: Regis Homes of
 Northern California

Infill housing redefines the former site of a typical suburban retail strip as user-friendly university housing well-suited

to this pedestrian-oriented community. Each apartment faces the central courtyard that provides both circulation and social spaces with small plazas and benches. Inverting the standard street-facing plan, each apartment features green interior courtyard views, decks, and patios.



COMMUNITY DESIGN

Project: *Monterey Place*
HOPE VI

Location: *New Haven*

Architect: *Fletcher-Thompson*

Client: *Beacon Companies*

A 30-acre area of derelict, barely livable housing projects provided a starting place for establishing a new community of homes to serve low- and middle-income families. Designed to complement the traditional architecture of the city, the neighborhood features a revitalized school and other community facilities nearby to attract working-class families. Initiated by

HUD's HOPE VI program, the consortium that initiated the project sought to renew the neighborhood and help residents of public housing move toward self-sufficiency.



Project: *Gateway Lofts*
Location: *Charlotte, N.C.*
Architect: *David Furman Architecture*
Client: *Boulevard Centro*

Transforming a blighted section of the city center, this six-story, mixed-use building includes street-level retail

with multilevel, loft-style units of affordable housing above. Sited close to downtown work opportunities, this infill development serves as a link to downtown and features exposed brick and steel fixtures. One juror stated, "The opportunistic use of the land will stand the test of time."

Project: *1310 East Union Live/Work Lofts*
Location: *Seattle*
Architect: *Miller/Hull Partnership*
Client: *Anemone*

A modest-size urban site accommodates eight loft-style condominiums with street-level retail and parking utilizing European-style lifts. The top two floors feature two-story units; all units offer balconies and access to a private rooftop garden with spectacular views. Facades are glazed from floor to ceiling with aluminum-framed garage doors that roll up, converting living/dining areas into exterior balconies. This steel-framed glass box features completely open plans on the interior.



Ample light comes into the building through sheets of corrugated, UV-resistant plastic installed in the barn's roof and north end. The bathroom (behind the translucent wall corner in the center of the photo, right) is the only heated space in the building. This allows the building's timber frame to remain exposed on the inside.



The timber-framed **Willoughby Barn** by El Dorado sprouts fresh roots in Missouri tobacco country

By Charles Linn, FAIA

To get to the Willoughby place, you drive east on a country road from the Missouri River bottomland, up through soft hills of loess—glacial dust blown here during the last Ice Age—past tobacco fields and the McCormick Distillery. You keep going southeast until you come to a gravel drive that splits off to the north; follow that drive through the gate and a brome pasture. The road twists a little to the east there and goes through a windbreak. Keep going. If it's spring, there'll be knee-high field corn on each side of the drive, which then bends back a little to the north. At the end, you'll see Ann Willoughby's pretty 1880s-vintage farmhouse. All of the land in sight slopes gently up to the house. The barn is set back from the house, slightly downhill, into a pocket of trees to reduce its apparent size. This view is pretty much the same as it has been for the past 120 years. Except that this barn is a recent addition. As a point of

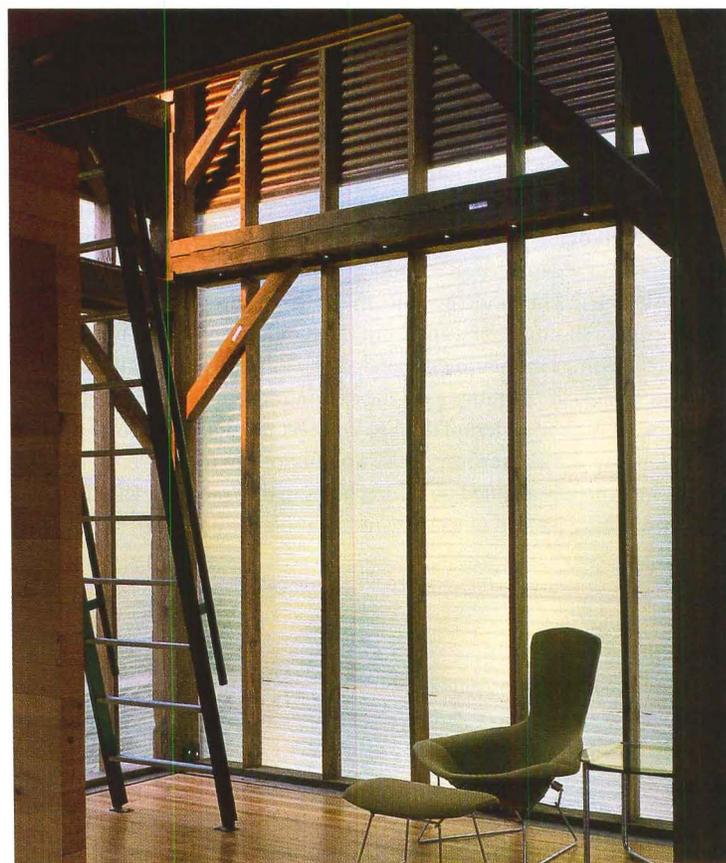


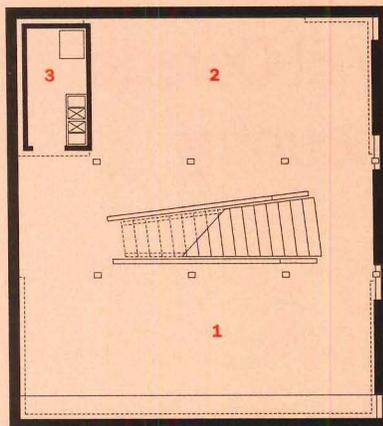
reference, farmhouses and barns on the Great Plains aren't connected by passageways as they are in New England. But they might just as well be. The activities that go on in one are essential to support life in the other. So when graphic artist Ann Willoughby told architect Dan Maginn, AIA, a partner in the Kansas City firm El Dorado, that she needed a barn, he understood that this was not just a place to park a tractor. The barn was an extension of her house and her work: a place for clients and professional colleagues to gather from all over the U.S. to meet and work—a dining hall, a conference center, and a bunkhouse.

Maginn and Willoughby went to meet with some local carpenters, who proposed to build what Maginn describes as an “upscale pole barn.” They were disappointed. Then they took a side trip to Red Barn Farm, a 1900s-era demonstration farm near Weston, Missouri, that is operated for tourists and school groups, to look for inspiration. On display was a model of a timber-framed barn used to show visitors how such structures had typically been built in the region. When Willoughby and Maginn learned the model was based on an existing barn frame that was about to be dismantled and sawed up for flooring, she opened her checkbook and bought it sight unseen for a modest amount. “Now we had a project,” says Maginn—one with materials costing a pittance.

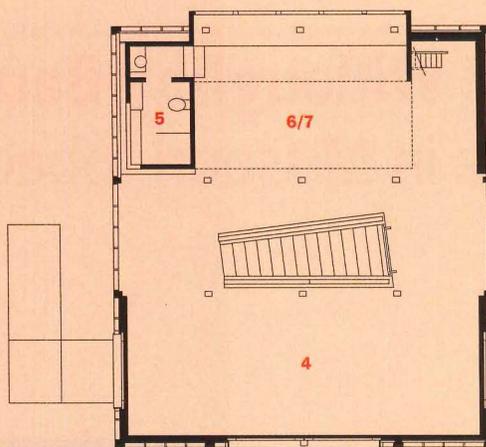
Project: Willoughby Design Barn
Location: Weston, Missouri
Owner: Ann Willoughby
Cost: \$62.50 per square foot
Architect: El Dorado—Dan Maginn,

AIA; Josh Shelton, Chris Burk, Doug Hurt, Brady Neely
Timber-frame reconstruction: Red Barn Farm

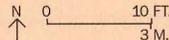




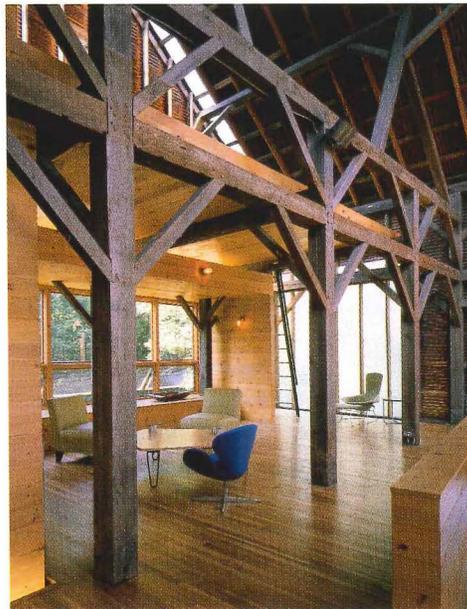
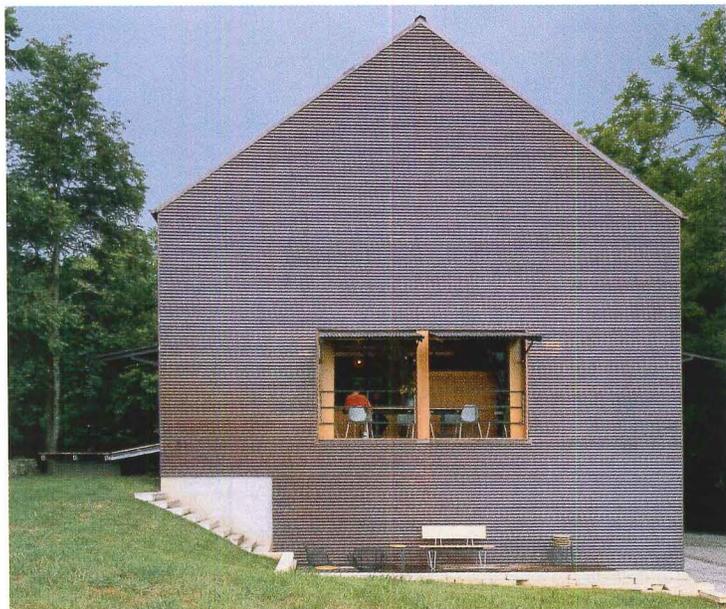
GROUND FLOOR



FIRST FLOOR



1. Farm storage
2. Car parking
3. Mechanical
4. Entertaining
5. Bathroom
6. Studio
7. Sleeping loft above



A pair of 8-foot-square sliding doors (far left) can be used to open up the south end of the barn. The reclaimed and relocated barn frame is finished in salvaged pine paneling and recycled gymnasium flooring (left and below).

The architects acted as the project's general contractors. Once a foundation was poured, the frame was reconstructed. Maginn originally intended to clad the frame in galvanized iron. But when ordering the material, he learned they could get 16-ounce corrugated copper for only \$12,000 more, so copper it was. The interior is left unfinished so that the old timber frame and interior of the copper cladding are exposed. Only the bathroom is heated and cooled. Recycled gymnasium flooring, cypress, and pine paneling, previously damaged in a flood, completed the materials palette and kept costs down. El Dorado custom-made the hardware for the building's 8-foot-square sliding doors, and built the handrails and steel brackets for the metal awnings in their own metal shop. Maginn points out that none of the new walls or openings abut the existing columns, but pass them by. He notes, "It is always a temptation to 'connect the dots.' You don't want to do that, because it compromises the nobility of the frame." For the same reason, he generally avoided punching holes in the frame for windows and skylights, opting instead to use UV-resistant plastic panels. ■

Sources

Windows: Pella Clad

Tile: Daltile

Siding and roof: Uniclud Copper

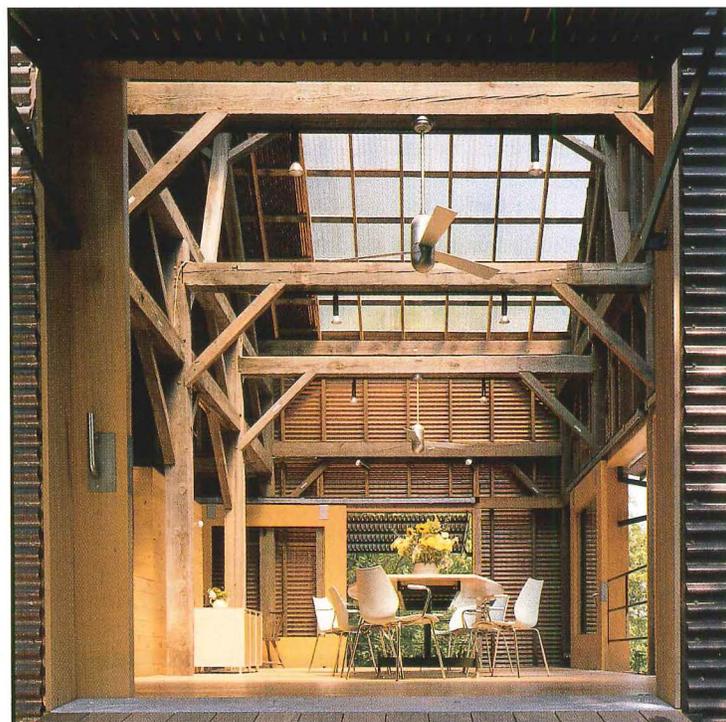
Bathroom fixtures: Duravit; Grohe

Railings, hardware, casework,

awnings: El Dorado

For more information on this project, go to Projects at

www.architecturalrecord.com.



Nature provides the drama. Pozzi provides the stage

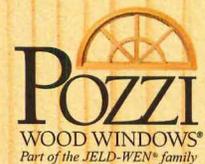


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Julie Eizenberg calls this her “Crate & Barrel” house, where readily available, good-quality materials and

well-crafted details enhance a very basic plan and help to achieve elegance with affordability.



The stylishly simple **Shine Residence** speaks of Koning Eizenberg's willingness to explore modesty



By Allison Milionis

If you weren't privy to the fact that the home of Kimberly and Jeffrey Shine and their two children was designed and built on a shoestring budget, you would never guess it. The Shines, like so many young couples starting out, didn't have vast financial resources to draw from when they purchased their property in 1998, nor did they want to settle for the ordinary. So they didn't. Having developed an appreciation for the work of the highly successful Los Angeles firm Koning Eizenberg, the Shines went out on a limb and called Julie Eizenberg, first expressing their wishes for a new house, and then their budget. Compared to the weighty public commissions awarded the firm in recent years, this project was small, but Eizenberg accepted the opportunity and challenge to create a family home on a very modest budget.

"I told them, 'You're just going to have to stay with base (materials), kids. That's just how it is,'" Eizenberg said, recalling the initial conversations she had with the couple regarding what they could and could not afford in terms of custom details. "She made it clear," said Jeffrey, "that to stay within a budget we would have to trust her sugges-

tions." "But we liked her ideas," added Kimberly Shine, "so we were willing to go along with her." Not to say that the Shines were left out of decision making. Rather, they played an active role in every stage of the process, particularly during design development, when they would choose from affordable options recommended by Eizenberg. This is what she refers to as the "Crate & Barrel" approach, where clients can select simple, readily available, yet well-crafted materials and special details that enhance a very basic plan and help to maintain affordability. The Shines credit this careful preemptive process for the fact that the project came in on time and on budget, although it was nearly a year in planning.

The details are limited and the materials lean, but there is nothing banal about this 3,500-square-foot home, which offers up a lot of usable space, natural light, and understated surprises. Reusing the foot-

Project: Shine Residence

Location: Santa Monica, Calif.

Owner: Kimberly and Jeffrey Shine

Architect: Koning Eizenberg

Architecture—Julie Eizenberg, principal in charge; Oonagh Ryan, Dason

Whitset, Naomi Neville, team

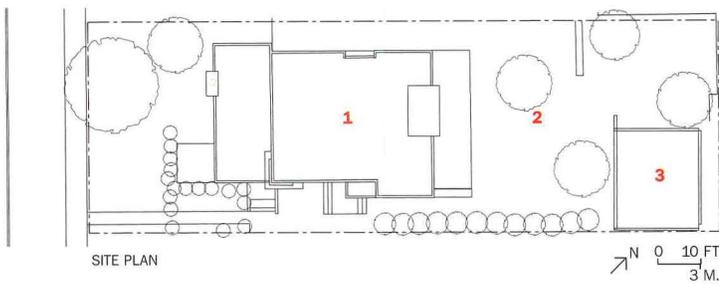
Cost: \$160 square foot

Structural engineer: Gordon Polon

General contractor: William Kent

Development—Bill Gorton

Allison Milionis is a Los Angeles-based writer. She contributes to several national and international architecture and design magazines.



The narrow kitchen features rich green tile and orange lacquered cabinetry (above left). Upstairs, a unit combining windows, double doors, and a window seat (above right) stands in relief when viewed from the outside (prior page).

1. New two-story house
2. Outdoor living room
3. New two-car garage

print of the original house, Eizenberg created a utility “box” in the center that features a narrow kitchen, a bathroom, a small play or guest room, a laundry room, and a closet. The more formal combined living and dining room is at the front of the house, with the combined family/dining room and a semiprivate office at the back. The spaces are simple yet can fill multipurpose functions. “They have to,” said Eizenberg. “You have to be able to get a lot of mileage out of each space.”

Take for example, the kitchen, an elongated area featuring Eizenberg’s trademark color palette—rich green tile and orange lacquered cabinetry—that also serves as one of two access corridors through the center “box.” It visually connects the front of the house to the back through two doors of unconventional scale, which are more like picture windows that frame a lush patch of zebra grass in the front and the cool blue wall of the detached garage in the back. These large doors are what Eizenberg describes as the “special features,” the unique showpiece details that have, in this case, a functional purpose.

The children’s bedrooms and an adjoining bathroom are on the upper level with the master bed and bath. Like the first floor, rooms are minimally detailed, save for those simple yet special features such as the children’s built-in shelves and storage boxes, and the tiled bath-

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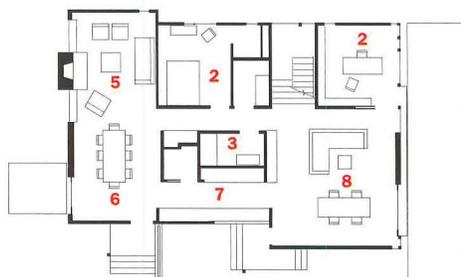
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The minimally detailed formal living and dining room is at the front of the house (bottom right), with a combined family/dining room at the back (top right). An elegant master bedroom and bath are upstairs (above).



SECOND FLOOR



GROUND FLOOR

1. Roof
2. Bedrooms
3. Bath
4. Master bedroom
5. Living room
6. Dining room
7. Kitchen
8. Family room

rooms. In the master bedroom, Eizenberg has added another special feature, or what she refers to as a “jewel box,” a cut-out space that is a compilation of windows and double doors, with a window seat of lacquered plywood. Shutters on the exterior provide privacy and light control but also create an interesting grid, especially when viewed from the outside.

Eizenberg attributes a lot of the project’s budget success to the Shines. “Kimberly and Jeff were careful with their money, but they wanted good design, not something ordinary just to fit in their budget. They were very good with their material selection,” she says. And while the Shines return the compliment and say it was Eizenberg who kept them in check, it’s clear that it took a concerted effort from both parties to meet their objectives. ■

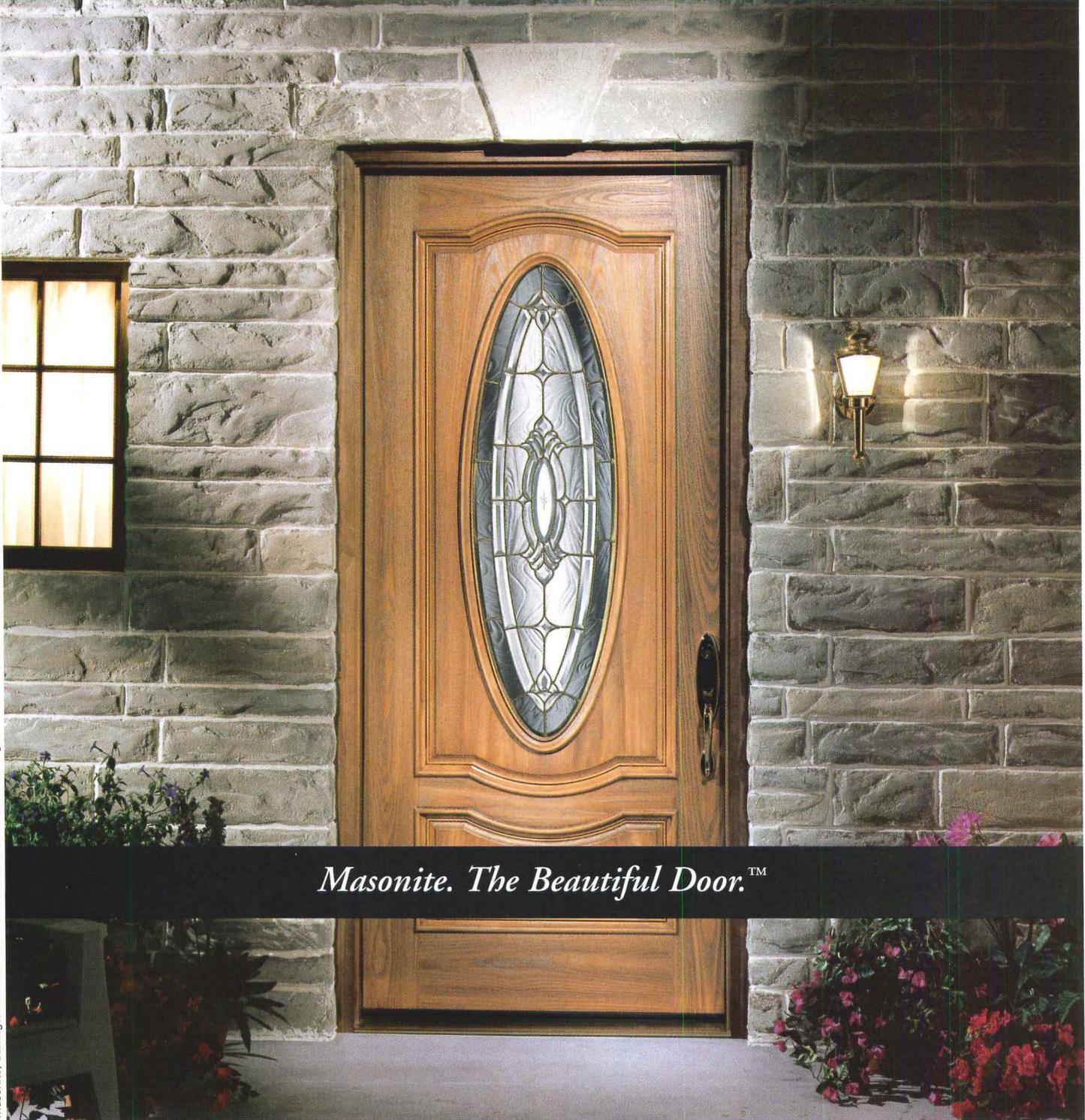
Sources

- Roofing:** Brai
- Decking:** Dex-O-Tex
- Windows:** Metal Window Corporation
- Skylights:** Bristolite
- Wood doors:** TM Cobb
- Locksets:** Schlage
- Hinges:** Stanley; Soss; Rixon
- Pulls:** Rockwood
- Cabinet hardware:** Blum; Accuride;

- Sugatsune; Hafele*
- Paint:** Dunn Edwards; Benjamin Moore
- Tile:** Dal Tile
- Flooring:** Forbo
- Carpet:** Shaw
- Sofa:** Shelter; Neils Bendtsen

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

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• An abundance of natural materials, including columns created from treated pine logs, cause the house to seamlessly blend into the dense woods that surround it (this page). The rustic cabin features a porch screened with sheer, almost transparent aluminum on the north side (opposite).

Pierre Thibault's **Beaver's Lake House** joins the world of domestic comfort with the wilderness



By Elizabeth Kubany

There is no visible trace of man's presence here, says architect Pierre Thibault of the site for this house in remote Canada. Located several miles from Shawinigan, the nearest village, and about 100 miles west of Quebec City, the house is sited in a lush forest dense with maple and pine trees as well as an abundance of other plant and moss life. The project takes its name from the lac du Castor (or Beaver's Lake), which sits to the west.

Beavers are the masters of this habitat and give shape to the landscape. The dams they build, which are critical to their survival, punctuate the water and the banks of the lake. Parts of the forest floor have been waterlogged or drowned because the dams have rerouted the natural direction of the water. All around the lake are large fallen tree trunks, slowly losing their leaves and revealing their columnlike nature.

The approach to the house is defined by this topography. The sense of remoteness is first fractured by an installation, entitled *Refuge Exterieur*, which Thibault designed for an architect/artist show at the Musée du Québec. "Composed of wooden poles supporting a light structure of beams from which black fabric hangs and moves with the wind, the installation seemed primitive in the museum but somehow, in this setting, it takes on a measure of refinement," explains Thibault. The house's owners, collectors from Montreal, purchased the installation and

Elizabeth Kubany is a former ARCHITECTURAL RECORD editor who now writes freelance for the magazine. She is based in New Jersey.

had it moved to their 1-square-mile estate when the exhibition ended. The piece appears suddenly in the landscape and serves as a sort of front gate. The house is visible in the distance.

In his work, Thibault has continuously explored the idea that architecture should be allowed to return to the earth, and this rustic villa reflects both a respect for the landscape and an interest in the naturally destructive, but necessary, environmental effects of the builders for whom the lake is named. When describing how he began the design, Thibault explains, "I saw silence and trees and wanted to try to recreate them in the house."

A structural system of treated gray pine logs supports the house's roof plates. Set at angles on the inner and outer perimeter and fastened to the roof and ground with galvanized metal rods, these "columns" ease the transition from natural to man-made, forest to house. The ambiguity between inside and out is a theme Thibault revisited throughout the design.

The architect sited the house to follow the curve of the shore line and divided the volume into four distinct blocks. By fragmenting the volume, the architect sizes each part according to its function and the

Project: *Beaver's Lake House (Villa du lac du Castor)*

Location: Mauricie, Quebec, Canada

Architect: Pierre Thibault, architect—Pierre Thibault, Vadim Siegel,

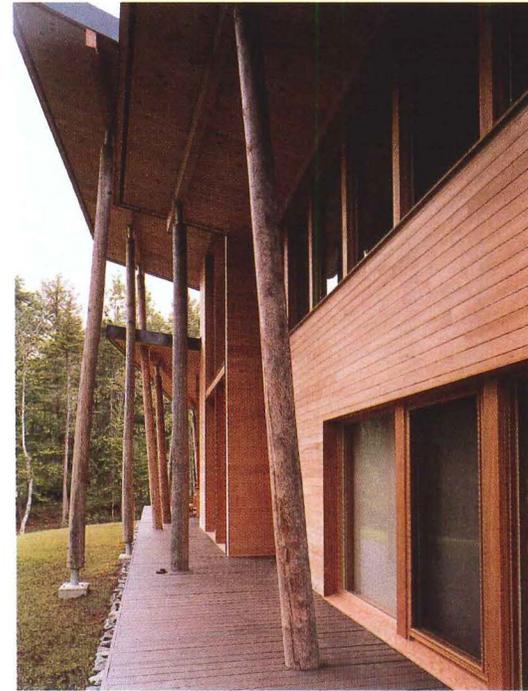
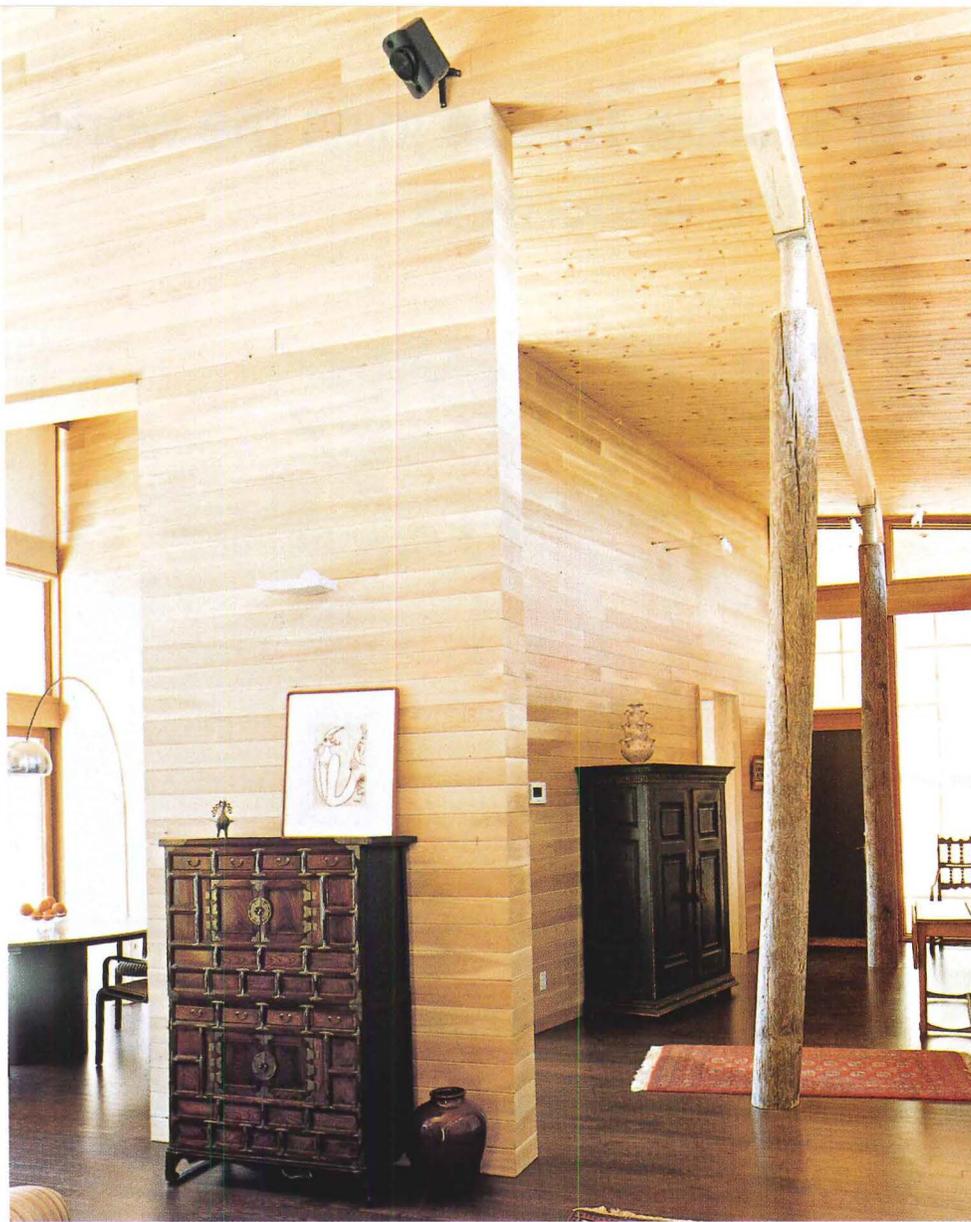
André Limoges, Denis Marois

Cost: \$140 per square foot

Interior designer: René Desjardins

Engineer: Jacques Lamarche

General contractor: Réjean Desilets



Inside, the vertical columns intersect both living space and corridor, giving rise to a dialogue between the domesticity of the house and the organic wilderness surrounding it (left). Treated pine logs serve as a structural system to support the villa's various roof plates (below).

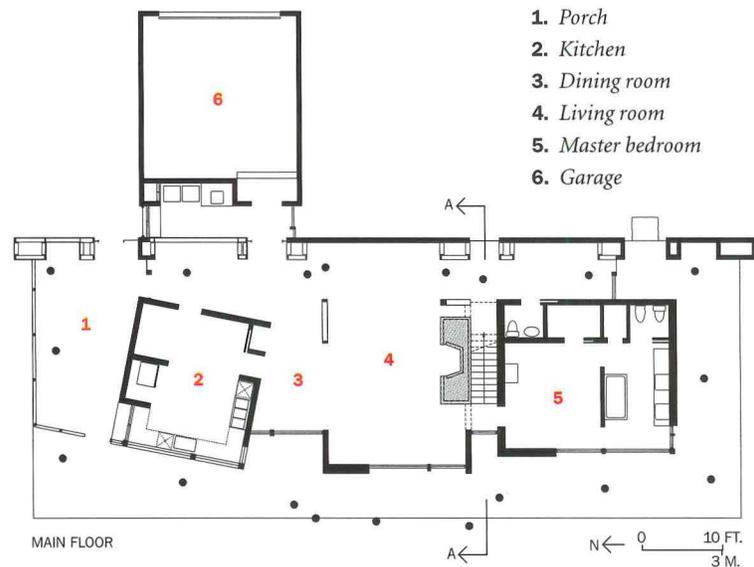
desired spatial sequence, resulting in majestic public spaces and intimate private ones. Each block was oriented to maximize natural light and to capitalize on specific views. Thibault describes the house as a “collage of sensations. Each space has a different relationship with the environment in terms of orientation and views. There is diversity inside the house, just as there is diversity in nature.”

Designed at the modest cost of about \$140 per square foot, the architect hired a local contractor, more at ease with standard bungalows, who utilized an inexpensive common Western platform structure. The

THIS RUSTIC VILLA CONVEYS A RESPECT FOR THE LANDSCAPE AND INTEREST IN THE ENVIRONMENTAL EFFECTS OF THE BEAVERS THAT HAVE SHAPED IT.

wood columns are treated pine logs, as well as readily available telephone poles, and the structural engineer was able to devise simple metal connectors permitting easy assembly. Locally produced materials saved money and included limestone from St-Marc-des-Carières for the fireplace and eastern white cedar for the exterior and interior cladding.

The entire house is elevated off the ground on decking in order to give it a sense of lightness and to preserve the integrity of the land on



1. Porch
2. Kitchen
3. Dining room
4. Living room
5. Master bedroom
6. Garage



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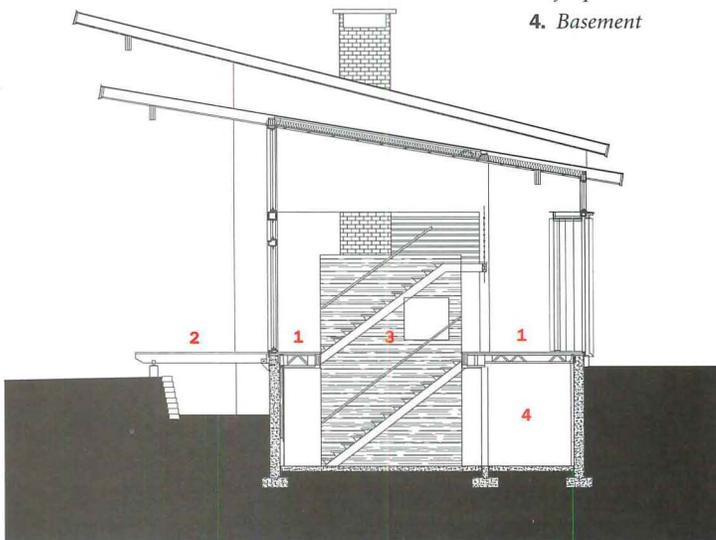
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The tallest indoor volume of the house contains the living and dining area. An inviting

and ample hearth, built with local stone, serves as the centerpiece of the cozy room (above).

1. Passageway to living room
2. Deck
3. Reverse side of fireplace
4. Basement



SECTION A - A

which it is built. Made of ash wood, it serves as a terrace outdoors and is continued indoors as the floor. With walls of white cedar and ceilings made of white knotty pine, the house establishes itself as part of its surroundings. There are only a few moments when the architect departs from wood in the house's material palette—a stone hearth, glazed windows and doors, and a porch on the north side, screened with very sheer, almost transparent aluminum.

Along the east side, a wall of gray pine logs links the house's four volumes, which gives the building a solid, private feel along this rear elevation. Though topped by a row of clerestories and occasionally punctuated by a full-height window, this elevation recalls the walls of primitive log cabins built by early settlers, with the logs set vertically instead of horizontally. Unlike the back, the frontal western elevation is defined by a sense of permeability, with floor-to-ceiling windows in the double-height living area that take maximum advantage of views of the lake. Open and generous at some times, closed and careful at others, Beaver's Lake House is both an extension and a reflection of its environment. ■

Sources

Wood exterior cladding: Mobilier Rustique
Roofing (elastomeric): Soprema
Wood windows: Fenêtres Jean Cyr

Interior ambient lighting: Atremide

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

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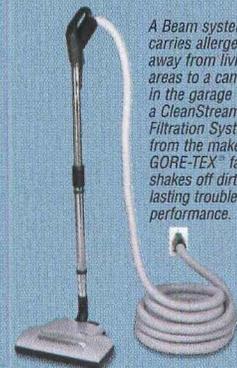
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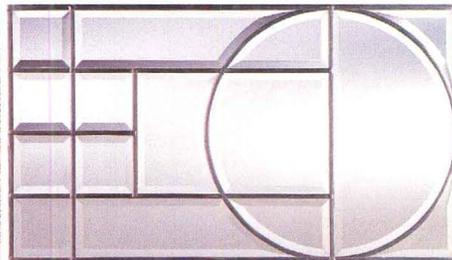
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Residential Products

► Expanded shade line

Brilliance pleated shades from Hunter Douglas have been updated to feature nine new styles, including all new sheers, prints, and juvenile patterns, as well as several color updates. A micropleated shade in six colors in the classic Irish Linen fabric complete with a ½" headrail and cord lock is also available. Featured here is the new semiopaque Masquerade fabric with a herringbone pattern offered in eight colors. 800/937-STYLE. Hunter Douglas, Upper Saddle River, N.J. **CIRCLE 200**



▲ Arts and Crafts details

Clopay introduces the Studio Collection, a line of garage-door windows featuring four window designs inspired by the architecture of the Arts and Crafts movement. Available in short or long panels, the windows are constructed out of shatterproof acrylic that has the look of beveled glass. 800/225-6729. Clopay Building Products, Mason, Ohio. **CIRCLE 201**

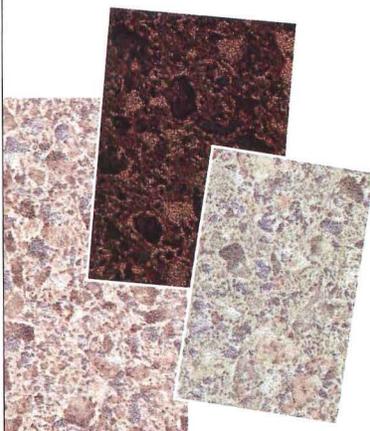
▼ Adjustable river-rock knobs

First introduced in 1997, the river-rock cabinet knob line from Providence Artworks has now been extended to include adjustable pulls. The new two-hole pulls, made with coastal-tide-washed rocks from Baja California, Mexico, will be available in all of Providence's popular base finishes: Black, Brass, Satin Nickel, Bright Nickel, and Rust. 877/684-3362. Providence Artworks, Tempe, Ariz. **CIRCLE 202**



▼ Stone-faced laminate

For clients who want the look of engineered stone but not the cost, Wilsonart offers Topaz, a laminate line intended to replicate the appearance and feel of engineered stone at a moderate price point. Layers of multiple colors and pearl pigments give the patterns dimension and depth. 800/433-3222. Wilsonart, Temple, Texas. **CIRCLE 203**

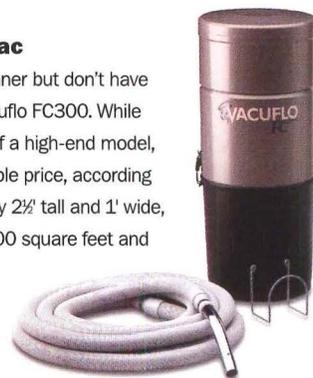


▲ One good egg

Kamado, the generic Japanese name given to a clay cooker believed to be of Chinese design, is traced back in history more than 3,000 years. The Big Green Egg company has modified the cooker to meet modern needs and offers it in four sizes for different lifestyles. The thick ceramic body retains, circulates, and radiates the charcoal-generated heat evenly. 732/866-0666. DHM Group, Colts Neck, N.J. **CIRCLE 204**

► Moderately priced central vac

Projects that require a central vacuum cleaner but don't have the budget have a new option with the VacuFlo FC300. While maintaining the performance capabilities of a high-end model, the FC300 is positioned at a more affordable price, according to the manufacturer. At 22 pounds and only 2½' tall and 1' wide, the unit is intended for homes of up to 2,500 square feet and can fit into tight areas in the basement, garage, or utility room. 800/VACUFLO. H-P Products, Louisville, Ohio. **CIRCLE 205**



◀ Cool home, cooler garage

Whirlpool has teamed with Watso to develop a full line of Whirlpool-brand home cooling and heating products, including residential air-conditioning systems, furnaces, heat pumps, and thermostats (far left). For the "forgotten" room of the home, Whirlpool offers Gladiator GarageWorks (near left), a modular storage system that features sturdy GearWall panels that make floor-to-ceiling storage capacity possible. 800/253-3977. Whirlpool, Benton Harbor, Mich. **CIRCLE 206**

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New Products

This month's focus on doors encompasses a wide variety of products including a system that converts **antique wooden panels** into interior pocket doors and a new line of **fire-rated stainless-steel doors**. Depending on the application, architects must consider issues ranging from privacy and light control to building codes and security. *Rita F. Catinella*

If you've got it, flaunt it: Telescoping patio door offers 19-foot view



Door fully closed or fully open (top left and right); interlocking mechanism (far left).

glass panels. The door features two fixed-end panels and four center panels that slide in a range from fully open to fully closed. A three-channel sill design guides panels into position. The sill is available in all aluminum for warm-weather markets or with a pultruded thermal break for cooler climates, and the door's stainless-steel hardware components and fasteners are ideal for coastal areas. A handle-activated, multipoint locking

mechanism is standard, and the ADA-compliant top and bottom rail heights are 4½" and 7½", respectively. The door's heavy-duty extruded (.060") aluminum exterior is available in seven standard colors, custom colors, or a choice of seven anodized aluminum finishes. Weather Shield says that future models may reach a 30' width. 800/477-6808. Weather Shield Windows & Doors, Medford, Wis.

CIRCLE 207

Even when closed, Weather Shield's new multipanel telescoping sliding glass door can open up a room to the outdoors with a 19' wide, 8'1" tall view. The system features six 1¾" thick panels (27" to 3'6" wide) in 6'10" or 8'1" heights, all with flush-mounted

Classroom door gives privacy/light control

The newest building on the University of Wisconsin-Marshfield/Wood County campus was designed by the Sheboygan, Wisconsin, firm Bray Associates Architects, to serve multiple functions while physically functioning as a connecting corridor between two existing buildings. Adding to the goal of a bright, airy aesthetic was the selection of Marshfield DoorSystems' Variable Privacy Doors for the new classrooms. Integrating a Venetian blind directly into its design, the Variable Privacy Door offers minimal maintenance and smooth operation while meeting the State of Wisconsin's requirements for glass lites within interior doors. The blinds are enclosed in the door's window, so faculty can have privacy and

control light during presentations while keeping a tidy appearance in the classroom and along the corridor (the previous glass windows were often obscured when professors would tape up self-made screens).

Variable Privacy Door's Venetian blinds are available in white and alabaster, as well as a variety of sizes. Intended for nonrated applications where controllable privacy is the priority, core choices include particle-board, stave core, and structural composite lumber (laminated strand lumber). The door can also be specified with an Environmental



Classroom door at the University of Wisconsin.

Class Forest Stewardship Council certified core. 800/869-3667. Marshfield DoorSystems, Marshfield, Wis.

CIRCLE 208



Stainless-steel fire-rated doors

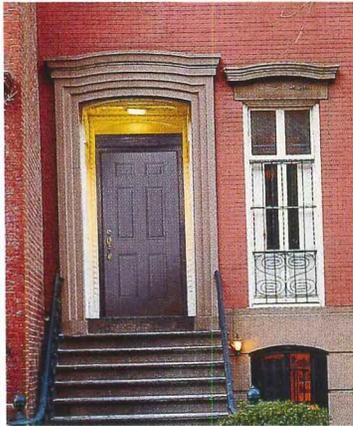
Archivisions is a New York-based firm that provides a range of architectural metal, point-support glass, and curtain-wall-system products. The firm has recently introduced a new line of 90-minute, UL fire-rated, seamless stainless-steel doors and door frames that are intended to replace stainless-steel-clad, fire-rated hollow metal doors. The doors are available in stain, polished, sandblasted, as well as nondirectional finishes. Other special surface treatment options, such as titanium sputtered stainless steel, are available on request. Single swing doors with sizes up to 36" wide and 84" high may be provided with or without a 100-square-inch, fire-rated glass lite. 718/599-9891. Archivisions, Brooklyn, N.Y.

CIRCLE 209

New Products

▼ Exterior wood/steel residential doors

Craftsmen exterior doors (below left) are offered in several natural wood species, including oak, cherry, fir, hemlock, and pine. The collection includes entry doors featuring two- and three-panel designs with decorative glass inserts. The Contours exterior steel door line (below right) has a sticking profile to give a wood appearance and a 24-gauge steel skin. It is available in either a wood- or steel-edge construction for enhanced security and fire-rated protection. 800/877-9482. Jeld-Wen, Klamath Falls, Ore. **CIRCLE 210**



carved wooden panels dating from the early 19th century. To incorporate the 2' x 8' carved panels into the home, a carpenter converted four of them into pocket doors by joining them, two by two. Since each intricate panel weighs almost 80 pounds, they were installed using L.E. Johnson Products' commercial grade 200 series pocket-door hardware kit, which features a heavy-duty extruded aluminum I-beam track and four-wheel, ball-bearing hang-

▲ Entering another era

During a visit to an Oriental antiques shop, a Virginia couple planning to build a new home came across several hand-

ers with machine-turned 1" wheels. The doors hang from a top rail and slide into the walls. 800/837-5664. L.E. Johnson Products, Elkhart, Ind. **CIRCLE 211**

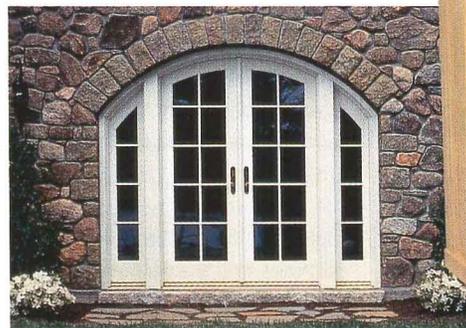
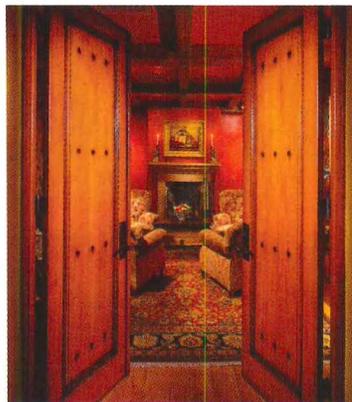
► Exterior wainscoting

Simpson Door Company has added the Bungalow door series to its exterior door line. The series features a 1 1/8" beaded v-groove Innerbond double-hip-raised panel that displays the style of wainscoting with an engineered component that will not warp, shrink, or split. The doors are offered in multiple sash and panel designs and configurations and can be crafted in a nearly unlimited array of wood species. 800/952-4057. Simpson Door Company, McCleary, Wash. **CIRCLE 212**



► New to Old World style

Craftsmen in Wood uses select hardwoods to craft doors and cabinet fronts ranging from contemporary to Old World styles. The look of the final product can be influenced by the wood type, number of panels, distress level, finish, and hardware. The company offers a full collection of architectural hardware, including entry pulls, thumb-latch sets, levers, knobs, cabinet hardware, and multipoint. 602/296-1050. Craftsmen in Wood, Phoenix. **CIRCLE 214**

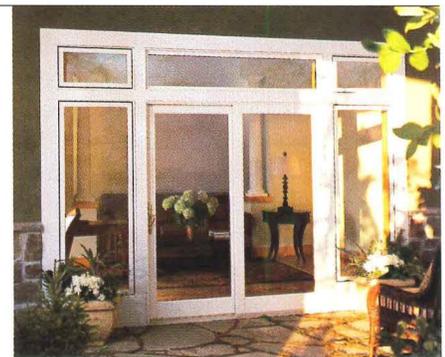


▲ Added protection and style

Marvin has introduced a new level within its StormPlus line of high-performance windows and doors (detail, right). The new level includes more than 30 products that feature impact-resistant glazing designed to meet building-code requirements in states including New York, Florida, and Texas. Also new from Marvin is the extruded aluminum Clad Arch Top French Door (above) that features traditionally profiled sight lines. 888/537-8266. Marvin Windows and Doors, St. Paul, Minn. **CIRCLE 213**

► Structurally sound sliding door

The features of the new Integrity Sliding French Door include a classic wood interior, dual-point lock, new 8' panel height option, and preassembled frames and panels. The door's Ultrex exterior is an advanced pultruded fiberglass material (strong enough to be used in bridge construction and spacecraft design) made of thin cables of glass saturated with a polyester resin. As fiberglass expands and contracts at the same rate as glass, it keeps sealants and glass tightly adhered to the door. 888/537-8263. Integrity Windows and Doors, Eagan, Minn. **CIRCLE 215**





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Product Briefs



▲ A modern cut above

The Cut line of wall-fixed, stainless-steel bathroom taps from Boffi features a horizontal or vertical plate with an integrated handle and linear spout. The temperature is regulated with a single, level movement, while the water supply remains constant. The Cut line includes a single pipe unit in two sizes for sinks and bidets, a shower set with a spout and recessed manual shower, and a bathtub set with spout, diverter, and manual shower.

310/458-9300. Boffi Santa Monica, Calif. **CIRCLE 216**



▲ Replaceable wall base

A new line of replaceable wall base from Johnsonite installs without adhesives, eliminating extra costs to repair damaged drywall, a common problem when changing out traditional wall base. The new system hangs on a track, so it can be easily removed, reused, and fully recycled. Low-voltage cables for voice, data, and security systems can be concealed in the toe space (subject to job-site conditions). The system is ideal for tenant improvement projects where budgets and timetables are critical. 800/899-8916. Johnsonite, Chagrin Falls, Ohio. **CIRCLE 218**

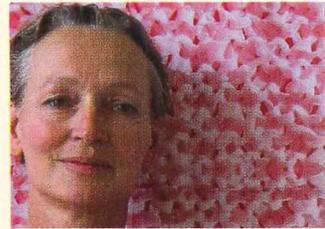
► Duck eggshell inlay

The Canard Crackle eggshell-inlay tile collection is created by Vietnamese craftsmen, who first clean and pan-roast the duck eggshells to transform their original color to lush sepia tones of varying depth. The shells are then broken into pieces, crushed flat, cut into patterns, and applied to a clay base. Lacquer is employed to enhance the natural crackle pattern and add durability and luster. The tile is intended for vertical applications only. 800/260-8646.

Artistic Tile, New York City. **CIRCLE 219**

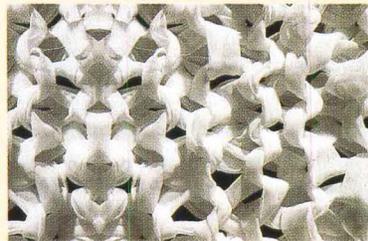
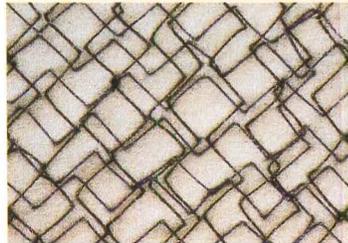


Product of the Month Touch Vinyl Wallcovering



Amsterdam-based interior and landscape designer Petra Blaisse (right) is a bit of a Renaissance woman—her work experience prior to starting her own design office includes jobs in fashion, publicity, museum curatorship, and exhibition design. Blaisse hasn't let product design slip her grasp; she has designed custom theater curtains, acoustical walls, poured floors, and even

a photovoltaic textile. Her latest offering is Touch, a collection of eight, 54" wide, type II vinyl wallcovering patterns for Wolf Gordon that feature photographic prints of soft materials designed by Blaisse for previous projects. The patterns' unexpected layers and exaggerated scale give the illusion that the wall is a soft, three-dimensional surface. Working with materials such as felt, translucent fabrics, and faux fur, Blaisse created graphic patterns that produce a variety of visual illusions. Shown here are ZigZag (upper left), a print of white, machined zigzag stitches crisscrossed on a field of neutral gray wool felt; and Knit (lower left), thin lengths of woven translucent white fabric that simulate light glowing from behind the wall. 800/347-0550. Wolf-Gordon, Long Island City, N.Y. **CIRCLE 217**



▲ Sexing up stainless

Brueton continually introduces some of the most well designed furnishings in the nonoffice category at the NeoCon trade show. The Zuko Seating line, designed by Stanley Jay Friedman, is a retro-Modern-styled seating collection offered in sofas, loveseats, lounges, pull ups, and occasional chairs. Zuko features stainless-steel legs and a choice of fabric or leather upholstery combinations. Another standout was the Mobilis table, also designed by Friedman. The mobile table is available with a stone, wood, or colored laminated glass top, and a base in opaque colors or stainless steel (polished or satin). 800/221-6783. Brueton, Springfield Gardens, N.Y.

CIRCLE 220

Product Briefs



▲ Get a little Moxie

Although the Moxie furniture system from Haworth has a strong personality, that does not overpower its ability to function in the architecture of today's office buildings. Moxie works from a stackable spinewall, which offers 90- and 120-degree transitions. The spinewall offers a slat tile surface that supports shelves and accessories and is a source for technology, including Haworth's plug-and-play modular cable system. Finishes such as wood trim and details such as lampshades lend the system a residential feel. 616/393-3000. Haworth, Holland, Mich.

CIRCLE 221

► Hurricane-ready glass

After enduring the impact of a 9-pound, wooden, 2" x 4" test missile fired from a cannon at 33 mph, StormGlass, a new hurricane-impact-resistant glass product from Oldcastle Glass, was cracked but still intact due to its resilient interlayer, which prevented penetration. Hurricane-prone regions such as Bermuda (recently belted by Hurricane Fabian with wind forces of 120 mph) would be a good application: StormGlass is made to withstand hurricane wind forces of up to 140 mph. 866/OLDCASTLE. Oldcastle Glass, Santa Monica, Calif. CIRCLE 222



◀ Executive style

Brayton was awarded a Best of NeoCon Gold award for the Switch Executive chair during this year's show. Designed by EOO/Walter Knoll of Germany, the sled-base chair comes in mid- and high-back versions and features pneumatic height adjustment, synchro tilt, and dual-position forward tilt, and incorporates a coil-spring pack in the seat with a webbed back over its steel frame. 800/627-6770. Brayton International, High Point, N.C. CIRCLE 223

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Product Briefs

▼ Plane parts but not plain furniture

Artist and furniture designer Giancarlo de Astis rescues airplane parts from the "bone-yards" where rows of planes find their final resting place. He then brings them back to his Culver City studio, where he cleans, strips, polishes, paints, and accents them with new materials, including glass, wood, stone, leather, metal sheeting, and rivets. The result is highly crafted pieces of functional furniture, including chairs, desks, lamps, tables, and other pieces for the home, office, and public spaces. The Il Primo executive desk (below left) features the wing aileron of a Fairchild c-119, while the Il Cardine desk task lamp (below right) once served as an aircraft door hinge. 310/839-2899. Giancarlo de Astis, Culver City, Calif. **CIRCLE 224**



▲ Lightwall system

For the reception area of the Nienkamper Furniture showroom in Toronto, architect Johnson Chou collaborated with Eventscape to create a dramatic backdrop while concealing a stairwell, exit, and storage area. Backlighting white fabric stretched over a special angled steel frame served both to attract customers and provide a soft, diffuse light. 416/231-8855. Eventscape, Toronto. **CIRCLE 225**

▼ Classical but tough

Designed for a Chinese restaurant in Paris, Philippe Starck's Kong chair and stool are inspired by the furniture of Versailles and handmade with the same 77-step process used by craftsmen at Emeco since 1944. The chair recalls French designs of the classic era but is made to withstand 1,700 pounds of weight. 717/637-5951. Emeco, Hanover, Pa. **CIRCLE 226**



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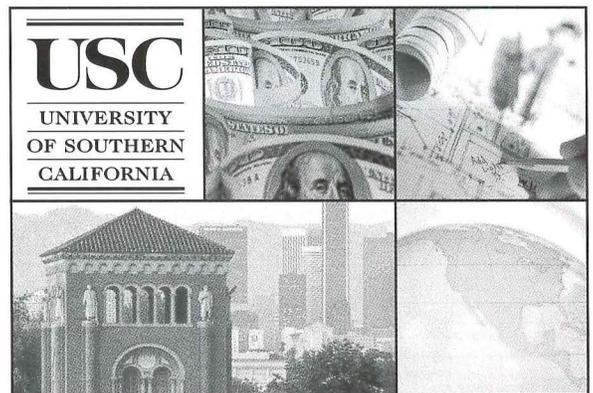
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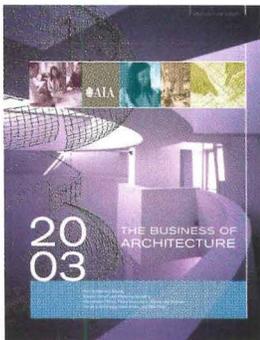
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Product Literature

Retaining wall program

The Concrete Reinforcing Steel Institute's software program *CRSI Retaining Wall* features a fixed geometry mode for a retaining wall with given dimensions; can generate tables with incremental retaining-wall heights; and selects steel reinforcing bars (coated and uncoated) based on development length. 800/465-CRSI. Concrete Reinforcing Steel Institute, Schaumburg, Ill. **CIRCLE 227**

Linear system brochure

Ardee Lighting has announced the availability of a new 36-page brochure detailing the company's Clikstrip flexible low-voltage linear accent and display lighting system. 704/482-2811. Ardee Lighting, Shelby, N.C. **CIRCLE 228**

Case goods brochure

The Solon brochure features a collection of transitional design fine-wood desks, tables, credenzas, and related case goods. The brochure is 3-hole punched for ready inclusion into the new CCN International "Wood Solutions" product-line binder. 315/789-4000. CCN International, Geneva, N.Y. **CIRCLE 229**

NEW SITES FOR CYBERSURFING

New site features improved navigation and detailed product, service, and technical info. www.marshfielddoors.com



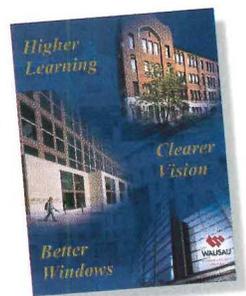
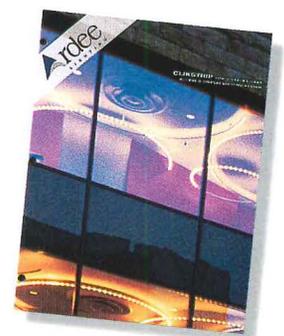
Product source for the lighting specifier www.searchspec.com

Lumber-information site produced by the Western Wood Products Association www.lumberbasics.org

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Windows for education

Wausau's newest brochure, *Higher Learning, Clearer Vision, Better Windows*, outlines the company's approach to addressing the architectural window and curtain-wall needs of schools, colleges, and universities. The brochure highlights Wausau's services, including on-site analysis and technical support through budgeting and pricing, installation coordination, and maintenance instruction. 877/678-2983. Wausau Window and Wall Systems, Wausau, Wis. **CIRCLE 230**



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Product Literature

Duct wrap spec sheet

CertainTeed's new SoftTouch duct wrap is described in a two-page spec sheet now available in CSI format. 800/233-8990. CertainTeed, Valley Forge, Pa.

CIRCLE 231

Door hardware catalog

Hager Companies has released a new 96-page door-hardware catalog. The full-color catalog details in-stock architectural, residential, and continuous hinges; trim and auxiliary; thresholds and weatherstripping; and sliding doors. Each color-coded door-hardware category is organized by part-number and includes product illustrations, attributes, and available dimensions. 314/772-4400. Hager Companies, St. Louis. CIRCLE 232

Managing mold and moisture

A new publication from the Southern Pine Council, *Managing Moisture and Mold*, provides the basic information industry professionals need about mold, moisture, and protecting wood products. Readers will learn about proper paper wrapping, shipping, job-site delivery inspection, and how to address water damage. This fact sheet also highlights standard building-code requirements and the effects of mold on

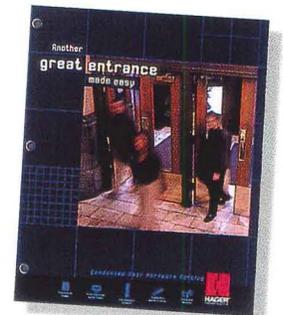
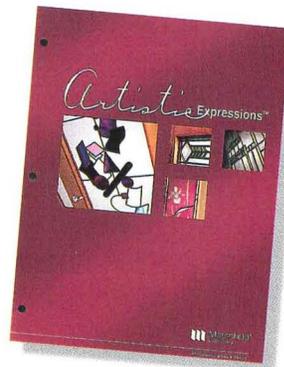
lumber. 504/443-4464. Southern Pine Council, Kenner, La. CIRCLE 233

Artistic door brochure

MarshField DoorSystems offers a new brochure on its Artistic Expressions doors with custom-made, stained, and etched glass. Each door is created to individual specifications by qualified glass artistry professionals for projects including religious institutions, health-care facilities, and justice centers. 800/869-3667. Marshfield DoorSystems, Marshfield, Wis. CIRCLE 234

Guide to specifying cypress

The American Lumber Standards Committee has certified engineering design values for cypress, which means they are now recognized in model building codes across the U.S. The certification makes it easier for architects and builders to specify cypress for structural applications, such as exposed beams, timbers, and other large structural or accent pieces. A summary of the *Allowable Base Design Values for Baldcypress Dimension Lumber* is available from the Southern Cypress Manufacturers Association. 877/607-SCMA. Southern Cypress Manufacturers Association, Pittsburgh. CIRCLE 235



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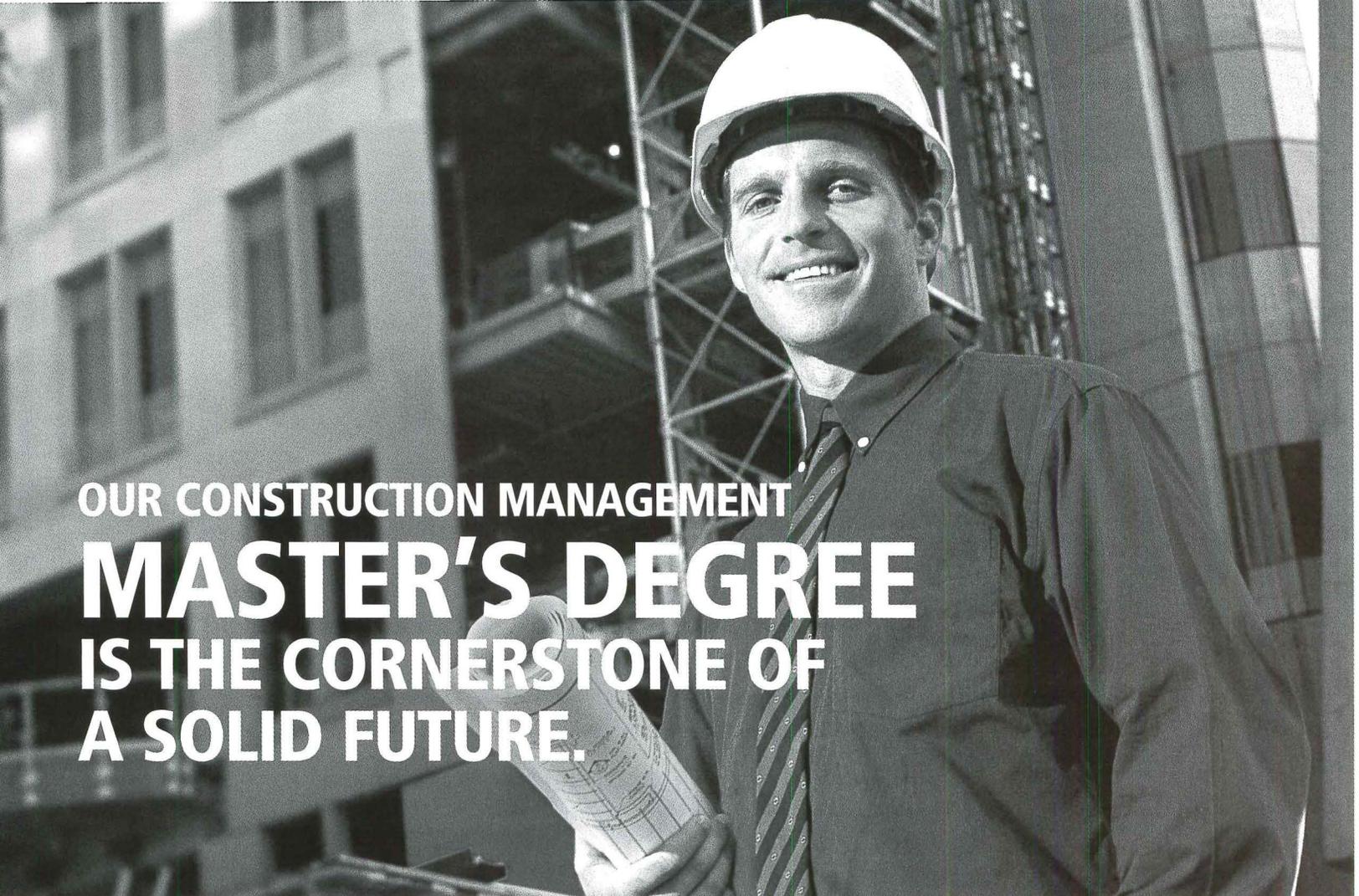
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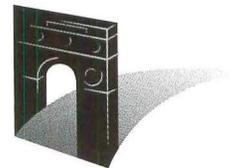
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sessions
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OCTOBER

Strategically Leveraging Your Prime Asset: Your Future Depends On It!

October 8–10, 2003; Savannah

Provider: Practice Management PIA

Sponsor: Graphisoft

Questions to practicemanagement@aia.org

Urban and Innovative Schools: The Cultural and Social Role of Educational Architecture

October 9–11, 2003; Minneapolis

Provider: Committee on Architecture for Education

Questions to cae@aia.org

Cleveland: The Treasures Within

October 16–18, 2003; Cleveland

Provider: Interfaith Forum on Religion,
Art, and Architecture

Questions to ifraa@aia.org

Connecting the Dots: Understanding the Emerging Digital Building Process

October 16–19, 2003; San Francisco

Provider: Technology in Architectural Practice PIA

Sponsors: Autodesk Revit, Bentley Systems, Inc., and
Graphisoft

Questions to tap@aia.org

IFMA World Workplace 2003

October 19–21, 2003; Dallas

Provider: International Facilities Management
Association

Education session (design/collaboration track)
provided by Facility Management PIA

Questions to facilitymanagement@aia.org

NOVEMBER

Mold in the Built Environment: Perspectives for Architects

November 8, 2003; San Antonio

Providers: Building Performance PIA, Building
Science, Committee on the Environment, and
Housing PIA

Questions to plukas@aia.org

YAF/YCF Working Weekend

November 14–15, 2003; Memphis

Provider: AIA Young Architects Forum and
AGC Young Constructors Forum

Questions to swight@aia.org

Historic American Buildings Survey 70th Anniversary Symposium: Architectural Documentation

November 14–16, 2003; Washington, D.C.

Provider: Historic American Buildings Survey,
National Park Service; Library of Congress;
Historic Resources Committee

Questions to hrc@aia.org

2020 Vision: a diversity conference for design professionals

November 19–20, 2003; Boston

Providers: AIA Diversity Committee and Boston
Society of Architects

Details at www.architects.org/diversity

Women, Children, and Healthcare: Designing Facilities for Distinctive Needs

November 19–22, 2003; Denver

Provider: Academy of Architecture for Health

Questions to jbarry@aia.org

DECEMBER

Videconference on New Procurement Methods The French and U.S. Experience

December 11, 2003; Washington, D.C. and Paris

Provider: AIA International Committee

Questions to edelage@aia.org

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Practice Matters

continued from page 64

up making revisions to the program at their own cost, to address issues that were not adequately covered by the programmer. If information is gathered in a holistic way, the architect can use it to make the right trade-offs between components.

Second, the client-architect relationship that is developed during programming gives each

such as master planning. Then the program is further developed before design development, incorporating the new ideas generated during schematics. This juxtaposition is much harder to achieve with an outside programmer. And, architects generally have access to more current cost data than people who only do programming, and they are also more familiar with the latest

FOR COMPLEX PROJECTS, PROGRAMMING CAN NET EVEN MORE THAN AN OPTIMISTIC 25 PERCENT PROFIT.

party valuable insights into the other's work processes, and this mutual understanding pays off during design. A third benefit is that time is saved when programming steps can be conducted concurrently with design. For example, a "schematic" building program can be written during predesign work

information on new building technologies. They can use this knowledge to make realistic assessments of program options based on both fiscal viability and buildability.

All clients appreciate the economies and other benefits that are generated through program-

ming—they yield the biggest bang for the construction buck—so it is likely that the interest in paying extra for the extremely valuable service will outlast the weak economy. And it can be profitable. For complex projects, programming can net more than even an optimistic 20 percent or 25 percent profit margin. But to achieve this, the programming contract should spell out the limits of work in detail and provide for additional fees if the listed tasks are exceeded. Because the programming process can take unexpected turns, guard against underestimating the effort involved. Since the programming process, and the level of effort, could vary substantially from one project type to another, architects have traditionally established fees from the "bottom up," by listing the tasks and estimating professional time required from experience.

Marketing is also an issue. Sometimes the programming precedes the public announcement of the project, so you must start mar-

Resources for Programmers

The classic text on programming is *Problem Seeking: An Architectural Programming Primer*, 4th edition, by William M. Peña and Steven A. Parshall (John Wiley and Sons, 2001). Robert G. Hershberger, Ph.D., FAIA, wrote an excellent article on programming for *The Architect's Handbook of Professional Practice*, 13th edition (John Wiley and Sons, 2001). A sample matrix shows how information can be organized.

keting to potential clients early, sometimes before there is even a hint that a project is going to take off. To be successful in getting programming work, you must be alert to emerging opportunities and catch proposed projects before your competitors do. ■



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Program title: "Selecting and Specifying High Pressure Decorative Laminate Architectural Doors," sponsored by VT Industries (10/03, page 165). 103SPONQ
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| 3. a | b | c | d | 8. a | b | c | d |
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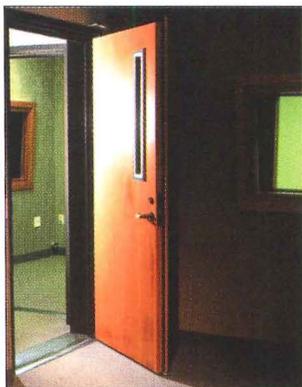
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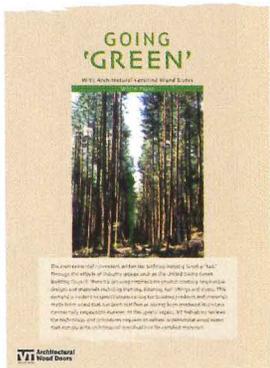


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"Going Green," a special report examining the technology and procedures required to deliver architectural wood doors that comply with Forest Stewardship Council specifications for certified materials, is available from the marketing and communications group at VT Industries. 800/827-1615, ext. 210 or 304. Holstein, Iowa.

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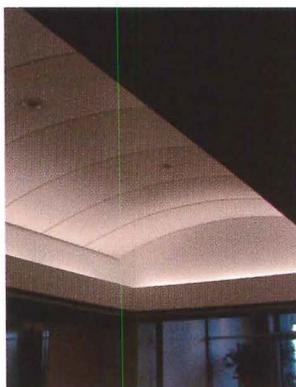


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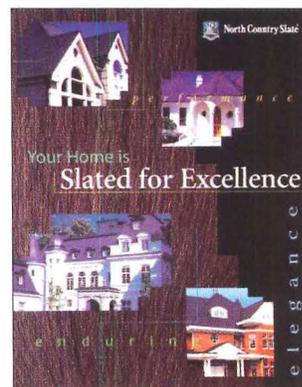


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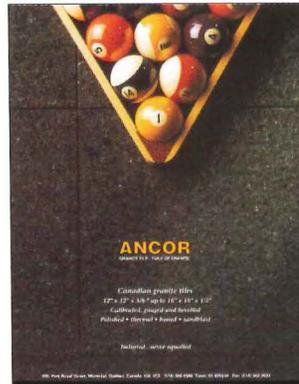
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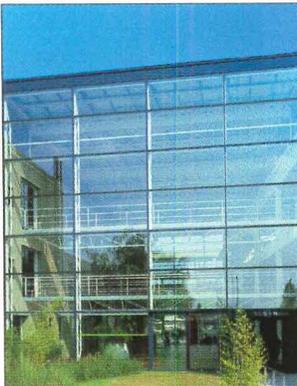
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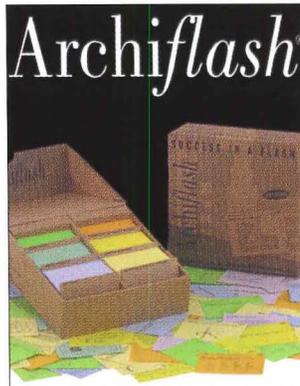
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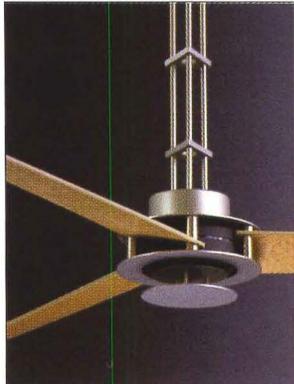


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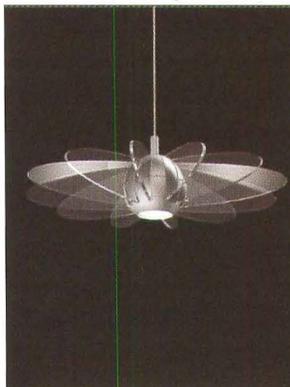


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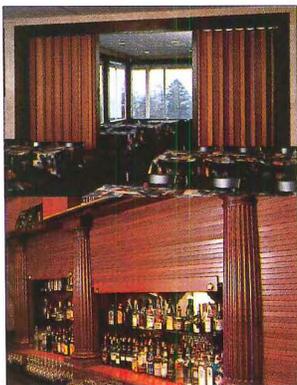


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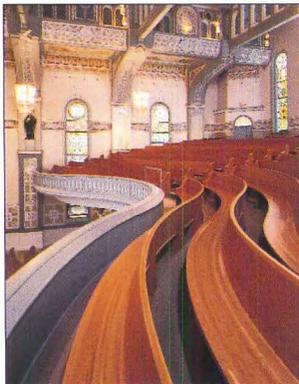


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Record Houses 2004

ARCHITECTURAL RECORD CALL FOR ENTRIES

The editors of ARCHITECTURAL RECORD announce the 49th annual RECORD HOUSES awards program. Entry is open to any registered architect. Of particular interest are projects that incorporate innovation in program, building technology, form, and materials. The fee is \$50 per submission; please make checks payable to ARCHITECTURAL RECORD.

Submissions must also include plan(s), photographs (prints or large-format transparencies, no slides please), and a brief project description bound firmly in an 8 1/2-by-11-inch folder—postmarked no later than November 3, 2003. Anonymity is not necessary. Winning entries will be featured in RECORD HOUSES 2004. Other submissions will be returned or scheduled for a future issue.

Submissions should be mailed to:

Sarah Amelar • RECORD HOUSES • ARCHITECTURAL RECORD
Two Penn Plaza • Ninth Floor • New York, NY 10121

If you have any questions, please E-mail
Sarah Amelar at sarah_amelar@mcgraw-hill.com

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FACULTY POSITIONS



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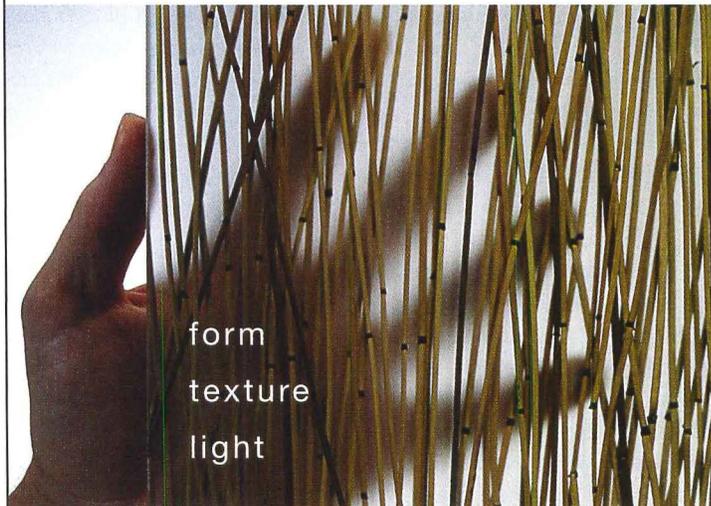
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Celia Conover enlivens architecture with some healthy color

Interviewed by Rita F. Catinella

Celia Conover has some colorful opinions about architecture. Conover, an exterior-color consultant, opened the design studio CONOVER in 1985 along with her partner/husband, David, who leads the firm's graphic design services. Working with architects, developers, owners, and landscape architects, the firm researches and designs color programs and building products for a range of residential, commercial, and institutional projects, including a campuswide color program for U.C. San Diego in collaboration with Anshen+Allen LA, Moshe Safdie, and Bohlin Cywinski Jackson, among other renowned firms.

Q: *How does a color consultant work with architects?* A lot of people are under the impression that we just pick color, but color is impacted by what the material is made of and what surface finish it has. We will often be an integral part in some of the early decisions of what materials will be used—whether it will be metal siding, wood, or concrete—and then, once we have determined the palette of materials, we begin to do an analysis of color for the site. We work with the surrounding terrain and the landscape to express the materials with the highest quality possible through color.

How do you scout for new materials? We are constantly observing what is happening in the field of architecture. We pay attention to the nuances that can be achieved with a different blend, finish, or scale of a material. The fact that I'm involved with U.C. San Diego is really helpful, because I'm meeting a

wide audience of signature architects and learning from them about what products are on the market.

How did your firm become involved with product development? We've worked with some manufacturers for so long, they bring the products to me when they're in the prototype stages. I'll help guide the direction the product is going in because I know I can turn around and use it on a project and achieve a better result.

Are there any colors that architects shy away from using in their designs? Any they choose again and again? There are a lot of people who react negatively to green. There's a heavy percentage of the population that seems to favor blue at all costs. Purple undertones are disturbing to a lot of men. There are colors that create more controversy, and I don't think that's always bad.

What color do you wish architects would use more often in their designs? Each project's palette varies, but my own personal preference tends toward the warm palette. There really aren't any rules. One of the things our firm strives for is that years down the road the project won't be dated, and that can be a difficult goal to achieve, because all color tends to move in trends. Ten years ago a lot of what was happening in exterior colors felt off-the-shelf, and there's been tremendous improvement in the importance colored materials can play in an architectural setting.

See www.studioconover.com. Photograph by Pablo Mason of Conover near San Diego's Doma residential/mixed-use project designed by Martinez+Cutri