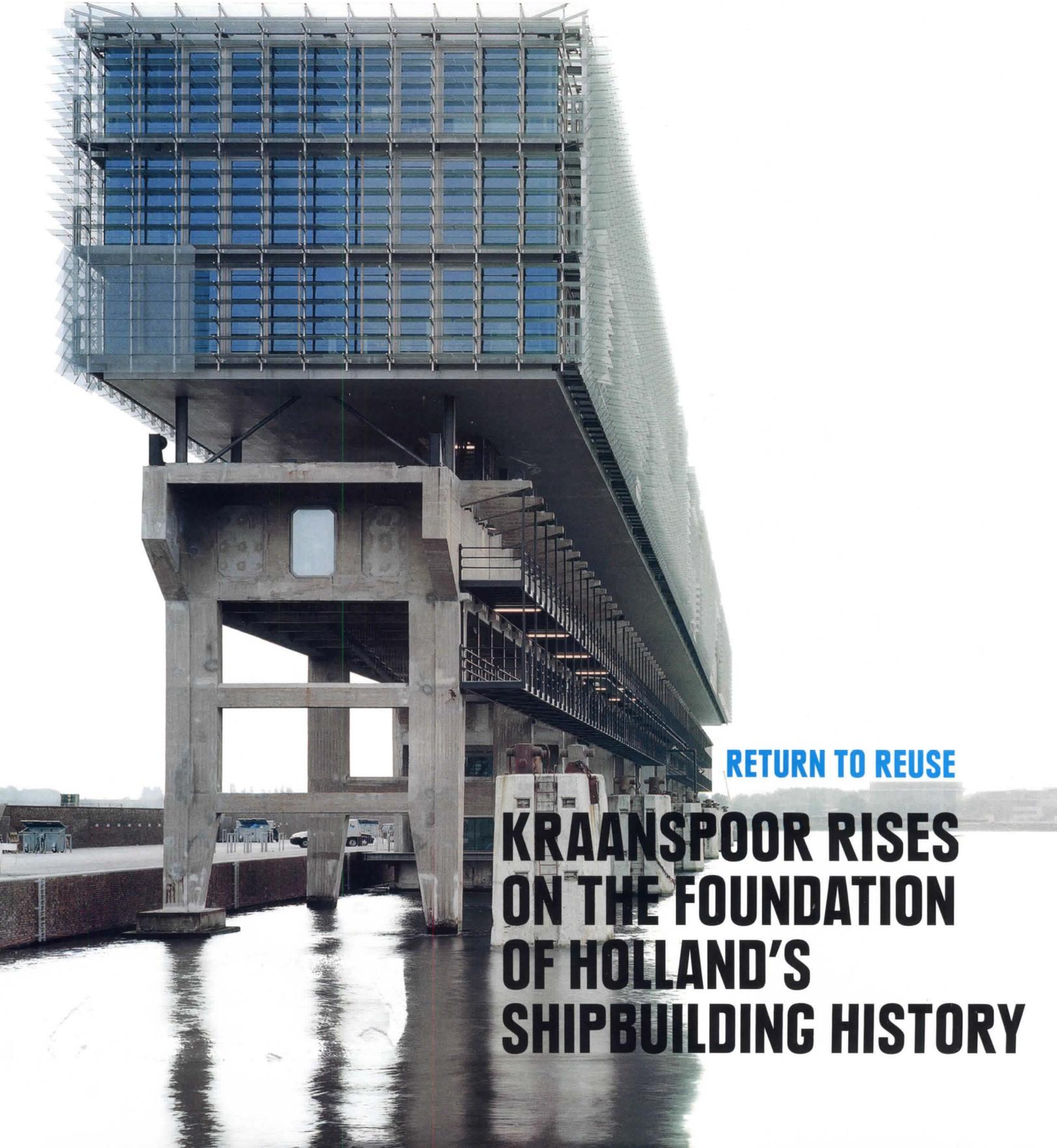


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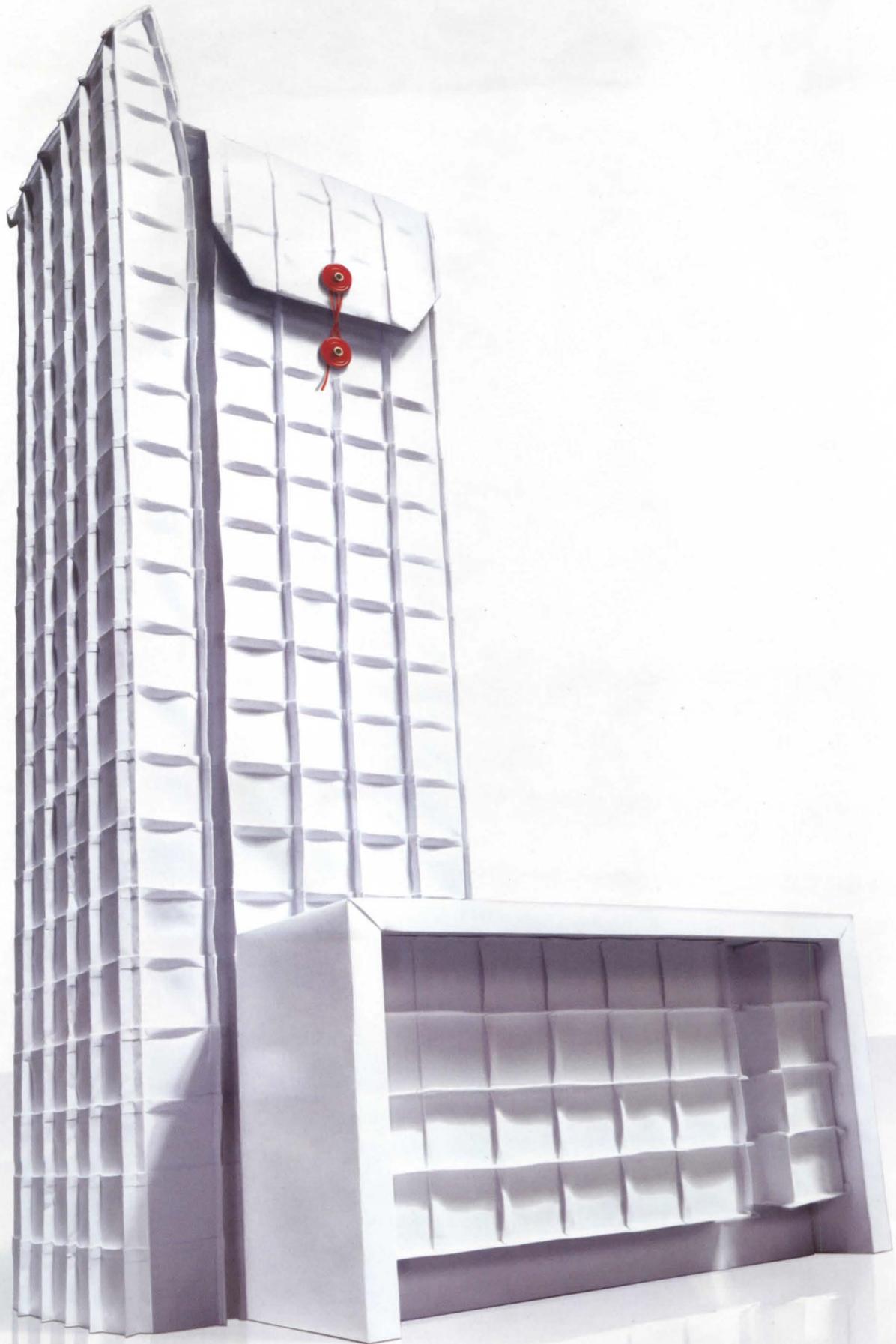
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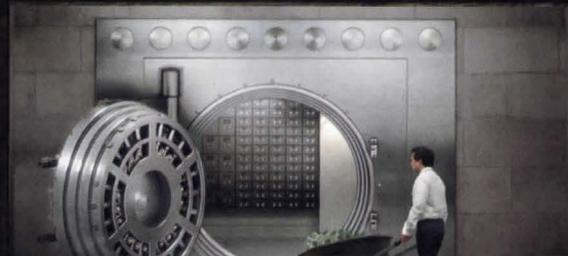
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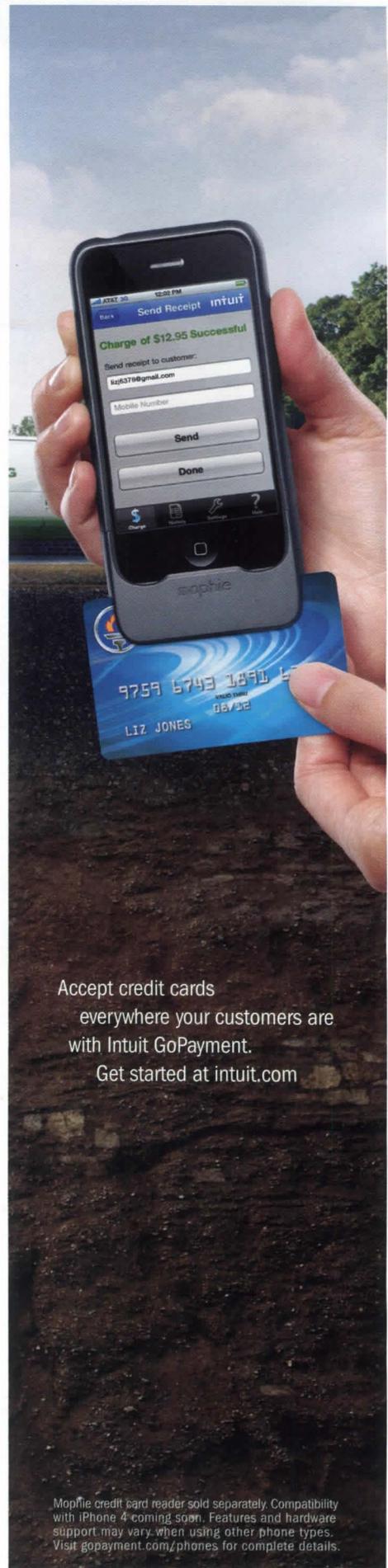
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ABOVE: Bridge School, Xiashi, Fujian Province, China, by Li Xiaodong Atelier. Photo courtesy Aga Khan Award for Architecture/Li Xiaodong Atelier.

ON THE COVER: Kraanspoor, Amsterdam, by OTH. Photo © Kim Zwarts.

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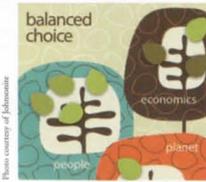
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The announcement that RECORD's editor in chief, **Robert Ivy**, will be departing the magazine to become CEO of the AIA generated a lot of feedback from our readers. The letter to the editor here is just one example. Join the ongoing discussion about what this move means for the AIA and this magazine on our website.

[COMMENTS AND LETTERS]

Dear Editor,

The loss of Robert Ivy by ARCHITECTURAL RECORD is equal to a tremendous gain for the American Institute of Architects. Ivy's leadership at McGraw-Hill publications has favorably impacted both architects and the entire real estate development community. With architects and the development community hit hard by the recession, it is fundamental that Ivy continue to be a voice of reason in his new role.

Architects badly need work, and the AIA must be an assertive leader in Washington for designers and the development community. For example, federal tax policy has been a major ingredient in promoting real estate development. If an army runs on its stomach, the development business runs on lenders who have confidence in an expanding economy. But the federal regulatory agencies supervising lenders have strongly advocated that they make no loans for real estate development. Our population continues to grow. Our GDP continues to grow. The Dow Jones Industrial Average's price has surpassed its price before the market collapsed in 2008. Yet there has been an absence of new real estate products by both public and private developers. At previous points, when there has been no new product for a sustained period, unfulfilled demand has caused the price of new products to escalate widely. Is this the goal of these regulators of lenders? We need to show all who are concerned that unfulfilled demand exists. I am confident that Robert Ivy will effectively deliver this message and help restore development when he takes over at the AIA.

*Don Tishman
Tishman Group*

[READER PHOTOS]



From small-budget houses to high-rises, many residential projects have recently appeared in our reader photo galleries. Submit images of your own residential work – or any other building type – on our website.



[TOP] Miner's Refuge, Johnston Architects, Mazama, Washington | Submitted by "robertjspooner"

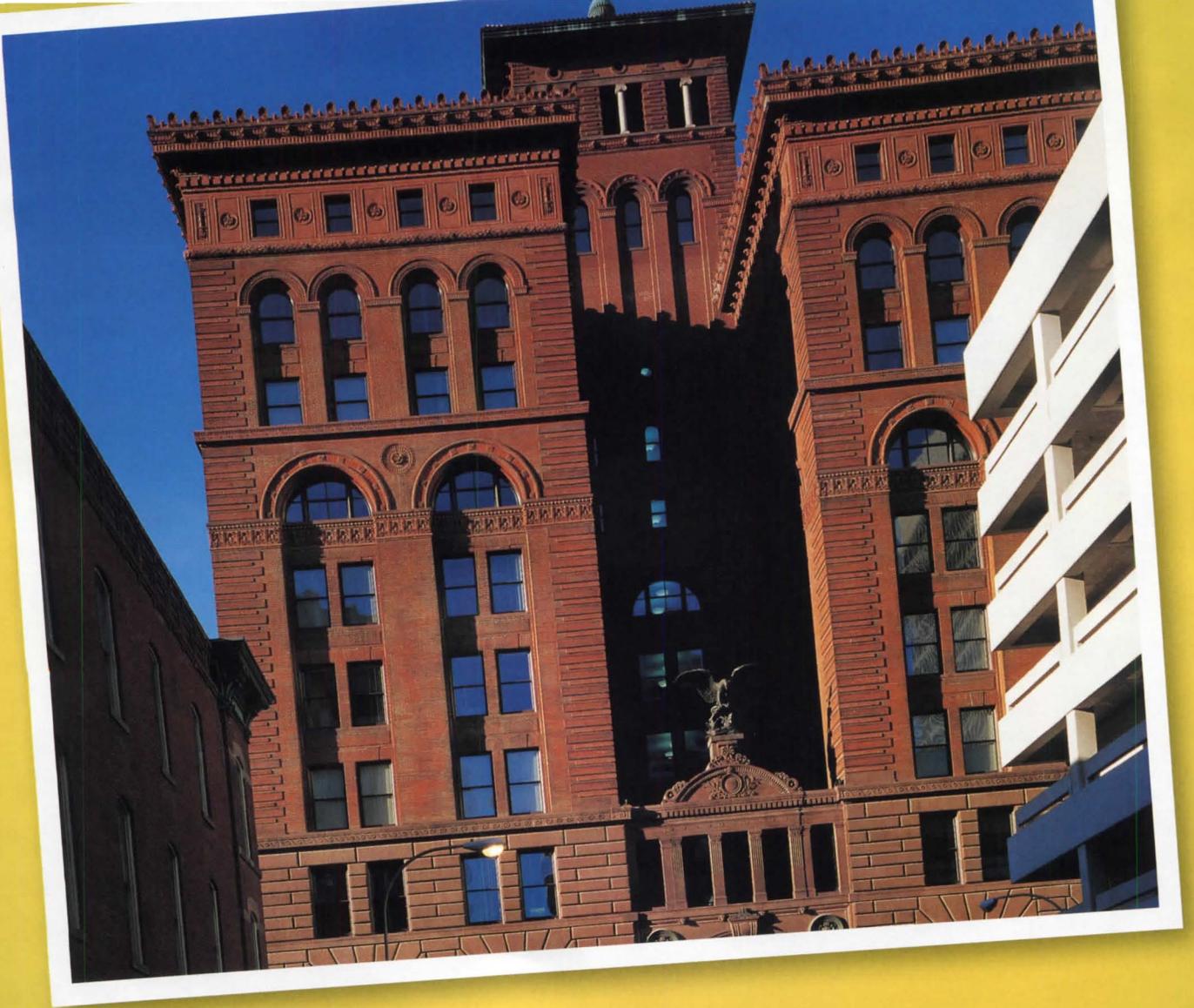
[BOTTOM] Linked Hybrid, Steven Holl, Beijing, China | Submitted by "wojtekgurak"

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COMMERCIAL

From the Promenade, Part Two

Design matters, whether in Gotham or small-town America.

THE VIEW FROM the Promenade near my longtime home in Brooklyn Heights may be New York's finest. The city and its waterfront snap into perspective from across the river. Manhattan's proud towers cluster, then crash toward the water's edge, their juncture fragmented into a splayed collar of docks and piers, cafés, and bubble-topped tennis courts. From this distance, the city looms whole and iconic, the culmination of heroic materialism. The architecture takes your breath away.

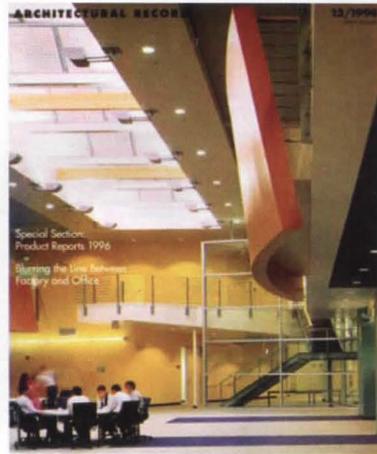
Just at my feet, the riverfront is changing, morphing before our eyes from a gritty, on-the-waterfront industrial zone into Brooklyn Bridge Park. Exit, Brando; hello, Mommy. Day after day, I follow the changes at the former docklands: Pier One, from a flat cipher into a rolling meadow and hillside; down the East River, from cargo containers to howling kids hanging from the swings and climbing gyms of Pier Six. On balmy evenings this past summer at the newly opened Pier One, a soprano from the Metropolitan Opera, Susanna Phillips, held an audience of thousands silently enthralled as her arias carried a hundred feet up the bluff to my home, where her lilting voice reached an editor and his wife perched above, conveyed to another plane. I was there.

The transformation of New York's waterfront, which we have written about extensively at ARCHITECTURAL RECORD, although seeming to come with the wave of a wand, actually engaged scores of professionals, including the landscape architecture firm Michael Van Valkenburgh Associates, the City Planning authorities, and legions of neighborhood advocates. Architects, engineers, and scientists have taken part. The park composes only one element in a city softening itself for a new, more humane way of living, opening its heart to new sensibilities – all powered by design and civic will. Design professionals and planners have been at the forefront, articulating a new urban vision.

The view from the riverside park in my hometown, Columbus, Mississippi, is more languid. It is amazing that the river is apparent at all, below another bluff. For 50 years, the water's edge lay hidden behind scrubby undergrowth and scattered debris, unapproachable and walled off below a wonderful, rumbling bridge. People feared flooding; rivers rise down South. Things began to change when a friend of mine, a local architect, stared down at the clutter, rolled up his sleeves, and helped improve the community's perception of itself.

The park did not happen overnight; the idea percolated slowly in one person's consciousness. The genesis of that idea emerged 35 years ago, after my friend had moved back to Columbus from a successful partnership in an urban firm. He did what many architects do – he established a small practice, joined the civic clubs, acquired clients, sat on tedious zoning and planning boards, made buildings, fought for historic preservation and for his downtown. He also realized, with a singular vision, that the riverfront, which lay 90 feet below the main street, deserved to be shared.

Someone else got the job, but the service he performed was just as vital: He framed the debate that made it possible, then fought for the improvements. What began with an individual's commitment broadened into shared vision and collaboration. Today, the park has enjoyed years of completion. Each time I return to my hometown, I walk and run along a pathway through



mythic trees bordering the river on a two-mile stretch of managed wildness near a small town's heart. The ideas that began over a decade ago have taken root, prompting a community to stroll, bike, walk the dog, push the wheelchair, take the babies out at all hours of the day and evening on a pathway that could lead to a place called Oz. Both the dreaming and the political moxie worked.

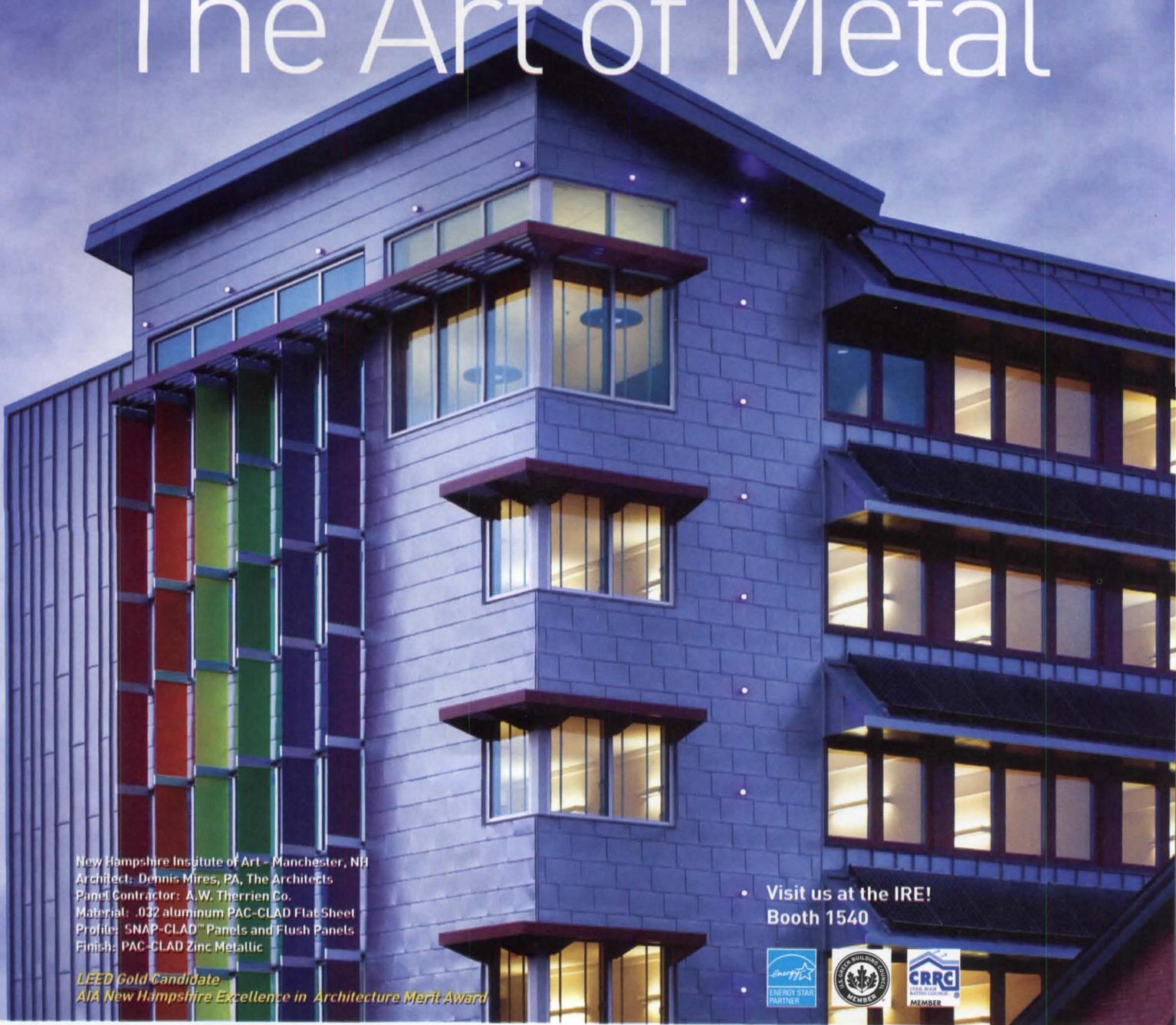
There is differentiation of scale, but no hierarchy of values between the two riverfronts. Both count. The small-town story is unambiguous; the city's, exceedingly complex. Whether in sparsely settled mid-America or across the East River, by one architect or a larger group, small actions are additive, weaving together into a seamless community, uniting those who care about and are committed to the built environment. The little park, as much as the great riverfront, bears witness to design's transformational power.

In the almost 15 years that I have been privileged to observe and reflect at ARCHITECTURAL RECORD, after writing 171 regular editorials and traveling the country and the larger world, despite the difficulties presented by natural and human-provoked disasters, despite the wrath unleashed by hurricanes or the disparities of the human condition, I am as convinced as I was when I arrived of the power of design. Properly employed, design conveys our nuances and bold hopes, and can improve the human condition if we become watchful, creative, and committed stewards of the natural world we have inherited.

It is seductive, from the Promenade, to marvel at the city's buildings, the monumental artifacts of human ingenuity and will. However, sometimes the overlooked story is not what architects build, but the influence their ideas, commitment, and efforts have, in my hometown or your own.

This editorial, his last as editor in chief, updates and expands the first editorial Robert Ivy wrote for ARCHITECTURAL RECORD, in the December 1996 issue, pictured above.

The Art of Metal



New Hampshire Institute of Art - Manchester, NH
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Panel Contractor: A.W. Therrien Co.
Material: .032 aluminum PAC-CLAD Flat Sheet
Profile: SNAP-CLAD™ Panels and Flush Panels
Finish: PAC-CLAD Zinc Metallic

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—Dennis Mires, PA, The Architects, Manchester, NH



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Architect John McAslan has revived the Iron Market (above), which suffered extensive damage during the 2010 earthquake (below).

[HAITI]

A Restored Landmark, a Beacon of Hope

ONE YEAR AFTER a massive earthquake struck Haiti, many areas remain in shambles. Yet in the throbbing center of Port-au-Prince, there is at least one success story: the resurrection of the Iron Market, a striking historic landmark that reopened on January 11.

The building's remarkable, \$12 million restoration was overseen by the U.K.-based architect John McAslan and funded by the Irish billionaire Denis O'Brien (his company, Digicel, is one of the leading cell-phone providers in Haiti). Determined to give the anguished city a symbol of hope, O'Brien wanted to complete the project by the quake's first anniversary, on January 12, 2011. "It was a massive undertaking," he says. "We had 1,000 people working on it. In the last month, we went 24 hours a day."

The gleaming green and red building comprises two 20,000-square-foot halls. Rising 35 feet at their highest points, the halls are linked by an unusual clock tower featuring four 75-foot-tall minarets. Prefabricated in

France, the iron structure initially was destined to serve as a railway station in Cairo. For unknown reasons, it ended up in Haiti, where it was inaugurated in 1891.

The building, known locally as the Marché Hyppolite, served as a vital retail hub for more than a century. In May 2008, however, a fire gutted the north hall, shutting down half of the site. Last year's quake caused further damage, and killed several vendors.

Working with the Haitian group Institute for the Protection of National Heritage, McAslan and his team devised a rehabilitation scheme that called for restoring original iron components that were in decent shape, and using steel to reconstruct elements that were beyond repair. For instance, the clock tower's unstable legs were mostly rebuilt with steel, yet its top portion was carefully refurbished by Haitian craftsmen. The clock itself was shipped to France and reconditioned by the original manufacturer.

While the north hall had to be completely reconstructed, the team was able to preserve much of the south hall, as its iron frame had endured the quake quite well. Both halls got new corrugated steel roofs, along with features like column anchors and X-bracing to ensure that the structures could withstand earthquakes and hurricanes. The entire complex now meets International Building Code requirements.

O'Brien has agreed to manage the

market for 50 years. Plus, he's considering building smaller-scale bazaars in other parts of the city. "We have to get people off the streets, out of the sun," he says. "They make more money under a roof, and their products don't perish." Certainly there are many needs to be met in this traumatized country. With aid drying up and major rebuilding initiatives in limbo, the restoration of this towering landmark signals that all hope is not lost. *Jenna M. McKnight*



WEB HIGHLIGHTS

- In Haiti, Houses Aim to Curb Disease Through Design
- A Major Revamp for NYC's Carnegie Hall
- HOK's Salvador Dali Museum Opens in Florida

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[NEWSMAKER] **Fumihiko Maki**

A graduate of both Tokyo University and the Harvard Graduate School of Design, Maki was one of the first Japanese architects to study and work in the United States after World War II. During his many decades practicing architecture world-

wide, he has accrued an impressive collection of awards, including the Pritzker Prize (1993) and Japan's Praemium Imperiale (1999). Now the American Institute of Architects has announced that its 2011 Gold Medal will honor the esteemed architect. Our Tokyo correspondent, NAOMI POLLOCK, met with Maki to discuss his long-standing relationship with the United States.

What does the AIA Gold Medal mean to you?

I spent my formative years in the 1950s and '60s in the United States. Since then I have continued to visit quite frequently, initially to participate in academic activities but later to work on architectural projects. Since I've had a very long association with the United States, I might call it my second home country. For this reason, it is a great honor to receive this award.

What projects is your firm, Maki and Associates, based in Japan, working on now in North America?

We are constructing the Aga Khan Museum in Toronto. And our Tower 4 at the World Trade Center site is coming along. Then we are designing a new pharmaceutical research building in East Hanover, New Jersey, for Novartis. And we had a project at 51 Astor Place, just north of Cooper Union, in New York, that stopped after the Lehman shock [in 2008]. I understand that the developer will resume activities,

but we don't know how soon the project will be realized.

At the outset of your career, did you expect that your practice would become so international in scope?

Not so much. But fortunately, when I was teaching at Washington University in St. Louis, I had a chance to design the first building of my career, as well as my first project in the United States: Steinberg Hall, completed in 1960. The same year, I had the opportunity to design my first commission in Japan: Nagoya University's Toyoda Hall. So my first two buildings were institutional projects in the U.S. and Japan. After 50 years, I was asked to expand Steinberg Hall. And I was also asked to renovate Toyoda Hall. Since I started very young, I was able to design the second phases for both buildings.

What was the impact of your study and work experience in the U.S. on your practice in Japan?

Well, learning in the U.S. as a stu-

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Maki designed the Mihara Performing Arts Center (2007), in Mihara City, Japan.

dent, as a teacher, and as an architect was a very valuable experience that benefited me even when I came back to Japan. [Maki founded his Tokyo firm in 1965.] In the 1950s, the U.S. was the only country where you could really realize a technologically ambitious project or start a new urban development.

How would you describe your approach to architectural design? What inspires you?

One of the most important and satisfying things as an architect is the recognition by the clients, users, and visitors to my projects. For instance, we are now designing our third building for Nagoya University. This continuous association gives me satisfaction; it is an acknowledgment of what we have done.

Conceptually, do you look for a new idea for each project, or do you tend to revisit old ideas?

I always like to test something new in spatial composition or architectural expression. But before we decide on the design, I ask whether it's really new or good for users. Such conservation may not result in overly daring design. I understand that, today, some developers are asking architects to design eye-catching, iconic buildings. Fortunately, I've not had that kind of client so far.

Construction practices in the U.S. are quite different from Japan's. How do you accommodate your high standards to this situation?

The selection of the associate architect is very, very important. They must be capable and also understand what we are trying to do. In the case of the MIT Media Lab [RECORD, June 2010, page 148], our exterior details were very elaborate and needed good fabricators. The general practice is that architects and engineers design or make up

the construction documents for bidding purposes. Often we ask the client for stronger, closer coordination with the fabricators, even at the design stage. And in some cases, like MIT, the client understood and allowed the Japanese and U.S. manufacturers to work with us to complete our construction documents, which ensured quality.

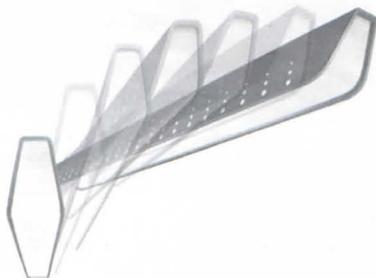
Looking ahead, what are your goals and aspirations? What would you like to do next?

I'm now over 80, so I do not have an unlimited number of years. But I am in good health, so I am looking forward to doing a number of things.

Any specific building types that you would like to design?

No. Any kind will be challenging. Every time we start from *carte blanche*. It is always exciting to see how the design develops and how it will be evaluated by time. It is a very challenging but satisfying activity.

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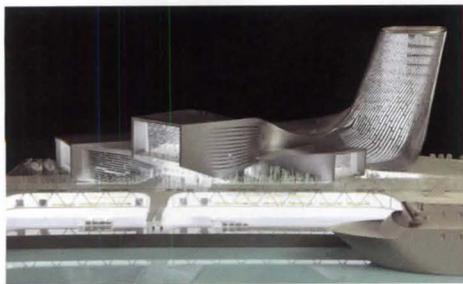
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ON THE BOARDS

Project Kaohsiung Port Terminal**Location** Kaohsiung, Taiwan**Architect** Reiser + Umemoto

Last year, Reiser + Umemoto took first place in a competition to design the Taipei Pop Music Center. Now the small New York firm has won another significant competition in Taiwan, this one calling for the design of a new port and cruise service center in the southern city of Kaohsiung. The project includes a long main hall with a tower component on one end; the hall is partitioned into three linear lobes that connect to different shipping routes and an elevated esplanade. Groundbreaking is scheduled for 2012.

**Project** Cairns Institute**Location** Cairns, Australia**Architect** Woods Bagot, RPA Architects

Located in northern Queensland on the James Cook University campus, the Cairns Institute will be a 43,000-square-foot hub for researchers focused on the tropics. The proposed design by Woods Bagot and RPA takes its cue from the surrounding rain forests. The two-story building features a "trellis" skin made of metal that the architects describe as "layered and evolutionary." The program includes labs, an auditorium, and an exhibition area. Construction of the \$25 million project is slated to begin later this year.

**Project** Broad Museum**Location** Los Angeles**Architect** Diller Scofidio + Renfro

In January, the Broad Museum unveiled the much-anticipated design of its forthcoming home in downtown Los Angeles. Conceived by New York-based Diller Scofidio + Renfro, the three-story building features a dramatic concrete exoskeleton and a glass-encased ground-level lobby. The top floor will be occupied by a column-free gallery, while archives will be housed on the second level. The \$130 million, 120,000-square-foot project is being funded by philanthropists Eli and Edythe Broad.

WHAT IS ROOFING FOR

Emergency Aid for Threatened Sites

Two preservation groups – the World Monuments Fund, a New York-based nonprofit, and Prince Claus Fund, an Amsterdam-based entity supported by the Dutch government – have teamed up to launch a \$1 million global initiative to protect historic sites damaged by natural or man-made disasters. The Cultural Heritage Emergency Response program, as it's called, will focus initially on safeguarding four sites, three of which have suffered earthquake damage: a monastery and fortress in Bhutan (pictured); gingerbread houses in Haiti; and a mosque and monastery in Indonesia. The fourth site is in Pakistan's Indus River Valley, which will be flooded once the Diamer-Basha Dam is erected; the two groups hope to document and save thousands of ancient rock carvings in the valley. The new program is an expanded version of the Dutch organization's Cultural Emergency Response program, established in 2003. *David Sokol*



Good-Bye, Wayland High

Designed by The Architects Collaborative (TAC), the firm cofounded by Walter Gropius, Wayland High School was an instant emblem of educational innovation and Modern design when it opened in 1960. Now its days are numbered.

In 2009 the school's building committee found that the complex, located just outside of Boston, was in need of major, costly renovations. The committee voted to tear down all but one of the eight buildings to

make way for a new facility designed by HMFH Architects. Construction has begun, and the TAC buildings will be razed next year. The looming demolition has stirred little controversy. The original complex

comprised five academic buildings and a spectacular domed field house (which will be saved); TAC later added two structures. Each building was devoted to a subject area, a pioneering concept at the time. *Christine Cipriani*

Billings Index Upswing

Good news: The **Architectural Billings Index** has climbed above **50** for two straight months, hitting **52.0** in **November** and **54.2** in **December**. (A score above **50** denotes an increase in activity and below **50**, a decrease.) The **INQUIRIES** score also is on the rise – it has registered above **60** for four consecutive months, landing at **62.6** in **December**.



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CIRCLE 09



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CIRCLE 29

COMMENTARY WILLIAM J.R. CURTIS

A critic's thoughts on the new extension being planned for Charles Rennie Mackintosh's famed Glasgow School of Art

Glasgow Neighbors: Mackintosh versus Steven Holl

IN DECEMBER 2009, the Glasgow School of Art celebrated its centenary. At a symposium on Charles Rennie Mackintosh's venerated masterpiece, I delivered the keynote address, "Materials of the Imagination," a close reading of the building, its many levels of meaning, its diverse sources, and its continuing influence. The Glasgow School of Art has never fitted the crude stylistic categories imposed upon it by historians, whether Modernist or Scottish nationalist in persuasion. It is one of those rare buildings to transcend time, resolving diverse agendas to do with modernity and tradition, industrialism and nature, in a synthesis of a high order. It combines an inspiring framework for the day-to-day activities of an art school with a living lesson in the use of light, space, structure, and material. It is like a constructed poem.

The centenary was also the moment for the Glasgow School of Art to advertise the New York-based firm Steven Holl Architects' winning entry for the 121,094-square-foot extension. Holl's scheme was revealed in a series of crude sketches showing stacks of studios facing north, and both studios and offices facing south toward the Renfrew Street facade of Mackintosh's building opposite. In the vertical atrium between the studios, Holl inserted tilted tubes intended to bring daylight to the lower levels. Light rays at different angles and times of the year were indicated, suggesting that the distribution of daylight was the driving force of the scheme. Official announcements implied that this was not a project as such, but the conceptual basis for an ensuing dialogue.

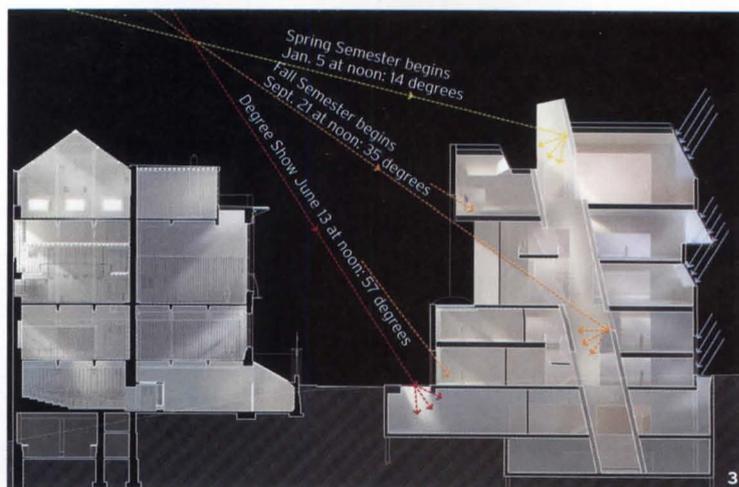
So it was a surprise when in September 2010 much the same scheme (done in collaboration with JM Architects of Glasgow and Arup Engineering) was announced as the actual proposal: a cartoonlike diagram coated in skins of glass with varying degrees of translucence and transparency. Glaring problems of the initial concept were even amplified. The Holl scheme is hopelessly out of scale with Mackintosh's building, the external volumes are clumsy, the surfaces of glass are monotonous and without relief, and there is little the human figure can relate to. For all the talk about light, the tilted tubes are likely to turn into dim wells in the winter, while the glass exteriors could reflect too much daylight onto the north studio windows of the old building in the summer. At night, when the extension is illuminated inside, its vast glass surfaces risk cancelling out the subtle Japanese-lantern effects of Mackintosh's apertures across the street.



1. The extension by Steven Holl Architects with JM Architects (Glasgow) adds studios and offices to the famed Glasgow School of Art by Charles Rennie Mackintosh.

2. The 1909 school sits across the street from the proposed structure.

3. Holl's extension is calculated to admit daylight into the interior through a matte glass skin and light wells.



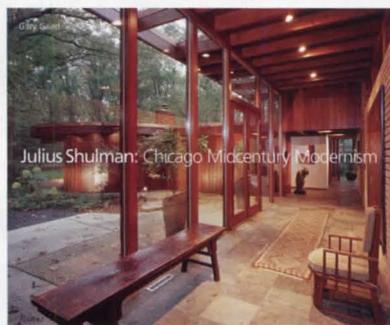
Mackintosh's Renfrew Street facade, with its interaction of solids and voids, stone and glass, frame and wall, abstract volumes and tensile metal ornament, is one of the most sophisticated compositions to be found anywhere. The unrelieved areas of glass in the new building may neutralize the counterpoint of window and wall in the old one opposite. Rather than a dialogue between new and old, there is mute assertion; rather than poetic articulation, there is bland geometry; rather than tectonic clarity, there is a thin glazed skin with indecisive details. Holl has failed to grasp the urban grain of Glasgow with its hierarchy of facades from the domestic, through the commercial, to the civic. In his obsession with natural light, he has oversimplified the task and ignored the problems of cultural and institutional representation.

Where was the client during these intervening months? The unsatisfactory state of Holl's

proposal perhaps reveals what may happen when a star architect drops in from another planet and blinds a building committee with the "smoke and mirrors" of popularized phenomenology. Some good old Scottish common sense would have been in order to insist on greater rigor and a more appropriate response to the context. But then Holl is not particularly known for the subtlety of his urban interventions (e.g., that stranded whale, the Kiasma Museum in Helsinki, which clogs up a key transition in the city's public space) or for human scale in his facades (e.g., the monotonous waffle grid of the Simmons student dormitory at MIT). Holl's proposal for Glasgow fails to achieve the level of a convincing architectural work. It is far from being a worthy neighbor to a universally admired masterpiece. ■

Author William J.R. Curtis wrote *Modern Architecture Since 1900*, among other books.

When Modern Meant the Good Life



Julius Shulman: Chicago Midcentury Modernism



Julius Shulman: Chicago Midcentury Modernism, by Gary Gand and Julius Shulman. Rizzoli, 2010, 208 pages, \$60.

The Architecture of Harry Weese, by Robert Bruegmann; Kathleen Murphy Skolnik, contributor. W.W. Norton, 2010, 240 pages, \$60.

Marina City: Bertrand Goldberg's Urban Vision, by Igor Marjanovic and Katerina Rüedi Ray. Princeton Architectural Press, 2010, 176 pages, \$35.

The late, great photographer Julius Shulman brought midcentury Los Angeles architecture to world attention. Author Gary Gand hopes this book will do the same for Chicago's midcentury Modernism. The book offers a high-resolution

glimpse of Midwest Modernism via stunning color images of long-overlooked residences designed by 11 of the era's best architects, including Harry Weese, Bertrand Goldberg, Ralph Rapson, and Keck and Keck. Gand's text is slight. He doesn't pretend to offer a "final" study; he provides, instead, a first look at an overdue photographic collection by Shulman, who died in 2009.

When Harry Weese died in 1998, the *Chicago Tribune* wrote that he "shaped Chicago's skyline and the way the city thought about everything from the lakefront to the treasure trove of historical buildings." In clear language, Robert tells us all about Harry – for starters, that Mies and other 20th-century rationalists influenced him but less than such

Nordic masters as Asplund and Aalto. Bruegmann covers Weese's new Midwestern structures; his restoration of pivotal historic buildings; his creation of Washington, D.C.'s Metro transit system; and the civic activism that prompted the *Tribune* to call Weese the "Conscience of Chicago."

In 1964, with Chicagoans fleeing to the suburbs, Bertrand Goldberg completed the so-called "corn-cob buildings," his attempt to save his city. The two 65-story mixed-use towers offered residents a self-contained world and made Goldberg an instant architectural superstar. The authors' lively essays and black-and-white images describe the buildings' design achievements and the political maneuvers that made the buildings possible. *Andrea O. Dean*

Design Research: The Store That Brought Modern Living to American Homes, by Jane Thompson and Alexandra Lange. Chronicle Books, 2010, 192 pages, \$50.

Design Research was founded as a shop near Harvard Square, in Cambridge, in 1953 by Ben Thompson, a partner with Walter Gropius in the Architects Collaborative. Frustrated that he couldn't find compatible furnishings for the Modern houses he was designing, Thompson had a brainstorm: Why not start his own store and stock it with examples of good design wherever it could be found?

From its beginning in a wooden row house, D/R, as it came to be known, grew to create an awareness of Modernist design for the U.S. home. This book is a big, loving scrapbook of images and memories of the D/R era, coauthored and assembled by Jane Thompson, Ben Thompson's wife and partner. It's a welcome reminder of a period – perhaps just a bit elitist – when many people believed there was such a thing as good design and that if you acquired it, it would say something about your taste and your life. D/R sold whatever Thompson liked, from Peruvian mountain sweaters to sophisticated chairs by Aalto, Breuer, Saarinen, Hoffmann, Jacobsen, and Charles and Ray Eames. Thompson retained Modernism's clarity and simplicity but added sensuality. He wouldn't have liked the term, but he was selling a lifestyle. *Robert Campbell, FAIA*

The Architecture of the Sun: Los Angeles Modernism 1900-1970, by Thomas S. Hines. Rizzoli, 2010, 755 pages, \$95.

Morris Lapidus: An Architecture of Joy, by Deborah Desilets. Rizzoli, 2010, 256 pages, \$65.

American Glamour and the Evolution of Modern Architecture, by Alice T. Friedman. Yale University Press, 2010, 272 pages, \$65.

The three books, in which midcentury Modernism plays a starring role, bear similarities to coffee-table books, even if, for various reasons, they are not. Historian Thomas S. Hines's encyclopedic history (all 755 pages of it) comes with lots of white space, photos, and small sans-serif type – a designer's ideal coffee-table

book for intellectuals. You are meant to aesthetically revel in reading Hines's informative history of L.A. Modernism from Greene & Greene to the corporate types, Welton Becket and William Pereira, with stops along the way for major figures such as Irving Gill and Richard Neutra, Rudolph Schindler, Gregory Ain, Raphael Soriano, and Ray Kappe, among others. But all that white space means more pages. It's heavy lifting for the coffee-table crowd.

Architect Deborah Desilets's book on Morris Lapidus, the much-maligned progenitor of glitzy Miami Modern hotels, could pass as a coffee-table book. But it doesn't make the grade. There are far too many black-and-white photos. In spite of the large-format, captionless

presentation (with appendices at the end), Lapidus's over-the-top interiors scream for lurid color reproduction.

If you want to find out about Lapidus, his influences, and the sociocultural and architectural context within which he arrived at his hyped-up Modern architecture, it's better to turn to historian Alice T. Friedman's *American Glamour*. This serious architectural history analyzes a form of Modernism many were loath to acknowledge – the sexy side. Its coffee-table-book look artfully deceives the reader into following Friedman's examination of the range of architects working at midcentury within the burgeoning consumer society. *Suzanne Stephens*

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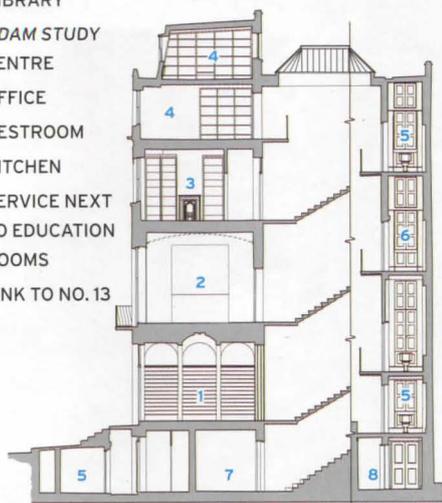
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BACKSTORY SUZANNE STEPHENS

Sir John Soane's House Museum in London is in the midst of a much-needed expansion, renovation, and restoration.

Soane's Enclave: A Progress Report

- 1 ENTRANCE HALL
- 2 RESEARCH LIBRARY
- 3 ADAM STUDY CENTRE
- 4 OFFICE
- 5 RESTROOM
- 6 KITCHEN
- 7 SERVICE NEXT TO EDUCATION ROOMS
- 8 LINK TO NO. 13



Number 14 Lincoln's Inn Fields

THE LEGENDARY SIR John Soane's Museum, at Number 13 Lincoln's Inn Fields in London, has been undergoing an intensive expansion and restoration program that is expected to be completed in 2013. With the help of public and private funds, already one significant piece has been finished: In early 2008, the museum opened a restored and remodeled structure at Number 14, which Soane designed but never used – as he did Number 12, his first residence, and the more lavish Number 13. In the latter, he fully developed his idiosyncratic Romantic-Classical living and working quarters and a museum, whose would run through the backyards of the three buildings. (Disclosure: This writer serves on the voluntary board of the New York-based Sir John Soane's Museum Foundation.)

Between 1792 and 1826 Soane purchased three properties on Lincoln's Inn Fields, demolishing their structures and rebuilding town houses. Although the facades of Numbers 12, 13, and 14 form a

triptych, with Number 13 as the prominent centerpiece, Soane bought Number 14 in 1823 to make over for rental income. It was ultimately sold in 1873. Since Soane did not intend to live in it, the interior was neither as lavish nor as intricate as Numbers 12 and 13; indeed, he never furnished it. But his plaster decoration and fitted joinery remained intact over the years. In 1996, with the help of lottery funds, the museum acquired Number 14. Now it is home to a much-needed education center (basement), seminar room (ground level), research library (first floor), and the Robert Adam Study Centre (second level), with offices on the two floors above.

At Number 14, Julian Harrap Architects replaced the slate and lead roof, inserted steel beams in the floors, tore down partitions and false ceilings, and installed new plumbing and wiring. Harrap also reorganized the ground floor according to Soane's original plan and reinstated a large arched recess in one wall of the front room. The team restored the original mahogany floors, windows, and doors in the house, along with the stair rail. Over the central stair, it replaced the post-Soane skylight with a new one of Soanian influence.

The highlight, however, is the now restored lath-and-plaster dropped starfish ceiling in the research library. Colors throughout approximate ones favored by Soane, including the Pompeiian red walls in the front room. With regard to the furnishings, the architects chose to have the library and study center look domestic as well as toned-down, says project architect Lyall Thow.

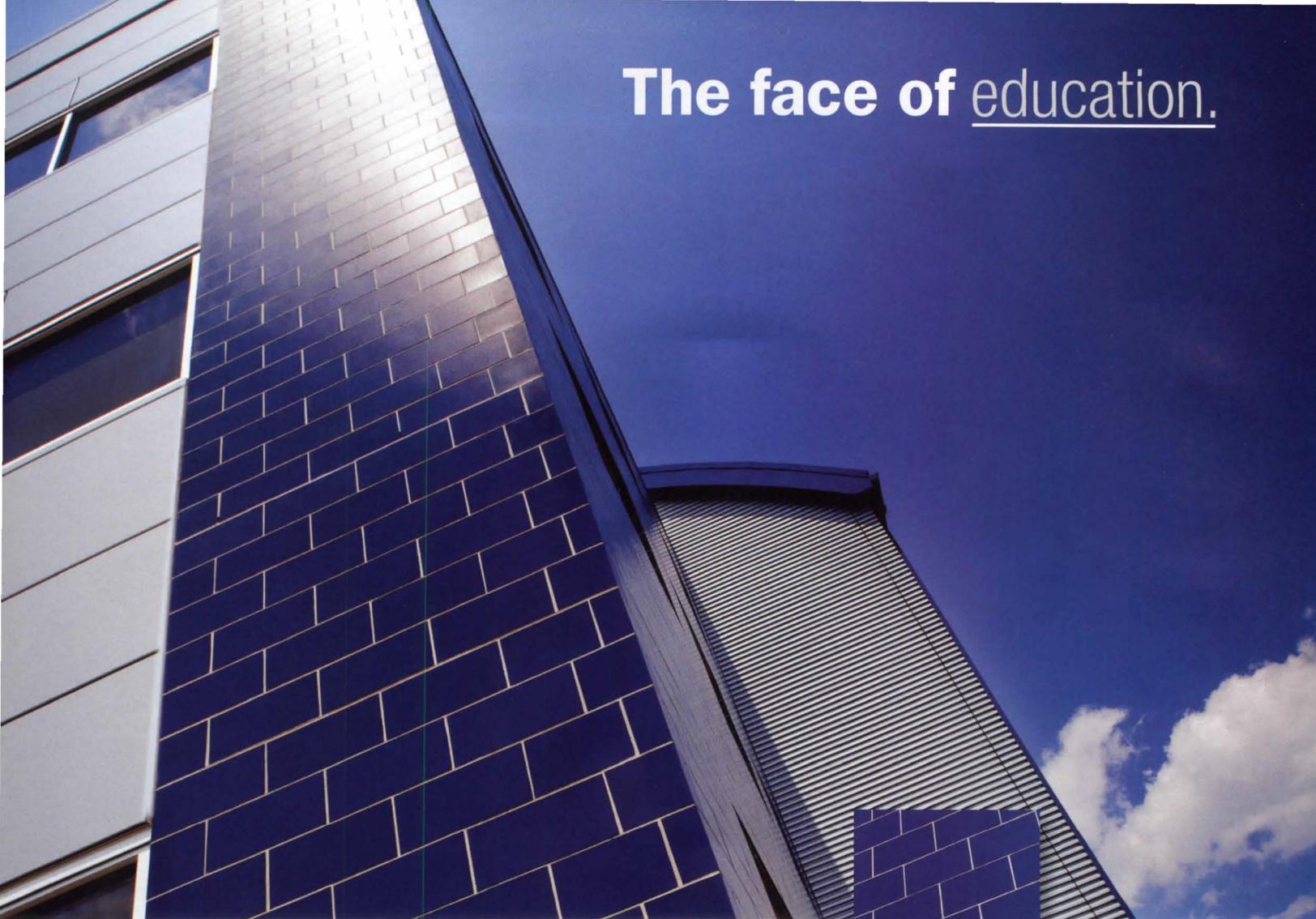
Since the arrival in 2005 of museum director Tim Knox, a battery of renovations and remodelings have advanced into the other two buildings. A special exhibitions gallery designed by Caruso St. John Architects is to open in 2012 on the first floor of Number 12. It replaces the smaller gallery on the ground floor of this house that Eva Jiricna executed in 1995, which is giving way to a reception area, coatroom, and shop.

The most significant undertaking in this series of significant adjustments is the reconstitution of Soane's own bedroom and the morning room for Mrs. Soane on the second floor of Number 13. In addition, the model room is being brought back to this floor, where it existed in Soane's time. These changes have allowed (and encouraged) the relocation of many of the museum's offices to the top floors of Number 14. The diminutive aeries are still full of character – and architecture – adding to this incredible ensemble, although they are not on public view. ■



TOP: Section of the townhouse at Number 14 Lincoln's Inn Fields showing the recently inserted spaces for the museum's use.

1. Julian Harrap Architects restored the starfish ceiling and the pink color in Number 14's first-floor library. Furnishings have been brought in from the previous library.
2. Three townhouses Soane rebuilt from 1792 to 1826 are all now part of the museum.



The face of education.

- Project: William Allen High School, Allentown, PA



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CIRCLE 31

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HOUSE OF THE MONTH SUZANNE STEPHENS

EERO SAARINEN'S MILLER HOUSE AND GARDEN



THE HOUSE THAT architect Eero Saarinen completed in 1957 for J. Irwin Miller and his family in Columbus, Indiana, easily qualifies as a paragon of residential midcentury Modernism. Amazingly, the glass and steel, 6,838-square-foot pavilion, with interiors by Alexander Girard and landscaping by Daniel Kiley, has remained intact all these years. Since the Miller family gave the one-story house, the grounds, and most of the furnishings to the Indianapolis Museum of Art (IMA) in 2000, the property has undergone a \$2 million restoration and will open to the public this May. Sightseers can now add this National Historic Landmark to the long list of architecture that Columbus offers, owing to a program instigated in the early 1950s by Miller. As head of Cummins Engine, Miller brought in significant Modern architects to create civic and institutional buildings and transform the town, about 45 miles from Indianapolis, into a hub of inventive design. At the glass and gray-blue-slate-paneled Miller house, supported by steel cruciform columns and illuminated by a grid of skylights, visitors can admire Girard's vivid colors and the living room's conversation pit. They can also inspect the dining area where Saarinen placed his sculptural white pedestal chairs, or walk around the property on which Kiley formed open rooms with hedges and trees. To help keep up the house museum, the Miller family and the Irwin-Sweeney-Miller Foundation have donated \$5 million, and the IMA is raising more funds.



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-Project: The Huntsman Cancer Institute, Salt Lake City, UT.



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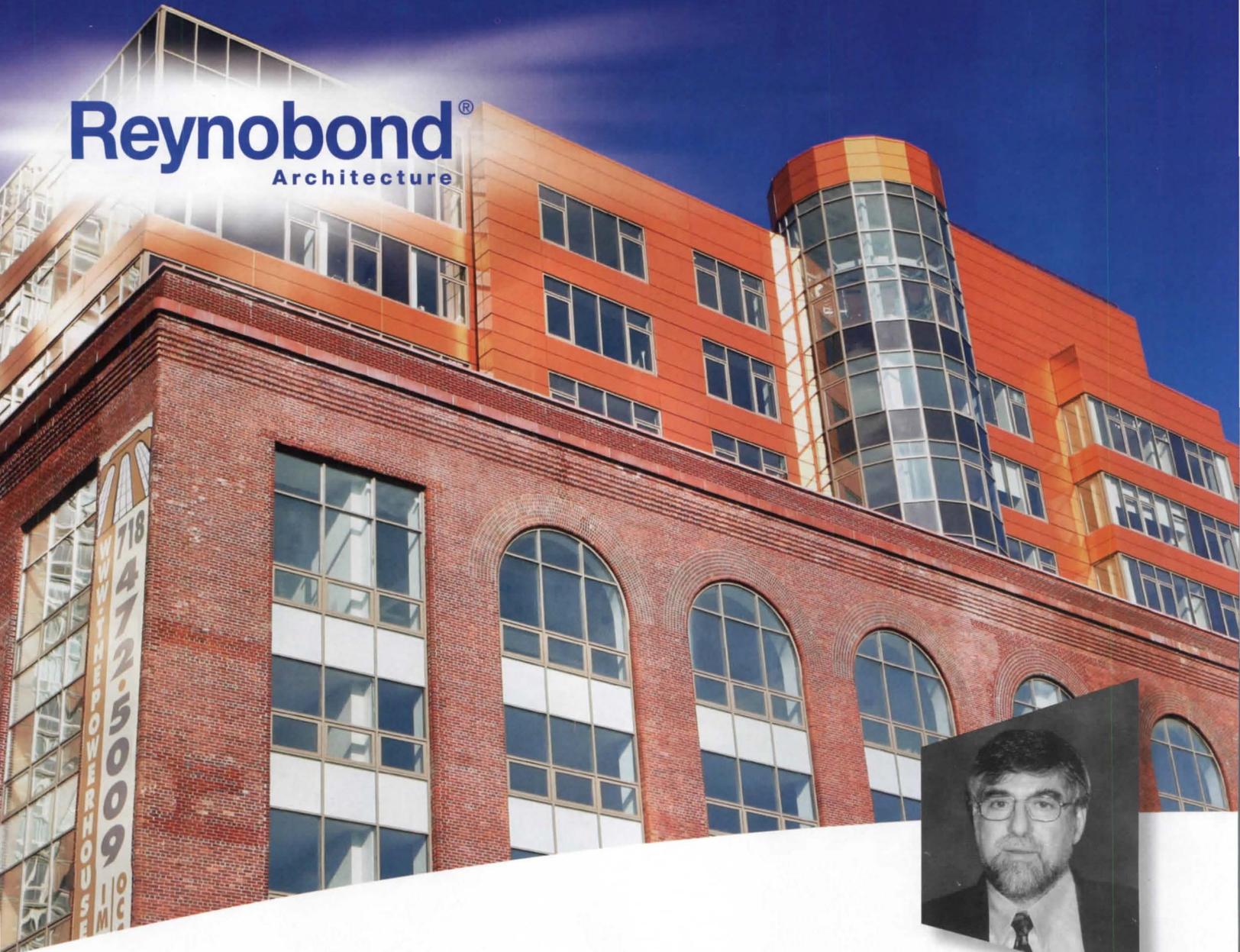
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CIRCLE 03

PRODUCT FOCUS ROOFING

A walkable roof tile made of PV glass, a roof-garden stone made of 100% postconsumer content, and a pollution-fighting roof tile (below), are a few of the new solutions in this month's roundup. RITA CATINELLA ORRELL

MonierLifetile Smog-Eating Tile



THE PHOTOCATALYTIC PROPERTIES of titanium dioxide allow the manufacturers of building products such as paints, cements, windows, and ceramic tiles to offer customers a "self-cleaning" benefit that is claimed to substantially reduce concentrations of airborne pollutants such as VOCs and nitrogen oxides. The latest entry into this category is a new concrete roof tile from Boral Roofing Company's MonierLifetile division, known simply as Smog-Eating Tile.

"This is 'normal' concrete roof tile," explains Bob Pacelli, Boral Roofing's marketing communications manager. "Its only difference is that it has a surface made from purely inorganic minerals that reduces the formation of smog and does not promote organic growth." Although the technology was first developed in Japan, the roof tile is claimed to be the first of its kind in the United States. The tile contains a specially prepared catalyst embedded in the upper part of the tile body; when exposed to sunlight, the catalyst speeds up the oxidation process, resulting in reduced pollution.

"The titanium dioxide is applied as a coating on the surface of the tile's micro-mortar, which makes it less porous than a conventional color-through tile," says Pacelli. This gives the tile the added benefit of being mold- and algae-resistant. The technology, marketed as BoralPure, is available on the manufacturer's high- and medium-profile and flat tiles in 11 colors.

Currently, the product is manufactured in Boral Roofing's California and Nevada manufacturing plants, but there are plans to expand production

into the manufacturer's eastern plants throughout 2011, enabling the tiles to be shipped nationwide.

Smog-Eating Tile is featured on five "green" prototype homes by builder KB Home for its Alamosa community in West Lancaster, California, the first of which debuted at an event last July. KB Home collaborated with the City of Lancaster and the Chinese green-tech company BYD, which provided the homes' solar, battery, and LED systems.

"We are inspired by innovation and constantly seek out new technologies that reduce our homeowners' overall impact on the natural environment and improve their quality of life," says Craig LeMessurier, KB Home's director of corporate communications. "The benefits of Boral's smog-neutralizing tiles are quite dramatic, and we view this product as a revolutionary way to fight air pollution."

While some design professionals may need more time to warm up to the new technology, the company has convincing numbers that demonstrate the roof tile's potential for reducing pollution.

"Over a period of a year, 2,000 square feet of the tile can destroy approximately the same amount of nitrogen oxide as the average car produces driving 10,800 miles," says Pacelli, "making this product one real way builders and owners can reduce the smog footprint and the diseases directly attributed to it."

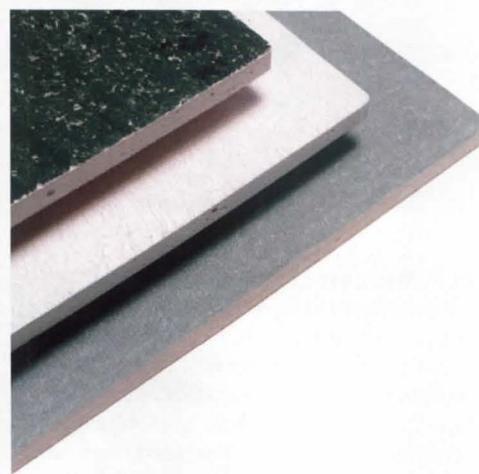
MonierLifetile, a Boral Roofing Company, is based in Irvine, California. boralna.com

CIRCLE 200



1. The "smog-eating" BoralPure Technology works via a catalyst embedded in the upper portion of the roof tile.

2, 3. The first project to use the tile was a solar-powered residence built last year by KB Home in partnership with the Chinese green-tech company BYD and the City of Lancaster, Calif.



CFR-42 Roof Panels

Metl-Span metlspan.com

Approximately 60,000 square feet of Metl-Span insulated panels clad the roof and walls of an indoor water park at Hope Lake Lodge in central New York. The 4"-thick CFR-42 roof panels were finished in Cool Forest Green on the exterior and Polar White on the interior. To deal with the high humidity and chlorine-laden atmosphere, the steel members were galvanized and then powder-coated to resist corrosion. **CIRCLE 201**

Opus Roof Blanket

Propex Operating Company
opusroofblanket.com

Manufactured in the U.S., Opus Roof Blanket creates a new category of roofing that can be used in place of felt paper and plastic sheeting underlayment beneath all types of steep-slope roofing materials. The material is safer to walk on, is Miami-Dade-compliant, offers a Class-A fire rating, and contributes to a more weather-resistant roofing system. **CIRCLE 202**

Securock Glass-Mat Roof Board

USG usg.com

Ideal for use in low-slope commercial roofing systems, Securock is a high-performance, non-combustible, moisture- and mold-resistant roof board for mechanically attached, fire barrier, and thermal barrier applications. Its specially treated core and high-performance glass-mat facer help it protect against mold and moisture. It comes in 4' x 8' boards in 1/4", 1/2", and 5/8" thicknesses. **CIRCLE 203**

Onyx Photovoltaic Walkable Roof

Onyx Solar onyxsolar.com

Based in Spain, Onyx Solar claims to offer the first photovoltaic glass specifically designed for installation in buildings. The photovoltaic properties allow the glass to generate electricity even in buildings where the orientation and inclination are not optimal. Still in development, this walkable roof system (shown) features a-Si glass, a material ideal for extended periods of exposure. **CIRCLE 204**

Stained Glass Stone

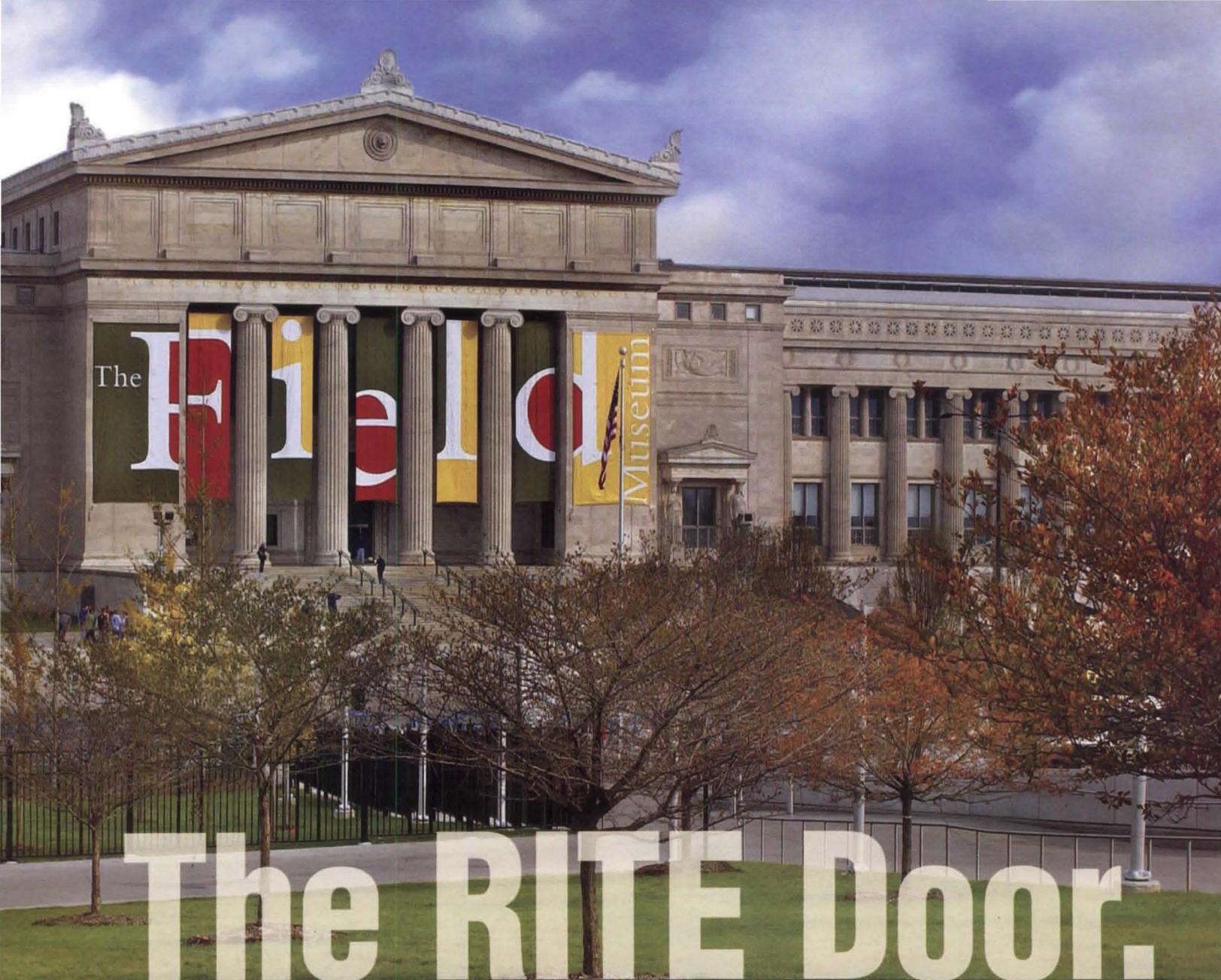
Carlisle SynTec carlisle-syntec.com

Made of 100% postconsumer recycled content, Carlisle's Stained Glass Stone is available in 12 colors to help enhance the design of roof gardens or plazas. To install, the glass stone is hoisted to the rooftop and deposited over a 1" or thicker drainage composite, such as Carlisle's MiraDRAIN G4, and then applied at a minimum of 10 pounds per square foot. **CIRCLE 205**

Densdeck Roof Boards

Georgia-Pacific gp.com

DensDeck is used in a variety of roofing systems as cover boards, overlayers, and underlayers. The enhanced surface of DensDeck Prime makes it ideal for cold mastic, torch-applied modified bitumen, and fully adhered single-ply systems. The low-perm, integrated coating of DensDeck DuraGuard makes it ideal for self-adhered and hot-mopped membrane systems. **CIRCLE 206**



The RITE Door.

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Project: The Collections Resource Center
The Field Museum, Chicago IL

Architect: Skidmore, Owings and Merrill
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111 Navy Chair

Emeco emeco.net

When Coca-Cola challenged Emeco to re-create the aluminum Navy chair out of recycled plastic bottles, the two companies teamed with BASF to develop a formula that would be strong enough for commercial use. The resulting material – 65% rPET and 35% glass fiber and pigment – is the first rPET chair to pass BIFMA and CA 133. Each chair is made with at least 111 recycled Coca-Cola plastic bottles. **CIRCLE 207**

Hurricane-Resistant Windows and Doors

Kolbe Windows & Doors kolbe-kolbe.com
Kolbe provided a range of traditional-style windows and doors for the restoration of the historic Ocean House hotel in Watch Hill, Rhode Island. A total of 530 K-Force windows and a combination of aluminum-clad Ultra Series and all-wood Heritage Series door products were used. In addition to hurricane impact resistance, all products come standard with an energy-efficient low-E coating. **CIRCLE 208**

Banana-Trunk Veneer

FIBandCO fibandco.com

The banana “tree” is in fact an herbaceous plant (the stem does not contain true woody tissue) that dies after producing fruit. A new interior finish that makes use of this plentiful natural resource is Green Blade (shown top and bottom), a decorative veneer sheet made from 100% banana-trunk fiber. Harvested and processed on a banana plantation on the island of Martinique in the French West Indies, the material has a good aptitude for bending and cold post-forming and is available in sizes up to 51" x 138". Sheets come in multiple thicknesses and four color options, and can be applied to a range of substrates, including paper, MDF, and plywood. **CIRCLE 209**

Modern Mosaics

New Ravenna Mosaics newravenna.com

Based in Virginia, artist and New Ravenna Mosaics founder Sara Baldwin works with a team of artisans in the same materials and techniques as the ancient mosaics to create contemporary interpretations of classic designs. Her team cuts marble into tesserae (small squares), then tumbles them to achieve the weathered look of an ancient surface while maintaining a rich color palette. **CIRCLE 210**

Cellular PVC Trim

Azek Trim azek.com

Azek's cellular PVC material played a big role in the restoration of the clock and bell tower of the Juniata County Courthouse in Mifflintown, Pennsylvania. Using historic photos and working closely with CH&E Construction, Crabtree Rohrbaugh & Associates Architects were able to design the tower with reinforced bracing while replicating the original's wood columns, volutes, and arches. **CIRCLE 211**



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Project: Cincinnati Children’s Hospital

Location: Cincinnati, OH

Architect: DNK Architects, Cincinnati, OH

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PROJECT MADINAT AL-ZAHRA MUSEUM
LOCATION CORDOBA, SPAIN
DESIGNER NIETO SOBEJANO
 ARQUITECTOS, FUENSANTA
 NIETO & ENRIQUE SOBEJANO

1, 2: The context of this Spanish museum is literally and metaphorically embedded in its architecture, near one of "the largest and most significant early Islamic archaeological sites in the world, and the most extensive in Western Europe." Arranged to surround preexisting sites, the structure helps the public interpret early Islamic culture while also serving as a research center. Subtly and beautifully realized, the museum combines a modulated sequence of interiors and courtyards.

AGA KHAN AWARD FOR

ON WEDNESDAY, NOVEMBER 24, in a ceremony held at the pristine Museum of Islamic Art designed by I.M. Pei in Doha, Qatar, His Highness the Aga Khan presented the 2010 Award for Architecture. Unique among awards worldwide, the Aga Khan award program follows a three-year cycle overseen by a steering committee – from nomination, through evaluation by trained professionals, to selection by a master jury. This year, for the 11th cycle of the awards program, out of 401 entries 19 projects achieved shortlisted status and warranted full evaluation by experts and five eventually emerged as winners. Subsequent seminars explored the implications of the awards. The Aga Khan established the program in 1977 to promote broader understanding of the role of architecture within Muslim cultures, but this year's winners included a chairman's award to the Islamic scholar Oleg Grabar, currently a



professor at Princeton University, and projects outside the expected venues, with works in China and Spain. Faryar Javaherian (left), a historian and architect who cofounded Gamma Consulting in Tehran, served as a member of this year's master jury. Her insights ("The Making of a Jury") offer an insider's view of the process and appear at architecturalrecord.com.



AR FEATURE

PROJECT BRIDGE SCHOOL
 LOCATION XIASHI, FUJIAN PROVINCE, CHINA
 DESIGNER LI XIAODONG ATELIER

3, 4: Small in scale but with a large idea, this bridge spans a creek, connecting both halves of the village. Dramatically, the contemporary structure counterpoises between paired *toulou*, or traditional, circular Chinese fortresses. Functionally, the project serves a number of uses: as a village school set within a pair of steel trusses covered in bamboo siding; and as a footbridge suspended below, which allows pedestrian passage. Realized on a tiny budget of roughly \$100,000, the project contains a library and doubles as a community entertainment/puppet theater space.

3



ARCHITECTURE

2010

4



PHOTOGRAPHY: COURTESY AGA KHAN AWARD FOR ARCHITECTURE/FERNANDO ALDA (MADINAT AL-ZAHRA MUSEUM); AGA KHAN AWARD FOR ARCHITECTURE/LI XIAODONG ATELIER (BRIDGE SCHOOL)



PROJECT WADI HANIFA WETLANDS
LOCATION RIYADH, SAUDI ARABIA
DESIGNER MORIYAMA & TESHIMA
 PLANNERS & BURO HAPPOLD
 IN JOINT VENTURE

LEFT: Water purification might seem outside the purview of an architectural awards program, but the Wadi Hanifa Wetlands project is among this year's most far-reaching in terms of planning and human amenity. The project team devised an ingenious system to cleanse the waters of Saudi Arabia's primary natural drainage course, which had become polluted and burdened by an expanding population. In an ambitious and coordinated effort that began in 2001, leaders and planning-team members have transformed a blighted resource into a public parkland for Riyadh, with enhanced recreation and tourism opportunities.

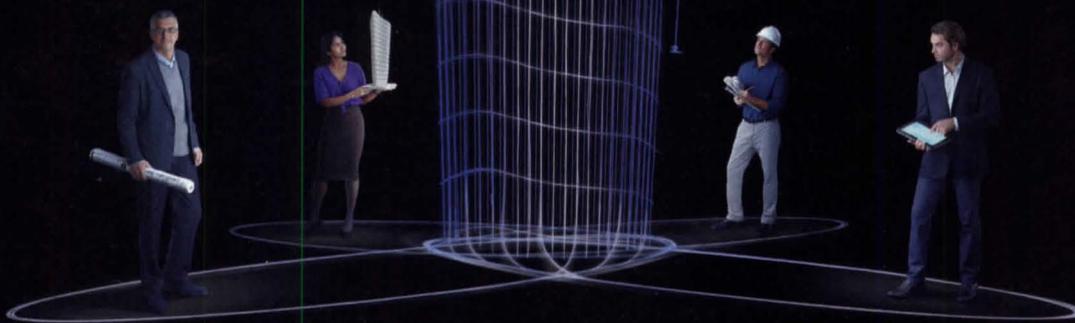


PROJECT IPEKYOL TEXTILE FACTORY
LOCATION EDIRNE, TURKEY
DESIGNER EMRE AROLAT ARCHITECTS

Although factories in this part of the world often provide the bare minimum, this textile manufacturing facility places workers and management under a single roof, punctuated by five internal courtyards and enhanced by daylight. Gardens and views to nature offer a pleasant visual background for workers concentrating on their tasks. The structure employs sustainable design strategies, such as natural ventilation and water collection. In a video interview, a worker here exclaimed that the building was so pleasant that she now enjoyed spending time at work.

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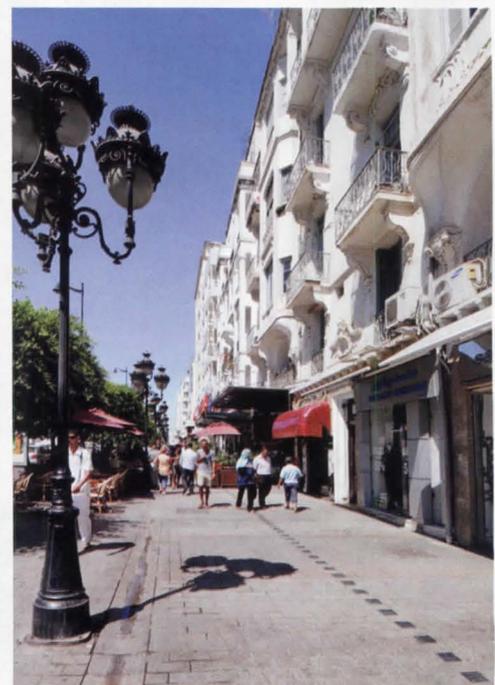
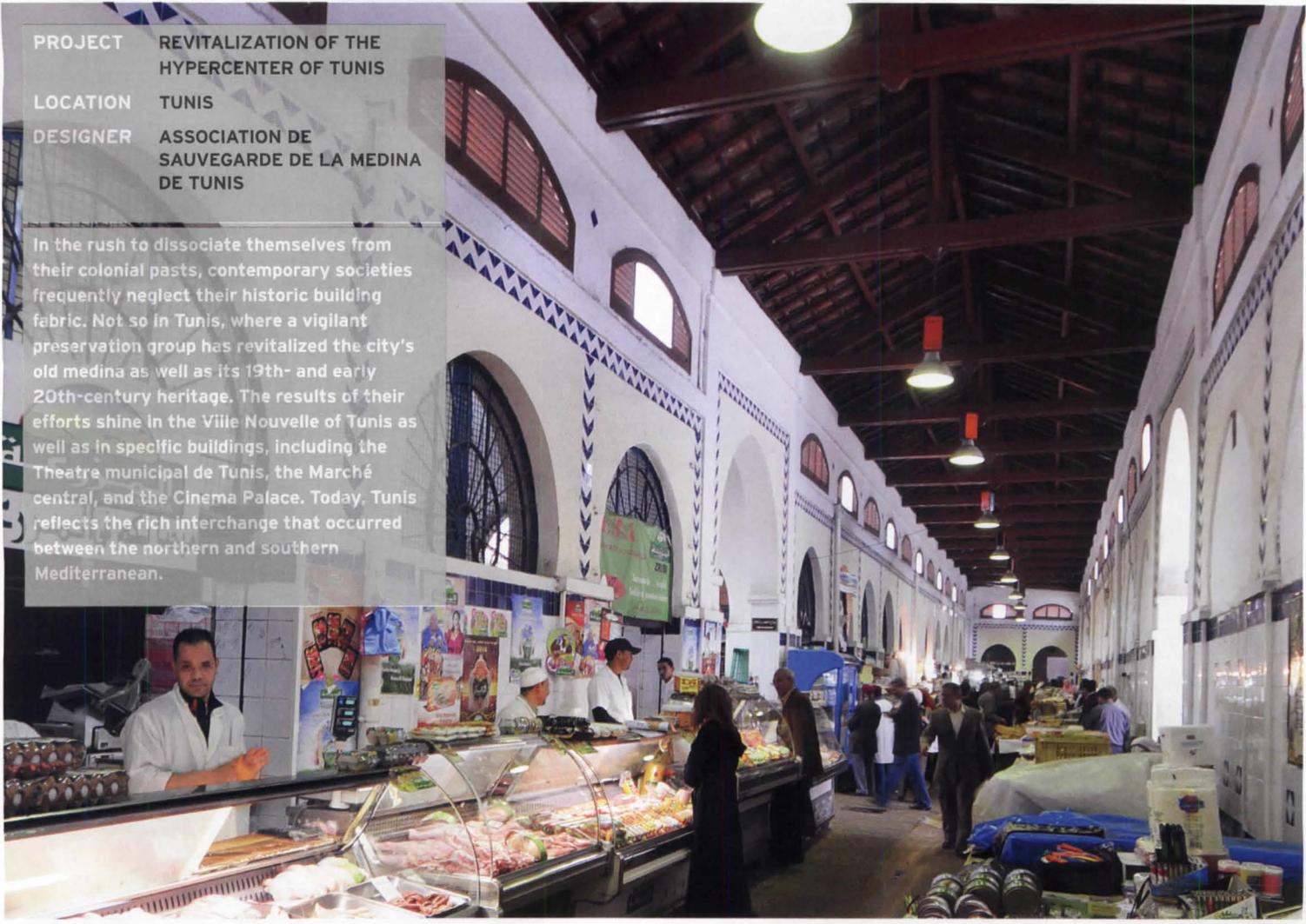
CIRCLE 20

PROJECT REVITALIZATION OF THE HYPERCENTER OF TUNIS

LOCATION TUNIS

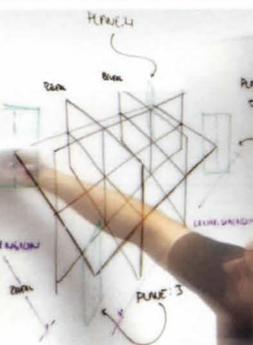
DESIGNER ASSOCIATION DE SAUVEGARDE DE LA MEDINA DE TUNIS

In the rush to dissociate themselves from their colonial pasts, contemporary societies frequently neglect their historic building fabric. Not so in Tunis, where a vigilant preservation group has revitalized the city's old medina as well as its 19th- and early 20th-century heritage. The results of their efforts shine in the Ville Nouvelle of Tunis as well as in specific buildings, including the Theatre municipal de Tunis, the Marché central, and the Cinema Palace. Today, Tunis reflects the rich interchange that occurred between the northern and southern Mediterranean.



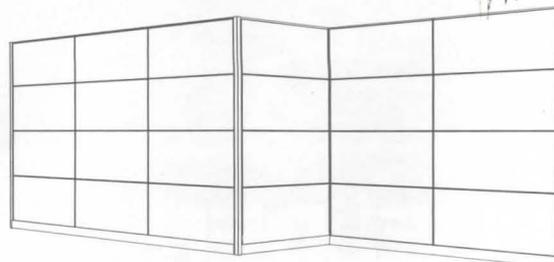


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left, top to bottom: VividGraphix™ Seagrass™ Glass in Blue; VividChrome™ Glass in Green; VividChrome Scribe™ Glass in White | right: LEVELe Wall System with VividGraphix Seagrass Glass in White, Stainless Steel Seastone™ & Bamboo Veneer

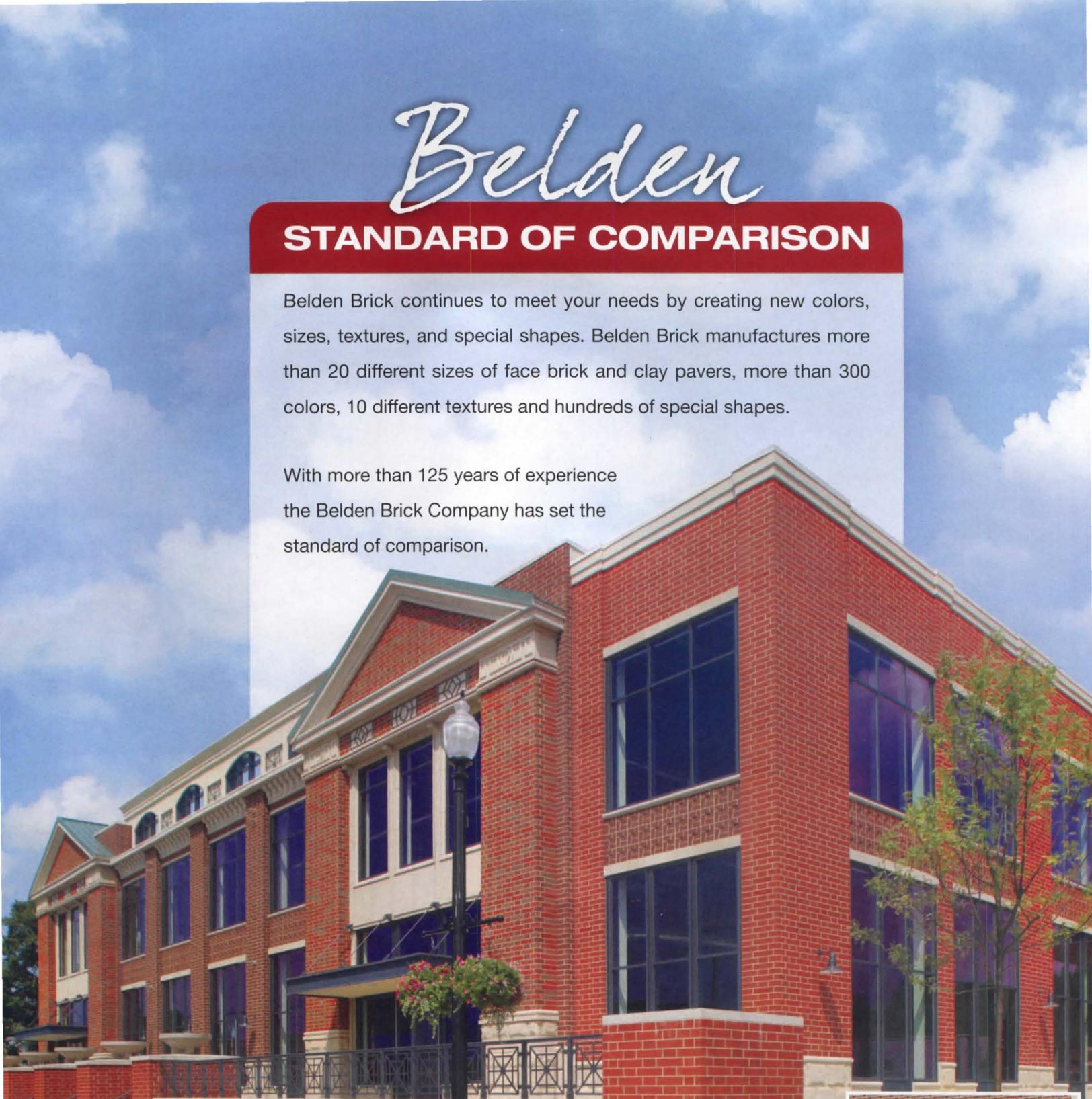


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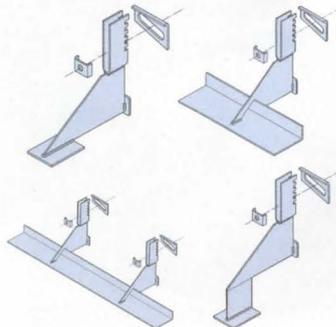
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Completed 1997
Finish: Fluropon White
Architect: Richard Meier and Partners

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CIRCLE 48

THE RETURN TO REUSE

Although economic recessions have little redeeming social value, they do discourage thoughtless tear-downs of worthwhile architecture. They also encourage scrutinizing a new scuzzy pile of steel, concrete, and masonry with an eye to their reuse, restoration, and even expansion. This issue of RECORD demonstrates how architects have inventively reworked the programs and design solutions for a series of overlooked structures—a former shipbuilding pier, an indoor swimming pool, an auto repair shop, a theater, and an exposition pavilion. Added to the mix is one august monument: Boston's Museum of Fine Arts. Surprisingly, in its renovation and expansion, Foster + Partners reinstated the original entrances as part of its scheme instead of redirecting all museum traffic to its new addition (as is often done by big-name architects). Another project, the Arena Stage at the Mead Center for American Theater in Washington, D.C., demonstrates an unexpected approach to restoration, renovation, and expansion: Bing Thom Architects saved two theaters by engulfing them in a curvilinear glass case. In all examples the innovative transformations make a convincing argument for salvaging the old while adding the new. *Suzanne Stephens*

PROJECT **ARTHOUSE AT THE JONES CENTER**
LOCATION **AUSTIN, TEXAS**
ARCHITECT **LEWIS.TSURUMAKI.LEWIS ARCHITECTS**
BY **INGRID SPENCER**



1. The front facade engages the street with its open lobby, anamorphic sign, and large second-floor window that doubles as a projection screen.
2. Laminated blocks of glass are lodged into the masonry of the south and east walls. The glass transmits some light but not the sun's heat.



THE UBIQUITOUS “Keep Austin Weird” movement seems more defined by what it’s *against* – big-box stores, Mediterranean-style buildings, Hummers – than what it’s *for*. This kind of excess and a mainstream, cookie-cutter aesthetic the slogan’s proponents think Austin can do without. Going by this very unscientific exhortation, it would seem that the Arthouse at the Jones Center building in downtown Austin, newly renovated and expanded by the New York City-based firm Lewis .Tsurumaki.Lewis Architects (LTL), should be heralded by Austinites as happily weird and wonderful enough to grace their downtown. And it is.

More than 4,000 people attended the four days of opening events in October, confirming that Austin is hungry for more cultural as well as visual arts venues. Arthouse may be Austin’s oldest arts organization – it was founded in 1911 as the Texas Fine Arts Association (TFAA) – but it has never been old-fashioned. As an independent, privately funded nonprofit contemporary arts institution, Arthouse shows the work of new artists but does not collect like a museum or represent artists for profit like a gallery. Its programs create opportunities for showing contemporary art and involving the community.

“Having a physical structure that has some meaning was crucial to our mission,” says Arthouse executive director Sue Graze. “We had a building in a great location, and wanted to preserve its history. But we also wanted the renovation to be as expressive as the art we show.”

In a city still smarting from the blow that occurred in 1999 when Herzog & de Meuron resigned the commission to design the \$84 million Blanton Museum – subsequently given to Kallmann McKinnell & Wood, which resulted in the not-so-weird (or wonderful) building that opened in 2006 – Arthouse’s redo shines.



Or, more accurately, it glows from the light of the 177 punched-out 4-by-16-inch LED-lit glass blocks that perforate the south and east walls. The seemingly random placement of rectangular elements is a bit of an LTL signature move – the firm has used similar perforations in its designs for Lozoo and Xing restaurants in New York City, for example. “We’re interested in the accumulation of discrete parts,” says LTL principal Paul Lewis.

“In this case, it’s not so much that we’re inserting forms, but that we’re extruding from the whole.” The blocks are just one of several *strategic additions* and adjustments that LTL used to intensify the

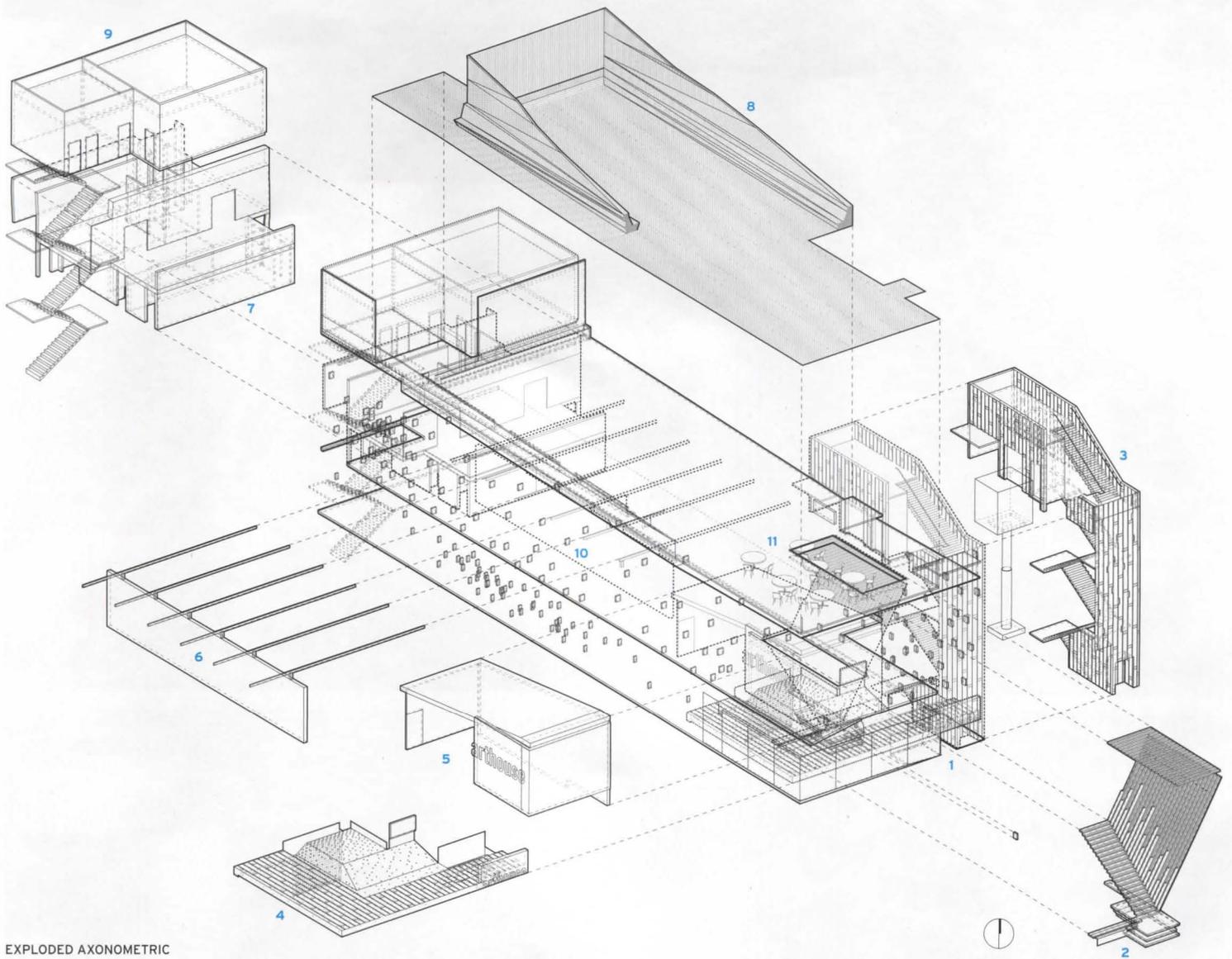
amalgamation of history in the existing three-story brick structure, built in 1851. It did this while tripling the usable space to 20,830 square feet and radically revamping the building as an inviting presence for contemporary art on Congress Avenue, only a few blocks from the Texas State Capitol.

The building began its life in Austin as the Queen Theater, a large, open space with a balcony and proscenium stage. In 1956 it became a department store – Lerner Shops – and a second floor was added, as well as storefront windows and a new facade on Congress Avenue that included an awning extending over the sidewalk. TFAA bought the

building in 1995, changed its name to Arthouse at the Jones Center, and gave it a slight renovation that closed off the second floor, which was not up to code. “There were a number of factors that the history of the building set up for us,” says Lewis. “For most historic preservation projects, there’s a single moment in the building’s history where it was at its best, and you want to get it back there. But with this project, it was a trajectory. The architecture was pulled in two directions – as a theater toward the stage at the west side, and as a store it engaged the street at the east. We decided not to whitewash any of that but to honor it all.”

1. **Traces of the building’s past life – frescoes and ceiling trusses – were kept in the single-volume second-floor gallery, and a 16,000-pound movable wall was added to create a white-box exhibition space if needed.**
2. **Behind the central stair, a more traditional gallery space was inserted, as well as a visual arts room.**
3. **The lobby’s sitting area is dominated by a stacked-felt sofa and the lower portion of the central stair, which is made of precast concrete planks. The upper stair is composed of 21 L-shaped ipé treads, each 500 to 700 pounds.**





EXPLODED AXONOMETRIC

- 1 ENTRANCE
- 2 CENTRAL STAIR
- 3 STAIR AND ELEVATOR
- 4 AWNING
- 5 SCREENING
- 6 MOBILE GALLERY WALL
- 7 MECHANICAL
- 8 ROOF DECK
- 9 TWO ARTIST STUDIOS
- 10 GALLERY
- 11 GALLERY/LOUNGE

CREDITS

ARCHITECT: Lewis.Tsurumaki.Lewis Architects – Paul Lewis, AIA, Marc Tsurumaki, AIA, David Lewis, principals; Jason Dannenbring, project manager
ENGINEERS: MJ Structures (structural); Kent Consulting Engineers (m/e/p); Garrett-Ihnen (civil)
CONSULTANTS: Lumen Architecture (lighting); Blue House Design (media)
CLIENT: Arthouse at the Jones Center
SIZE: 20,830 square feet
COST: \$4.4 million
COMPLETION DATE: October 2010

SOURCES

METAL PANELS: Rimex Metals Group (Granex stainless steel)
PRECAST CONCRETE: Advanced Cast Stone
GLASS: Oldcastle BuildingEnvelope
CUSTOM GLASS BLOCKS: LTL with M3 Glass Technologies and Dupont SentryGlas Plus
SKYLIGHTS: Skyline Sky-Lites; Solatube
STUCCO: LaHabra Wall
LOCKSETS, CLOSERS, EXIT DEVICES: Stanley



The building is in a historic district but is not designated a historic building, so nothing was sacred. Still, preservation was critical to the organization and to the architects. Inserted within the envelope are an entry lounge, a video/projects room, a large open gallery, multipurpose room, two artist studios, and art preparation areas. The architects added a 5,500-square-foot ipé-wood roof deck for open-air performances, with a 17-by-33-foot screen that can be set up for films. Administrative office areas on the first floor were largely left alone.

The lobby, wrapped in floor-to-ceiling glazing, opens the building up to the street. LTL resurfaced the awning in plaster, shearing and stretching its geometry to continue it inside and to create an anamor-

phic sign proclaiming “Arthouse” on the street. A central stair with 21 L-shaped ipé treads over a diamond-polished cast-concrete base connects the lobby to the main second-floor gallery, and is designed so the first wood tread extends to the side to form a reception desk.

Rather than create a white-box gallery space on the existing second floor, the architects chose to let traces of the past – frescoes on the south wall, remains of the theater balcony, ornamental plaster work, and paint from the building’s days as a department store – remain, while the glass blocks lodged into the masonry bring light into the interior. Practicality suggested that the south wall be used for art, so a 16,000-pound movable wall was added inside the room to give the space more flexibility. The building’s

original structure is a concrete frame with a steel-truss roof into which a concrete and steel deck floor was inserted during the Lerner years. When LTL decided to add a flat roof on top of the existing pitched-roof frame, the firm supported the new roof with steel members attached to the top chords of the trusses. To further help carry the load of the new roof, the team stiffened the trusses’ bottom chords with I-beams. This strategy allowed the architects to use the flanges of the I-beams as tracks for the movable wall, which is operated by two motors.

Every space, from the elevator to the rooftop, is a place where an artist can interact with the building. The first show in the upstairs gallery did just that with the movable wall, which was pushed to the north side

A flat roof with an ipé deck was placed on top of the existing pitched roof, with a plenum between the two. Linear translucent light boxes in the deck indicate the entrance to the metal-clad elevators.

to display a huge drawing of 177 family recipes submitted by the public for artist James Middlebrook’s exhibit, *More Art about Buildings and Food*.

“The building reflects us completely,” says Graze. “As an organization we are nimble, flexible, responsive. We’ve never wanted to be monumental. We think this structure expresses the nature of contemporary art, and we think it’s a game changer for contemporary art in Austin and beyond.” ■



1. The glass-enclosed courtyard, part of the MFA's new wing, includes a sleek limestone end wall with a deep recess that acts as a foyer to the galleries beyond.

2. Of the several different pieces comprising the MFA, the first was a 1909 Beaux-Arts structure facing Huntington Avenue and designed by Guy Lowell.

3. Foster + Partners' master plan included reopening the MFA's colonnaded Fenway entrance, which had been closed since the early 1980s.

PROJECT **MUSEUM OF FINE ARTS**
 LOCATION **BOSTON**
 ARCHITECT **FOSTER+PARTNERS**
 BY **JOANN GONCHAR, AIA**



2



1



3

TO FIRST-TIME VISITORS to Boston's Museum of Fine Arts (MFA), it might appear that the fruits of its \$345 million capital project are limited to the recently opened Arts of the Americas Wing at the building's eastern end, designed by London-based Foster + Partners. Its powerfully spare glass-enclosed courtyard and 53 thoughtfully organized galleries showcase everything from art to musical instruments to textiles. However, Foster's still ongoing work involves more than the 193,000 square feet of high-profile new construction. The project includes the renovation and subtle reconfiguration of spaces all over the now 617,000-square-foot museum and reestablishes the building's little-used historic entrances – a move that reinvigorates the venerable Boston landmark.

The museum sits along the Back Bay Fens, part of the city's linear network of parks by Frederick Law Olmsted, and consists of several interconnected parts by numerous designers. The oldest piece is a 1909 Beaux-Arts structure designed by Guy Lowell facing Huntington Avenue to the south. The most recent major piece, not counting the Foster intervention, is I.M. Pei and Partners' West Wing, which opened in 1981. The latter provided space for special exhibitions and an auditorium, among other amenities, behind a smooth-skinned granite facade, as well as a new entrance immediately adjacent to a parking area. Ironically, the success of this addition, combined with the subsequent closings of the Huntington Avenue entrance and another one axially opposite it facing the Fenway, completely "skewed the building's center of gravity," says Michael Jones, a Foster partner. Visitors rarely made it to the building's easternmost galleries, according to Jones, even after the Huntington entrance was reopened in the mid-1990s. The trip from one end of the museum to the other was a "slog," he says. "The route was convoluted."





The architects' remedy included reviving the Fenway and Huntington entrances as the building's main access points, and designating Pei's entry for groups. They reinforced the path between the old entrances as the museum's primary spine by replacing galleries with a visitor information area. And just to the east of this revived physical center, they inserted their T-shaped addition between two existing Lowell-designed wings, replacing a third that had opened in 1928. As part of the new addition, a quietly grand, 63-foot-high glazed court links new with old. It houses a café during normal museum hours and also provides space for events, including concerts, receptions, and lectures. A rigorously detailed ceiling system of baffles and translucent panels modulates sunlight and provides sound absorption to make the room acoustically suitable for its varied cultural programming. (For more information on the space's acoustics see page 108.)

Beyond the court, but within the same shoebox-shaped, Vierendeel truss-supported volume, are the addition's core exhibition areas. A generously proportioned recess in a

pristine limestone-clad wall contains a cantilevered stair and acts as a multistory foyer to the four levels of galleries. The glazed entry reveals some of the art on view, providing a visual magnet.

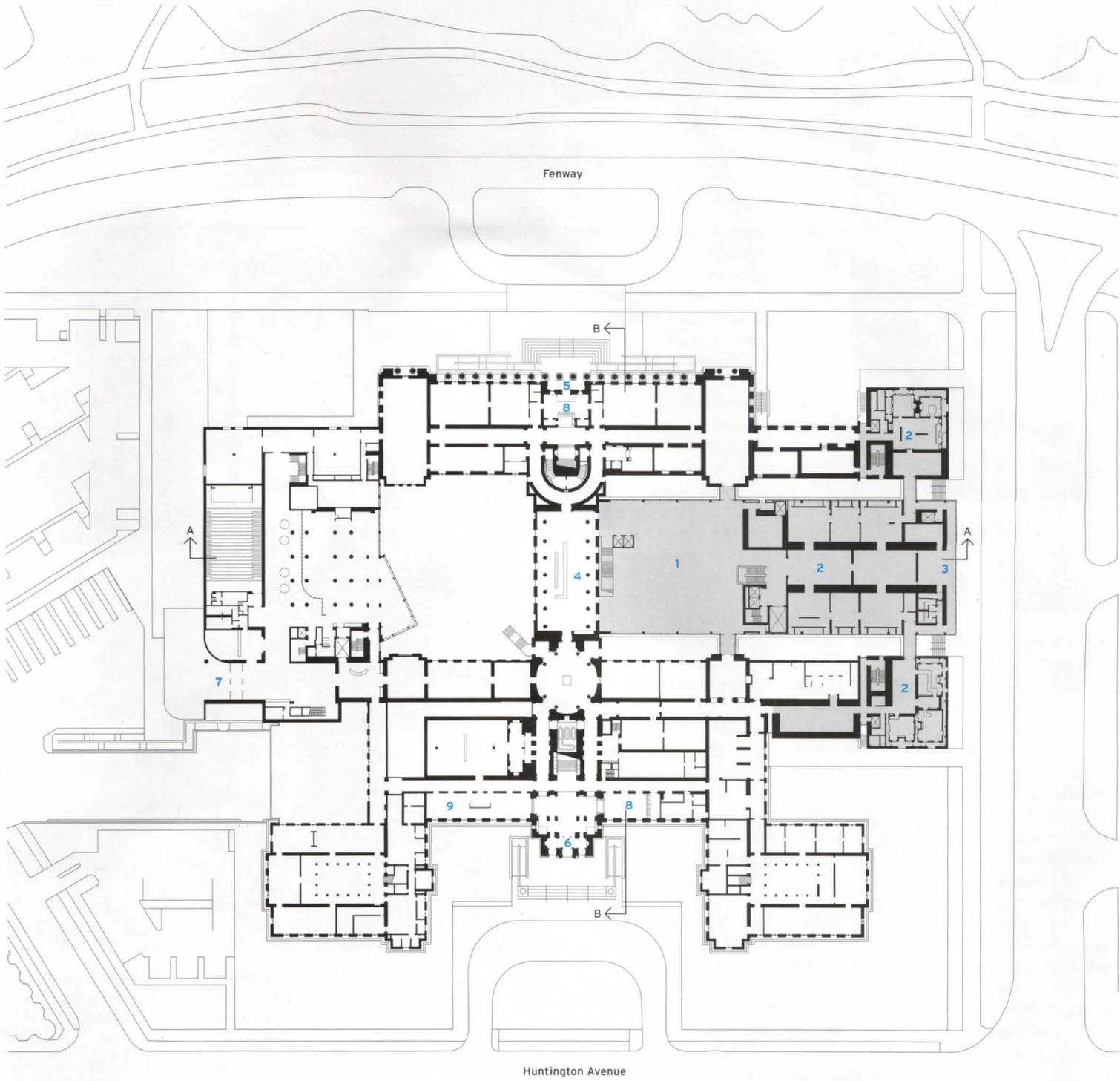
Foster's office collaborated with curators to determine the location of many key works and create displays that are refreshingly accessible. Galleries are not typically devoted to a single medium, but instead include a variety of types of objects from the same period. In addition, white walls are the exception rather than the rule. For example, a gallery focusing on the work of John Singer Sargent has flocked wallpaper. The goal was to create environments sympathetic to the collections and evoke the eras in which the pieces were created.

More fundamental to the success of the new wing are its connections to the surrounding context. One such link is the planted swath that runs in the 20-foot-wide gap between the addition and the existing building. The gap, which doubles as an exhibition space for sculpture, seemingly brings the Fens into the museum's interior and helps satisfy seismic codes that required the addition be structurally independent.

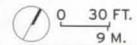
Visual access to the outside is also available through a few gallery windows carefully positioned to shield art from the sun's damaging rays. In a pair of pavilions that flank the core gallery structure and contain reconstructed rooms from historic New England houses, the architects have located openings in the exterior walls so that they align with windows of the older rooms inserted within. When environmental conditions allow automated scrims to be opened, visitors can see the surrounding landscape through the historic windows. The designers have also created corridors at the eastern edge of the core gallery building that run behind a curtain wall with the



1. The addition includes a pair of pavilions with expressed steel frames that act like reveals between panels of granite cladding.
2. Glazed corridors at the addition's eastern edge provide visual access to the museum's surroundings. Work on display here, including a 1923 bronze of Diana by Anna Hyatt Huntington and Erwin Hauer-designed screens commissioned by the MFA, are visible from the outside, especially at night.
3. A gap between the existing building and the new courtyard, necessitated by seismic codes, allows a 20-foot-wide planted swath that seemingly brings the Fens into the museum's interior.



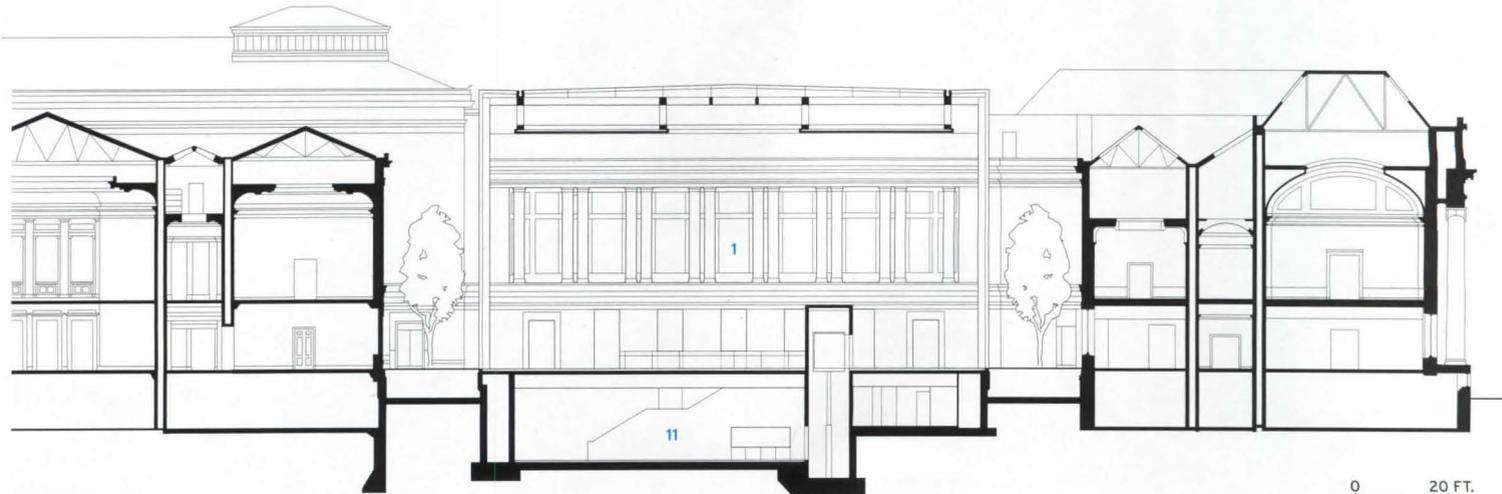
LEVEL ONE



- | | |
|------------------------------|-------------------------------------|
| 1 SHAPIRO FAMILY COURTYARD | 7 GROUP ENTRANCE |
| 2 GALLERIES | 8 TICKETING |
| 3 INTERACTIVE GALLERIES | 9 GIFT SHOP |
| 4 SHARF VISITOR CENTER | 10 TRUSTEES ROOM |
| 5 FENWAY ENTRANCE | 11 GUND SPECIAL EXHIBITIONS GALLERY |
| 6 HUNTINGTON AVENUE ENTRANCE | |



SECTION A-A

0 20 FT.
6 M.

SECTION B-B

0 20 FT.
6 M.

EAST ELEVATION

0 20 FT.
6 M.**CREDITS**

DESIGN ARCHITECT: Foster + Partners – Norman Foster, Spencer de Grey, Michael Jones, Kate Murphy, William Castagna, John Small, project team

ARCHITECT OF RECORD: CBT/Childs Bertman Tseckares

ENGINEERS: Buro Happold, Weidinger Associates (structural); Buro Happold, WSP Flack + Kurtz (m/e/p)

CONSULTANTS: Gustafson Guthrie Nichol (landscape); George Sexton Associates

(lighting); Acentech (acoustics)

CLIENT: Museum of Fine Arts, Boston

SIZE: 193,325 square feet (new construction)

COST: \$345 million (new construction and renovation)

COMPLETION DATE: November 2010

SOURCES

EXTERIOR CLADDING: Phoenix Bay State Construction (masonry); Maddison Associates (metal panels); Seele (metal/glass curtain wall);

J.L. Marshall & Sons (precast concrete)

INTERIOR GLASS AND GLAZING: Ipswich Bay Glass

DOORS, FRAMES, AND HARDWARE: Partition Systems

FLOOR TILE: Port Morris Tile & Marble

WOOD FLOORS: Becht

ELEVATORS: Otis



most minimal of mullions. In addition to functioning as circulation space, the zones contain interactive exhibits that explore how the museum conserves and selects the objects in its collection. These areas look out onto the Fens and provide a means of navigation and orientation as well as a respite from the more intense viewing experience of the galleries.

The only disappointment of the project is the new eastern elevation. The granite-clad pavilions' windows, placed to correspond with the layout of the historic rooms they house, have an almost random air that seems at odds with the symmetrically arranged volumes. In addition, the restraint of the overall composition borders on excessive. Nevertheless, the scale of the addition seems appropriate, and a high level of precision and craftsmanship is evident throughout, but most notably in the glazed perimeter corridor. The visual permeability it provides is an especially welcome counterpoint to the building's other, almost impenetrable facades. ■



1. The new wing provides space for large pieces that had long been in storage, including Thomas Sully's 1819 painting of Washington crossing the Delaware.
2. The architects worked with curators to create roomlike vignettes that include furniture, paintings, and

utilitarian objects.

3. Ceiling baffles in the top floor's skylit central gallery are similar to those in the glass-enclosed court. However, the gallery system has two additional layers of sun control above the louvers, including operable blackout shades.

4. Artwork is often displayed against deeply colored walls in the new wing. Some galleries, including one featuring 19th-century American artists working abroad (foreground) and another focusing on John Singer Sargent (background), have flocked wallpaper.



PROJECT **990 OFFICES**
LOCATION **TUCSON**
ARCHITECT **ROB PAULUS ARCHITECTS**
BY **JENNA M. MCKNIGHT**



LIKE MANY METROPOLITAN areas in the West, Tucson has its share of generic strip malls and sprawling subdivisions. As a native of the desert city, architect Rob Paulus has long aspired to buck the development trend, focusing instead on urban infill, adaptive reuse, and sustainable design. His recent project, 990 Offices, exemplifies this ethos. It also marks the third step in an impressive endeavor to breathe new life into Millville, a vapid industrial zone near downtown.

To fully understand 990 Offices, one must first rewind to 2002, when

Paulus took a major leap of faith in urban revitalization. He and his wife, Randi Dorman, president of the Tucson Museum of Contemporary Art, teamed up with two investors to purchase a vacant 80-year-old cold-storage facility in Millville.

The architect then embarked on transforming the warehouse into condos – a novelty in Arizona at the time. “This was the first residential loft conversion in the state,” says Dorman. The couple also acquired a roughly 1-acre parcel across the street, where they set out to construct a series of metal-clad,

single-family dwellings designed by Paulus.

Both projects were completed in 2005. The 51 “Ice House Lofts” were quickly snapped up (one went to Paulus and Dorman, of course); the nine “Barrio Metalico” homes also sold fast.

The same year, the duo expanded their empire, this time acquiring an adjacent half-acre lot occupied by an auto shop. The shop closed in 2008, and Paulus decided to convert the 30-year-old facility into an office building for his firm and a tenant. “It was a great opportunity to ‘walk the

walk’ and create an energy-efficient, naturally lit office with some intriguing landscape features,” he explains.

The building got a major overhaul. Paulus retained the steel framing but otherwise stripped the structure clean. He replaced the walls with an aluminum-clad rainscreen system; heavy insulation helps block heat, thus minimizing energy costs. To bring in natural light, Paulus inserted a clerestory on the building’s south side; on the north – the entrance facade – he replaced roll-up garage doors with glazing that overlooks a

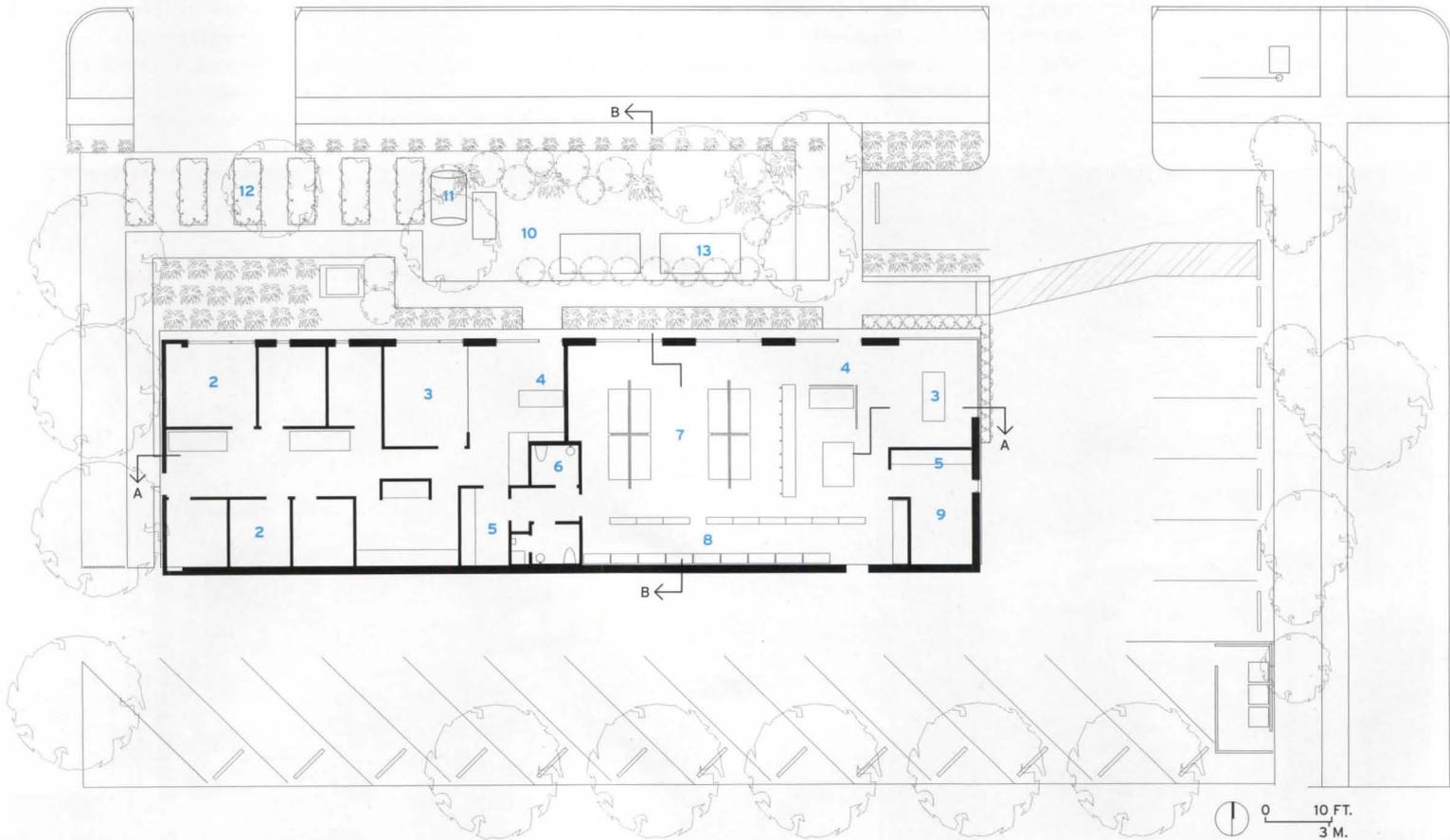


1. Constructed in 1978, the building housed an auto shop until 2008.
2. While its steel frame was retained, the boxy facility was reclad in aluminum panels. Glass replaced roll-up garage doors.
3. In the architect’s office, operable windows on the north and south provide cross ventilation. An undulating ceiling made of pine plywood strips softens the space; its height ranges from 10 to 14 feet, but it feels much higher.



NORTH ELEVATION

0 10 FT.
3 M.



0 10 FT.
3 M.

- 1 ENTRANCE
- 2 OFFICE
- 3 MEETING AREA
- 4 RECEPTION
- 5 KITCHEN
- 6 RESTROOM
- 7 OPEN OFFICE AREA
- 8 LIBRARY
- 9 STORAGE
- 10 COURTYARD
- 11 SCULPTURE
- 12 ORGANIC GARDEN BEDS
- 13 RAINWATER TANKS

CREDITS

ARCHITECT: Rob Paulus Architects – Rob Paulus, principal in charge; Liz Farkas, project architect; Andrew Hesse, Bill Mackey, team members

ENGINEERS: Schneider & Associates (structural); GLHN (electrical)

CONSULTANTS: Chris Winters & Associates (landscape)

CLIENT: Randi Dorman & Rob Paulus

SIZE: 4,292 square feet

COST: \$343,360

COMPLETION DATE: April 2010

SOURCES

EXTERIOR WALL SYSTEM: Novelis (anodized aluminum); MBCI (corrugated panels); VaproShield (air barrier, battens)

ROOFING: Versico (thermoplastic polyolefin membrane); Insulform (insulation)

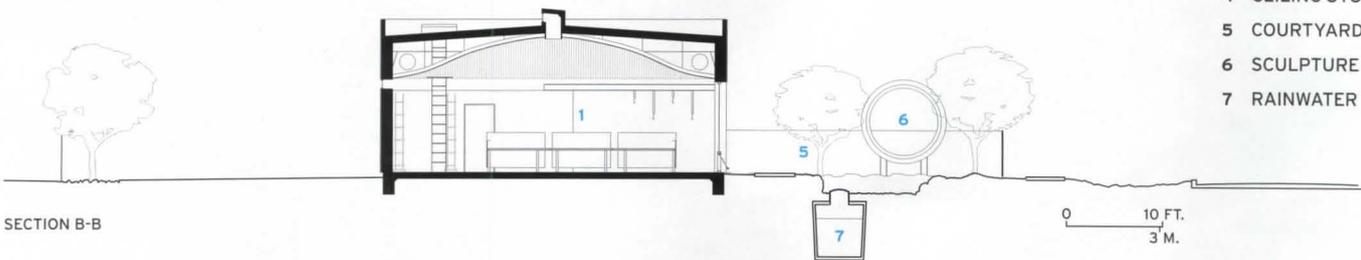
WINDOWS: PPG (Solarban low-E glass); New World West (storefront aluminum); Milgard (aluminum, fixed and operable)

DOORS: New World West (entrance); Steel Dor Tucson (metal); Arizona Sash & Door (wood)

EXTERIOR LIGHTING: Progress Lighting (cylindrical wall lanterns); Focus Lighting (landscape spotlights)



SECTION A-A



SECTION B-B

- 1 ARCHITECT'S OFFICE
- 2 TENANT'S OFFICE
- 3 RESTROOM
- 4 CEILING SYSTEM
- 5 COURTYARD
- 6 SCULPTURE
- 7 RAINWATER TANK

0 10 FT.
3 M.



courtyard. The building's northern orientation helps minimize heat gain during the sizzling summer months.

Paulus conceived clever ways to repurpose nearly all remnants of the original structure: Metal garage doors became fencing; broken pieces of concrete were used for paving; and steel beams were made into raised garden beds (yes, this office has an organic vegetable garden).

Inside, the building was divided in half – one side for Paulus, the other for his tenant, Epstein Construction – with a shared bathroom at the core. For his firm, Paulus opted for an open floor plan. With the exception of the walled-off kitchen, furnishings delineate program areas (reception, meeting area, work stations, a library). His tenant, however, wanted enclosed rooms, so the architect created a central corridor lined by traditional offices. "It's by far the most functional office we've ever had," says Mike Epstein, owner of Epstein Construction.

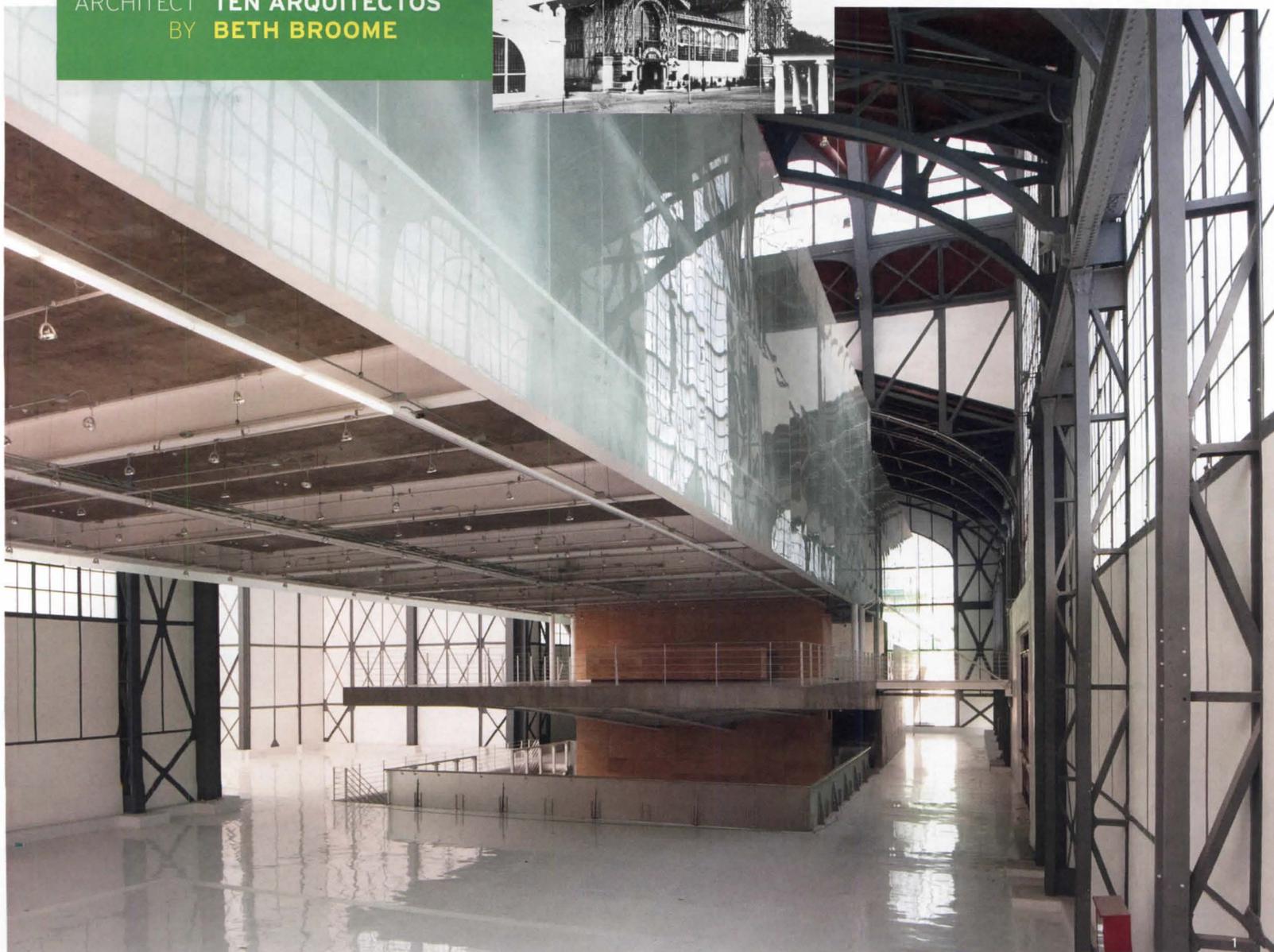
What is common to both spaces is the undulating wood ceiling, which warms up the grayish interior. "It

started out as, Let's do something to break down the sound and get light coming in," Paulus says of the design intent. "I also play the violin, and I thought it would be nice if we could mimic its sensuous curves." The ceiling system comprises pine plywood strips affixed to a suspension grid made of fused sheets of plywood. Skylights allow natural light to pass through the slats and into the work areas below.

Although the project was completed last April, the firm will have its official grand opening party this month, on February 11. To hear Paulus tell it, passersby likely will see guests sitting around the fire pit in the courtyard, listening to someone strum a guitar. They might even spot his 6-year-old daughter roasting marshmallows. "Since we live across the street," he says, "the office courtyard has become an extension of our outdoor living area." Through his remarkable efforts in Millville, this Tucson architect is proving that even a gritty, lifeless urban area can be delightfully transformed. ■

A landscaped courtyard features garden beds, a fire pit, and a jet cowling repurposed as sculpture. Irrigation is provided by rainwater stored in two underground tanks.

PROJECT **CHOPO MUSEUM**
 LOCATION **MEXICO CITY**
 ARCHITECT **TEN ARQUITECTOS**
 BY **BETH BROOME**



1. The insertion exists as a building within a building. The two structures touch only at their northern end (background), where the new penetrates the wall of the old.

2. A café occupies a cantilever at the structure's concrete base. A theater lobby sits below, while galleries surround it on the ground floor of the original building.

3. The museum's Erector Set-like towers rise above the surrounding Santa María la Ribera neighborhood.

TOWARD THE TURN of the 20th century, the world's fair as galvanizing cultural phenomenon had long been capturing the collective imagination, while its more demure cousin, the regional expo, busily proliferated in its shadow. It, too, left enduring artifacts in its wake. The fanciful cast-iron and glass structure that today houses the Chocho Museum in Mexico City, which Mexico- and New York-based TEN Arquitectos recently renovated and

expanded, is one of these vestiges.

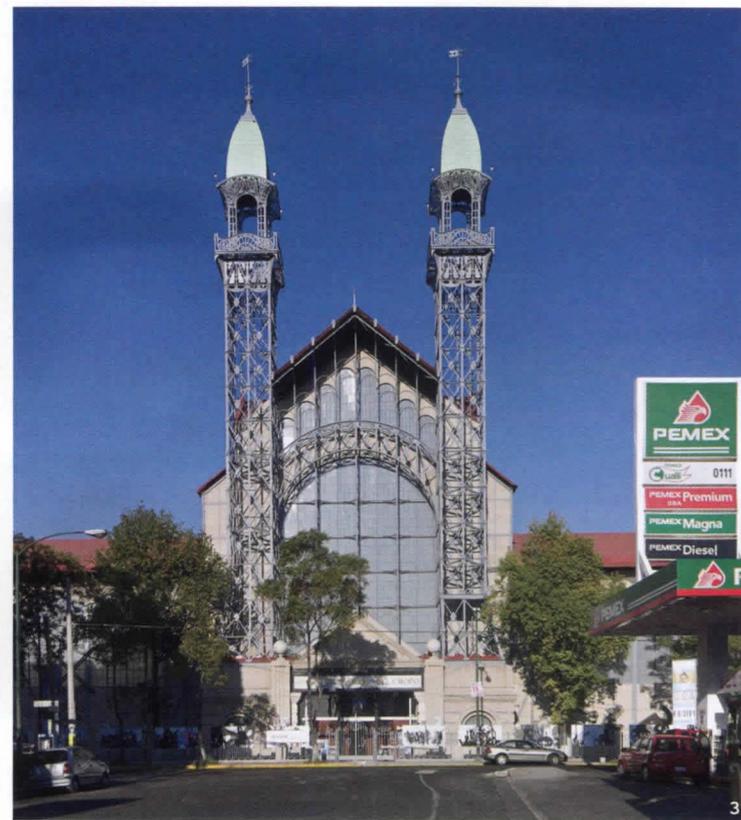
Designed by German architect Bruno Möhring, who was known for the Art Nouveau bridges and stations he created for Berlin's elevated tramway, the building was constructed in Oberhausen, Germany, as a pavilion for the 1902 Exhibition of Art and Textile Industry in Düsseldorf. Upon the conclusion of the fair, the Mexican Company of Permanent Exhibitions acquired three of the building's four halls.



They were dismantled, shipped, and reassembled using locally sourced masonry in Santa María la Ribera – at the time a fashionable residential neighborhood in Mexico City – where the structure soon earned the moniker the Crystal Palace because of its resemblance to Sir Joseph Paxton's hall for London's Great Exhibition of 1851. In 1913 the building became the home of the National Museum of Natural History, but by 1964 deterioration led to its closing.

It remained abandoned until 1973, when the National Autonomous University of Mexico (UNAM) rehabilitated it and, a couple of years later, inaugurated it as the Chopo Museum (named after its street, Chopo, or "Poplar"), a center for experimental art and avant-garde performance. In 2004 the university initiated the process of updating and expanding the institution.

UNAM selected TEN Arquitectos through an invited competition and,



in addition to charging them with the restoration, outlined two principal goals. The first was to introduce a program into a largely unprogrammed building, including greatly expanded exhibition space, plus storage, workshops, classrooms, and a theater, cinema, and café. The second goal was to create climate-controlled areas where previously there were none, in hopes of attracting visiting exhibitions to complement the relatively modest permanent holdings of contemporary art.

Local preservationists argued for a straightforward renovation. As an exercise, the architects investigated what it would take to condition (for temperature, humidity, air circulation, and security requirements) the whole volume, and quickly determined it was not a viable alternative. "The building is like a document," notes TEN Arquitectos principal Enrique Norten. "It's a testament of a moment of architecture that obviously we all believed needed to be preserved. But the structure was basically useless – it's a shell. The question became, What do we do

CREDITS

ARCHITECT: TEN Arquitectos – Enrique Norten, principal; Salvador Arroyo, Jorge Pérez, partners in charge; Victoria Grossi, Natalia Lomeli, Carlos Marín, Marina Muñoz, Verónica Chávez, Fausto Alvarado, Jonathan Barraza, Mateo Riestra, Ernesto Orrante, Ricardo Orozco, Christian Joffroy, Mariana Narváez, Miguel Ríos, design team

CONSULTANTS: Colinas de Buen (structural engineers); H+T Iluminación y Diseño (lighting); Omar Saad (acoustics); Restauradora Rycolsa, SA de CV (restoration)

CLIENT: UNAM

SIZE: 34,714 square feet (new construction)

COST: \$12.5 million

COMPLETION DATE: May 2010

SOURCES

METAL FRAME WINDOWS AND ENTRANCES: Grupo Laresgoiti

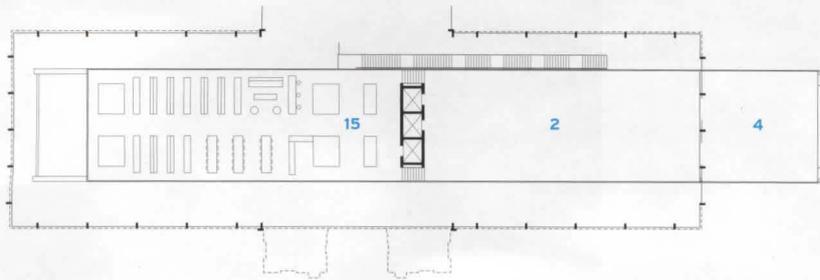
MILLWORK AND FINISHES: Dacon

LIGHTING: Bellani

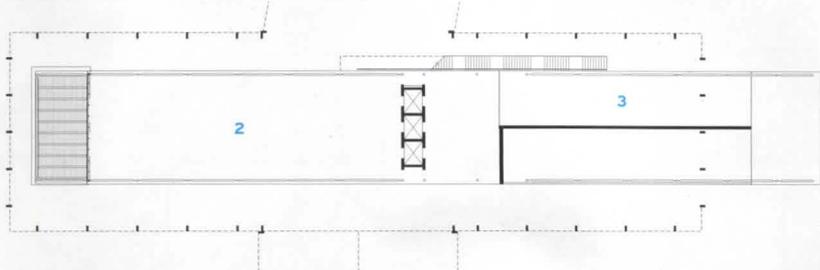
ELEVATORS: Schindler

INFORMATION CENTER CHAIRS: Vitra

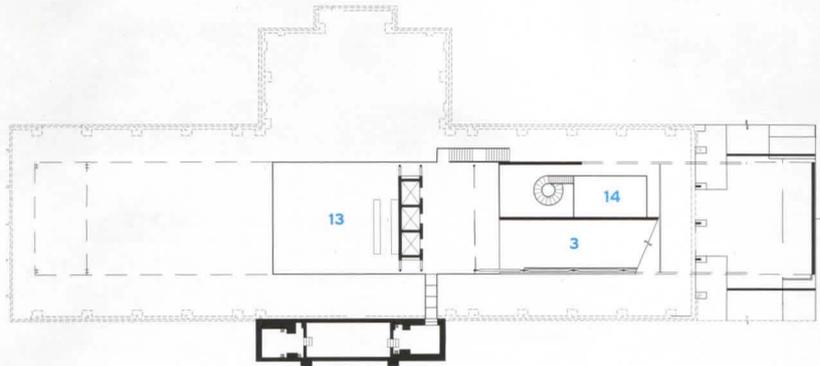
EXHIBITION CHAIRS: Mauricio Valdés



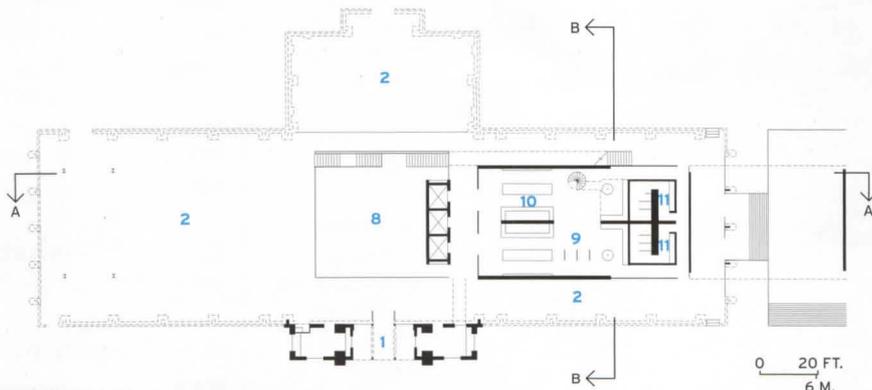
FOURTH FLOOR



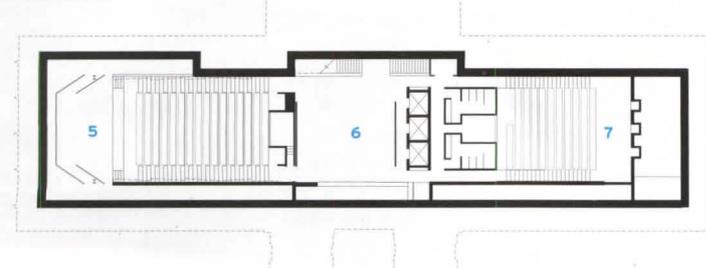
THIRD FLOOR



SECOND FLOOR



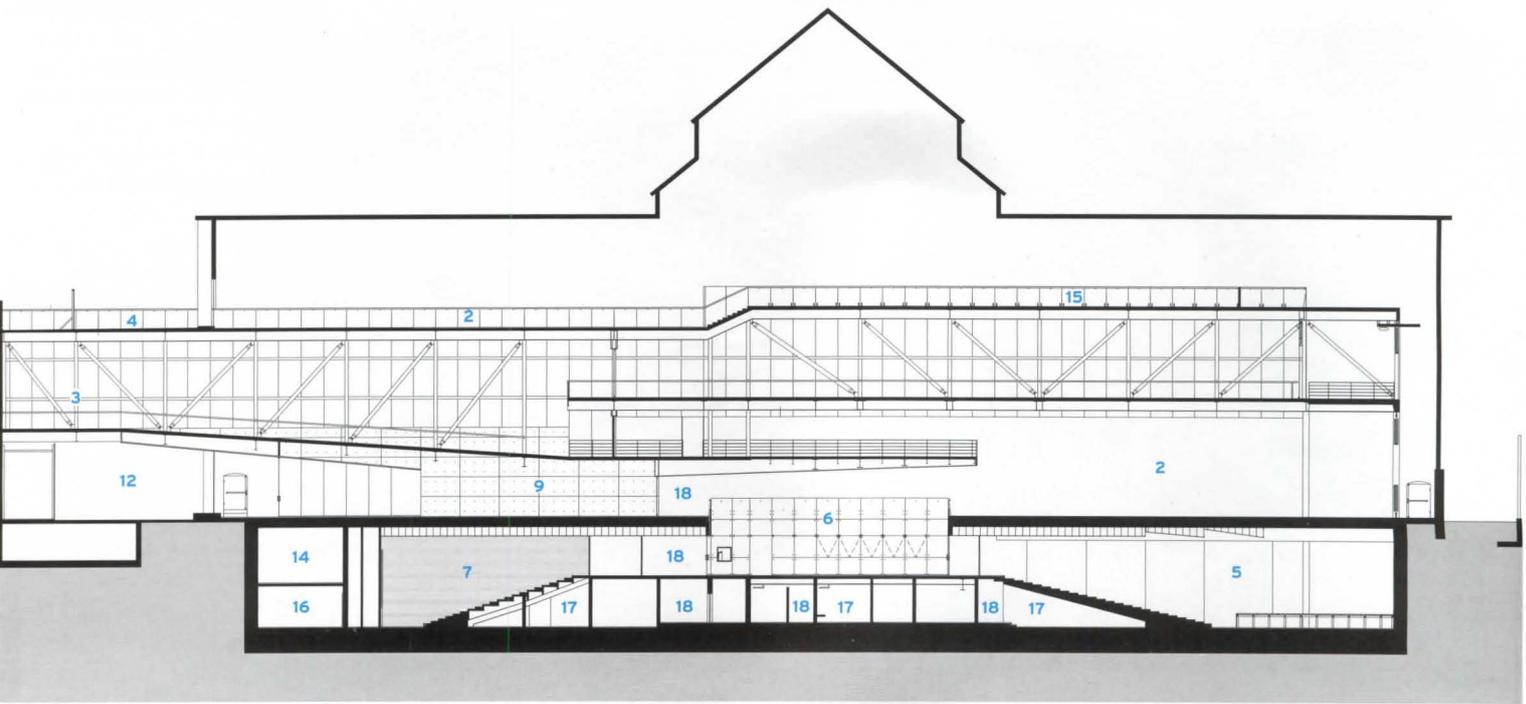
FIRST FLOOR



BASEMENT LEVEL

with it?" While most exhibitions require specialized conditions, not all pieces demand them, especially among contemporary artworks. Understanding the extent of required enclosed space helped determine the scheme. The team, rather than proposing a separate building or extension that would sacrifice the small garden to the west, envisioned an intervention occurring completely within the existing structure. "We became interested in the relationship between the two buildings – the proximities, detachments, and penetrations," says Norten. "We started thinking, This institution deals with all of the different art expressions: theater, music, film, painting, sculpture – what about architecture? So we started looking at how to make this amazing artifact become part of the aesthetic procession of the overall building and how to bring people closer to the different original elements."

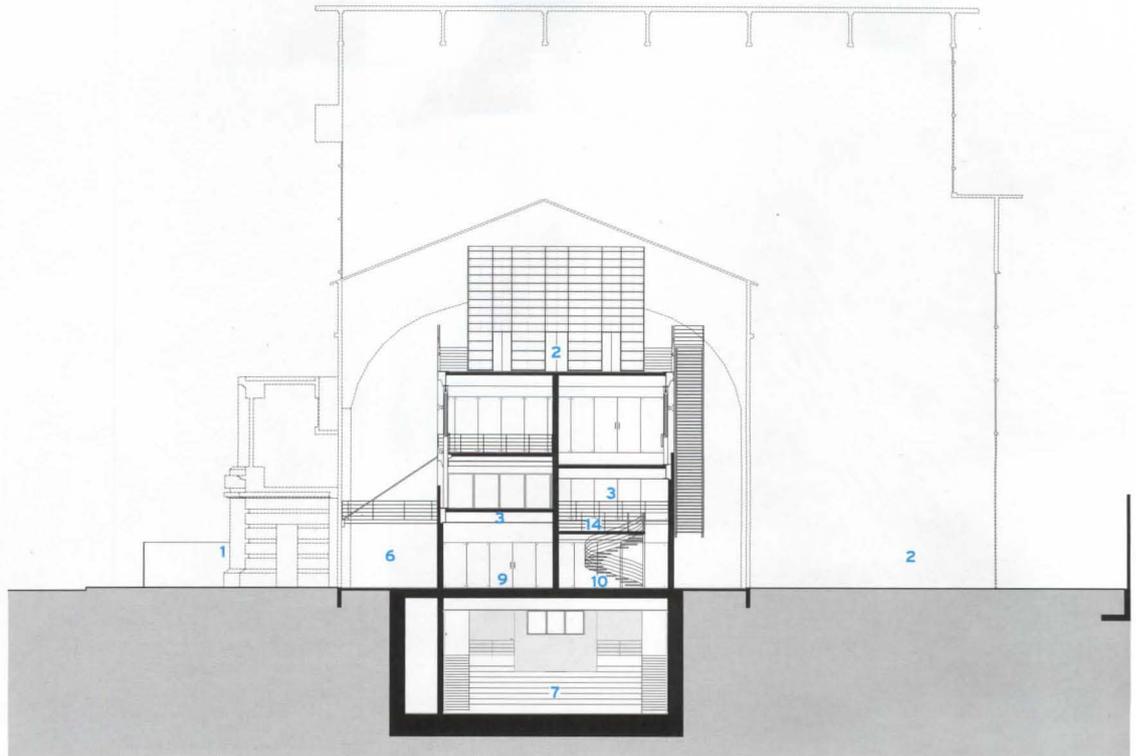
Construction started in 2006. The structure was sound, explains partner in charge Salvador Arroyo, so the team merely cleaned it and replaced the original green and yellow glazing with translucent white panes throughout – with the exception of transparent glass on the north facade, where the insertion bursts through the original wall. To create a 90-seat cinema and 200-seat performing arts auditorium, the team conducted a painstaking excavation down two levels, installing slurry walls and tunneling to avoid touching the old foundation and to prevent the watery ground that is typical of Mexico City from coming into contact with the new excavation and foundation. Above the theaters and surrounded by galleries on the existing structure's ground floor, the insertion rises from a concrete base that juts off to the south as a large cantilever housing a café. Ramp galleries with exposed white painted steel tube structure along their perimeters guide visitors up through the exhibition spaces and are bathed in a gauzy light that penetrates the translucent glazing of the insertion's upper levels. Throughout the



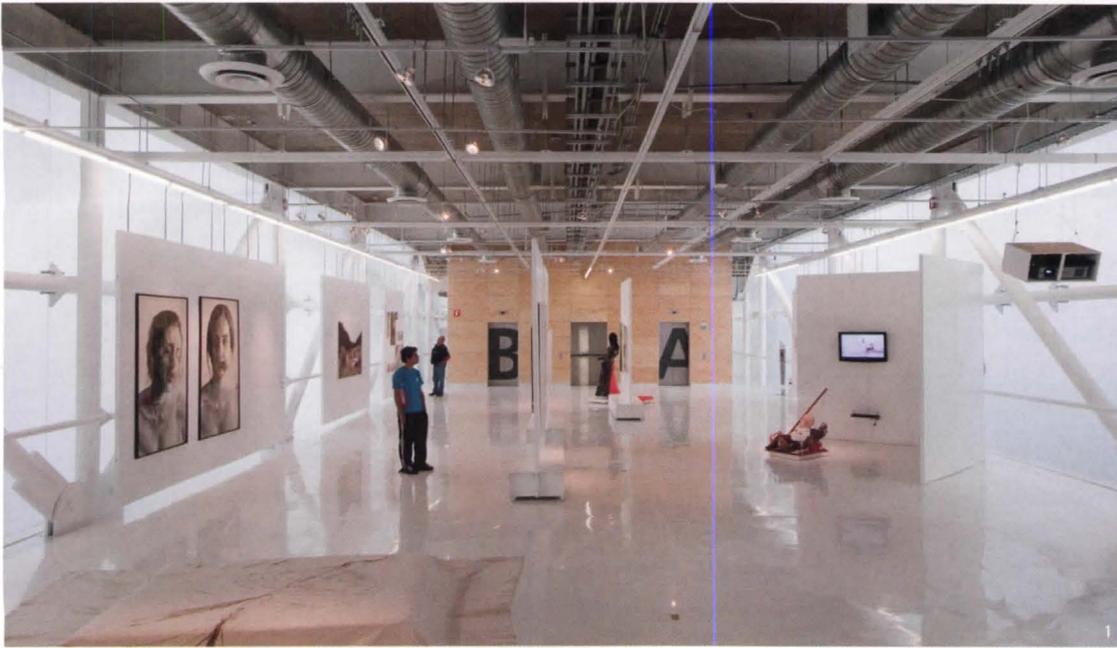
0 20 FT.
6 M.

SECTION A-A

- 1 ENTRY
- 2 GALLERY
- 3 RAMP GALLERY
- 4 TERRACE GALLERY
- 5 THEATER
- 6 LOBBY
- 7 CINEMA
- 8 OPEN TO BELOW
- 9 MUSEUM STORE
- 10 BOOKSTORE
- 11 RESTROOM
- 12 LOADING/SERVICE
- 13 CAFÉ
- 14 MEZZANINE
- 15 INFORMATION CENTER/ARCHIVE
- 16 VAULT
- 17 BACK OF HOUSE
- 18 HALLWAY



SECTION B-B



1. Poured concrete floors with white epoxy resin, exposed white steel tube structure, and translucent glass lend a lightness to the gallery spaces. A plywood-clad shear wall holds the elevator shafts and supports the building seismically.
2. Three sets of fire stairs march in a line across the eastern side of the insertion and serve its various levels.
3. The arched cast-iron trusses and other elements of the original structure are reflected in the insertion's glass-clad upper reaches.
4. The information center and archive occupies the insertion's top level, offering dramatic views of the soaring, cathedral-like space.



2



3

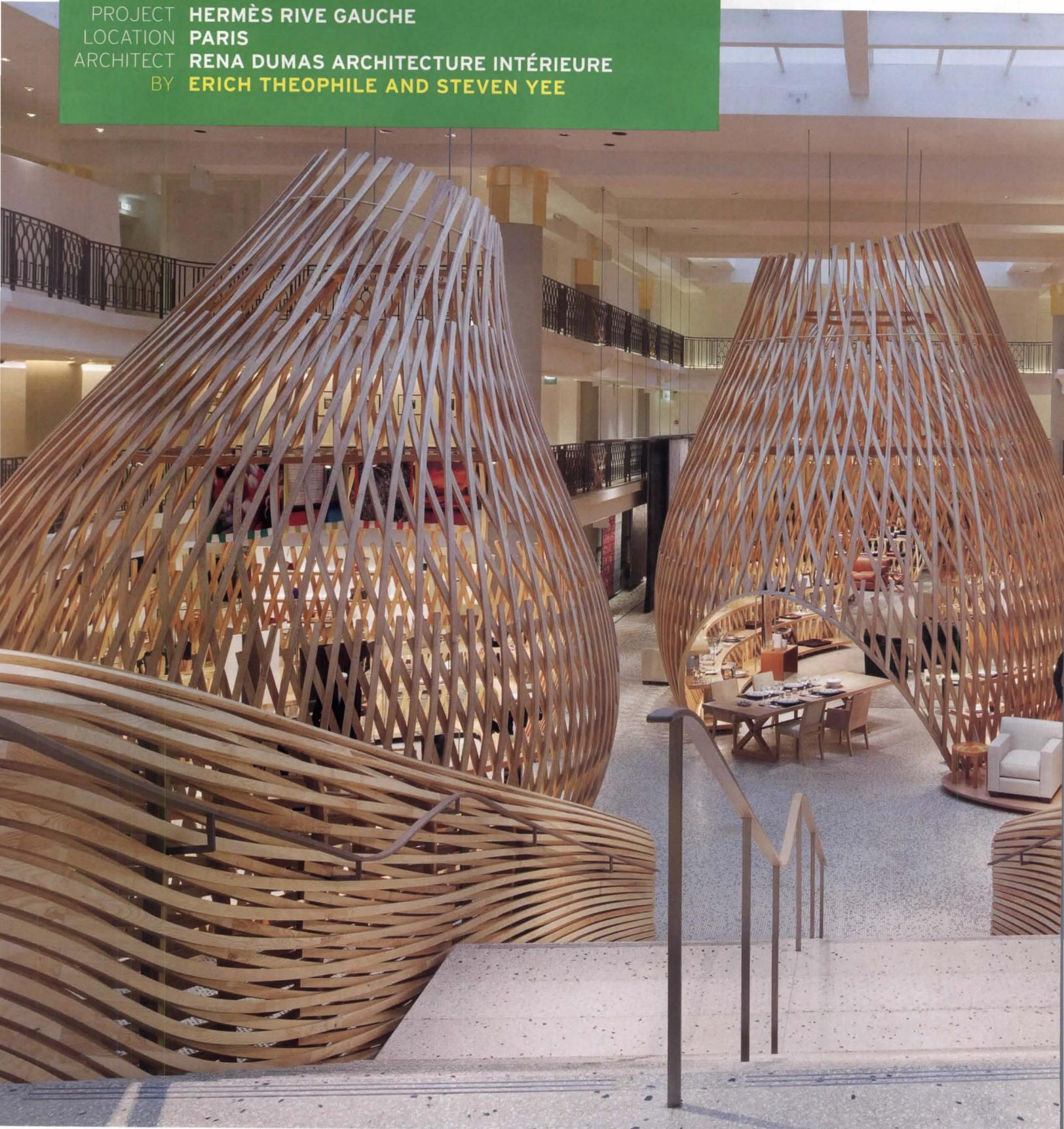
floating volume, the rugged, original structure is ever present: It pushes its riveted arms through galleries and asserts itself 42 feet up, at the top level's information center and archive, an exhilarating platform that nearly brushes the wooden roof beams and arched cast-iron trusses.

Using glass and steel in very different ways from the original application, the architects achieve continuity between the two structures. With this palette they also hoped to render the insertion light and ethereal. But the project bears the scars of a difficult construction process. The discovery of compromised steel tubing led to a series of site audits, the departure of the original construction company, and a halt to construction for about a year. Additional construction and cost issues affected the original design and numerous details, such as critical dimensions for the load-bearing shear wall, among other things; imperfect architectural concrete that had to be masked with plywood panels; and the value-engineering-out of ceilings in the galleries that result in an unfinished, rather than edgy, feel. These problems are magnified by the weak vital signs of the institution. A recent Friday morning visit revealed sleepy galleries, a gift shop with empty shelves, and a café bereft of tables and chairs, let alone a barista.

With a smart scheme and sensitive material choices, TEN Arquitectos' insertion for the Chopo Museum continues the tradition of innovation represented by the original structure and positively highlights architecture in the roster of art expressions that are showcased at the institution. But the project lacks the refinement of detail that the architects had surely intended or that might have been possible elsewhere. With many years of experience practicing both in New York and Mexico City, Norten appreciates the benefits of each locale. "New York provides opportunities to work globally in much more sophisticated conditions," he notes. "I love working in Mexico," he goes on. "I love that condition that is sometimes a little bit messy, a little bit more spontaneous." ■

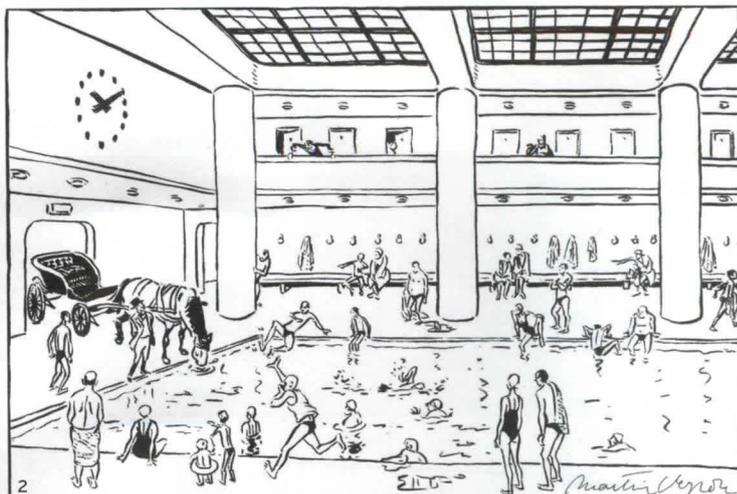


PROJECT **HERMÈS RIVE GAUCHE**
LOCATION **PARIS**
ARCHITECT **RENA DUMAS ARCHITECTURE INTÉRIEURE**
BY **ERICH THEOPHILE AND STEVEN YEE**





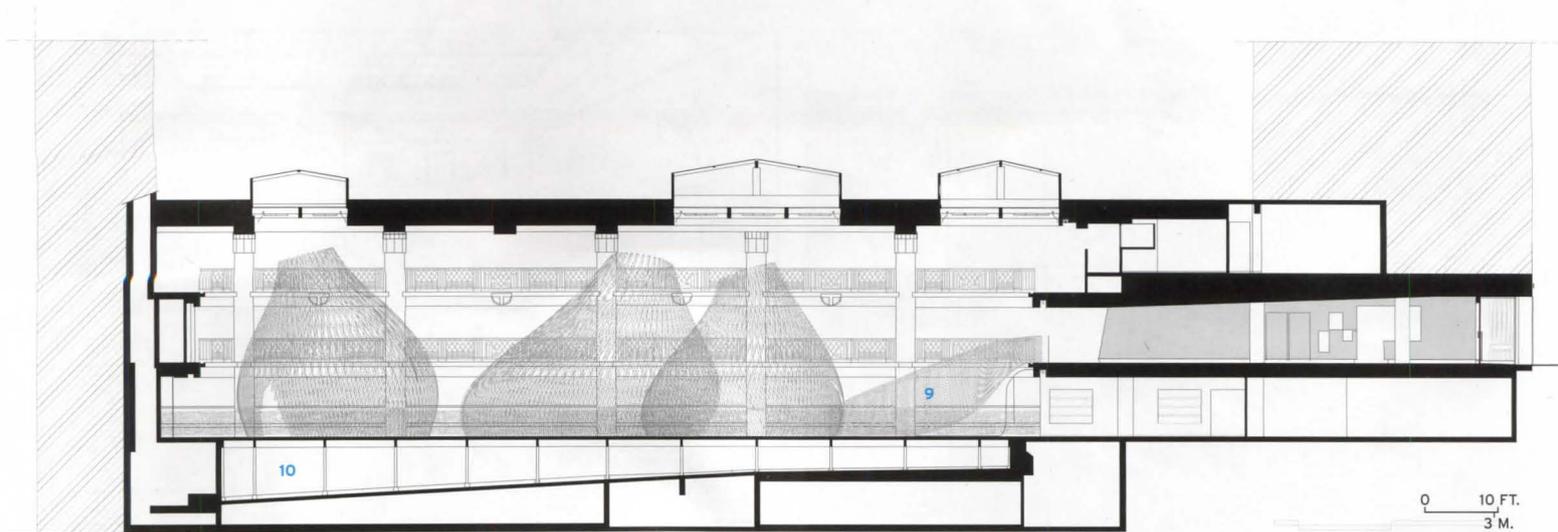
1. A grand stair leads from the street level down to the retail floor, where three huts occupy a space that was formerly a swimming pool.
2. A recent illustration by Martin Veyron recaptures the pool in its heyday, imagining the pool raised to street level to enhance the comic conceit.
3. The exterior of the Piscine Lutetia, designed by Lucien Béguet in 1935, was restored with shop fronts added.



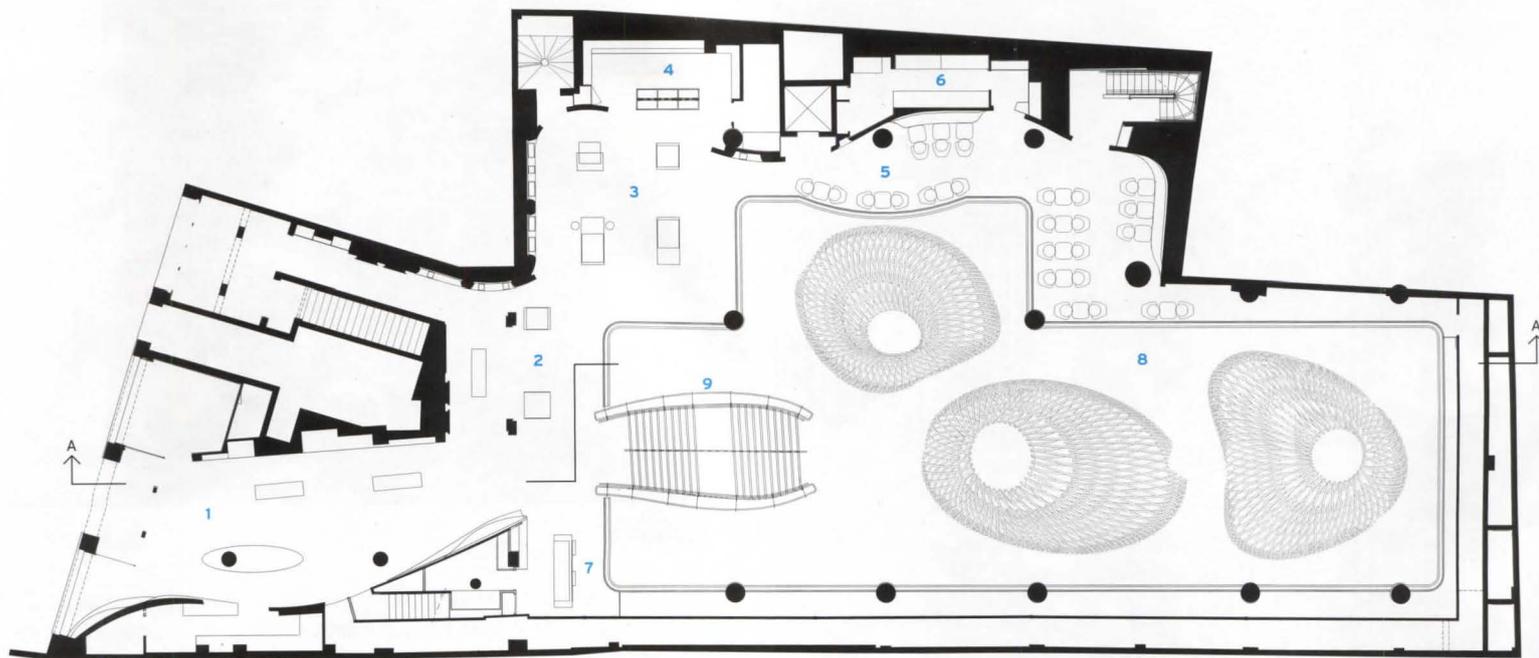
HERMÈS'S NEWEST emporium has an unassuming facade and a pair of store windows with displays of furniture and flowers that fit neatly into the bourgeois row of shop fronts on the rue de Sèvres in Paris's 6th arrondissement. They little prepare the visitor for what lies inside: the dazzling renovation of an Art Deco space that once housed a swimming pool, the Piscine Lutetia, next to the fabled and still extant Hotel Lutetia.

The historical elements of the skylit Olympian-scale three-story atrium, with its rich mosaic tiling and balconies edged with elegant iron fretwork balustrades, vaguely recall the luxury and scale of grand department store interiors. The bold introduction of three 27-foot-tall huts – varied in size and made of an open lattice of organically shaped ash wood – suggests a contemporary museum space. This same wood elegantly flanks the new staircase structure that brings the visitor from street level down to the historic pool level – some 12 feet below.

In this adaptive reuse converting an indoor swimming pool into a store, Denis Montel, the architect and managing and artistic director of Rena Dumas Architecture Intérieure (RDAI), which has designed a number of Hermès stores, created the undulating structures. These intimate yet permeable display pavilions are intended to “inhabit and divide the space” of the 16,000-square-foot main floor, Montel emphasizes, and establish a dialogue with the rectilinear lines of the 1935 pool interior originally



SECTION A-A



STREET LEVEL

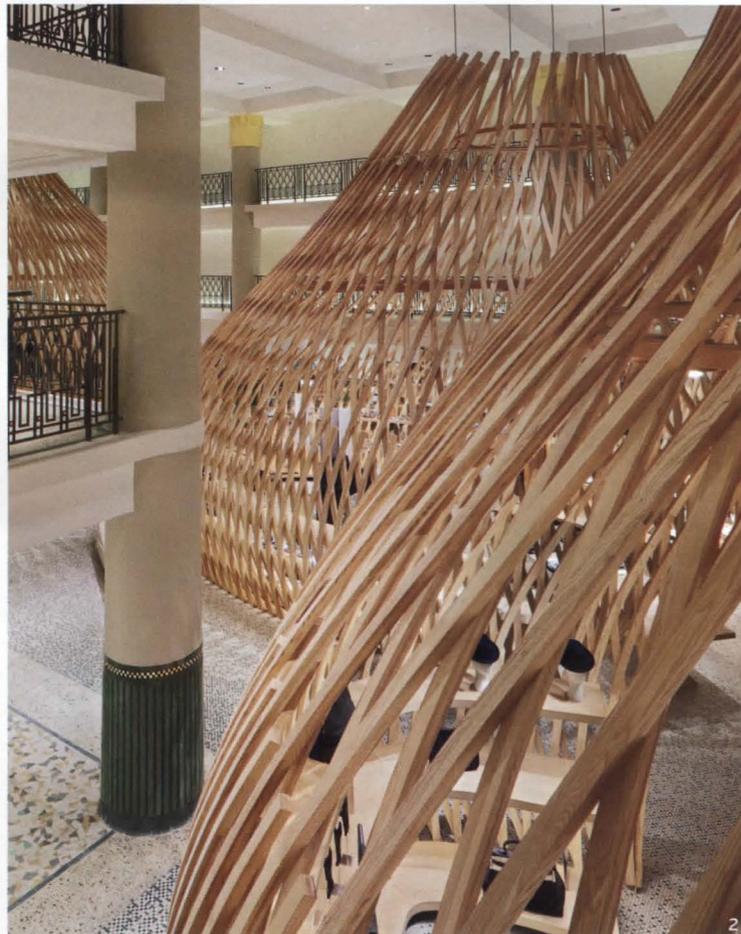
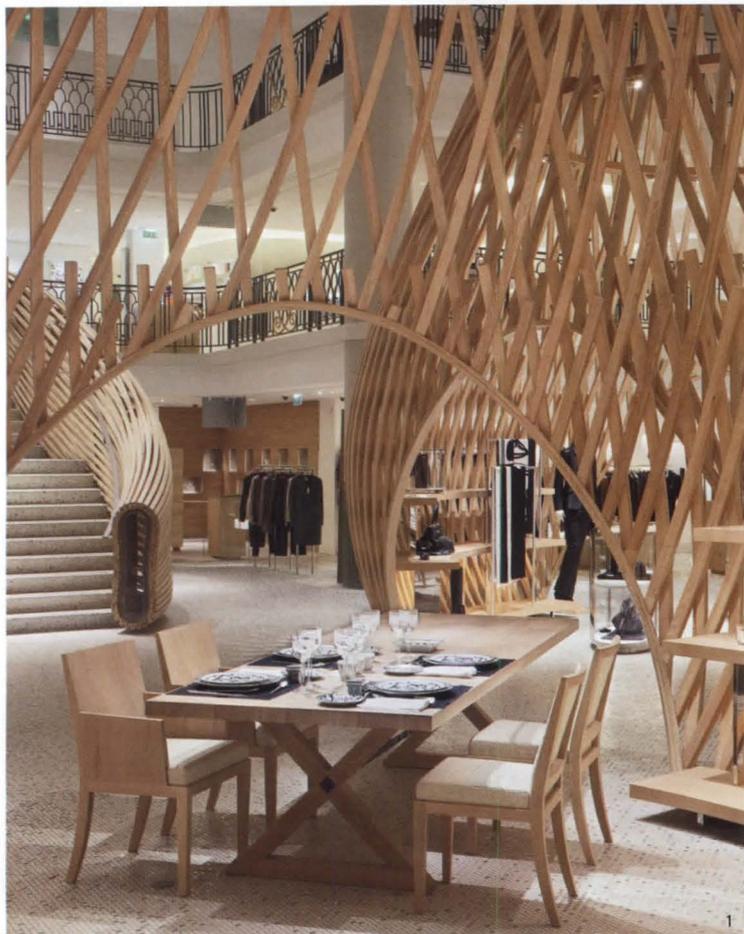
- 1 FLORIST
- 2 SCARVES
- 3 LEATHER GOODS
- 4 BOOKS
- 5 CAFÉ/TEA SHOP
- 6 KITCHEN
- 7 CASHIER
- 8 LOWER FLOOR
- 9 STAIR
- 10 POOL CAVITY

CREDITS

ARCHITECT: Rena Dumas Architecture Intérieure – Denis Montel, artistic and managing director; Dominique Hébrard, assistant artistic director and interior architect; Sybil Debu.
ENGINEERS: Bollinger + Grohmann Sarl (structural)
CONSULTANTS: L'Observatoire International
CLIENT: Hermès Sellier, France
SIZE: 23,197 square feet
COST: Not available

COMPLETION DATE: November 2011

SOURCES
METAL FINISHES AND SPECIAL HARDWARE: Société Gendre
PLASTER CEILING FINISHES: Blanch'Art
PAINTS AND STAINS: Alesia Peinture
FLOOR AND WALL TILE: Européenne de Marbre



designed by Lucien Béguet. The new biomorphic insertions also successfully mediate the scale between the atrium's volume and the smaller display counters and merchandise.

Since the site is a registered "monument historique" but is not classified, the law allowed some stylistic leeway in its restoration. "It is rare for a listed building in France to be developed exclusively into a commercial retail space," Montel notes. Mosaics composed of ceramic and glass tiles in different dimensions and colors constitute a key surviving historic feature of the interior. RDAI restored many of the mosaics and designed new ones for certain areas. Indeed, the floor laid on top of the pool is composed of new ceramic and glass tiles, as well as broken old ones. "The mosaic pattern covering the pool cavity was designed to evoke the movement of waves and shimmering water," says Montel. "The random approach and use of graduated tones create

effects of depth accentuated by the play of light," he adds.

In the cavity itself the architects inserted steel framing on which the new mosaic floor was laid. The footprint of the former pool is evident from the shallow "gutters" around the perimeter of the main retail floor. The gutters, which are surfaced in these new tiles, were required to be preserved. In the event that Hermès or a future tenant wanted to reinstate the pool, the flooring and its underlying supports can be removed, and the historic gutter locations remain in place.

The small changing cabins, or *vestiaires*, on the two upper, balconied floors were removed before the site was registered in 2005; now the uninterrupted white walls behind these narrow balconies provide a handsome foil for the original black iron balustrades. But they do make the upper atrium floors appear mysteriously uninhabited, while elsewhere on the entrance level the

café/tearoom, a florist, and a bookshop proclaim the new Hermès "experience" – programmatic variations of those experiences offered by hip Paris boutiques and shops elsewhere.

This store, the company's 334th, showcases a line of home furnishings, including most notably the company's reissues of Jean-Michel Frank's furniture designs for Hermès, as well as its signature scarves, ties, leather goods, and ready-to-wear clothing. The success of this two-year renovation and restoration project is consonant with the carefully managed Hermès brand itself – a mix of tradition, contemporary craftsmanship, and an ever-evolving definition of luxury. ■

Erich Theophile, trained as an architect, and Steven Yee are coprincipals of H. Theophile, a New York architectural hardware company.

1. The cavity of the 1935 pool was filled in and covered with a slab on which mosaic tiles are laid.

2. The freestanding huts of ash wood are supported by wood laths with double radius curves. LEDs installed inside the huts give them a lanternlike quality, while three skylights dramatically illuminate the space during the day.

PROJECT **KRAANSPOOR**
 LOCATION **AMSTERDAM**
 ARCHITECT **OTH**
 BY **TRACY METZ**



1. In the postwar heyday of the shipping industry, huge ships were constructed alongside this concrete *kraanspoor*, literally “crane track,” after which the project is named. The architect maintained the structure but added a light box of glass and steel that appears to float above the harbor basin.
2. Kraanspoor has a double-glass facade: an outer layer with mechanized louvers and an inner one with doors that open out onto a buffer zone in between.
3. The architect designed three floors of offices that perch on top of a thin concrete slab and steel columns, which rest on the existing concrete structure.

ON A BRIGHT Sunday morning, the Dutch designer Trude Hooykaas rode her bike to the ferry to the northern part of Amsterdam, across the sea arm called the IJ. She was looking for a new location for her firm, OTH (Ontwerpgroep Trude Hooykaas), now called OTH Office for Architecture and Interior Architecture, and thought there might be an interesting derelict industrial building in the former harbor area. She found something that until then she hadn't even known existed: a huge concrete structure to which ships had been moored while being assembled.

"I knew right away that this was it," she says. "Nowhere in town were there panoramic views of the water and the city like there are here. I thought: I'll put a glass box on top of it that will be as light and transparent as the base is heavy and solid." It took 10 years of persistence, but she did it.

The original structure was built in 1952 in the water of the harbor basin as part of the Dutch Dock and Shipbuilding Company's facilities. Two cranes moved up and down tracks on top of it, hence the name Kraanspoor, meaning "crane track." The concrete pier was the final stage of a shipbuilding "assembly line" that spanned the entire harbor basin. More than a thousand luxury passenger ships were built at the wharf, as well as bridges, sluice doors, and even radiators. In 1984, however, the company went bankrupt. The track with two cranes on top of it stood there for many years, a powerful but obsolete expression. The city never expected to find a new use for it and had already signed off on a demolition permit.

The size and type of structure for the top was determined by the load-bearing capacity of the base. The concrete had deteriorated with time and needed to be restored and reinforced in some places. For the sake of both lightness and transparency, Hooykaas designed a three-story box of glass and prefab steel with floors of concrete slabs

only about 2 3/4 inches thick. "We tried to make architecture by making as little architecture as possible," Hooykaas explains.

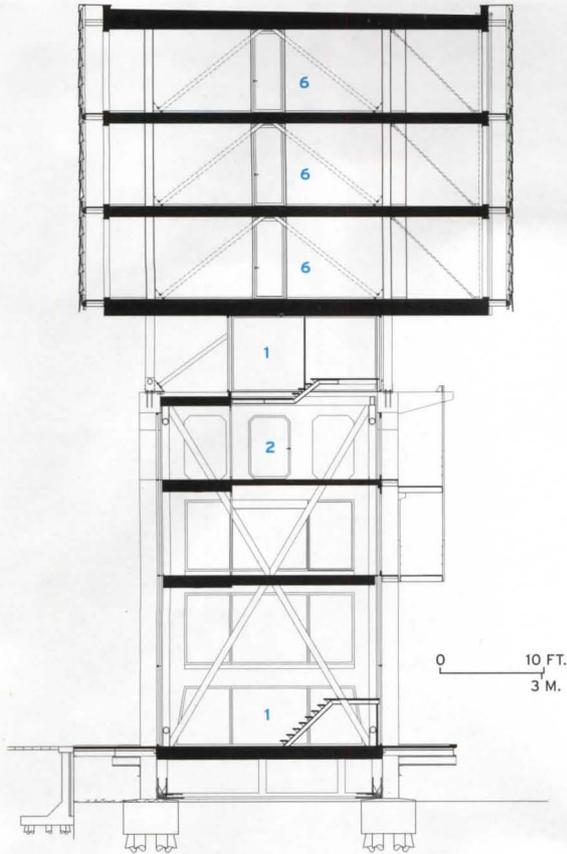
The 886-foot-long, 38-foot-high, and 43-foot-wide box, with a volume of approximately 423,700 cubic feet, is supported by slender steel H-profiles, which in turn rest on the concrete columns of the original structure. "There is a 10-foot-tall gap between the two structures," says project architect Julian Wolse. "That is essential to mark both the contrast and the coming together of old and new." While the entire concrete structure stands in the water, one side abuts the quay, where Hooykaas added wooden decks to facilitate access into the building. Here again, new follows old – the box stands asymmetrically on the base, with slightly more overhang on the water side, miming the concrete base, which is also heavier on the water side to compensate for the weight of the cranes that swung material onto the ships being assembled there.

Although Hooykaas succeeded in preserving the structure, the two cranes had to be blown up to make way for the new addition. The metal walkways along the water side that gave the workmen access to the ships are still there but have been re-created in modern materials with the function of fire escape routes.

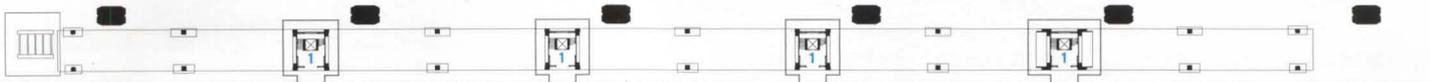
The building is still accessed through the four original entrances, with oak stairs wrapped around the core of the glass elevators leading up to four separate lobbies. Into each of these access points Wolse sunk prefab steel frames with trusses to guarantee stability in strong winds. A striking feature becomes visible from the circulation pathway – one has a view of the octagonal openings in the concrete slabs that provide lateral stability. That sensation of peering into an optical illusion of receding openings gives the massive structure a surprisingly airy feeling – the heavy lifter and the ballerina.

Ever since Mies, glass boxes have

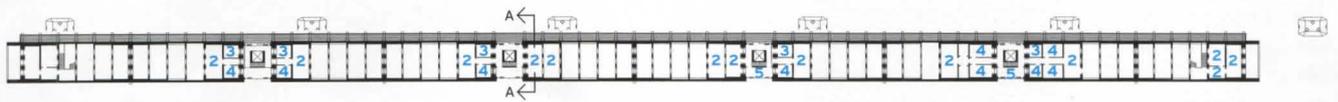




SECTION A-A



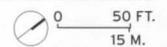
GROUND FLOOR



SECOND FLOOR



FOURTH/FIFTH/SIXTH FLOOR



- 1 PANORAMA LIFT AND STAIRS
- 2 ARCHIVES/STORAGE
- 3 DISABLED ACCESS RESTROOM
- 4 BUILDING SERVICES
- 5 MEETING ROOM
- 6 OFFICE
- 7 EMERGENCY STAIRS
- 8 LIFT LOBBY

1. In its new incarnation as an office building, Kraanspoor uses the four original access points it had when it served as a ship assembly pier. The areas have been glazed, with glass elevators and oak stairs inside and wooden decks that connect them to the quay.

2. Television production company IDTV located its corporate restaurant on the top floor so employees could enjoy the view.

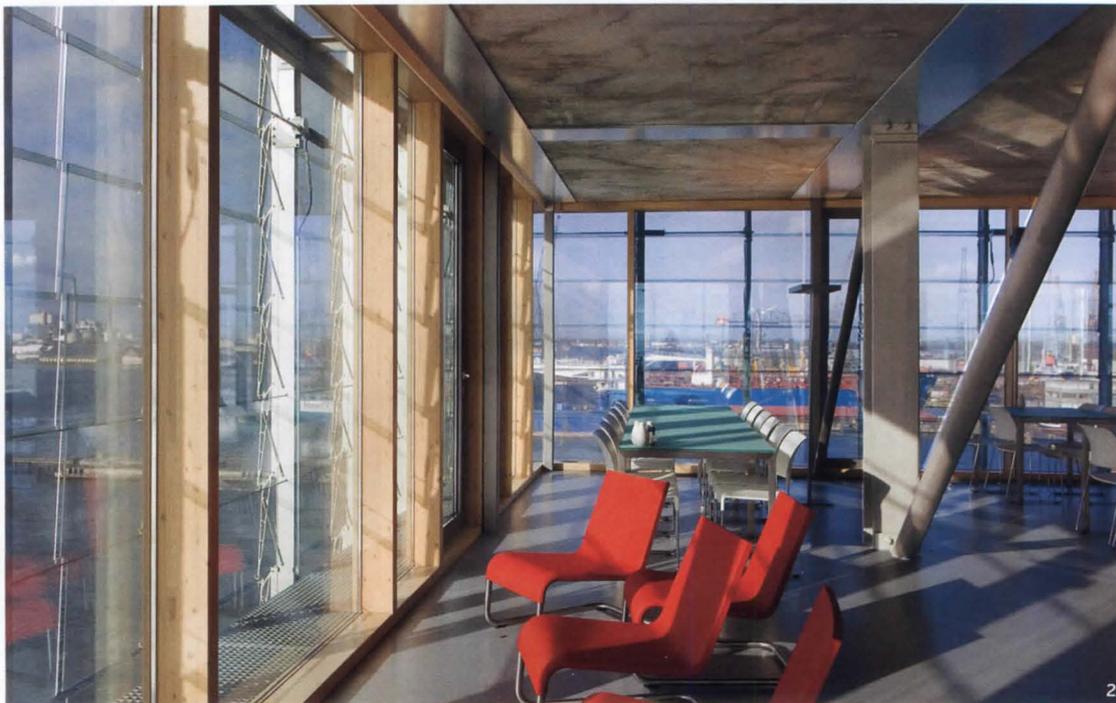
3. Fully glazed walls fill meeting rooms with abundant light, which reflects off the textured concrete ceilings and makes the spaces bright and welcoming.

presented challenges with respect to controlling daylight and temperature. Kraanspoor is heated and cooled by water pumped up from 26 feet below in the harbor basin. The water is brought to a constant temperature by a heat exchanger, then pumped through pipes in the concrete floor slabs. The outer skin of the facade on the land side is fritted with charcoal-gray dots to reduce glare and heat. "The entire glass box has a double skin," Wolse explains. "The outer facade is made of motorized glass louvers; the inner one is floor-to-ceiling glass panels and doors in wood frames. The zone between facades acts both as a buffer against outdoor temperatures and wind, as well as a source of natural ventilation through the hollow floors. And the window washers can get to both layers from here."

Does it work? Susanne van der Klugt, manager of communications at IDTV, a television production company that rents half the building, speaks from experience. "The building is beautiful and the view is magnificent," she says. "The daylight is not a problem. Thanks to the glass louvers, we can modulate the light so that it does not create glare on our computer screens. On one side of the building, we did hang up roll-down blinds for when the sun is low. The climate control could be better. It can be too cold in one part of the office and too hot in another."

In the end, the project had only one disappointment for Hooykaas. She retired while it was still under way, and her successors decided not to move in after all. Instead, eight media companies occupy the building. Altogether, it has served as a cornerstone for redevelopment — thanks to projects like Kraanspoor, Amsterdam-North is gradually blossoming into a locale for Amsterdam's creative economy.

Transformed from a relic into an icon of Amsterdam's industrial heritage, Kraanspoor presents a striking addition to the skyline, especially at dusk when the glass box, lit from within, seems to float weightlessly above the water. ■



CREDITS

ARCHITECT: OTH Office for Architecture and Interior Architecture – Trude Hooykaas, design director; Julian Wolse, project architect; Steven Reisinger and Gerald Lindner, team

ENGINEERS: Aronsohn Raadgevende Ingenieurs (structural); Facade Consulting & Engineering (facade)

CONSULTANTS: Huygen Installatie

Adviseurs (lighting); M.J. de Nijs en Zn. and Bot Bouw (contractors); Grontmij (project management); Lichtveld, Buis & Partners BV (acoustics)

CLIENT: ING Real Estate Development

SIZE: 134,549 gross square feet

COST: \$32.95 million

COMPLETION DATE: November 2007

SOURCES

CURTAIN WALL: Brakel Atmos BV

FLOORS: Prefab Limburg

STEEL WINDOWS: Scheldebouw

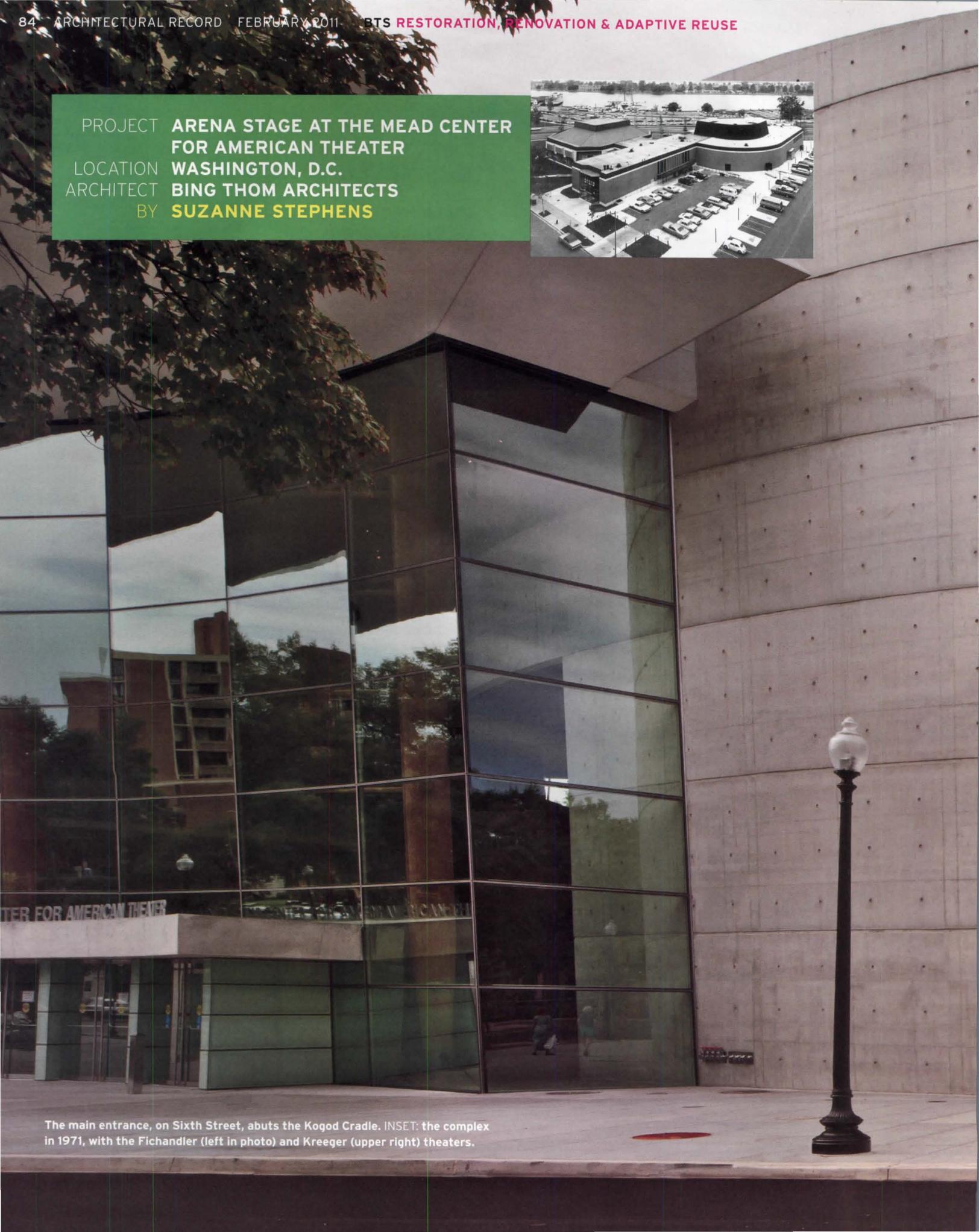
GLAZING: Permasteelia

DOORS: Scheldebouw

ACOUSTICAL CEILINGS: Slimline Buildings

LIGHTING: Zumtobel Lighting

PROJECT **ARENA STAGE AT THE MEAD CENTER
FOR AMERICAN THEATER**
LOCATION **WASHINGTON, D.C.**
ARCHITECT **BING THOM ARCHITECTS**
BY **SUZANNE STEPHENS**



The main entrance, on Sixth Street, abuts the Kogod Cradle. INSET: the complex in 1971, with the Fichandler (left in photo) and Kreeger (upper right) theaters.

ARCHITECTS ASSIGNED TO create an addition to an existing structure often face a delicate task. The original work is revered not only for its history but for its craftsmanship, materials, and quality of design. Happily this was not the case with the \$135 million Arena Stage at the Mead Center for American Theater in Washington, D.C. The two theaters at Arena Stage – the 683-seat Fichandler (1961) and the 514-seat Kreeger (1971), both designed by Chicago architect Harry Weese – provided significant theatrical contributions to the nation's capital. But they could not be described as Weese's shining moment, on the level of his concrete coffered, vaulted Washington Metro stations that opened in 1976.

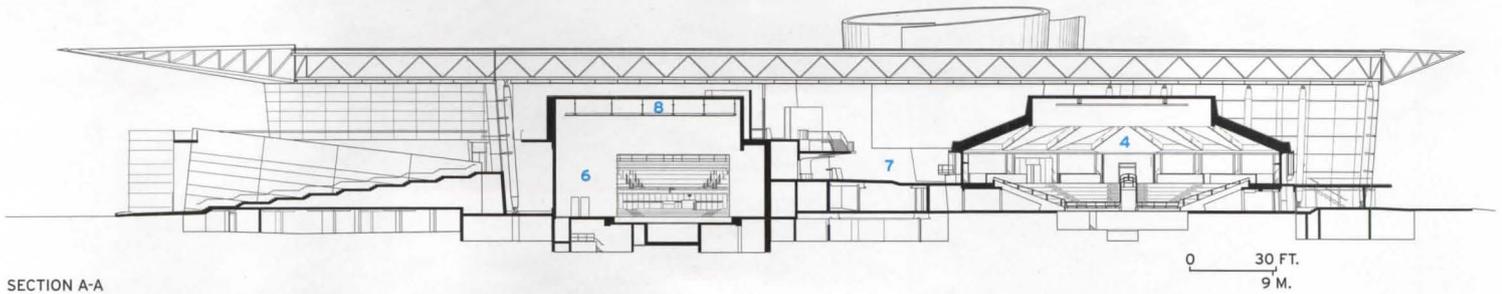
It can definitely be said that the 200,000-square-foot Arena Stage, just renovated and expanded by Bing Thom Architects, improves upon what was found. Thom's swallowing up the lumpy late Modernist theaters in a glass case may have concerned some preservationists, but it helped tie the two together on this triangular site in the southwest part of the city – initially part of an urban renewal area that may be further uplifted by a waterfront redevelopment plan. Yet the overall scheme does deploy some quixotic design gestures that ignore certain notions of scale, proportion, and the use of a consistent architectural vocabulary. But more about that later.

Considering the success of the nonprofit organization founded in D.C. in 1950 to promote regional theater, the Arena Stage's current artistic director, Molly Smith, saw the need to add a third, 200-seat experimental theater to the existing ones. She didn't want the usual "black box," and Thom's vine-covered Chan Centre for Performing Arts in Vancouver, Canada (1997) appealed to her. The Hong Kong-born, Vancouver-based, Berkeley-trained architect was selected from 150 contenders.

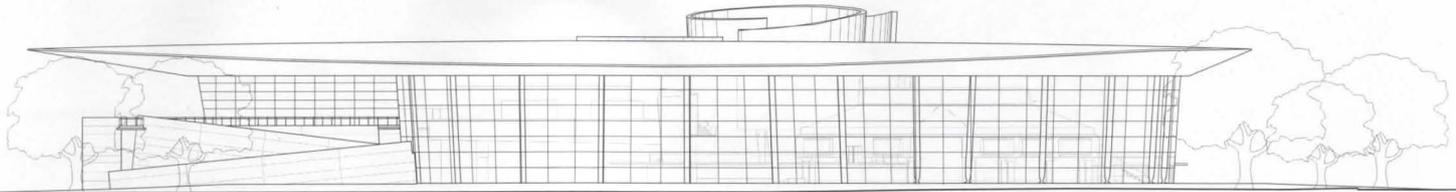
Since the Fichandler and the Kreeger theaters had acoustical problems (mainly jet noise from a nearby airport), bringing the three

ARENA STAGE at the Mead Center
1101 Sixth Street



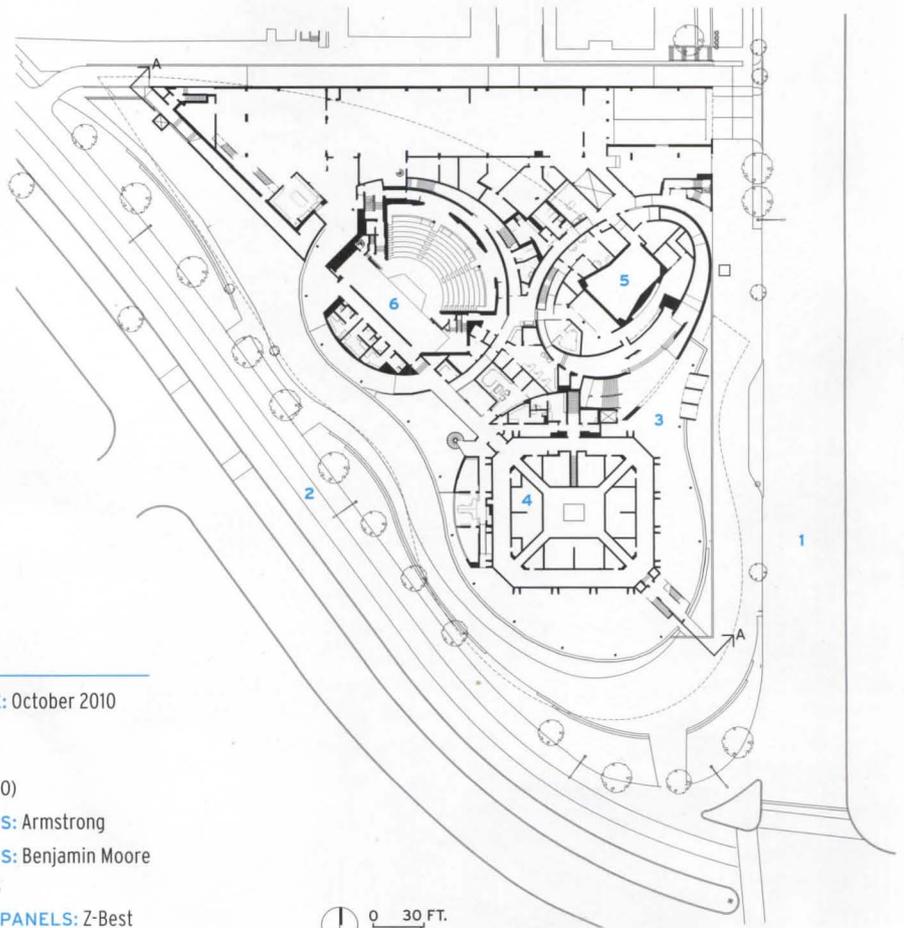


SECTION A-A



SOUTHWEST ELEVATION

- 1 SIXTH STREET ENTRANCE
- 2 MAINE AVENUE
- 3 FOYER
- 4 FICHANDLER STAGE
- 5 KOGOD CRADLE
- 6 KREEGER THEATER
- 7 BAR/LOBBY
- 8 CAFÉ



0 30 FT.
9 M.

LEVEL TWO

CREDITS

ARCHITECT: Bing Thom Architects – Bing Thom, AIA, and Michael Heeney, principals; James Brown, project director

ENGINEERS: Fast & Epp (structural); Stantec in association with Vanderweil Engineers (electrical); Yoneda & Associates (mechanical); Wiles Mensch Corp. (civil)

CONSULTANTS: Talaske (acoustics)

CLIENT: Arena Stage

SIZE: 200,000 square feet (gross)

COST: \$135 million

COMPLETION DATE: October 2010

SOURCES

ROOF: Firestone (TPO)

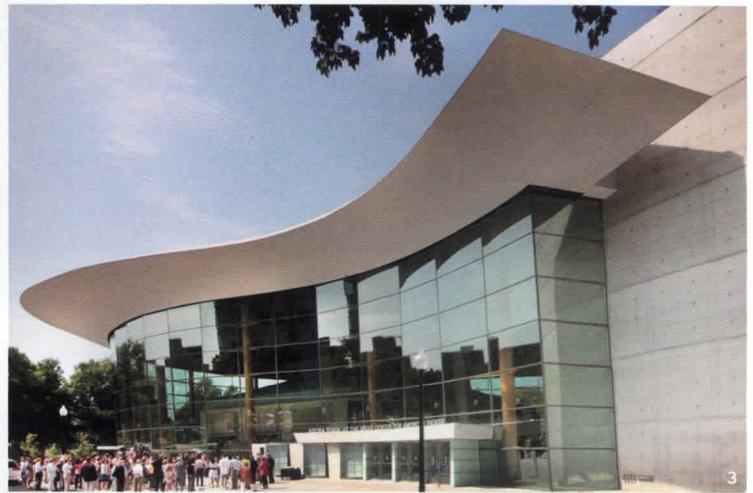
ACOUSTIC CEILINGS: Armstrong

PAINTS AND STAINS: Benjamin Moore and Pittsburgh Paints

ACOUSTIC FABRIC PANELS: Z-Best Wallcoverings

DIRECT APPLIED FINISHING SYSTEM:

BASF Wall Systems (Senergy Acrylic)



together under one swerving, 500-foot-long roof and encasing the two older structures behind a 45-foot-high glass curtain wall proved to be a viable solution.

Eighteen parallel strand lumber columns of Douglas fir going up as high as 56 feet support the roof's steel trusses, girders, and rafters. This structure, enabling dramatic cantilevers, is topped by a thermoplastic polyolefin (TPO) membrane and edged by a white acrylic stucco knife-edged canopy.

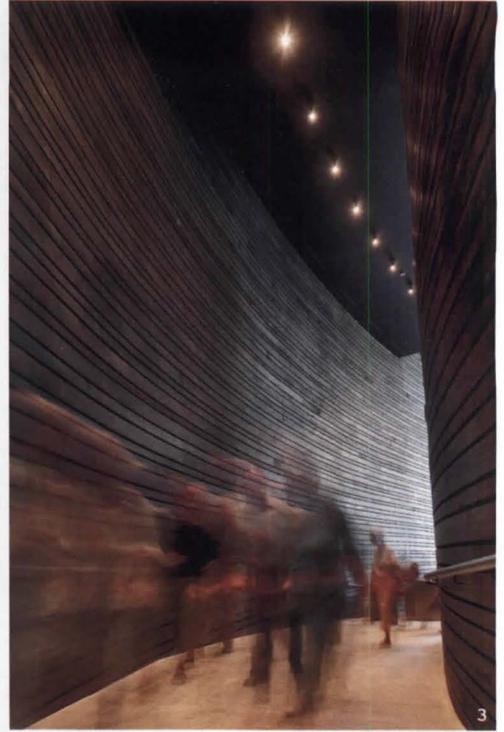
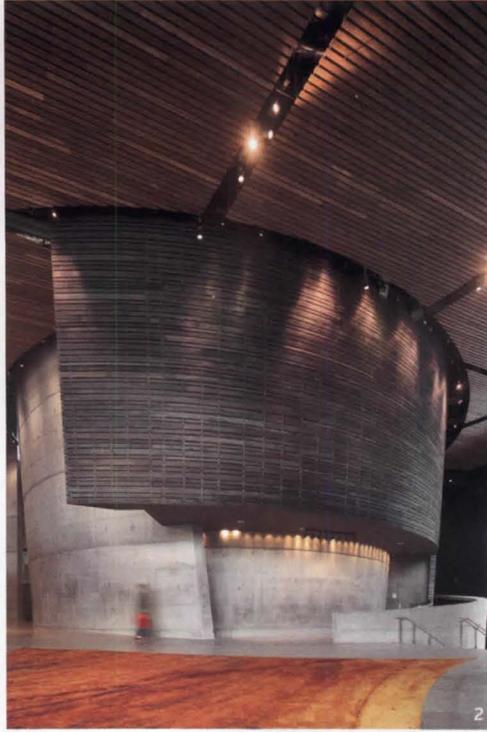
The entire enclosure hooks into a swirling poured-in-place concrete hub – the newly added third theater, named the Arlene and Robert Kogod Cradle. This beehive provides the center's "massive ballast," in Thom's words, since it shares some of the structural load of the roof, in addition to accommodating wind

shear and resisting rotation.

Theatergoers enter the complex from Sixth Street, where stairs lead from the ticketing area up to a main lobby connecting the three theaters. A large undulating window wall allows visitors to look out to the Washington Channel and catch a glimpse of the Jefferson Memorial in the distance. From this level they also enter Weese's original Fichandler, jutting up like some giant slumbering sea creature with its scales (brownish brick and seamed metal roof) intact. Inside the theater, the architects kept the Fichandler's boxing ring plan, only removing back rows of seating to insert acoustical reflectors.

The semicircular Kreeger, now with a café on its top and ramps around its outer walls, is embedded in new construction. But it nicely establishes a counterpart to the

1. From the main lobby, theatergoers enter Harry Weese's Fichandler Stage (1961) or gaze out the glass window wall to the Washington Channel.
2. The elevation along Maine Avenue emphasizes the center's glassy amoeboid shape with a cantilevered roof sailing over an upper-level terrace.
3. The main entrance to the center, along Sixth Street, is embedded in the glass wall topped by a white canopy, which is supported by timber columns.
4. The Fichandler kept its arena plan, although it was reduced by 200 seats for acoustical modifications.



nearby spiraling ramp that takes theatergoers into the Kogod Cradle, whose concrete walls are 4 degrees off the plumb line, as are the timber columns. The experience, intentionally reminiscent of entering a Richard Serra Cor-Ten steel sculpture, is pure theater – especially when arriving at the interior of the Kogod, where the oval room is sheathed entirely in stained-black poplar slats woven to solve acoustical problems inherent in the rounded shape (see page 108).

The backstage areas of the theaters are labyrinthine, but connect to expansive and light-filled scenery and costume shops on the lowest level. In addition, administrative offices below are visible from the lobby on the south side where the floor is pulled away from the outer wall.

Uniting three theaters under one

roof seems to have created a vibrant, humming, dramatic center. As an architectural entity, however, the combination of elements generates syntactical and semantic peculiarities. While the curves follow an organic flow, the combination of the swirling canopy, the glass-paneled and cable-suspension curtain wall, and the timber columns introduce divergent associations: They range (in order) from Miami Modern hotels to high-tech offices designed by Norman Foster and finally to civic structures in the Northwest woods.

The three elements lack consistency and tectonic unity, exaggerated by the structure's large size and ambiguous proportions. When a curtain wall extends blithely to a point at which it is cut off suddenly by the lid of the overhanging roof, even abstractly Modern forms can

seem lacking in human scale. To be fair, Thom wanted to counter the rectilinear, stolid limestone blocks of the city's architecture with a transparent, free-form shape. And he did.

Yet the sense of scale and proportional principles of traditional architecture needn't be jettisoned entirely. More than a hundred years ago, in *RECORD*'s pages, Montgomery Schuyler criticized eclectic architecture of the late 19th century for its solecism, or lack of grammatical consistency. Schuyler may have been referring to columns and capitals mixed with gables and gargoyles, but Thom's approach could be described by this term too. Even if the Kogod achieves an integration of structure and form, and the interior plan unifies all, the overall enclosure is too much of a jingle-jangle. ■

1. From the fourth-level terrace and café, theatergoers descend stairs between the Kogod Cradle and the Kreeger (on the right).

2. Poplar wood stained black partially wraps the exterior of the concrete Cradle and its entry ramp. Next to it, the grand stair leads down to the main entrance on Sixth Street.

3., 4. Theatergoers walk along the curved ramp where enclosing walls tilt 4 degrees off plumb. They soon arrive at the oval auditorium.

5. The interior of the Kogod Cradle, an intimate 200-seat space, required special acoustical treatment using a poplar-wood basket weave.



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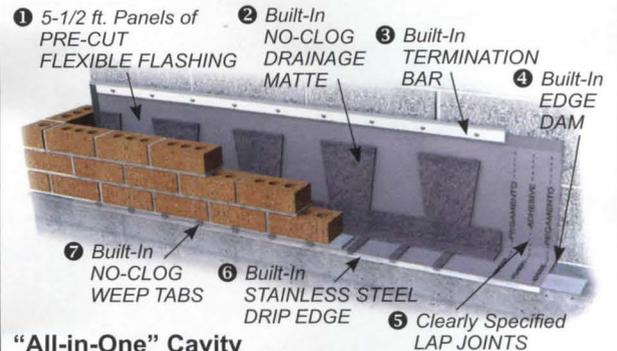
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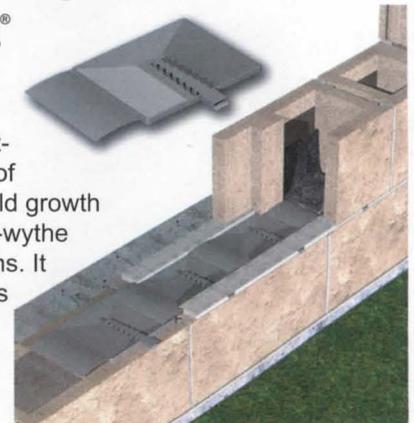
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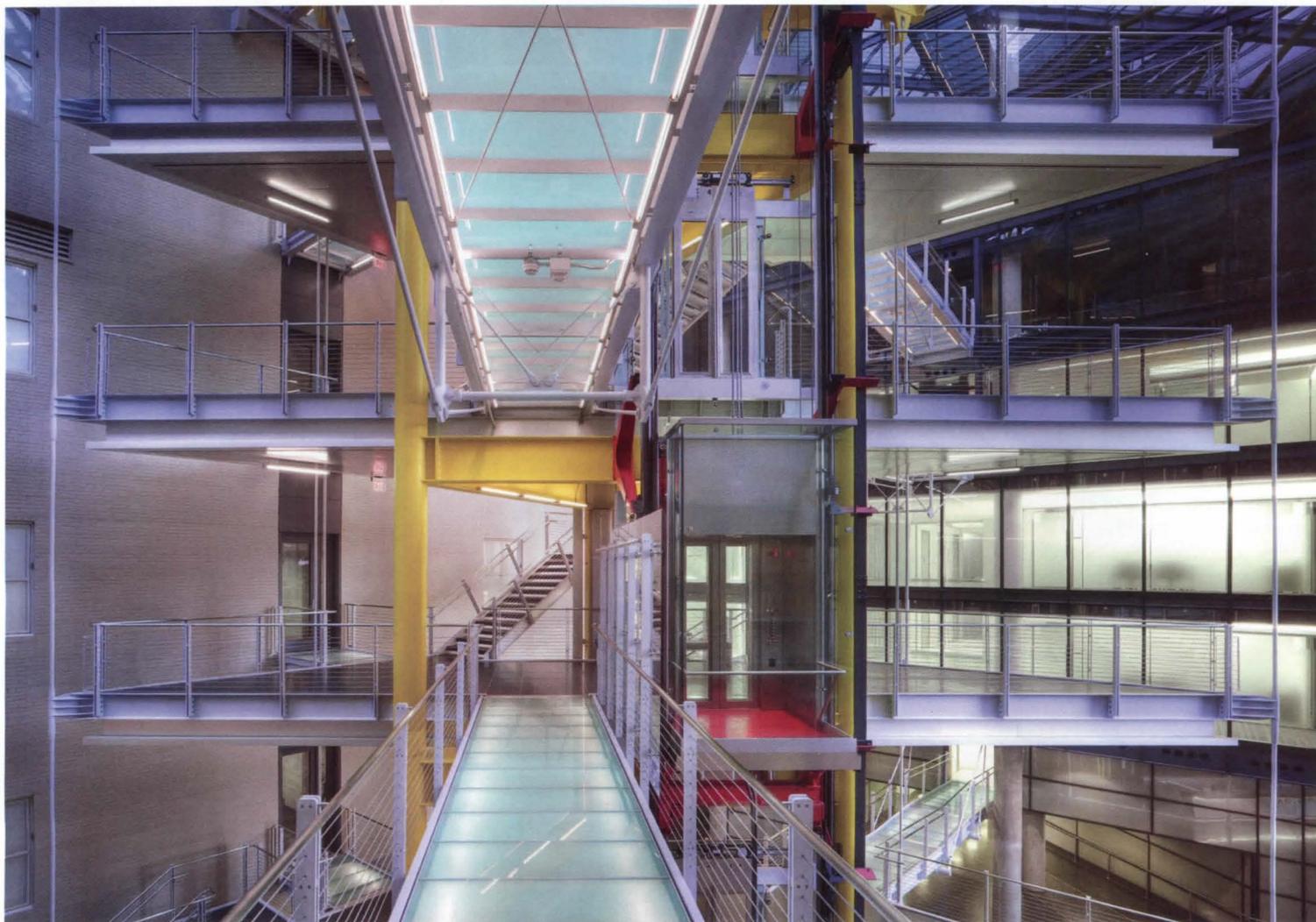
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WASHINGTON, D.C.

RSHP teams with lighting consultant MCLA to illuminate three generations of office buildings. *By David Sokol*

MAUREEN MORAN, WHOSE studio, MCLA, counts among the four largest lighting consultancies in the nation's capital, can design an office for a Washington attorney in her sleep. "Coves, everything concealed," she describes without a moment's hesitation. "[D.C.] law firms like dark wood, but it looks great only under halogen." Which, she adds, is difficult to use due to increasingly stringent sustainability mandates.

Against this white-shoe experience, Moran was admittedly incredulous when Dennis Austin, a project architect at the London-based Rogers Stirk Harbour + Partners (RSHP), began to describe a project they would be collaborating on in D.C. As Austin sketched the design, she recalls, she couldn't help wondering if the project would really pass muster in Washington.

The work in question is a new 10-story office mid-rise and an atrium that connects it to the adjacent six-story Acacia Building – a 1935 structure designed by Shreve, Lamb & Harmon that was expanded in 1953 and is now largely occupied by the respected law firm Jones Day. Commissioned in 2004 by Chevy Chase, Maryland-based developer the JBG Companies, this is RSHP's first commercial office in the United States.

The new building provides flexible tenant space for Jones Day and potential future tenants. The accompanying 12,000-square-foot atrium is the bond that integrates the disparate parts into a unified campus with undeniable character. Central to RSHP's scheme is a yellow structural steel tree that contains vertical circulation and links office spaces

ABOVE: A series of glass bridges, backlit by lines of T5 lamps, link office spaces.

OPPOSITE: The bold structural core of the atrium that integrates the three buildings is simply illuminated by exposed T5 fluorescents.

RIGHT: In-floor metal halide uplights with linear-spread lenses graze the limestone facade of the Acacia Building.

BELOW: Metal halides also light the atrium's floating cantilever.

via frosted-glass bridges. This core sprouts yellow boomerang trusses that brace the atrium's cantilevered floating glass roof and appear as giant stitching. According to Austin, "The ambition of the project was to unite the buildings and reorient them toward the tree structure," adding that the exposed and color-coded systems provide legibility. It is this easy-to-read anatomy that Moran responded to. "I thought bare fluorescents were the right thing to do," she says.

"It's great that people would see [the lamps] and appreciate them for what they're worth," Austin recalls, referring to Moran's proposal. Today T5 tubes are tucked within yellow flanges, outlining the tree's structure. In addition, two through-wired lines of the lamps edge the underside of every interior bridge.

Celebrating such muscular architectural vocabulary also helped to satisfy issues of functionality. "I knew everybody was going to be focused on getting enough light on those bridges," Moran explains. Because atriums are so infrequent in Washington, D.C., building owners like JBG adhere to strict light-level requirements. For instance, the steps had to be illuminated to a level of one foot-candle. To achieve this, Moran applied the same fluorescent lamps beneath the edges of each of the tree's trapezoidal landings.

Likewise, Moran strapped two luminaires along the length of one of the three tree trunks. Powerful metal-halide lamps, lined with an optical light film that helps to distribute the illumination more uniformly, are installed at the top and bottom of these multistory cylinders. This strategy creates a core of light around which the stairways wrap. Moreover, the lighting design team installed metal-halide par 30s at the top of the Acacia Building that point toward faceted reflectors suspended from the atrium ceiling, resulting in a diffuse luminance throughout the space.

Indeed, Moran – a native Washingtonian with a fondness for the early building's architecture – not only employs the Acacia Building as a means of intensifying the atrium light; she celebrates it. Yet "it had to be treated differently from the tree," she notes. So while she made the tree a focal



point, she inserted metal halide uplights with linear-spread lenses into the ground floor to graze the old limestone facade. She then continued this approach to the exterior of the Acacia Building. Outside, metal halides light the underside of the atrium roof. An elevator core, expressed on the exterior of the new office in frosted glass, is grazed by LEDs.

A sense of balance – keeping the historic from being overpowered by the new – informs Moran's entire lighting plan. She illuminated the major structural elements of the atrium tree, because "the colors make a statement." She even installed lighting controls for special events. Entire branches can go dark to direct attention to specific areas in the complex. Employees and visitors, however, benefit most of all. The T5s are dimmable, says Moran, "so people actually look good under these fluorescents." ■

David Sokol is a Washington, D.C.-based contributing editor for RECORD.

CREDITS

ARCHITECT: Rogers Stirk Harbour + Partners – Richard Rogers, partner in charge; Dennis Austin, associate project designer

ARCHITECT OF RECORD: HKS
LIGHTING DESIGNER: MCLA – Maureen Moran, principal

ENGINEERS: TOLK (mechanical); Wiles Mensch (civil); Expedition (structural)

SOURCES

LIGHTING: ALM, TIR Systems (bridge/platform); Erco (uplights); Zumtobel (downlights); Lutron (controls)

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The Juilliard School

NEW YORK CITY

Diller Scofidio + Renfro, FXFOWLE, and L'Observatoire turn the Brutalist 1960s Juilliard building into a glittering staging ground for young performers. [By Linda C. Lentz](#)



THE DRAMA OF Diller Scofidio + Renfro's (DSR) master plan for the redevelopment of the Lincoln Center campus has been unfolding like a grand opera – with bold, crowd-pleasing gestures over several acts. Early in 2009, Phase One – Alice Tully Hall – reopened to rave reviews for its welcoming, daylit public spaces, its elegant theater notable for the brilliant acoustics by Jaffe Holden, and state-of-the-art lighting by L'Observatoire [RECORD, June 2009, page 62]. A collaboration of DSR and FXFOWLE, the 150,000-square-foot project was part of the larger renovation and expansion of the Juilliard School building, completed later that year.

One of the world's foremost performing arts conservatories, Juilliard had outgrown the physical and aesthetic limits of the 500,000-square-foot Brutalist structure designed by Pietro Belluschi (with Eduardo Catalano and Helge Westerann) in the 1960s. Like a travertine fortress, the building sat back from the street, with a remote, second-story main entrance accessible by way of a monumental stair on Broadway to the east or from the Lincoln Center plaza on the south via a wide bridge that overshadowed West 65th Street. Inside it was cramped and oppressive, with little sunlight. Its facilities were outdated, and much of the lighting hadn't been upgraded since the building opened in 1969.

To engage Juilliard with its urban community, and vice-versa, the architects created a glazed four-level east wing extension that reaches over the Alice Tully Hall lobby like a luminous cantilevered proscenium, aligning with – not backing away from – Broadway. They infused the public areas with daylight by continuing the glazing along two levels of the south elevation, where it reveals a new *street-side entrance*, complete with a playful stair-cum-built-

ABOVE: The new dance studio has clerestory-like backlit panels. **OPPOSITE:** Once dark and insular, Juilliard now faces Broadway with a transparent illuminated facade that treats passersby to the inner workings of one of the world's foremost performing arts conservatories.

in grandstand seating. And they removed the bridge, replacing it with a crosswalk at grade, and a glass-walled balcony outside the second floor lobby/student lounge, which provides unimpeded views of Lincoln Center.

While the expansion adds approximately 39,000 square feet of classroom, studio, and office space, the architects' introduction of transparency and light is what really impacts the tenor of the school. Working closely with DSR, FXFOWLE, the acoustician, and the Juilliard maintenance crew, the New York office of L'Observatoire developed a lighting scheme that is both pragmatic and dramatic.

According to lighting designer Jason Neches, the newly glazed south- and east-facing facades eliminate the need to turn lights on within adjacent interior spaces during the day, saving energy in the process. In the evening, however, the L'Observatoire plan lets the building shine. Linear fluorescent uplights, inserted into floor channels along the Broadway curtain wall, wash the fritted glass with a shimmering gauze of illumination. Directly beneath it, Neches and his team enlivened a vitrinelike dance studio – which juts out over the sidewalk – by edging the top of its longitudinal walls with T5-backlit panels of frosted glass. The result is a diffuse clerestory effect that keeps the 14-foot-high ceiling free of fixtures, a client specification.



PHOTOGRAPHY: © IWAN BAAH





1. Juilliard's manuscript reading room features indirect ambient lighting and customized LED task fixtures.
2. T5s installed behind a base of frosted glass panels illuminate the box office.
3. L'Observatoire worked closely with the acoustician to create a vibration- and buzz-free lighting system for the orchestra rehearsal room.



CREDITS

ARCHITECT: Diller Scofidio + Renfro with FXFOWLE – Charles Renfro, AIA (DSR), Sylvia Smith, FAIA (FXFOWLE), principals in charge; Anthony Saby, Gerard Sullivan, project leaders

LIGHTING DESIGNER: L'Observatoire International – Herve Descottes, Jason Neches, Nathalie Rozot, Beatrice Witzgall

ACOUSTICIAN: Jaffe Holden

SOURCES

LIGHTING: Linear, Bartco, Mark, David Weeks Studio (ambient); RSA, Lucifer (downlights); Lutron (controls)

Another request from Juilliard was mood lighting. The school's president, Joseph Polisi, often hosts dinners in this highly visible location. So Neches added dimmable rope lights behind the panels as an alternative to the T5s.

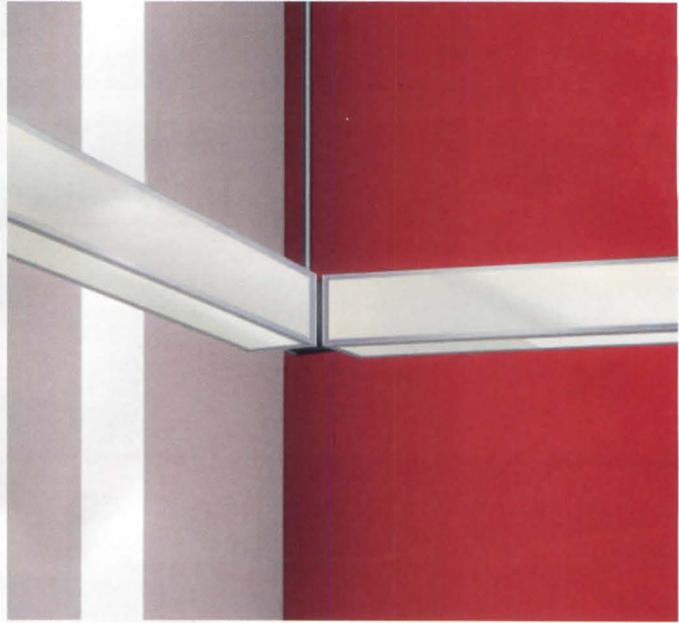
The lighting designers also transformed the box office next to the West 65th Street entrance into a "light box," using a similar treatment of T5s behind frosted glass. Nearby, they lit the entry grandstand/stair as if it were a stage by directing ceramic metal-halide lamps, discreetly mounted into a tuck in the ceiling, onto the aspiring performers seated below. The stair appears to float, thanks to rows of T5s mounted on the back that bounce light around either side and through an opening at the stair's base.

"We love uninterrupted planes of ceiling, and try not to penetrate them with too many downlights," says Neches. When there is no option, he explains, "we try to make very small apertures." For instance, he notes that his team used halogens in some lobby spaces for warmth and for their

ability to dim and create multiple scenes. The acoustician specified halogens for the orchestra rehearsal room as well, in this instance to avoid interference with recording equipment. Moreover, to prevent buzzing, he stipulated a special lamp filament and dimming system. Special fixtures, modified for vibration, hang from the room's structural ceiling and poke through – without touching – openings in a dropped, scrimlike acoustical panel ceiling.

Of all the project's features, one of Neches's favorites is a wood-lined reading room for viewing rare manuscripts. Here he and the architects tucked T5 lamps into coves that edge a central white ceiling band, indirectly illuminating the room. They then configured the room's long table with custom LED task lights, deemed safe for the valuable documents.

Like a well-designed stage set, L'Observatoire's strategy informs the work of DSR and FXFOWLE without dominating it. That's because, Neches concludes, "we try to elevate the architecture without drawing attention to the lighting." ■



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CIRCLE 16

The Morgan Library & Museum

NEW YORK CITY

A stunning restoration casts new light on the interiors of the historic Charles McKim building. [By James Murdock](#)





PREVIOUS PAGE: The East Room, formerly J. Pierpont Morgan's personal library, features three levels of bookcases discreetly lit by customized LED fixtures.

ABOVE: Lighting designer Richard Renfro transformed a blocked oculus into an effective, ambient source of daylight-like illumination for the displays of the elaborately decorated main rotunda.

RIGHT: The office of the Morgan's first director, the restored North Room houses the collection's earliest works in elegantly lit cases.

ADMIRERS OF THE 1906 Morgan Library & Museum who felt that Renzo Piano's 2006 expansion overshadowed the historic rooms of J. Pierpont Morgan's former study and library – housed in an Italianate marble building designed by McKim, Mead & White principal Charles McKim – can banish pangs of resentment. A dazzling interior restoration, realized by Beyer Blinder Belle Architects & Planners in collaboration with the lighting firm Renfro Design Group, has renewed and enhanced its previous luster.

According to museum director William Griswold, the recently completed overhaul was inevitable, but museum leadership excluded it from the brief of Piano's expansion [RECORD, October 2006, page 93]. Fortunately, Griswold was able to proceed in mid-2010 when an opportunity was created by generous trustees and favorable construction pricing.

The \$4.5 million project marks the first significant cleaning of the 14,700-square-foot landmark's interior since the early 1990s. Beyond creating additional exhibition areas, the work included updating the wiring and outdated lighting, as well as restoring early fixtures. The building now displays more than 300 items from the Morgan's permanent collection of rare books and art (a tenfold increase) in rooms with vastly improved lighting.

"Our goal was to hide the lighting and reveal the great architecture," notes lighting designer Richard Renfro, AIA. The building's landmark status, which prohibits visible and irreversible changes, proved less of a challenge than it might have seemed. Technological innovations allowed Renfro to insert smaller, more efficient fixtures into existing spaces. He removed decades-old track lights from a 16th-century wood ceiling in Mr. Morgan's former study, called the West Room, and replaced them with discreet tracks and low-voltage MR16 halogen lamps powered by remote transformers.

In the East Room, Morgan's library, The team relamped

and rehung an original chandelier, removed in the 1940s. Renfro replaced glaring fluorescent tubes, installed in pockets above and below each of three levels of original bookcases, with customized LEDs. These cast a glare-free, even light with no spillover onto adjacent areas. To eliminate irritating bright spots, Renfro lit the bottom bookcases from above and the two upper levels from below. This shields the eyes of visitors gazing at the richly painted ceiling and leather volumes displayed behind nonreflective acrylic glazing.

Wanting to simulate daylight in the same room without making insertions into a hard-to-access plenum between its glazed ceiling and the blocked skylight of the vaulted roof, Beyer Blinder Belle's Cleary Larkin, AIA, and the Morgan's director of facilities, Thomas Shannon, covered the vault's underside with a white synthetic rubber membrane (EPDM). Renfro then added T8 fluorescent strips to bounce indirect light off this highly reflective material down into the room.

With similar intent, Renfro transformed a covered oculus into a light source for the adjacent domed rotunda, the former grand foyer. To do this, he and Larkin suspended panels of low-iron, stippled rolled-glass (which transmit unaltered light rays) above the existing glass lens. A new shed roof conceals supports for the panels, as well as AR111 halogens that focus beams of light on the displays. Halogen lamps illuminate the contents within the cases, including a copy of the Declaration of Independence.

"The McKim building is, in many ways, the heart and soul of the Morgan," observes the Morgan's Griswold. "This project allowed us to burnish that part of the campus. Now the balance between new and old is where it should be." ■

James Murdock is a writer and filmmaker based in New York City.



CREDITS

ARCHITECT: Beyer Blinder Belle Architects & Planners – Frank Prial, AIA, Cleary Larkin, AIA, project architects

LIGHTING DESIGNER: Renfro Design Group – Richard Renfro, AIA, principal

ENGINEERS: Robert Silman (structural); JFK&M (electrical)

CONSULTANTS: Stephen Saitas (exhibition design)

SOURCES

LIGHTING: Visual Light Technologies (LED); Elliptapar (fluorescent); Edison Price Lighting, Nulux (fixtures); Lutron (controls); Aurora Lampworks (antique fixture restoration)



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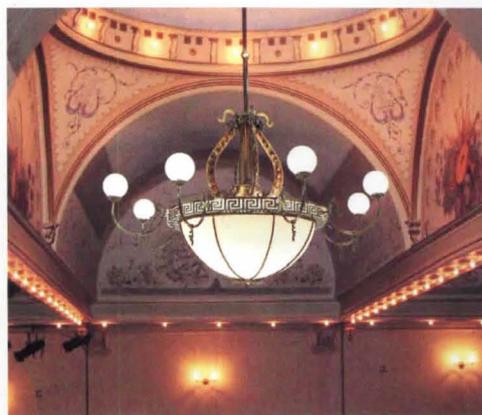
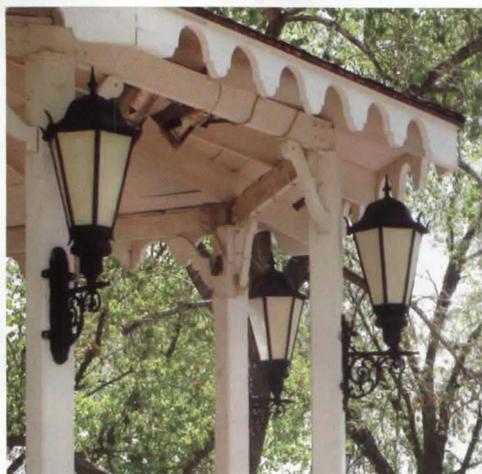
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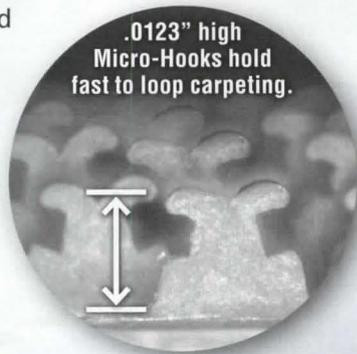
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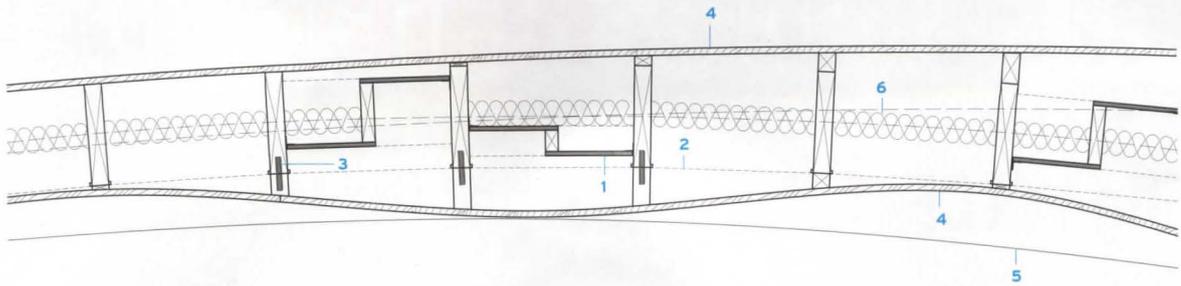
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Virtual but Vivid

A sonic rendering technique known as auralization helps acousticians make the sound of even unrealized spaces tangible.

By Joann Gonchar, AIA

ACOUSTICS HAVE THE ability to influence our appreciation of a space, perhaps as much or even more than other physical properties, including shape, the amount or type of illumination, and the colors and textures of finishes. But since sound is not at all visual, and is arguably the least tangible attribute of an architectural environment, understanding what makes a room acoustically successful can be challenging for the nonengineer. Even for technologically savvy architects and acoustically acute clients, data describing absorption, reflection, or diffraction is often inadequate for communicating what a proposed space will sound like.

However, an acoustical rendering technique known as “auralization,” enabled by faster computer processors and the increasing sophistication of software for analysis and simulation, has been gradually gaining ground over the past decade, allowing project teams and owners to experience the sound of an unbuilt room. Even though these sonic renderings are often created long before the first wall is erected, proponents insist that well-devised auralizations are more than rough approximations. “The process has scientific rigor behind it,” says Ben Markham, a senior acoustical consultant at Cambridge, Massachusetts-based Acentech.

The process of auralization (a neologism that combines “aural” and “visualization”) begins with a so-called “impulse response” – an acoustical signature unique to a particular room, sound source, and listener location. In an existing space this signature can be captured: Acousticians emit a brief, sharp signal from an omnidirectional loudspeaker and record it with a specialized microphone placed at the listener’s location, documenting the original impulse and subsequent reflections from all angles and surfaces. Engineers can analyze this signature to better understand the correlation between perceived acoustical qualities and architectural characteristics.

For spaces that aren’t yet built, engineers must create an impulse within a virtual acoustical model based on the architect’s 2-D or 3-D digital files. Acousticians then estimate the response to the signal at locations throughout the room. Finally, they combine, or “convolve,” this signature with music, speech, or other sound typically recorded in an anechoic, or reflection-free, environment. The computer adds the reflections and time delays to simulate the acoustical qualities specific to the proposed space.

With the audible output of this process, acousticians can then virtually adjust geometry or finishes and listen to how this will alter the sound. Or they can compare the sound of the still-unbuilt room to an existing one with sought-after acoustics. “We can easily move from space to space, and

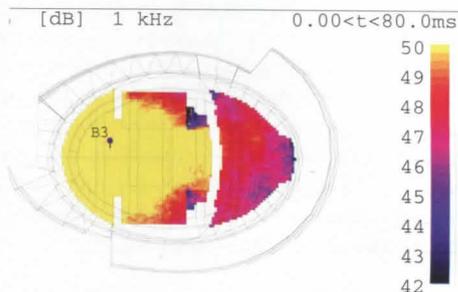
OPPOSITE: **The Kogod Cradle, a theater at Washington, D.C.’s Arena Stage, has an acoustically challenging elliptical shape.**

RIGHT: **The spiraling path between the theater’s concrete structure and its inner skin serves as a sound-and-light lock.**

BELOW: **Auralization helped demonstrate that the inner walls’ poplar slats, bent to combine convex and concave radii, would effectively distribute sound.**



KOGOD CRADLE AXONOMETRIC



-Acoustic v8.0b 461433/100/0.13

DIAGRAM: **Acousticians closely examined how sound would be distributed over the Kogod’s seating area, contributing to speech clarity.**



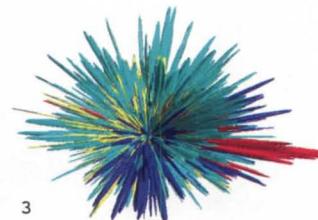
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Learning Objectives

- 1 Understand key acoustical concepts.
- 2 Explain the simulation process known as auralization.
- 3 Describe the acoustical design challenges presented by several recently completed projects.
- 4 Discuss how *auralization* helped inform decision making for these projects.

AIA/CES Course #1102A



scenario to scenario," says Raj Patel, an acoustician and principal based in the New York City offices of Arup.

Acousticians can present auralizations via headphones. But a few acoustics practices, including Arup and Acentech, have purpose-built rooms in their offices where they can review these sonic renderings and present them to a group. The goal is to allow project decision makers to experience the sound of a proposed space collectively in an immersive setting. Such controlled environments typically include audio processing systems with multiple speakers working together to simulate the directional and three-dimensional qualities of sound.

The specialized rooms in acousticians' offices usually have a projection system for displaying architectural and acoustic visualizations. And in order to avoid coloring the listening experience, these spaces are designed to be acoustically neutral: They are relatively nonreverberant, with attention to isolation from mechanical noise and other disruptive sounds, but in general they are not anechoic. Even though an echo-free room would provide a more faithful rendition of the virtual space, it would be physically unpleasant, says Patel: "You would hear your own blood flow."

Focusing form

Regardless of whether auralizations are presented via headphones or in a tailored listening room, the technique can help project teams and owners weigh various acoustic options. It can also be used as a means of demonstrating the

1-3. The study of the acoustic signatures of spaces with highly regarded sound, like the late 19th-century Concertgebouw in Amsterdam, can help engineers understand what makes a space acoustically successful. Arup deploys a proprietary visualization technique that maps these signatures in three dimensions, describing how quickly reflections arrive from different directions.

4-6. Auralization and specialized listening environments, like the one in Arup's New York City office, allow for side-by-side comparisons of rooms that have sought-after acoustics with spaces that exist only as digital models. Here, an Arup acoustician compares Vienna's Musikvereinssaal (1870) with an unbuilt concert hall.

sound of a nearly final design to confirm that the properties of a proposed space will meet client expectations. The process was deployed in this way for the Arlene and Robert Kogod Cradle, a 200-seat experimental theater in Washington, D.C. The performance space is one of three sheltered by the swoopy roof of the Arena Stage at the Mead Center for American Theater, just revamped and expanded by Vancouver, Canada-based Bing Thom Architects (for more on the Arena, see page 84).

The Kogod, the only completely new Arena venue, presented a particularly sticky acoustical challenge: It has an elliptical plan, emblematic of artistic director Molly Smith's desire to nurture new playwrights. Without the right acoustical solution, this shape would focus sound instead of distributing it over the entire seating area, explains Richard Talaske, president of the eponymous Oak Park, Illinois-based firm that served as the project's acoustical consultant.

In order to neutralize the focusing effect, the design team developed an inner wood skin that peels away from the theater's poured-in-place concrete structure. The resulting spiraling path leads theatergoers from the lobby and serves as a sound-and-light lock. The two walls in combination help diffuse low-pitch sound, while the inner wood-sheathed wall, made of horizontal dark-stained poplar slats, $\frac{5}{16}$ inches thick, helps distribute high-pitch sound. The slats, which vary in height from three to six inches, were field bent and secured to underlying studs to give each a wavy shape, combining concave and convex radii.



Although the interior wall surface seems randomly composed, it is the product of a process that included computer modeling combined with testing of a 1:10 scale model built by the acousticians and of a mock-up of an approximately 30-foot-square section of wall constructed by the architects. To identify the sound-diffusive properties of the design, Talaske projected signals from speakers at the walls from several angles and then documented the reflections. With data garnered from these tests, acousticians calibrated the computer model and performed analyses that included an examination of the reflections' timing, strength, and distribution to ensure that speech would be intelligible in all parts of the seating area.

Once the scheme was acoustically optimized, Talaske and his team created an auralization by convolving the space's impulse response with speech they recorded in an anechoic environment. After presenting the simulation to the architects and client, the only adjustment deemed necessary was the addition of plywood-and-gypsum panels to the bottom of catwalks to provide more reflection from the ceiling and improve the localization of sound.

Calm and clear

At Boston's Museum of Fine Arts (MFA), the acoustical issue was not an unorthodox shape but a large volume enclosed by highly sound-reflective finishes. Here, acousticians from Acentech began working with the London-based Foster + Partners in 2003, soon after the concept for the 121,000-square-foot Art of the Americas Wing solidified (for more on the MFA project, see page 58). Both museum trustees and the architects were concerned that the 63-foot-tall, 12,000-square-foot enclosed courtyard conceived as the addition's centerpiece would be acoustically unsuitable for the varied programming envisioned to take place there. The monumental space – enclosed by glass, stone, and brick – would need to serve as the setting for social functions and special events such as receptions or banquets, and to provide acoustics conducive to listening to a string quartet, a swing band, or a lecture. During normal museum operating hours, designers hoped the courtyard would be calm and contemplative, even though it would house a café.

The addition of sound absorption would be key. Without that, the hard-surfaced space would be uncomfortably reverberant, making music muddy and speech unclear. But determining just how much acoustical material would be

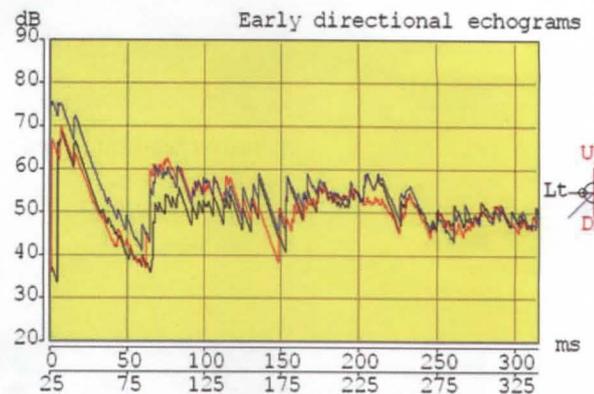


- 1 PERFORATED METAL BAFFLES WITH GLASS-FIBER CORES
- 2 TWO-LAYER PERFORATED VINYL PANELS
- 3 CONCEALED GLASS FIBER
- 4 PERFORATED WOOD FINIS WITH GLASS-FIBER CORES
- 5 COLUMN ARRAY SPEAKERS

GRAPH: As part of their analyses, MFA acousticians studied the reflection patterns generated in the courtyard for particular sound sources and listeners.

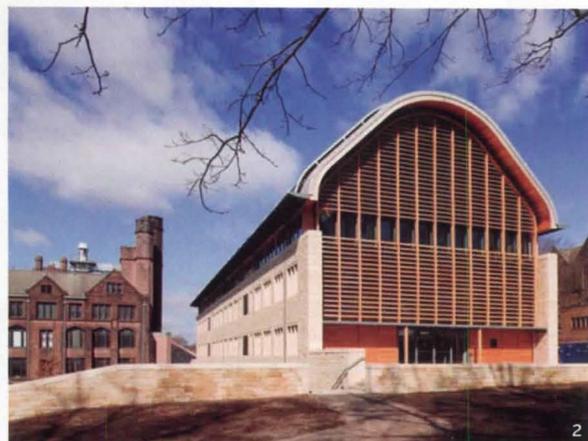
7. The mostly hard-surfaced grand space serves as the setting for a variety of events, including large banquets.

8. Elements that control heat gain and glare incorporate sound-absorbing material.

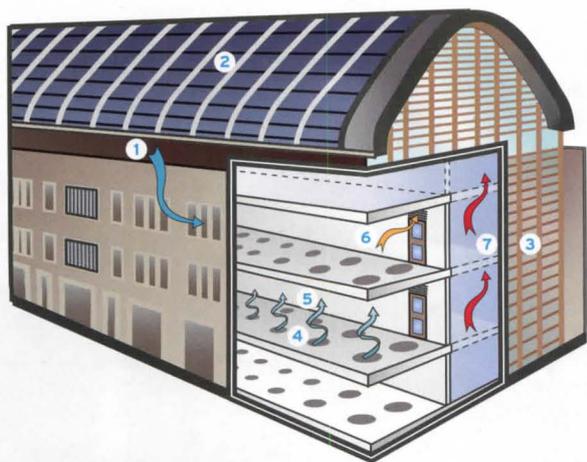


AURALIZATION ALLOWS ACOUSTICIANS TO VIRTUALLY "MOVE FROM SPACE TO SPACE, AND SCENARIO TO SCENARIO," SAYS ARUP PRINCIPAL RAJ PATEL.

1., 2. Long and thin Kroon Hall, at Yale University, is organized around a skylit stair that connects the building's four floors. The configuration, combined with the building's ventilation strategy, posed a potential noise-transfer problem between the central circulation space and flanking offices.



- 1 MIXED-MODE VENTILATION
- 2 PHOTOVOLTAICS
- 3 EXTERNAL SHADING
- 4 DISPLACEMENT VENTILATION
- 5 EXPOSED THERMAL MASS
- 6 OVER-DOOR VENTILATOR
- 7 EXHAUST AIR



KROON HALL SUSTAINABLE STRATEGIES DIAGRAM

needed, and deciding how to include it without compromising the courtyard's planar purity, would be tricky.

Acentech started by documenting several atria in and around Boston. The engineers took measurements of the rooms and then calculated or estimated various characteristics, including volume, surface area, and reverberation time.

From those spaces, they chose one – an atrium included in a Moshe Safdie and Associates-designed expansion of the Peabody Essex Museum in Salem – as a benchmark for the MFA. It wasn't excessively loud and was comfortable for conversation and general use. As part of the documentation process, they also discovered that the average absorption coefficient (a ratio of sound absorption to surface area) was the most useful metric for evaluating the existing spaces. It was even more telling than reverberation time. The phenomenon can be attributed to occupant expectations that large rooms be at least somewhat reverberant, says Acentech's Markham. "We want our ears to match our eyes."

After completing its survey, Acentech digitally modeled Safdie's court and virtually "populated" the space with various scenarios, including the sounds made by 500 diners at a banquet, with people conversing and dishes clinking. Since it was impractical to make a recording of such a source in an anechoic chamber, the acousticians recorded a much smaller group in a relatively nonreverberant restaurant. They mathematically adjusted the model to compensate for the recording environment and processed the sounds to simulate a large number of diners occupying tables situated around the room making noise at different volumes.

With auralization of Peabody Essex serving as a point of reference, the consultants constructed an acoustic model of the MFA scheme. They studied the information garnered from the model to understand the effect of the proposed geometry and materials. They repeated the auralization process, simulating the sound of the unbuilt space with various sound sources and levels of acoustical treatment.

As a result of this benchmarking, analysis, and simulation process, the museum's trustees and the architects reached a consensus that the room would need an average coefficient of absorption of 0.3 at midrange frequencies and a total absorption of about 16,500 sabins (one sabin represents the amount of absorption provided by one square foot of perfectly absorptive material). The ultimate solution included incorporating most of the required acoustic

material in the ceiling as part of elements that also help control heat gain and glare: a central band of perforated V-shaped metal baffles running through the center of the space and into the galleries, with translucent panels made of two layers of microperforated vinyl on either side. Glass fiber concealed within column enclosures (where sophisticated speakers are also hidden) and wood fins on an existing masonry wall provide additional sound absorption.

Tolerable transmission

Though most often used to render room acoustics, auralization can also be deployed in other areas of concern to architectural acousticians, including sound isolation between adjacent spaces. Auralization played such a role at Kroon Hall, a building for the Yale School of Forestry completed on the university's New Haven, Connecticut, campus in the spring of 2009.

Designed by London-based Hopkins and the Connecticut firm Centerbrook, with Arup providing multidisciplinary engineering, the long and thin four-story structure is organized around a slotlike stair that cuts through a narrow, skylit atrium. The LEED Platinum-certified building contains many coordinated, aggressively green features, including a mixed-mode ventilation system that supplies fresh air through a raised-floor ventilation system and, depending on the season, operable windows. The system exhausts return air passively through the central atrium, creating a potential

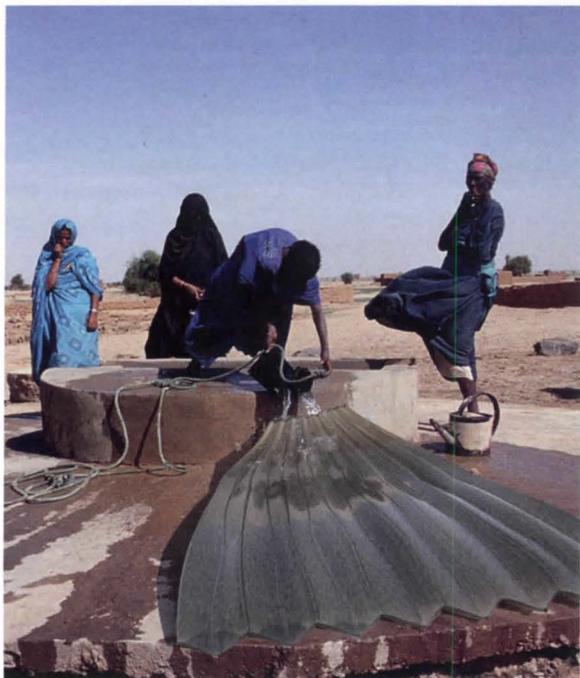
privacy issue, since telephone calls or faculty-student conversations might travel from private offices flanking the atrium through vents positioned over doors.

In response, the architects devised a custom U-vent for the office-door transom. However, the proposed assembly allowed an unacceptable level of sound transfer. As an alternative, Arup suggested an advanced off-the-shelf vent, roughly equal in price to the custom solution. The device still allowed some sound to travel through the partition, but it significantly improved the assembly's sound transmission class, or STC, a rating of how well a building component attenuates airborne sound. An auralization convinced Yale officials that the sound of voices coming from offices would be barely audible to anyone standing nearby.

Auralization can similarly be applied to curtain-wall design, helping designers evaluate an assembly's ability to block the noise of a busy highway or a nearby airport. Or it can be used as an aid for evaluating noise-control options for a particular piece of mechanical equipment. But regardless of the application, practitioners of the technique say that it is a powerful decision-making tool. "To both architects and users, auralization conveys the efficacy of an acoustical strategy," says Markham. "It allows them to understand what we are recommending and why." ■

"TO BOTH ARCHITECTS AND USERS, AURALIZATION CONVEYS THE EFFICACY OF AN ACOUSTICAL STRATEGY," SAYS BEN MARKHAM, ACENTECH SENIOR CONSULTANT.

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CIRCLE 04

DATES & EVENTS

New and Upcoming Exhibitions

The Extraordinary Joseph Urban

Palm Beach, Florida
February 1–April 17, 2011

This exhibition explores the life and work of Joseph Urban (1872–1933), a prolific and innovative Gilded Age artist who, the *New York Herald-Tribune* observed, “did more than any other man to revolutionize the American sense of design.” With more than 100 objects from Urban’s extraordinary body of work, the exhibition is at the Flagler Museum. For more information, visit www.flaglermuseum.us.

The Emperor’s Private Paradise: Treasures from the Forbidden City

New York City
February 1–May 1, 2011

This is a loan of some 90 paintings, architectural elements, and decorative and religious works created for an elaborate two-acre private retreat built deep within the Forbidden City in 1771 as the retirement residence of one of China’s most extravagant monarchs – the Qianlong Emperor (r. 1736–95) – who presided over China’s last dynasty, the Qing, at the zenith of its power and wealth. Visit www.metmuseum.org.

Plywood: Material, Process, Form

New York City
February 2, 2011–Ongoing

Plywood is an important modern material that has given 20th-century designers greater flexibility in shaping Modern forms at an industrial scale. This installation features examples, drawn from MoMA’s collection, of Modern designs that take advantage of the formal and aesthetic possibilities offered by the material, from around 1930 through the 1950s. Archival photographs illuminate the process of design and manufacture in plywood. Iconic furniture by Alvar Aalto, Charles and Ray Eames, Eero Saarinen, and Arne Jacobsen appears. Visit www.moma.org.

Frank Lloyd Wright: Organic Architecture for the 21st Century

Milwaukee
February 12–May 15, 2011

Experience more than 150 objects designed by “America’s greatest architect,” Frank Lloyd Wright. This exhibition features 33 never-before-shown drawings by the Wisconsin legend, as well as rare home movies. Examining every type of project that Wright designed, along with his plans for suburban communities and American System-Built Homes, the exhibition includes drawings, models, photographs, videos, furniture, and more. Visit www.mam.org/frank-lloyd-wright.

Ongoing Exhibitions

Ezra Stoller

New York City
Through February 12, 2011

The preeminent photographer of Modern architecture, Ezra Stoller (1915–2004) was commissioned by architects such as Frank Lloyd Wright, Paul Rudolph, Eero Saarinen, I.M. Pei, Marcel Breuer, and Richard Meier because of his unique ability to capture a building according to the architect’s vision and to lock it into the architectural canon. Many of his gelatin silver prints will be on display at the Yossi Milo Gallery. For more information, visit www.yossimilo.com.

Las Vegas Studio: Images from the Archives of Robert Venturi and Denise Scott Brown

Chicago
Through February 19, 2011

This exhibition presents original research materials from the archives of the Philadelphia firm Venturi, Scott Brown and Associates. In 1968, American architects Robert Venturi, Denise Scott Brown, and Steven Izenour, with students from Yale University, embarked on a groundbreaking investigation of the Las Vegas Strip. Their fresh way of looking at the city: The influence of popular culture, advertising, film, and the experience of the built environment from a moving automobile extended the categories of the ordinary, the ugly, and the social into architecture. Their research methodology became as revolutionary as their findings, which were published in the legendary 1972 book *Learning from Las Vegas*. At the Graham Foundation; for more information, visit www.grahamfoundation.org.

Journeys: How Traveling Fruit, Ideas, and Buildings Rearrange Our Environment

Montreal
Through March 13, 2011

Featuring 15 narratives, this exhibition questions and debates architectural concerns raised by increased global movement. Stories range from the vagabondage of seeds and how this transforms the landscape to the rearrangement of communities that unexpectedly changes society and the built environment. At the Canadian Centre for Architecture; visit www.cca.qc.ca.

Ozark Modern

Fayetteville, Arkansas
Through February 16, 2011

This exhibition features midcentury Modern furniture designed by Edward Durrell Stone in the Fine Arts Center Gallery at the University of Arkansas. It will underscore the distinctive characteristics of the furniture and illuminate the particular circumstances of its development. For more information, visit www.uark.edu.

Landscapes of Extraction

New York City

Through February 26, 2011

This exhibition at the Cooper Union features the impressive photographic works of J. Henry Fair and provides an eye-opening look at the increasingly extreme industrial processes used to extract fossil fuels, including mountaintop removal, deep-sea drilling, and hydro-fracking. For more information, visit www.cooper.edu.

Lectures, Conferences, and Symposia**Beyond the Fringe Lecture Series**

Los Angeles

February 7, 2011

François Roche explores architectural work that is simultaneously organic, biological, and critical. Roche founded R&Sie(n) in 1989 with Stéphanie Lavaux; the Paris-based practice unfolds protocols through the restaging of different kinds of contemporary relationships: aesthetic, machinist, computational, and even artificial. For more information, visit www.aud.ucla.edu/beyondthefringe.

Benedetta Tagliabue: Recent Work

Los Angeles

February 9, 2011

Under the directorship of Benedetta Tagliabue, Miralles Tagliabue EMBT works with architectural projects, open spaces, urbanism, rehabilitation, and exhibitions. Conserving the spirit of the Spanish and Italian artisan architectural studio tradition, which espouses collaboration rather than specialization, its architectural philosophy and practice dedicates special attention to context. Visit www.sciarc.edu.

Black Women in White Johannesburg: Domestic Workers' Spatial Strategies Under Apartheid

New York City

February 16, 2011

This is the second lecture in a series on African architecture and urbanism organized by the Museum for African Art, Columbia University's Institute of African Studies, the Committee on Global Thought, and the Center for African Education. University of Illinois professor Rebecca Ginsburg explores the ways domestic workers' mobility was severely limited under apartheid-era legislation and how these women responded and overcame these restrictions. Visit www.ias.columbia.edu.

Ideas Economy: Intelligent Infrastructure

New York City

February 16-17, 2011

United States Chief Information Officer Vivek Kundra, world-renowned architect Frank Gehry, and others will participate in the *Economist's* conference on how

green architecture, geoengineering, smart systems, and connectivity will allow countries and governments to create a smarter and stronger infrastructure. It will also focus on how cutting-edge development in this area can leverage the speed and vitality of private markets while at the same time including smarter government regulation. For more information, visit <http://ideas.economist.com>.

Polytopes, the Architecture of Soundscapes: A MediaSCAPES Symposium

Los Angeles

February 23, 2011

Through his work with Le Corbusier, composer

Iannis Xenakis catalyzed a radically new sound universe and sound architecture for 20th-century music. Staging new electronic and visual music to a discussion with composers and performers, this symposium links the relations of sound experience, sound-inherent structures, and mathematics to architecture and space. Visit www.sciarc.edu.

A New Order: Re-appropriations of Space and Life

New York City

February 24, 2011

Bringing together a team of artists, architects, and scientists, including Felix Burrichter, editor in

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chief of *Pin-Up* magazine; Eva Franch, director of Storefront for Art and Architecture and Improv Everywhere; and Leonard Matin, pioneer of the neuromathematical model for spatial perception, this event presents case studies for reimagining our environments and, in turn, reimagining the ways we live. Visit www.madmuseum.org.

**Subtropical Cities 2011 Conference –
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Beyond Climate Change

Fort Lauderdale, Florida

March 8–11, 2011

The international collaborative conference will discuss the future of development in subtropical cities around the world. Key themes include: subtropical cities in the urban age, sustainable practices and decision making for resilient cities, and adaptation to climate change. At Florida Atlantic University. For more information, visit www.subtropicalcities2011.com.

**Permanent Change: Plastics
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New York City

March 30–April 1, 2011

"Permanent Change" sheds new light on plastics and their implications for the fields of architecture and engineering. Materials that forecast easily molded, reformed shapes have become a permanent measure and control point in design. This conference explores the boundaries between architecture, engineering, and materials science by mobilizing symposia, studios, exhibitions, books, and films in an intensely focused investigation. Architect Greg Lynn is the keynote speaker. Visit www.arch.columbia.edu/permanentchange.

Competitions

American Society of Landscape Architects

Deadline: February 25, 2011, for professionals;

May 6, 2011, for students

Each year, the ASLA Professional Awards honor the best in landscape architecture from around the globe, while the ASLA Student Awards give us a glimpse of the future of the profession. Award recipients receive featured coverage in *Landscape Architecture*, the magazine of ASLA, and in many other design and construction industry publications and general interest media. For more information, visit www.asla.org.

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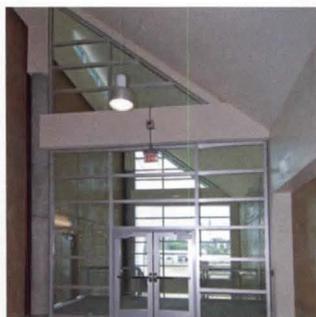
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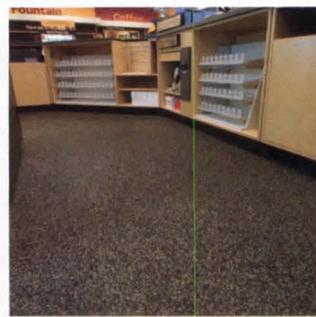
Product Application:

- Wawa, DE

Performance Data:

- Wear layer composition: recycled SBR tire rubber and ColorMill EPDM
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877.326.7873



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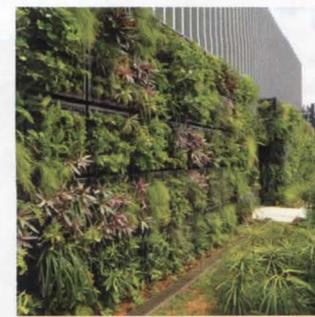
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- Living wall modules for complete coverage, edible walls
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- Hybrid—living wall coverage at trellis prices

Performance Data:

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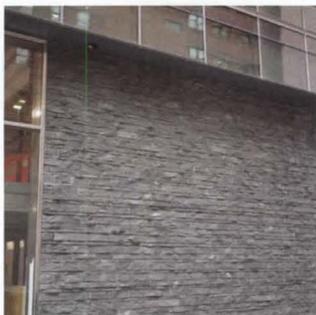
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Starrett-Lehigh Building
Architectural Record, January 1932, p. 32

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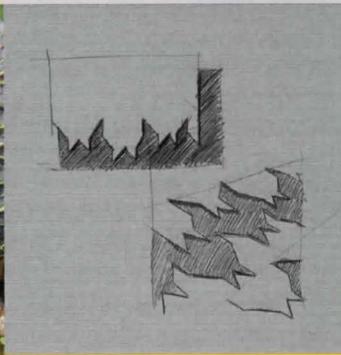
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ON THE BORDER of Slovenia in southern Austria, Germany-based architecture firm terrain:loenhart&mayr designed the 80-foot-high Murturm Nature Observation Tower to lift hikers and other visitors above the nature preserve's tree canopy. There, they have a clear view of the Mur River, which isn't possible from the thick woods below. "This is one of the few points where you can actually see something," says Klaus Loenhart of terrain. "You can understand where you are."

Naturschutzbund, the Austrian Nature and Biodiversity Conservation Union, asked Loenhart and his partner, Christoph Mayr, to create a place from which to observe the ecological restoration of the river, once part of the Iron Curtain and now in the European Green Belt. The architects didn't want to interrupt the flow of the pathway through the woods. After climbing the tower's 168 steps, visitors descend a second, intertwined staircase. Steel girder joints connect welded steel pipes in the double-helix structure. The pipes decrease in diameter toward the top of the tower, "like the branching pattern of a tree," says Loenhart. (He and Mayr were inspired by the flights of steps leading to a 1499 castle in nearby Graz.) The architects clad the stairs in aluminum to reflect the sky, a trick they learned from designing small garden pavilions. The mayor of a nearby village has been visiting almost every day since the tower opened in March 2010, says Loenhart. "Now he's totally into the atmospheric difference." *Laura Raskin*

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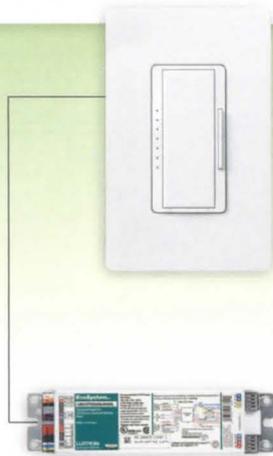
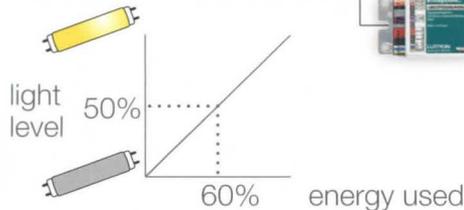
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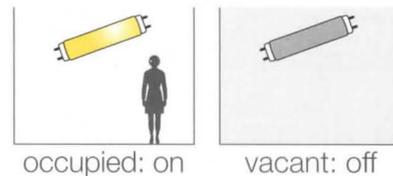
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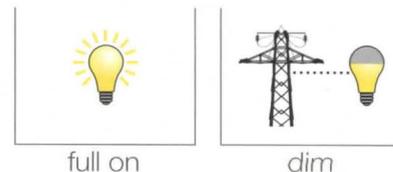


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