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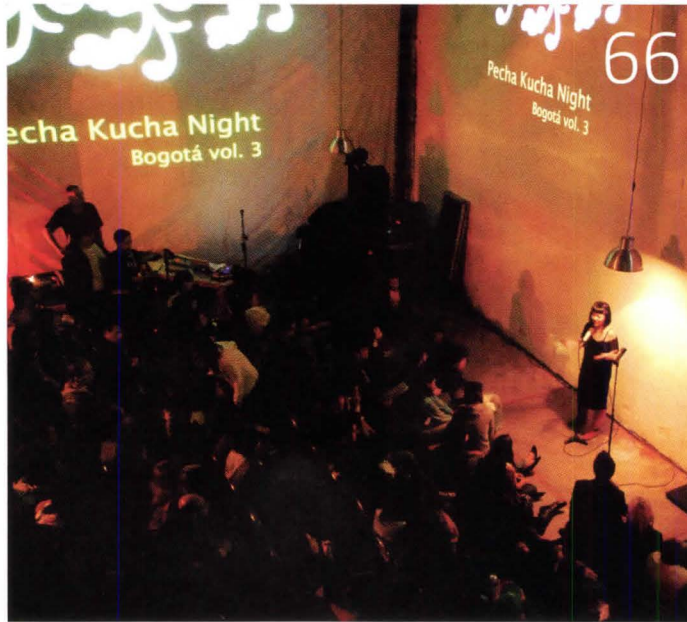
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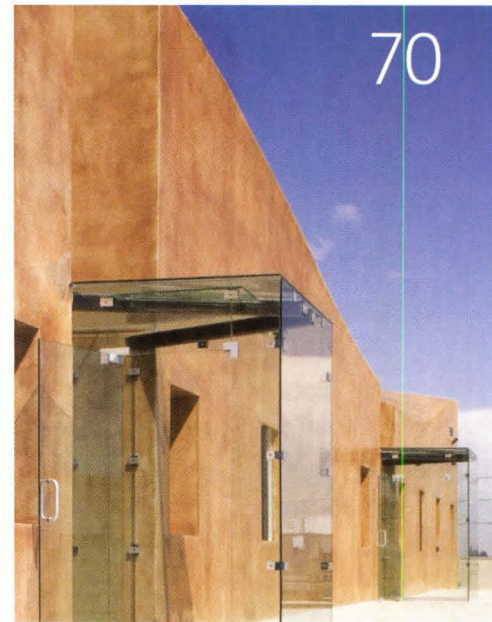
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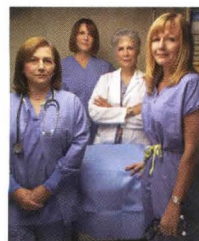


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ON THE COVER

Left to right: Nurses Tammy Felker, Jane Loura, Lynne Shira, and Teri Oelrich work for architecture firm NBBJ (page 60). Photo by William Anthony.

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Mark Dytham, from "20 Presenters, 20 Slides, 20 Seconds," page 66.



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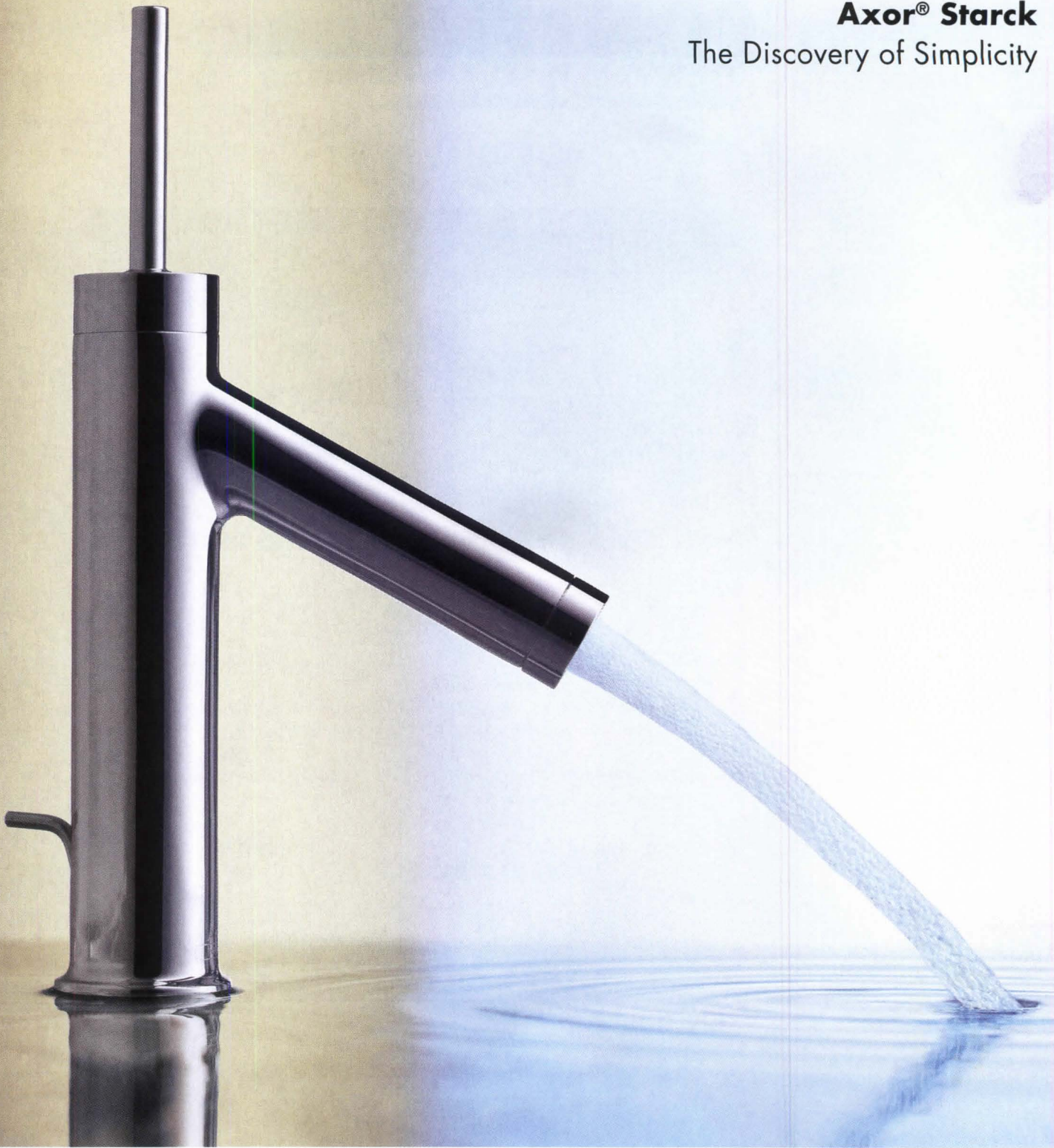
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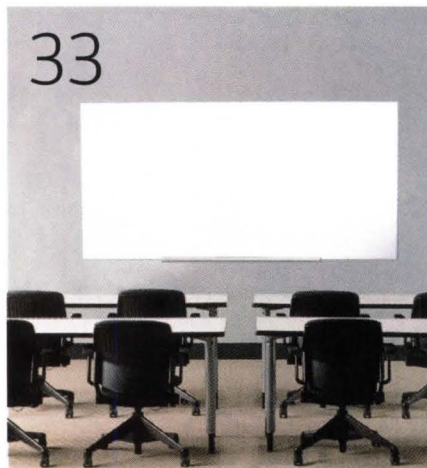
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FAR RIGHT New condominiums in Ghana will be the first project to use Pozzoghana, a new kind of cement.



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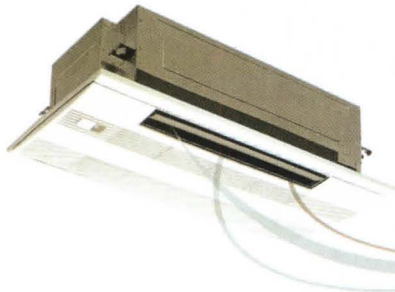
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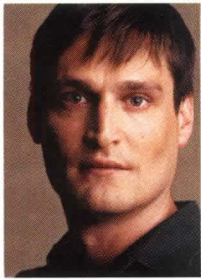


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SO, GEHRY GOT SUED ...



TIMOTHY GREENFIELD-SANDERS

Ned Cramer
Editor in Chief

FRANK GEHRY RECEIVED A VERY PUBLIC SPANKING in November when *The Boston Globe* revealed—on its front page, no less—that MIT was suing the architect for “providing deficient design services and drawings” for its \$300 million Stata Center in Cambridge, Mass.

The blogosphere went wild over the news, portraying Gehry either as a reckless egotist, pushing strange shapes and spaces on successive unwitting clients and finally getting his comeuppance, or as the latest victim in a centuries-old struggle between innocent artistry and unfeeling patronage.

So what was the fuss really about? Apparently, the three-year-old Stata Center leaks, mold is growing on the exterior, snow and ice fall off the curved roof and projecting windows, and MIT had to spend \$1.5 million to rebuild an amphitheater that was cracking due to poor drainage.

MIT is certainly within its rights to sue—no matter how tacky the move may seem, coming from an institution dedicated to innovation, with its attendant risks—and it’s certainly reasonable for MIT to expect that its shiny new \$300 million toy will work. What’s more, Gehry’s giant reputation certainly shouldn’t get him off the hook for delivering a faulty building, if that’s indeed what happened. MIT also named the contractor, Skanska USA Building Inc., in the suit. (The contractor wasted no time throwing Gehry under the bus, claiming to have warned his office that the original amphitheater design was faulty and that their warnings went unheeded.) The whole thing is a mess.

Before we start blaming crazy Gehry or making excuses for him, let’s take a collective step back. Is the situation really so unusual? Architects, contractors, and clients get embroiled in lawsuits all the time. That’s why we have lawyers. For architects in search of a moral, the lawsuit in question should serve as little more than a timely reminder to get familiar with the new AIA contract documents (see story, page 17). As it is, Gehry’s famous, so the squabble is getting the kind of media attention typically reserved for Paris Hilton or Lindsay Lohan’s latest stint in rehab. In that context, who cares?

Ned Cramer
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Complete Faculties

Bravo on your Dialogue piece, “I Want to Go to Yale” [November 2007, page 16]. Many an architect knows how Mies van der Rohe turned a building corner using steel, but few understand the essence of how Mies’ inspiration, Karl Friedrich Schinkel, did the same. Before Picasso drew in an abstract or modern way, he was fully skilled drawing in a classical manner. Similarly, Le Corbusier had complete faculty in traditional design before creating the foundations of his manner of modern architecture. Many architecture schools seem remiss by giving perfunctory history of architecture courses while devoting endless hours to allowing students to create their own logics of design with the assistance of supercharged

computers. Often, a student wishing to pursue architectural design in a traditional or classical vein is rebuffed. Whether it is due to a myopic faculty or the inability of faculty to articulate skillfully in a classical manner, one cannot be certain. Architecture schools should encourage students to delve deeply into traditional styles before choosing, or being pushed, to pursue “modern” design.

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Going to Yale?

From your editorial [“I Want to Go to Yale”], I am assuming that your principal beef is

with residential architecture, mainly in the suburbs. I don’t believe this is a problem which can be traced back to the schools of architecture, but with our system which doesn’t allow architects into that process. If you mention the word “architect” to a builder, they immediately try to change the subject. This is in stark contrast to Europe and South America, where architects are more involved in residential architecture.

I’m sure this phenomenon has more to do with our general educational system. I recently ran into this in Lake Elsinore, Calif., where the city actually believed there was a historical context present, where there was no “there” there. What they actually wanted for a civic center was Disneyland, not something that was more fitting to the real context—the lake. Here lies the problem: We are so enchanted with Disneyland that we want to create a little one wherever we can. The column will be a staple in architecture for a long time, and why not. But Corinthian columns? Learning about classical architecture and trying to replicate it are two different things.

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Who’s on First?

We were very pleased to read the article on the Grand Rapids Art Museum (GRAM) by wHY Architecture [“GRAM Green,” October 2007, page 86], not only because it is an urbanistically savvy, elegant museum, but also because of its sustainable agenda and aspirations for a LEED rating.

We would, however, like to clarify the claim of the GRAM as being the “first LEED-certified art museum in the country.” This distinction belongs to the Provincetown Art Association and Museum (PAAM), which Machado and Silvetti Associates completed in March 2006 and which received a LEED Silver rating. Not surprisingly, these two projects share similar qualities, including sensitivity to materials, use of natural light, and close integration of sophisticated mechanical systems.

We recognize that, weighing in at 19,500 square feet, PAAM is a featherweight in the world of new museums. However, we believe it is only fair, as far as the race for LEED ratings matters, to recognize PAAM for what it is: the first LEED-rated art museum in this country.

Jorge Silvetti and Rodolfo Machado
Machado and Silvetti Associates
Boston

Correction

November’s news clips (page 18) did not specify that Richard Swett will be serving as vice president and managing principal of Leo A Daly’s Washington, D.C., office.

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Sustainability

USGBC Takes LEED to the Next Level

Refinements will make certification system more user-friendly

THE U.S. GREEN BUILDING COUNCIL'S (USGBC) original Leadership in Energy and Environmental Design (LEED) Green Building Rating System has been in place for seven years now and has spawned several offshoot certification programs, including the newly introduced LEED for Homes as well as the LEED for Neighborhood Development program (currently in pilot phase).

The USGBC now sees the need to align the

credits (the points that accrue toward LEED certification) across the various rating programs to make the system more user-friendly and flexible. Although the rating system will still reflect differences in building types, as LEED programs have evolved to address the complete life cycle of buildings, there has been some duplication and drift among similar credits in the different systems.

According to the council, further devel-

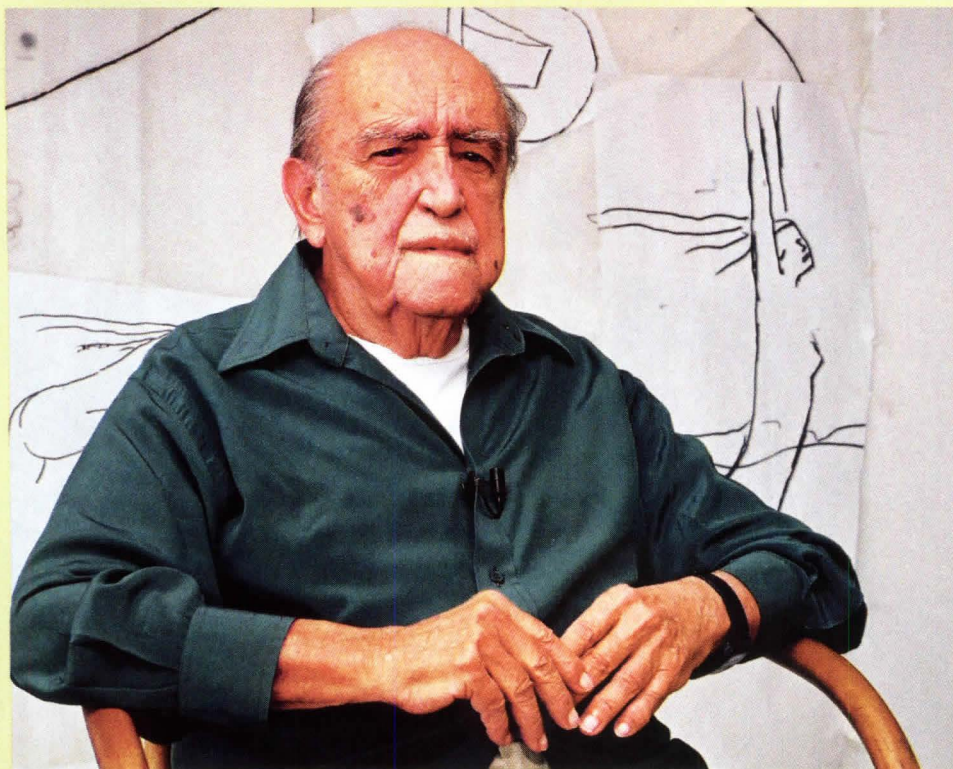
opment and refining of LEED's technical framework will integrate the core elements of all the rating systems, reducing the duplication and "credit drift" and giving users greater accessibility to certification information.

These efforts will create a unified LEED "bookshelf," according to architect Scot Horst, LEED Steering Committee chair, that will still accommodate specific building types. The USGBC's goal is to respond to the needs of the marketplace without compromising LEED's rigorous standards. A more streamlined and adaptable rating system should be available by close of 2008. STEPHANI L. MILLER

Centenary

Oscar Niemeyer Turns 100

Architect of Brasília still at the drawing board



ANDRÉ LUIZ MELLO/AP

HIS RAPTOR'S GAZE from the old photographs has softened, and the dashing, combed-back hair is now gray and thin. He may be slower today, and very fragile. But Oscar Niemeyer—who turns 100 years old on Dec. 15—climbs the stairs every morning for a full day of work in his airy, sunny penthouse office in Rio de Janeiro, overlooking Sugar Loaf Mountain and Copacabana Beach. He keeps his light, well-pressed tropical cotton shirts open at the collar and remains very much the Latin gentleman, down to his suspenders and impeccable leather shoes.

Perhaps the last surviving pioneer of early modernism, Niemeyer, who worked with Le Corbusier in the 1940s on the design for the U.N. headquarters in New York, still has more than a dozen large-scale reasons for getting up each day. The architect of Brasília continues to add monumental buildings to the federal mall of Brazil's capital—a new

hemispherical national museum, the sinewy national library next door, and a sprawling, low-rise rectory adjacent to his famous crown-of-thorns Cathedral of Brasília. Closer to home, on the serpentine shores of Niterói island, just opposite Rio, the 1988 Pritzker laureate has designed a cultural acropolis along the waterfront that includes a civic theater with an undulating roof, a monumental Catholic cathedral and equally large Baptist church, and the Niemeyer Museum, its hemispherical form split open at the entrance.

Further down Niterói's shore road—named after the architect himself—he recently finished a ferry terminal and the Museum of Contemporary Art, a futuristic building that rises from its podium like a chalice toasting the 360-degree panorama. As in Brasília, the monumentalized buildings are surrounded by open space, and each is designed in striking forms distinct from the others. A sketch in ceramic tile on the theater's façade acts as a Rosetta stone explaining the design, its undulating roof lines derived from the mountains, ocean waves, and sea nymphs he has drawn.

Niemeyer commands the celebrity of a rock star in Brazil and is being honored this year with exhibitions and publications. But he remains modest. "I just did my work," he says. "I tried to do the things I liked to do, lighter things, while working freely and always exploring technology, especially concrete, with all its sculptural potential. I think architecture finally is personal, a matter of intuition and invention. Each architect has to find his own architecture."

The day I visit, Niemeyer works in his office on conceptual sketches before passing them along to associates. Within arm's reach are tightly shelved rows of books: Rilke, Camus, Lenin, Sartre. "I spent my whole life at the drafting boards, but I think the human questions—the problems we face, lessons of philosophy—are more important. Architecture starts in the mind," he says. "Even if I did my work with great care, what's important is to protest against human injustice. When you see suffering all around you, it is hard to think architecture is fundamental. But it can help and complement more important things." JOSEPH GIOVANNINI

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Contracts

AIA Releases 2007 Contract Documents

Revisions to A201 may change architect's role

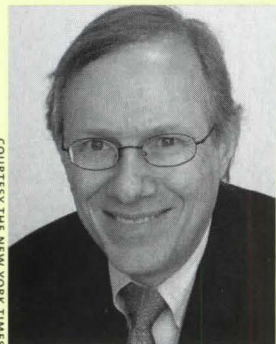
THE AIA REVISES its series of contracts on a 10-year cycle in years ending with a seven—which means this is the big year. The 2007 updated contract documents are now available and reflect the changing status of architects within the construction industry. Most revisions to the 40 documents can be considered nips and tucks, but a few—to the A201 General Conditions of the Contract for Construction—might be characterized as reconstructive surgery.

Until this year, the AIA has required arbitration for dispute resolution. A new checklist allows the parties to choose their own preferred method, which includes arbitration as an option, but the default procedure is now litigation.

The architect has long been designated the neutral party for deciding disputes between the owner and the contractor. However, new language allows the owner and the contractor to hire a third party—dubbed the IDM (initial decision maker)—to serve in this role. The change reflects the growing use of outside consultants, often employed by the owner, within complex construction projects. If an IDM is not identified within the contract, the role still reverts to the architect.

The new and revised 2007 documents were released less than six weeks after the Associated General Contractors of America (AGC) issued

its own brand-new series of contracts, called ConsensusDOCS. These 70 documents supersede the AGC's previous document program, established during the 1970s as competition for the AIA brand. AGC is actively promoting the new documents as "reflecting a consensus for best practice," and for the first time in more than 50 years, it voted unanimously not to endorse the AIA's new version of A201. EDWARD KEEGAN



Appointments

AIA Elects Thurm

Newspaper executive takes seat on board

WHEN IT COMES to dealing with the media, the AIA just gained an edge: In October, it elected David A. Thurm as one of two nonarchitect "public directors" on its 50-

member board. Currently a senior vice president of *The New York Times* and the chief information officer for the New York Times Co., Thurm spoke with ARCHITECT about his career to date and his new role.

ARCHITECT: Can you tell me a little about your work with the *Times*?

DT: I've been at *The New York Times* for 25 years. In the course of that I ended up working on a number of building projects, not just as a lawyer but as someone who found it interesting.

ARCHITECT: What were some of your most memorable projects?

DT: I was lucky enough to head the team to build a printing plant in Queens. I felt that the design would make a difference, but we'd never really used a design architect before. I convinced the company, which hired Jim Polshek and Richard Olcott [of Polshek Partnership], and they did a spectacular job. After that, when it came time to build our new corporate headquarters, there wasn't a moment's hesitation about the fact that we were going to use a signature architect [Renzo Piano Building Workshop, which led a design team including FXFOWLE and Gensler].

ARCHITECT: What are your goals for the AIA?

DT: I can't say that I'm coming in with hard-defined goals. The thing that I bring most to the table is the notion of what an owner's perspective is—having hired architects and appreciating what they do, but also sticking within strict budgets and other constraints. KIM A. O'CONNELL

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Books for Art's Sake

New art and architecture bookstore opens in Manhattan



ANDREW BORDWIN

IT'S OLD NEWS that chain stores and web commerce have cut into the trade of independent book retailers, but not everyone doubts the sector's enduring viability. "People want to be able to touch and feel and see books," says Cynthia Conigliaro, owner of ArchiviaBooks, which opened Nov. 1 at 993 Lexington Ave. on Manhattan's Upper East Side.

The store, with 3,000 contemporary titles on architecture, fine arts, interiors, gardens, and fashion, is a larger and more architecture-conscious incarnation of Conigliaro's previous bookstore, Archivia: The Decorative Arts Book Shop, which was open from 1991 to 2001 on Madison Ave. (Conigliaro and her then business partner, Joan Gers, opted to sell that store at the end of their lease.)

Art bookstores in New York have a high turnover rate: In one telling index, only nine of the city's 17 non-institution-run stores that were profiled in a 1988 *New York Times* article were in business 19 years later. And New York isn't the only city where such bookstores are suffering. In October, Washington, D.C.'s beloved Franz Bader shut its doors after a 54-year run, a victim of rising downtown rents in the nation's capital.

But Conigliaro is undeterred, believing that she can offer customers a more personal level of curatorial reference. "The pendulum is swinging back to bookstores," she says. "We are a visual resource center for research and inspiration." **GIDEON FINK SHAPIRO**

Awards

DUANY AND PLATER-ZYBERK WIN BIG

Duo awarded the \$200,000 Driehaus Prize



ANDRÉS DUANY AND ELIZABETH PLATER-ZYBERK will receive the 2008 Driehaus Prize from the School of Architecture at the University of Notre Dame. The award recognizes individuals for their work in traditional, classical, and sustainable architecture and urbanism.



The winners, who are husband and wife, together head Duany Plater-Zyberk & Co. (DPZ), a Miami-based urban planning firm with almost 300 town plans in its portfolio. Early in their careers, they helped produce iconic modernist designs for Arquitectonica, but it was their plan for the resort town of Seaside in Florida's panhandle that cemented their reputation as the parents of New Urbanism. Plater-Zyberk is also dean of the University of Miami's School of Architecture. She and Duany co-authored the books *Suburban Nation* and *The New Civic Art*. "We celebrate Duany and Plater-Zyberk's accomplishments turning a vision for the public realm into reality," said Notre Dame architecture dean and Driehaus Prize juror Michael Lykoudis.

The prize—which includes a 13-pound bronze and limestone trophy as well as \$200,000—will be conferred in a Chicago ceremony in March 2008. Now in its sixth year, the award previously matched the \$100,000 paycheck of the Pritzker Prize, but this year's laureates will benefit from the increased largesse of Chicago-based sponsor Richard H. Driehaus. In addition to Lykoudis, the jury included Driehaus, critic Paul Goldberger, architect David Schwarz, Georgia Tech professor Elizabeth Dowling, and American Academy in Rome president Adele Chatfield-Taylor. Duany and Plater-Zyberk join past laureates Leon Krier, Demetri Porphyrios, Quinlan Terry, Allan Greenberg, and Jaquelin Robertson. **EDWARD KEEGAN**

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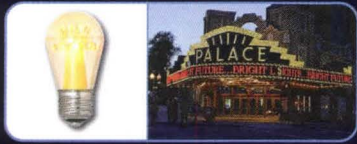
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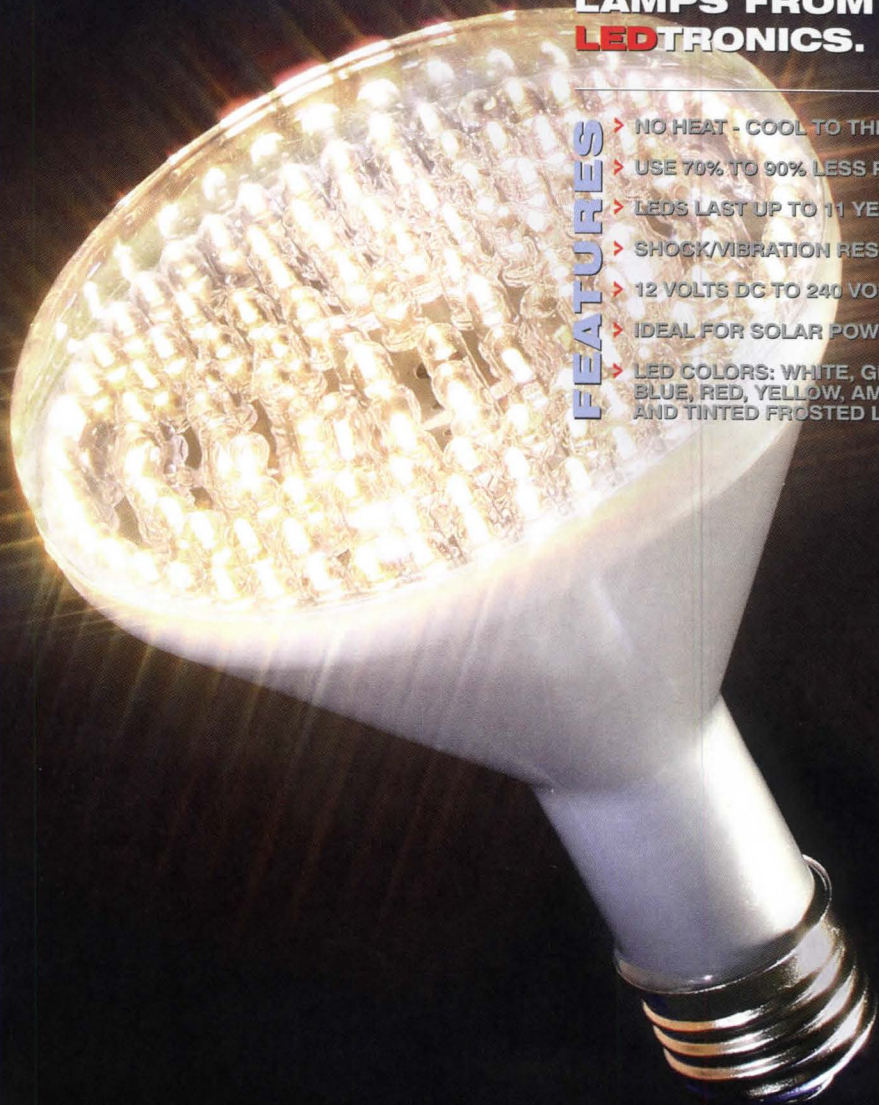
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Clips

The AIA's **Architecture Billings Index** for September was 51.1 (any score over 50 indicates an increase in billings), the lowest score since June 2006.

The American Institute of Architecture Students and the AIA Trust have announced the **AIAS/AIA Trust Scholarship Program for Emerging Professionals**. The program, designed to help students in the fifth year of an undergraduate program or the first year of a graduate professional

degree, will award five scholarships of \$750 each year. The deadline for applications for the 2007–2008 school year is Dec. 14. Learn more at aias.org/scholarship.

New York City firm **Caples Jefferson Architects** has been selected to design the visitors center for the Louis Armstrong House Museum in Corona, Queens, N.Y.

The Poetry Foundation, based in Chicago, has chosen **John Ronan Architects** to design the group's

new home, which is expected to be completed in 2010.

General contracting, construction, management, and consulting company **Mackenzie Keck** has purchased the green-building consulting firm **Global Thinking**, which will be led by architect Frank Sherman.

The ranks of full-time architecture critics at newspapers continue to dwindle. The last article by **Whitney Gould**, who has written for the *Milwaukee Journal Sentinel* for 12 years,

appeared on Nov. 18. The paper has not decided whether to hire a replacement.

After five decades of designing homes away from home for untold thousands of travelers, **Gerald L. Allison** retired from resort and hospitality giant **Wimberly Allison Tong & Goo** (now simply **WATG**) in October.

Influential New York City architect **Martin Raab**, who worked for many years at **HLW International** and also led the **School Construction Authority**, died on Nov. 14 at age 75.

Preservation

Royal Treatment

Italy's Venaria Reale completes first stage of renovation

IT TOOK 100 designers, 80 technicians, 800 laborers, and nearly \$300 million, but the first phase of the restoration of the Grande Reggia palace at the Venaria Reale estate in Turin, Italy, has reopened to the public. The estate, a UNESCO World Heritage Site, was designed during the 17th and 18th centuries by such famed architects as Filippo Juvarra

for the royal family of Savoy but has been largely abandoned for the past 200 years. The initial phase of the project involved Juvarra's church of St. Umberto (below) and rooms and artwork in the residences. More than 3,000 square feet of frescoes and 475,000 square feet of stucco and plaster work were renovated. The complex will be used as a center for art exhibitions, concerts, and other cultural activities. **KATIE GERFEN**



PROPERTY OF PROGETTO "LA VENARIA REALE"

Deadlines

Competitions and more

DEC. 12

Congress for the New Urbanism Charter Awards

The Congress for the New Urbanism welcomes submissions for the 2008 CNU Charter Awards. This juried awards program recognizes today's best work in urban design, architecture, landscape design, development, and placemaking—work that fulfills and advances the principles of the Charter of the New Urbanism.

cnu.org

DEC. 17

Registration: Make Space for Art

La Reunion TX, an artists' residency in Dallas, seeks ideas for a sustainable live/work space for up to 10 artists with a multifunctional space for intimate performances, installations, and exhibits. It will be built in and around a site that contains a historic artifact: a trestle leftover from the Interurban Railway. The original La Reunion was a European utopian community founded in Texas in 1855. Submission deadline: Jan. 31, 2008.

lareuniontx.org/architecture

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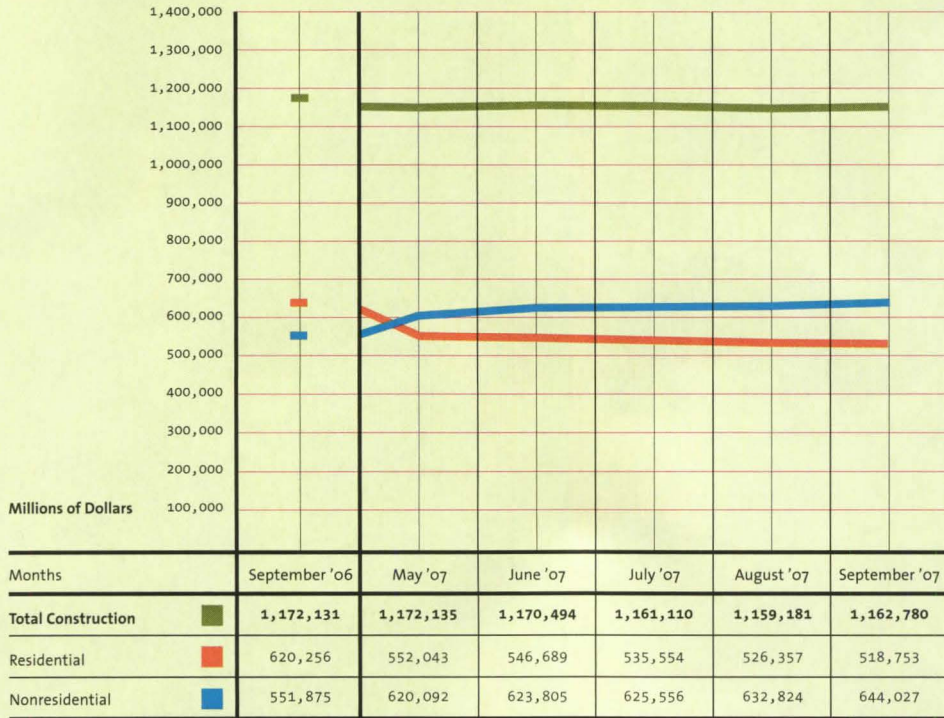
The secret's in the surface.

September 2007

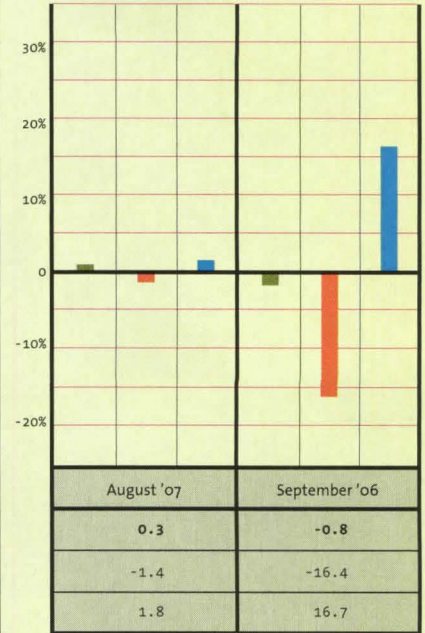
Construction Spending

From the U.S. Census Bureau's monthly report on the value of construction put in place

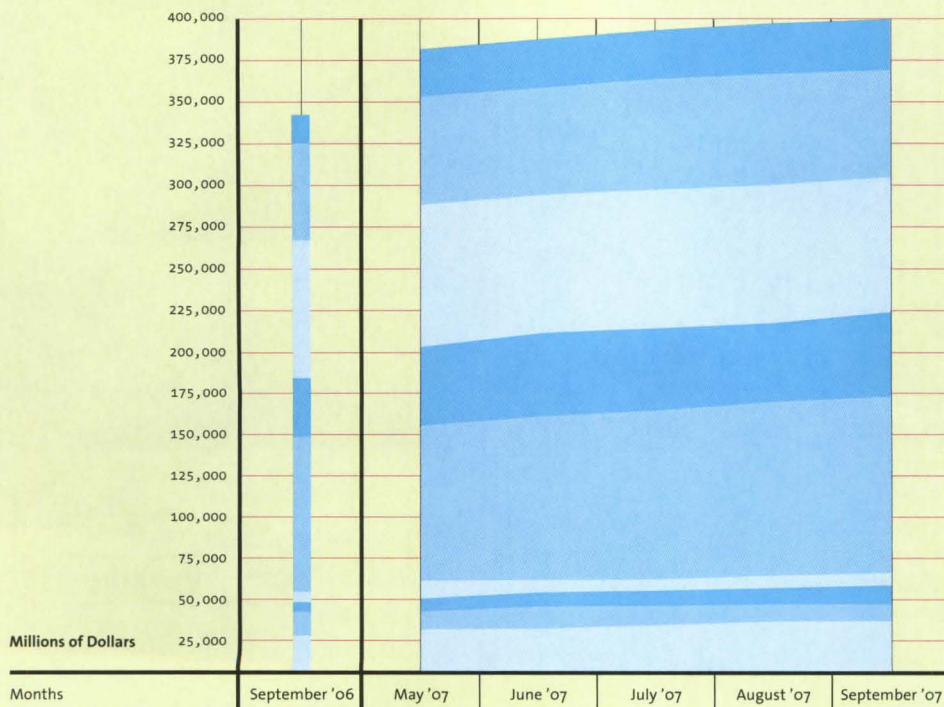
TOTAL CONSTRUCTION (SEASONALLY ADJUSTED)



Percent Change From:



SELECT NONRESIDENTIAL CONSTRUCTION (SEASONALLY ADJUSTED)



Category (September '07 Total)

- Lodging (34,267)
- Office (66,880)
- Commercial (85,446)
- Healthcare (46,180)
- Educational (101,705)
- Religious (7,478)
- Public safety (10,269)
- Amusement and recreation (21,500)
- Transportation (32,612)

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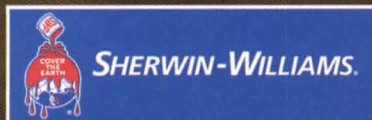


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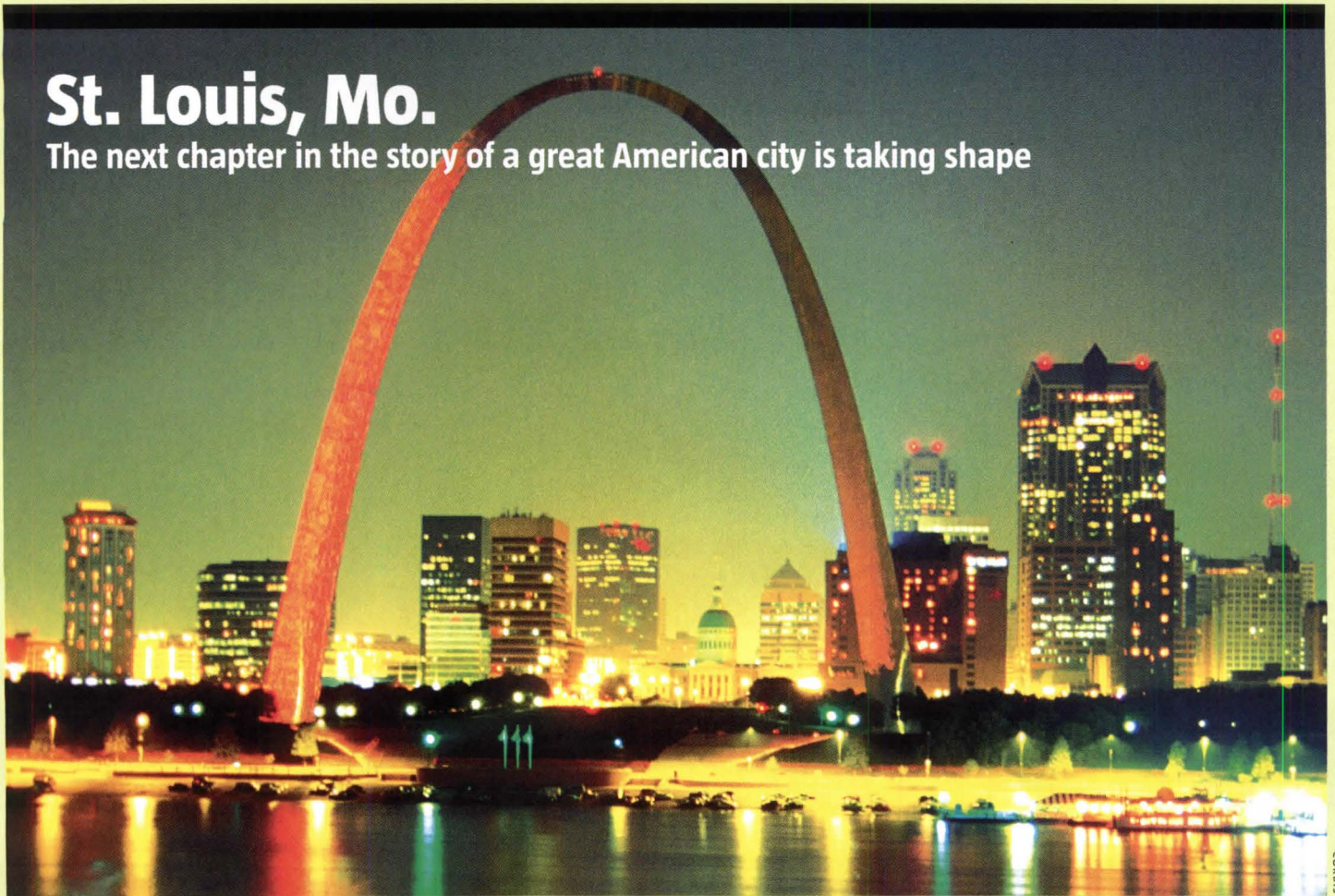
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St. Louis, Mo.

The next chapter in the story of a great American city is taking shape



Eero Saarinen's Gateway Arch is among the best-known projects that engineer Hannskarl Bandel worked on. Others include Marina City in Chicago and Toronto City Hall.

HOME TO AMERICAN ICONS the Gateway Arch and Anheuser-Busch, St. Louis is getting a new, edgier reputation thanks to a rise in biotechnology and medical research at Washington University. But this is just one reason biotech and pharmaceutical companies are setting up shop here; there are also the area's central location, good economy, and dual appeal as college town and Midwestern urban hub.

"We have some of the oldest housing stock in the country, with neighborhoods that predate streetcar-type urban neighborhoods," explains Robert Wagstaff, a principal of local firm Rosemann & Associates. "As the urban lifestyle becomes increasingly more popular, this is a great strength. We have what people want—we just have to rehab it and make it accessible."

That's driven about \$4.5 billion in redevelopment of the city's core and renovations to surrounding residential areas. Projects include the redevelopment of the dying, 540,000-square-foot St. Louis Centre

mall into a retail and residential complex. As a result, leaders are trying to balance St. Louis' rich architectural history with the needs of its promising future. "St. Louis' architecture is a rich reflection of the city's diverse French, Spanish, and German historical influences," says Clark Davis, vice chairman of locally based megafirm HOK. "The city and region have also been fertile ground for modern design."

How fertile? According to Eugene Mackey III of hometown firm Mackey Mitchell Associates, "We have 16 recipients of the National AIA Gold Medal in our region. That's more than New York."

But the city's best-known landmark, Gateway Arch, could become a target for redevelopment. A recent study by the Danforth Foundation—a private enterprise that focuses solely on revitalizing the St. Louis region—suggested repurposing some of the parkland surrounding the arch to create a riverfront link to downtown, much like Chicago's Millennium Park. MARGOT CARMICHAEL LESTER

JOB/POPULATION GROWTH

The St. Louis metropolitan area is home to 2.8 million people and has experienced 37 consecutive months of net job growth.

OFFICE MARKET

Average asking rental rates for Class A space are \$22.30 per square foot. For Class B space, landlords are asking an average of \$17.21 per square foot.

RESIDENTIAL MARKET

Year-to-date home sales declined 6.7 percent in September.

MARKET STRENGTHS

- Central location
- World-class institutions of higher education
- Unique neighborhoods

MARKET CONCERNS

- Lack of clear regional leadership

- Rapidly sprawling suburbs
- High poverty rate

FORECAST

"There exists a new open and innovative spirit ... especially among its younger generation," notes Fred Powers, principal at local firm Powers Bowersox Associates. "St. Louis is well positioned to be optimistic about its future for the next five to 10 years and beyond."

→ continued on page 26

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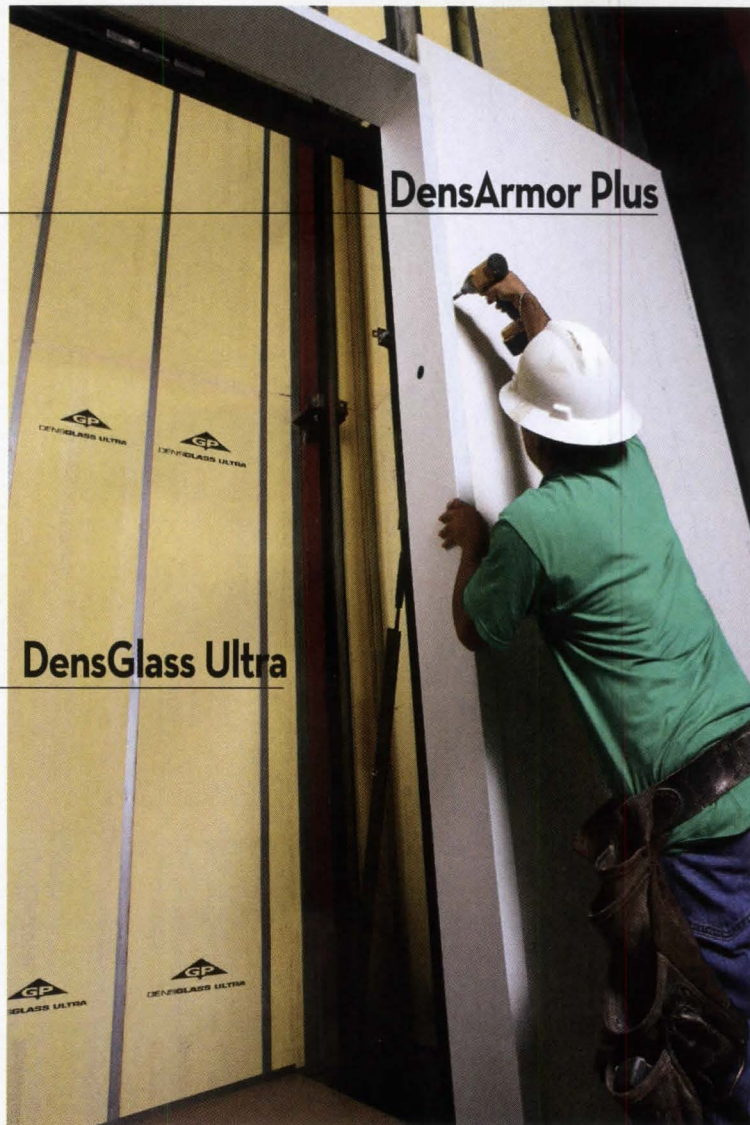
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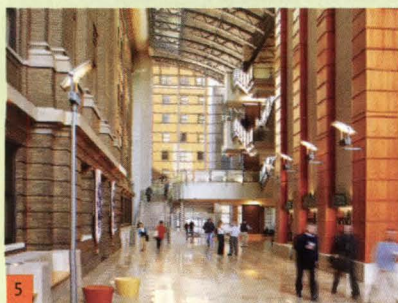
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IMAGING ATELIER 2007

NOTABLE PROJECTS

1

THE OLD POST OFFICE**Architect:** Trivers Associates, St. Louis**Developers:** DESCO Group and DFC Group Inc.**Completed:** 2006**Cost:** \$24.5 million

Designed by Alfred B. Mullet and completed in 1884, the 245,000-square-foot building's tenants now include the Missouri Court of Appeals, a branch of the St. Louis Public Library, and the *St. Louis Business Journal*.

2

SKYHOUSE**Architect:** Metro.Arch, Niles, Ill.**Developer:** WTD Venture**Expected Completion:** 2010**Estimated Cost:** \$67 million

Construction will begin on this 22-story downtown high-rise in early 2008. The project includes ground-floor retail, a three-story parking deck, 166 residential units, and an amenities level on the 19th floor.

3

14TH STREET MALL REVITALIZATION**Architect:** Rosemann & Associates, St. Louis**Developers:** Regional Housing Community Development Alliance and Old North St. Louis Restoration Group**Expected Completion:** 2009**Estimated Cost:** \$26 million

Redeveloped in the '70s as a pedestrian mall, this Northside neighborhood conversion will include 78 mixed-income apartments and 26,000 square feet of commercial space.

4

CHAIFETZ ARENA**Architect:** Mackey Mitchell Associates, St. Louis**Developer:** Saint Louis University**Expected Completion:** 2008**Estimated Cost:** \$83.2 million

This 280,000-square-foot, 10,600-seat arena in midtown will provide a home court for the Saint Louis University Billikens basketball team and a venue for other events.

5

**WASHINGTON UNIVERSITY SCHOOL OF MEDICINE
FARRELL LEARNING AND TEACHING CENTER****Architect:** HOK, St. Louis**Developer:** Washington University**Completed:** 2005**Cost:** \$30 million

The 108,000-square-foot public face of Washington University's renowned medical school offers state-of-the-art instructional and gathering spaces. It received *American School & University's* 2006 Outstanding Design Award.

6

ST. LOUIS ART MUSEUM EXPANSION**Architect:** David Chipperfield Architects, London**Developer:** St. Louis Art Museum**Expected Completion:** 2011**Estimated Cost:** \$125 million

In 2008, the St. Louis Art Museum will break ground on an addition to its Forest Park building, designed by Cass Gilbert for the 1904 World's Fair. The new structure will provide 82,000 square feet of galleries and public space.

Before



After



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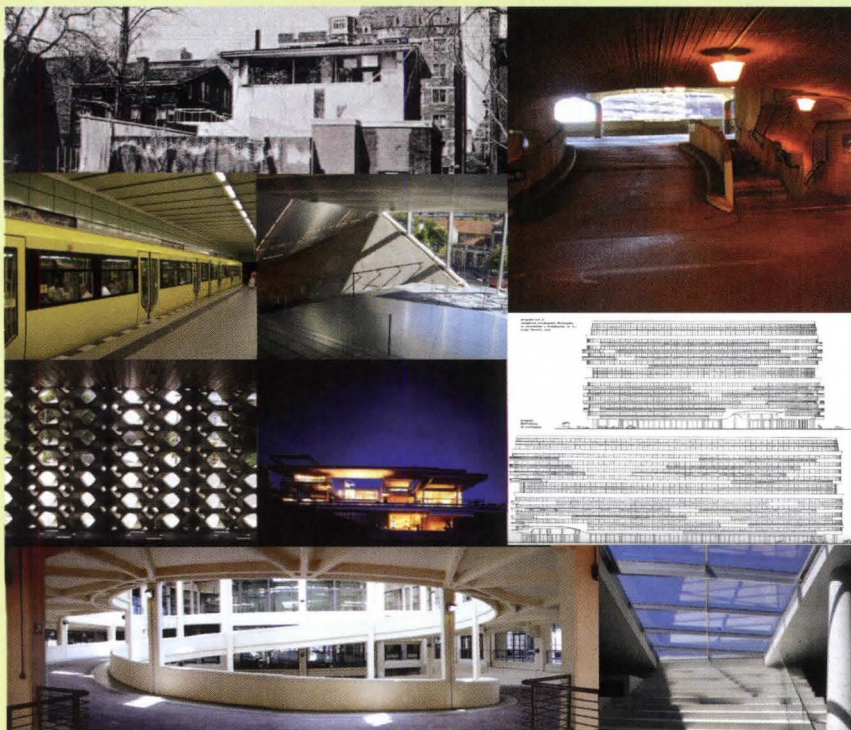


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Flickr users with a yen for architecture post almost any photo or illustration they discover (or create).

LAST SPRING, **BRYAN BOYER** posted a drawing of a residential building at Washington, D.C.'s Watergate complex to his Flickr account (flickr.com/photos/bryan). The elevation of architect Luigi Moretti's design (above, center right), culled from history's dustbin, was originally published in a 1955 issue of the Italian magazine *Domus*, seven years before the complex opened (and 17 prior to any scandal). A Harvard GSD student, Boyer uses the photo-sharing/social-networking site as an archive and design resource. He sees it as reflective of architectural practice as much as of history. "Flickr's choice of the word 'photostream' to describe the photos that a user posts is revealing," says Boyer. "It really is a flowing stream of consciousness. In that context, to see the odd Moretti drawing next to a current-day studio project, stuffed between a picture of dinner at your desk and the changing leaves of fall—well, this is the architect at work."

On Flickr, students, historians, and architects search out images of a certain designer, genre, or location via "tags" (user-assigned classifications), and an ersatz community is formed. Although the site has tools for setting up formal user groups, many participants operate on an ad hoc basis, trading comments and links. First-year Princeton architecture school Ph.D. candidate Enrique Ramirez (who posts under the initials E.G.R.; flickr.com/photos/egr) finds the digital exchange a natural fit. "It is a way of sharing things one has heard of but does not necessarily know," he says. "Posting a picture of a Zaha Hadid building will solicit a different response than posting Paul Rudolph drawings or Venturi Scott Brown collages."

New York City-based architect Kelvin Dickinson (screen name: kelviin; flickr.com/photos/73172555@Noo) is responsible for much of the Rudolph material ending up on Flickr. In April he set up a group dedicated to the architect (flickr.com/groups/paulrudolph); on Oct. 31 it had 71 members and 1,999 images. Dickinson's enthusiasm raises online awareness of the architect's work, which in turn helps with the Paul Rudolph Foundation's offline efforts to save the designer's oft-maligned buildings. "I wanted to use the forums to discuss the need for preservation and why his buildings evoke such a visceral response," explains Dickinson. The desire for dialogue is common among Flickr's architectural users, and it clearly transforms archiving drawings and photographs from stuffy historical indexing into contemporary practice. **MIMI ZEIGER**

Links

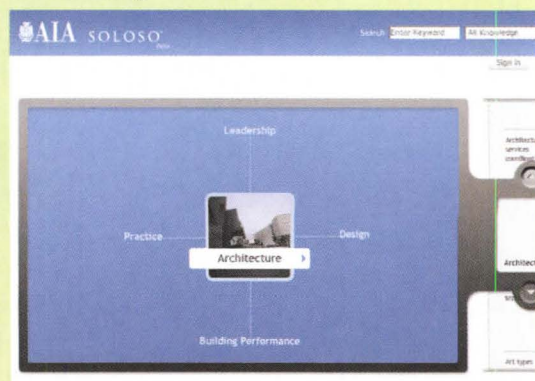
HISTORY

www.arch.uic.edu/urbanarch

Created in 1889 by Jane Addams and Ellen Gates Starr, Chicago's Hull-House was the first indication that the England-born settlement movement—a response to rapid urban growth and the concomitant increase in poverty and other woes among marginalized groups—had reached the United States. Eventually, all but two of the buildings that constituted Hull-House were consumed by the campus of the University of Illinois at Chicago. This case study examines the social, cultural, educational, and architectural threads that connect the two institutions.

RESOURCE

soloso.aia.org

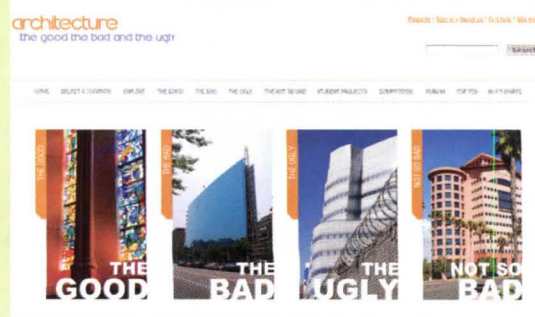


In late September, the AIA launched Soloso, a website that offers members "a continuous flow of information on trends, solutions, products, and strategies related to architecture." After creating their profiles, members can also upload their own projects, create blogs, and share their interests and expertise with others.

CRITICISM

architecturethegoodthebadandtheugly.com

Why leave critiques of the built environment to the experts? Now, with *Architecture: The Good the Bad and the Ugly*, launched a few months ago, anyone with an opinion can post images of buildings and developments that are commendable, merely so-so, or downright awful. You can also vote on other designs already in the database.



building paperless

Commercial contractors avoid weather construction delays, costly remediation with paperless drywall

A commercial contractor at times can be a high-stakes gambler. Part weatherman, part soothsayer, a contractor must juggle many uncontrolled variables during the critical closing-in phase of construction. Chief among these is the unpredictability of the weather.

Make a wrong bet, like the timing of drywall installation, and a contractor risks prolonging construction schedules, increasing labor costs and delaying project completion.

Now, though, there's a winning bet - building paperless - that can eliminate much of the guesswork and stress from scheduling and implementing drywall installation.

Twenty years ago, Georgia-Pacific Gypsum envisioned products that would help reduce the risk associated with prolonged exposure to the elements during the construction process. At the core was DensGlass Gold® exterior sheathing, with fiberglass mats - instead of paper facings - and a moisture-resistant core. These unique attributes can help protect the sheathing from damage that can be caused by prolonged exposure to normal weather conditions during the construction process.

Now, the fiberglass mat technology and its unique GOLD color covers a suite of paperless gypsum panels including DensArmor Plus® paperless drywall for interior walls, DensGlass Ultra® Shaftliner for stairwells, elevator and mechanical shafts, and DensShield® tile backer, all of which have treated cores and fiberglass mat facings that make them moisture- and mold-resistant.

This new technology for gypsum panels is important because traditional paper-faced drywall is prone to deterioration when it gets wet, and can create a source for mold growth. Leo Bissonnette, general manager, Georgia-Pacific Gypsum, says, "By specifying paperless gypsum products for everything from the exterior sheathing to roof decking to the tile backer, architects can now design buildings that are more durable and sustainable both during and after the construction process. Owners can feel confident they have long term protection against mold growth."

This "build paperless" strategy is proving to be both cost-effective and timely. One project that benefited from building paperless was the Medical University of South Carolina's (MUSC) Hospital replacement, in Charleston, South Carolina. DensArmor Plus paperless drywall and DensGlass Ultra Shaftliner products were used on the project, with impressive tangible results.

"...ARCHITECTS CAN NOW DESIGN BUILDINGS THAT ARE MORE DURABLE AND SUSTAINABLE BOTH DURING AND AFTER THE CONSTRUCTION PROCESS. OWNERS CAN FEEL CONFIDENT THEY HAVE LONG TERM PROTECTION AGAINST MOLD GROWTH."

According to Mac McClinton, project engineer, "We hung 675,000 square feet of DensArmor Plus during rainy weather with almost no replacement. That's unheard of at this scale of construction. It was a



really good investment." Not having to wait out the rainy weather to hang drywall had a significant impact on the construction schedule, noted McClinton, as subcontractor work was accelerated. Plumbing, electrical and mechanical trades were able to start - and finish - their assignments much sooner. Wall-related detailing, like glazing, corner guards and case work was also accelerated.

The impact of building paperless on the bottom line was significant, according to Chris Malanuk, product director of strategic planning for MUSC. "The original idea was to reduce both short-term and long-term mold growth risk," Malanuk explained. "Then the possibility of accelerating the construction came up, and we realized that efficiency made up for any product cost differential many times over."

Building paperless has proven effective for hospitality projects, as well. A large Southeastern hotel was deluged by a tropical storm, and then hit by a hurricane after shaftliner panels and many other gypsum assemblies had been installed. Despite being subjected to wind-driven rain and near-constant high humidity for weeks, the DensArmor Plus drywall and DensGlass Ultra Shaftliner panels held up well. The contractor said that had paper-faced drywall been used, the resultant damage would likely have required a massive and costly tear-out and remediation effort.

Balancing variables like scheduling and cost overruns will always be realities for builders and contractors. However, by building paperless, stakeholders have landed on a winning formula - one that improves scheduling, tightens production schedules and greatly reduces the risk of costly remediation.

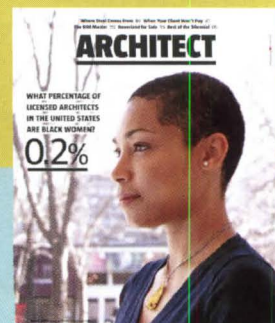
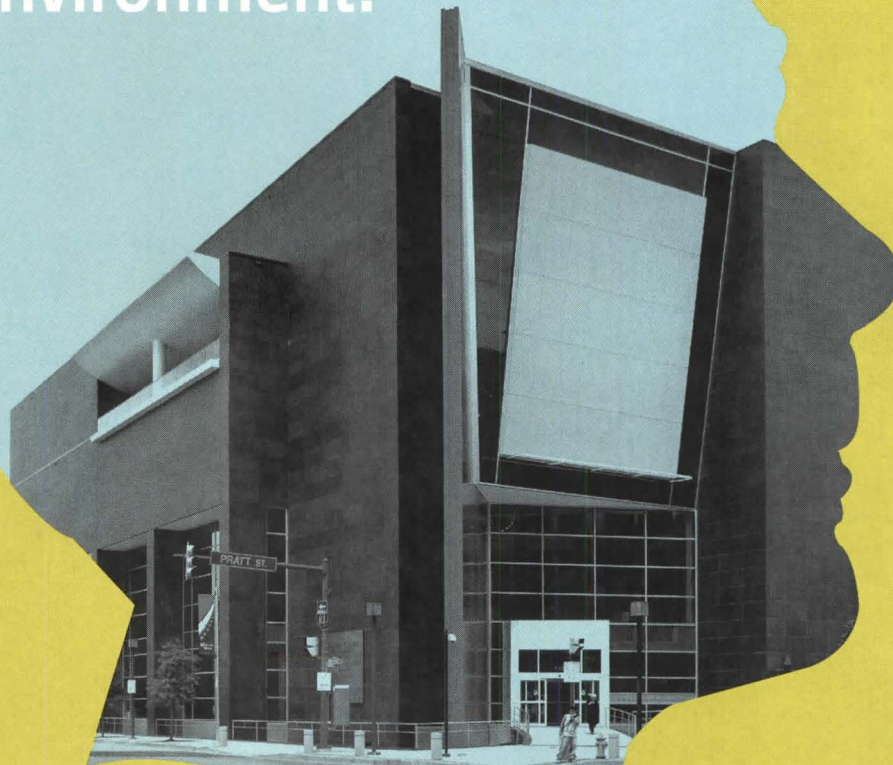
For a copy of the MUSC Project Profile, and more information about building paperless from Georgia-Pacific Gypsum, visit www.buildpaperless.com. Circle no. 469 or <http://architect.hotims.com>

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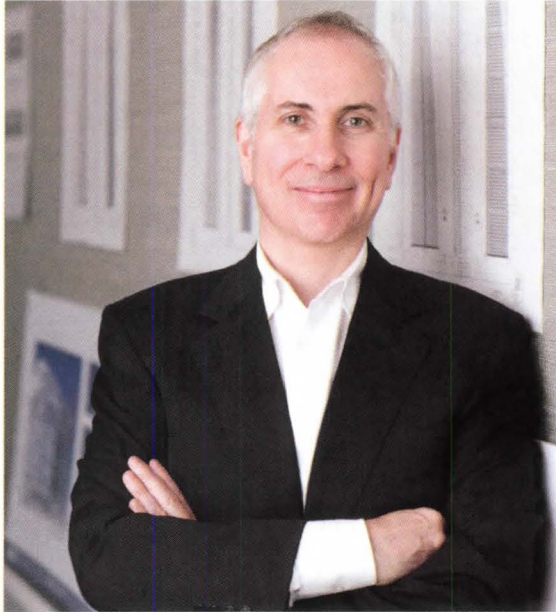


architectmagazine.com

KPF'S JAMES BROGAN GIVES TIPS ON HOW FIRMS CAN MAKE THE TRANSITION FROM 2-D TO 3-D DESIGN.

Text Fred A. Bernstein Photo Matt Greenslade

SOFTWARE GURU



James Brogan is overseeing the implementation of BIM as a design tool at KPF, but the transition has been a slow one.

KOHN PEDERSEN FOX (KPF) IS A BIG FIRM with an even bigger profile: its 600 employees in New York, London, and Shanghai are working on such megaprojects as New Songdo City in Korea; the Shanghai World Financial Center; and the Heron Tower in London, to name a few. Changing the way such a large organization works is no small feat, which is why James Brogan, director of firmwide information technology, is keeping close tabs on building information modeling. Usually known by the one-syllable moniker BIM, the system links every drawing, schedule, and construction document associated with a project, so that changes in one are immediately reflected in all the others. The large scale of KPF's projects and the fact that BIM requires architects to think and design differently than in the 2-D days of AutoCAD make such a transition difficult. But Brogan, who studied architecture at Pratt Institute in New York and came to KPF in 2001, believes that BIM allows architects to take advantage of today's computing power.

Choose the software that's right for you ...

Brogan has explored the four leading BIM systems: Autodesk's Revit, Bentley Architecture, Graphisoft's ArchiCAD, and Digital Project from Gehry Technologies (yes, that Gehry). "Overall, we have found that the most recent versions are—finally—robust enough for our larger projects," he says. For some of those projects, he says, Revit appears most promising.

... and the features that fit the way you work.

At KPF, BIM is not yet being used as a design tool. Architects continue to design with the modeling applications they've used for years, including McNeel's Rhino, Bentley's Generative Components, and Autodesk's 3D Studio Max. "Their work in those programs is 'ported' to the BIM platform once we are well into the schematic phase," says Brogan. "But that means we have to make sure all those other programs interface with our BIM software, which can be a challenge."

Train people "just in time."

At KPF, employees who need to learn BIM software start with a week of full-time training. "That lets most people get up to speed," says Brogan. But to be really comfortable with the tool, he says, can take up to eight weeks of on-the-job training. That process doesn't begin until a person has a real project on which to use the software. "If you train people to use a program

before they actually need it, the training isn't nearly as effective," Brogan says.

Consider how people in the firm work together ...

"The real challenge of BIM," Brogan says, "is that it revolutionizes the way architects collaborate. Modify one document, and every other document changes. So the firm has to pay attention to group dynamics. A designer who is used to working alone may have to make a difficult adjustment. And those who master the BIM tools can have a great deal of influence on a project."

... and with people outside the firm.

The promise of BIM is that everyone working on a project, inside and outside your office, will have access to the same information at the same time. Contractors will use BIM for scheduling, estimating, and modeling the sequence of construction. But that also means people outside the firm will have the ability to modify construction documents. It's important to be clear about each firm's responsibilities, says Brogan—both to maintain the integrity of your design and to avoid being held responsible for changes made outside your office.

Don't look back.

"BIM," says Brogan, "is the wave of the future." Eventually, he predicts, "the new technology will alter how practically all architects practice."

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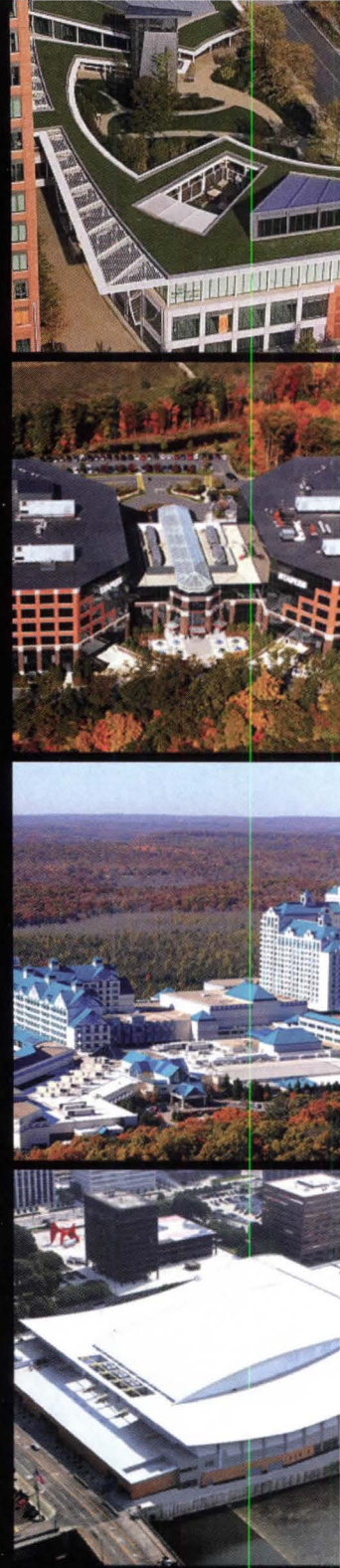
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The Green Crowd

Manufacturers highlight their green strategies among crowds and confusion at Greenbuild.

Text Katie Gerfen

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↑ **Attendance.** Numbers were at an all-time high this year, suggesting that more people than ever are catching onto the green message. The preliminary head count stands at 22,835.

↑ **Energy and Discourse.** The enthusiasm of attendees was palpable. Everyone was engaged in discussing green products, attending seminars and presentations, and, in general, coming together to encourage sustainability.

↓ **Organization.** Wanting to avoid wasting paper by not mailing out badges before the show is admirable in theory, but asking attendees to wait in line up to two and a half hours to pick up said badge is not. Lines were pervasive and interrupted the flow of the show.

↓ **Missing the Keynote.** About 8,000 people caught Bill Clinton's keynote address, but easily a thousand more were prevented from catching the talk because of the confused registration process.

↑ **Accessibility.** If you were stuck in line or stuck at home and missed a potentially interesting session, USGBC has made several available as streaming video on www.greenbuildexpo.org.

↓ **Circulation.** An 11th-hour switch in venue from Anaheim to Chicago forced Greenbuild to share the McCormick Place convention center with two other trade shows. The cramped quarters made the show floor difficult to navigate; only manufacturers seemed pleased that every booth was stuffed.



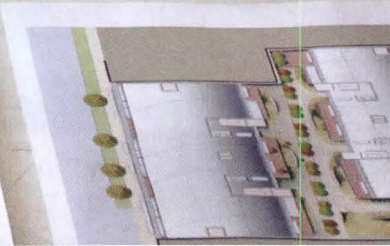
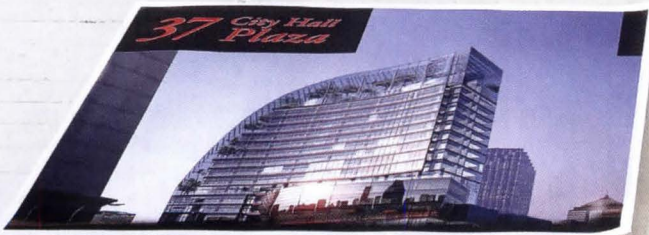
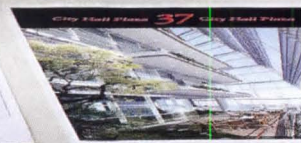
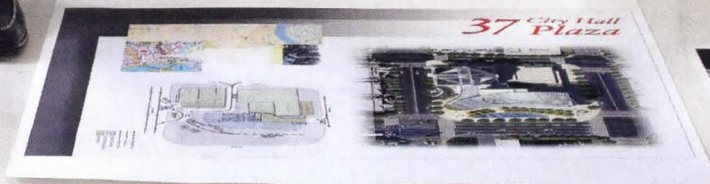
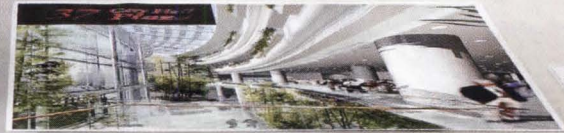
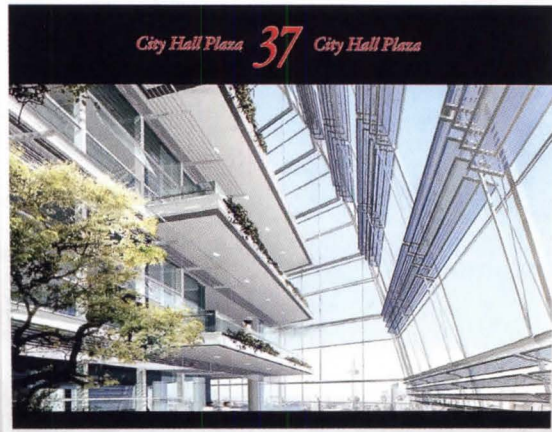
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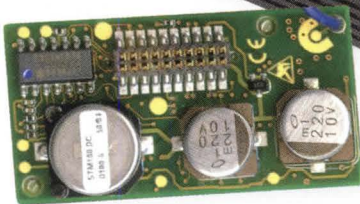
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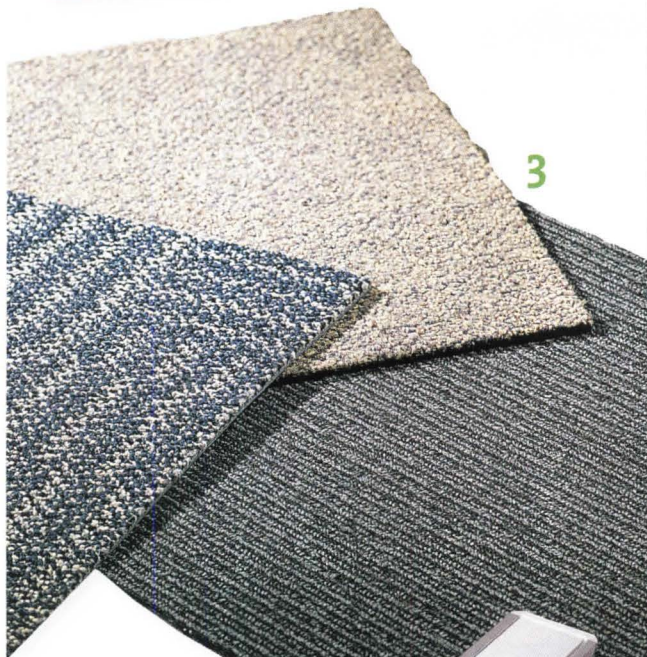
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2

3. Recycled Nylon 6,6

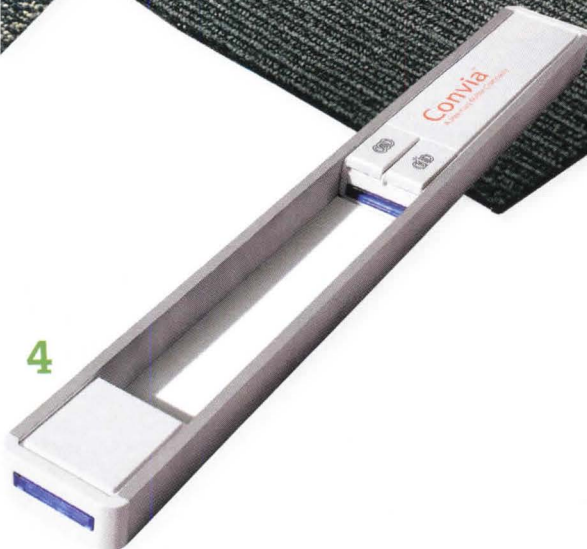
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ARCHITECTS STEPHEN KANNER AND JOE ADDO ARE ENTERING THE BUILDING PRODUCTS INDUSTRY WITH A CONCRETE ADDITIVE DESIGNED TO HELP THE PEOPLE OF GHANA. **Text** Katie Gerfen

STRETCHING THE POUR



CONCRETE IS ONE OF THE MOST CONSUMED substances in the world, second only to water. In the West African country of Ghana, it is used to build seemingly every part of every kind of structure, from foundations and walls in single-family homes to patient rooms in hospitals, and it is the center of a cottage industry of concrete block makers, layers, and artisans. But because of the rising costs of importing portland cement (which is a primary ingredient of standard concrete), an economic crisis is brewing in Ghana, where some people now can't afford to build even the most modest of homes.

Enter longtime friends and architects Stephen Kanner of Los Angeles-based Kanner Architects and Joe Addo of Constructs in the Ghanaian cities of Accra and Tamale. Addo, after nearly 20 years in the United States, recently moved back to his home country of Ghana. On one of Kanner's visits (he is the godfather of Addo's child), the two men spoke with a friend of Addo's who was working with the Ghanaian government to analyze a variety of state-run projects.

One of the projects was a 20-year-old effort to test a concrete additive, a variation on traditional pozzolana ash, that stretches the use of a bag of portland cement by up to 30 percent. To test the durability of the pozzolana formula, the Ghanaian government built roads and structures using the material and simply waited to make sure they would remain structurally stable.



Stephen Kanner
Kanner Architects



Joe Addo
Constructs

Bags of Pozzoghana (left)—a local variety of pozzolana ash, a concrete additive—are now in production in a small factory in Ghana. The additive can stretch a bag of portland cement (a necessary ingredient in concrete) up to 30 percent, making the ubiquitous building product more affordable to the local market.



ALL RENDERINGS COURTESY KANNER ARCHITECTS



The first project to use the Pozzoghana additive will be the Independence Avenue condominiums (above and left) in the Ghanaian capital of Accra. Located on a street lined with embassies and near the main airport, the upscale complex will be a good testing ground for use of Pozzoghana on a commercial scale. Permits are in place; the project should break ground in the coming months.

The buildings are still standing and still strong. Now the government was looking for someone to take over the manufacturing and marketing of the pozzolana product. Kanner and Addo jumped at the chance. "In a country like Ghana, things just take a long time," says Kanner. "That's the way it is. I was lucky to be there at the right time." Addo and Kanner bought the rights to manufacture with a third partner, PMC Global. "I am a shareholder, but most importantly, a Ghanaian advocate," says Addo. With a five-year noncompete agreement from the government in place, the three-person joint venture has embarked on the process of making this additive commercially available under the name Pozzoghana.

Pozzolana is an additive that has been used as far back as ancient Rome, taking a claylike soil and burning it with a local firing agent in order to form a cementitious powder. Much like water added to soup, pozzolana will stretch the amount of concrete that can be mixed from a single bag of portland cement, without drastically modifying drying time, texture, or overall appearance.

The Pozzoghana formula makes use of local resources: the clay soil of the region to start, with the addition of palm kernel caps as the flammable substance. The soil that is used in Pozzoghana is only topsoil; collecting it does not require any strip mining, and it is very quickly regenerated. Palm oil is one of Ghana's biggest exports, and the nuts that provide the oil are structured like acorns, with a small cap that connects the kernel to the tree. The caps have simply been discarded for centuries, but they have chemical properties that interact with the clay of the soil to make pozzolana stable. Kanner describes the

use of the palm kernel caps as "using something that is just sitting in piles by the side of the road," and the Pozzoghana process in general as "very gentle, environmentally." The clay and kernels are burned together in a kiln, using a series of careful heating and mixing techniques, and the end result is Pozzoghana.

By adding Pozzoghana to portland cement before mixing the concrete used to make block and most structures, the average price of each bag of cement drops from \$6 to \$4, leaving the craftsmen more money for their families and making home construction more affordable. "The vision and mission of Pozzoghana Ltd. is simple: to create a complementary product to portland cement, to promote indigenous materials and know-how, and to prove that we need to look within and not without," says Addo.

The production of Pozzoghana is undeniably a business venture for Addo and Kanner, but the partners also hope the product will have a humanitarian use. They are in talks with the Ghanaian government to use the additive to build subsidized, low-income housing in rural areas, and, Kanner reports, "They are very supportive of the product for that kind of use."

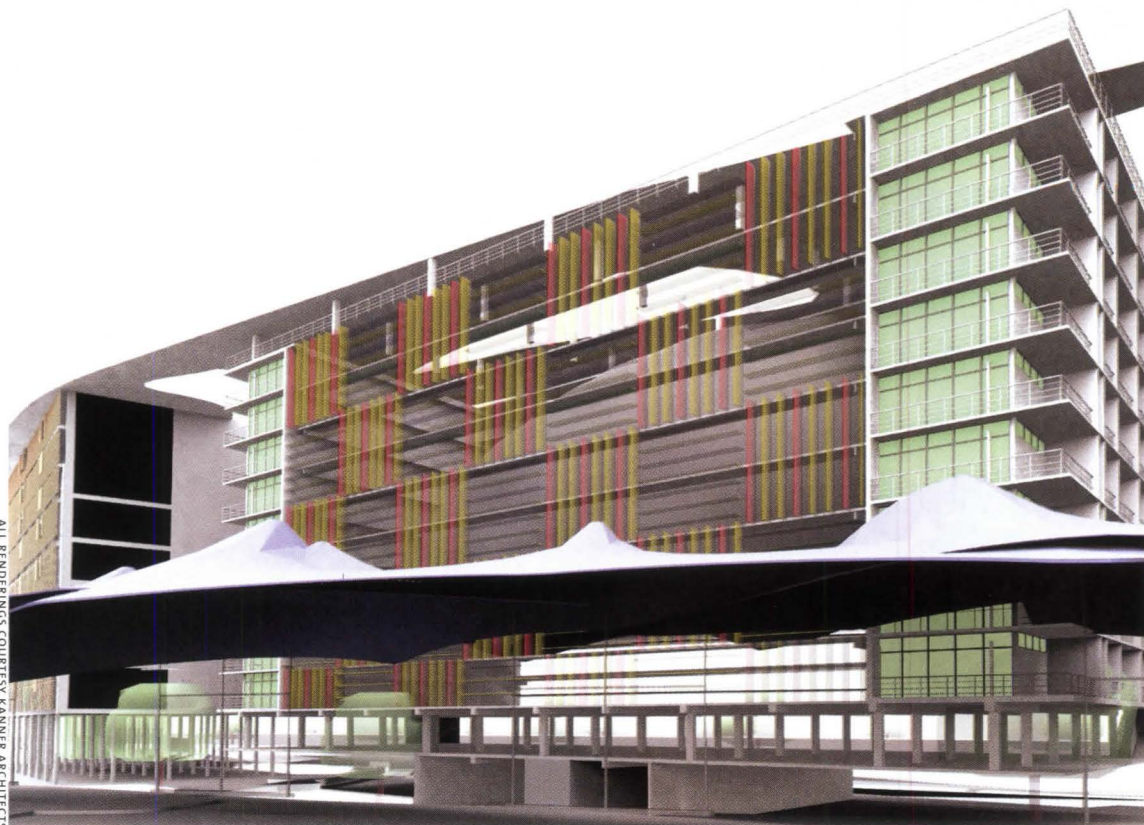
In the meantime, Kanner and Addo are already at work on three projects using the additive to showcase its versatility. One project is about to break ground: a 25-unit condominium project on Independence Avenue in the capital city of Accra, located near the airport and on a street with embassies. "The product can be used for market-rate condos as well as low-income housing," says Kanner, "and this is just a way to have it actually in a built project, which is very exciting." One mixed-use project using Pozzoghana has just



The second project to use the additive will be the Agostine Neto mixed-use project in Accra (above and left). Kanner and Addo won a design competition organized by a local developer, and the project should break ground next year.

A third project, the Spintex Road development (below), is also slated to break ground in 2008. A diagram showing the construction plan for one of the main building volumes shows that Pozzoghana will be used in the cladding panels as well as in other aspects of the construction.

ALL RENDERINGS COURTESY KANNER ARCHITECTS



won a competition run by a local housing developer and will break ground in the next few months, and another is on the boards. All three projects were designed in Kanner's Los Angeles office, with Addo serving as a project architect locally. For these projects, Pozzoghana is being added to portland cement in varying ratios depending on the object; more additive can be used in decorative details than in structural slabs and columns.

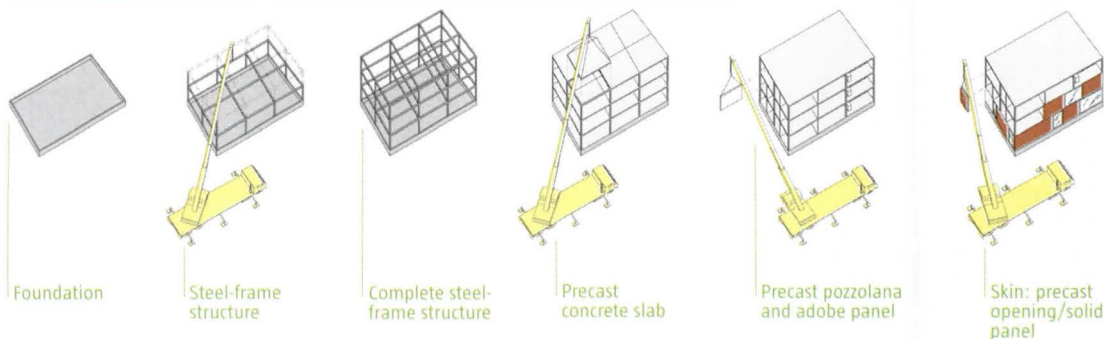
Production is stepping up as well. The joint venture bought the government's test plant, and it is now making commercial product. "If all market indicators

maintain a relatively small environmental footprint.

The partners also have faith in the initiative's financial sustainability. "Knowing Ghanaians and knowing how money is not that plentiful, I suspect that if there is a \$6 bag and a \$4 bag and one of them is effectively homegrown, I suspect [they] would buy the \$4 bag," says Kanner. "And I expect it will be successful because it helps their economy, it hires their people, it uses their natural resources. There are many good reasons to do this rather than import material that they have to pay more for."

Addo feels similarly. "My interest in this project

Spintex Road development: prefab cladding system using Pozzoghana



are positive, a large-scale plant should be up in a year or so," says Addo. More plants are in the works, with a long-term vision including many small facilities across West Africa, so that each can serve a local clientele and employ local workers. Sustainability is a major concern for the partnership. By using a renewable material and a waste product and cutting down on importing and long-distance shipping, the project can save fuel and

is to create a whole new industry for Ghanaians, with a product developed by us to meet our growing demand for 'the building blocks' for the new Ghana," he says. "As an architect/entrepreneur, I believe that as Africans we need to control the supply chain, and I see no contradiction in my social agenda and my capitalistic endeavors—one informs and benefits the other. It's a win-win."

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2007 WINNERS



From The Publisher

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It is with great pleasure that we announce the 2007 winners of **ARCHITECT** Magazine's **Architect's Choice for Excellence (ACE)**. Now in its sixth year, the **ACE Awards** Program is known throughout the industry for recognizing manufacturers and companies that offer superior product durability, timely customer service, great value and advanced designs. Given the wide variety of excellent firms serving the architectural and design community and the number of new companies and products that regularly enter the field, to be chosen to receive an **ACE award** is a singular honor indeed—a distinction that demonstrates the company is highly regarded for its commitment to innovation, durability, high-quality and superior customer service.

We salute all of the winners, as voted by our readers, for their commitment to product excellence. Innovation, customer collaboration, and superior performance are hallmarks of all these companies as they strive to meet and exceed design expectations, cost criteria, and demanding deadlines. Awards also recognize the "Most Innovative" and "Most Respected" suppliers for 2007.

Thanks also to all who took the time to select this fine group of winners. We appreciate your efforts in this endeavor to celebrate the best the market has to offer. Cheers to the best in the business.

A handwritten signature in black ink, appearing to read 'Russell S. Ellis'.

Russell S. Ellis
Publisher



2007 ACE Award Winners

The following list recognizes the top winners within each product category ranked in alphabetical order. Special mention is provided to the top voted company.

Most Innovative

Teknion

Most Respected

Kohler

MASONRY

MASONRY/BRICK

- Belden Brick Co.**
Eldorado Stone Corp.
Glen-Gery Brick
Laticrete International, Inc.
Owens Corning

CONCRETE/CONCRETE MATERIALS

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Bomanite
Davis Colors
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Alcoa Building Products
Centria
Fry Reglet Corp.
Rheinzink America, Inc.

MEMBRANE ROOFING

- Johns Manville**
Carlisle SynTec
DuPont Dow Elastomers
Firestone Building Products
Sika Sarnafil

EIFS SYSTEMS & STUCCO

- Dryvit Systems**
Georgia-Pacific
Senergy
Sto Corp.
TEIFS Wall Systems

VENTILATION

- American Aldes Ventilation**

DOORS & WINDOWS

METAL DOORS & FRAMES

- Kawneer**
Adams Rite Mfg.
Chicago Metallic
EFCO Corp.
Overhead Door Corp.

WOOD & PLASTIC WINDOWS, DOORS & FRAMES

- Pella Corp.**
Andersen Windows
JELD-WEN Windows & Doors
Kolbe Windows & Doors
Loewen

ENTRANCES & STOREFRONTS

- Kawneer**
Kalwall
PPG Industries
Vistawall Group
Wausau Window & Wall Systems

METAL WINDOWS

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Hope's Windows
JELD-WEN Windows & Doors
Kalwall

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- Marvin Windows & Doors**
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Eagle Window & Door
JELD-WEN Windows & Doors
Pella Corp.

SKYLIGHTS

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Andersen Windows
Kalwall Corp.
Solatube
Wasco Skylighting

ACCESS DOOR & PANELS

- The Bilco Co.**
Acudor Products
Milcor
Nystrom Building Products
Precision Ladders

HARDWARE

- Hafele America Co.**
Forms+Surfaces
Hewi
Pemko
Schlage Lock Co.

WINDOW TREATMENTS

- Hunter Douglas Contract**
Amco
Draper
Levolor
MechoShade Systems, Inc.

GLAZED CURTAIN WALL

- Kawneer**
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Joel Berman Glass Studios
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Technical Glass Products
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FINISHES**ARCHITECTURAL MOLDINGS****1. Fypon****GYPSUM BOARD****1. United States Gypsum**

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GYPSUM FABRICATIONS**1. Custom Castings Northeast**

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RESILIENT FLOORING**1. Forbo**

Armstrong
Azrock
Johnsonite
Tarkett Commercial Flooring

RUBBER FLOORING**1. Johnsonite**

Azrock
Burke Mercer
Nora Rubbing Flooring
Roppe Corp.

LAMINATES, PLASTIC**1. Wilsonart International**

Abet
Formica Corp.
Nevamar Co.

LAMINATE FLOORING**1. ABET Laminating**

Bruce Flooring
Formica Flooring
Pergo
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CARPET TILE/MODULAR**1. Interface Flooring Systems**

Collins & Aikman
Lees
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CARPET FIBERS**1. Anton**

Monsanto Contract Fibers
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Sherwin-Williams Co.
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Knoll, Inc.
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Datacad
Graphisoft
Sketchup

METHODOLOGY

The official ACE ballot and manufacturers list runs in the April, May and June issues of ARCHITECT Magazine. Each ballot reaches the publication's full 60,000 nationwide circulation. In addition, e-mail campaigns are conducted to ensure the broadest base of response. Ballots are provided and collected at the AIA and other industry conferences.

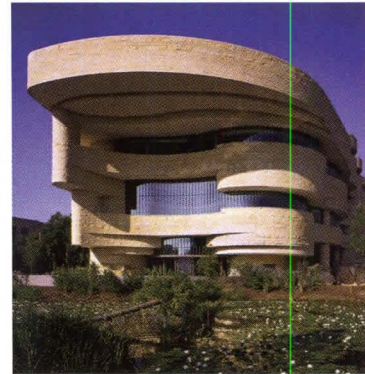
The voting criteria are based on outstanding product durability, exceptional customer service, superior value, and innovative designs. In addition to nominating manufacturers by product category, architects were asked for their opinion as to which companies overall are known for being most innovative and most respected. Hundreds of companies are nominated by ARCHITECT readers. Results are tabulated by the publisher within the product categories.



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Voted Top 5 Winner

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Industry Insight

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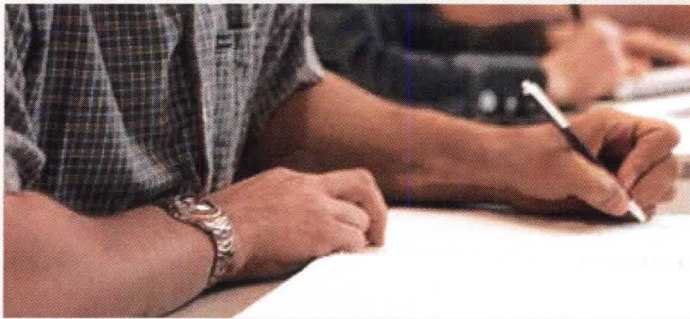
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LIGHTING/LIGHTING CONTROLS



Lightolier

Industry Insight
 For over 100 years, Lightolier has provided creative lighting solutions for commercial, institutional and residential lighting needs. A division of the Genlyte Group Inc., Lightolier is part of the largest lighting company in North America dedicated exclusively to the design, manufacture and marketing of lighting fixtures and controls.

Headquartered in Fall River, Massachusetts, Lightolier provides creative lighting solutions for commercial, institutional, and residential lighting needs. Founded in the early days of electrical lighting, Lightolier pioneered significant innovations in the field, including track lighting, recessed downlighting and high-performance fluorescent. Recognized today as a leader in lighting that is functional, attractive and energy efficient, Lightolier now offers the most complete line of interior architectural luminaires and lighting controls of any single manufacturer in the industry.

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tool-free in commercial grid ceilings. With dedicated optics and multiple installation possibilities, Uniframe provides one of the most comprehensive and flexible lines of energy efficient interior lighting systems available to the commercial lighting professional.

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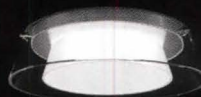
Lightolier continues to enhance its methods for creating energy-efficient lighting without negatively impacting the environment.

To learn more about Lightolier's products, services, and what makes Lightolier one of the most specified companies in the market, visit www.lightolier.com or call (508) 679-8131.

Circle no. 02



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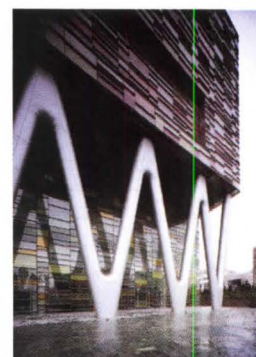
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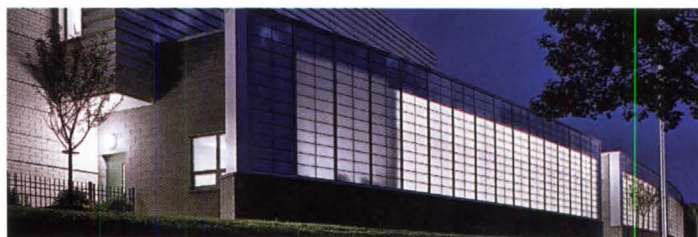
Courtesy of Design4FC, photo courtesy of Benny Chan Fotoworks



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Nemetschek North America

Industry Insight

VectorWorks Architect is the perfect choice for firms considering making the move to BIM. Its approach to BIM design technology makes it easier for firms to make the transition from traditional 2D to BIM.

VectorWorks Architect

With the release of VectorWorks Architect 2008, Nemetschek North America invites architects and designers to throw out their preconceived notions and take a new look at this elegant, cost-effective design solution. VectorWorks Architect is a comprehensive, flexible, cross-platform software package that allows architects to design their way. The program's technology automates routine tasks and anticipates designers' moves, allowing them to work faster and reduce drawing errors while maintaining complete control. VectorWorks Architect 2008 offers improved features that make it easier for teams of designers to collaborate on the same project.

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CHURCH, GOING

STRICKEN BY FALLING ATTENDANCE AND A MAJOR SCANDAL, THE CATHOLIC ARCHDIOCESE OF BOSTON IS CLOSING 65 PARISHES. AS OTHER CITIES GRAPPLE WITH THE SAME PROBLEM, WHAT BECOMES OF AMERICA'S URBAN CHURCHES?



IN MAY 2004, Sean P. O'Malley, the Catholic archbishop of Boston, announced that 65 parishes out of 357 would close in a massive "reconfiguration" of the Boston Archdiocese. The closings had been half expected: In Boston, as in other big cities, urban parishes were seeing a fall in the number of parishioners. Fewer men were entering the priesthood, making parishes harder to manage. Pension commitments were underfunded (by a staggering \$135 million, according to a 2006 report). And then the clergy sex abuse scandal emerged nationwide, especially acutely in Boston, where it has cost the archdiocese \$150 million to settle with plaintiffs.

But the reality of the closings still struck the region's 2 million Catholics like a series of intensely local earthquakes. At St. James the Apostle, in suburban Arlington, Mass., James McGough, a barber now retired, resolved to accept his parish's closing with sadness, despite his long attachment to the place. He had served as elector at St. James

for 14 years until 1985, when he became its lead cantor for the next nine. Funerals for both of his parents had been held there. The parish's closing disillusioned the congregation of 500—down from about 1,200 four decades ago—McGough recalled recently, sitting in a small art museum, not far from the church, where he is chairman emeritus. But "there were no sit-ins or protests," he said, as there had been at numerous other parishes in the archdiocese. "The people here at St. James went along with it."

For their acquiescence, the parishioners at St. James were not treated especially gently by the Boston Archdiocese. In October 2004, on the eve of a final celebratory Mass for the church, which was established in 1914, McGough remembers that St. James' pastor, the Rev. Francis E. Daley, had to go to the archdiocesan headquarters to retrieve a key. The previous day, officials with the archdiocese—taking no chances on protests—had come and changed the church's locks,



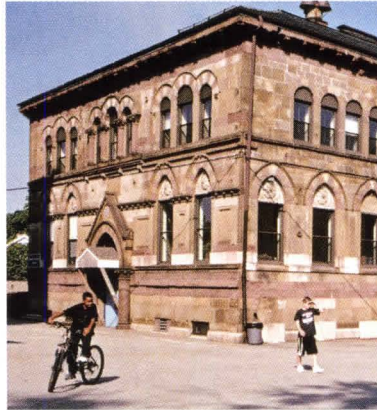
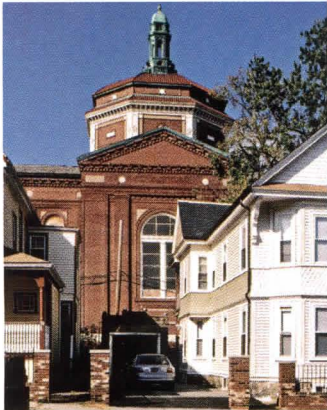
Blessed Sacrament Church, Jamaica Plain

“so that Father Daley couldn’t even get in to celebrate Mass,” McGough says. “That hurt worse than anything,” he says, because “they didn’t trust us.”

A year later, St. James became a new church. A Greek Orthodox congregation in Arlington, St. Athanasius the Great, bought the three-acre St. James complex for \$6 million. St. Athanasius is bursting with members—at last count, about 900 families. That Nov. 27, the Rev. Fr. Nicholas M. Kastanas of St. Athanasius held the final Divine Liturgy in its longtime church, an 1841 white-board Greek Revival building on Massachusetts Avenue. Afterward, the congregation made a procession up the avenue to their new church on Appleton Street.

announced, the National Trust for Historic Preservation named all of the historic Catholic churches of greater Boston to its annual list of the 11 most endangered places in the United States. Citing the “spiritual and artistic achievements of generations” embodied in the churches, the trust was trying to keep the buildings from being greatly altered or torn down as the archdiocese put them on the market to help pay off a \$46 million deficit.

Boston’s Archdiocese is scarcely alone in its dilemma to keep or close sacred properties. Many U.S. dioceses have been contracting for years, particularly in the Rust Belt and the plains. A 2004 study by USA



Blessed Sacrament, Jamaica Plain • Closed 8/2004 • Bought by Jamaica Plain Neighborhood Development Corp. 12/2005 • After closing in August 2004, Blessed Sacrament was sold to the nonprofit Jamaica Plain Neighborhood Development Corp. (JPND) and New Atlantic Development for conversion to affordable housing in an area where it is increasingly scarce. A first phase of 80 housing units in the former rectory and convent, as well as in a new building, has begun. The second phase, housing in the church, will require considerable subsidies. A former school building (above right) is converting to a community center. “This is really a development that’s going to serve the people here,” says Joseph Valley, a JPND board member and fellow parishioner, “not bring in new people.”

St. Mary Star of the Sea, East Boston • Closed 8/2004 • Bought last year by a local photographer, then resold weeks later for \$1.8 million profit • The archdiocese closed this 1909 Romanesque church near Boston’s Logan Airport and sold it for \$850,000 in November 2006 to a photographer, Michael Indresano, who promised to turn it into condominiums and his own studio. Instead, Indresano resold the building weeks later for \$2.65 million to a controversial Brazil-based Pentecostal congregation, the Universal Church of the Kingdom of God, which has been called a dangerous cult and linked to alleged fraud, money laundering, and child abuse in Europe and elsewhere.

“A group of us from St. James met them at the front door and wished them the best,” McGough recalls. “There were about 60 of us. They were flabbergasted.”

After Decades of Change, Contraction

When a church closes, passions turn inside out. The rituals and routines that serve as spiritual mileposts to a people go unrequited. The container of countless shared and private memories surrounding births, marriages, and deaths has been sealed shut, and its comforts can no longer be reached. The generousities of a church—for a solitary prayer, safe haven after school, a free hot dinner, or a holiday play—cease to flow. All that animates the gloriously dressed shell left behind are questions of a rank material order: What can be done with this building?

A year after the Boston parish closings were

Today found that between 1990 and 2003, all five of Indiana’s dioceses shrank by number of parishes, and all but one of six in Ohio and seven of eight in Pennsylvania did so, as did West Virginia’s only diocese, by 11 percent. In Wichita, Kan., the diocese scaled back by 19 percent, to 91 parishes.

The number of Catholic parishes nationwide peaked in 1995 at 19,331 and had fallen to 18,634 as of this year, according to data from the Center for Applied Research in the Apostolate (CARA) at Georgetown University. About 3,200 of those parishes had no priest as a resident pastor (there were 549 such vacancies in 1965). Congregations have moved with the rest of the population from city to suburb in the Northeast and Midwest, and away from those regions entirely toward the burgeoning South and the West, where the church’s growth in recent decades has been strongest. For the Catholic Church, the paradox has

CATHOLICISM IS DISTINCTIVE IN THE UNITED STATES IN THAT IT IS GROWING, YET CLOSING CHURCHES: THE NUMBER OF PARISHES NATIONWIDE PEAKED IN 1995 AT 19,331 AND HAS SINCE FALLEN TO 18,634. MANY PARISHES HAVE NO PRIEST AS A RESIDENT PASTOR.

been a growing population nationwide but falling Mass attendance. About 33 percent of American Catholics say they go to church on Sundays, down from about 74 percent in the late 1950s.

Money donations have slowed accordingly and dropped off further in the wake of the sex abuse scandals, which began in 2002 and have cost the church nationally more than \$2 billion so far.

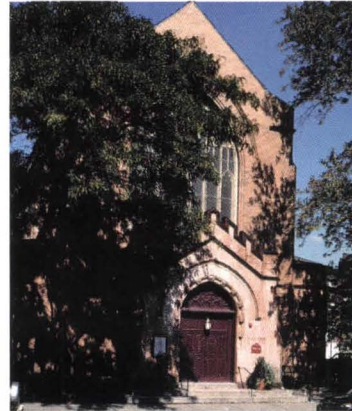
In settling these cases, real estate has been the asset of first resort for most dioceses. As a symbolic impoverishment, some dioceses are selling their headquarters. The Boston Archdiocese sold its chancery and 67 gorgeously landscaped acres

class whites, the heirs of inner-city parishes built by their immigrant forebears, moved to the suburbs in the 1950s and '60s. In their place came blacks, who established evangelical Baptist congregations but who themselves have increasingly gone suburban—the congregation of Shiloh Baptist Church, a black stronghold near downtown Washington, D.C., draws most of its worshipers from the sprawl of Prince George's County, Md.

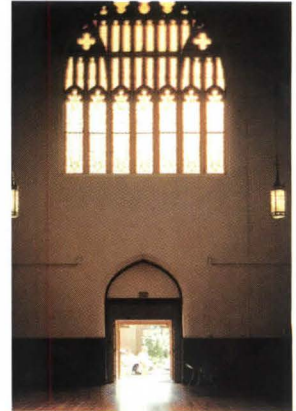
More recently, Hispanics, who increasingly favor charismatic faiths over Catholicism, have supplanted whites and blacks in some urban neighborhoods, as in the Delray section of southwest Detroit. In late



Immaculate Conception, North Cambridge • Closed 2/2005 • Sold to Serbian Orthodox Church • In November 2005 this church was sold to St. Sava Serbian Orthodox Church. It reopened two months later. Father Aleksandar Vlajkovic is awaiting delivery next June of the ritualistic wood screen, the *ikonostasis*, that will separate the sanctuary from the central nave; it is being carved by an artist in Novi Sad, Serbia. With the nearest Serbian Orthodox churches in Canada and New York City, ethnic Serbs come from far and wide to worship. On big feast days, Vlajkovic says, up to 700 people attend services. The white tent was erected for Serb Fest 2007. At last year's festival, says Vlajkovic, "a lot of [Immaculate Conception] parishioners showed up."



St. Ann, Fenway • Closed 10/2004 • Sold to Northeastern University • After St. Ann University Parish closed in October 2004, tensions mounted in the Fenway neighborhood over a bid for the building by Northeastern University, whose students the church had served for 25 years. The Fenway Community Development Corp. had hoped to buy the property to build 50 condominiums, including 13 affordable units, on the site. Northeastern's bid prevailed. Residents criticized the archdiocese for favoring the university's higher bid over the needs of the community. Northeastern now uses the church as meeting space.



to Boston College for \$172 million and is moving to offices in Braintree. (Church leaders are adamant that proceeds from this sale only—and not from the closed parishes—will finance the abuse settlements.) The Milwaukee Archdiocese is selling its headquarters on a 44-acre campus. In Chicago, the archdiocese is selling the seven-story Pastoral Center, its Gold Coast headquarters. The Diocese of Providence, R.I., sold its bishop's summer home in 2003 for about \$7 million toward paying off \$14 million in sex abuse claims.

Nearly all of the major Protestant denominations in the United States are shrinking—Southern Baptist, Methodist, Lutheran, and Presbyterian congregations have all followed the larger population shifts of inexorable suburban migration as well as a sheer drop in membership. Catholicism is distinctive in that it is growing and yet closing churches. And for most Catholic worshipers, the loss of a church represents the shattering of the physical territory defined by parish lines. Historically, as the political scientist Gerald Gramm noted in the *Boston Globe* in 2004, parishes were assigned by home address and stood at the center of a community, around which "the lives of parishioners have revolved in fixed orbits."

Many of those lives did not stay fixed in the racial swirl of the great postwar migrations. Working-

October, that neighborhood's Polish church of St. John Cantius, decimated to 200 mostly elderly members, celebrated its 105th anniversary with a final Mass before closing permanently. The Archdiocese of Detroit plans to sell the building.

"Our neighborhoods depend on many of these places surviving and the buildings being kept open and alive," says A. Robert Jaeger, executive director of Partners for Sacred Places, a preservation advocacy in Philadelphia. Between worship services, he notes, churches provide a social binding that adheres well beyond their own walls. Lay charity groups like the Society of St. Vincent de Paul work from parishes to feed, clothe, and shelter poor people. Independent support groups such as Alcoholics Anonymous and Al-Anon hold meetings in churches. "Virtually every parish has something," says Kathleen Heck, who as special assistant to the moderator of the Curia has overseen matters large and small in the Boston archdiocese's reconfiguration. "If the parish closes, the program moves."

Keeping Churches Open and Alive

The words "open and alive" have, however, taken on a number of different dimensions. Jaeger says that the most common way to reuse a church (and what most

preservationists call the best use) is as a church, as in the case of St. James in Arlington and eight other Boston-area churches since 2005. Besides religious uses, the friendliest outcomes for the buildings seem to be as theaters or community centers.

Deed restrictions try to ensure that former parishes never house activity anathema to Catholic doctrine. New York City's archdiocese won't turn buildings over to become public schools because of sex education programs. In St. Louis, the new Ivory Theatre, which opened in September, is the former St. Boniface Catholic Church, built in 1860. It was one of about 30 churches closed by the St. Louis

closing churches. "We did get a couple of meetings," Igoe recalls. "They didn't provide much. We were really frustrated."

Kathleen Heck, with the archdiocese, remembers meeting with Igoe and a National Trust staff member in early 2004 when parish closings were imminent but as yet unspecified. Heck says she turned the conversation around to historic churches that would remain open in any event but still suffer disrepair—how could the pastors and congregations be helped to protect those buildings? Funding is tricky, because public money generally cannot subsidize projects on religious properties. "I said, 'What we need is a tool



Blessed Sacrament, Cambridge •

Closed 9/2004 • Sold to a luxury developer • Developer Paul Ognibene bought this property in the Cambridgeport neighborhood from the archdiocese and is converting it to condominiums. In the first phase, the 1924 brick school overlooking a small park is becoming 23 units priced between \$519,000 and \$849,000. Condominiums within the church itself are expected to go on the market in 2008.



St. James the Apostle, Arlington •

Sold to Greek Orthodox Church 11/2005 • St. James had a huge congregation during the postwar suburban boom, but after the liturgical changes of the Second Vatican Council in the early 1960s, "people began to drift away," says former parishioner James McGough. The church now belongs to a burgeoning Greek Orthodox congregation.



Our Lady of Mt. Carmel, East Boston •

Closed 10/2004 • Parishioners' vigil has lasted three years • In October, a group of parishioners from this largely Italian-American church marked the third anniversary of a protest vigil they and their supporters have held to keep the parish open. For the vigil's first two years, protesters slept inside the church. Now they believe the archdiocese is ultimately loath to remove them. The only comment from the archdiocese's Kathleen Heck is that Our Lady of Mount Carmel "is home to a prayer vigil."

Archdiocese in a 2005 consolidation. The archdiocese nearly blocked the Ivory's first show, titled "Sex, Drugs and Rock & Roll," because the warranty deed with the developers barred, among other things, entertainment for "an adult audience rather than the general public" on the property. (After reviewing the show's content, the archdiocese agreed to allow the show to open.)

Otherwise, little is guaranteed as shuttered churches move into their next lives. Historic landmark designations for Catholic churches are typically sought unilaterally by outside preservation groups or city officials. "The Catholic Church has not wanted to list their churches on the National Register generally," says James W. Igoe, president of Preservation Massachusetts, a statewide group based in Boston. Such a designation can affect what the church does with its own real estate. "The Catholic Church never wanted to lose control of their property."

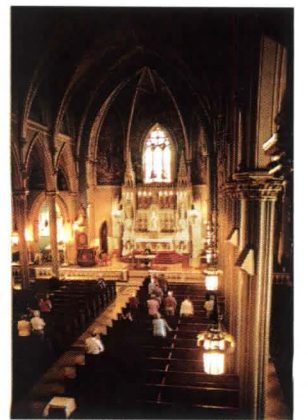
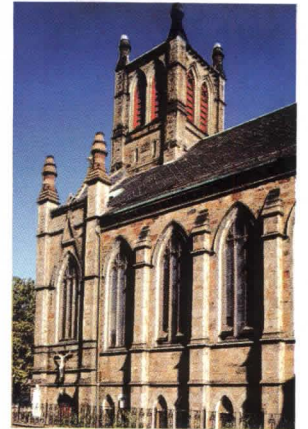
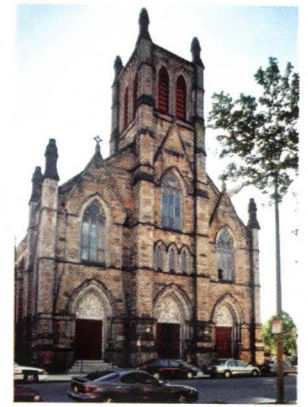
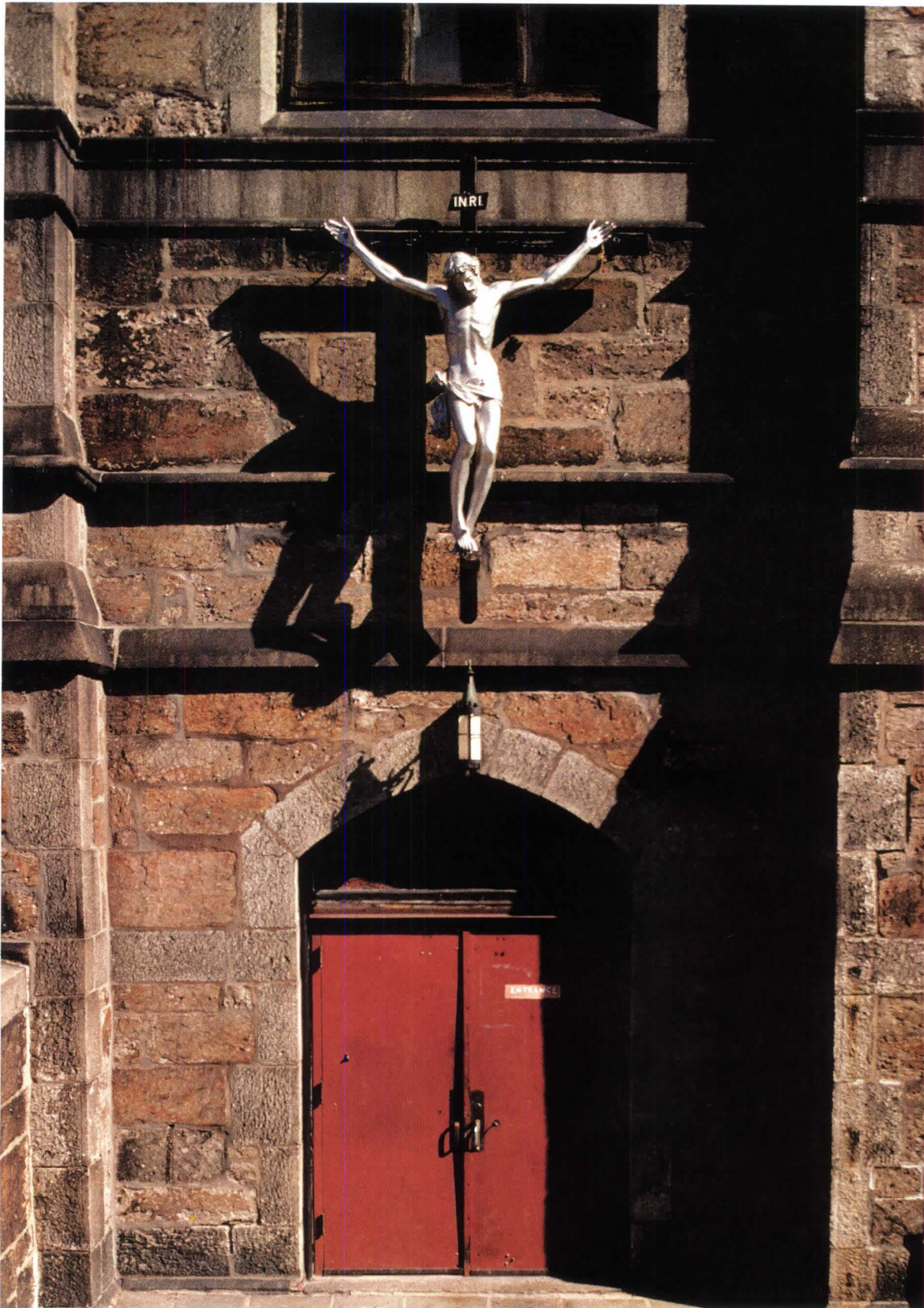
Embroiled in its crisis, the archdiocese, Igoe says, rebuffed overtures by local and state preservationists to try to help plan constructive transitions for its

kit for pastors to save the churches they have," Heck recalls. "Two weeks later, I get this massive FedEx box. Inside are three huge 4-inch three-ring binders." It was a new guide to preserving historic religious properties, assembled by a consortium of preservation groups, including the Trust and Igoe's. "I couldn't believe it was done in two weeks," Heck says. "Way cool."

A year later, the National Trust came out with its most-endangered list, a media frenzy for which Heck says she was fully unprepared—no one from the Trust had given the archdiocese any advance notice. "The Boston Globe called. The picture on the [trust's] homepage of an 'endangered' church was not even one that had been named closed." On it went for three days, she says: "I think succinctly the word 'mess' would work."

A more collaborative relationship between preservationists and the church is possible. The Pittsburgh History & Landmarks Foundation plans to advise the local diocese on church closures. In September, the diocese announced its settlement of

"VIRTUALLY EVERY PARISH HAS [A SOCIAL PROGRAM]. IF THE PARISH CLOSES, THE PROGRAM MOVES." —KATHLEEN HECK, ARCHDIOCESE OF BOSTON



Holy Trinity, South End • Slated for closure • Boston's only Latin Mass moved to a suburban church in 4/2007 • Built in 1877, Holy Trinity is the seat of the German Catholic community in Boston. After 1990, it was the only church to offer Latin Mass. In 2004, the archdiocese announced plans to close the church on June 30, 2005. Rather than close it, however, that year the archdiocese announced plans to move Latin Mass to another church, infuriating worshippers who came from miles around for its ancient prayers and Gregorian chant. In July, Pope Benedict XVI relaxed the rules for Latin Masses, inspiring parishioners to hold one of their own at Holy Trinity in September in defiance of the archdiocese. Genevieve Schmidt, the church's musician, contends the denial of Latin Mass to Holy Trinity is "against canonical law—which is just a small matter." If the church were to close, the social services programs it hosts for elderly homeless people and troubled teenagers would have to move elsewhere.

32 abuse cases for \$1.25 million. It was preparing to begin talks with the preservation group about the fate of 10 churches that were going on the market (the diocese has been trimming back its holdings since 1988).

"So often there's a tussle between preservationists and the church, so we said, 'Let's try to find a way to work together,'" says Arthur Ziegler, the president of Pittsburgh History & Landmarks. "We realize you can't keep all these buildings, and we recognize that you'd like to see some of them preserved."

A House of God Becomes Affordable Housing

On Centre Street in Boston's Jamaica Plain section, the colossal brick walls of the former Blessed Sacrament Roman Catholic Church trump everything around them—a shady and recently gentrifying neighborhood of wood houses and small apartment buildings. Preservationists count the 1917 church among the best pieces of Italian Renaissance Revival architecture in New England. The church, its rectory, and its convent have stood empty since the Boston Archdiocese closed

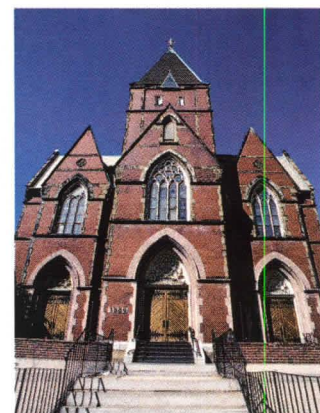
Alliance and teaches in the graduate real estate program at MIT. New Atlantic is jointly redeveloping the property with the nonprofit Jamaica Plain Neighborhood Development Corp. (JPND), having together paid \$6 million in December 2005. "More than we wanted to spend," Roth says, "but less than the archdiocese wanted."

To figure out how many apartments he can build inside a church, Roth says, he counts the windows. About 37 apartments will fit inside the church—it isn't feasible to build up inside the dome. Then he works backward to figure out the price of each unit. To keep prices in an affordable range for the neighborhood's median income, the sale price can't go higher than \$190,000. Development costs are about \$385,000 per unit. The gap requires a subsidy. He has applied to the city and been denied twice. The state requires matching funds from a private donor that don't currently exist. "So the church is phase two," he says wryly.

For now, there is plenty going on in phase one. One of two former parish school buildings is being



Archdiocese of Boston campus, Brighton • Sold to Boston College 8/2007 • Symbolic of its humbling in the wake of the abuse scandal, the Boston Archdiocese began selling to the Jesuit-run Boston College the idyllic property and buildings it had called home since the 1920s—a place that has been called a "Little Rome on the hills of Brighton." In 2004, the college paid \$99 million for 44 acres plus the 1927 cardinal's residence, the 1936 St. Williams Hall (a dormitory), the 1940 St. Clement's Hall (a preparatory seminary), and a small gymnasium. Last year, it paid \$8 million more for five acres and the 1920s tribunal building. In June, the remaining 18 acres went to the college for \$65 million, along with the chancery housing the archdiocesan headquarters and three other buildings (one pictured above right). Though Archbishop Sean P. O'Malley expressed regret at having to sell the campus, he noted, "It is good that we have been able to keep the property within the Catholic family." The church retains ownership of St. John's Seminary (above left), an 1880s ledge-stone fortress.



St. Augustine, South Boston • Closed 11/2004 • Sold to a luxury condominium developer 10/2007 • The South Boston Neighborhood Development Corp. lost its bid to turn the church and nearby parish-school property into affordable housing for seniors and veterans.

or "suppressed" the parish at noon on Aug. 31, 2004. Inside the church, most everything of ecclesiastical value has been removed. The absence of pews sends echoes through the eight enormous stone columns along the aisles, some of which have been stripped of their capitals. Beneath the soaring barrel-vaulted nave and the 135-foot-high dome, the eyes of painted prophets still stare down from the ceilings.

Bids are out to turn much of Blessed Sacrament's three acres into affordable housing. Jaeger and other preservationists tend to view conversions of churches to multiunit housing as the most destructive possible outcome: With the two building types so at odds, the *limitations of form* are severe.

I walked through Blessed Sacrament with Peter Roth, the president of New Atlantic Development in Boston, who is also chair of the Boston Preservation

sold to its longtime tenant school. The other is in renovation to become a community center—in September, a new sprung floor was being installed inside a spacious dance studio. The wood-frame rectory, on Centre Street, is moving 100 feet off its corner to make way for 36 cooperative apartments and a few small storefronts. The convent, perched up above high walls on an elevated corner of the site, will become 28 single-room-occupancy apartments run by the Pine Street Inn, Boston's largest provider of services to the homeless. It will convert nicely, Roth says: "Small rooms, shared bath. That's what a convent is." Parking will go underground, and at the heart of the site, a shady green commons with a winding path will replace what is now an asphalt parking lot.

Richard Thal, the executive director of JPND,

works with 40 other staff members in a warren of crowded, harshly lit offices in the neighborhood's old Samuel Adams brewery complex. His group, backed by hundreds of neighbors and former parishioners, came to see its bid to buy the church (versus market-rate bidders) as deliverance for the property itself.

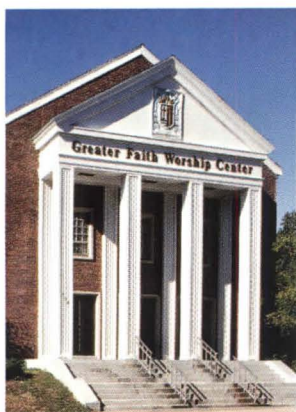
"This was very emotional for lots of people in the neighborhood," Thal recalls of the church's closing. "Parishioners were outraged at the Catholic Church. People had a lot to get off their chest." JPND had already been working on redeveloping a large neighborhood area. "The plate was really full. But when we learned it was coming on the market, there was unanimity on our board, including ex-parishioners, that we can't sit by and let [the church] become luxury condos," Thal says. Over the past five years, he explains, 200 rental apartments in the neighborhood have turned into condominiums, squeezing out many lower-income residents and turning affordable housing into a renewed rallying concern among a historically activist population.

"We had to appeal to the church's better angels

sex abuse plaintiffs for a record \$660 million and is selling its headquarters on Wilshire Boulevard. Church officials have said the settlement will require the sale of between 30 and 50 church "non-parish" properties in its domain. In September, the archdiocese provoked public outrage when it began evicting three nuns from a small convent on the poor side of Santa Barbara.

Activists there may find Boston's example instructive. For the last three years, Boston's planners, politicians, and neighborhood groups have had to race to help shape the future of former parish sites toward purposes never before imagined, angling among their own various interests and with the church's leadership as to what the most generative use would be for the community versus what price a site will fetch the church. But in Boston, as in other cities, the current real-estate glut has brought several church-to-condominium conversions to a halt.

After churches close, considerable work remains in desanctifying the property by removing ecclesiastical objects. Kathleen Heck reports that the archdiocese is flooded with requests for objects from other



St. Joseph, Hyde Park • Closed 8/2004 • Sold the following year to a Pentecostal church • A 200-member charismatic Pentecostal congregation, the Greater Faith Worship Center, bought St. Joseph's church, rectory, and 500-seat hall in October 2005 for \$2.8 million.

St. Peter Lithuanian, South Boston • Slated for possible closure • Panic set in after the 2004 announcement that St. Peter Lithuanian Parish, with 1,300 parishioners, would close (in all, three of four Boston-area Lithuanian parishes were listed for closing). Considered the stronghold of the city's Lithuanians, who began arriving in the late 1880s, St. Peter played a vital role during the 50-year Soviet occupation of their country, when religious activity was suppressed. (The placing of crosses in front of the church, above right, evokes the devotional "Hill of Crosses" in Lithuania where worshipers express their nationalistic Catholic faith and defiance against foreign invaders.) The planned closing made the front page of Lithuania's largest daily newspaper and highlighted the sensitivity for the archdiocese in shuttering 13 of its 41 ethnic parishes. Archbishop O'Malley gave priority for remaining open to parishes serving more-recent immigrant populations. Nonetheless, in June 2005, O'Malley granted St. Peter Lithuanian a reprieve. "They'll review our status in two years and make a decision then," says a parish spokeswoman, Mirga Girnius.

to help benefit the broader community" over maximizing the sale price to a richer developer, Thal says. "It was the church that called attention in the late '90s to the affordable housing crisis as a moral problem," he adds pointedly. "They laid the groundwork."

The Closures to Come

Around the country, yet more dioceses are bringing their accounts to heel by selling church property. The Archdiocese of Los Angeles recently settled with

churches—many of them, not surprisingly, in the South and West. A new church in Yuma, Ariz., is receiving the altar, the reredos (a screen from behind the altar), and the baldachino (an overhead canopy) from St. Jean Baptiste in Lowell, Mass.

St. Jean Baptiste's pews, as well as the altar and reredos of another closed church in Lowell, Sacred Heart, have gone to a church in Spartanburg, S.C.—whose priest was ordained at Sacred Heart. While churches in Boston close, the Spartanburg church is holding as many as four masses on Sundays.

"IT WAS THE CHURCH THAT CALLED ATTENTION TO THE AFFORDABLE HOUSING CRISIS AS A MORAL PROBLEM. THEY LAID THE GROUNDWORK."

—RICHARD THAL, JAMAICA PLAIN NEIGHBORHOOD DEVELOPMENT CORP.

THE RISE OF THE RN

A love of historic buildings fueled the second career of Tammy Felker (shown facing page, left, with colleague Teri Oelrich), a former critical-care nurse who obtained her architecture license in April. The only registered architect at the firm NBBJ who also has been a nurse, Felker says her integrated experience is a great asset: "When someone [at a hospital] says, 'We'll get a balloon pump in the elevator,' I know what that equipment is."

WITH HEALTHCARE CONSTRUCTION BOOMING, ARCHITECTURE FIRMS ARE HIRING FROM AN UNEXPECTED TALENT POOL—REGISTERED NURSES.

MARION FRASER AND ALISON WESLEY-JAMES are in remarkably good spirits, considering what they have to accomplish over the next several hours: squeezing 27 surgical beds, six operating rooms, labs, CT scanners, and support areas into 30,000 or so square feet of planned hospital space.

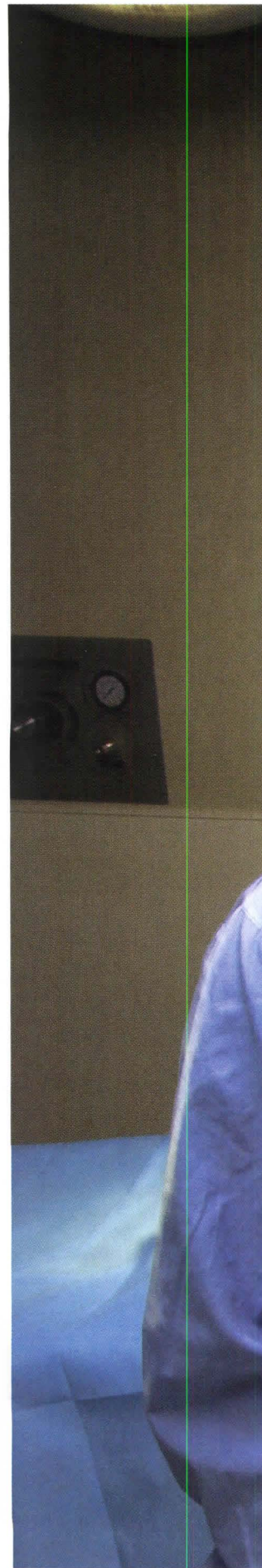
Sitting with healthcare architects in a meeting room at the Omaha, Neb., headquarters of the firm HDR, Fraser and Wesley-James—the CFO and planning manager, respectively, of the Ottawa Heart Institute in Canada—study CAD drawings and stacks of spreadsheets as they weigh all the factors. These include work hours (If the ORs were used more hours per day, wonders Fraser, could they make do with five?) and hospital politics (Where is the best spot to put the CT scanners, so as many doctors as possible can have them close by?).

Most tortuous of all is phasing, the logistics of which can be paradoxical: "You have to build new, to take out the old, to be able to refurbish, to build new," says Fraser, who wears the sensible clothes of an accountant but a ready smile.

The planned cardiac unit might be new construction or an existing facility that's been renovated—or a combination of both. It's too early to say, since ground won't be broken on the project, a major expansion of the Ottawa Hospital, for another decade. And some of the changes that Fraser and Wesley-James foresee won't take effect until 2031.

2031: That's 24 years from now. To put it in context, 24 years ago, the world's first "test-tube baby" had just turned five. Researchers had not yet discovered the cause of AIDS, and balloon angioplasty was a new procedure.

Photographs taken at the Institute for Surgical & Interventional Simulation, University of Washington, Seattle.







THE ROUTE FROM FLOOR NURSE TO FLOOR PLAN MAY TAKE DIFFERENT TWISTS, BUT ONE THING IS CLEAR: IT'S INCREASINGLY WELL-TRAVELED.



Barbara Anderson

Zimmer Gunsul Frasca

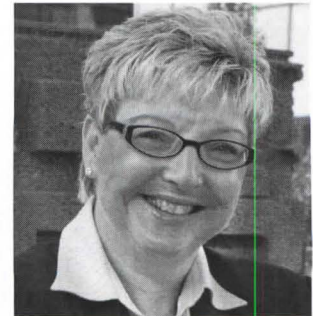
"In the late '80s, I didn't meet another nurse doing what I was doing."



Joyce Durham

HKS

"Research and evidence-based design are changing the way things are done."



Debra Sanders

HDR

"I thrive on change. [Developing] the consulting practice was tremendously exciting to me."

No area of architectural practice today is as fast-moving and complex as healthcare, with its heady (or, depending on your perspective, bone-dry) mix of data crunching, value engineering, and crystal-ball gazing. But the crucial ingredient in healthcare architecture, say its practitioners, is really empathy: for patients who are unsteady after an operation; for doctors and nurses who can treat cancer but can't think in square feet.

Which is why the person running the meeting in Omaha is not a hospital administrator or even an architect. She's the one with frosted hair and stylish glasses at the back of the room, who listens more than talks, asking occasional, to-the-point questions. The one who keeps the discussion on track. The one who makes sure that everyone eats a decent lunch.

That last part figures: Debra Sanders, the director of healthcare consulting at HDR, is a registered nurse.

A Twist in the Career Path

"I often think back and scratch my head about how I ended up on this career path," Sanders told me by phone prior to my trip to Omaha. Fourteen years ago, Sanders, a Nebraska native, was working as nurse executive at Clarkson Hospital in Omaha as the hospital underwent a redesign. "Organizations from around the world wanted to come and visit Clarkson and see what we had done," she remembers, and she spent a lot of time leading them on tours.

But it was a chance meeting that crystallized her interest in healthcare architecture. "I happened to be at a social event where I met the healthcare leadership from HDR, and they said, 'Will you come talk to us?' They were contemplating developing a consulting practice." Now Sanders leads a 45-person team at HDR that handles master planning, space programming, signage and wayfinding, and technology and medical equipment on projects across North America.

Sanders' story—part logic, part luck—is echoed by RNs at architecture firms around the country. Some arrived there with a lifelong interest in building design, but others—probably most—got involved in a renovation or expansion at the hospital where they worked, and realized, *Hey, I like this, and I'm good at it.* Some have pursued architectural licensure, but the majority have not. Most concentrate on "front-end" planning and space programming, although a few do design work. And a number, like Sanders, are vice presidents or principals, proof that solid nursing and managerial experience can trump years of detailing hospital bathrooms.

Three or four times during her 30-year nursing career, recalls Lynne Shira of Seattle, she was asked to participate in the planning of hospital projects with architects. "I found it very exhilarating, very challenging," she says. Then her father was diagnosed with Alzheimer's, and she decided that the stress of being a hospital administrator and supervising hundreds of employees was too much. She knew that a leading healthcare-focused firm, NBBJ, was headquartered in Seattle, so she gave them a call. Seven years later, she's a principal in the firm's healthcare consulting practice.

Likewise, Joyce Durham, a licensed architect in the Detroit-area office of HKS, discovered her latent interest in architecture by chance. As a surgical nurse at Duke University Hospital in North Carolina, she volunteered to lead staff members on orientation tours of Duke's new hospital

building. "I would ask why things [in the building] were done a certain way: 'Why is this like this? It doesn't make sense,'" she says. "I knew at that point I wanted to study architecture." Durham went on to get a B.Arch. and then an M.Arch. from the University of Michigan, nursing part time through five years of school.

The route from floor nurse to floor plan may take different twists, but one thing is clear: It's increasingly well-traveled. Nurses have long parlayed their clinical experience into second careers in healthcare consulting, working either independently or for consulting companies. But in the past decade or so, more and more have signed on as full-fledged employees at architecture firms. (This is in large part due to poaching: Firms realize that although a smart consultant can help them, she might help their competitors, too, unless she's on staff.) These nurses now work as, or alongside, architects on most big healthcare projects in the United States, and their ranks seem destined to keep growing.

"The number of nurses who do this [i.e., start a second career in architecture] is increasing significantly," says George Tingwald, until this fall the director of healthcare design at Skidmore, Owings & Merrill (he has since become director of medical planning for Stanford University Medical Center). Tingwald himself earned a medical degree before getting his M.Arch. He used to keep a list of nurses and others with clinical experience (like doctors and radiation therapists) who were working in architecture, but when the number passed 50 several years ago, he started to lose track.

"We're talking in the low 100s right now," he guesses, quipping, "If we had a convention of healthcare architects who are clinical architects, we could go to a very small resort." (The AIA and other national architecture organizations do not tally how many architects have transitioned from a previous career, and the American Nurses Association did not respond to requests for comment.)

How Nurses Can Give Firms an Edge

Driving the influx of nurses into architecture is the fact that healthcare is big business for U.S. firms. According to the AIA's 2006 firm survey, conducted every three years, healthcare projects accounted for 14 percent of all billings in 2005, making healthcare the top sector served by architects that year (trailed by the office sector at 12 percent). As the demographic bulge of baby boomers nears old age, analysts predict that America's over-65 population will triple by 2030, with chronic ailments and hospital admissions increasing steadily—spurring yet more healthcare construction.

With more construction comes more competition. Ten or 15 years ago, savvy firms discovered that bringing an experienced nurse with them to client meetings could help land a big project and lay the groundwork for a long, profitable relationship. The trend seems to have started in Seattle. As early as 1981, Barbara Anderson, now an associate partner at Zimmer Gunsul Frasca, was scanning the newspaper want ads in that city and spotted one that intrigued her: *Architect looking for registered nurse.* "It wasn't any longer than three lines," Anderson says. She got the job and spent the next four years helping a local architect with marketing. In the process, she learned all about architecture and construction.

Anderson then began to freelance for NBBJ. In 1989, that firm hired Teri Oelrich, a registered nurse with an



Four of NBBJ's seven nurses, from left to right: Tammy Felker, Teri Oelrich, Lynne Shira, and Jane Loura. Says Shira, a principal at the firm: "My role is operations lead—I'm making sure what we design is operationally efficient. That's my passion, making sure that form follows function."

MBA and a passion for statistics. Now a principal, Oelrich has seen NBBJ's healthcare consulting practice grow into a nurses' powerhouse—there are currently seven nurses employed firmwide and five in the Seattle office, one of whom, Tammy Felker, is a licensed architect. "Every healthcare studio at NBBJ has a nurse," says Oelrich.

Today it's de rigueur for firms that do healthcare work to have an RN on staff or even a number of RNs in a dedicated healthcare-consulting arm. "I think the past couple of years, it's really become kind of the norm," says RN and registered architect Kerrie Cardon, a former NBBJ employee who is currently a healthcare consultant for Herman Miller. "If you work on healthcare projects, you need to have a nurse be part of your healthcare team. It's almost expected now." Merle Bachman, president of HDR Architecture, agrees. When the company recruited Sanders and other RNs, he says, "We did it for selfish reasons, obviously: We wanted a differentiator. Being [one of the] first out there to do it, it helped a great deal. It's not quite as unique as it once was."

Which means that not having a nurse on the team can be a major liability. "If you're marketing a project, going to a healthcare facility to talk about programming and how you interact with physicians and nurses—if two of the firms have clinicians there, the other two firms are sunk," Tingwald says.

What nurse-architects and -facility planners bring to the table, above all, is the ability to translate between two professions with very different skill sets—to "fill in the Grand Canyon," in the words of Rebecca Hathaway, an RN who is vice president of healthcare services at California firm HMC. "Architects can be intimidating [to clinicians]," contends Oelrich. "They use great words, but sometimes no one wants to say, 'How far do I have to walk? I can't tell from the plan.' We never ask architects to read an EKG." Bachman says that "97 percent of the time," bringing a nurse to client interviews has been a "very positive" step. Still, he points out, nurse-consultants can't act as if they have all the answers—hospital staff don't want their own expertise challenged. "It's a little bit of a tightrope," he concedes.

By acting as interpreters, nurses in design firms feel they can make hospitals safer, more comfortable places for both patients and the clinicians treating them. Improving work environments for nurses who are run off their feet is cited as a motivation by most of the subjects of this article. "I've worked in facilities that are dark, that don't provide respite spaces for staff to recharge," recalls Shira. A colleague at NBBJ Seattle, registered architect and former critical-care nurse Felker, argues that patient-centered design—a current buzz phrase in healthcare architecture—should not come at the expense of hospital staff. "They're there 24/7, 365 days a year," Felker says. "Anything we can do to make a better environment, so they provide effective healthcare, is critical."

When seen through a nurse's eyes, seemingly insignificant design decisions take on new, surprising weight. Hathaway cites the example of electrical outlets. As the nursing workforce grows older, "Why do we put electrical outlets next to the floor, with nurses bending over constantly?" she asks. Or, as Oelrich puts it, "Have you ever hauled laundry 500 feet? Look where you put the utility room!"

"Burnout" is a term that crops up frequently when speaking to RNs. Oelrich stresses that she tries not to worsen

an already severe nursing shortage by hiring straight off the hospital floor: The RNs she recruits need to have administrative experience first. Ultimately, Oelrich hopes, "by having nurses design [nursing] units, we can make them more efficient, which will offset the shortage."

For others, the focus of their design and planning efforts is firmly on the patient. Sharon Woodworth, an architect and former nurse (though not an RN) who is an associate principal at Anshen + Allen in San Francisco, spent much of her childhood as a patient in Texas Children's Hospital. After graduating from nursing school, she went to work for the medical team that had cared for her and "had some illusions shattered." An aptitude test pointed her towards law or architecture, and she went on to get an M.Arch. from the University of Texas, Austin.

Even after 15 years in nursing and 12 in architecture, Woodworth stresses that her perspective is still that of a patient. She laughs as she describes the first hospital project she worked on as an architect, when a naïve younger team member tried to cram two unisex patient showers into a small space under a stair. "I said, 'That's not going to work. You [the patient] have got a tube coming out of your body and no room to maneuver!'"

"For me," she continues, "hospitals are our most powerful buildings. They are a metaphor for life. I don't think nurses necessarily bring that to the table—but those who experience hospitals fully [as patients] do."

High Demand, Short Supply

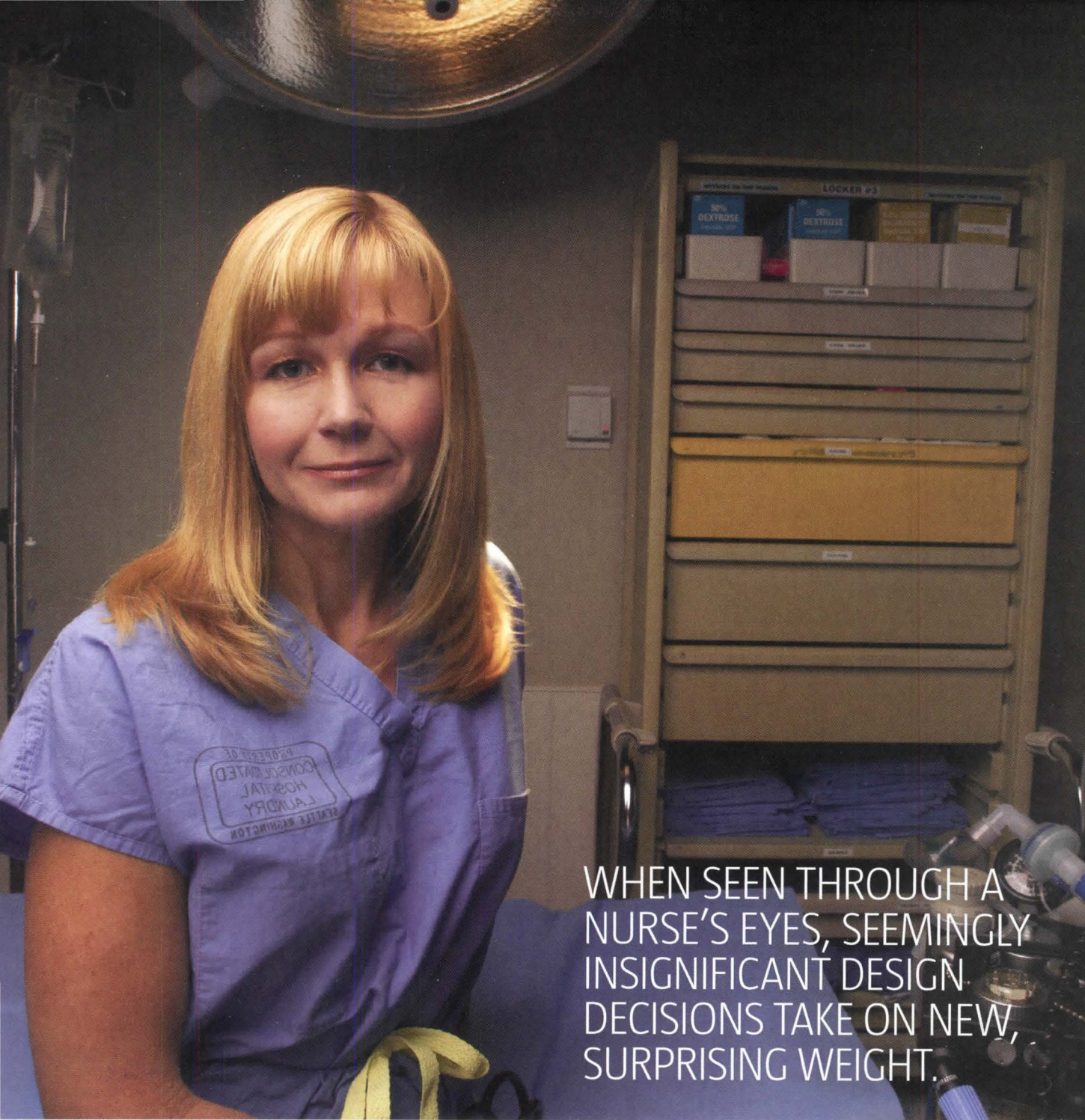
Today, as state-of-the-art robotic devices revolutionize the operating room, hospital architects must learn how to design around new equipment and procedures. Evidence-based design—an approach that draws on quantitative research to reduce the rate of medical errors and improve patient outcomes—continues to gain ground, but the definition of "evidence" remains slippery. There is a more urgent need for specialist healthcare architects and planners than ever before.

And yet only two architecture schools in the United States offer specialized healthcare programs. "One of the biggest mysteries of my life is that there aren't 20 programs like ours," says George Mann, who helped to create Texas A&M's Certificate in Health Systems & Design. (The other program is at Clemson University.) Mann has seen an uptick in interest from students, but not enough to meet demand: He estimates that graduates of his program receive an average of eight job offers.

With national shortages, then, of healthcare architects and nurses, and given the fact that many nurses are nearing retirement, who will provide the expertise to navigate medicine's next wave of change? It's a question that's bound to tax architecture firms (not to mention the hospitals that hire them) as they look to the future.

But for now, the dedication of the nurses in their ranks remains unabated. Anderson of Zimmer Gunsul Frasca, who was perhaps the first nurse to go to work for an architecture firm back in 1981, had a total hip replacement at Seattle's Swedish Hospital over the summer. "Boy, did I get to see the other side of what nurses do again," she says. "They are running so hard. We need to really listen to them and act as their advocate."

When Teri Oelrich was studying for her MBA, she thought she'd work for a big management consulting firm like McKinsey or Bain. But an internship at Kaiser Permanente prompted Oelrich (above), a registered nurse, to consider staying in healthcare, just in a different capacity. "The first day I walked in [to NBBJ], I thought, 'I want to do this—to help plan hospitals.'"



WHEN SEEN THROUGH A NURSE'S EYES, SEEMINGLY INSIGNIFICANT DESIGN DECISIONS TAKE ON NEW, SURPRISING WEIGHT.



Kerrie Cardon

Herman Miller for Healthcare

"Having walked in white shoes, I could see how staff would use those spaces."



Rebecca Hathaway

HMC

"People [at client meetings] have come up and said, 'I'm really glad they have someone like you.'"



Sharon Woodworth

Anshen + Allen

"Buildings have more meaning when you [the architect] understand the experience of what that building is about."



20 presenters · 20 slides · 20 seconds

THE INFORMAL, RAPID-FIRE PRESENTATION STYLE KNOWN AS PECHA KUCHA IS POWERPOINT'S HIP, YOUNGER COUSIN.

AMSTERDAM ATLANTA AUCKLAND AUSTIN BANGALORE BANGKOK BEIJING BELFAST BERLIN BERN BOGOTÁ BRISBANE BRUSSELS BUDAPEST BUENOS AIRES BUFFALO CANBERRA CHICAGO COLOGNE COLUMBUS COPENHAGEN

Text John Gendall

FEW THINGS—EXCEPT, PERHAPS, Apple computer products and Moleskine notebooks—have been embraced by designers of all stripes so quickly and universally as Pecha Kucha Night has. In just four years, the presentation and networking event has spread from its first meeting in the Tokyo office of Klein Dytham Architects to well-attended, routinely held gatherings in more than 100 cities around the globe.

Appealing to the attention-deficient intellectual

in everyone, Pecha Kucha Night (PKN, for short) speeds up and democratizes the normally slow and autocratic essence of the speaker's lectern. The premise that creators Mark Dytham and Astrid Klein devised for Pecha Kucha—Japanese for “the sound of conversation” and pronounced peh-CHAK-cha—is simple: Give people a venue to talk about their work, and give them time to do it. Just not a whole lot of time.

Conceptually, the event owes itself to one of the

PHOTO COURTESY KLEIN DYTHAM ARCHITECTS



DUBLIN EDINBURGH EINDHOVEN FRANKFURT GLASGOW GOTHENBURG GRONINGEN HAMBURG HARVARD HELSINKI HOBART HONG KONG ISTANBUL KAMPALA KUALALUMPUR LAGOS LIMA LINZ LISBON LJUBLJANA LONDON

Bogotá 6/28/07

most banal computer-era practices: the PowerPoint lecture. But two rules, which are strictly enforced, make PKN something entirely different. Rule No. 1: Presenters must show 20 slides; no more, no fewer. Rule No. 2: Presenters have only 20 seconds to talk about a slide before the next one appears. Thus, unlike standard conferences and lectures, where speakers may wantonly disregard suggested time limits, PKN presentations move forward, with or without the speaker.

And they move quickly. At six minutes and 40 seconds long, even a boring presentation becomes tolerable. The format's unforgiving cadence can disarm any speaker, no matter how polished, which adds to the informal spirit of the event.

Considering the global sensation it has become, PKN had modest, almost accidental, beginnings: Klein and Dytham, partners in life as well as in business, started it as an improvised way to occupy a new events space.



"THERE HAVE BEEN THREE-QUARTERS OF A MILLION SLIDES SHOWN AT PKN NIGHTS AROUND THE WORLD. WE'D LIKE TO USE THAT POWER FOR SOMETHING HELPFUL." —MARK DYTHAM, KLEIN DYTHAM ARCHITECTS

FOUNDED IN TOKYO IN 1991, Klein Dytham had maxed out its office space, known as Deluxe, by early 2003. The architects moved into a larger building and aptly dubbed it SuperDeluxe. But it was not just business as usual spurring the growth. True, the firm was expanding dramatically, but its off-hour get-togethers had become the stuff of local legend, with up to 400 people showing up for parties, events, and fashion shows. So, as part of

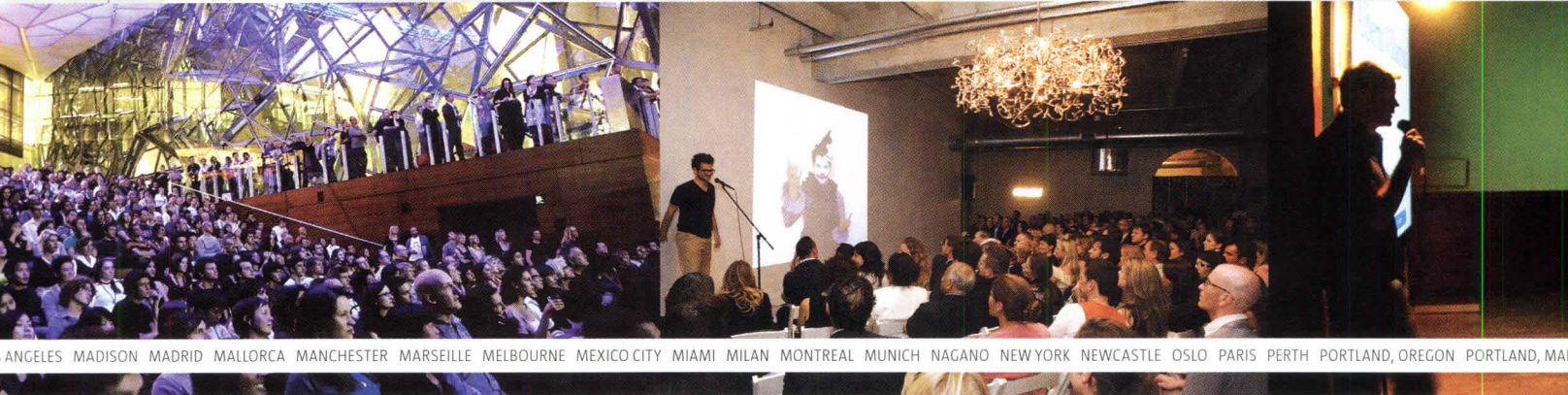
Klein chose to limit the number of slides and the time allotted for each slide. The event was set to happen on the 20th of the month, so, as Dytham says, "Why not use 20? For the number of slides and seconds spent on each one."

At 8:20 p.m. on March 20, 2003, 140 people showed up at SuperDeluxe for the first-ever PKN. The event quickly took off, and Klein Dytham has held 10 per year ever since, with attendance now hovering around 300.

Melbourne 9/5/07

Miami 12/6/06

San Francisco 6/27/07



ANGELES MADISON MADRID MALLORCA MANCHESTER MARSEILLE MELBOURNE MEXICO CITY MIAMI MILAN MONTREAL MUNICH NAGANO NEW YORK NEWCASTLE OSLO PARIS PERTH PORTLAND, OREGON PORTLAND, MAINE

the move, the firm acquired a large space specifically for multimedia events. Dytham explains: "We went from having four to five events each month to the potential of having 30 events per month, so we had to invent an event for our event space."

Enter Pecha Kucha.

After a trip to Costa Rica, Dytham wanted to show people the photographs he took, and he wanted to give others an opportunity to participate and give their own presentations. "But," he notes, "you can't give an architect a microphone on something they're interested in, because you'll end up sitting there for a very long time." So he and

But Tokyo was just the beginning. When Klein visited Bern, Switzerland, in November 2004, she organized a Pecha Kucha event there, successfully establishing a European outpost. Then, in the summer of 2005, London's Institute of Contemporary Arts held a PKN, which became the fastest-selling event in the institute's history. San Francisco-based architect Paul Jamtgaard, who had attended one of Klein Dytham's nights in Tokyo, organized one in California in collaboration with designer Alberto Villarreal. By the end of 2006, PKN had spread to more than 20 cities. It has now gained traction in more than 100, from Buffalo to Bangalore, from Portland (Maine

and Oregon) to Prague, in venues as diverse as schools, churches, prisons, swimming pools, and supermarkets.

Intended to provide young designers with a venue to show their work, it has been taken up quickly by architects, landscape architects, and urban, graphic, and industrial designers. At times, luminaries have been invited to participate; architects Rem Koolhaas and Toyo Ito and product designer Tom Dixon are among the initiated.

ORGANIZERS SPEAK OF THE EVENT with a sort of evangelical conviction. There is no direct financial incentive—though the networking and educational value is certainly worthwhile. It seems to be done mostly as a labor of love.

“One of the key, key things is that we see this as a social network, a real proper network,” says Dytham,

has thus far been enough to maintain control of the brand. Everything is organized through the Klein Dytham office and settled over a handshake, a phone call, or an e-mail.

November was an important month for Pecha Kucha, and for Klein Dytham. For Tokyo’s Design Week—held the first week of November—more than 2,000 enthusiasts crowded into a space at Japan’s National Stadium for the biggest PKN meeting in the firm’s history. Not ones to slow down, the architects also announced a 176-page self-published book, *Pecha Kucha Night: A Celebration*.

At the beginning of 2008, Klein and Dytham will be rolling out the Pecha Kucha Night Foundation. “We’re in over 100 cities now, so there’s a lot of power there, just in terms of numbers,” says Dytham.

“Since we’ve started,” he explains, “there have

Tokyo 11/1/07

Bangkok 5/26/07



SAN FRANCISCO PHOTO: ALBERTO VILLARREAL; ALL OTHER PHOTOS COURTESY KLEIN DYTHAM ARCHITECTS

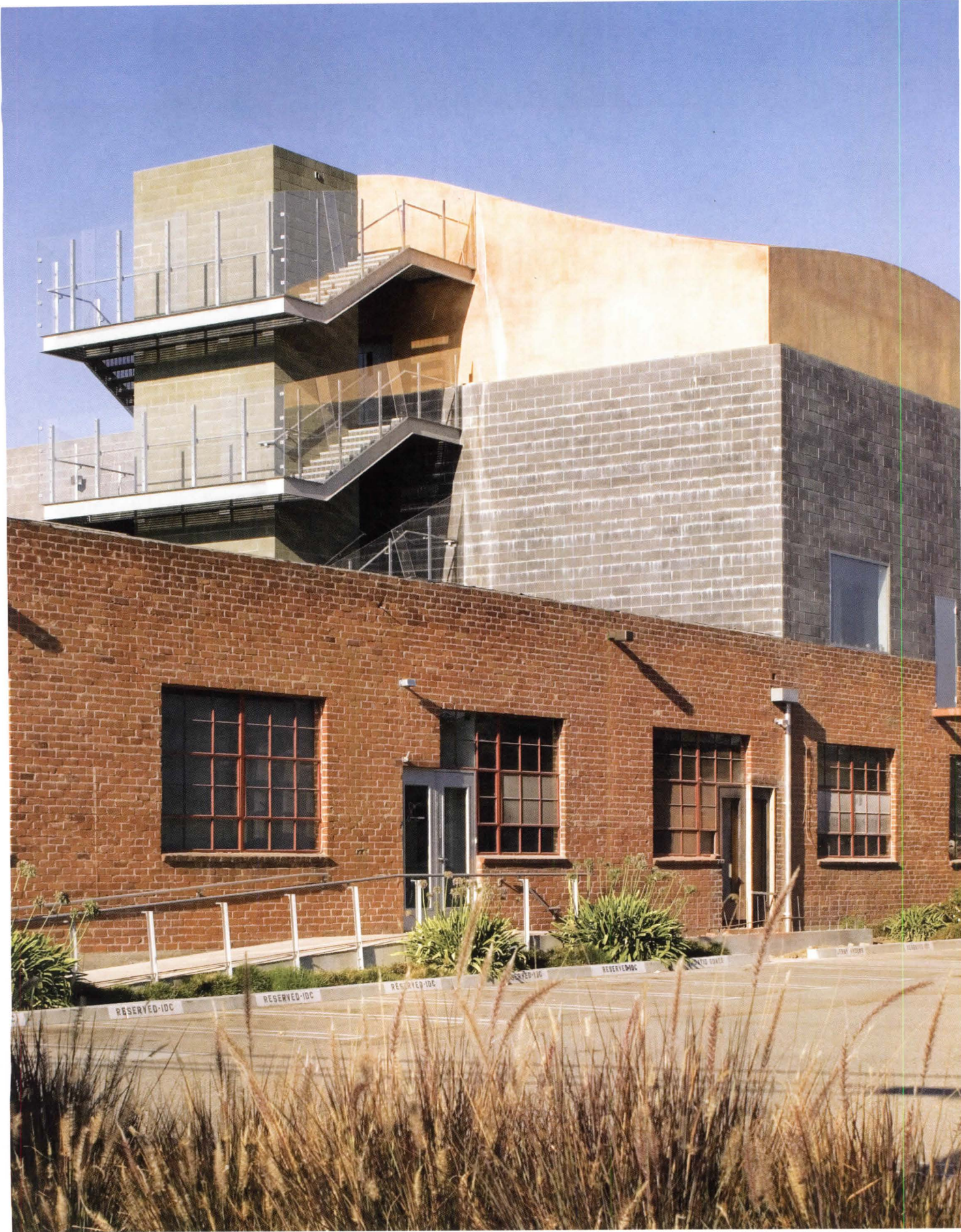
who compares PKN to online networks. “You come to a physical space to meet designers and architects, you can hear people laughing, and someone’s got a beer in his hand when you’re presenting.

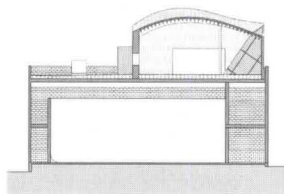
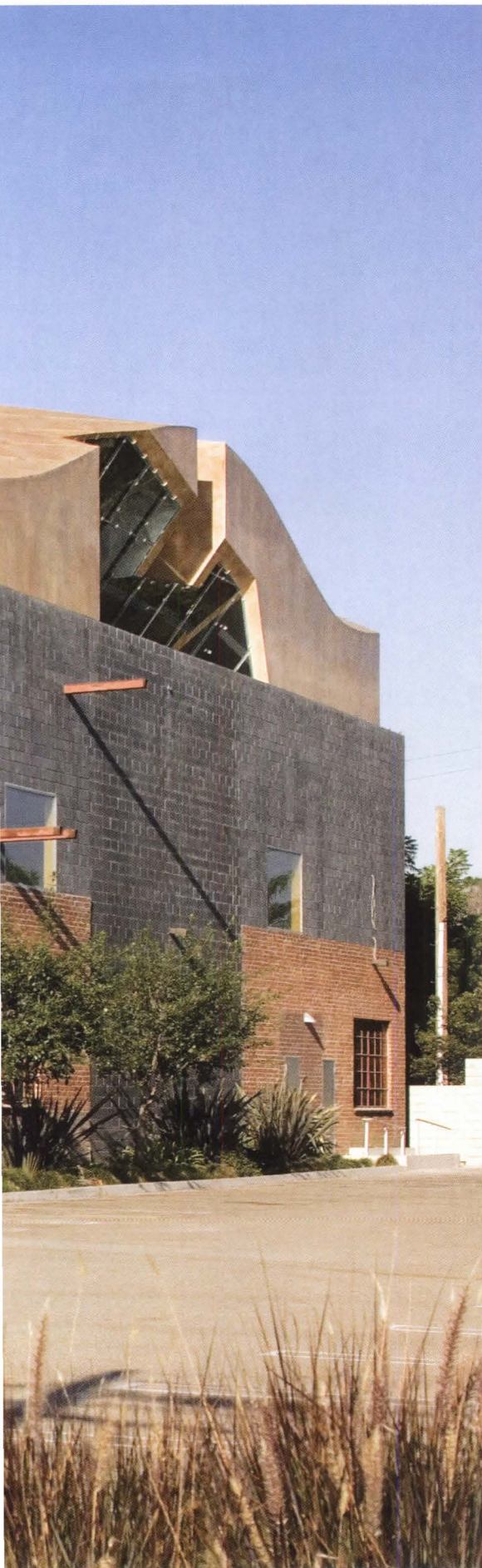
“Things go from boring to alive,” he says.

However, “if someone wanted to, they could come along and do 19 slides, 19 seconds,” says Dytham. To prevent this, he and Klein give those who organize officially sanctioned PKN events a space on the event’s website, www.pecha-kucha.org. Organizers agree to use the official name and graphics for PKN in new cities. That, along with the networking potential of the event itself,

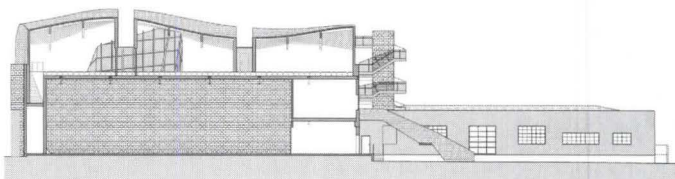
been three-quarters of a million slides shown at PK nights around the world. We’d like to use that power for something helpful.” Nothing has been finalized, but the architects are considering charging a slide tax, whereby presenters would pay \$1 per slide. Proceeds would then be disbursed to as-yet-undetermined causes.

But Dytham and Klein would be the first to admit that PKN is not something to be read about in a book or magazine or browsed online. In keeping with the event’s social spirit, Pecha Kucha Night is meant to be experienced firsthand. And chances are, you won’t have to travel all that far to find one.

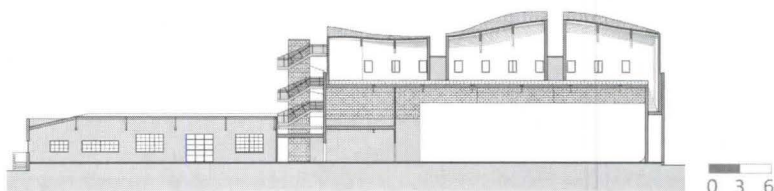




Transverse section



Longitudinal section



Longitudinal section

3555 Hayden Text Vernon Mays Photos Tom Bonner

THE RESEARCH-INTENSIVE FIRM OF ERIC OWEN MOSS ARCHITECTS LAYERS A SWELLING ROOFTOP ADDITION ONTO A WAREHOUSE.

BUSINESS—RATHER THAN NECESSITY—is the mother of invention in Culver City, Calif., where Eric Owen Moss has pursued a 15-year-long odyssey of experimentation. The latest landmark along his journey is a sculptural rooftop addition known simply by its address: 3555 Hayden. Like many of Moss' commercial projects, this flexible office space for a cable television network is an idiosyncratic mix of formal exploration, material inquiry, and structural bravado. "This is absolutely a research project, in terms of the form of the roof, its structure, and the finish," Moss says.

3555 Hayden continues Moss' long string of projects for husband-and-wife developers Frederick and Laurie Samitaur-Smith. What began as small-scale reconfigurations of defunct warehouses and factories has, over the past decade, produced entirely new buildings of a larger scale. The patronage of the Samitaur-Smiths—who function much like the Medicis, albeit in Culver City, an industrial suburb of Los Angeles—has allowed Moss to challenge architectural norms with daring buildings such as Samitaur (1996), Slash & Backslash (2000), and Stealth (2002), all of which provide flexible, interactive work environments for a host of creative companies.

Without apology, the driving force behind all this is profit, not art. "When Frederick started, his marketing idea was that he could use architecture to sell commercial space," Moss recalls. Based on the roster of companies that now occupy the growing village of Moss buildings—including Nike, America Online, Kodak, and advertising heavyweight Ogilvy & Mather—the strategy appears to be working just fine.



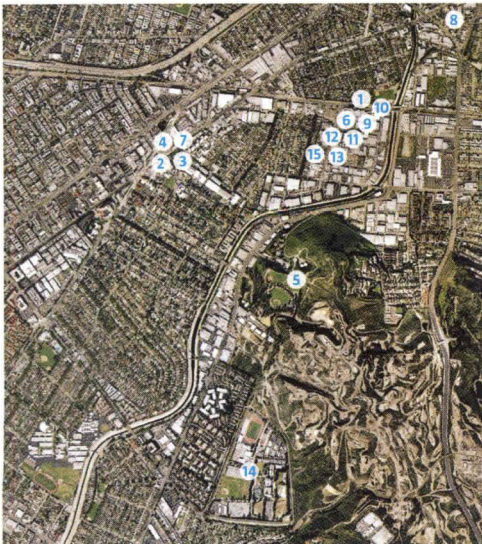
Building and Site

The golden-hued forms resting on top of 3555 Hayden constitute the second addition Moss has made to the building, a warehouse from the early 1950s. To convert the building into a sound stage in the late 1990s, he added a concrete-block second floor above the original brick box. In his inimitable style, Moss characterizes his latest layered addition as “Trajan over Nero”—a reference to how Trajan, the Roman emperor, constructed new baths directly on top of his predecessor Nero’s elaborate palace, the Domus Aurea. “It’s not a new idea,” Moss explains. “But it is worth considering as a precedent for how a city grows by one piece subsuming another.”

Such theoretical constructs are the stuff informing Conjunctive Points, the ongoing urban-scale collaboration between Moss and his developer—patrons. Standing on the third-floor terrace carved from the north side of the 3555 Hayden addition, a visitor beholds several of Moss’ built works, each of which is a unique response to zoning restrictions and market conditions.

At 3555 Hayden, the primary zoning constraint was the stipulated 43-foot height limit. The roof form complies with the code by averaging the height but distributing the volume where needed inside. Its functional program: to provide postproduction offices for the company that uses the sound stage beneath it.

Moss Projects in Culver City



1. 8522 National (1988)

Adaptive reuse of five warehouses to office space • 60,000 square feet

2. Lindblade Tower (1989)

3. Paramount Laundry (1989)

4. 9046 Lindblade (1990)
These three discrete buildings now make up, with 3962 Ince, a complex of high-tech office space • 55,000 square feet in total

5. The Box (1994)

A renovated warehouse topped by a trapezoidal box that serves as a conference room • 12,000 square feet

6. 3520 Hayden (1994)

Unites two new and two existing buildings; one of the latter was an airplane-engine factory • 25,000 square feet

7. 3962 Ince (1995)

8. Samitaur (1996)

A long gunmetal-gray building hovers between—and above—two older ones • 87,000 square feet

9. 3535 Hayden (1997)

Warehouse conversion • 52,000 square feet

10. What Wall? (1998)

Office space with distorted, funhouse-mirror façade • 9,000 square feet

11. The Umbrella (1999)

Its experimental glass design required a new mode of fabrication • 16,000 square feet

12. Slash & Backslash (2000)

A warehouse conversion with sharply angled forms that gave rise to its name • 45,000 square feet

13. The Beehive (2001)

Office building/conference center • 10,000 square feet

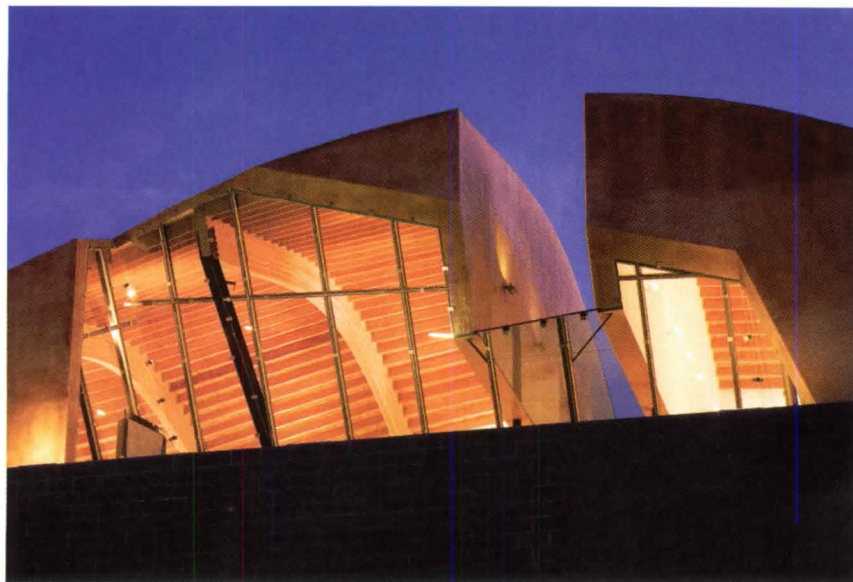
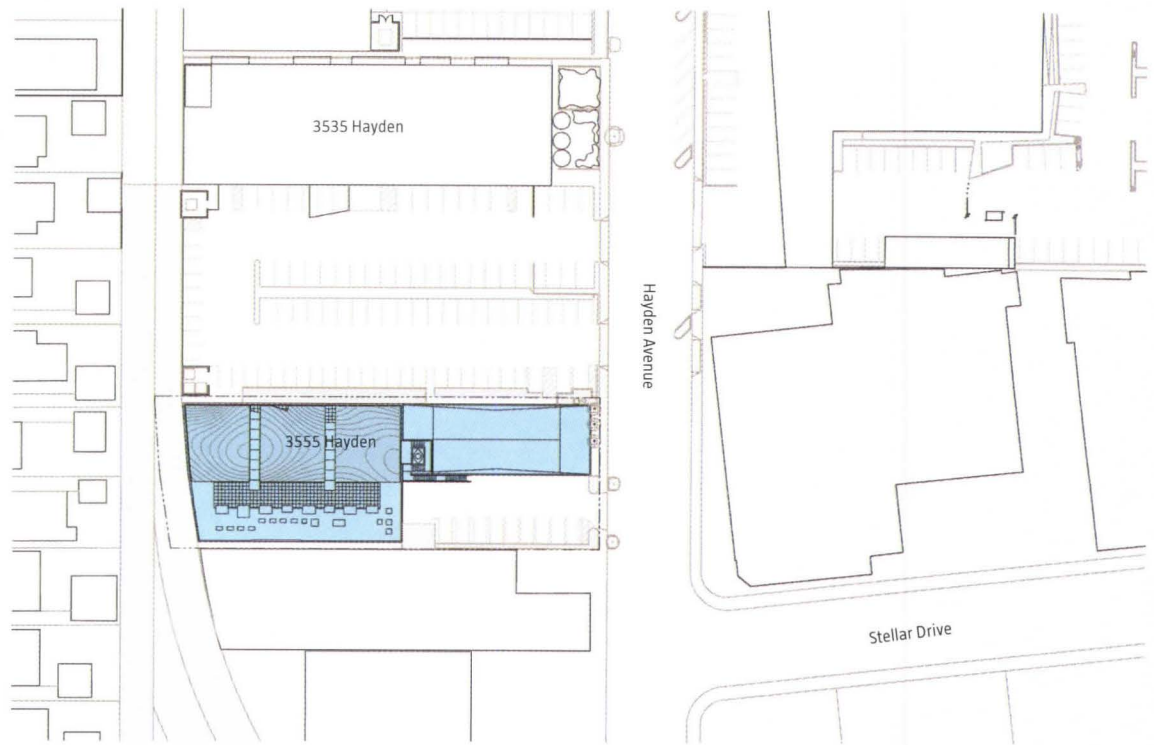
14. Stealth (2002)

Shifts from a square to a triangle in section • 50,000 square feet

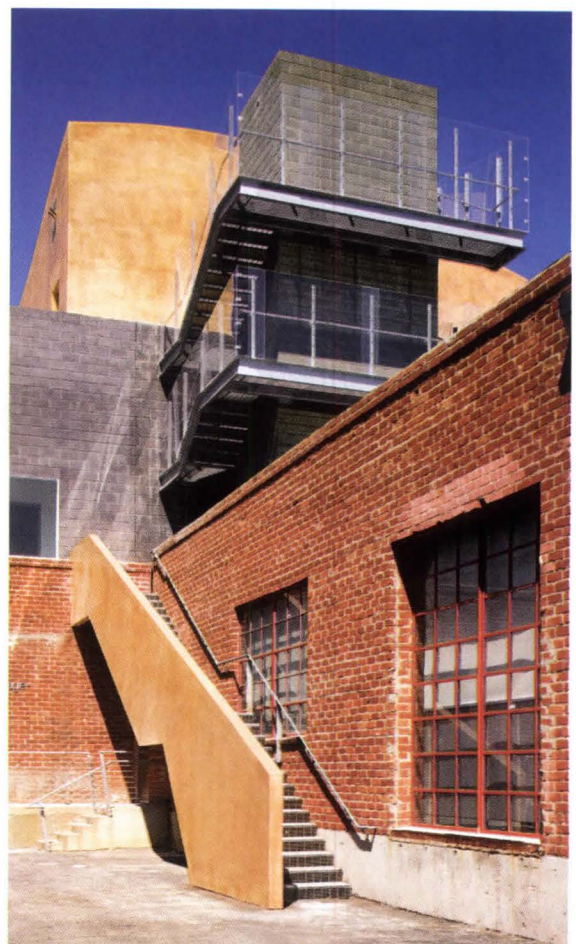
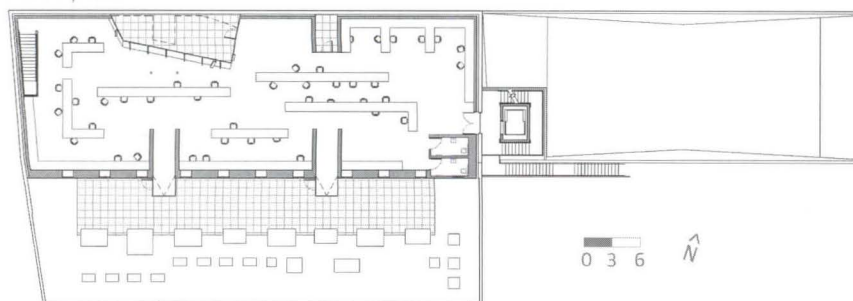
15. 3555 Hayden (2007)



Site plan



Floor plan



Framing and Sheathing

The building's roof—swooping, slotted, and coated in fiberglass—proved to be every inch a research project. Like a kind of wild sand dune, its complex form presented a host of challenges, starting with the design and fabrication of the structural system to support it.

The underpinnings for the rooftop addition were put in place in the late 1990s, when Moss first converted the building into a loftlike sound stage. A redundant steel structure was inserted along the perimeter, anticipating later vertical expansion. (See the first drawing in the sequence of axonometrics below.) Buried in the walls of the current addition are steel and wood columns that extend upward from the perimeter frame to support the new undulating roof.

The complex roof geometry is a 42-foot-wide creation of glue-laminated wood beams. Each beam was laminated and milled to a unique curvature and has a continuous changing bevel on the top surface, cut on a mammoth CNC (computer numerically controlled) milling machine according to 3-D digital files provided by Moss' office. The CNC machine also plotted small holes on top of the beams to indicate the center lines for the rafters, whose 16-inch spacing varies ever so slightly from beam to beam to adjust for the fact that each beam is a different length.

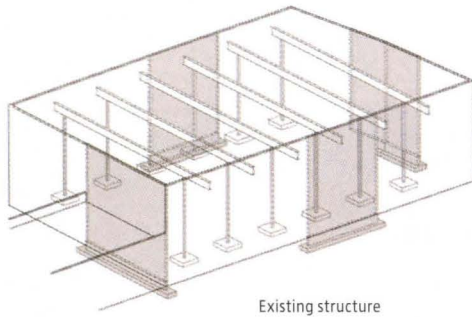
Rafters were CNC-milled out of 2x10s, 2x12s, and 2x14s, depending on how much material had to be cut away to achieve the desired curvature. No two are alike. Each

rafter has a curve cut along one side, is notched on both ends for hanging, and milled with an index code that can identify it and indicate its location in the roof system—a necessity when nearly 300 unique parts are involved.

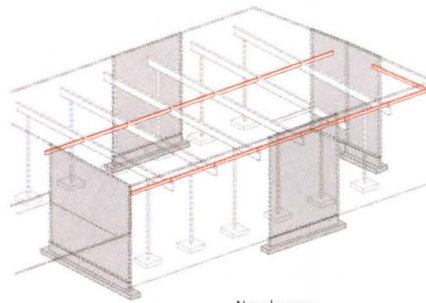
Because Moss wanted to expose the wood structure on the interior (see photo at bottom of facing page), the exterior surface had to perform as an insulated package. The assembly (drawn in section on facing page, top) is composed of a plywood shear diaphragm on the interior (two layers of 1/2-inch plywood, thin enough to flex over the curved beams and rafters), with rigid insulation and fire-resistant cement board sheathing on the exterior. A consistent 3-inch cavity separates the inner and outer surfaces by means of a flexible steel track that conforms to the curves. This consistency was important to preserving the geometry established by the beams: A sloppy installation of sheet material would have degraded the shape. Spray-foam insulation was applied between the ribs of the steel track; its superiority over rigid foam was, in this application, a no-brainer.

Empirical tests were done in the studio to identify a gypsum board that had adequate flex and sufficient ability to bond with the final coating of fiberglass. The cured fiberglass popped off some cement-board products, or it made the boards fail internally and rip apart. The ultimate specification was a cement board with integral glass fibers that could penetrate the resin applied to the outer surface.

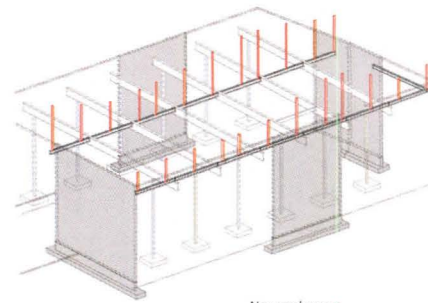
Building sequence



Existing structure

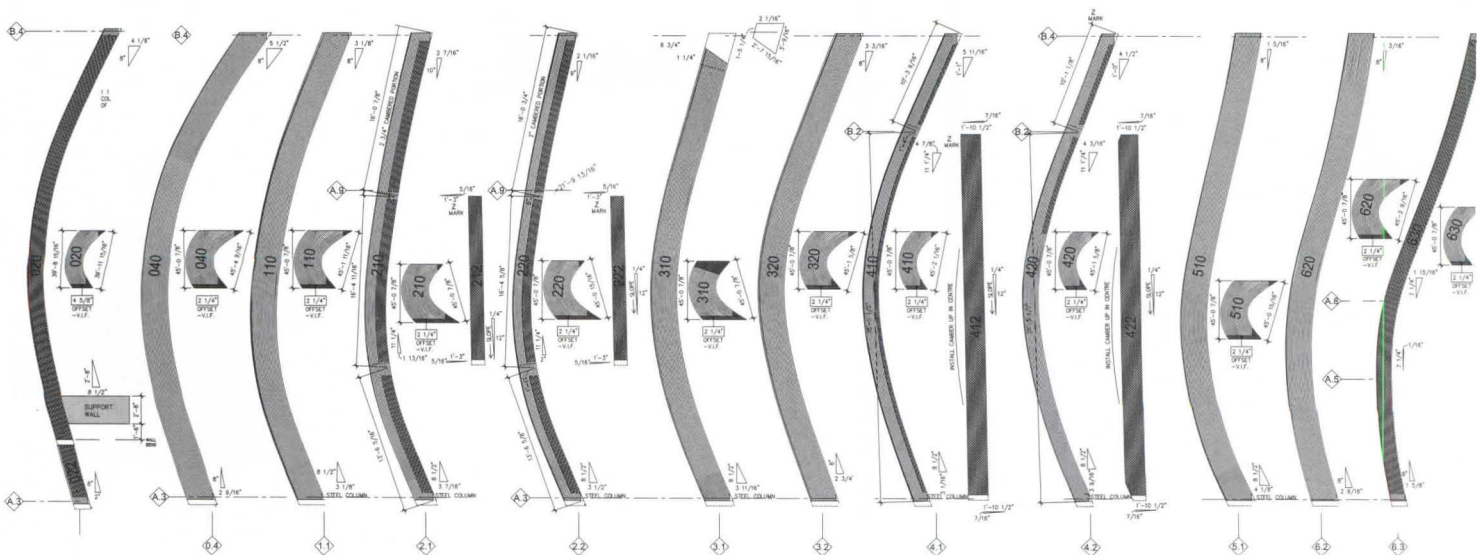


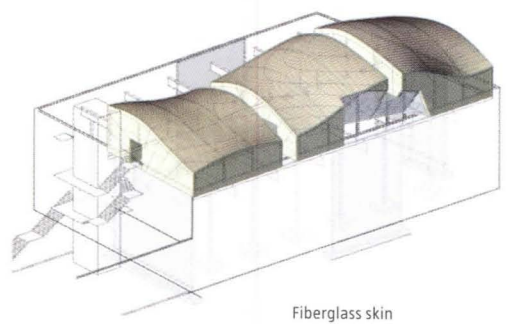
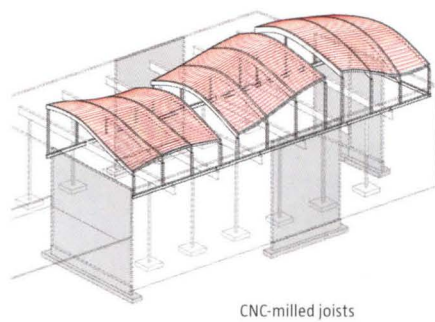
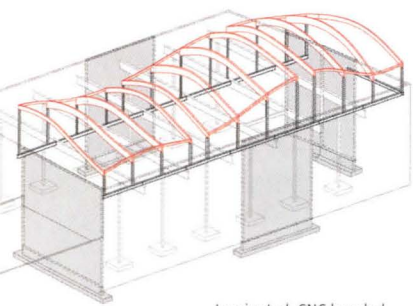
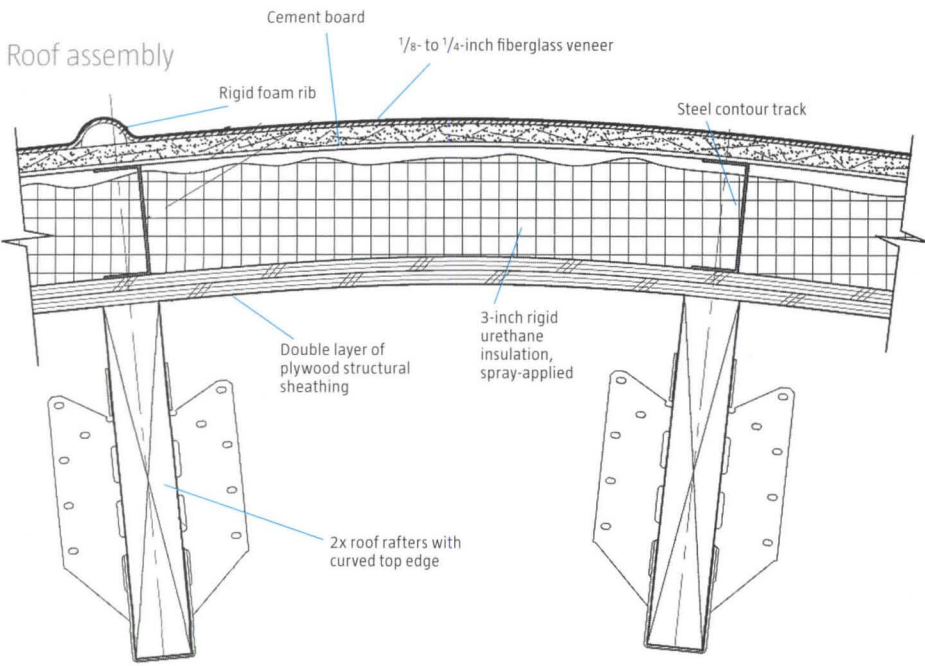
New beams



New columns

Individual beams





Sloped Glass

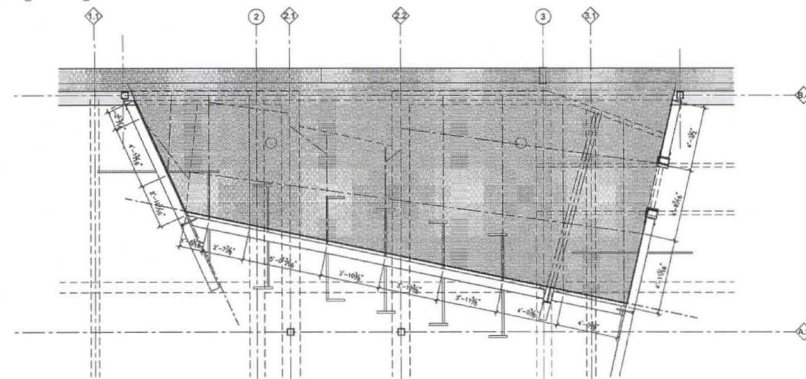
As if they hadn't pushed the limits far enough, Moss' team decided to penetrate the curvilinear geometry of the roof with three slanted planes of glass. The result is a sheltered balcony on the north side of the building that affords sweeping views over the rooftops of Culver City toward the cluster of high-rises in Century City. The sloped glazing was conceived as a cut into the building, conceptually slicing into and removing a portion of the wall and roof surfaces and framing. Its three planes (see plan and axonometric, below, and photos, below right and facing page) are angled at 0, 20, and 35 degrees from vertical—rakes derived from the path of the sun and intended to bring a generous amount of indirect sunlight into the building.

The act of cutting through the building informs the glass wall's aesthetic qualities, detailing, and relationship to other materials in the roof and walls. The conceptual cut is detailed with rafters, beams, and a skylight butting

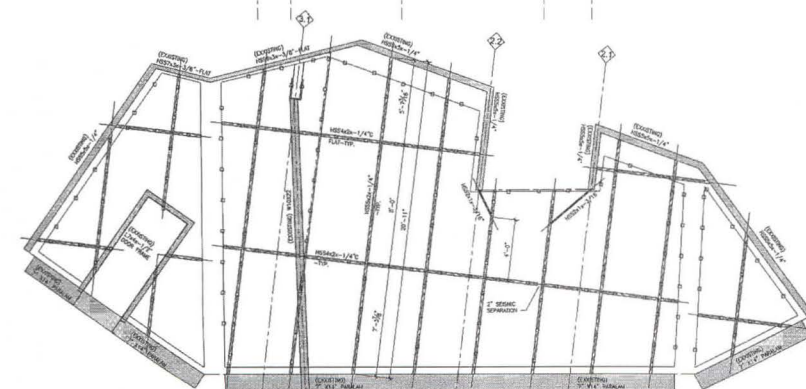
against the glass surface and appearing to hang unsupported. "There's not an acknowledgment of two systems responding to one another. They are actually smashed into each other," says Tom Raymont, a member of the design team. "But the act of smashing them into each other is actually very carefully detailed and becomes a kind of aesthetic concept throughout the building."

The wall consists of an aluminum storefront system that was heavily reinforced with steel to support the acute angle of the glass. The framing module is staggered from wall to wall so that, at the corners, the steel cross-members pass each other in space instead of connecting at the intersection. In order to set the glass into a precise plane, it was necessary to provide an adjustable connection back to the steel grid. This was accomplished with an aluminum mullion cap that slotted over the steel framing and could be held off by as much as an inch.

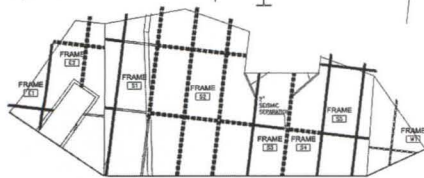
Angled glass



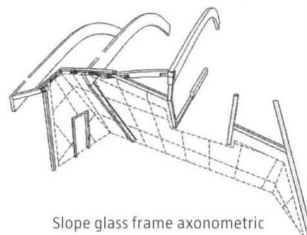
Plan at mechanical deck



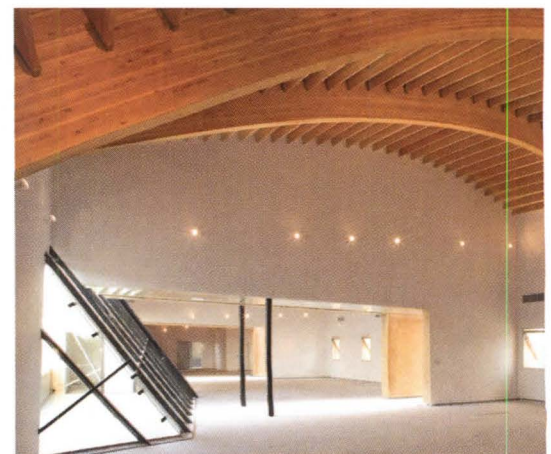
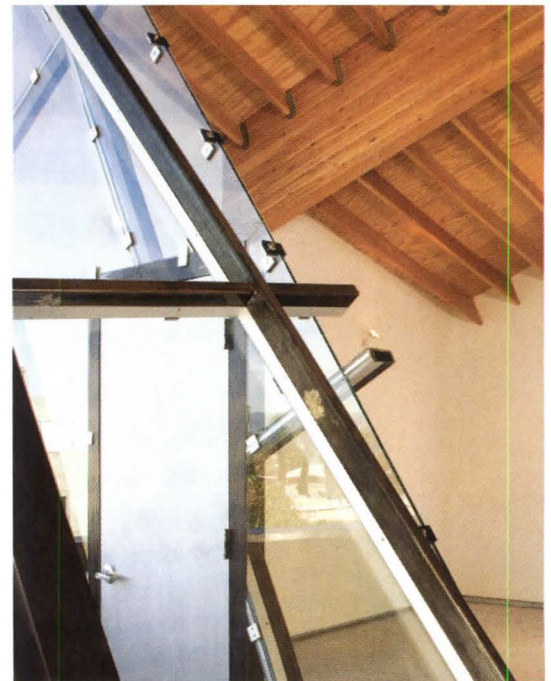
Elevation perpendicular to glass plane



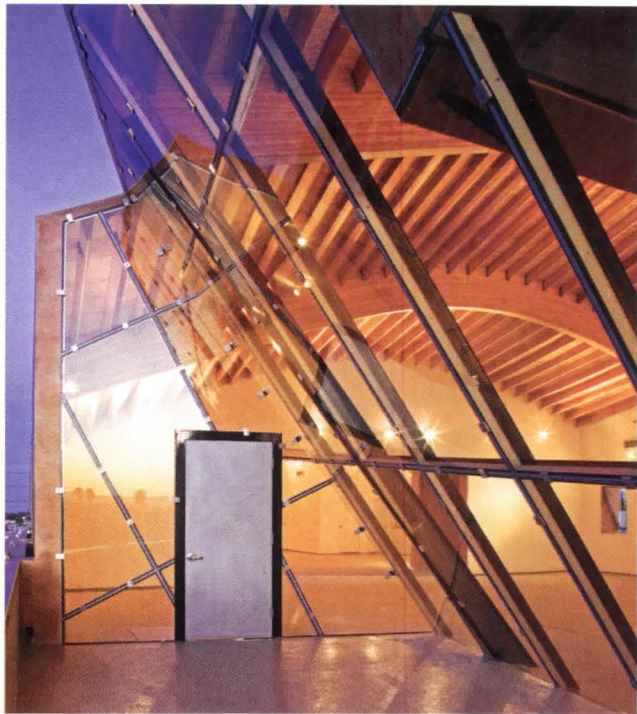
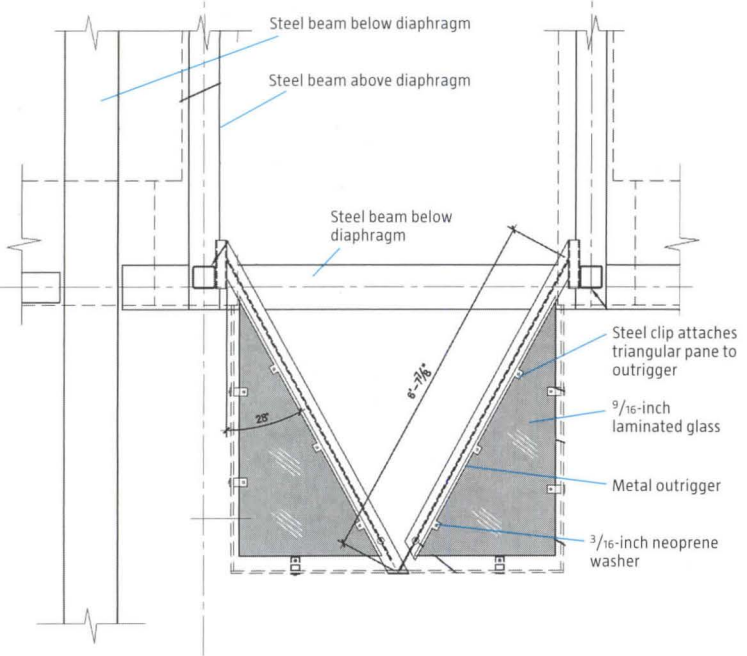
Slope glass frame division diagram



Slope glass frame axonometric



Skylight brace



Fiberglass Coating

The rooftop addition is coated in a monolithic shell of fiberglass—or, to be more accurate, glass fiber–reinforced plastic. With so many variables at play, extensive research and testing were necessary to develop the appropriate balance of resin, color, texture, substrate, and strength. The best collaborators emerged from the swimming pool industry, whose crews routinely spray fiberglass to repair or recoat existing pools on site.

Moss wanted the surface quality to resemble cloisonné, a glass-based glaze with a subtle depth of surface. A number of green shades were tested, but in the end he selected a resin with no pigment—only the imbedded golden tone of the material itself. Early on, the architects thought of fiberglass like stucco, believing that a mesh backing would hold it firmly in place (facing page, top). Their experiments revealed that the glass fibers did not key into the mesh whatsoever, so they abandoned that approach and went instead with a solid substrate coated with primer that would adhere chemically to the fiberglass layer.

Mock-ups were done with a variety of metal flashing profiles to design an expansion

joint for the roof (facing page, middle right). Those options were rejected in favor of a flexible foam backer rod that was cut into half-round sections on a band saw. In addition to controlling expansion, the resulting joint also serves to mitigate the flow of rainwater off the roof. As a design element, the joints are laid out as a series of continuous ribs across the roof like topographic lines (see photo on facing page, bottom). One lesson learned: Because the ribs are horizontal, they acted like dams, creating shallow pools of water. When short sections were cut from the ribs to allow water to drain down, cracks developed in the fiberglass at those points. The cracks have been repaired with silicone.

Applying the fiberglass is an art form in itself. After coating the roof surface with a thin layer of resin and catalyst, the work crew began to spray on the final mixture, which has the appearance of wet grass when first applied (see facing page, middle left). The art, and risk, come with using a manual process to achieve the desired $\frac{3}{16}$ -inch coverage. Too much spray, and the color goes dark; too little, and it appears faded. Enormous care was required, therefore, to create a relatively uniform color (although a certain degree of variation was also seen as desirable).



Toolbox

The roof geometry of compound curves and wavelike glue-laminated beams introduced a host of challenges in the design and fabrication of 3555 Hayden. To get the job done, the architects uncovered solutions both widely available and highly improvised.

Rhino / rhino3d.com

Invaluable when working with complex geometries, Rhino was used to build a complete 3-D computer model of all the roof framing members: beams, rafters, and wall top plates. In the case of the beams and top plates, the 3-D data was used in fabricating the members as well.

AutoCAD / www.autocad.com

This reliable tool was used extensively for all 2-D work. For the rafters, which are only 1½ inches thick, two-dimensional outlines were sufficient to communicate the dimensions to the fabricator.



Structurlam Products / www.structurlam.com

This Canadian company, based in Penticton, B.C., owns one of the largest CNC milling machines in the world, a Creneau machine capable of working material up to 100 feet long, 15 feet wide, and 5 feet high. Three-

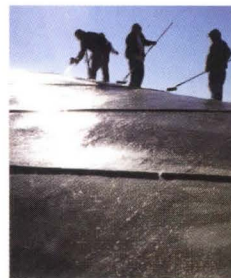
dimensional files for the building's curvilinear beams were e-mailed to Canada; 12 weeks later, the beams arrived in Southern California on a truck.

Contour Track / www.dietrichindustries.com

To achieve a consistent, reliable spacing for the insulation gap between the plywood ceiling and the substrate for the plexiglass roof covering, the team investigated several options. Ultimately, a new product, Contour Track by Dietrich Metal Framing, proved to be the ideal solution to create a 3⁵/₈-inch insulation cavity while lending structural integrity to the roof.

GlasRoc by CertainTeed / www.certainteed.com

Moss' staff investigated a number of sheathing materials that would bend across the roof surface without cracking. Several types of sheet material were empirically studied in a "peel test" as well to determine their bond strength with the fiberglass coating. In many cases, the layers of fiberglass readily peeled away—but not with GlasRoc, which has glass fibers that bond with the applied resin. The ½-inch-thick material has a minimum bending radius of 6 feet.

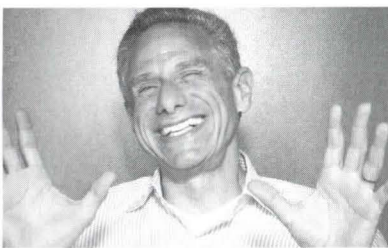
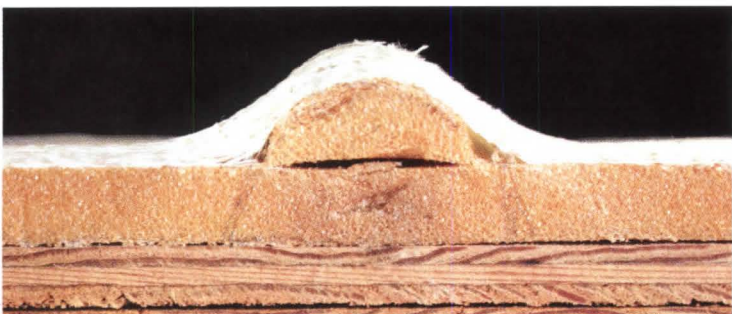
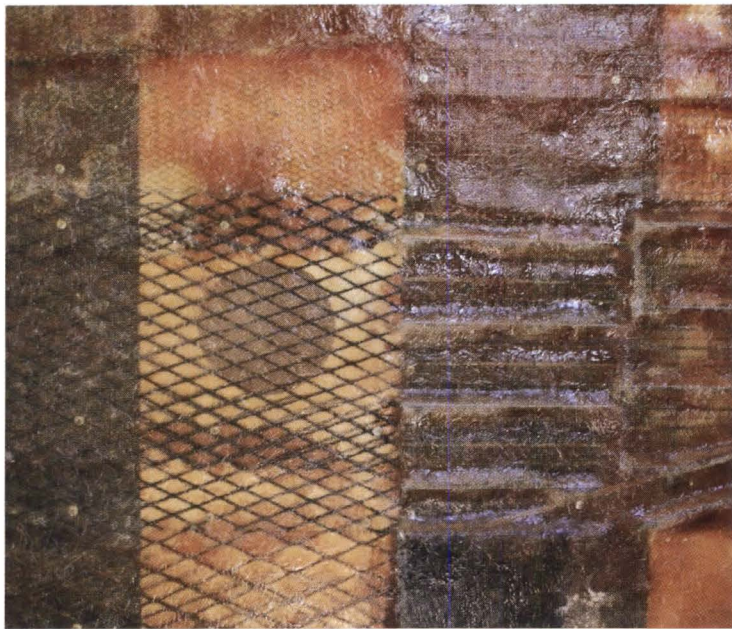


Fiberglass

The final coating on the roof is glass fiber-reinforced polyester resin. The resin was provided by Hexion; the glass fibers and catalyst are generic. The coating—applied to a thickness of about 3/16 inch—was sprayed onto the building by a crew from Protective Coatings & Linings, a company that specializes in the repair of swimming pools and industrial tanks.

Handmade fork

Using standard 2x4s, the architects constructed a 6-foot-long, two-pronged fork that could be slotted over a rafter and used to twist it into position when the ends were nailed off. This twisting was necessary to ensure that each rafter met the beams at 90 degrees at both ends.



PROJECT 3555 Hayden, Culver City, Calif.
OWNER A national broadcasting company (withheld)
COST Withheld
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GENERAL CONTRACTOR Samitaur

Constructs, Culver City—Peter Brown (director of field operations); Tim Brown (general superintendent)

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STRUCTURAL STEEL Cal State Steel (Dave Olson)

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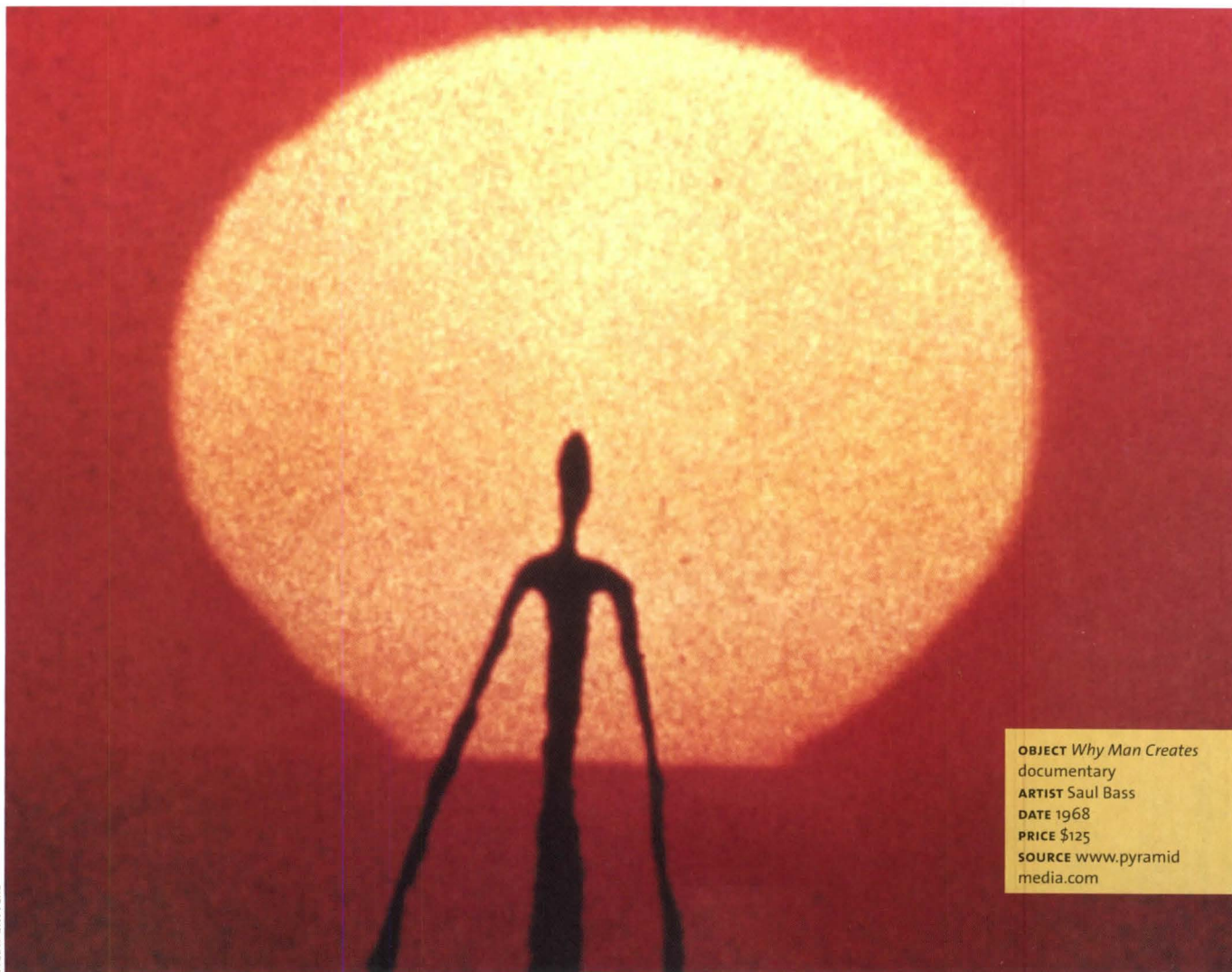
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CULTURE

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OBJECT *Why Man Creates*
documentary
ARTIST Saul Bass
DATE 1968
PRICE \$125
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Creation Myths

Saul Bass asks where invention comes from

A FIVE-MINUTE CLIP from graphic artist Saul Bass' Oscar-winning 1968 documentary *Why Man Creates* made its way to YouTube this fall. Bass sketched the "edifice" of human progress as a towering work of architecture—from cave dwelling to pyramid, Greek temple to Roman arch, Gothic cathedral to modernist box—each layer providing a humorous frame in which to view the evolution of innovation. The clip counted more than 20,100 hits at press time.

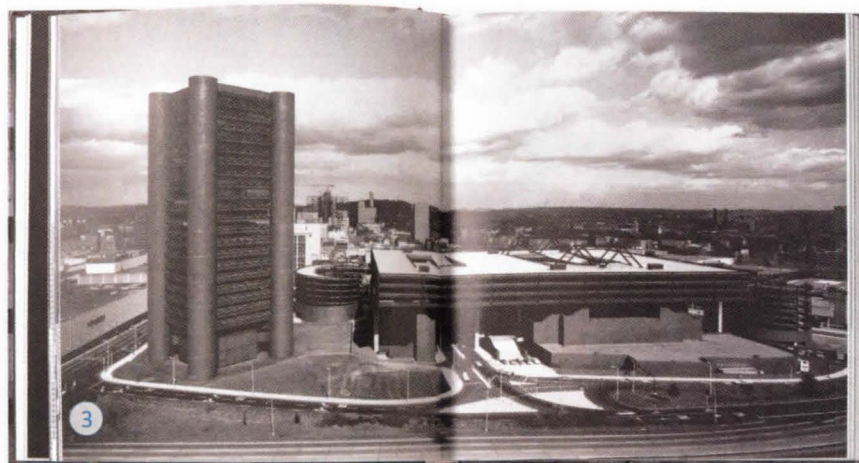
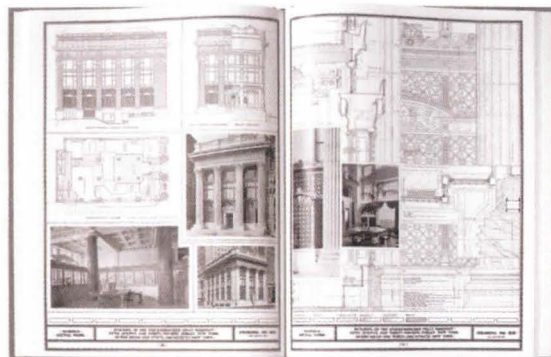
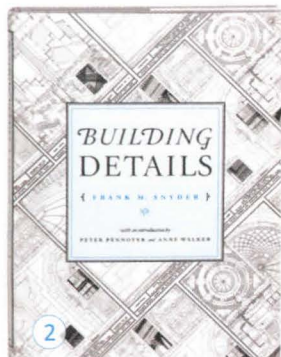
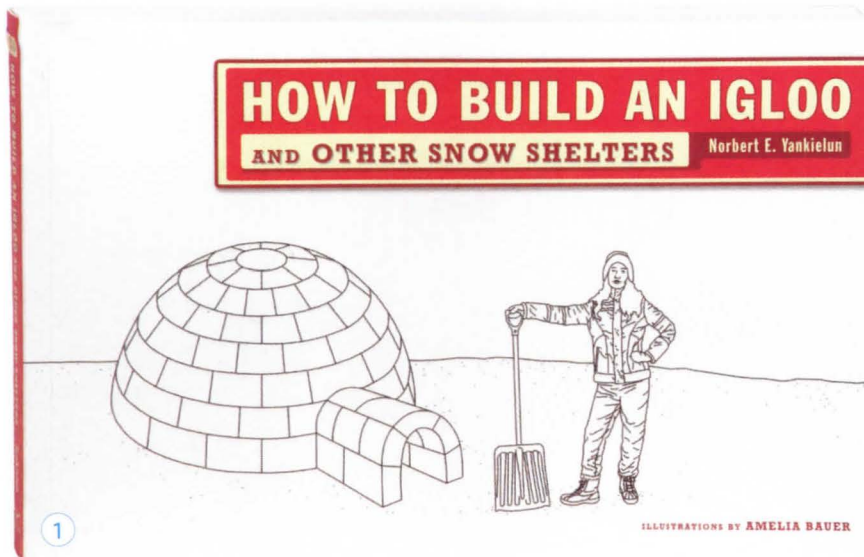
Nearly four decades after its original release, Bass' 25-minute classic still makes a good argument for stepping outside the box. In a segment devoted to ping-pong balls, one ball bounces so high it is expelled from the factory assembly line, only to disappear in a burst of exuberance in the uncharted freedom outdoors.

A humorous take on serious questions is ageless and typical of Bass (1920–1996), who created original title sequences for such films as *The Man With the Golden Arm* and *North by Northwest*. In *Why*, he used a variety of low-tech techniques to convey the euphoria of the eureka moment and the frustration of research thwarted. Human progress is condensed into a

fantasy of steam engines, light bulbs, and jet planes. As the trappings of modernity pile on, a mushroom cloud emerges from the pinnacle like a gasp of exhaustion. But Bass, an optimist, shapes the cloud like a well-leafed tree.

Researchers note that people who take creative leaps can be making a radical break with mainstream expectations and societal responsibilities. Bass doesn't flinch. Instead, he argues for expressing one's uniqueness, to declare, "I am." That, Bass says, is why men and women create.

The price of creativity: *Why Man Creates*, a 25-minute documentary by Saul Bass, is available as a DVD from www.pyramidmedia.com for \$125. LINDA HALES



CHARLIE BROWN

1. How to Build an Igloo and Other Snow Shelters

By Norbert E. Yankielun

With global warming monopolizing the chatter at smart holiday gatherings, it would take an iconoclast to obsess over the building of a shelter for really cold climes. But Norbert E. Yankielun, a research engineer for the U.S. Army Corps of

Engineers' Cold Regions Laboratory, has done just that, writing the must-have book of the season on building snow domes. Yankielun has been teaching people how to make igloos for 15 years at the Montshire Museum of Science in Norwich, Vt. His illustrated pocket-size instruction manual appears whimsical but is grounded in essential data, from

site planning to the proper way to cut snow blocks. Yankielun doesn't stop at igloos. He devotes a significant portion of the book's 208 pages to quinzees (snow mounds), slab shelters, drift caves, and spruce traps—all traditional structures that evolved from the need to survive in the chilliest wild. Whether 21st century architects could improve on these age-old forms is a subject for a sequel. *W.W. Norton; \$17.95*

2. Building Details

By Frank M. Snyder

Introduction by Peter Pennoyer and Anne Walker

In the early 20th century, measuring and drawing the details of existing buildings was fundamental to the pursuit of great architecture. So Frank Snyder, a New York architect, devoted himself to copying window frames and sashes, doors and trim, cast-iron balusters, gables, and marquees from the working drawings of the star architects of his day, including McKim, Mead & White; John Russell Pope; and Cram, Goodhue & Ferguson. To his standardized 16-by-21-inch drawings, Snyder added photos of the details in built form and descriptive notes on the final choice of materials. The drawings were published serially in the magazine *Building Details* between 1906 and 1914. Snyder advertised the utility of details that could be "readily adapted to any Work having similar requirements, using different materials, sizes and proportions than those shown, either for more or less expensive work." Now Snyder's studies of details on banks, churches, clubs, and houses are reprinted at their original size and contained as full-scale tiffs on a DVD included with the volume. The digital utility of Snyder's century-old handiwork—and the Beaux-Arts details he copied—is up to you.

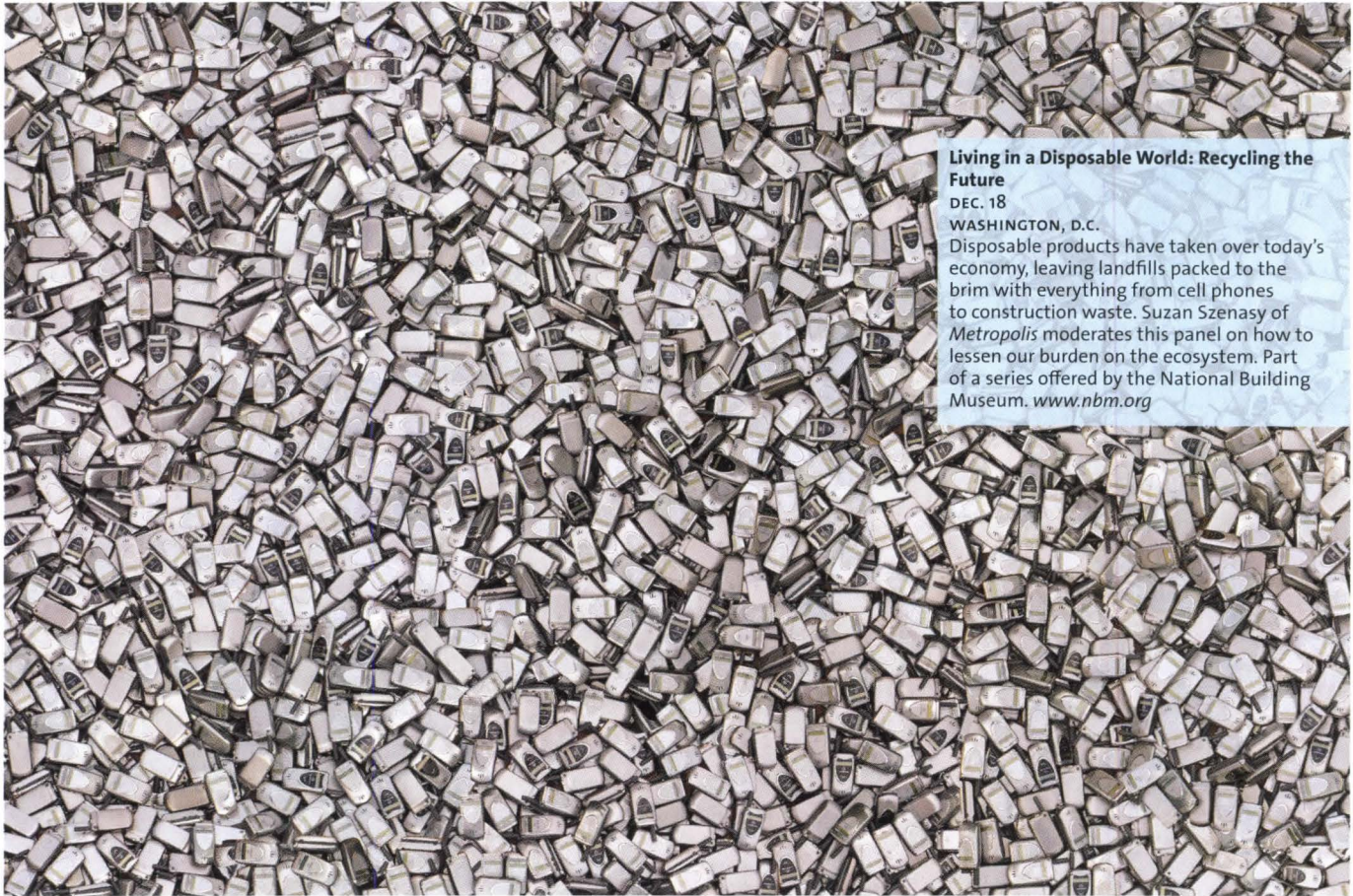
W.W. Norton; \$60

3. The Architecture of Parking

By Simon Henley

Simon Henley, principal of the London architecture firm Buschow Henley, proposes to rehabilitate the reputation of garages. He likes the uncompromising use of concrete, the "weathered" ambiance of open-air spaces, and the idea that in elevation, garages are "great abstract compositions" filled with shiny metal objects. Searching across time and space—from Paul Rudolph's 1963 Temple Street garage in New Haven, Conn., to Zaha Hadid's 2001 carpark in Strasbourg, France—Henley finds the rare examples worthy of a coffee-table book and waxes eloquent about "the stuff of synthetic concrete landscapes." *Thames & Hudson; \$45*

CELL PHONES (DETAIL), 2007, BY CHRIS JORDAN



Living in a Disposable World: Recycling the Future

DEC. 18

WASHINGTON, D.C.

Disposable products have taken over today's economy, leaving landfills packed to the brim with everything from cell phones to construction waste. Suzan Szenasy of *Metropolis* moderates this panel on how to lessen our burden on the ecosystem. Part of a series offered by the National Building Museum. www.nbm.org

DECEMBER

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Managing the Integrative Design Process

DEC. 12

SALT LAKE CITY

No longer the buzz term *du jour*, integrative design nonetheless remains a goal for many firms. AIA Utah offers this workshop to show how a firm can better integrate its processes across fields. www.aiautah.com

Seismically Safe & Efficiently Green

DEC. 13

SAN FRANCISCO

A hospital that can move up to 30 inches horizontally and two inches vertically? See how Anshen + Allen designed the Mills-Peninsula Medical Center to withstand earthquakes; the building comes complete with isolator bearings and a 30 percent savings in energy use. www.aiasf.org

Urban Computing and Its Discontents

DEC. 14

NEW YORK

How will the computer change urban life? The Architectural League addresses this question as part of the launch of its *Situated Technologies* pamphlet series. Consider it a 1984 for 2007 urbanites. www.archleague.com

JANUARY

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

21st Century Modern

JAN. 13

LONG ISLAND CITY, N.Y.

The Noguchi Museum explores how today's design market has propelled midcentury modernism to a new level of popularity. Panelists include auction house director Richard Wright, filmmaker Eames Demetrios, and Carl Magnusson, formerly with Knoll International. Design historian John Berry will moderate. www.noguchi.org

Passing the Baton

JAN. 16

CHICAGO

The future of architecture is starting now at Chicago's alternative design school, ArcheWorks. ARCHITECT's editor in chief Ned Cramer leads a panel discussion on the next generation of design leadership and what's changing in architectural education. www.archeworks.org

World of Concrete

JAN. 21–25

LAS VEGAS

Seminars on designing and building with concrete, plus a cement truck-driving competition. ARCHITECT co-sponsors this year's trade show on all things concrete. www.worldofconcrete.com

Resource

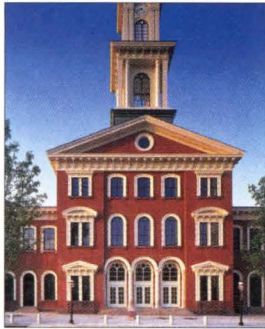


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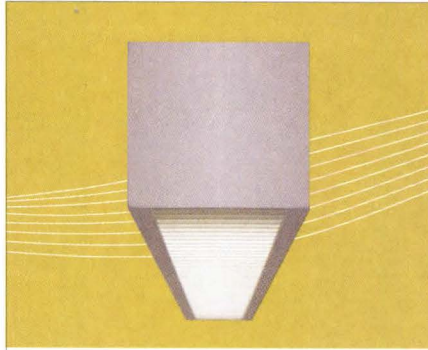
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Haddonstone's cast stone cladding was used to help create the striking contemporary façade of this New York City apartment building. The company's extensive cast stone collection also includes porticos, window surrounds, balustrading and many other architectural features. An inspirational 200-page catalog and CD-ROM are available.

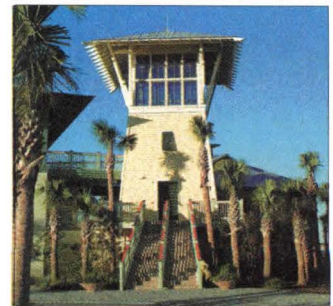
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Resource / Classifieds



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ARCHITECTURE HAS FIRED SYNAPSES IN THE HUMAN BRAIN FOR A LONG TIME. NOW A NEUROSCIENTIST IS ASKING HOW.

Interview Edward Keegan Photo Tim Tadder

EVE EDELSTEIN

What can architects learn from neuroscientists?

Neuroscience tells us how the human response to the environment is derived. Understanding the environments that architecture creates helps us to understand the result and responses. This fascination in the power of architecture over human behavior and human function goes back a long way. Leonardo da Vinci studied both the human body and architecture. Our first architect, Imhotep, was both an architect and a physician. We believe that the earliest written document that shows the word for "brain" and some of the structures within the brain dates back to his time.

What do you cover in your "Neuroscience for Architecture" course at the NewSchool of Architecture and Design in San Diego?

Our course begins with an introduction to gross anatomy and the large structures of the brain. It's important that students represent what the brain is doing in accurate terms. And I want to dispel the myths that we have about the brain. One is that you're born with a certain number of brain cells and you lose them as you age or go to too many college parties. An experiment at the Salk Institute has shown that enriched environments are associated with parts of the brain where memories are formed, and those parts of the brain continue to grow in adults. And architects create enriched environments.

Much of your research has been for healthcare environments, but is it applicable across the disciplines and in different environments?

Neuroscience is looking at the biological bases for responses. We're looking at what unifies people's responses across cultures. If I observe in almost all animal species that light is the primary driving force for a circadian rhythm and humans also have multiple circadian responses, then I can be quite sure that what we discover in science will be applicable to the CEO working all night in his office, the doctor and the patient in a healthcare environment, the architecture student up all night in the studio, or people in their own homes where perhaps the lighting from the exterior or the interior is not giving them the type of lighting that we need.

Do you expect to practice as an architect?

I hope to get licensure. I am working as a consultant to several firms. We know a great deal of data, and it's our job to translate it into something that can be applied.

→ Transcript and audio of this Q&A is available online at www.architectmagazine.com. Contact Eve Edelstein at eedelstein@ucsd.edu

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