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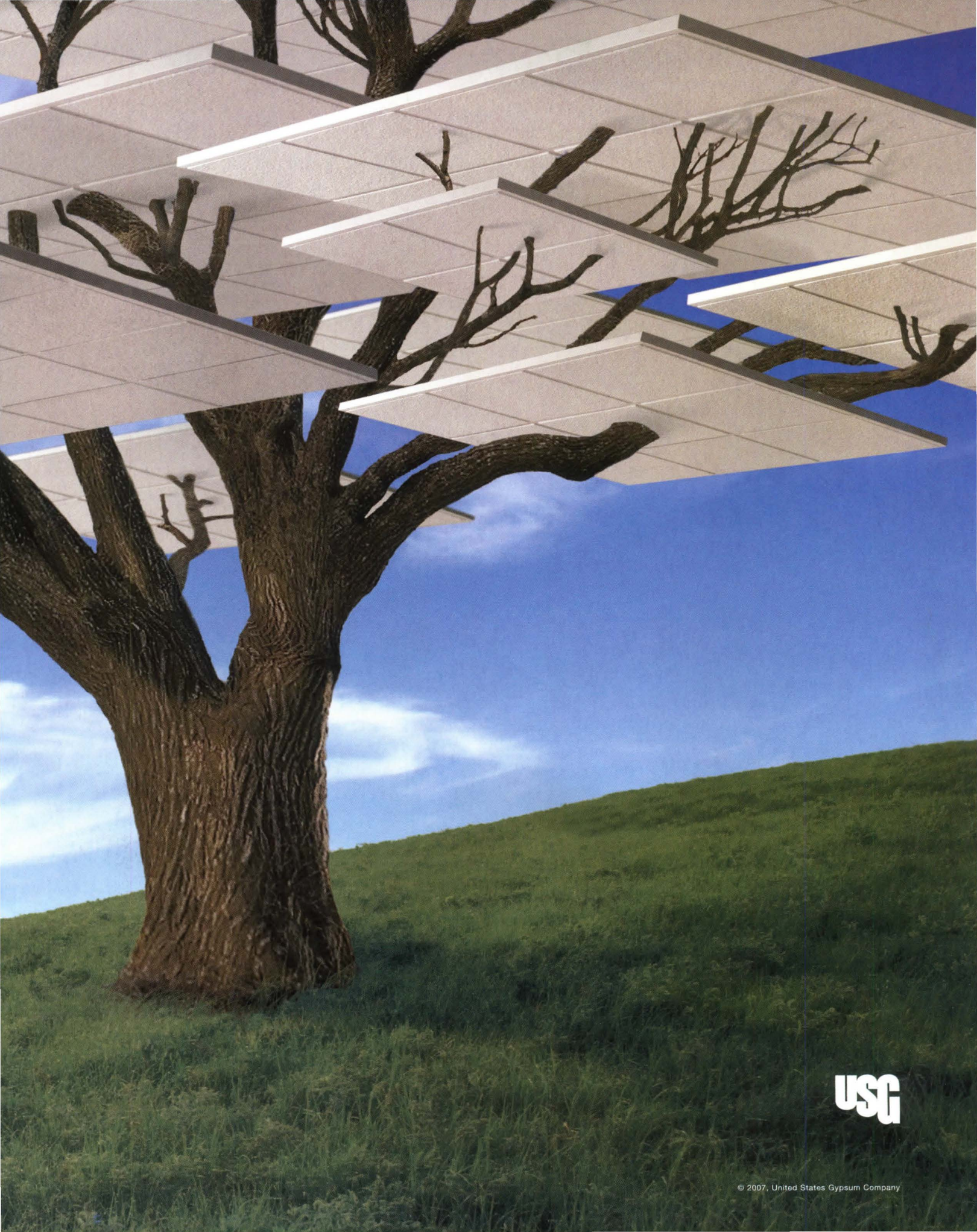
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2007 Salary Survey

THE \$34,000 QUESTION

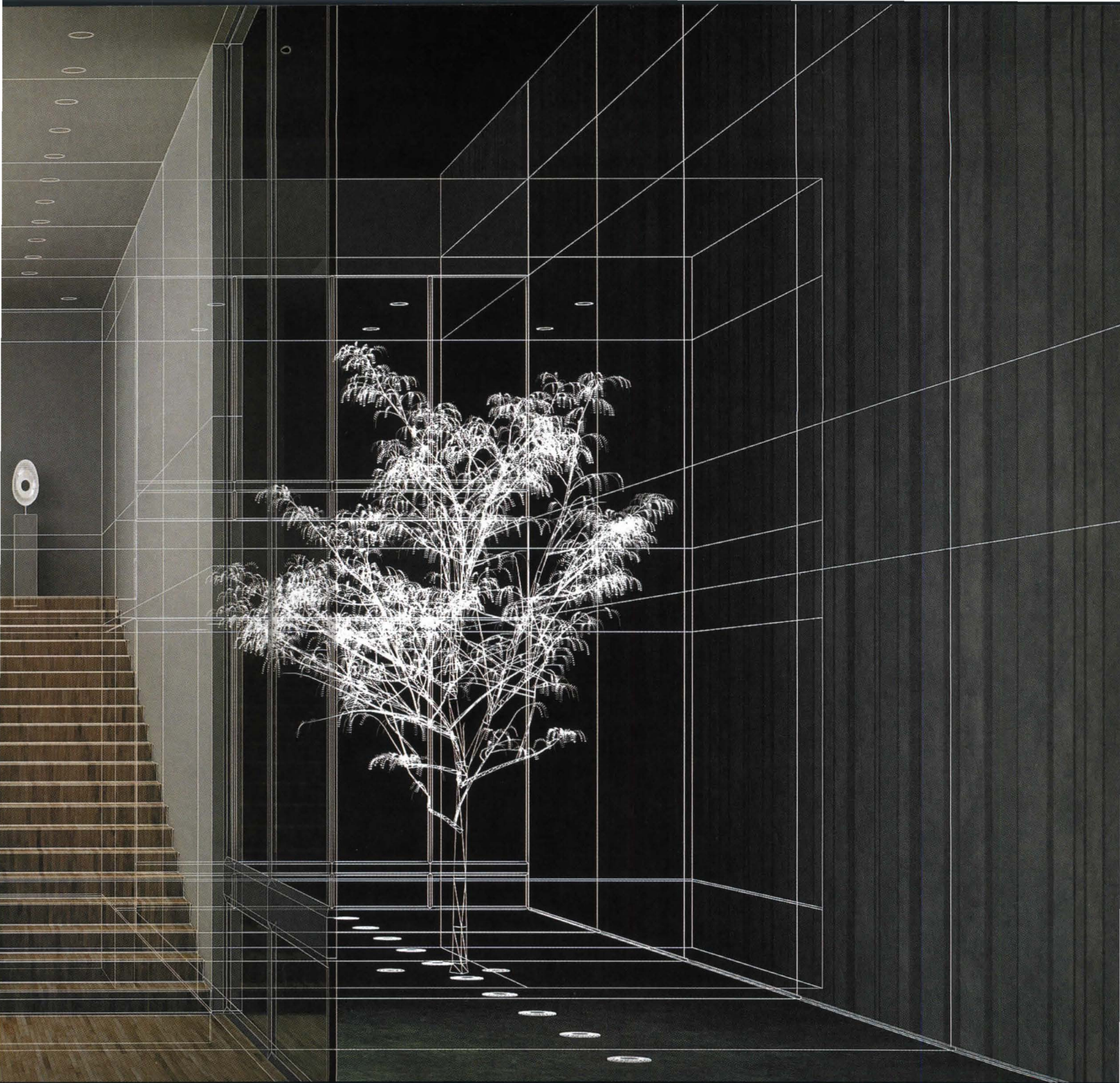
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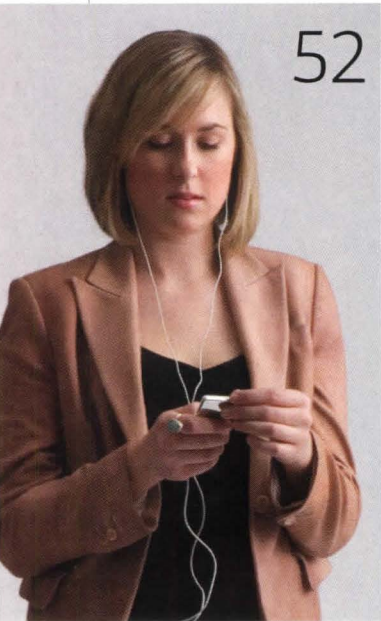
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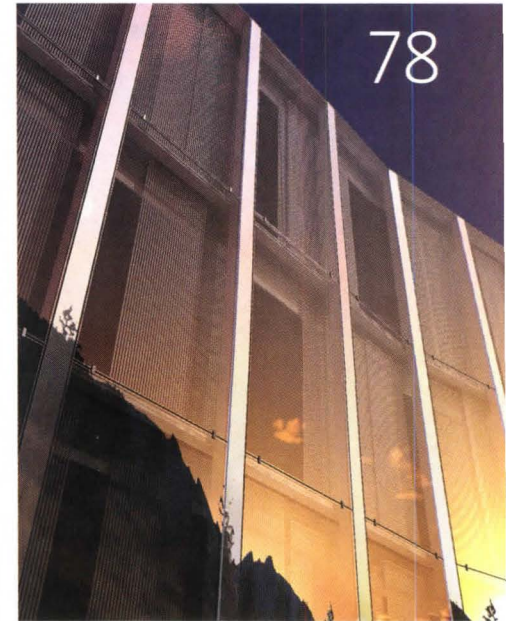
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YALE UNIVERSITY ART GALLERY/PHOTO: ELIZABETH FELICELLA



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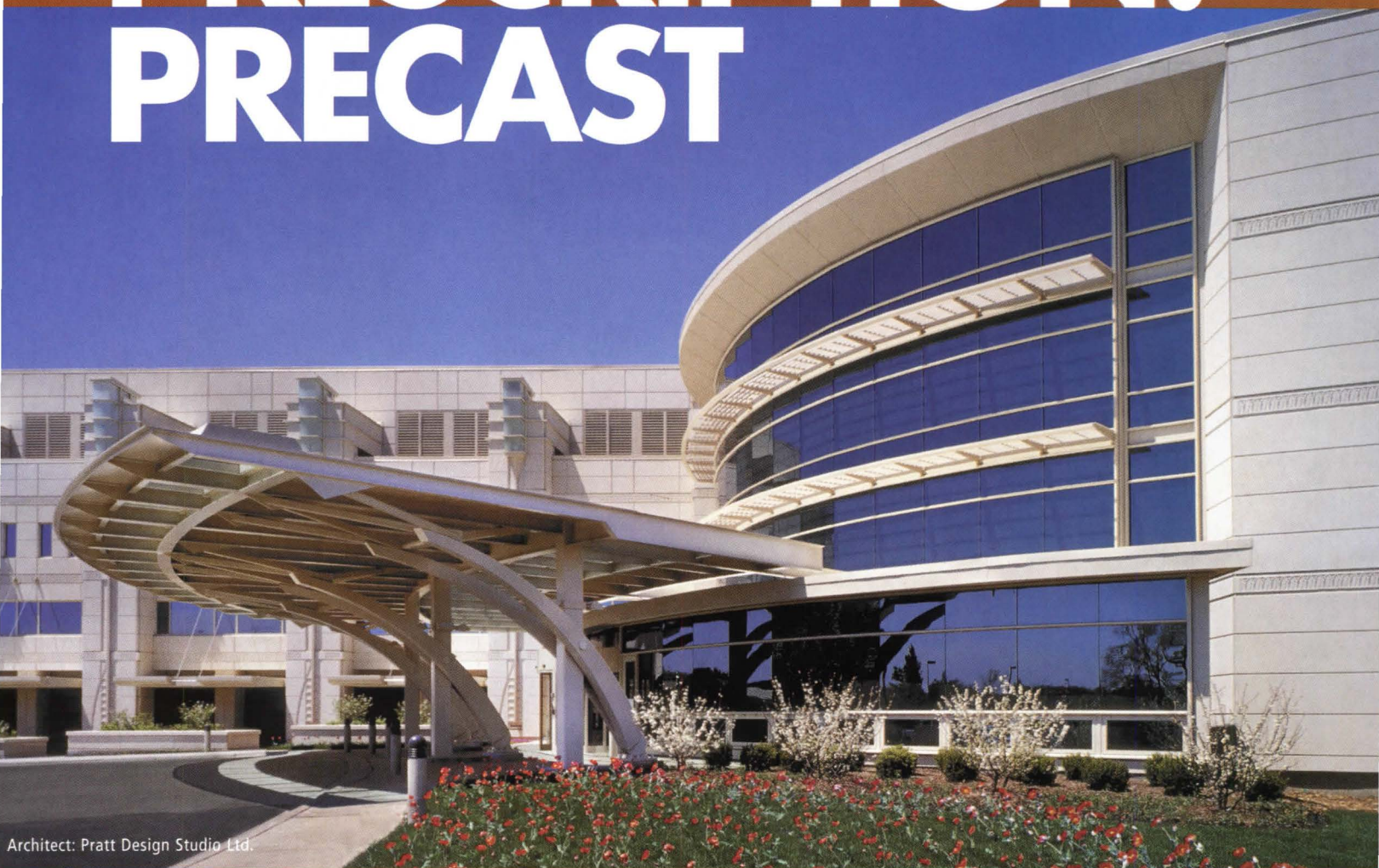
ON THE COVER

Dana Ladd, 23, is an intern architect at Warner Summers Ditzel Benefield Ward & Associates in Atlanta, from "The \$34,000 Question," page 52. Photo by Blaise Hayward.

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From "The \$34,000 Question,"
page 52

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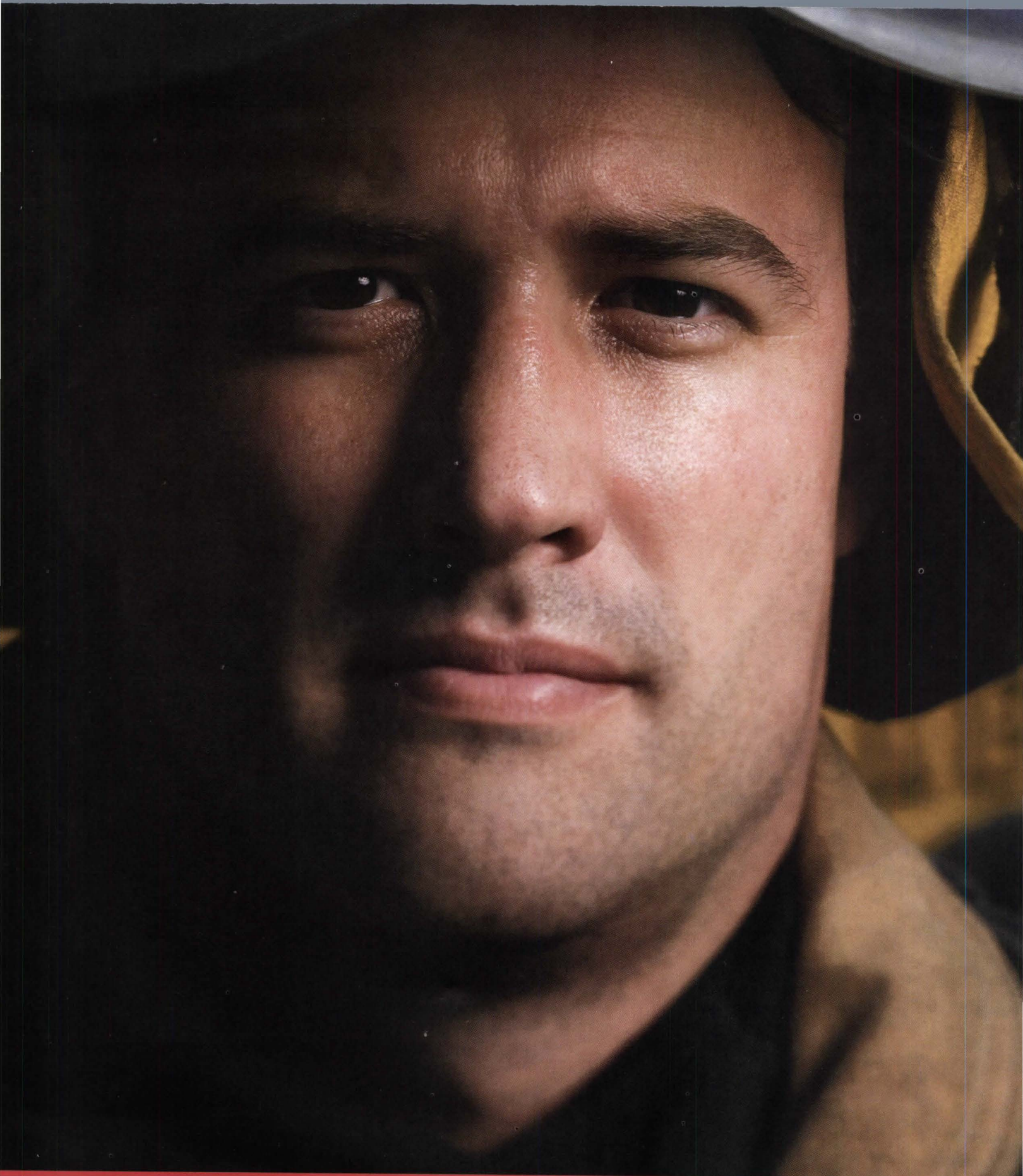
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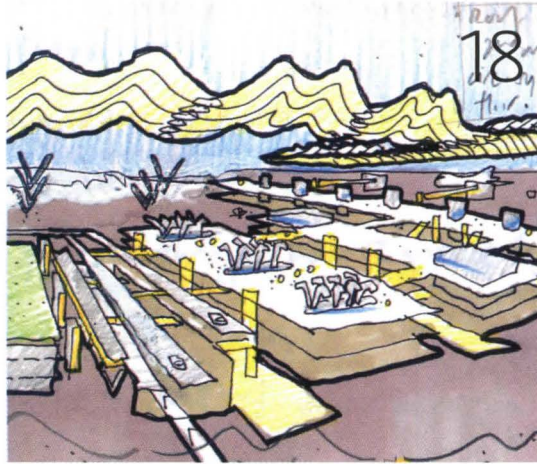
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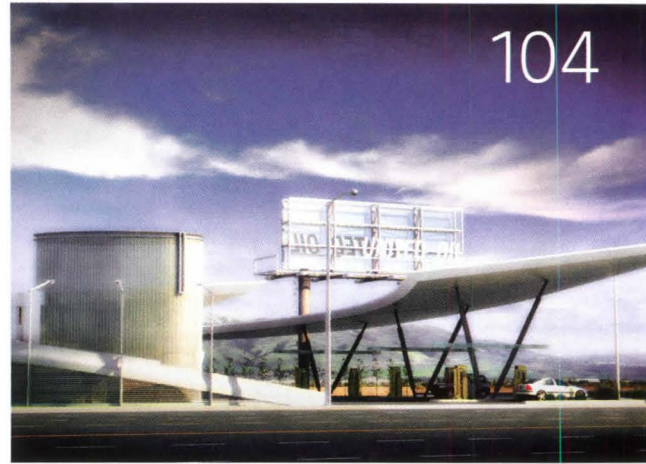
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RIGHT Terminal 4 of the Barajas Airport in Madrid, designed by 2007 Pritzker Architecture Prize winner Richard Rogers.

FAR RIGHT United Oil's newest L.A. gas station, by Kanner Architects, will swoop and soar like no other refueling stop.



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A month or two in the life of the profession

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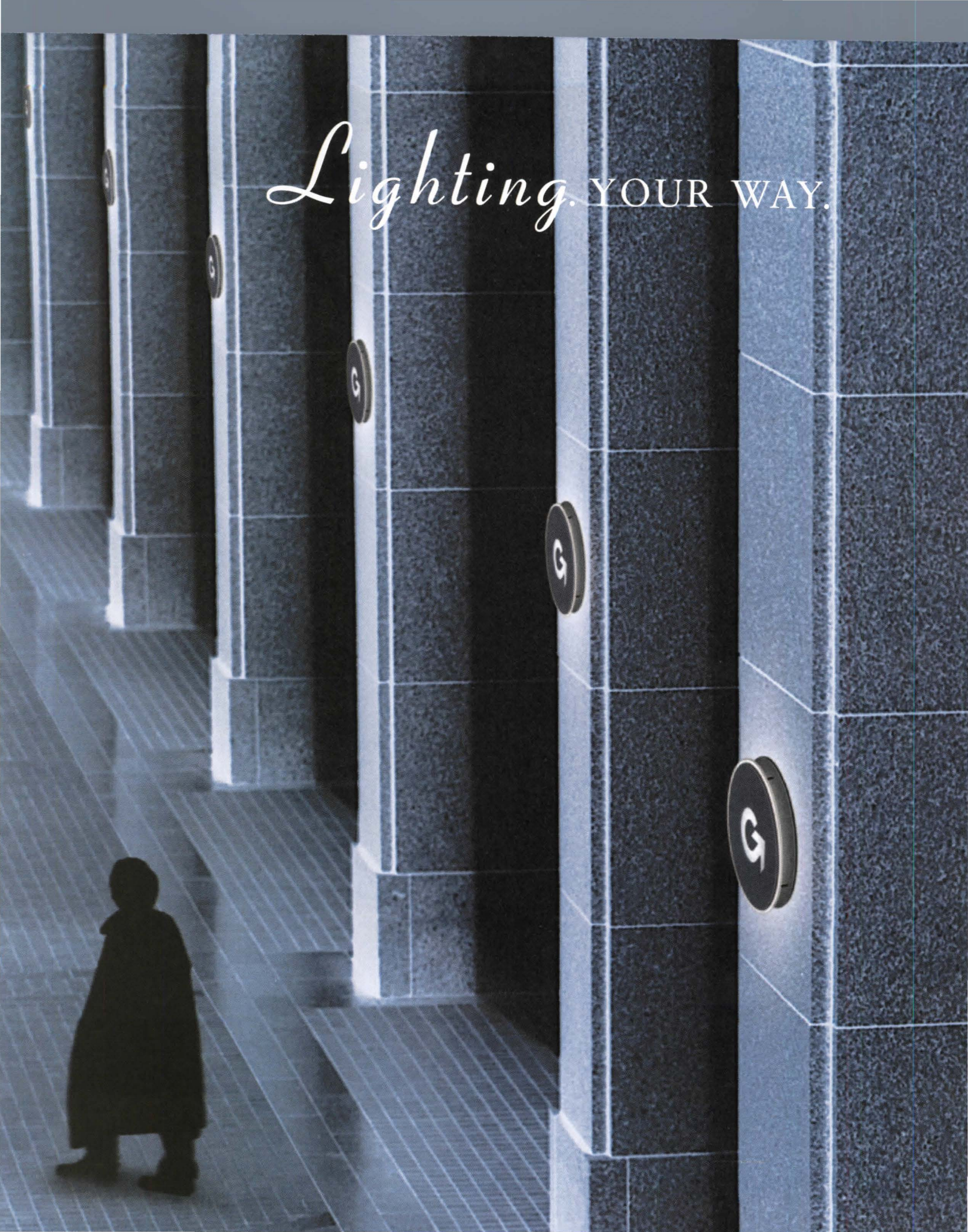
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Dialogue

CALLING ALL TECHNOPHILES



NANCY FROELICH

Ned Cramer
Editor in Chief

ARCHITECTURE'S ALL-OR-NOTHING AFFAIR with technology ended badly in the 1970s, when the promise of modernism began to smell like a threat. It's a shame, because despite the fact that counseling was in order—Brutalism, anyone?—architecture and technology can make good bedfellows. After witnessing a series of fitful attempts at reconciliation, we at ARCHITECT have decided to help move things along by launching the R+D Awards (see the ad on page 96).

A sort of dating service for architectural technophiles, the R+D Awards are open not only to architects, but also to engineers, industrial designers, building product manufacturers, and the like—based on the simple premise that these groups have plenty in common, despite the fact that they don't often socialize. We're open to all kinds of submissions, from one-off design details to entire product lines. This being the program's first year, we're casting the net as widely as possible to see what emerges.

Architect Eric Owen Moss, the director of the Southern California Institute of Architecture (SCI-Arc) in Los Angeles, will chair an independent jury tasked with choosing the best entries of all types. In September, ARCHITECT will publish the winners, both in print and online. What's more, SCI-Arc is hosting a summit in October, at which the winners will present their ideas in person.

Join us by making a submission, reading about the winners, or attending the summit. You might just discover your perfect match.

Ned Cramer
Editor in Chief

Bent Over

I'm appalled after reading your article about the number of black women in architecture ["0.2 Percent," March 2007, page 62].

It's over forty years that we've bent over backwards to provide affirmative action to women, the various colors of humanity, and the underprivileged. What next is expected of the rest of us?

I know of no one who would close their doors to a competent individual in our profession or in any endeavor in business. Yet you and [author] Hannah McCann try to intimidate our profession and society with ridiculousness, for the sake of your publicity.

I certainly can do without your type of editorial wisdom. We certainly don't need any more liberal aggravators in America.

Arley J. Koran
Silver Spring, Md.
arleykoran@aol.com

Seeking Same

You are right, there are not very many black women architects ["0.2 Percent"]. I was No. 196, the most recent woman added to the Directory of African American Architects. I am one of only 14 in the entire state of Georgia. However, you don't have to be over 30 to be successful, whether you're black or white. It is a common misperception that should be addressed in our profession, and your magazine has already done such a wonderful job exposing the painfully low number of black women architects.

I have been working on a project to increase recognition of architects who were either the first or youngest of their kind. The industry needs to see younger women, regardless of race, excelling in their careers.

Tiffany Tesfamichael
Heery International, Atlanta
ttesfami@heery.com

Diverse Action

My compliments on the March 2007 cover story featuring Raye McDavid ["0.2 Percent"]. Especially on target was your editorial ["Build Opportunity," page 16], in which you wished you had a motive for doing the feature other than simply because she is a black woman architect. How right you are.

The issue of diversity in architecture continues to roil the profession. The latest event is the selection of Robert A. M. Stern to design the Museum for African Art in East Harlem, N.Y., especially because the museum director is a woman of color. Bob is a fine architect, but surely this was a unique opportunity to select a black architect from the sizable group that has demonstrated the inspiration and ability to deliver projects such as this one. I wrote to *The New York Times*, but there was no response from any quarter until a Latino architect whose office is in the neighborhood read my reaction in the *AIArchitect* and was able to get New York State Senator Bill Perkins to agree to meet on March 30 with interested parties.

I have just completed the sixth episode in my monthly diversity column for the *AIArchitect*, which reaches some 80,000 souls online (www.aia.org/aiarchitect). The focus is to showcase accomplishment, not to preach diversity. Last month featured two young women architects, June Grant in Oakland, Calif., and Zevilla Jackson Preston in New York. This month's topic is educators and includes a profile of Sharon Sutton.

The column's site has generated a lot of visits. It shows the interest is there. It just needs to be translated into action.

Stephen A. Kliment
New York
sakliment@msn.com

Made in Texas

With reference to the recent news article about the AIA poll of 150 favorite buildings ["The People's Architecture," March 2007, page 24], I am shocked that the Bellagio Hotel would be ranked so high. I am, however, more shocked that Louis I. Kahn's Kimbell Art Museum was not on the list of 150. As a lifelong resident of Fort Worth, and an architect of 40-plus years' experience, I am extremely proud of our city and especially of our cultural district. I am very disappointed that in your list, "Sorry, Better Luck Next Time" [March 2007, page 31], the Kimbell was misspelled and Tadao Ando's Modern Art Museum of Fort Worth was listed as "Dallas-Fort Worth." Dallas! Give me a break!

Robert Gordon Adams
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Fort Worth, Texas
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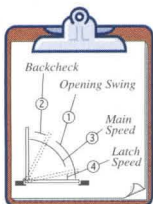
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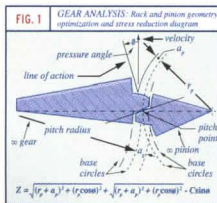


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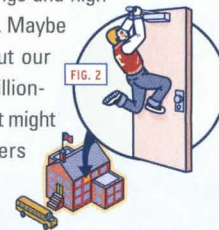


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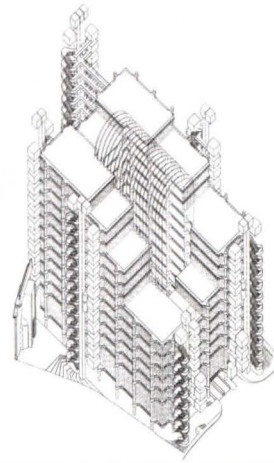
Recognition

Richard Rogers Wins Pritzker

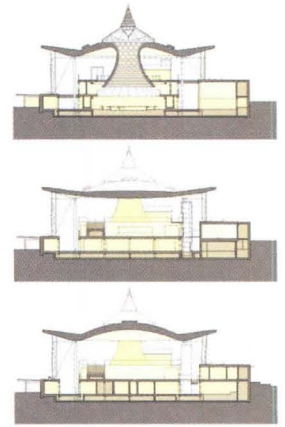
DAN STEVENS

Richard Rogers

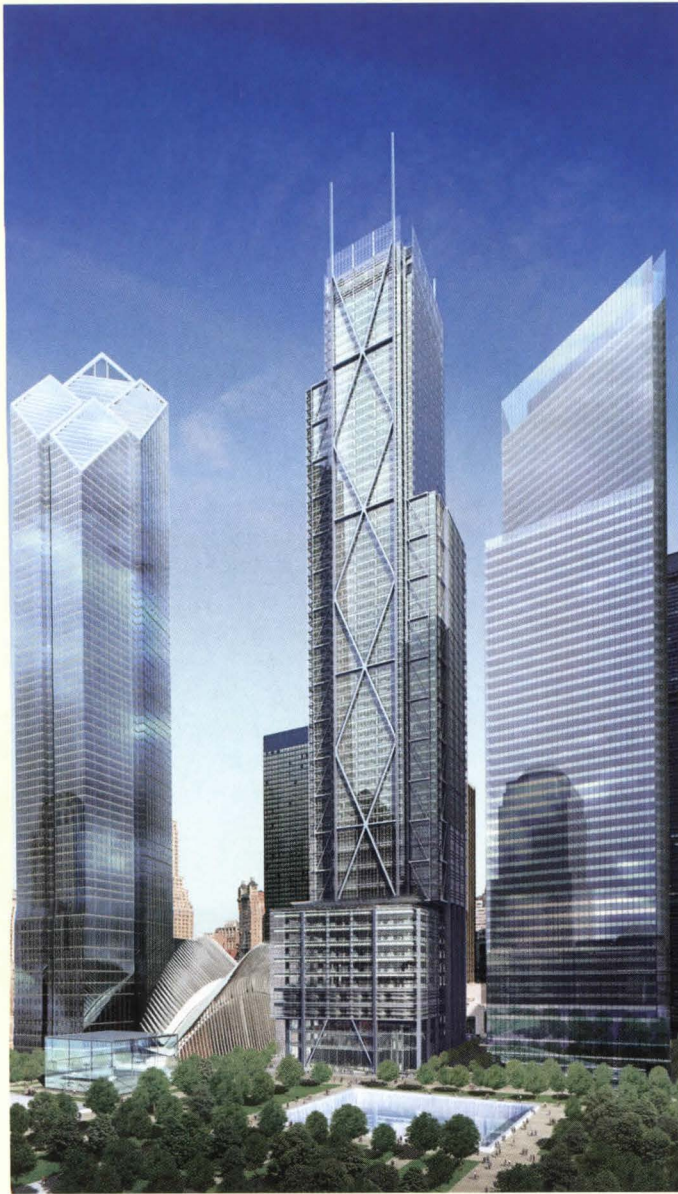
BRITISH ARCHITECT RICHARD ROGERS is the 2007 recipient of the Pritzker Architecture Prize. He was chosen by a jury comprising property developer Peter Palumbo (chair), Vitra chairman Rolf Fehlbaum, historian Victoria Newhouse, Phaidon Press editor Karen Stein, and architects Shigeru Ban, Carlos Jimenez, and Renzo Piano. Rogers will receive a medal and \$100,000 prize at a June 4 ceremony in London. In keeping with Pritzker Prize tradition, the event will occur at an architecturally significant location: the Banqueting House, which Inigo Jones designed in 1619 for Charles I.



Lloyd's of London (1978-1986) axonometric



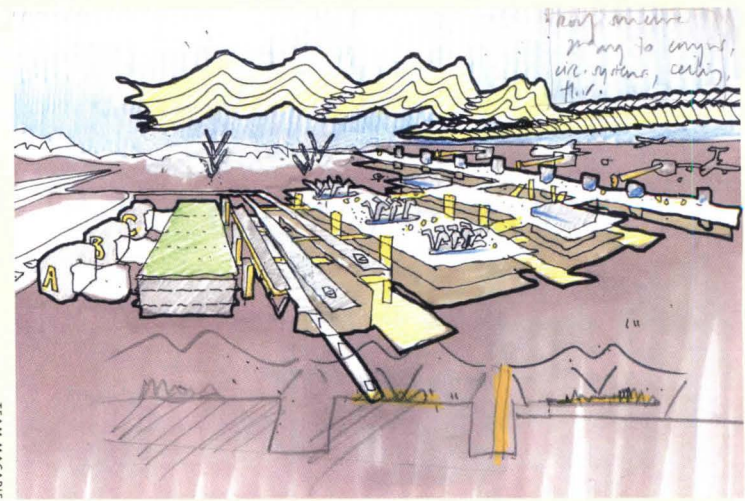
National Assembly for Wales (1998-2005) sections



175 Greenwich St. (center building), World Trade Center Site (2006-)



Pompidou Center (1971-1977)



Terminal 4, Madrid Barajas Airport (1997-2005) exploded axonometric drawing



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Recognition

Zaha Hadid Wins Jefferson Medal



STEVE DOUBILE

Zaha Hadid

ZAHA HADID, whose emotive, painterly approach to design and spatially complex buildings rattled the foundation of Modernism, has been named the 2007 recipient of the Thomas Jefferson Foundation Medal in Architecture. To be presented on April 13 at the University of Virginia, the medal is awarded for notable achievement in

design or for distinguished contributions to the architectural field. "Zaha is an architect whose visionary work has transformed the profession and the discipline of architecture for the 21st century," says Karen Van Lengen, dean of the university's school of architecture. "We are so pleased that we can celebrate her work."

First awarded in 1966 to Ludwig Mies van der Rohe, the Jefferson Medal in this case recognizes a talent that has been steadily gaining recognition for more than two decades. Beginning with her unexpected, first-place competition entry in 1982–83 for The Peak, a Hong Kong leisure club, Hadid quickly gained international renown. But underlying the fractured forms and dramatic presentation of her early projects was a deep interest in

how buildings engage the land. Her first built work, the Vitra Fire Station in Weil am Rhein, Germany, completed in 1994, began to silence critics who dwelled on Hadid's early reputation as a "paper architect" whose visions were seemingly unrealizable. After completing a number of interiors and small-scale projects, she gained a new level of respect with the 2003 opening of the Rosenthal Center for Contemporary Art in Cincinnati, a concrete, steel, and glass composition of undulating levels and ramps that internalizes the physical and cultural energy of the city. Her latest building, the Phaeno Science Center in Wolfsburg, Germany, embodies the same sense of movement and urban place-making. (The center is on the short list for the biennial European Union Prize for Contemporary Architecture. See "2007 Mies Award Finalists Named," page 24.)

Born in Baghdad in 1950, Hadid studied in Switzerland, England, and Beirut. She received her diploma from London's Architectural Association in 1977 and, soon after, joined her mentor Rem Koolhaas at the Office for Metropolitan Architecture. Hadid opened her own London practice in 1979 and struck off in a singular direction that in 2004 resulted in her winning the Pritzker Architecture Prize, distinguishing her as the first—and, to date, only—woman to receive that accolade. Last year, her work was the subject of a retrospective exhibition at the Guggenheim Museum in New York.

Hadid's receipt of the 42nd annual Jefferson Medal

places her among heady company. Previous recipients include such architectural luminaries as Marcel Breuer, Alvar Aalto, Richard Rogers, and Glenn Murcutt; critics Lewis Mumford, Ada Louise Huxtable, and Vincent Scully; philanthropist Paul Mellon; and policy-maker Daniel Patrick Moynihan. The award is granted jointly by the Thomas Jefferson Foundation and the University of Virginia School of Architecture. Along with the Thomas Jefferson Foundation Medal in Law and the Thomas Jefferson Foundation Medal in Citizen Leadership, it is one of the three highest outside honors offered by the university. **VERNON MAYS**

Clips

The American Institute of Architects' Architecture

Billings Index for January was 57.5 (any score over 50 indicates an increase in billings). Regionally, the Northeast posted the strongest month, with a score of 76; the South was second best, at 56.

Construction management and program management service fees have increased to 5.7 percent of a typical project budget in 2007, up from 5 percent in 2000, but operating income for CM/PM firms dropped during the same period, from 14 percent of revenue to 10.5 percent. These are two of the findings in "2007 Comparison of Construction Management and Program Management Costs," a study conducted for the Construction Management Association of America by industry consultant and investment banking company FMI.

Architect, urban planner, and theorist **Denise Scott Brown** has been awarded one of two 2007 Vilcek Foundation Prizes. Each \$50,000 award is given annually to foreign-born individuals who have made extraordinary contributions to U.S. society in the areas of the arts, the humanities, and biomedical research. Scott Brown, who was born in South Africa, is the first architect to receive the prize, now in its third year.

Wall Street will always have a place in American history, but now it's been officially designated as historic: A 36-block area surrounding the famed financial avenue in Manhattan has been entered into the National Register of Historic Places, which will make federal tax incentives available for building owners to renovate and preserve historic buildings.

→ continued on page 22



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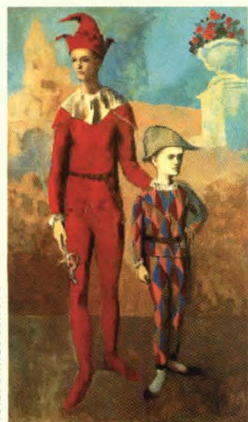
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Cultural Institutions

Barnes Foundation to Build Central Philadelphia Museum

Pritzker Prize director Martha Thorne leads architect search



Pablo Picasso, *Acrobat and Young Harlequin* (1905)

legal battle to break the terms of Barnes' trust. The new facility is intended to promote greater public access to the collection.

THE BARNES FOUNDATION, a cultural institution based in Lower Merion, Pa., has announced an international search for an architect to design a new 120,000-square-foot museum building in central Philadelphia. Martha Thorne, executive director of the Pritzker Architecture Prize and former curator at the Art Institute of Chicago, is leading the search.

The Barnes owns one of the world's pre-eminent collections of African art and Impressionist, Post-Impressionist, and early Modernist paintings, including 46 works by Picasso, 69 by Cezanne, and 181 by Renoir. The collection was assembled by Albert C. Barnes, a medical doctor, who commissioned architect Paul Philippe Cret to design a gallery and adjacent residence on a 12-acre property in Lower Merion.

Barnes, who died in 1951, created a trust for the maintenance of his estate, stipulating that the artworks remain in Lower Merion in perpetuity and limiting public access to two days a week. In 2004, the Barnes Foundation won a

Clips

Architect and educator **Charles Colbert**, who served as the school of architecture dean at both Texas A&M University and Columbia University, died Feb. 12 at his home in Albuquerque, N.M. He was 85.

Version 1 of the new **National Building Information Modeling Standard** is now available for review and comment. The document, "Part 1: Overview, Principles, and Methodologies," can be downloaded at www.facilityinformationcouncil.org/bim/publications.php. The review period will end May 21.

United Technologies Corp. has made a **\$1 million gift** to the National Trust for Historic Preservation to help restore and preserve Abraham

Lincoln's former family cottage. Now known as the President Lincoln and Soldiers' Home National Monument, the Washington, D.C., cottage is scheduled to open to the public in 2008. The gift will enable the National Trust to use sustainable technology in the restoration process.

According to Japanese researchers at the Okayama University of Science, **air conditioners in large buildings make it hotter outside**. The scientists' study compared summer temperatures in downtown Tokyo on weekends versus weekdays. The results? Air conditioners expelled enough heat to raise the city's temperature about 2 to 4 degrees Fahrenheit. The findings were reported in the *Journal of Applied Meteorology and Climatology*.

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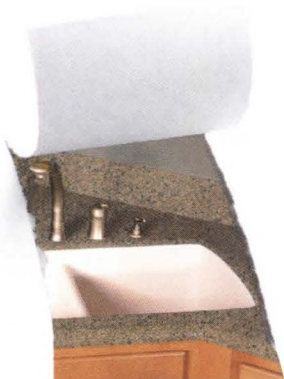


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Jeff Speck Departs NEA for Private Practice



NATIONAL ENDOWMENT FOR THE ARTS

Jeff Speck

AFTER NEARLY FOUR YEARS on the job, National Endowment for the Arts (NEA) director of design Jeff Speck announced in late March he would leave his post to return to private practice as a city planner. Speck, 43, who previously had been director of town planning at Duany Plater-Zyberk & Company, in Miami, says he leaves "with a great fondness" for the endowment and is confident its work will continue to thrive. "The last four years have been strong ones for the agency," Speck says.

The design director oversees the NEA's collaborations with the Mayors' Institute on City Design and Your Town; The Citizens' Institute on Rural Design, as well as with the new Governors' Institute on Community Design, which Speck founded to help inform growth issues at the state level. So far, Governors' Institutes have taken place—quite successfully, Speck notes—in Arizona, Rhode Island, and Virginia. "Never underestimate what you can accomplish by bringing knowledge to power," he says.

Speck leaves the NEA in mid-May. The search for his replacement will begin with a job announcement to be posted on the agency's website, www.nea.gov. BRADFORD MCKEE

European Architecture

2007 Mies Award Finalists Named

SEVEN FINALISTS have been announced for the 2007 European Union Prize for Contemporary Architecture—Mies van der Rohe Award. Every two years, the European Union and the Barcelona-based Mies van der Rohe Foundation bestow the award, which recognizes the best architectural work built in Europe during that period. The finalists are:

- America's Cup Building, Valencia, Spain—David Chipperfield Architects/b720 Arquitectos
 - Mercedes-Benz Museum, Stuttgart, Germany—UNStudio
 - MUSAC—Contemporary Art Museum of Castilla and Leon, Leon, Spain—Mansilla + Tuñón
 - National Choreographic Center, Aix-en-Provence, France—Rudy Ricciotti
 - Phaeno Science Center, Wolfsburg, Germany—Zaha Hadid Architects
 - School for Management, Bordeaux, France—Lacaton & Vassal Architects
 - Sines Arts Center, Sines, Portugal, by Aires Mateus and Associates
- The winner will be announced in mid-April, and the award ceremony will be held on May 14 at the Mies van der Rohe Pavilion in Barcelona. The winner will receive a 50,000 euro cash prize, and 10,000 euros will go to the Emerging Architect Special Mention. The Office for Metropolitan Architecture received the 2005 award for its Netherlands Embassy in Berlin. That year's emerging architect prize was won by NL Architects for its BasketBar in Utrecht, Netherlands.

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Structural Engineering

Beam Failure at Pittsburgh Convention Center Fixed Repairs make use of design detail indicated in drawings but not installed

WHEN A CONCRETE SLAB in Pittsburgh's David L. Lawrence Convention Center collapsed on Feb. 5, the results were alarming, but not serious or lasting. A break in a support beam for the second floor loading dock caused a 6-inch-thick, 30-foot-by-60-foot section to fall into the road and walkway at Tenth Street, which cuts through the Rafael Viñoly building and provides access at ground level. No injuries were reported.

The convention center was the result of a 1998 competition. It opened in phases in 2002 and 2003. A civic showcase for the city, it has had prior structural troubles. In 2002, a truss collapsed during construction, killing one worker.

The collapse was attributed to incorrect bolts that were insufficiently tightened.

The Sports & Exhibition Authority (SEA), the city-county joint authority that owns the building, hired the Cleveland office of engineers Wiss, Janney, Elstner Associates to investigate the slab collapse and Leslie E. Robertson Associates of New York to review design and construction. Studies determined that the failure occurred in cold temperatures when an expansion joint seized. A contracting beam then pulled its L-shaped connectors away from the adjoining girder, causing a weld to fail, resulting in the collapse.

As a fix, contractors welded 1-foot-square steel

seats with Teflon pads underneath the joints of the replacement beam and 25 others, a structural design element indicated in early drawings but never executed. At a March 6 Allegheny County Council meeting, SEA executive director Mary Conturo said a further investigation would determine why the seats were not installed originally.

The repairs were completed in time for the March 9 opening of the popular annual Home & Garden Show. County Executive Dan Onorato and Pittsburgh Mayor Luke Ravenstahl appeared at the convention center in person and in a local blitz of TV commercials to assure the public of the building's safety. CHARLES ROSENBLUM



Illustrations show (left to right) the X-9 expansion joint, where the failure occurred; the movement of the beam, which caused the slab to collapse; and the repair solution.



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Software

Autodesk Focuses on BIM

SOFTWARE MANUFACTURER AUTODESK INC. has made improvements to its suite of Revit products for building information modeling (BIM) and created an award for innovation in the implementation of the Revit platform. The San Rafael, Calif.-based company designed the new updates with the goal of expanding digital productivity through easier collaboration in the modeling space between architects, engineers, designers, and other project-specific

consultants. The updates herald further automation of cross-discipline design coordination. In addition, the company says, the new software will facilitate easier integration of sustainable design features that can lead to better building performance and cost savings.

Three applications in the suite have been renamed: Revit Architecture 2008 (formerly Revit Building), Revit Structure 2008, and Revit MEP 2008 (formerly Revit Systems) for the mechanical, electrical, and plumbing market. Revit Architecture 2008 adds a Google Earth plug-in for publishing models in the mapping software and includes a markup computer language that should allow designers to study energy performance with standard green building analysis tools.

In December, Autodesk launched the Revit BIM Experience Award to recognize building professionals around the world who are using BIM in ways that transform the industry. Winners are chosen by taking into account the degree of experience with BIM, the level of integration between disciplines, the value delivered, and other innovations. Autodesk will honor one organization each month. Winners are also featured on *Building Design + Construction's* website. JAVIER ARBONA



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El Museo Cultural de Santa Fe Façade Competition

To celebrate Santa Fe's summer cultural season, an art installation will be erected on the east façade of El Museo Cultural de Santa Fe for the months of July and August. www.artsantafepresents.org

MAY 4

ASHRAE Student Design Project Competition

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers is looking for students to select and design an HVAC system to turn a package-delivery distribution building into a biotech research center. ashrae.org/students

MAY 9

Van Alen Institute New York Prize Fellowship

Launched this year, the program supports emerging research and experimental practice in public architecture. Fellows are given an opportunity to pursue advanced independent study and to produce and present projects. Up to five fellowships for periods of three months each will be granted in 2007-2008. www.vanalen.org

MAY 18

PCI Student Architectural Design Competition

The challenge from the Precast Prestressed Concrete Institute is to design a new headquarters for the group. In addition to a total precast concrete solution, a minimum potential Silver LEED rating is required. www.pci.org/education/competitions

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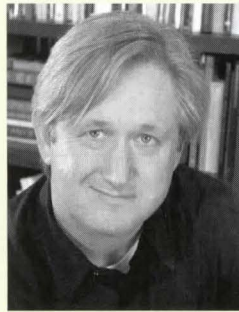


REPORT NEWS

Recognition

Institute of Classical Architecture Names 26th Annual Ross Awards Winners

Robert Stern given special acknowledgement for contributions that cut across categories



Michael Imber

CREATED IN 1982 by the Institute of Classical Architecture & Classical America (ICA), the Arthur Ross Awards recognize the achievements and contributions of architects, educators, artisans, and others dedicated to preserving and advancing the classical tradition. This

year's five awardees, selected from more than 150 nominations, are:

- Architecture—Michael Imber, Michael G. Imber Architects, San Antonio
- Artisanry—Rambusch Co., Jersey City, N.J.
- Education—Peter Hodson, Portsmouth School of Architecture, Portsmouth, England
- Publishing—Acanthus Press, New York
- Stewardship—World Monuments Fund, New York

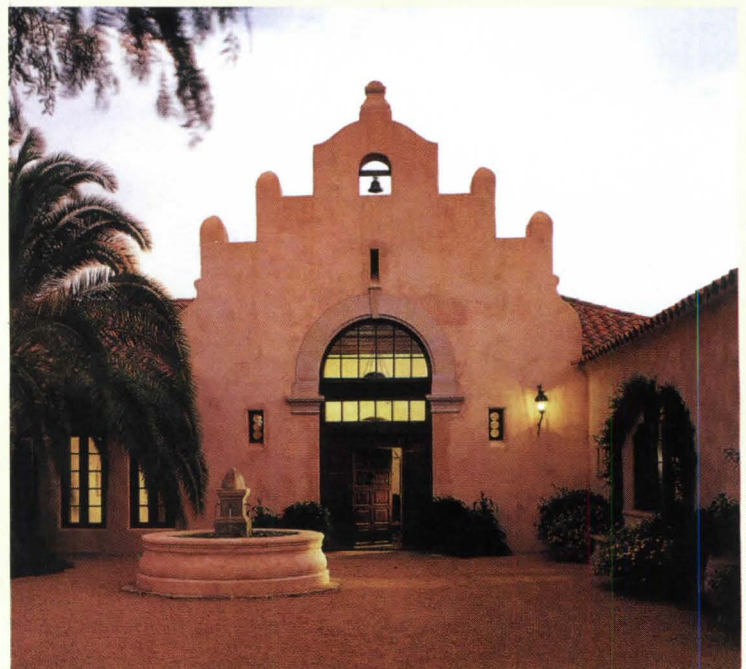
In addition, the board of directors has given special recognition to Robert A.M. Stern for his far-reaching contributions to the profession as an architect, as an educator, and as a scholar and writer. Stern had been nominated for the publication of *New York 2000*, the final volume of his five-book series on the history of New York architecture, says ICA president Paul Gunther, but the jury felt—and the board of directors agreed—that he had earned a different kind of acknowledgement. This unique award “is kind of our Nobel,” says Gunther, “and may not be given again for many years. The standards are very high.”

The Ross Awards encompass 11 categories—architecture, artisanry, community design, education, history and publishing, landscape design, mural painting, patron-

age, rendering, sculpture, and stewardship—but only five awards are presented each year. Three years ago, says Gunther, the ICA decided it was unwieldy to celebrate 11 winners every year. “We want to be able to tell a story about each one” at the awards ceremony, says Gunther, and limiting the number to five makes that possible. This year's awards dinner will take place on May 7 at the University Club of New York.

Although the institute generally names winners based on a body of work, says Gunther, it does try to recognize younger firms and newer projects when appropriate. The ICA has nine chapters across the country that are creating their own awards programs for specific, recent accomplishments, which Gunther says will help bring possible future nominees to the attention of the ICA.

Imber, who founded his eponymous firm in 1992, couldn't be happier to receive a Ross Award. “It's a terrific honor,” he says, adding that in a time when contemporary design seems to dominate the press and the awards programs, the ICA and the Ross Awards offer the profession—and the public—a counterbalance. After all, he says, architects and designers who work in the classical tradition aren't simply mimicking the patterns of the past: “We're taking what people have known and improving it for modern lifestyles.”

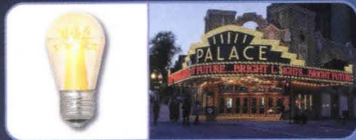


Imber's Rancho Dos Vidas (1995)

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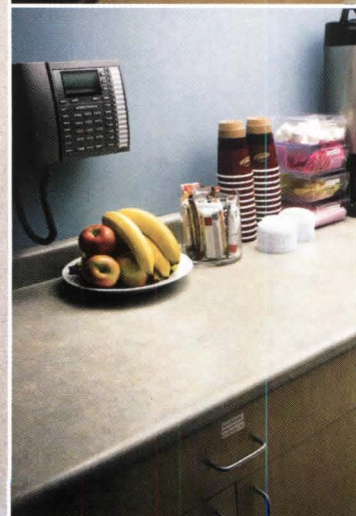
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Education

Taliesin Rising**Facing loss of accreditation, the Frank Lloyd Wright school rebuilds from within**

Victor Sidy

IN 2004, THE FRANK LLOYD WRIGHT School of Architecture, known as Taliesin, was unraveling. The dean resigned, faculty jumped ship, and student enrollment plummeted. When the Higher Learning Commission (HLC), an independent regional accrediting agency whose imprimatur is crucial to Taliesin's mission of training professional architects, warned the school in 2005 that its accreditation was in jeopardy, it was clear a super-injection of administrative adrenaline was needed.

In a public disclosure notice dated June 3, 2005, the HLC questioned the school's fulfillment of basic educational values, including "acquisition of a breadth of knowledge and skills and the exercise of intellectual inquiry." It also described shortcomings in the school's governance, administration, and financial stability. The Frank Lloyd Wright Foundation, which operates the school, then found an optimistic leader in one of its own alumni, Victor Sidy. Heartened by changes within the foundation, Sidy agreed to leave his architecture practice in New York to become dean.

Since his August 2005 arrival at Taliesin West, the school's Scottsdale, Ariz., campus, Sidy has recruited new faculty, doubled enrollment, helped stabilize school finances, and overhauled the curriculum. "It was admittedly a low point," he says, recalling the precarious situation he confronted nearly two years ago, "But we looked at it as a rebuilding challenge, almost as an architectural challenge."



Taliesin West's studio building

The first chapter of his tenure culminated March 5-7 in a highly anticipated visit from an HLC evaluation team, whose recommendations will determine the future of the school's accreditation status. The physical centerpiece for review was an exhibition of student work displayed in a student-designed pavilion.

The bachelor's program at Taliesin was first accredited in 1987. The master's program earned accreditation in 1992 from the National Architectural Accrediting Board (NAAB), the only agency in the United States certified to accredit professional architectural degree programs. In Arizona, NAAB accreditation is contingent on HLC accreditation. The HLC board of trustees will announce its decision on June 8.

Founded by Frank Lloyd Wright and his third wife,

Olgivanna, in 1932, Taliesin keeps its curriculum rooted in a hands-on approach to learning, rapport with the landscape, and community involvement. The school still migrates twice a year, spending summers at the original Taliesin campus in Spring Green, Wis., and the rest of the year in Arizona. But today the school also channels ongoing debates in design theory, with myriad sources of inspiration that transcend any single tradition.

One example is the rotating architect- and scholar-in-residence program, initiated by Sidy in 2005. Javier Gomez of RoTo Architects and Phoenix-based Eddie Jones are among the seven architects who have participated so far. Eight others, including Stephen Cassell of Architectural Research Office, presented lectures during the past winter. "There is a lot of excitement about reinterpreting the core ideas that reside here," says Sidy.

With 19 students and counting, Taliesin appears to be the smallest professionally accredited U.S. program. Its minuscule size may ensure plenty of individual attention for students, but it has also posed tricky logistical and financial challenges. Sidy and Phillip Allsopp, the new president and CEO of the foundation, intend to continue the school's gradual expansion over the next few years and to raise new funds through a capital campaign.

In the event of a positive verdict from the HLC, what's next for Taliesin? "Our challenge is to maintain currency and relevancy with the times," says Sidy. "We're starting to develop a plan that will bring a fascinating legacy into the future in a contemporary way." GIDEON FINK SHAPIRO

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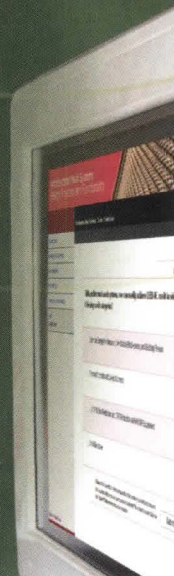
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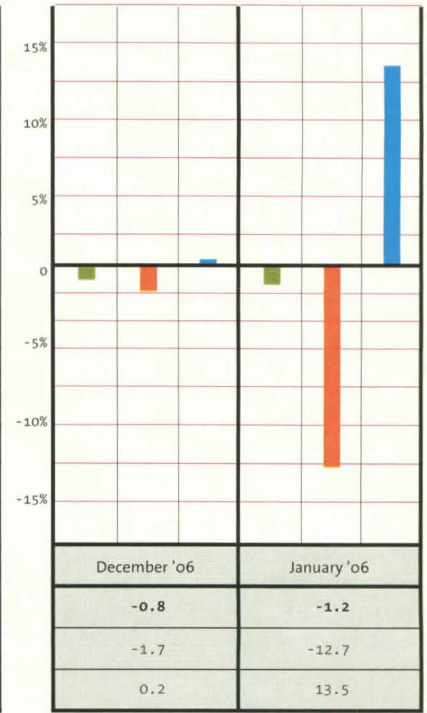
Construction Spending

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

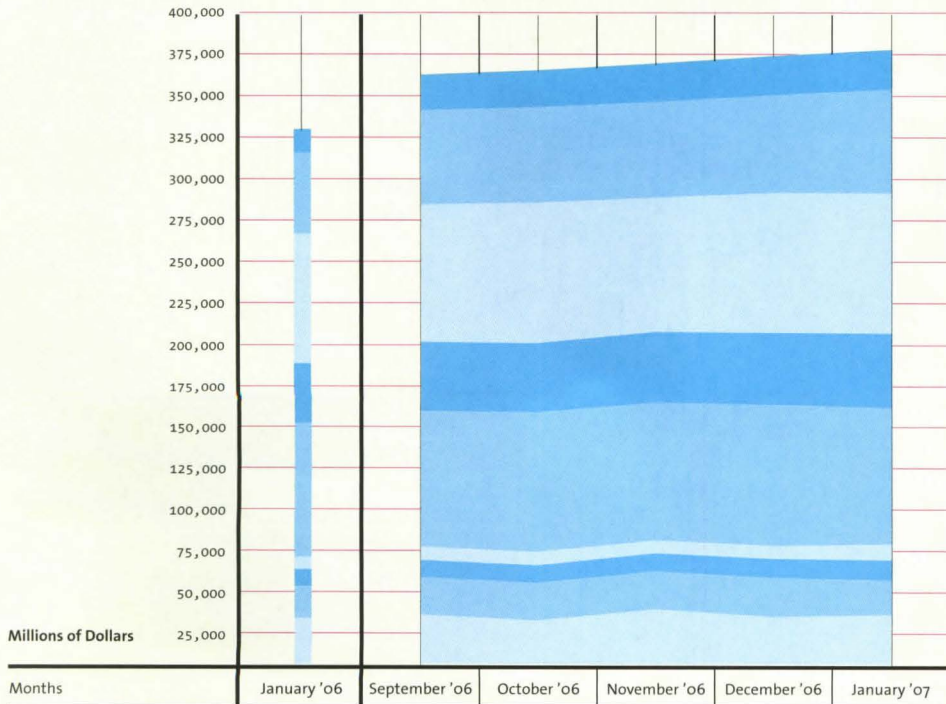
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Percent Change From:

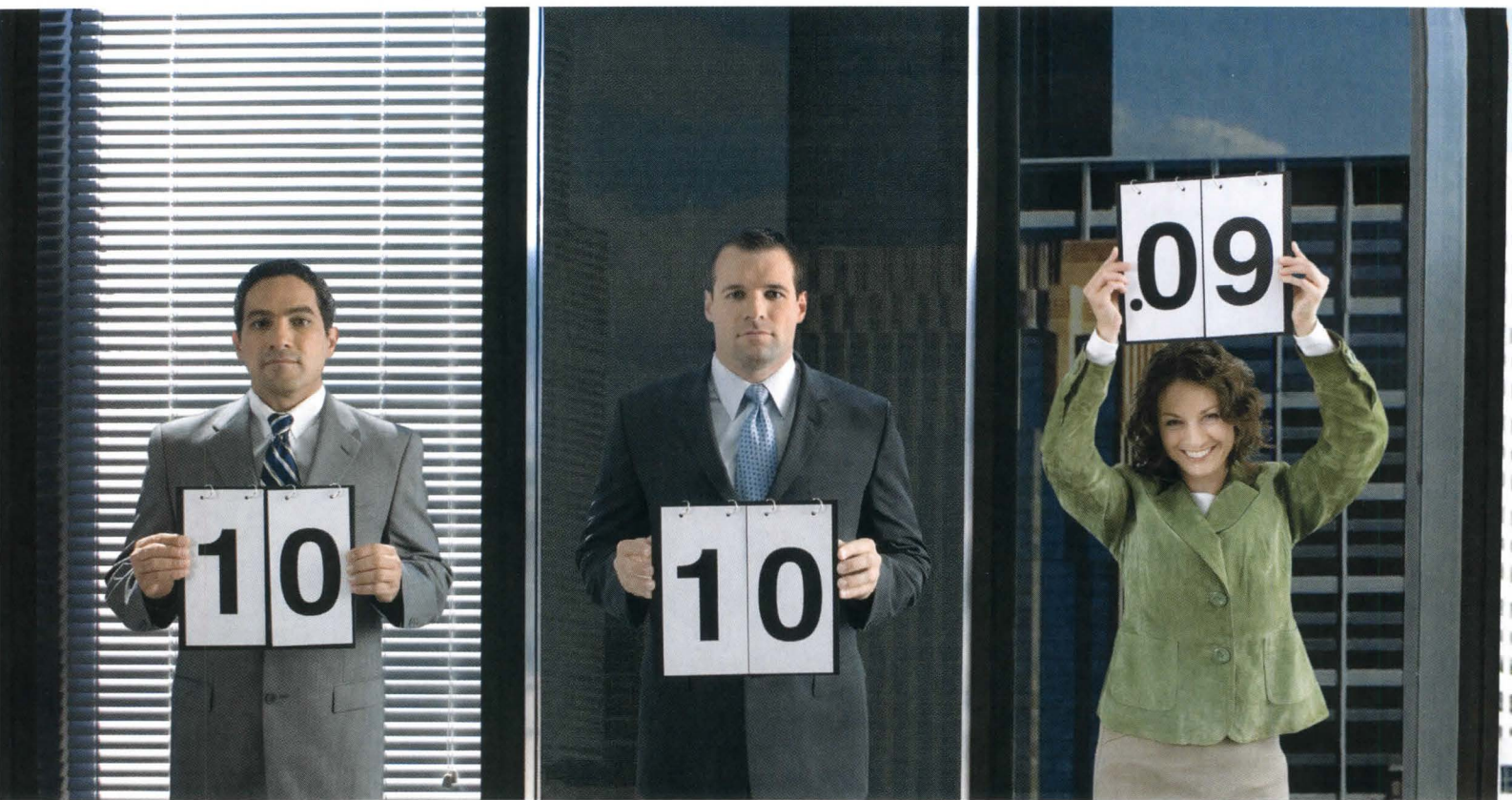


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- Commercial (85,171)
- Health care (45,943)
- Educational (90,394)
- Religious (8,361)
- Public safety (11,933)
- Amusement and recreation (22,711)
- Transportation (31,153)



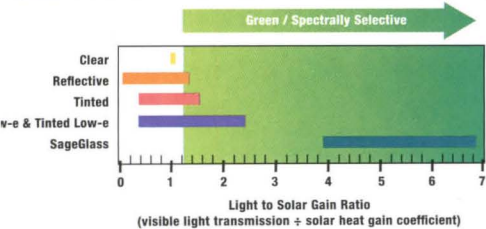
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Des Moines, Iowa

Construction is up in this Midwestern insurance hub



CRAIG AUNNESS/CORBIS

The state Capitol's central dome, covered in 23-carat gold, has been regilded twice since the building's 1886 completion.

FOUNDED IN 1843, DES MOINES, IOWA, was developed during the City Beautiful movement of the late 19th and early 20th centuries. Today, the prairie town is returning to those roots with a rash of thoughtful construction. Many of the projects, particularly those downtown, have been spurred by the insurance industry, which dominates the local economy.

Architect Sherwood Adams, a LEED-certified partner at Brooks Borg Skiles Architecture Engineering, explains: "In a typically Midwestern neighborly fashion, insurance powerhouses teamed with city and county governments to provide the motivation for most of the ongoing and projected downtown development."

The Downtown Planning Project, an initiative of the city and Polk County, hired Agrest & Gandelonas Architects of New York to create a new urban plan. "Our steering committee held its first public input meeting in late January, to overwhelming response," says board member Sarah Oltrogge. "Those who have invested their time in downtown are passionate enough to want to be part of its renaissance." MARGOT CARMICHAEL LESTER

JOB/POPULATION GROWTH

The population for the metro area in 2006 was 527,116 and is expected to reach 563,767 by 2011. More than 65,000 workers are employed downtown. The largest employers are expected to add more than 5,300 jobs in 2007, according to the Greater Des Moines Partnership, an economic and community development organization. One-third of the workforce is part of the "creative class," which includes designers, doctors, lawyers, and those working in the arts, media, and finance.

OFFICE MARKET

According to a 2007 real estate survey by broker CB Richard Ellis/Hubbell Commercial, downtown rents for Class A space range from \$17 to \$24 per square foot, full-service gross. The average occupancy for top-tier buildings was 98 percent.

RESIDENTIAL MARKET

The value of home construction slid 22 percent last year, to \$667 million. Housing starts were down 24 percent.

MARKET STRENGTHS

- Central location
- Affordable costs of living and doing business
- Strong financial services industry

MARKET CONCERNS

- Low population growth
- Declining housing starts
- High state commercial property tax

DEVELOPABLE LAND

There are approximately 35,000 developable acres in the metro area, according to David Maahs, executive vice president, economic development, of the Greater Des Moines Partnership. About 10,000 are currently under development.

DEVELOPMENT INCENTIVES

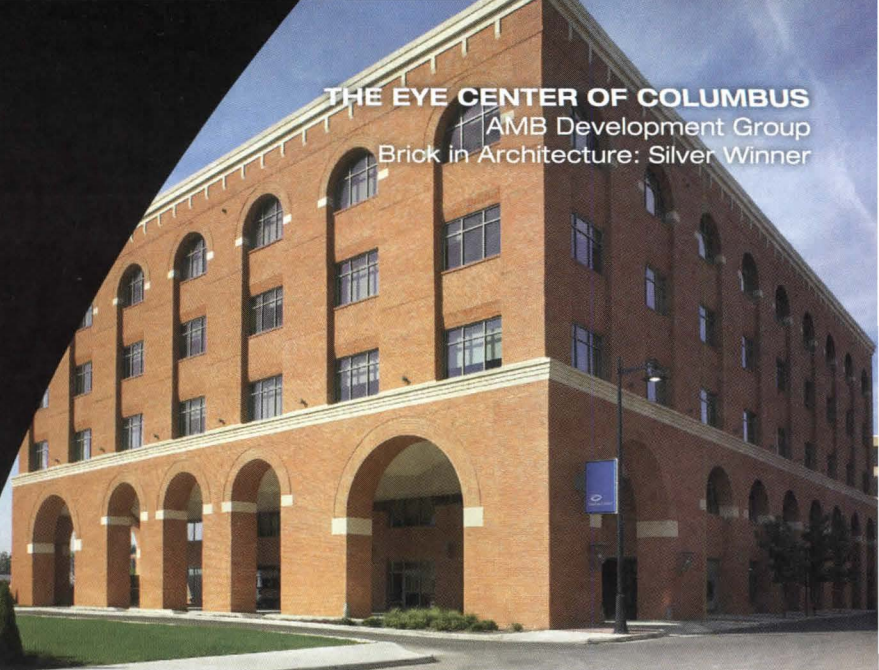
The city and county offer tax abatement and tax increment financing. Boosters advocate raising historic property rehabilitation tax credits to \$20 million per year in an attempt to spur the adaptive reuse of existing historic assets. "The central urban core includes Chicago-style mid-rise buildings, Gothic Revival, Beaux Arts traditions, Art Deco, and modern classics," says Richard Seely, an associate at OPN Architects. "Neighborhoods and historic districts feature styles from Victorian to the Midwest version of the Craftsman or California bungalow."

FORECAST

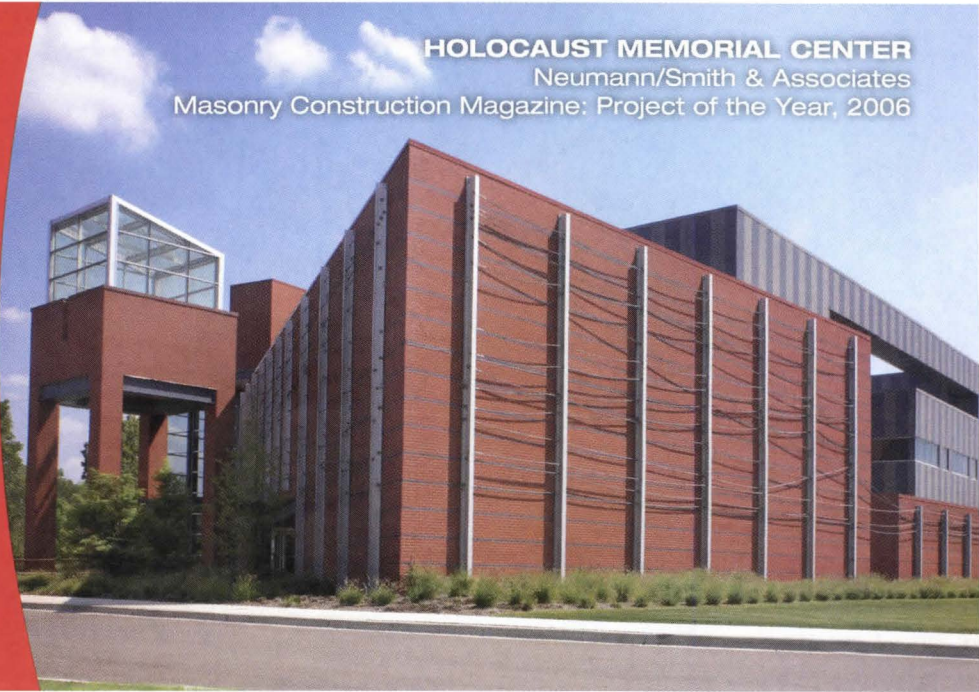
"I think we're on the right path," says the Downtown Planning Project's Oltrogge, who is also the president of Historic East Village, a downtown neighborhood. "I would like to see an increased emphasis on the use of the Des Moines River as a source of recreation. This is one of the issues coming out of the Downtown Planning Project, the goal being to remove the barriers that inhibit river recreation and, instead, embrace it as an important catalyst to downtown Des Moines' future success."

AWARD WINNING

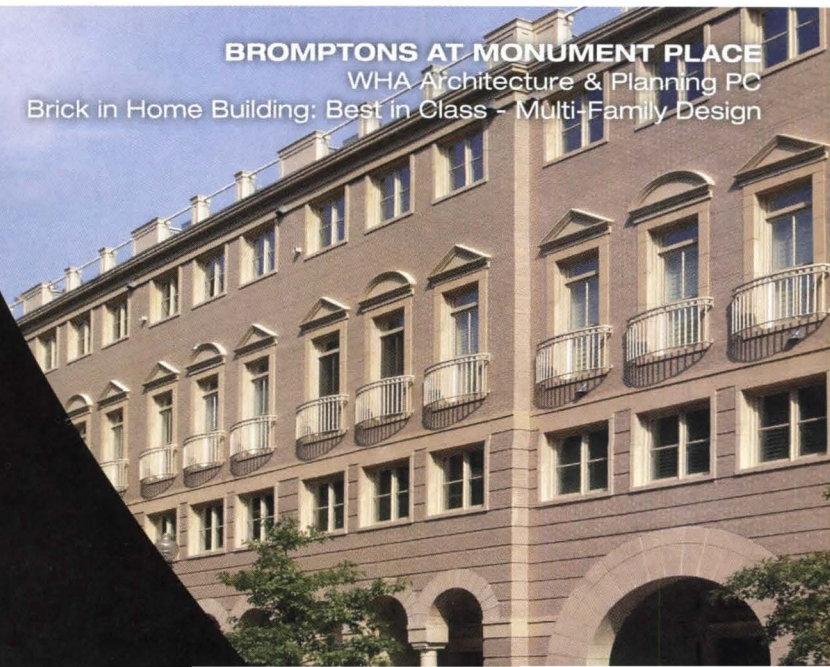
THE EYE CENTER OF COLUMBUS
AMB Development Group
Brick in Architecture: Silver Winner



HOLOCAUST MEMORIAL CENTER
Neumann/Smith & Associates
Masonry Construction Magazine: Project of the Year, 2006



BROMPTONS AT MONUMENT PLACE
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KEY ARCHITECTS



BROOKS BORG SKILES

BROOKS BORG SKILES ARCHITECTURE ENGINEERING

Major project: The \$53 million EMC Building, completed in 1997, which received the largest energy rebate ever offered by Iowa utility MidAmerican Energy Co.

Founded in 1895, the firm has 28 employees and reported \$2.3 million in billings for 2006.



OPN ARCHITECTS

OPN ARCHITECTS

Major project: The \$2 million, 14,000-square-foot Des Moines Public Library East Side branch, which opens this month. The 54-employee firm was founded in 1974 and reported 2006 billings of \$10.8 million.

RDG PLANNING & DESIGN

Major project: The ongoing \$71 million restoration of the state Capitol (1871-1886), which the firm began in 1995.

The eight-office firm, which reported \$24 million in 2006 billings, has 190 employees.

NOTABLE PROJECTS



HUBBELL REALTY CO.

The \$36 million Drake University student housing project, to be completed in August 2008, includes 216,000 square feet of residential space and 9,200 square feet of retail space. Designed by FEH Associates; developed by Hubbell Realty Co.



HATCH DEVELOPMENT

East Village Square, a \$15.6 million mid-rise that opened last November, holds 51 affordable and 64 market-rate units, including 21 lofts. Designed by W.A. Architecture; developed by Hatch Development.

Still in progress, the \$30 million Ingersoll Square development will house 138 condos, 60 apartments, and 30,000 square feet of retail. Designed by architecture firm Worthington Works; developed by High Land Co.

KEY DEVELOPERS & BUILDERS

HUBBELL REALTY CO.

Major project: The \$13 million, 43-unit Brownstones on Grand, opening in May, sits a block from the Des Moines River; designed by Brooks Borg Skiles

The company's Hub Tower (right), designed by Brooks Borg Skiles and built in 1978, includes 100,000 square feet of Class A office space.



HUBBELL REALTY CO.

LADCO DEVELOPMENT

Major project: The \$41 million, 26,000-square-foot Davis-Brown Tower, still in progress; designed by RDG

Ladco is a partner in Edge BCC, a facility created to provide Iowa businesses with a way to protect data and maintain business operations during a natural disaster or other unplanned interruption.

NELSON CONSTRUCTION

Major project: The recently completed \$25 million conversion of 418 Liberty, a 12-story building that includes 39 residential units, a health club, a cafe, and 60,000 square feet of office space

In 2005, the company redeveloped a 1920s-era auto showroom into 1300 Walnut, a 22,800-square-foot contemporary office building.

Sustainable Lighting Solution



Before



After

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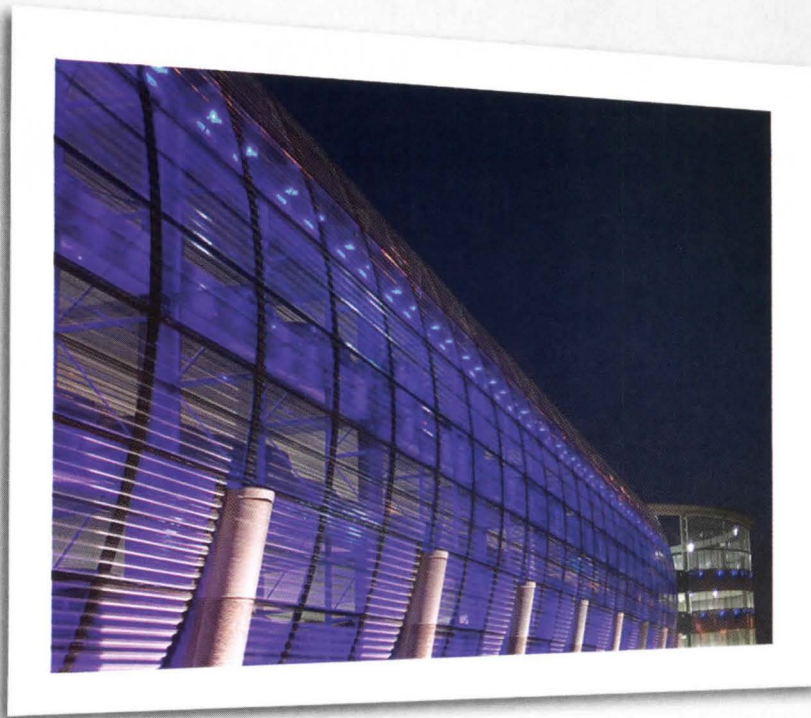
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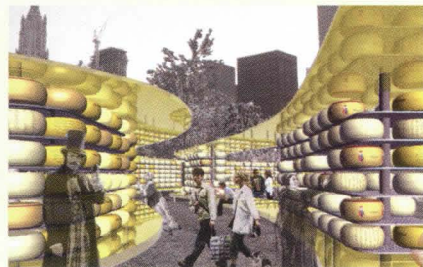
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Applying social networking technology to design P.R.



iso design editors: a house by Qb3; furniture by Sam Spade Design; an installation by Castro Watson.

FOR THOSE IN THE BUSINESS OF DESIGN, getting proper media coverage can be a headache-inducing hassle. For design-focused media, the endless struggle is finding the right project at the right time.

Enter Kathy Kent, an ambitious 30-year-old New Yorker who has created PlaidRobot.com, a design communications business that opened its virtual doors in February. Kent, who spent two years as a business manager at an interior design firm and two years doing freelance P.R. work, found the traditional tools of public relations slow and success unpredictable. "I realized how antiquated the system was," she says. The time and the technology were ideal, Kent decided, to move the process online.

Similar in design to a social networking website like MySpace.com, PlaidRobot.com is an "affinity hub"—a niche-oriented site for business pursuits, according to 360 Hubs Inc., the California company that designed and hosts Kent's website. In other words, whereas social networks are generally a one-size-fits-all proposition, affinity hubs are tailored to the needs of a particular market.

Designers pay a fee to subscribe to PlaidRobot.com; media can register for free. (At press time, the site had 28 designers and 43 media members, including ARCHITECT.) Once they've signed up, designers can tailor their profile, upload images, post press releases, learn what editors are searching for, and much more. On the other side, editors can search for projects using a variety of criteria, contact the designers directly, and download high-resolution images with ease. The site also offers RSS feeds from design news sources and an events calendar.

Architect William Watson, half of the two-person, year-old firm Castro Watson in New York, calls the site a great idea. "For architects (especially newer practices)," he writes in an e-mail, "introducing recent projects to publishers is a time consuming and expensive endeavor." As a result, it can be tough for new and inventive work to get visibility.

Although PlaidRobot.com targets solo designers and firms too small to have their own communications staff, Kent says the site offers larger, more-established players benefits as well—such as the ability to specify which media outlets learn about a project or product, instead of blasting every contact on an e-mail list with a generic press release.

As for the site's name, Kent says when she researched URLs, all those with "design," "P.R.," and other apposite terms were taken. So she came up with a few unconventional names; PlaidRobot.com scored well with her friends in the business. "It was a struggle to find something that made sense and was memorable," she admits. But she has no qualms about it, noting, "My favorite sites all have ridiculous names." **BRAULIO AGNESE**

Through July 1, ARCHITECT readers can try PlaidRobot.com free for the first month. Enter promo code "ARCMAG" when signing up. You can cancel your subscription at no cost during the first month by e-mailing kkent@plaidrobot.com.

IDEA

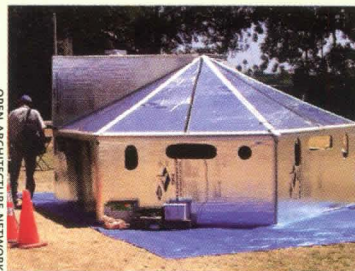
Links

www.recyclicity.net/index_en.jsp

Wondering if there's a low-energy alternative to reprocessing materials for future construction applications? Recyclicity, a building-community network in Rotterdam, Netherlands, shows one approach. A joint effort by local architects, builders, and others, Recyclicity takes waste materials in their primary form for use in new construction, instead of sending the materials elsewhere to be chopped up, melted, or otherwise transformed—an energy-intensive process. "As a positive side effect," the site says, this "will lead to innovative applications [and] unexpected designs."

PHILANTHROPY

openarchitecturenetwork.org



Architecture for Humanity, the Sausalito, Calif.-based organization that promotes design solutions for humanitarian crises around

the world, has partnered with Sun Microsystems, copyright group Creative Commons, and others to create the Open Architecture Network, which launched in March. The site allows designers to, among other things, share ideas on improving living conditions through innovative, sustainable work; upload designs and review those of others; collaborate; and manage projects from start to finish. (Pictured: The Hexayurt, a low-cost shelter designed by software engineer Vinay Gupta.)

DIGITAL CITY

www.virtual-berlin.de



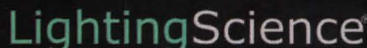
Berlin has become the first city to make an official 3-D model of itself available for viewing in Google Earth. Currently, the model shows more than 44,000 buildings at various levels of detail and covers about 10 percent of the city. (Pictured: Potsdamer Platz. The buildings in red have been constructed since 1990.)



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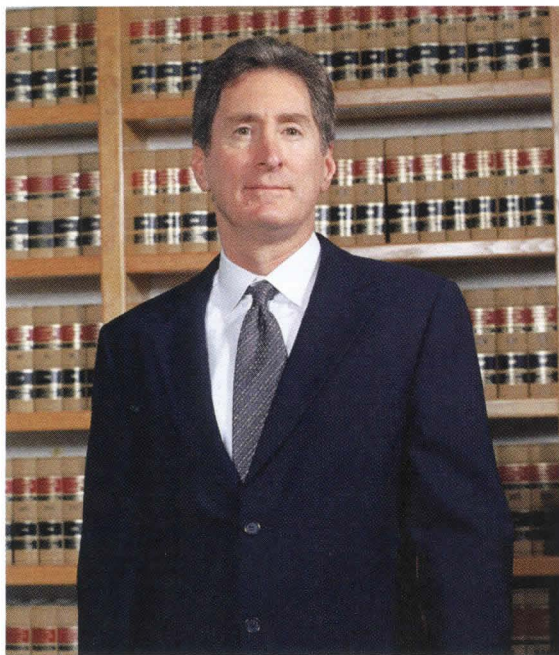
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ATTORNEY PAUL JOSEPH WEINBERG WALKS ARCHITECTS THROUGH THE MEDIATION PROCESS. **Text** Fred Bernstein **Photo** Misha Gravenor

MAKING NICE



Attorney Paul Joseph Weinberg notes that people are often happier with settlements they have had a part in negotiating.

THERE ARE TWO SIDES TO EVERY STORY—except when there are three or four, says Paul Joseph Weinberg, an Irvine, Calif., mediator who specializes in cases involving architects.

Sometimes, an architect is in the middle of a project and isn't getting paid. Other times, after a project is complete, the owner is unhappy about a defect (real or imaginary) and wants the architect to pay. (In those instances, engineers and consultants may also find themselves on the hot seat.)

Weinberg says mediation is a way to settle a dispute before "the litigation machine gets going." He invites the parties to his office at the same time, though he may keep them apart while practicing "shuttle diplomacy"—moving from room to room as he hammers out an agreement. "Often, the parties settle without ever actually seeing each other," says Weinberg, who went from practicing law to mediating in the 1990s.

Among the advantages of mediation: "People are generally a lot happier with a settlement they have negotiated themselves," he says. "They keep control, and it remains private."

1. Make sure your contract calls for mediation.

Unlike some state architecture board contracts that require mediation, AIA form contracts merely recommend it. If your lawyer is writing a contract from scratch or modifying an AIA contract, make mediation mandatory. Otherwise, Weinberg says, your opponent is free to initiate litigation, which can be a way of forcing you to settle on unfavorable terms.

2. Hire a lawyer.

Your opponents will be represented: Clients often hire high-priced counsel, and contractors generally have insurance company lawyers. Architects are particularly vulnerable, says Weinberg, because, however talented, they may have a hard time describing their process in words. So hire a lawyer. And then be forthcoming; the more you tell the lawyer, the easier it will be for them to represent you.

3. See who else might take responsibility.

Many times, if there's a problem with a building, an engineer or other consultant should bear the responsibility. Weinberg says, "Let's say you designed a nice house, but it's at the bottom of a hill. Your design didn't take into account the off-site topography. Drainage problems result. But you incorporated a grading and drainage plan drawn by a civil engineer hired by your client. If you can show that you didn't deviate from that plan, the engineer—not you—may have to pay."

4. Don't throw anything away.

Most of the time, says Weinberg, disputes involve disagreements over how events unfolded. The best thing you can do is put in order all of the plans and other documents, including printouts of e-mails, so you can establish the chronology. You probably have more documents in your file than you think you do, says Weinberg. The documents will show that you were responsible and thorough.

5. Bring a book or a sketch pad and some patience.

The mediator will be spending lots of time out of the room—often lavishing attention on whichever party is hardest to deal with. Some people need time to vent before they can settle, says Weinberg.

6. Sign before you leave.

If the parties come to terms, the mediator will produce a settlement agreement. Stick around and sign it on the spot. "If people leave the room, they tend to get buyer's remorse—they start to think they might get a better deal with litigation," says Weinberg. "In reality," he says, "they almost never do." Especially if you consider the time lost from work and the cost and stress of going to court.

Fred Bernstein studied architecture at Princeton and law at New York University and writes about both subjects.

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WHERE IS THE DESIGN IN SUSTAINABLE DESIGN?

Text Lance Hosey Photo Nic Lehoux

**THE GOOD,
THE BAD ...**

Bohlin Cywinski Jackson's Ballard Library and Neighborhood Service Center in Seattle was chosen as an AIA Committee on the Environment Top Ten Green Project for 2006.

ARCHITECTS ACCUSTOMED TO FOCUSING on form, space, and image complain that the most familiar goals of “green building”—energy efficiency, renewable resources, indoor air quality, etc.—do not exactly ignite the soul or excite the spirit. On the other side, advocates of the environment claim that designing a building that looks good but wastes resources is like putting lipstick on a pig.

As green becomes more mainstream, the second argument seems to be winning. For instance, some communities and organizations that have no general design guidelines are adopting the popular LEED rating system as their only benchmark for judging the quality of a building. But what of the first argument? Sustainability need not hamper innovation—in fact, it requires it—but green architects have focused their ingenuity almost exclusively on materials and methods. As a result, the work is not always easy on the eyes. The ugly truth about green building is that much of it is ugly.

This should not be surprising, since accepted standards

of sustainable design focus on the science of building and neglect the art of architecture. Not a single LEED credit deals directly with appearance, which historian Nikolaus Pevsner felt distinguished architecture from buildings. “A bicycle shed is a building; Lincoln Cathedral is a piece of architecture,” he famously wrote. “[T]he term architecture applies only to buildings designed with a view to aesthetic appeal.” If it doesn’t please the senses, a green building is a glorified bicycle shed.

Aesthetic delight is not a superficial concern—it is an environmental imperative. How long will buildings last if they fail to stir the imagination? No matter how efficiently something is designed, if people don’t love it, it’s likely to be rejected. To paraphrase environmental educator David Orr, if it’s not beautiful, it’s not sustainable.

Independent columnist Lance Hosey is a director with William McDonough + Partners.

NOT JUST SEEING GREEN

Many architects still think of sustainability as something that shows up in the specifications, not on the napkin sketch. Technically oriented standards such as LEED could learn from alternative models such as those listed here. Only by embracing aesthetics as well as ethics will sustainable design live up to its true potential.

Top Ten Green Projects

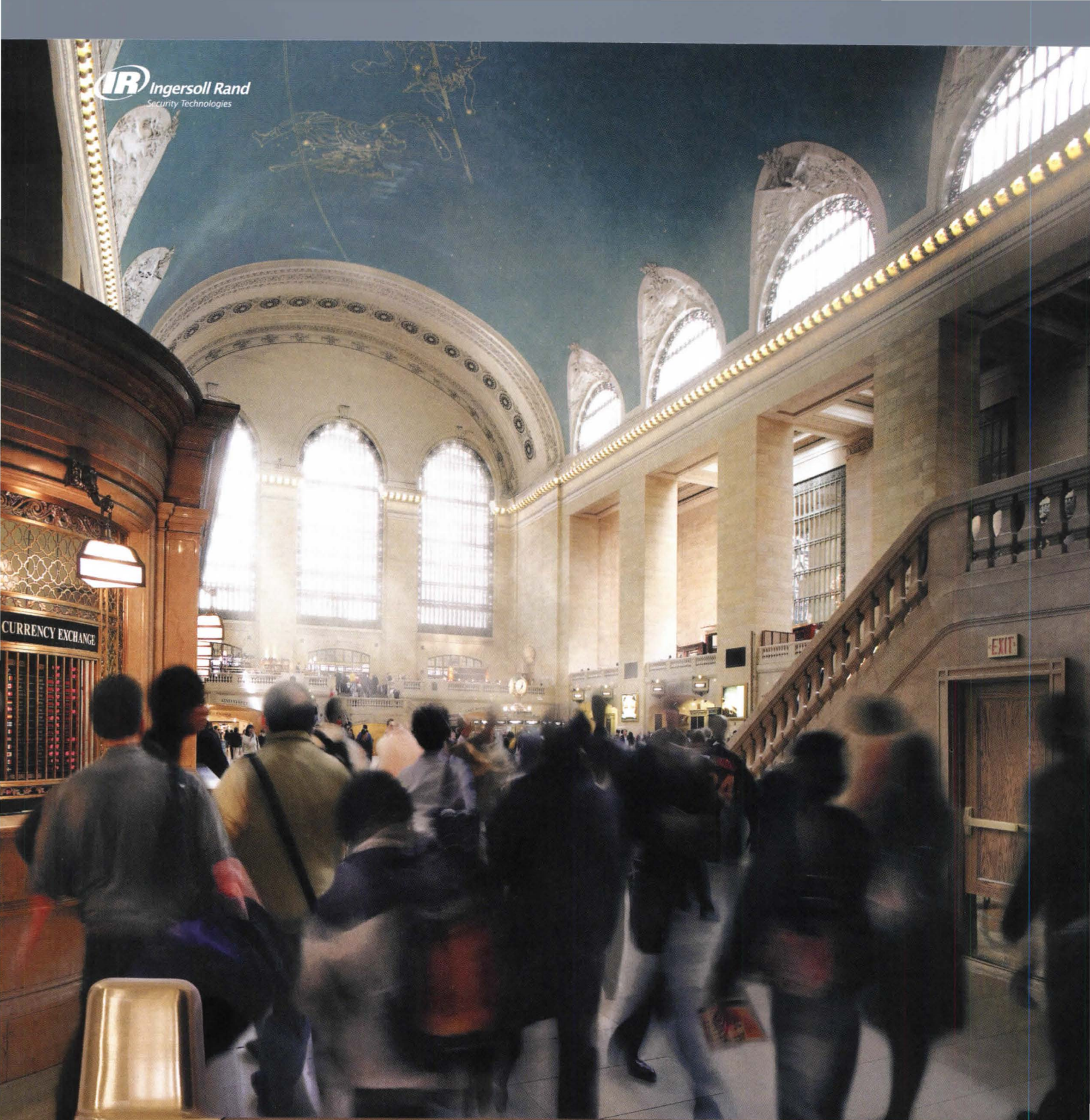
American Institute of Architects Committee on the Environment (AIA/COTE) hosts an annual competition that encourages regional responsiveness and architectural innovation. “Great design includes environmental, technical, and aesthetic excellence.” www.aiaopten.org

Living Building Challenge

The Cascadia Region Green Building Council recently introduced its Living Building Challenge, a voluntary guideline that expands on LEED with “a new vision” of sustainability. Two of its 16 requirements are devoted to “beauty and inspiration” and “design features intended solely for human delight and the celebration of culture.” www.cascadiagbc.org

Sustainable Design Awards

Cosponsored by the Boston Society of Architects, the New York chapter of the AIA, and the Environmental Protection Agency, the first criterion of this biennial awards program for projects worldwide is “design excellence” that contributes to “an aesthetic compatible with sustainability.” www.architects.org



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THE SKY'S THE LIMIT FOR A NEW GAS STATION
IN SOUTH LOS ANGELES.

Text Hannah McCann

UNITED OIL



Stephen Kanner, third-generation president of Kanner Architects, sees his firm's design as futuristic.



Client Jeff Appel is owner of his family firm, United Oil, which is known for its distinctive gas stations.



Construction manager Jon Murga partly credits the project's success to working on a fixed-fee basis.



IN A CITY DRIVEN BY CARS, Los Angeles radio stations regularly call out where to find the cheapest gas in town. Usually, it's at a United Oil station.

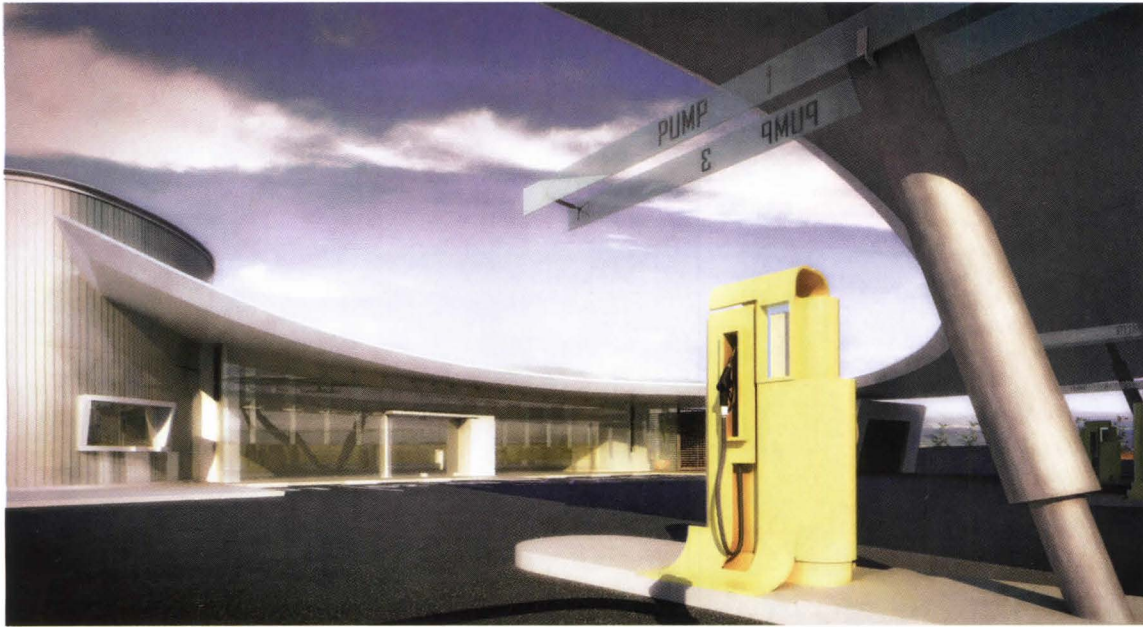
The Southern California chain isn't just cheaper—it's also known for having some of the most eye-catching gas stations in town. But topiary and competitive pricing won't be what distinguish the new United Oil gas station/convenience store/car wash going up at the corner of Slauson and La Brea avenues. Designed by Santa Monica, Calif.-based Kanner Architects, the station captures the momentum of nearby freeways with two sweeping gestures: a concrete ramp to the car wash that winds around, over, and behind the market, and a steel structure that forms the roof of the market, then curves around to become a soaring canopy over the pumps.

"In a very subtle way, [the design] refers back to post-war, optimistic times," says Stephen Kanner, 51, the third-generation president of his family's firm. "But definitely it's intended to be a futuristic statement."

The 20,600-square-foot project is due for completion in June. Its curving canopy, which encompasses about 7,000 square feet, has been one of the more complicated pieces of the station's construction, says construction manager Jon Murga, president of Advanced Building Group. The canopy's elevation changes from 14 feet to 31 feet, and the columns supporting it are skewed, each at a different angle. "We went through a lot of heartache and headache to get it right," he says, explaining that his company came into the project during the design phase on a fixed-fee basis, rather than winning a bid after the design was complete. As a result, "We're working for solutions, not how much our change order is going to be," he says, adding, "This business doesn't need to be difficult."

The new United Oil station (above) manages to look futuristic while referencing optimistic postwar times of half a century ago.

Portfolio United Oil



Kanner Architects' influence extends to the graphic elements of the station, including numbering at the pumps (top left). The firm's other commercial projects include Puma stores, a prototype for In-N-Out Burger, and a retail store for photographer Anne Geddes.

The **site plan** (bottom right) and bird's-eye rendering (bottom left) show the station's circular configuration. *Kanner* planned to put the path to the car wash behind the convenience store, but there wasn't enough room after laying out the pumps. Hence his freeway-inspired solution: a ramp circling up and over the market.

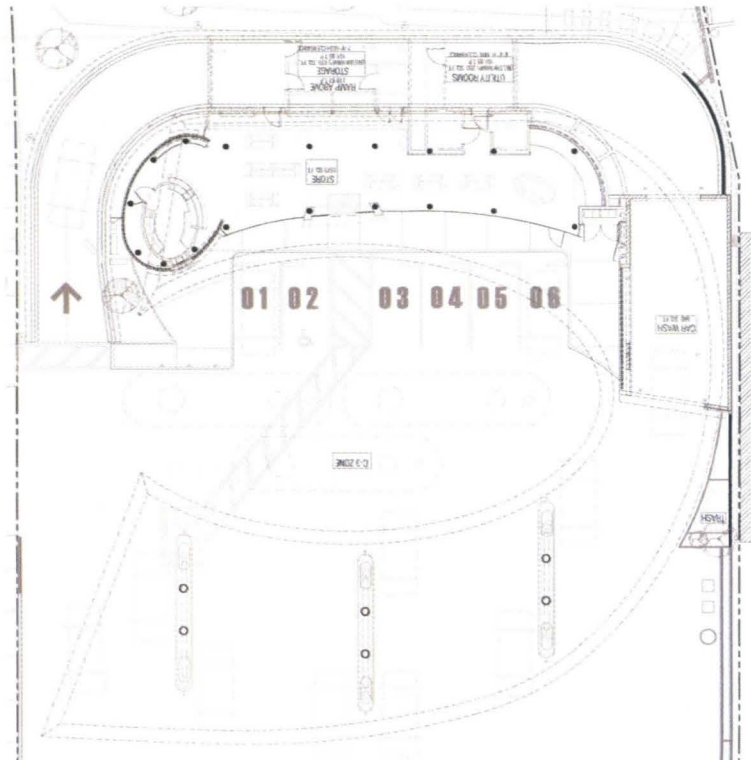
United Oil is known for the playfulness of its existing Southern California gas stations (photos, far left), which attract drivers-by with art and topiary.



UNITED OIL



UNITED OIL



According to Murga, the steel package for the canopy was about \$800,000; the concrete package for the poured-in-place concrete ramp to the car wash was about \$850,000; the Bendheim glass that clads the circular tower was shipped from Germany and cost about \$375,000. The project's total price tag is approaching \$4.5 million, which easily makes it the most expensive United Oil station to date.

United Oil began paying more attention to the design of their stations after the success of restoring a 50-year-old gas station in Redondo Beach, Calif. The restoration required not much more than a fresh coat of paint and some landscaping, which third-generation United Oil owner Jeff Appel planted himself. "The city appreciated it, and we got a little beautification award. But that little difference made a big difference in the way we did business," Appel says, leading him to develop a series of 25 showplace

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KANNER ARCHITECTS

Construction progresses, with completion due in June. The curving, 7,000-square-foot canopy (top and bottom left) has been one of the most challenging pieces of the project because of its complex geometry and skewed columns.



stations, most designed in-house. "We have the nicest stations, and I think the customers appreciate that."

For this project, Kanner Architects designed not just the station but all of its elements, including the terrazzo floors in the market, the cabinets that hold candy and cigarettes, the numbering at the pumps, and the sign at the corner (a corner shared with three other gas stations). "It's this very rare product," says Kanner, though his firm has had the opportunity to provide total design services for other commercial clients, including Puma stores worldwide.

In what has to be the equivalent of a fairy tale come true for architects, a simple napkin sketch sold Appel on Kanner Architects and the curvilinear design. "When I saw it on the napkin, I loved it, and the more it starts to develop, I love it even more," Appel says.

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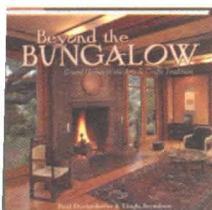
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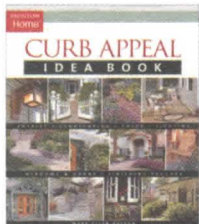
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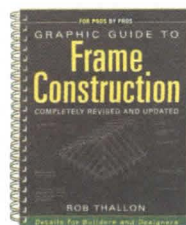
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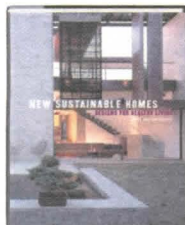
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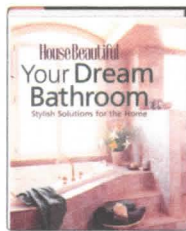
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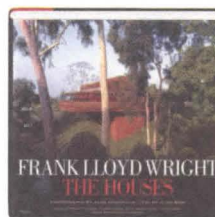
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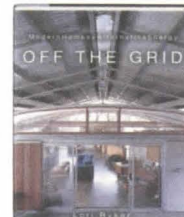
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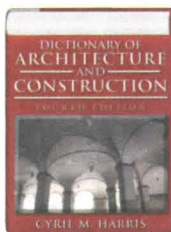


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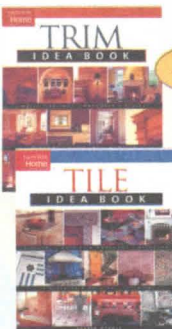
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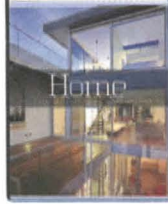
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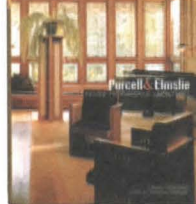
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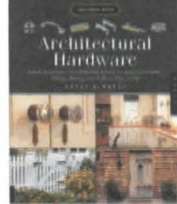
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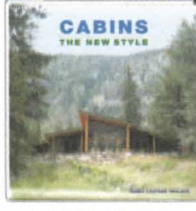
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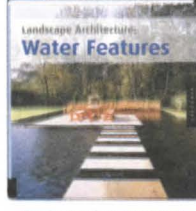
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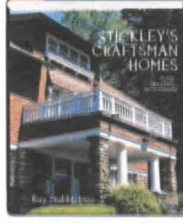
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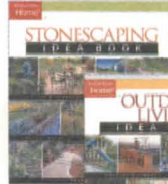
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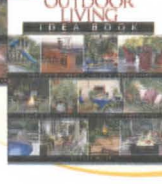
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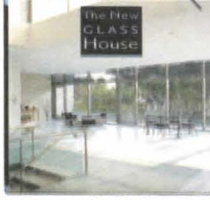
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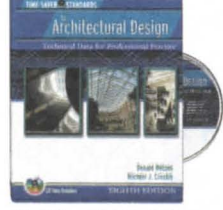
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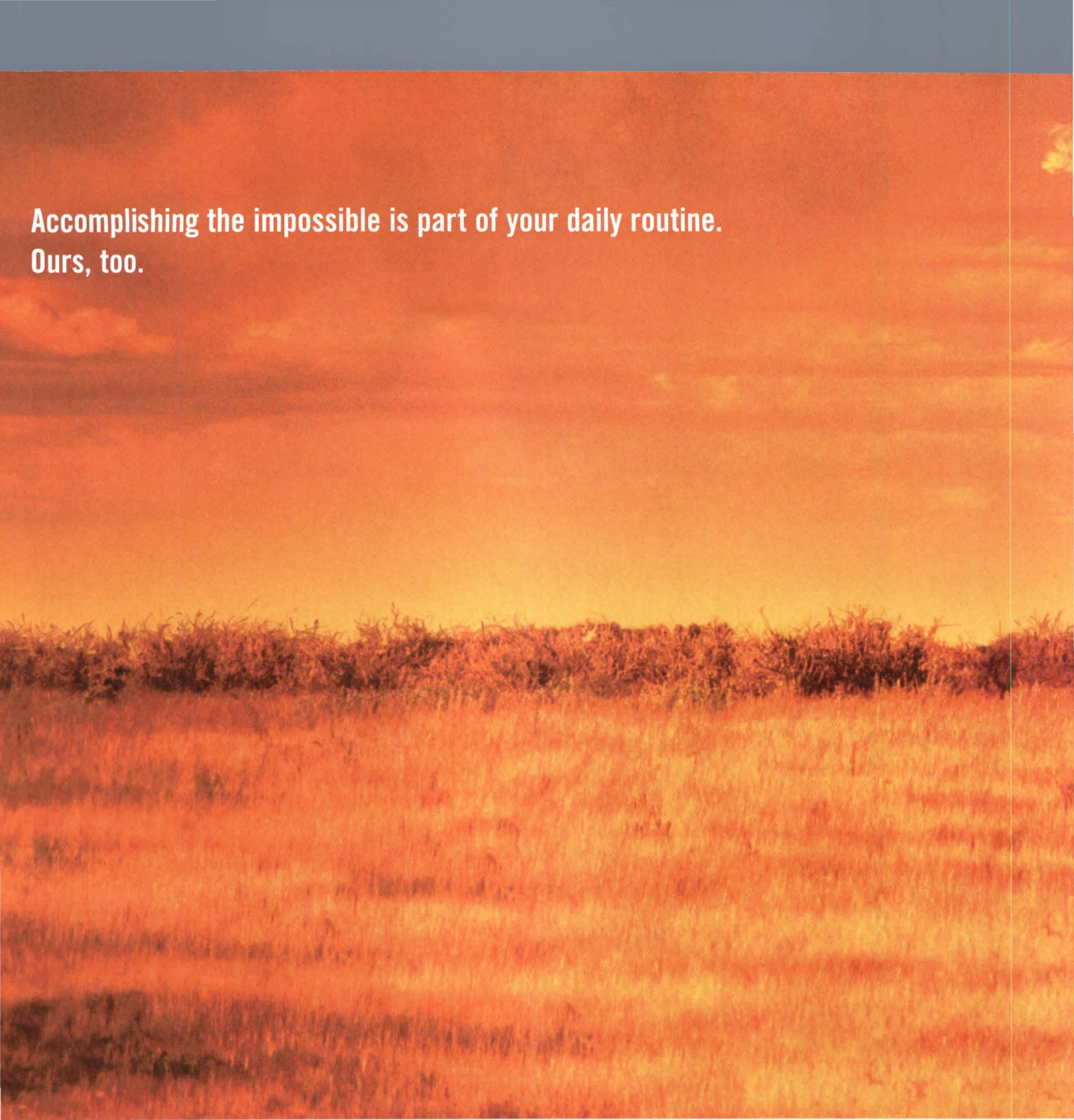
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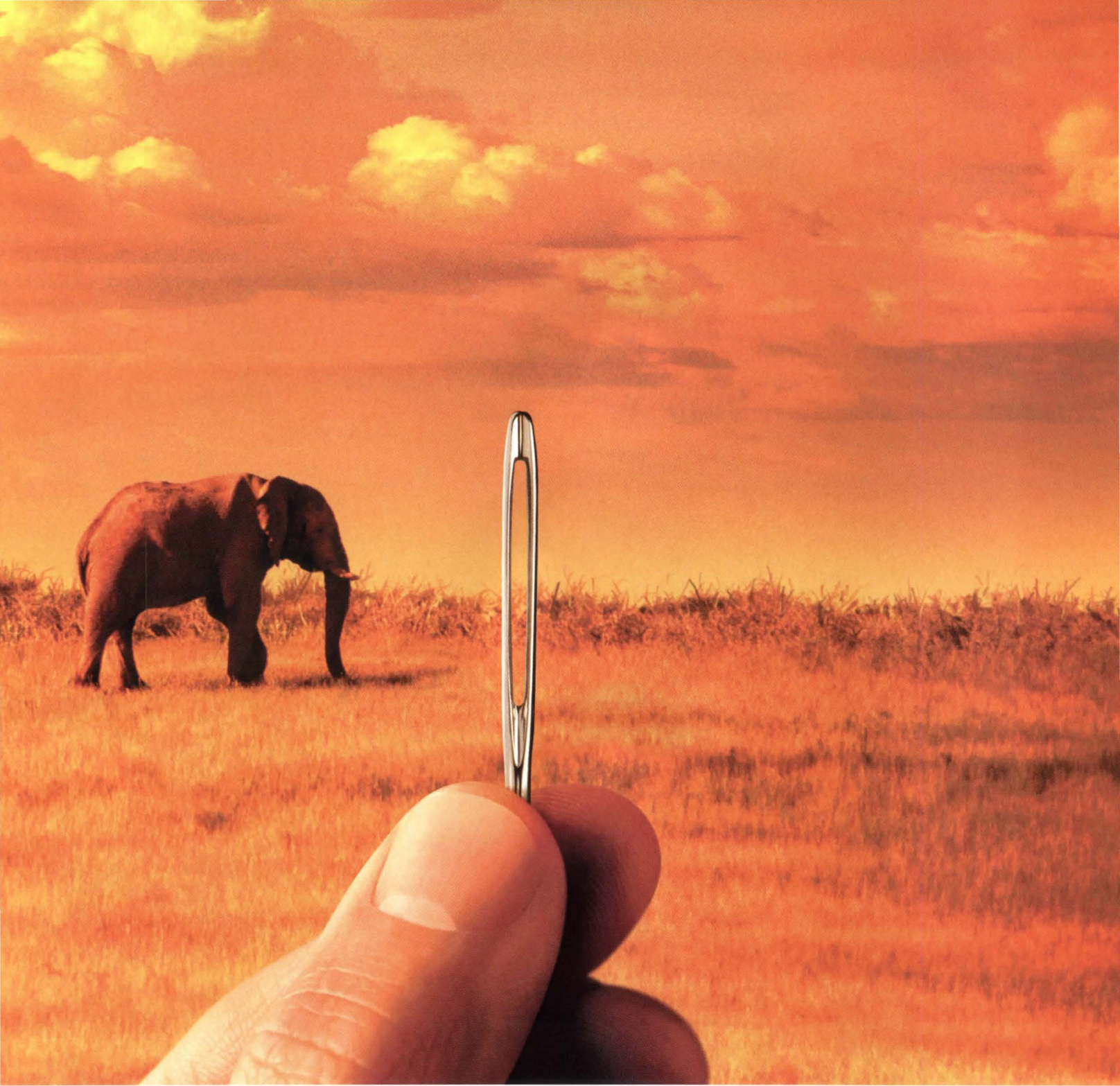


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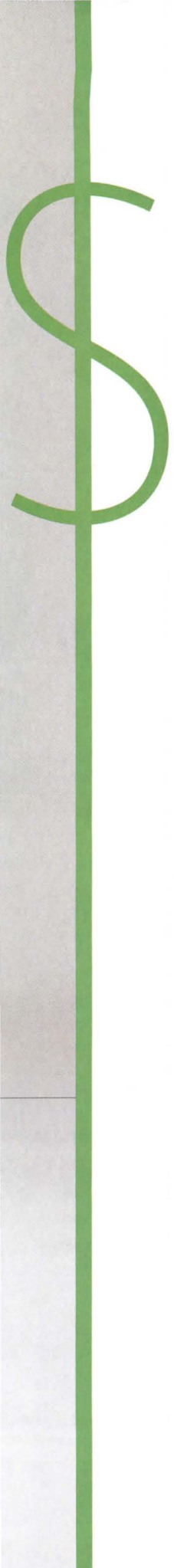
DANA LADD, ATLANTA

B.A. IN ARCHITECTURE, CLEMSON UNIVERSITY, AUGUST 2006. MINORED IN BUSINESS BECAUSE "I WANT TO OWN MY OWN FIRM ONE DAY."

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34,000 QUESTION

Text Ernest Beck Portraits Blaise Hayward

INTERN ARCHITECTS WEIGH THE CREATIVE REWARDS OF THEIR PROFESSION AGAINST ITS FINANCIAL DRAWBACKS.

LINDSEY WAGENER, A RECENT GRADUATE OF CLEMSON University, interns at LS3P Associates in Charleston, S.C., and earns less than \$40,000 annually. Wagener, 22, chose the firm because of its location, the people, and its focus on sustainable architecture, a field that appeals to her. She gave up an offer for a higher-paying internship at another firm so she could learn more about sustainable design at LS3P. "Everyone knows you don't make millions as an architect," she explains. "Money is not the No. 1 priority."

The architectural internship, which marries the dreams of architecture school to the realities of day-to-day practice, is an institution. It has long shaped the talents and ambitions of newcomers to the profession and ignited their passion for design and building. That passion is evident among the latest generation of new architects, who describe themselves as committed to learning the craft of architecture, despite low salaries.

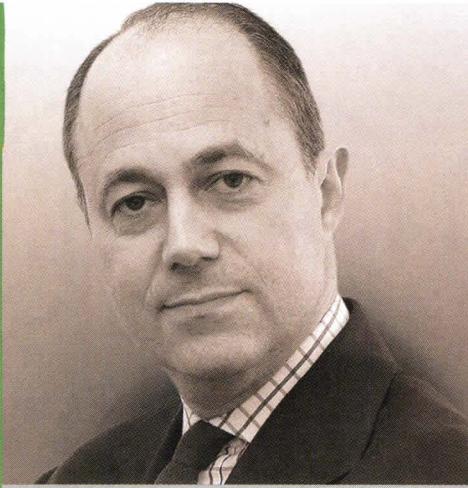
According to ARCHITECT's salary survey (see page 58), compiled by Greenway Communications for the Design Futures Council, mean salaries for intern architects currently range from \$34,543 to \$39,810 in the first year following graduation, increasing to a high of \$47,003 after three years. In the fifth year, interns can expect to earn between \$48,138 and \$58,614. By comparison, first-year lawyers in private practice earned an average of \$80,000 in 2004, according to the Bureau of Labor Statistics, and computer software engineers had median annual

earnings of about \$75,000, that agency reports.

Interns can quickly progress from architectural grunt work to more-advanced projects. "When you start, they put you on easy things, like presentation drawings, and then move you to one project under a senior designer," recalls Aki Shimizu, 33, who interned at DMJM in Los Angeles from 1996 to 2000. Shimizu says she was lucky to work with a good mentor "who took me under his wing and taught me a lot, which was important coming right out of school."

Eric Heidt, 35, interned at Kostow Greenwood in New York and had a similar experience. "You log a lot of hours and initially draft other people's corrections," says Heidt, who got his license last year and now works at Design Collective in Durham, N.C. "Then you get more responsibility and end up running smaller projects." Heidt wonders if the term "internship" is misleading. "It's a job, whether you are registered or not," he points out. "At the end of the day, you are functioning like an architect."

The good news for interns is that salaries are increasing at a steady pace. ARCHITECT's salary survey indicates that pay was up between 4 percent and 9 percent last year and has increased by another 6 percent to 12 percent this year. Moreover, salaries rise significantly over the three-to-five-year period during which interns—defined for the survey as recent graduates who have completed an accredited collegiate program in



T.J. Gottesdiener
 Managing partner
 Skidmore, Owings & Merrill

New York

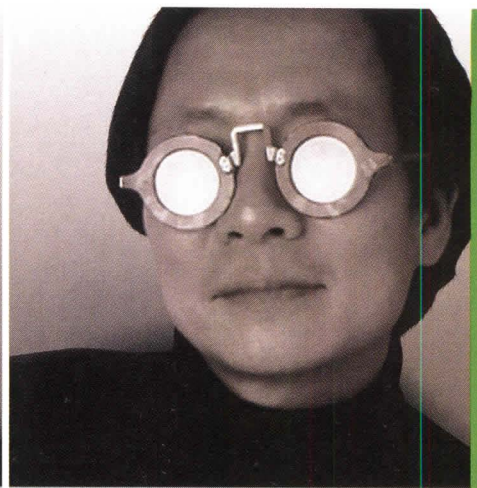
Photo courtesy Skidmore, Owings & Merrill



Lindsey Wagener
 Intern architect
 LS3P Associates

Charleston, S.C.

Photo courtesy Lindsey Wagener



David Ling
 Principal
 David Ling Architect

New York

Photo courtesy David Ling

architecture and are working toward licensure—prepare for the Architecture Registration Exam.

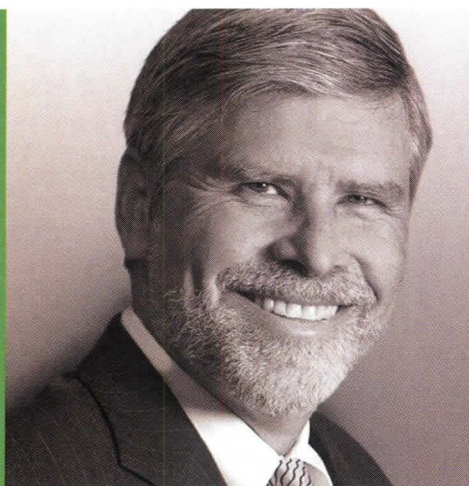
Executives at architecture firms both large and small try to make up for the low pay at the intern level, worried that it might deter the best and brightest from entering the field—or compel them to leave it later for more-lucrative work. Tim Reedy, chief executive of Miami-based Arquitectonica, says his firm helps compensate for low salaries by offering generous benefits and perks—such as paying for interns' licensing exams, holding prep classes, and giving them time off to study.

According to Reedy, the firm's intern architects are integral members of project teams and are given considerable responsibility—and can tap in to a bonus program. "You can become financially successful at our firm," he insists. For example, Robert Aitcheson, 28, an intern at Arquitectonica's New York office, earned \$42,000 when his internship began a year and a half ago and now makes \$50,000 plus a bonus. "At first, I would have liked to make more after eight years at school," Aitcheson says. "But after showing what I could contribute, my salary was re-evaluated, and I received a reasonable increase. They valued the contribution I had made to the office."

Even so, Reedy believes that what drives most young architects is creativity, not money. "Architecture

Compensation can sometimes take unexpected forms. At KlingStubbins' Cambridge, Mass., office, which usually has between 10 and 15 interns who earn around \$45,000 a year, there are parties and a "friendly, inviting environment" that is part of a "mutually supportive office," says Scott Simpson, senior principal and the office's managing director. "We can't pay them \$100,000 because they aren't worth it. But we try to make it up to them," Simpson adds. "We invest in their careers and would like them to stay on with us." (About 25 percent to 30 percent do stay at the firm.) More-tangible benefits at KlingStubbins include a 4.5 percent 401(k) match, in-house training programs, and a chance to work on a variety of the firm's projects, ranging from skyscrapers to university buildings.

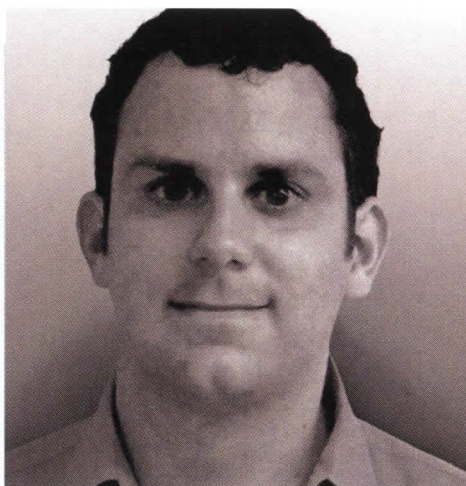
"Those who are destined to be architects and are committed will be a success, no matter what. Money won't keep them out," Simpson says. But low salaries are indeed a barrier to recruitment and retention industrywide, he says. Anecdotal evidence suggests that increasing numbers of architecture graduates are working in computer graphics, website design, digital entertainment, real estate development, and corporate facilities management. "We are losing talented grads to other industries because the pay scales are relatively low," Simpson explains. "When you consider school loans



Scott Simpson
Senior principal, managing director – Cambridge
KlingStubbins

Cambridge, Mass.

Photo courtesy KlingStubbins



Eric Heidt
Architect
Design Collective

Durham, N.C.

Photo courtesy Eric Heidt



Charles Thanhauser
Principal
TEK Architects

New York

Photo courtesy TEK Architects

That financial realization often comes after the internship, a time when freshly minted architects still regard the profession as exciting. “When you get out of school, you aren’t paid much, but there is a social and intellectual milieu that is fun,” notes Charles Thanhauser, principal of TEK Architects in New York City, a firm with 15 architects. “But after a few years, [young architects] find it is difficult to earn a living, and they start leaving the profession.” An architect with 10 years’ experience can expect to earn from \$62,608 to \$79,919, ARCHITECT’s survey indicates. The mean high salary for architects with 15 years’ experience jumps to \$96,928.

T.J. Gottesdiener, a managing partner at Skidmore,

Owings & Merrill (SOM), also sees architects getting the itch to leave seven or 10 years into their careers. At this later stage, Gottesdiener explains, when architects may be buying houses and having children, “they see peers from school who are lawyers and hedge-fund managers, and what these people are earning, and they wonder what they are doing.” Before they arrive at this midcareer quandary, SOM closely mentors its interns, says Gottesdiener, encouraging them to present their own ideas. Interns are also included in client meetings, “so they can see the impact of what they are doing,” he says.

Looking back on their internships, successful midcareer architects regard the experience as a rite of

“We are losing talented grads to other industries because the pay scales are relatively low. When you consider school loans and the cost of living, and trying to start a family, pay is clearly a factor.” Scott Simpson, senior principal, KlingStubbins

“Everyone knows you don’t make millions as an architect. Money is not the No. 1 priority.” Lindsey Wagener, intern, LS3P Associates

passage, the value of which became more apparent over time. David Ling, 48, principal of a small, eponymous New York practice, worked with I.M. Pei on the Bank of China building in Hong Kong for two years in the early 1980s. The experience of interning with the iconic modernist has stayed with Ling. “I apply [Pei’s] level of professionalism and technical detailing,” Ling says, “and I try to apply his level of charm with my clients.”

Because the internship years are a formative period, Ling adds, “it is crucial to choose [to intern with] an architect who represents the reasons why you have answered the calling of architecture.” Ling usually has one or two interns working in his office and says he gives them freedom to develop their own ideas.

Likewise, David Hertz, who is principal of David Hertz Architects in Santa Monica, Calif., interned in the early 1980s at Frank Gehry’s office in Los Angeles. He worked on projects like the California Aerospace Museum and got to know the movers and shakers in the city’s emerging architecture and arts scene. After only a year, he felt so confident in his connections and experience that “[it] led me to leave the office and open my own practice,” Hertz, now 46, says.

Even with mega-salaries becoming the norm in some professions, and the sharply rising costs of real estate and college tuition, the prevailing attitude among interns—like Dana Ladd, 23, who earns \$36,000 at Warner Summers Ditzel Benefield Ward & Associates in Atlanta—is that becoming an architect is more important than money. At least for now.

“Of course, it would be nice to earn more,” Ladd says. “But this is the profession I want. I look at friends with jobs in finance, and think, ‘That is really boring.’ I enjoy my job.”

LADD BECAME AN ARCHITECT BECAUSE SHE LOVES DRAWING AS WELL AS PHYSICS. CURRENTLY READING *THE TIPPING POINT*, BY MALCOLM GLADWELL.

JACKET FROM UNITED COLORS OF BENETTON, ABOUT \$60. DYED TO MATCH RED-WINE STAINS ACQUIRED DURING SEMESTER IN BARCELONA.

USUALLY HAS A BOWL OF BRAN CEREAL AND A CUP OF COFFEE FOR BREAKFAST.



2007 SALARY SURVEY

WHO MAKES WHAT

Text James P. Cramer

ARCHITECTS MAY BE DRIVEN BY THE CREATIVE SIDE OF THE PROFESSION, but there's a lot more to running a design firm than indulging the solitary genius. Every talent, no matter how brilliant, needs a supporting cast to shine. It takes organization to make it all work. And organizations require people: not just architects, engineers, and interior designers, but professionals in human resources, marketing, I.T., and other areas. The time and effort to manage human resources is not an impediment to good design—it's an enabler of good design.

Firms need talent if they want to develop top-quality work. To hire and retain that talent, they must offer competitive salaries and bonuses and invest in ongoing staff training. People are far and away the most important—and costly—asset in a design firm, accounting for more than 50 percent of all expenses, on average. Managers who want to stay competitive have to know how their firms' salaries and benefits measure up.

This annual salary survey draws information from architecture firms considered to be in the top 30 percent of the profession—in other words, the best-practice and near-best-practice zone. These best-practice firms come in all sizes, from small (fewer than 20 employees) and midsize (fewer than 50) to large (more than 50) and extra-large (150+). The survey represents more than 460 separate offices with headquarters in 61 cities. Firms becoming less relevant, or that we believe to be performing below best-practice standards, have not been included. In essence, the firms included in this study have earned peer respect and admiration. (For more on the methodology for this study, see page 65.)

The majority of firms in our research base reported more than 20 percent growth from 2005 to 2006 (those figures are not yet available for 2006–2007), and the second-largest group had 12 percent to 15 percent growth. Just over 10 percent of the firms we polled reported no growth.

Interns

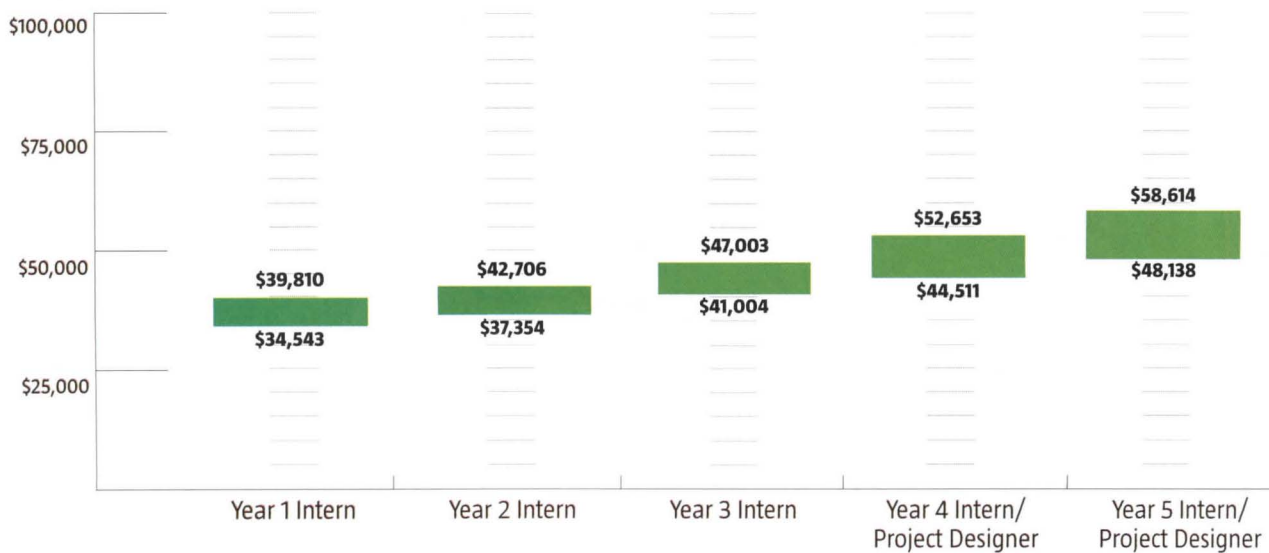
Salaries for intern architects have again increased in each region of the country, our survey indicates. Last year, intern salaries were up between 4 percent and 9 percent; this year, they have risen another 6 to 12 percent. For the survey, we define interns as recent graduates who have completed an accredited degree program in architecture and who are working toward licensure.

The typical time frame for an intern to pass all categories of the Architecture Registration Exam is three to five years. During this period, an intern's salary can rise dramatically. Here are the mean salaries, on a national basis, for the first five years following graduation and prior to licensure: Year 1: \$34,543 to \$39,810; Year 2: \$37,354 to \$42,706; Year 3: \$41,004 to \$47,003; Year 4: \$44,511 to \$52,653; Year 5: \$48,138 to \$58,614.

Interns today are almost always paid on an hourly basis, with overtime calculated into the total annual compensation. Some firms guarantee recently graduated interns enough overtime to achieve an annual salary of \$50,000, plus benefits. Competitive recruitment for top interns is becoming commonplace in best-of-class firms.

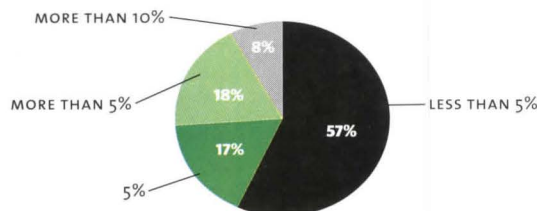
As the baby boomer population ages and some of its architects delay retirement, "young saplings" are being shaded by "old growth"—in other words, interns are not given adequate financial incentives to enter and stay in the field. Entry-level incentives in architecture firms are trailing other enterprise professions, effectively cutting into the supply chain of future talent.

MEDIAN SALARY RANGE 2007

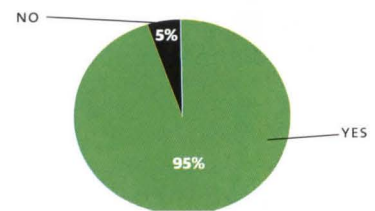


INTERN SALARIES

UPON REGISTRATION, HOW MUCH OF A SALARY INCREASE IS TYPICALLY OFFERED?

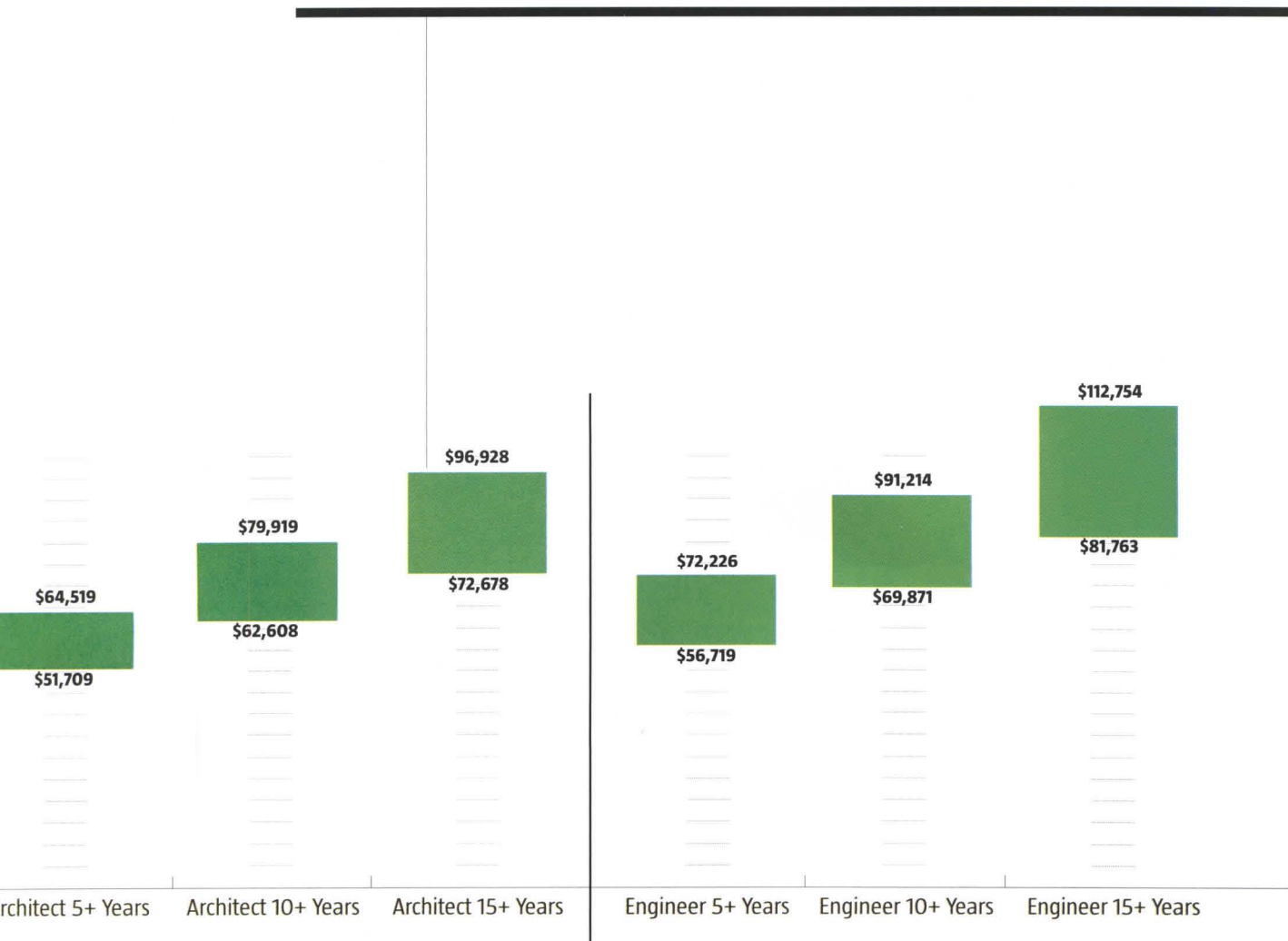


DOES THE FIRM PAY ANY OF THE PREPARATION EXPENSES FOR THE REGISTRATION EXAM?



\$96,928

High median salary for architects of 15+ years



ARCHITECT SALARIES

Architects

Architects with five years' experience (including the internship period) can expect an average starting salary of between \$51,709 and \$64,519. For 10 years' experience, the base compensation level increases significantly to an average range of \$62,608–\$79,919; that range reaches \$72,678–\$96,928 for architects with 15 years' experience.

The mean high salary for licensed architects with 15 years' experience (typically aged 38–42) is \$96,928, while the mean high salary for engineers with equivalent experience was reported as \$112,754. But a number of top-performing firms pay higher salaries to experienced non-principal architects—some offer between \$130,500

and \$220,000 in base compensation of for highly talented younger professionals below the age of 45.

Some firms suffer from cognitive dissonance, rationalizing low salaries with the blanket generalization that “architects aren’t paid well”—which is inaccurate, except within marginal and part-time practices. This common blind spot in management has prompted top talent to migrate toward better-managed, higher-paying firms. Leading firms are increasingly moving to pay-for-performance and meritocracy systems that tie compensation closely to specific performance goals.

While paychecks have gotten bigger across the board, there has been notable growth in a few job categories.

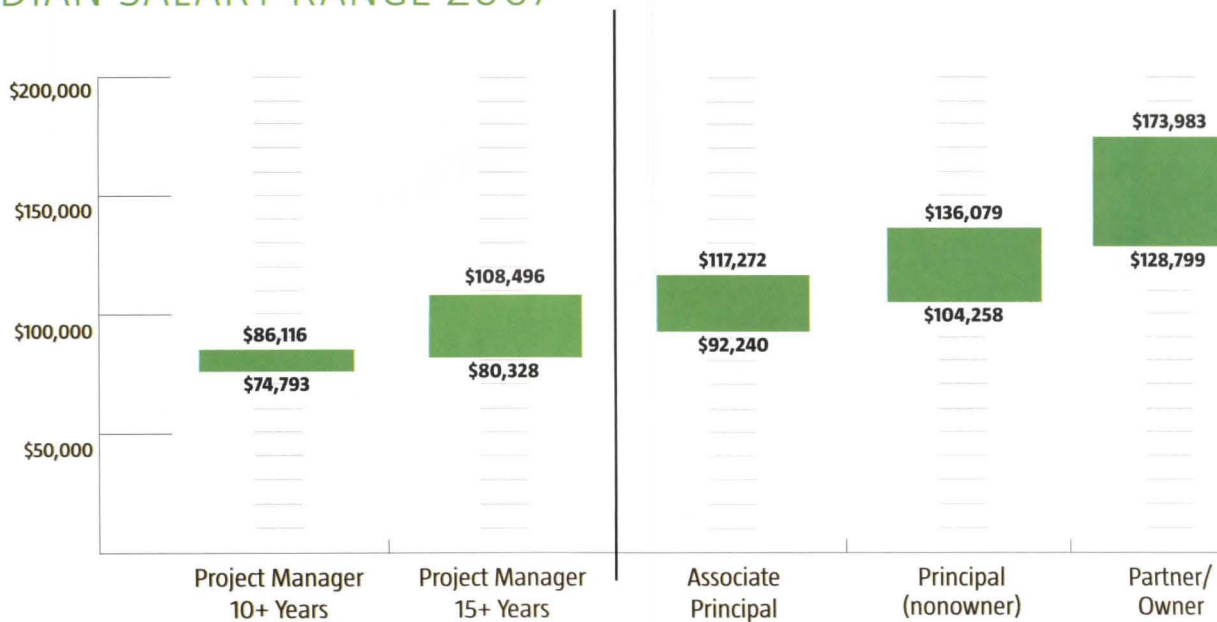
Project Managers

Project managers are increasingly valued as vital, asset-intensive employees, and compensated accordingly. In North America, project managers with 10 years' experience earn \$74,793 to \$86,116. A project manager with 15 years' experience can earn a salary of between \$80,328 and \$108,496. The best of these can earn upward of \$150,000, with some firms paying just over \$200,000, plus benefits. Most project managers are licensed architects, but because not all firms require licensure, engineers, architectural engineers, interior designers, and construction managers have moved into project manager positions in some practices.

For all equity positions, including officer positions such as COO and CFO, the target bonus is usually 20 percent or more of base salary. Increasingly it is 100 percent or more, with some firms reporting even higher targets. In the current economic climate, therefore, it is not unusual for an officer and equity partner to earn a base salary of \$235,000, with a bonus of \$200,000. However—because of the major stake in ownership that equity partners

Leading firms are increasingly moving to pay-for-performance and meritocracy systems that tie compensation closely to specific performance goals.

MEDIAN SALARY RANGE 2007



PROJECT MANAGER SALARIES

PRINCIPAL/PARTNER SALARIES

Equity Partners/Principals

Another role that has reaped larger salaries is that of equity partner and principal. Before bonus, base compensation starts at a low mean of \$128,799 and reaches a high mean of \$173,983. These are consistent with last year's reports, except that bonuses have been significantly richer due to profit increases of 6 percent or more. For the CEO position in a firm, the base range is from a low mean of \$173,271 up to \$212,348 as a high mean. The base salary increase for these CEO positions, from 2006 to 2007, was approximately 6.4 percent.

may have—they can earn incomes approaching and occasionally surpassing seven figures.

The 2007 survey found that the increase in total cash compensation was more accelerated for equity principals than it was for other positions. Ownership carries risks, but it can have its financial reward in well-run practices.

Marketing Directors

Another key talent category for practices is that of marketing director. To illustrate how crucial this position is, you can draw an analogy with health care: A firm

talented marketing professionals on staff as well as principals who are “rainmakers” is paramount to a firm’s success.

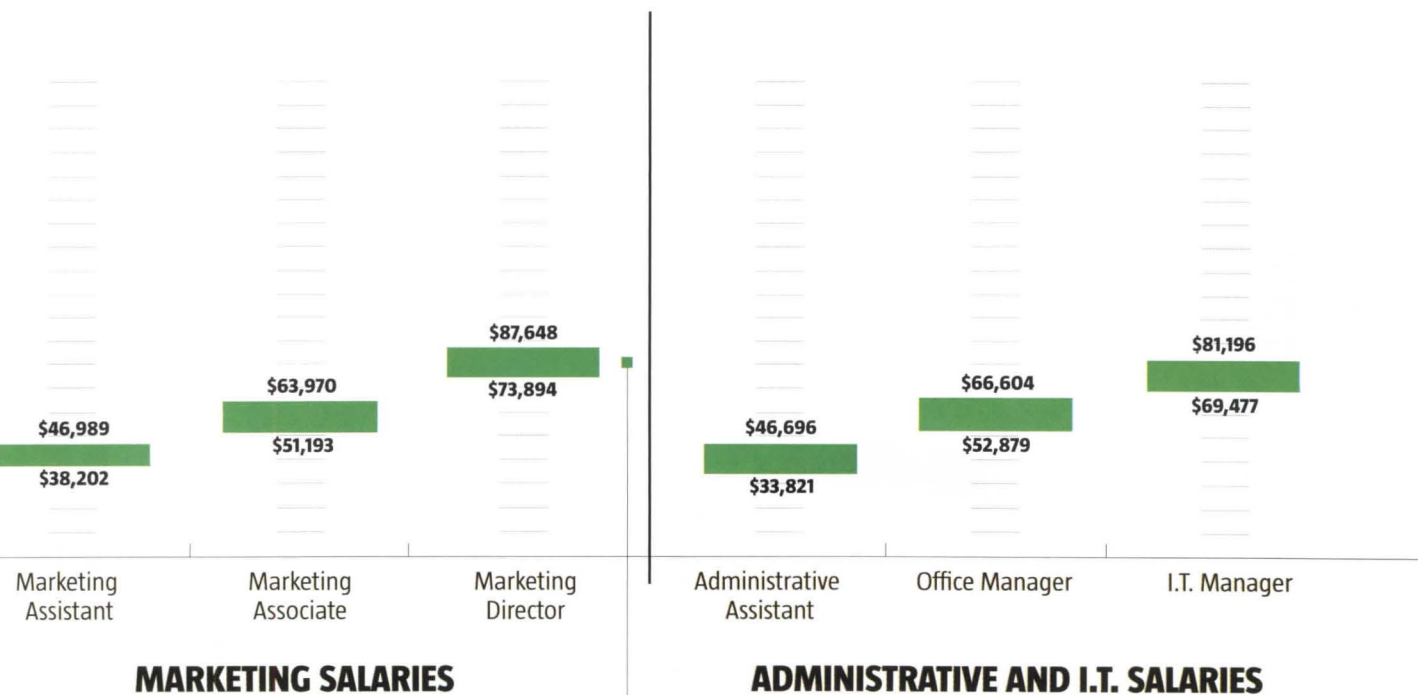
Salaries for marketing professionals at architecture firms vary widely. In the 2007 study, firms were asked to provide a salary range from low to high for each marketing position. Based on this information, the mean low salary for marketing directors in 2007 is \$73,894, with

It is not unusual for an officer and equity partner to earn \$235,000, with a bonus of \$200,000. However, equity partners can surpass seven figures.

a mean high salary of \$87,648. Marketing director salaries ranged from a low of \$28,000 (for part-time directors) to more than \$165,000, not including bonuses. Marketing associate and marketing assistant positions can also be well compensated.

Architectural practices today can be adept not only at design, but also at human resource management and staying competitive as a business. Successful firms can clearly articulate their value to their own staff and to clients, and follow through on it. All architects should be aware of the fact that enhanced productivity leads directly to better practice management—and better compensation.

James P. Cramer is chairman and principal of the Greenway Group Inc. and editor of DesignIntelligence.



To illustrate how crucial the position of marketing director is, you can draw an analogy with health care: A firm without clients is like a hospital without patients.

Benefits and Work Environment Matter

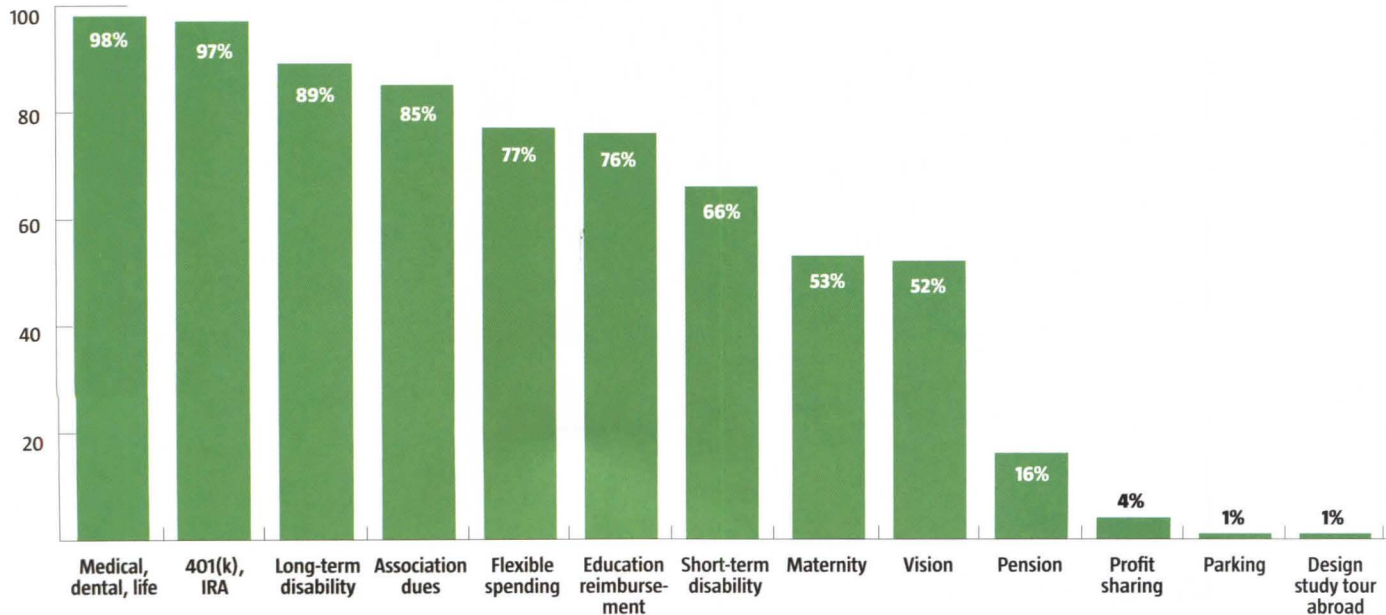
Innovative, comprehensive benefits packages are key if firms want to retain high-quality design professionals and maximize their employees' potential. Most firms included in the 2007–2008 survey pay 100 percent of the cost of medical coverage for employees; 80 percent and 75 percent are the next most common levels of medical coverage. Beyond promoting healthy lifestyles with fitness subsidies and flexible spending accounts, some firms try to meet the changing needs of today's professionals with support for paternity leave and with day-care subsidies.

The most competitive firms rely on employees who are working at the top of their game. By offering education reimbursement, they ensure that staff will bring fresh, informed perspectives to challenge existing paradigms, leading to true firm differentiation. Association dues and education reimbursement are important parts of a valued benefits program.

For keeping staff happy, healthy, and productive, a collegiate, attractive environment can do as much as a good benefits plan. Well-designed office spaces have been proven to increase retention and decrease absenteeism. Likewise, an atmosphere of professional integrity and communication is a major draw for design professionals. Health-minded benefits combined with a positive environment and a healthy perspective toward emerging trends will help a practice become dedicated, vibrant, and relevant, and push it into the best-practice zone.

However, a pressing concern for management and architects alike is the rising cost of health care coverage. Employer costs for health insurance premiums have risen 6.5 percent to 8.4 percent in the last year, according to Kaiser Family Foundation reports and Greenway Group consulting analyses. This means that firms have less to distribute in real wage increases to staff.

BENEFITS FOR FULL-TIME STAFF



... But Size Doesn't

Conventional wisdom might suggest that the larger the firm, the higher the base salary and larger the bonuses. But this is seldom the case. Firms of all sizes with strong brand reputations can (and in some cases do) pay their equity partners in the high six figures, but firms are increasingly weighing a profit-per-partner metric as a measure of performance.

There is no data to support the position taken by some practice management theorists that midsize firms are losing their performance edge, nor that they are categorically underpaying their professional staff. Equity partners at midsize firms often earn salaries comparable with their large-firm counterparts, and overall data indicates that well-managed

Without a doubt, globalization and technological innovations are a boon to North American architectural practices of all sizes and their employees. The devaluation of the dollar has made reverse outsourcing attractive—for reasonable fees, overseas clients can contract with highly attractive design brands. Technological advances are improving productivity. Although some employee positions are threatened, most firms in our survey believe that the practice of architecture will grow. And salaries for talented creative professionals will see continued, healthy growth. (Whether increases reliably outpace inflation depends on productivity.)

SERVICES OFFERED BY RESPONDING FIRMS

Architecture	90%
Interior Design	68%
Planning & Urban Design	60%
Engineering	38%
Landscape Architecture	35%
Graphic Design	33%
Industrial Design	4%
Lighting	3%
Branding	1%
EGD/Placemaking	1%
Industrial Engineering	1%
Medical Planning	1%
Parking	1%
Research	1%
Structural Engineering	1%

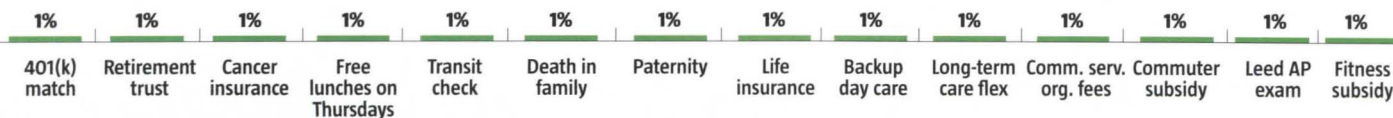
Methodology

From January through early February 2007, the Design Futures Council surveyed leading firms—those believed to represent best practices in architecture—on the subjects of compensation, benefits, and bonuses. Surveys were distributed and returned via fax, postal mail, e-mail, and through a proprietary online survey tool.

The firms that participated represent 463 offices with headquarters in 61 cities across the continental United States. Firms of all sizes (small—fewer than 20 employees; medium—fewer than 50; large—50 or more; and extra large—150+) took part. Collectively, these firms employ more than 76,000 staff. Not all firms answered all questions. Participating firms were informed that all responses would be kept in strict confidence by the Greenway Group Inc., the organization administering the research on behalf of the Design Futures Council.

The research administrators independently collected surveys and detached identifying cover sheets to ensure confidentiality. All data were compiled, aggregated, and organized so that no firm or individual could be identified. An officer from each participating firm signed and dated the completed questionnaire, listing his or her position in the firm; the Greenway Group validated the authenticity of the responses. Responses collected through a proprietary online survey form were confirmed with access tracking tools and telephone confirmations. Responses from outside North America are not included in this summary.

The complete, unabridged report is published in the March 2007 issue of *DesignIntelligence* at www.di.net. For further information about methodology, write to the Greenway Group at 25 Technology Parkway South, Suite 101, Norcross, GA, 30092, or e-mail Mary Pereboom, principal for research and administration, at mpereboom@greenway.us.



Job Satisfaction

Our research suggests that architects—and other designers within firms—believe they are appropriately compensated. Pay is generally not the reason why firms lose employees. Instead, a perceived lack of respect or civility in the workplace, the absence of meaningful assignments, and lack of challenging growth opportunities cause turnover.

Most equity principals and nonequity principals are “significantly satisfied” with base and bonus compensation and do not expect them to change dramatically over the next several years. This trend indicates cautious optimism about the short- to midterm economy and a general confidence and satisfaction regarding the profession’s future.

As Kahn

DULL, GRAY CONCRETE: This was the misperception that Lloyd DesBrisay fought to dispel as he and colleagues from Polshek Partnership Architects restored Yale University Art Gallery's Louis Kahn building, widely acknowledged as that architect's first masterpiece. With its famous triangle-ribbed ceilings and monumental cylinder of a stairwell, the 1953 building, though austere on the outside, is far from dull. But neither is the concrete a simple gray, DesBrisay points out.

"It's not gray, if you look at it," he tells me. "It's got a bit of a pink tone to it." I step closer, and it's true—flecks of coral in the concrete blocks give the wall a subtle but definite warmth.

We're crossing the first floor of the Kahn building, which reopened on Dec. 10 following the three-year, \$44 million renovation. My guides are Jock Reynolds, the director of the gallery, and DesBrisay, project architect during the construction phase. Around us, sculptures by Rachel Whiteread and Joseph Beuys rise like solitary islands from the expanse of oak flooring.

This space used to get so cluttered when curators put up temporary exhibitions, "people complained it looked closed," DesBrisay says. Now the stark geometry of Kahn's scheme and its interplay of surface textures, light, and shadow are apparent the minute you walk through the unassuming entrance tucked into the gallery's blank south façade.

The lobby

At one end of the lobby, geometric canvases by Josef Albers and Sol LeWitt offer a visual counterpoint to Kahn's ceiling. At the other end, contemporary sofas, retro Bertoa chairs, and cubic tables gather beside a black cabinet—a student "media lounge" designed by New York architect Joel Sanders.

Sanders also designed the reception desk, composed of the same black cabinetry, directly in front of the main entrance. The furnishings are unobtrusive, freestanding, and clearly not of Kahn's vintage, a decision that was deliberate on Sanders' part.

"What Kahn wanted was a flexible, loftlike space that could be changed," Sanders explains to me later. "Our project is an updated version of what he was thinking about. Everything in the space breaks down into modular pieces." Apart from the U-shaped reception desk, which is permanent, everything else can be rolled away for events.

Here, with students lounging and chatting on the sofas, is a good place to get a feel for the surprisingly human scale of Kahn's design, once miscategorized as Brutalist. Reynolds points out the delicate proportions of the materials Kahn used: floorboards about the length of your foot, 4-inch-by-6-inch concrete blocks that you could



Intended

AFTER A MAJOR RENOVATION, THE YALE UNIVERSITY ART GALLERY FINALLY LOOKS AND FUNCTIONS THE WAY ITS ARCHITECT, LOUIS KAHN, WANTED.

Text Amanda Kolson Hurley



hold in your hand. And looking up, even, the rough texture of the concrete humanizes the relentless ceiling grid.

Concrete, glass, and brick

How these materials speak to each other was lost for the four decades prior to Polshek's renovation. In 1957, Andrew Carnduff Ritchie, a former MoMA curator, was appointed director of the gallery. Ritchie sought what he called a "more neutral effect" than Kahn's interior offered, and with the help of Paul Rudolph (then chair of Yale's school of architecture), covered the concrete-block walls in MoMA-reminiscent white Sheetrock. The ceiling remained unaltered—but "when this was white walls, you felt the ceiling like a ton of bricks," Reynolds says.

Polshek's team, led by partner Duncan Hazard, stripped away the wall coverings ("which Kahn hated," Reynolds adds) to expose the concrete blocks. Although staff members never screw or nail anything into them anymore, some minor pockmarks in the blocks, old scars, have been left unpatched. "We didn't want to pretend [the building] didn't have a life," Reynolds explains.

Kahn's gallery design, commissioned when he was a visiting critic at Yale's architecture school, was radical, experimental. He housed the electrical and ductworks—keeping them visible—in the hollow tetrahedrons of the ceiling. The gallery was one of the first American buildings with glass curtain walls. But as was often the case in the modernist era, Kahn's vision outran the technology that was available to him.

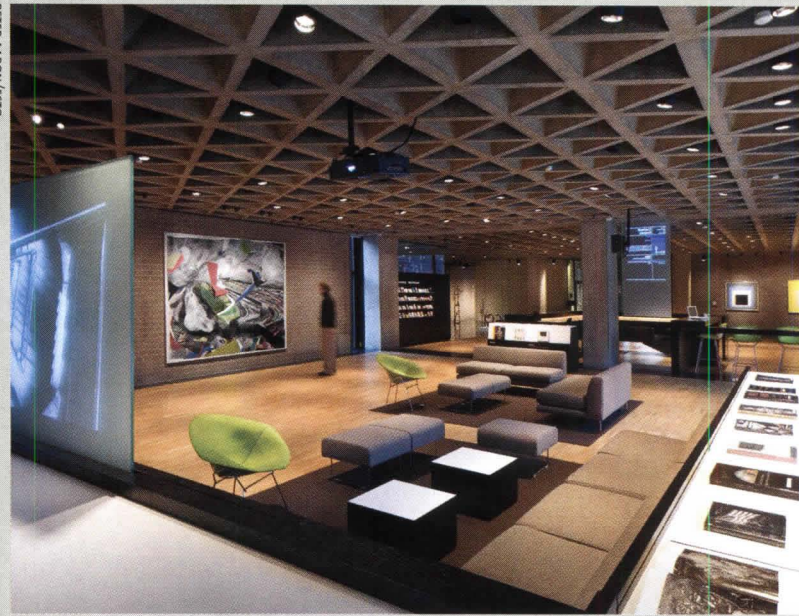
For instance, the glass curtain walls, on the west and north sides of the building, caused problems from the beginning. The original walls were made with straight-bar steel, which expanded as outside temperatures fluctuated, causing the adjacent concrete slabs to crack. As early as the building's first winter, condensation formed on the inside of the panes and the steel began to rust.

Polshek replaced the benighted steel with an aluminum system that includes a thermal break. The new aluminum extrusions were custom-made to match the appearance of Kahn's steel, with the rolled edges characteristic of that material. "The exterior is exactly the same," says DesBrisay as we approach the west wall in the first-floor gallery, which overlooks a paved courtyard. "The interior's where we had to vary it a bit, for structural reasons."

The new windows are double-paned insulated glass units—like the originals—but have modern low-emissivity coatings, as well as a uv-blocking interlayer to protect the artwork from sunlight. So that the problems with condensation wouldn't recur, Polshek and its consultants doubled radiator capacity along the walls and replaced the light-controlling fabric scrims original to the building. The new scrims trap heat from the radiators next to the window wall to help control condensation. Gaps at the top and bottom of the scrims encourage airflow. According to DesBrisay, mechanical engineers ran 11 rounds of computational fluid dynamics (CFD) studies to evaluate the design, and the CFD data was then used to model the wall with Therm 5 software.

Beneath us lies the sunken west courtyard, enclosed by a ribbon of pale brick that extends from the front façade. That front wall was an inspiration for the new curtain wall system, DesBrisay tells me, because of Kahn's ingenuity in designing it. "If you look closely, there's a small gap between [the interior wall] and that wall," where the heating system is, he explains. "Over the 54-year life of the building, that heating system and that gap allowed the heat flow to bathe the inside of the brick with heat, so it doesn't freeze up"

PETER AARON/ESTO

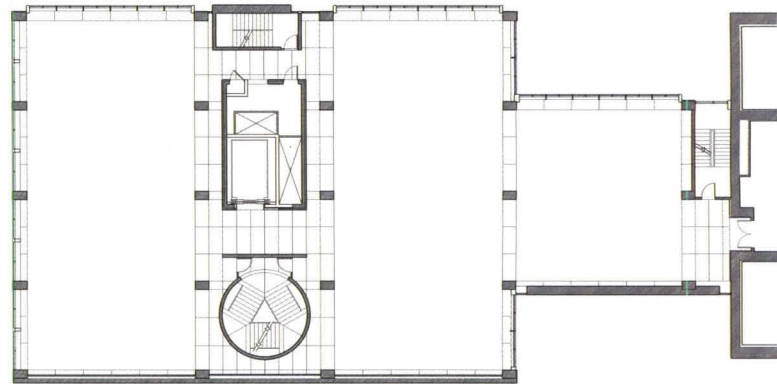


The new media lounge in the gallery's lobby (above), designed by Joel Sanders, is a flexible space where students can work and relax. The furniture can be easily stowed away when the gallery hosts events. A remote-controlled media screen (at left) rolls out of the L-shaped black cabinet for multimedia presentations.

A building plan (below) reveals its symmetry as well as Kahn's notion of distinct "served" and "servant" spaces. The servant core of the building houses the two stairwells, the elevator, restrooms, and closets. Although Kahn's style differs starkly from the older gallery

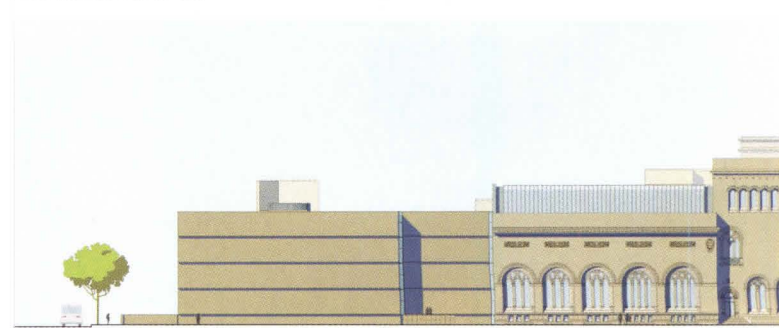
buildings, Kahn was mindful of their scale and proportions. The 1928 Swartout Building (bottom, at center) was supposed to have extended down Chapel Street. The recess in Kahn's façade honors that original design, which called for a central entry portico.

POLSHEK PARTNERSHIP ARCHITECTS



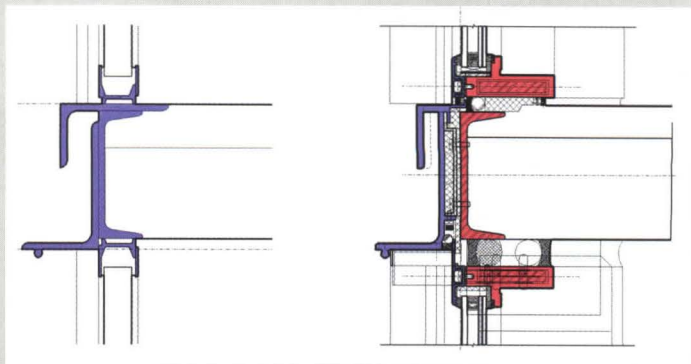
POLSHEK PARTNERSHIP ARCHITECTS

YALE UNIVERSITY ART GALLERY
VIEW FROM CHAPEL STREET





The west window wall of the gallery (above). As early as the building's first winter, the window walls were beset by interior condensation and rust. "It started to effloresce between the [two] panes, sort of like a greenhouse," says gallery director Jock Reynolds. A section through the building (right)—with the floor slab in the middle and windows top and bottom—shows the old system (near right) and the new one (far right), which has a thermal break and a sealant joint that contracts and expands with the metal.



POLSHEK PARTNERSHIP ARCHITECTS



his colleagues simply cleaned with soap and water. They replaced brick only in the less-conspicuous inside walls of the west courtyard, damaged from construction when it was roofed over in the 1970s. In the sculpture garden behind the gallery, rather than replace an especially visible, listing wall by the lobby door, they used pressurized grout to stabilize it.

The pogo wall system

Reynolds ushers us into the new, 12,000-pound-capacity elevator—which replaces one that couldn't fit the gallery's larger canvases—and we ascend to the second floor. There we encounter another Kahnian innovation: the "pogo wall." Kahn devised these spring-loaded panels (hence the name) as a flexible way for curators to hang artwork. His pogos, which had small feet at the top and bottom, could be placed anywhere in a gallery space, at any angle, and could be moved or removed easily by three people. There was nothing like this kind of demountable system used in other galleries at the time.

Like his concrete blocks, however, Kahn's pogos initially met with little sympathy or comprehension. Before long, gallery staff installed more-permanent partitions that had wood or black bands along the base, flush with the floor. This was a crucial deviation from Kahn's design: The original pogos had sizable gaps between the base and the floor, so that light—the lateral light entering through the north and west window walls—could penetrate beneath them. The levitating effect is "almost like a Rothko painting," Reynolds says.

Yale and Polshek worked with Staples & Charles, a firm in Northern Virginia that specializes in exhibition design, to create new pogo walls that are true to Kahn's intentions, but sturdier and lighter in weight than his original panels. The new pogos conform to Kahn's original measurements—10 feet high, 4 feet and 11½ inches wide. Now two people, not three, can move them.

The stairwell

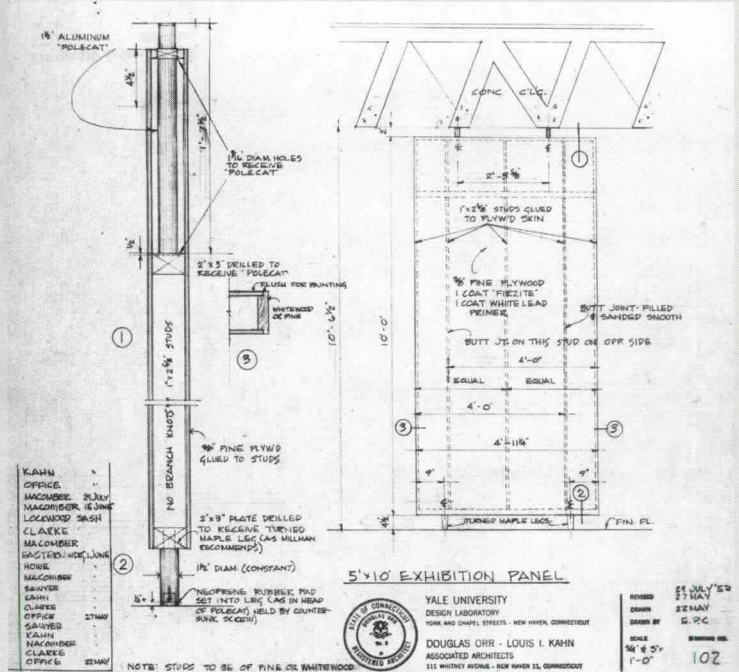
We wander the African and Asian galleries, then climb the stairs to the third floor. Far from being a secondary space, the stairwell is the physical and diagrammatic core of the building—a hollow column of board-formed concrete topped by a large triangular concrete slab. The back and sides of the stairwell had been closed off in places to make extra storage space around the cylinder. Polshek's team cleared up the blocked areas, cleaned the concrete, refurbished the black terrazzo floors, and installed new energy-efficient light fixtures.

They also replaced the mesh panels attached to the railings with a new stainless-steel mesh, an almost perfect match to the original. It came from an unlikely source: conveyor belts from a frozen-food factory in France. "We found it by chance," DesBrisay laughs. "It took about a year to find, and it arrived here about six weeks before we opened."

Opened up again, the stairwell now conveys all its intended drama, giving the impression of a modern ruin—as so many of Kahn's later buildings do. It shows him developing a monumental architecture of idealized geometric forms, almost Platonic in their timeless purity.

Kahn was autocratic about his design to an extent that would be frowned on now, when collaboration and compromise are architectural buzzwords. "A good building is one which the client cannot destroy by wrong use of space," he said testily when the gallery first opened.

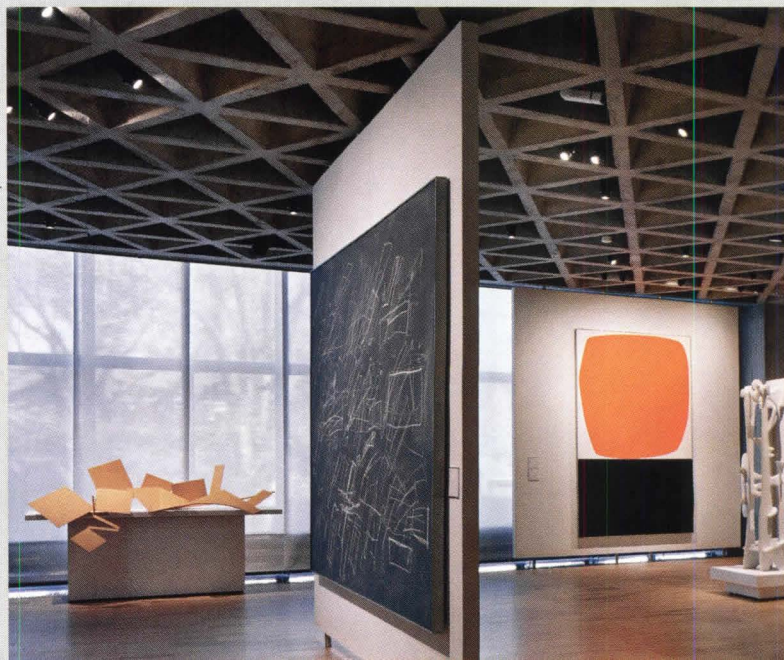
I mention this to Reynolds. "To tell you the truth, he was right!" he replies without hesitation. "His vision had a very short time in which to operate. We said, 'Let's go back and see

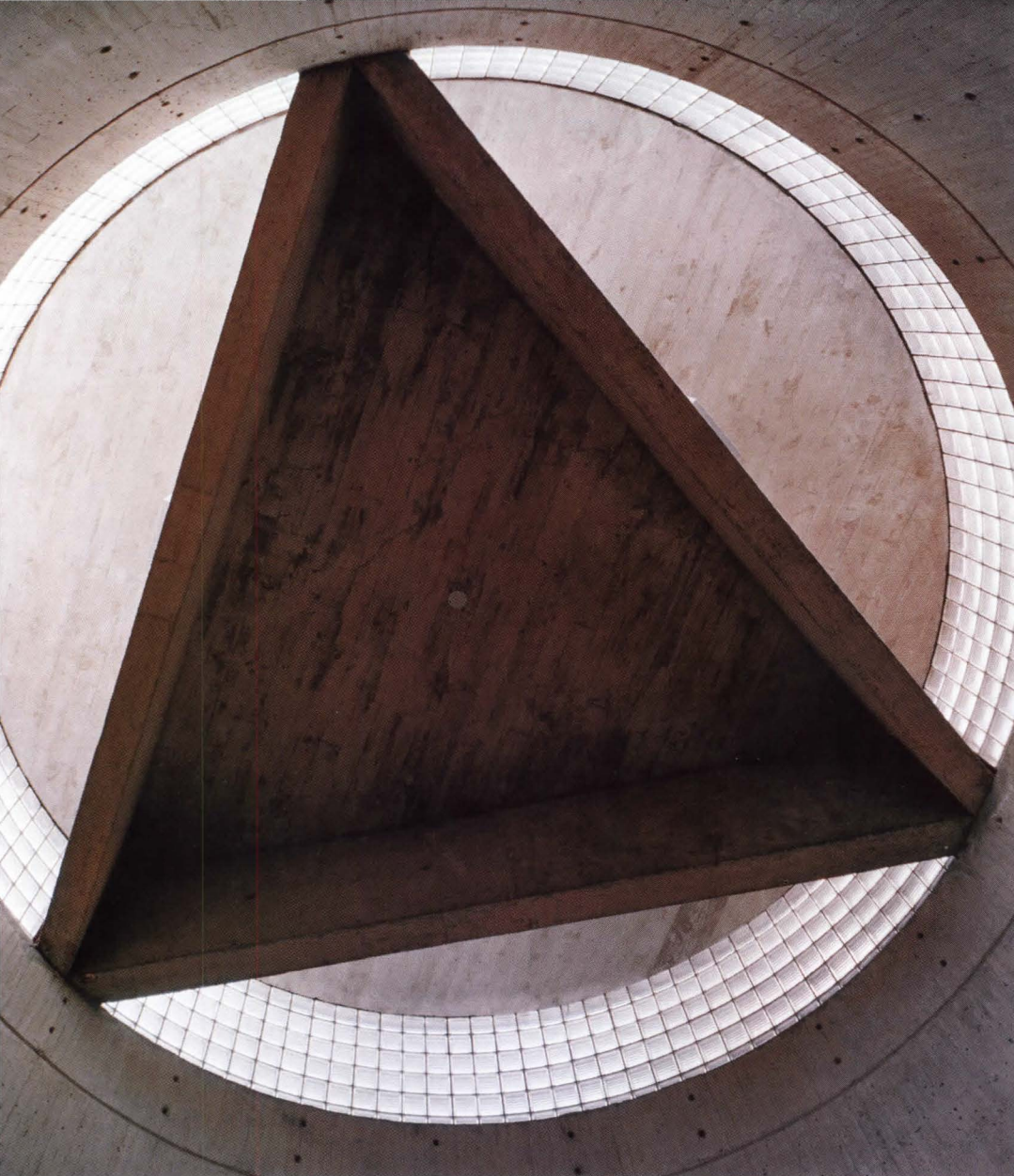


Kahn's design for the pogo walls (above) stipulated 5-foot-by-10-foot display panels with small feet at the top and bottom for easy moving. Not long after the gallery opened, however, staff put up more-permanent barriers that carved up the rooms and blocked light. The new pogo walls (below) conform to the dimensions of the originals but weigh less and are sturdier.

Capping the cylindrical stairwell is a triangular concrete slab (right), proof of Kahn's growing interest in monumentality and the power of geometric forms.

YALE UNIVERSITY ART GALLERY/PHOTO: ELIZABETH FEUERLICH





POLSHEK PARTNERSHIP ARCHITECTS



The Polshek Partnership team included (above, left to right) Lloyd DesBrisay, Duncan Hazard, Charmian Place, Steven Peppas, and Gary Anderson.

PROJECT CREDITS

Gallery Staff and Consultants

Project Director: Louisa Cunningham, deputy director of finance and administration

Renovation Project Manager: Leslie Myers

Exhibition Design: Staples & Charles

Wayfinding Design: Open

Gallery and Lobby Lighting: Hefferan Partnership Lighting Design

Art Storage: Biblio Design

Lobby Design: Joel Sanders Architect

Lobby Media Design: Art Guild

Lobby Millwork: Art Guild

Conservation Environment Consulting: Garrison/Lull

Yale University Office of Facilities, Construction, and Renovation Staff

Project Manager: Mark Malkin

Architect: Polshek Partnership Architects

Partner in Charge: Duncan R. Hazard

Design Partners: James S. Polshek, Richard Olcott

Project Manager: Steven Peppas

Project Architect: Lloyd L. DesBrisay (construction phase)

Project Architect: Robert Condon (design phase)

Senior Technical Detailer: Gary Anderson

Interior Design: Charmian Place

Polshek Partnership Consultants:

Structural Engineer: Robert Silman Associates, P.C.

Mechanical Engineer: Altieri Sebor Wieber

Cost Estimating: Wolf and Co.

Specifications: Robert Schwartz & Associates

Acoustics/AV/Telecommunications: Shen Milsom & Wilke

Building Code: Hughes Associates

Elevators: Van Deusen & Associates

Food Service: Romano Gatland Food Service Consultants & Planners

Landscape: Towers/Golde

Preservation: David DeLong

Lighting: Fisher Marantz Stone

Security: Ducibella Venter & Santore Architects

Exterior Diagnostics/Design: James R. Gainfort

Exterior Wall Consultant: Gordon H. Smith Corp.

Construction Manager: Barr & Barr Builders

Barr & Barr Subcontractors:

HVAC and Plumbing: Enterprise Plumbing and Heating

Glass Window Wall: Curtainwall & Windows

Electrical: Paul Dinto Electrical Contractors

Fire Protection: M.J. Daly & Sons

Elevator: Hontz Elevator Co.

Sitework: Joseph F. Kelly Co.

Millwork: Legere Group

Masonry: NER Construction

Drywall: S.G. Millazzo Co.

MOST EVERYONE, AT SOME POINT IN LIFE, experiences an emergency room. For me, it was a gash on my forehead in the ninth grade that required stitches. By the time my mother and I navigated our way through the parking garage, past baffling signage and the triage station, and finally landed in the waiting area, we had decided that the confusion was a way for the hospital to weed out patients—if you expired before reaching the doctors, they probably couldn't have helped you anyway.

Today, all of that is changing. As construction and renovation in the u.s. health care sector booms—it was a \$41 billion industry in 2006—hospitals, and the architects who design them, must keep up with the latest research and technology if they want to stay competitive. From the mounting needs of aging baby boomers to the replacement of old infrastructure with all-digital facilities, market demands could push yearly health care construction to \$60.1 billion by 2010.

Evidence-based design

Many of the advances in health care design today can be found in the emergency and trauma departments, where fast, effective service is paramount. Jim Crispino, president of Philadelphia-based firm Francis Cauffman, believes that the emergency department, or E.D. (the proper name for the E.R.), is a critical component of a hospital's overall success. Increasingly, the E.D. is the point of entry for patients, constituting their first experience in the hospital environment.

Crispino, who has been designing health care facilities for 20 years, says that the emergency department is fast becoming the hospital's new front door. "Usually for a regional medical center or a community hospital, 25 to 30 percent of people go to the emergency department first," he says. "Of the people admitted to the hospital, over 50 percent are generally coming in from the emergency department." As a result, notes Crispino, "clients are rethinking the relationship of the emergency department to the rest of the hospital."

Francis Cauffman (which does 65 percent of its work in the health care sector) employs research staff to conduct independent studies on how the physical environment impacts patient outcomes and staff efficiency, from minimizing medical errors to improving patient well-being. This research-intensive approach, known as evidence-based design, is gaining momentum: At the International Conference and Exhibition on Health Facility Planning, Design, and Construction held in San Antonio in February, much of the program was dedicated to educating professionals on the uses and benefits of evidence-based strategies.

"For many clients, evidence-based design is becoming an expectation," says Debra Levin, president of the

In the emergency department at F.F. Thompson Hospital in Canandaigua, N.Y. (right), architects with Francis Cauffman employed the latest innovations in evidence-based design, including color-coded storage cabinets on wheels. Each color represents the kind of medical





RETHINKING THE

EVIDENCE-BASED
DESIGN MAKES THE
CROWDED, CHAOTIC
EMERGENCY ROOM A
THING OF THE PAST.

ER.

Text Elizabeth A. Evitts

Center for Health Design. In her 18 years at the nonprofit organization, which funds research, education, and advocacy on how the built environment affects health care outcomes, Levin has watched evidence-based design go from a small discipline at the fringes to a client necessity. "Clients don't always know exactly what it is or what it looks like, they just know they need it," she says.

Decentralization

For the emergency department at F.F. Thompson Hospital in Canandaigua, N.Y., Francis Cauffman employed a number of research-based design strategies. Some focus on staff and patient well-being: Natural light, a rarity in an E.D., is admitted to all public spaces, treatment rooms, and staff work spaces. The patient treatment areas are private, and each has an individual thermostat that can be controlled by the patient or a family member. Gone are the cavernous waiting areas, replaced by more intimate spaces scattered throughout the department, where family members can wait, eat, or consult with physicians.

Decentralization is the new norm for staff areas as well. For instance, equipment is now stored in or outside of patient rooms, which cuts down on the time that staff spend looking for supplies. "Integration is the overriding theme influencing medical technologies," says Crispino. "Traditional boundaries between imaging, surgical, and related patient care technologies are breaking down."

Isolation

Isolation is also on the rise: At F.F. Thompson, the E.D. has an HVAC system separate from the rest of the hospital to prevent highly infectious diseases from spreading. Within the E.D., some individual rooms have an independent air-control system.

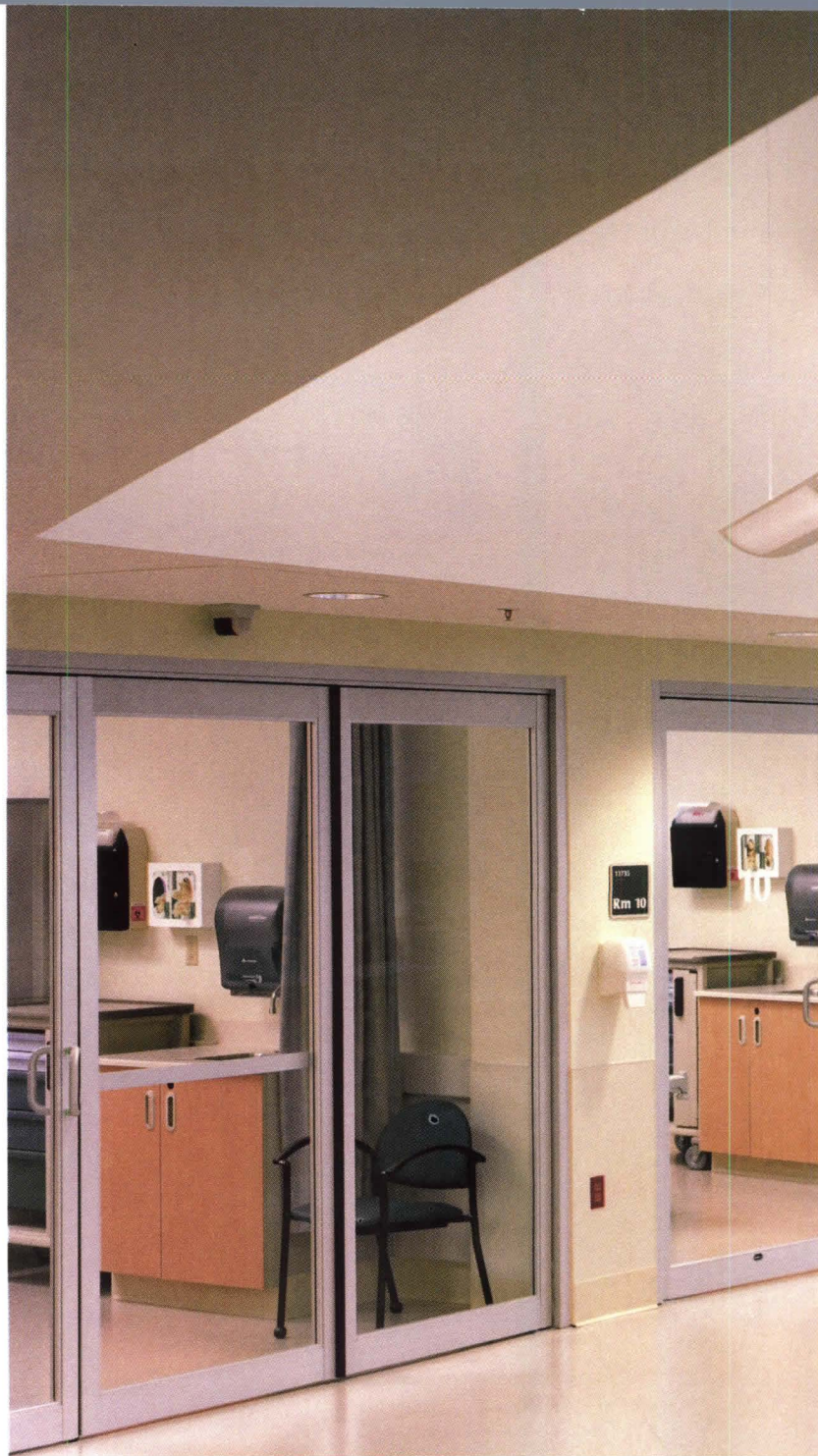
For the emergency department at Health Alliance's West Chester Medical Center in Cincinnati, currently under construction, RTKL proposed a design strategy based on the hospital's own advances in E.D. protocols. The hospital wanted to cut down on the time it took for patients to receive a diagnosis and treatment, so staff members devised a set of rules for responding to patient symptoms. If, for example, the patient comes in with chest pain, this kicks off a series of protocols that dictate tests and imaging before the doctor even arrives.

"The minute the hospital said it was protocol-driven, that led me to think of isolated pods, so that they could cohort specific patient profiles within those pods," says John Castorina, vice president and partner at RTKL.

Castorina and his team designed a main corridor, or "spine," to which three separate pods attach. Each pod houses eight private beds and all the supplies that physicians and nurses need to treat patients there. Each one has the capacity to function independently—shutting itself off from the rest of the E.D. in case of infectious-disease emergencies or dangerous psych patients—or to work in tandem with another pod.

Meanwhile, the main nursing and staff stations along the spine serve as the air traffic control, monitoring each of the pods and communicating patient needs as they develop. "Everything plugs into the spine," Castorina says. "[The pods] can work independently of each other but still see each other."

RTKL developed this concept after intensive consul-



At F.F. Thompson

(above), the architects added windows to let in natural light. Seamless flooring makes cleaning easier and prevents the spread of contagions.

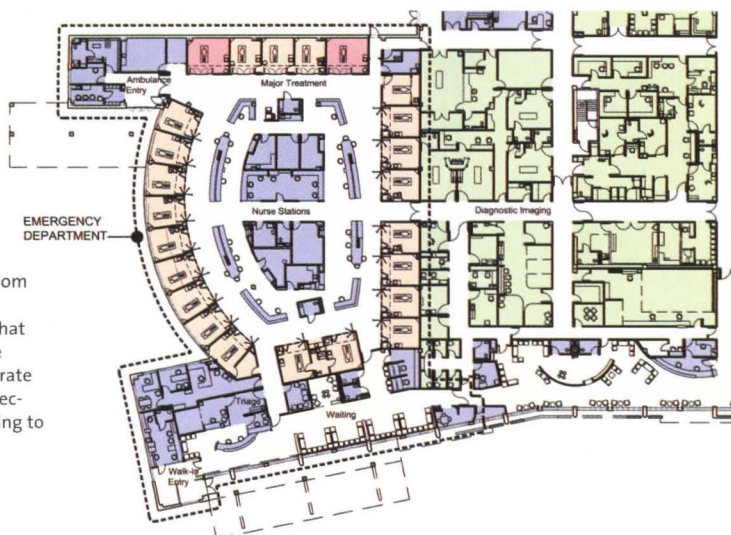
With nearly 50 per-

cent of patients being admitted to community hospitals through the emergency room, this department is increasingly considered a hospital's front door. At right, the entrance to F.F. Thompson's emergency department.





DON PEARCE PHOTOGRAPHY



FRANCIS CAUFFMAN

A plan of the emergency room shows the ring of private patient rooms (in orange) that encircles the staff area. The department runs on a separate HVAC system to prevent infectious diseases from spreading to the rest of the hospital.

have to react instantaneously, and their whole job is to stabilize and transport," Castorina says. "The most that we as architects can do is listen to what they have to say, interpret it for them, and show it to them."

Same-handed rooms

Understanding the needs of medical staff is crucial for health care architects. For HDR, based in Omaha, Neb., that means hiring employees with medical training, such as Cyndi McCullough, a vice president who was a practicing nurse before joining the firm 12 years ago.

When Metropolitan Health Hospital asked HDR to build a new facility in Wyoming, Mich., the client wanted to employ the latest in evidence-based design. "We used information from the Institute of Medicine on patient safety," McCullough says. "One of the things that came out of that was the same-handedness of the inpatient areas." Traditionally, hospital rooms mirror one another, as they do in a hotel. Same-handedness makes the layout of every room identical so that doctors and nurses can move through the space more intuitively, which makes errors less likely.

Nearly all of the E.D. rooms in the new Metro Health Village hospital will be same-handed, according to project architect Jim Ulrich of HDR. It's an expensive design proposition, since it requires individual plumbing for each unit. "There is significant research that shows same-handedness cuts down on mistakes," Ulrich says, "so that was a very large criterion from the client."

Going green

Another major goal was to become one of the few LEED-certified hospitals in the country. Metro Health Village—which is scheduled for completion in late 2007, at a cost of \$120.7 million—will be the first hospital in Wyoming built around an entirely green master plan and will feature a green roof and water-efficient landscaping. The E.D. will be outfitted with a sustainable line of furnishings and recyclable carpeting. Even the products used to clean the hospital will be green.

Marrying evidence-based research with the latest in green technologies is no small task in an emergency department. Sometimes, the two can be at odds: Same-handed rooms, for example, require more infrastructure and plumbing than traditional patient rooms. Meeting green-certification standards and hospital regulations can be a headache for architects. HDR used both LEED and the Green Guide for Health Care (a voluntary, self-certifying metric tool kit) as a guide.

"It's extremely hard to comply with all of the criteria for green building and still comply with health care regulations," Ulrich says. "But it's a stand-alone, brand-new hospital, so that made it worthwhile to try." And the client was willing to foot the expense. "The owner was very intent on going green," Ulrich adds.

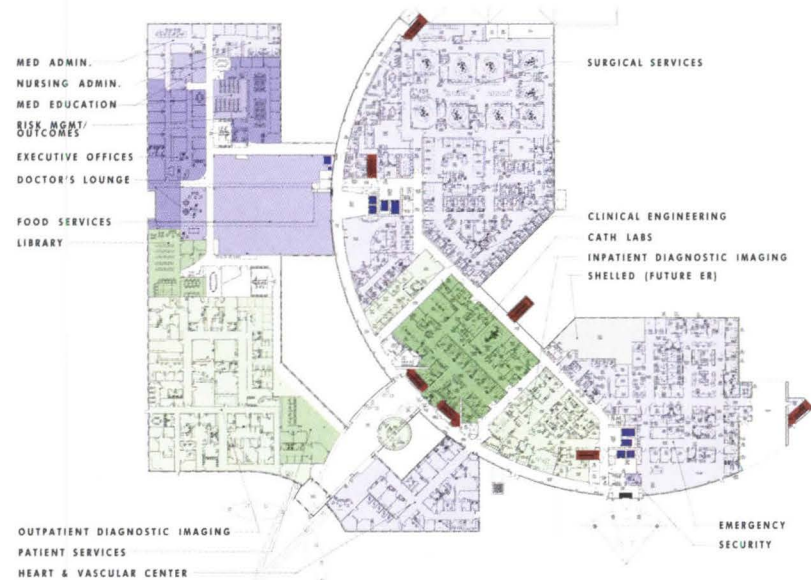
With clients and patients demanding more, the boom in health care promises to be a rich, and challenging, marketplace for architects. "Many people say that the only way for a great architect to have a great project is to have a great client," says Levin. "These days, it's a very educated group out there."

Elizabeth A. Evitts, former editor in chief of Baltimore's *Urbanite* magazine, writes about architecture, planning, and the built

The Metro Health Village in Wyoming, Mich. (plan shown below) is the first hospital in the state to apply for LEED certification. In the emergency department, architects at HDR used both green and

evidence-based design standards. Hospital interiors (emergency department shown in rendering below, center) will include materials like recyclable carpeting and renewable wood furniture.

The \$20.7 million Metro Health Village (bottom illustration), scheduled for completion later this year, will feature an expansive green roof that patient rooms will overlook.





The emergency room at West Chester, which will have its own highly visible sign (top right), has a decentralized layout (in red on plan, bottom right), with a main staff area serving as a "spine." Pods or clusters of private patient rooms will attach to it, each one equipped with the necessary medical supplies.

Health Alliance's West Chester Medical Center in Cincinnati (right) is scheduled for completion in 2008. RTKL based its design for the emergency department on the hospital's medical protocols.



ALL IMAGES THIS PAGE: RTKL

Everything Is



Illuminated

Text Vernon Mays Images Courtesy Thomas Phifer and Partners

THOMAS PHIFER HARNESSSES
THE POWER OF LIGHT TO
CONNECT BUILDINGS—AND THEIR
OCCUPANTS—WITH NATURE.





New York architect Thomas Phifer blends his buildings with the nature around them and has a profound sensitivity to light.

THOMAS PHIFER SPENDS HIS DAYS IN A WHITE WORLD—a loftlike office with white walls, white ceilings, white bookcases, and white shades on the windows. His staff works in a communal setting at computer terminals spaced regularly along 42-foot-long work tables, also white. The effect, even on heavily overcast days, is a soft glow inside the studio that seems to nurture and inform the everyday activities of architectural practice.

And that's how Phifer likes it.

After 11 years as head of his own practice—following a lengthy stint as senior partner at Richard Meier and Partners, during which he directed 27 major commissions—Phifer is producing significant public and private buildings under the shingle of his own New York firm, Thomas Phifer and Partners. Completed projects include the Workstage office building prototype for furniture company Steelcase in Grand Rapids, Mich., and the Taghkanic House in Taghkanic, N.Y., a graceful steel-and-glass pavilion set amid trees. A compelling slate of works in progress includes a sculptural office tower in Seoul, South Korea; conversion of the landmark Castle Clinton in Lower Manhattan, N.Y., into a performing arts venue; and a new U.S. courthouse in Salt Lake City, procured under the GSA Design Excellence Program.

In each case, Phifer and his partners—Don Cox, Greg Reaves, and Steve Dayton—demonstrate a profound sensitivity to light and produce architecture that is comprised determinedly of simple but sophisticated gestures. “We consciously aim for simplicity,” he says, “because it is our experience that simplicity leads to economy, efficiency, and improved performance.” But don't let that language fool you: Phifer is not the kind of designer who focuses unduly on shading coefficients and BRVS at the expense of aesthetics. Deep down, he is all about the art.

A South Carolina native who received his architectural education at Clemson University, Phifer migrated to New York, where he apprenticed at Gwathmey Siegel and Associates before moving to Meier's office in 1986. He credits his work on buildings in Europe with elevating his respect for the importance of environmental factors in design. “The laws there require you to put people close to windows so that they can get natural light and natural ventilation,” he explains. That experience made Phifer pay attention to lowering heating and cooling loads, using new strategies to shade buildings, and harnessing the earth's geothermal resources. As a result, he says, “we take our cues from the environment.”

From small-scale projects, such as the Spencertown House—a residence in upstate New York that won a 2007 Honor Award from the American Institute of Architects—to impressive institutional complexes, such as the North Carolina Museum of Art, now under construction in Raleigh, N.C., Phifer constantly strives to merge his buildings with the natural landscape.

“For so long, buildings were brutal—they cut people off from nature,” he says. “What we want to do is to open that experience up to the changing atmosphere of the light, the changing seasons, the changing time, so that you mark time through changing light. It really is all about light, and how to get people to be part of their own environment.”

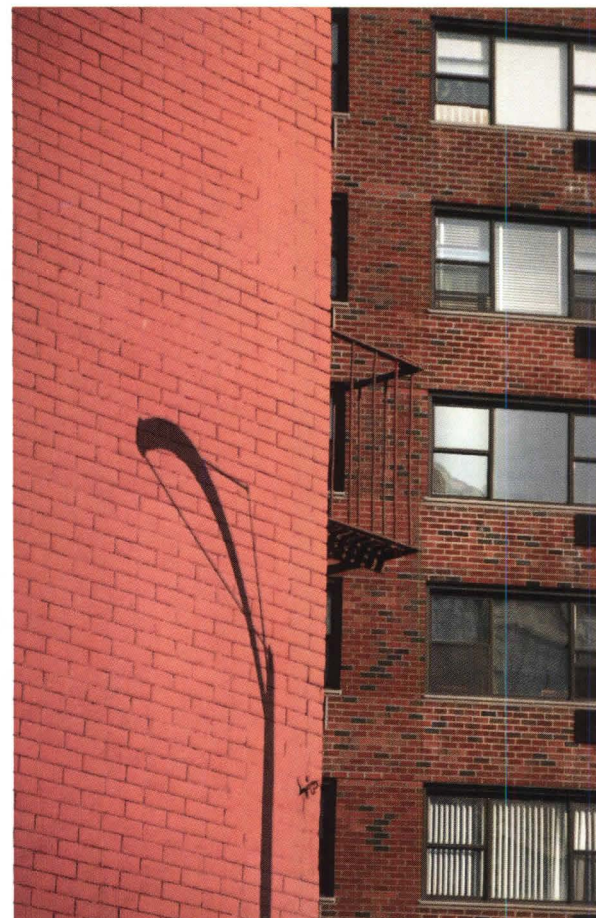
Clearly, Phifer's interest in light is a means to achieve the broader goal of buildings that strike a balance between the natural and the man-made. And to create architecture that is truly molded by environmental determinants, Phifer insists on a different process. “It can't be done within the tradition of architect as autocrat. The requisite know-how is too complex, the necessary skills too diverse,” he says.

His solution, then, is to create an egalitarian, collaborative process involving practitioners from a variety of disciplines, from structural engineers to materials researchers to ecological scientists—even manufacturers, whom he says have too often been kept out of initial problem solving. Referring to the North Carolina Museum of Art, he says. “We couldn't have made the museum alone. So collaboration

City Lights Design Competition, New York

More than 200 designers submitted entries to an international competition, staged in 2004 by the City of New York, for a new streetlight design that would enhance the city's dated catalog of street-lighting options. The winning proposal—and ideas for its fabrication and installation, developed during a finalist phase—came from an interdisciplinary team headed by Phifer's firm.

Until then, the city's 40-year-old standard had been the ubiquitous “cobra head” die-cast aluminum luminaire. Phifer's team proposed a sleek, cast-aluminum arm fixed atop an extruded aluminum pole—a graceful marriage of function and aesthetics. The pole's organically shaped extrusion integrates eight slots that serve as continuous attachment rails for street signs, traffic signs, additional lighting, traffic signals, traffic control boxes, or pedestrian call buttons. The streetlight's base and access door also were retooled for ease of maintenance, but



the key innovation was the use of LEDs (light-emitting diodes) and photovoltaics. "Rather than participating in a contest that was only about aesthetics, we wanted to make a technical innovation," Phifer explains.

LEDs offer many advantages. Phifer's team recommended a modular system, with four linear segments of LED arrays grouped together with simple connections. Each segment has its own acrylic optical lens to distribute light. "We found that by having the LEDs in a line, we could get incredible coverage of the street," says Phifer. Maintenance costs are lowered because the lamps are long-lasting (15 to 20 years) and use less electricity. The modular design will also allow segments to be replaced easily as LED technology advances.

Collaborating with the engineering firm Transsolar, the team developed a transparent polycarbonate sunray collector sheet to be placed above the luminaire housing. In theory, Phifer says, the photovoltaic system could

feed energy into the power grid during the day and consume an equal or lesser amount at night. It's a forward-looking idea, because as the costs of photovoltaic panels decrease and nonrenewable energy resources deplete, solar panel use will become common. "We are right on the cutting edge," Phifer says. "Every week that goes by, the technology moves further ahead." Under current city government plans, the fixtures will be installed at the World Trade Center site and then at Lincoln Center before they pop up elsewhere in New York.

Project: City Lights Design Competition, New York

Architect: Thomas Phifer and Partners, New York—Thomas Phifer (principal); Christoph Timm, Michael Fei, Joseph Sevene (design team)

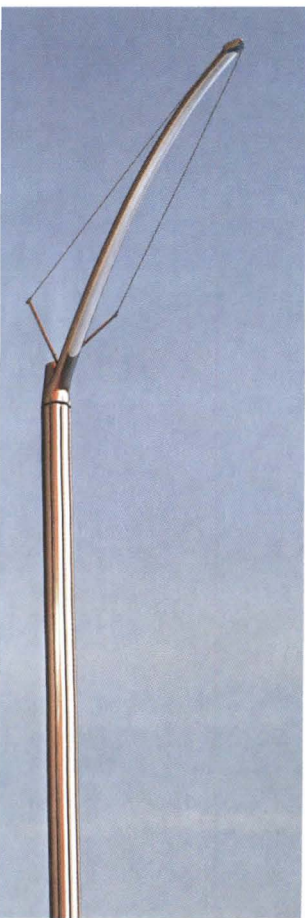
Structural Engineer: Werner Sobek New York, New York—Werner Sobek (principal); Wolfgang Rudolph (project engineer)

Lighting Design: Office for Visual Interaction—Jean Sundin, Enrique Peiniger (principals)

A photovoltaic option for the streetlight would minimize energy consumption as the technology improves. The proposed system maximizes the efficiency of the limited surface area of the photovoltaic cells by using two light scoops (shown in red, left).

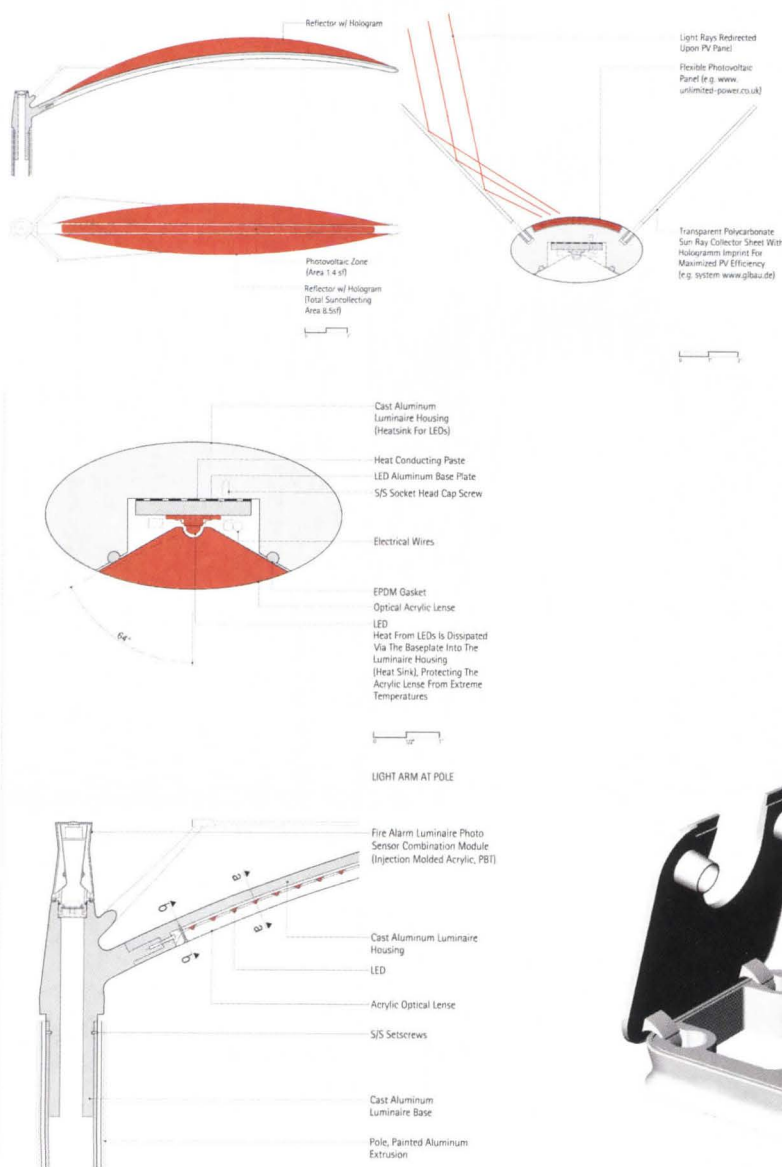
The fixture's cast-aluminum luminaire housing functions as a heat sink, protecting the acrylic optical lens from extreme temperatures (middle left). The luminaire base slips snugly into the top of the extruded aluminum pole and is secured with stainless steel setscrews (bottom left).

The base of the streetlight (below) has an asymmetrical design to allow for ergonomic, efficient installation and wiring. Durability is another goal: All parts are high-pressure case aluminum with a painted finish. Bolts and wiring are enclosed by an access door with a sloping top surface for water runoff.



For the City Lights competition, Phifer's team devised a sleek, cast-aluminum arm fixed atop an extruded aluminum pole (above), marrying function and aesthetics.

As opposed to a single lamp located at the end of the arm, a linear array of LED lamps (left) will provide greater light coverage on the street.



Light

North Carolina Museum of Art, Raleigh, N.C.

Having quickly outgrown the facility designed by Edward Durrell Stone and finished after his death in 1983, leaders of the North Carolina Museum of Art began hatching a plan seven years ago to replace it—or at least relegate it to secondary status. They conducted an international search for an architect to design a major expansion, and in 2002 Phifer emerged as the selection committee's top choice. His plan for an austere pavilion—long, low, and rectangular, wrapped in a skin of satin-finished steel and topped with an undulating roof punctured by skylights—is now taking shape at a cost of \$62 million (for the building and surrounding landscape).

The museum's matrix of skylights (below), expressed on the roof as an undulating surface, brings an awareness of nature into the galleries through highly engineered, glass-enclosed oculi.

When completed in 2009, the new building will provide 45 percent more exhibition space for the museum's collection. Yet for all its 127,000 square feet, it will rise just 26 feet high, a softly luminous volume with abstract reflections of land and sky on its metallic surface.

"Instead of using glass, we are investigating how steel can actually be used to create an ethereal effect," Phifer explains. To give the stainless steel panels a uniform satin finish, Phifer plans to bead-blast them—bombarding them with glass beads to soften their appearance.

By allowing fingerlike gardens to penetrate the museum's rectangular footprint, Phifer is striving to blend architecture with nature. "That's the reason we are trying to find a material that will begin to absorb nature, rather than sticking an object in the landscape," he says. "We are trying to find something that reacts and changes in the light, rather than something that simply is the same in all light."

The one-story-high scheme stemmed from a desire to create ideal viewing conditions for the art. Phifer wanted contemplative spaces defined by good proportions, human scale, connections to nature, and controlled natural light. "A single-story building allowed us



to deliver the maximum amount of all of these attributes, especially controlled top light," he says.

Indeed, the linchpin of the gallery design is the dynamic ceiling, formed by a matrix of fiberglass coffer, each approximately 26 feet by 6½ feet. For more than 18 months, Phifer collaborated with daylighting engineers at Arup to fine-tune the coffer design. Almost 100 computer-generated models were studied before arriving at the optimal curved shape of the coffer and the 4-foot-by-6-foot size of the elliptical oculus—the goal being gentle, uniform illumination. A defining architectural feature, the coffers will also lend order to the gallery space.

Project: North Carolina Museum of Art, Raleigh, N.C.

Design Architect: Thomas Phifer and Partners, New York—Thomas Phifer (principal); Greg Reaves (project partner); Gabriel Smith, (project architect); Christoph Timm, Adam Ruffin, Katie Bennett, Kerim Demirkan, Len Lopate, Jon Benner, Joseph Sevene, Daniel Taft, Rebecca Garnett (design team)

Executive Architect: Pearce Brinkley Cease + Lee, Raleigh—Jeffrey Lee, Clymer Cease (principals); David Francis (project architect); Matt Konar, Juliette Dolle, Henry Newell, David Lehman (design team)

Landscape Architect: Peter Walker and Partners, Berkeley, Calif.—Peter Walker (principal); Sarah Kuehl (project partner); Daphne Edwards, Michael Oser, Paul Sieron, Michael Dellis (design team)

Executive Landscape Architect: Lappas + Havener, Durham, N.C.—Walter R. Havener (principal); Jesse Turner (landscape designer)

Structural Engineers: Lasater Hopkins Chang, Raleigh—Skidmore, Owings and Merrill, Chicago

Mechanical Engineers: Stanford White and Associates, Raleigh—Altieri Sebor Weiber, Norwalk, Conn.

Civil Engineers: Kimley-Horn Associates, Raleigh—ArtifexED, Denver

Daylight Engineers: Arup, London, UK/New York

Electric Lighting: Fisher Marantz Stone, New York

Acoustics: Creative Acoustics, Westport, Conn.

Security: Risk Management Associates, Raleigh—James J. Davis and Associates, Fort Washington, Md.

Food Service: William Caruso & Associates, Englewood, Colo.

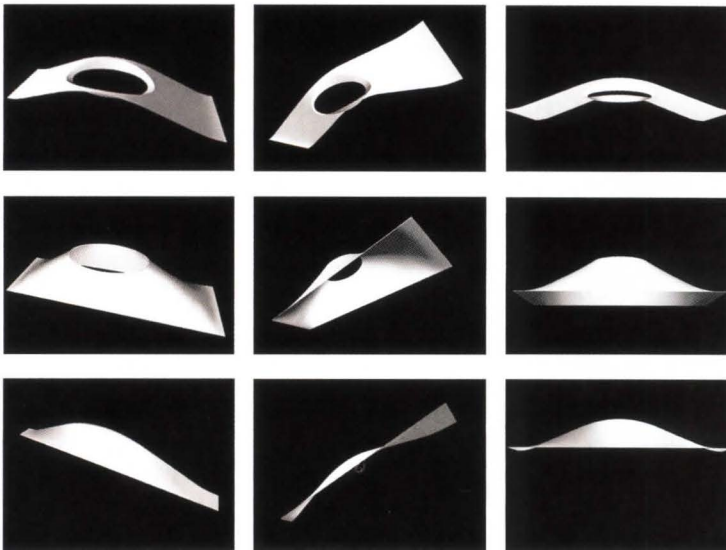
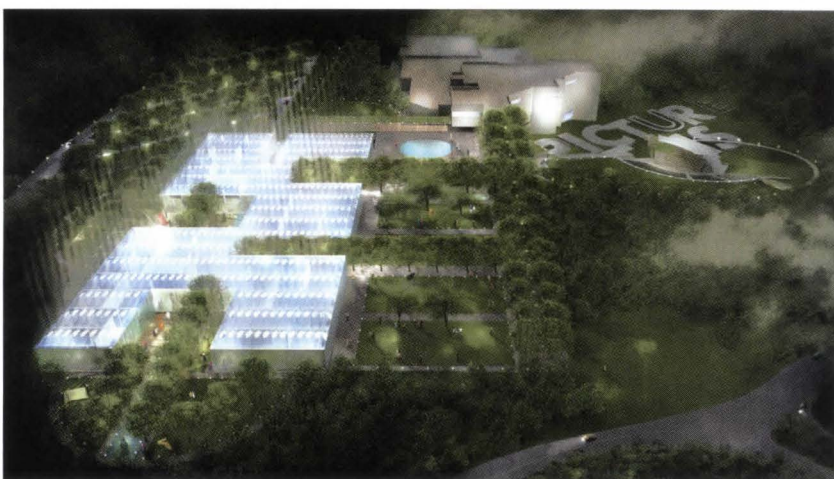
Construction Management: Barnhill/Centex, Raleigh



New galleries will be contained in a single, 26-foot-tall story (above), wrapped in a warm-toned, satin-finish stainless steel that softly reflects the landscape.

This bird's-eye view of the entire museum campus (right) shows the simplicity of the form and how the landscape penetrates the building with finger-like projections.

Working in Rhino software, the design team studied dozens of forms to refine the roof panels (below right, top row), coffers (middle row), and end panels (bottom row).



Light

Boulder House, Boulder, Colo.

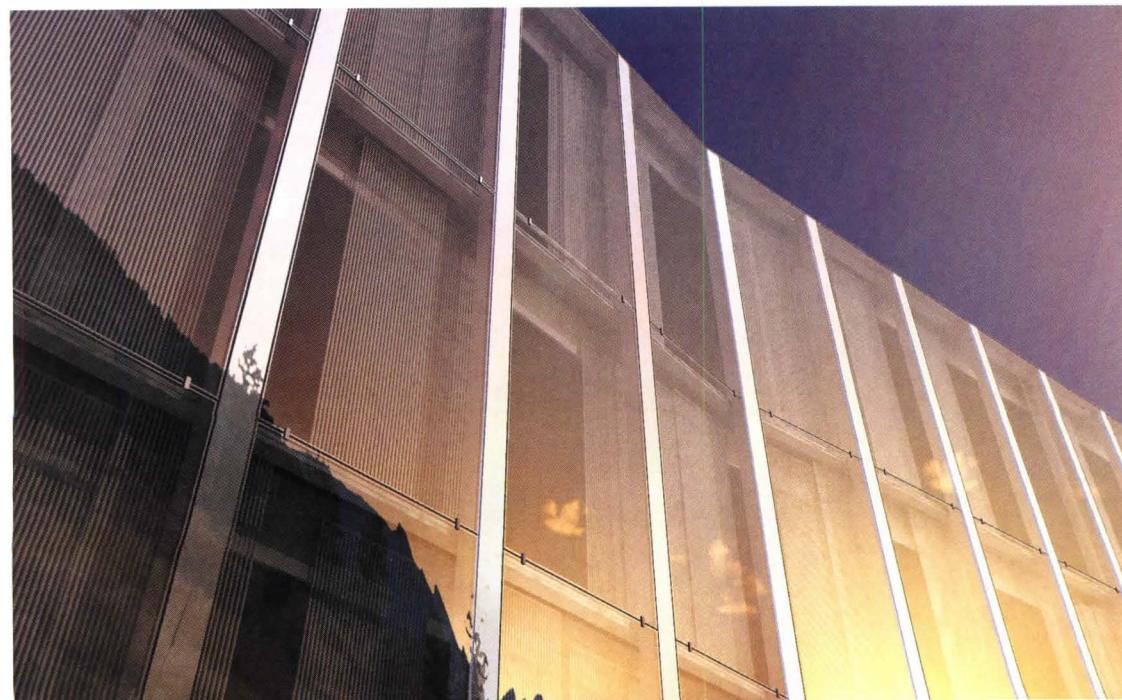
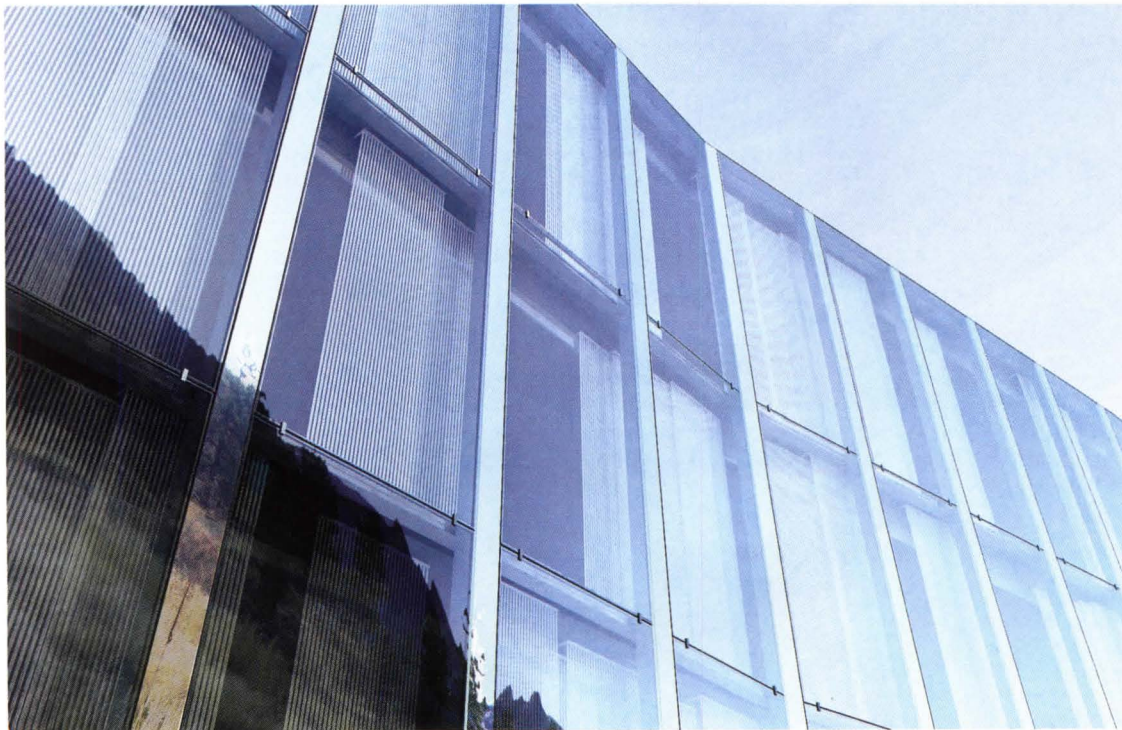
This house overlooking Boulder rests just below the "blue line," the highest allowable elevation for construction on the slopes above the city. Set among large rock outcroppings, the house is conceived as a shimmering, faceted crystal emerging from the landscape. Says Phifer: "We saw how glass has a wonderful quality to reflect nature, and we also saw this irregular shape as something that responded in an abstract way to the natural surroundings."

The 3,800-square-foot, three-level residence is wedged into the slope, with an entry hall, a large study, and an exercise room on the lowest floor and a master

bedroom suite and library on the second level. The upper floor, which affords panoramic views in all directions, is a fully open plan containing the kitchen, dining, and living spaces. Boulder's stringent zoning code limits the amount of shadow cast by the house, which placed tight constraints on the overall volume.

The house's exterior is a simple, flush-glazed window wall that combines 6-foot-wide, full-height viewing panels with operable ventilation panels in between. Natural light is a key determinant in the design. An interior system of layered rolling shades will not only control privacy and views, it will transform the house's appearance inside and out. Each

Studies of the glass façade during daylight hours (below) and at dusk (bottom) helped predict the variations in light reflectivity caused by the building form, its cladding, and the interior shading system.



The house will be anchored in the hillside like a faceted crystal (above), with sliding steel-rod screens inside to control privacy and views.

Living spaces are on the third floor (right), where the open plan and low-profile kitchen cabinets will allow sweeping views.

Glass panels (far right) will obscure the spandrels, giving the appearance of a thin roof. In fact, the roof will accommodate 6 inches of soil planted with drought-resistant sedum.

shade is a 2-foot-wide panel made of tightly spaced, ¼-inch-diameter stainless steel rods. The panels will have densities that vary according to their orientation to the sun. For example, the densest panels will be on the south-facing façade to block heat and light; panels along the north, east, and west walls will be more open to allow for direct views.

Seen from outside, the shading system will appear as a shimmering scrim with an ever-changing pattern altered by the owner's activity and whim. "When you move those shades, the character of the architecture will constantly change depending on the light, the shading, the time of year, and the amount

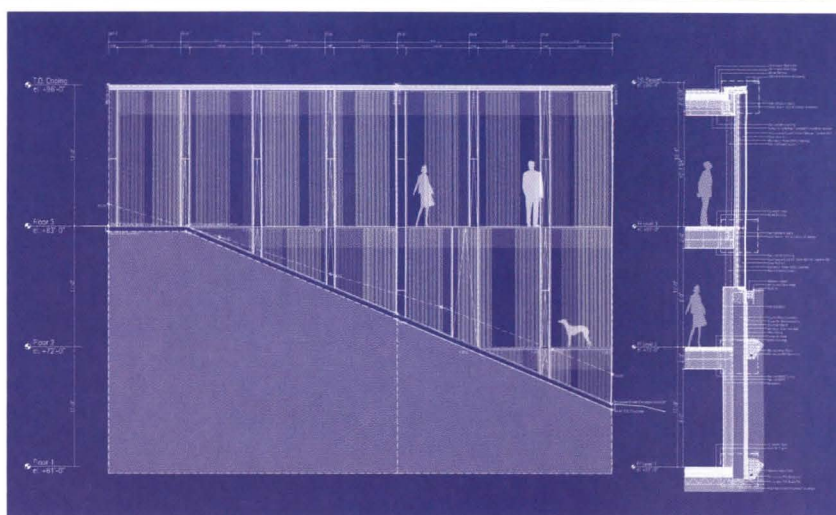
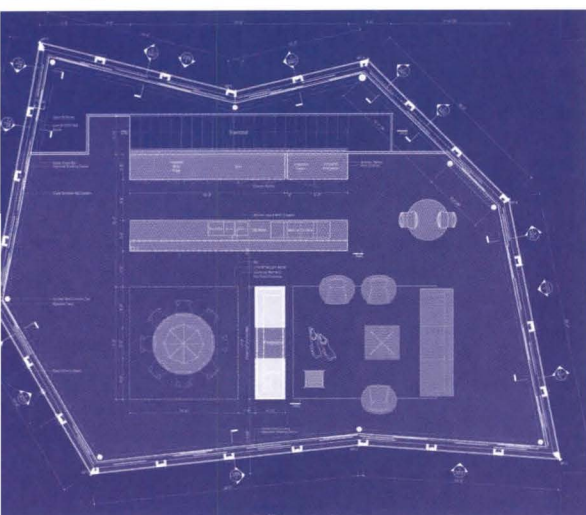
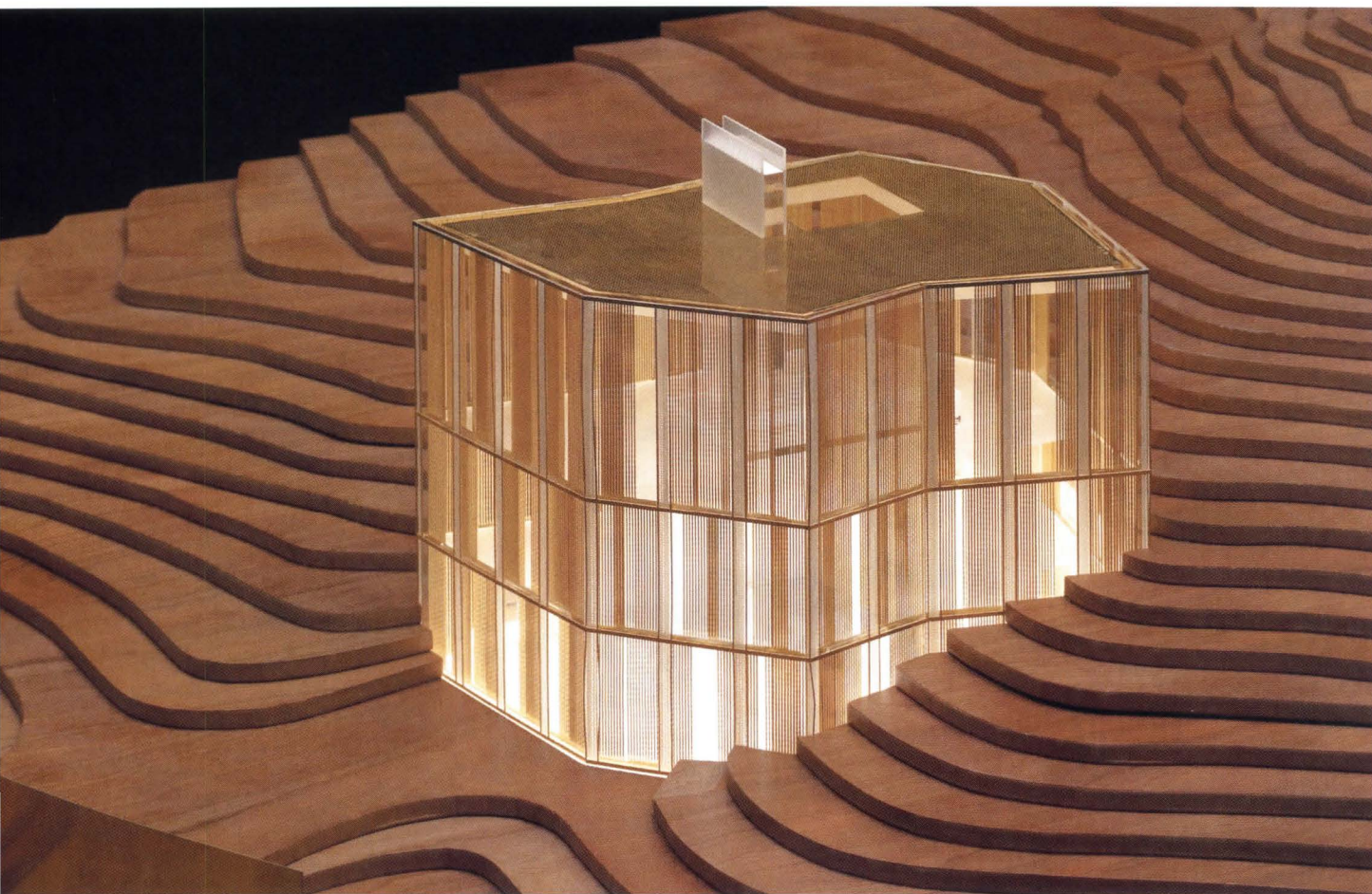
of privacy the owners want," Phifer explains. With construction now under way, the house is scheduled for completion in spring 2008.

Project: Boulder House, Boulder, Colo.

Architect: Thomas Phifer and Partners, New York—Thomas Phifer (principal); Greg Reaves (project partner); Thierry Landis (project architect); Joseph Sevene, Amanda Dickson, Ina Ko, Ryan Indovina, Daniel Taft, Jon Benner, Joe Chase, Patrick Delahoy (design team)

Structural Engineer: Gebau Engineering, Boulder—John Arndt (principal)

Contractor: Harrington Homes, Boulder—Tim Harrington (owner)





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DESIGNING WITH SOLID SURFACE

How, why and where to install solid surface material.

By Angela Sarkis



Solid surface is a durable, elegant and long-lasting material for countertops and so much more. Smooth to the touch, but tough at the same time, solid surface is resistant to heat, moisture, bacteria and chemicals.



You've likely encountered a solid surface or two today – your kitchen countertop at home, perhaps the conference room table or reception desk at the office. Look around. There are reasons solid surface is used so frequently.

Solid surface is most commonly specified as residential countertops. Its elegance, formability and longevity, however, have made solid surface the first choice for many other architectural applications. Smooth to the touch, but tough at the same time, solid surface is a homogenous, durable acrylic material ideal for countertops and vanities, sinks and tub surrounds, desks, backsplashes and more, in residential and commercial interiors.

Solid surface is safe to use around cook tops, food preparation areas, in healthcare facilities and in bathrooms because it is nonporous and naturally resistant to heat, moisture and bacteria. It is an affordable luxury with unlimited aesthetic options – from custom colors to palettes inspired by volcanic rock .

This learning unit explores solid surface from the ground up – its composition, aesthetics, its many varied uses and ease of maintenance. The accompanying online supplement expands upon these details.

COMPOSITION

Solid Surface includes four main ingredients:

- Filler
- Binder
- Pigments
- Particulates

The filler of choice for most solid surfaces is Aluminum Trihydrate (ATH), a natural mineral that comprises 40-70 percent of the material. ATH is extracted from bauxite ore using the Bayer process, which, according to the International Aluminum Institute, is a precipitation process that has changed very little since its invention by the Australian chemist Karl Bayer in 1888.

ATH gives solid surface its chemical- and stain-resistance, and makes it waterproof. ATH produces solid surface hard enough to give superb impact-resistance, but “soft” enough to be machinable like wood.

A binder, or syrup-like resin, is added to hold the ingredients together. The two main families of resin used to make solid surface are acrylic and polyester. A purely acrylic-based resin yields a thermoformable solid surface, that is, it can be heated, bent to a new shape, and cooled with no affect on its performance characteristics. Additionally, acrylics are also unaffected by the ultraviolet rays in natural light, so acrylic-based solid surface will not fade during prolonged exposure to sunlight.

LEARNING OBJECTIVES

This article covers the performance and aesthetic benefits of solid surface, as well as recommendations for application in homes, restaurants, offices, healthcare facilities and elsewhere.

The learner will be able to:

- Describe the composition of solid surfaces materials
- Understand the aesthetic options available when designing with solid surface
- List the common applications for solid surface
- Recognize the performance benefits of solid surface, including its durability, heat- and moisture-resistance and low maintenance

ARCHITECT MAGAZINE CONTINUING EDUCATION

This course requires supplemental online reading in addition to the following article. For details on accessing the supplemental reading and to learn how to take the test, please see page 89.

Polyester resins are better suited for more demanding applications found on boats, aircraft cowlings and other outdoor applications. Solid surface products made with polyester resins are generally not considered thermoformable.

Colorfast pigments are mixed with particulates to achieve a vast range of uniform colors and patterns. Particulates are chips of solid surface material that are ground up into small, medium and large pieces, and then added back into the mix for whatever final color is being produced. For 100 percent acrylic solid surface, the particulates are also 100 percent acrylic. Likewise, for 100 percent polyester solid surface, the particulates are also 100 percent polyester. Polyester-filled solid surface, however, can feature either polyester or acrylic particulates.

The four ingredients are combined and then poured into a mold that forms a flat sheet or other shape. These can be thermoformed and machined to meet the design aesthetic of countless applications.

AESTHETICS

Solid surface can add spicy warmth or clean cool texture to a room. Its smooth feel and deep, rich, color palette make solid surface a welcome complement to any design. With solid surface, there is no need to sacrifice beauty for performance requirements. In high-traffic, hazardous applications such as operating rooms, hotel reception desks and food preparation areas, solid surfaces clean up like new even after the most intense day.

COLOR

Available in an unlimited array of standard and custom colors and patterns, solid surface can match any design motif. Simple solid colors round out a full palette of design options, as you can see in the color chips to the right.

UNIFORMITY

Solid surface is homogenous, meaning it has uniform color and texture throughout. Unlike laminate surfaces, if you cut through solid surface, you'll find the same grain from top to bottom with no interruption. For that reason, solid surface can be cut and machined like wood. Corners can be mitered and most scratches can simply be buffed or sanded out.

REPARABILITY

Solid surface materials are engineered to withstand most hazards, but like all fine materials, damage may occur. Luckily, due to its homogeneity, solid



surface is renewable. Most minor knife cuts, chips, stubborn stains and scorches can be repaired with little to no effect on the appearance of your solid surface. Repairs are made by sanding or buffing the imperfection with sandpaper or an abrasive cleanser. This process may require special tooling and expertise and should be left to a certified fabricator/installer if necessary.

FINISH OPTIONS

No matter what the composition, solid surface finish options range from matte, to satin, to high-gloss and everything in between. Dark colors and patterns will show ordinary wear and tear more readily than lighter colors and patterns and will require periodic professional maintenance to sustain its original look. Nonetheless, maintenance for all solid surfaces is minimal.

SEAMLESS INSTALLATION

Another aesthetic benefit to solid surface is that seams between sections can be inconspicuous or even nonexistent. Unlike stone, wood, tile or laminates, solid surface requires no seams or grout lines, so your countertop, bar or backsplash looks continuous, which is ideal both for beauty and cleanliness. If seams cannot be avoided, color-match adhesives and special sealants should be used by a fabrication/installation professional. Adhesives are specially designed by the manufacturer for their type of sheet.

APPLICATIONS

Its unique balance of beauty and performance inspires imaginative uses of solid surface in many types of architectural applications. Aesthetically, there is a solid surface to match any design

SOLID SURFACES VS. OTHER SURFACES

	Solid Surfaces	Granite Surfaces	Plastic Surfaces
Heat Resistant	Yes	No	No
Scratch Resistant	Yes	No	No
Stain Resistant	Yes	No	Yes
Mold and Mildew Resistant	Yes	No	Yes
Chip and Crack Resistant	Yes	No	Yes
Resistant to Chemicals, Acids and Solvents	Yes	No	No
Immune to Freezing and Thawing	Yes	No	No

DESIGNING WITH SOLID SURFACE



scheme. Functionally and due to its durability, solid surface will withstand heavy use and cleaning for decades. Following are the most common residential and commercial applications of solid surface materials.

RESTAURANTS AND KITCHENS: DURABLE

The hazards of the restaurant industry – among them spilled red wine and spray cleaner – are no match for solid surface. That's why solid surface is an ideal choice for table and bar tops, sinks, countertops, wet bars and backsplashes, even window sills in restaurants. At home, solid surface may encounter slightly different hazards – stacks of dirty dishes, hosts of appliances, heavy book bags and crayons – but can serve the same purposes. Also, thanks to competitive pricing, solid surface is a practical alternative to granite and marble.

Solid surface is nonporous, which means it will not absorb liquid from spills, cleansers or condensation. It will not promote the growth of bacteria or mold, so solid surface is safe, whether used by thousands of customers in a restaurant or a single family in a residential kitchen. Unlike laminates, solid surface will not warp or fade, and unlike stone, solid surface is less likely to stain or crack.

OFFICES: FUNCTIONAL

Solid surface offers an excellent return on investment when used in offices. A sensible

alternative to scratched wood or dirty laminate, solid surface is durable, easy to maintain and renewable, so it will last for years. Its clean, smooth and even appearance makes solid surface ideal for reception desks, transaction counters, and conference room tables. Choose from standard colors and patterns, or customize solid surface to match corporate branding elements or a design motif. Beyond color selection, make your solid surface truly unique by inlaying a logo into a flat surface, or creating multidimensional signage.

HEALTHCARE FACILITIES: NONPOROUS

Solid surface is nonporous and naturally resists bacteria and fungal growth, making it safe for use in healthcare facilities. Commonly used as countertops in patient care rooms, tabletops in waiting rooms and cafeterias, and walls in operating rooms, the solid surface you specify for healthcare facilities should be approved by the American National Standards Institute (ANSI) to withstand contact with the non-household chemicals often used in such spaces.

SCHOOLS: WEAR AND TEAR RESISTANT

Engineered to withstand the wear and tear of an active student lifestyle, solid surface appears brand new, year after year. Given the need for schools and their various accompanying facilities to be long-lasting while minimizing lifetime costs, it is necessary to specify a material that is durable, aesthetically pleasing and cost-effective. Solid

surface is ideal for academic applications including shower stalls, dormitories, laboratories, public restrooms, sinks and bowls, and even areas of prestige like the dean's office or campus library.

RESTROOMS: FLEXIBLE

Solid surface is versatile and formable and can be used in residential or public restrooms as flat or formed features. Most commonly applied as partitions, stall doors, vanity tops, tub and shower surrounds, and even as sinks, solid surfaces in bathrooms must meet specific ANSI performance standards. According to *Solid Surface Properties and Applications*, a reference guide produced by a panel of industry experts and posted on the International Cast Polymers Alliance, "Flexural strength is especially important in bathtubs and spas because of the amount of stress placed on the bottom by people standing in them and on the sides by water."

OTHER USES: VERSATILE

Solid Surface can also be used as shelving, windowsills or even floor tiles and stair treads. In these applications, special attention should be paid to color stability, hardness, impact resistance, and thermal expansion. Moisture-resistance is another major factor to consider when specifying solid surface for these applications. Window sills, for example, are subject to constant variations in heat and condensation. It is important that when a solid surface is measured for these types of applications, that thermal expansion and moisture penetration are considered. Although solid surface can be installed by a knowledgeable consumer, a certified solid surface professional must handle fabrication and installation for it to be considered under the warranty.

SOURCES

- Construction Specifications Institute (CSI)
- American National Standards Institute (ANSI)
- American Society for Testing and Materials (ASTM)
- International Solid Surface Fabricators Association (ISSFA)
- National Sanitation Foundation (NSF)

TO ACCESS SUPPLEMENTAL READING: Go to www.architectmagazine.com and select "Resources" then select "Continuing Education Center". There you can download PDF files of this course and the required supplemental information.

TAKE THE TEST ONLINE FOR FREE: New users must create a new account. Returning users may log in. After logging in, click on "My Courses". Then select this course title to launch your test. A score of 80% or higher earns 1 AIA/CES LU hour of credit. Valid for credit through March 2009.

TEST QUESTIONS

1. Because of its homogenous composition, solid surface...

- a. Can be machined like wood
- b. Is consistent in color and texture throughout each sheet
- c. Can only be applied in flat sheets
- d. All of the above
- e. Both a. and b.

2. Solid surface is resistant to which of the following?

- a. Heat
- b. Chemicals
- c. Mold and Mildew
- d. Freezing
- e. All of the above

3. True or False. The ingredients of solid surface are filler, binder, pigments and particulates.

- a. True
- b. False

4. What are particulates?

- a. The natural minerals that make solid surface waterproof
- b. Syrup-like resins
- c. Small, medium and large chips of solid surface material
- d. Color pigments

5. The filler of choice for most solid surfaces, Aluminum Trihydrate (ATH), comprises what percentage of the material?

- a. 10-30
- b. 40-70
- c. 50
- d. 80-90

6. Which type of solid surface filler produces a thermoformable material?

- a. Acrylic
- b. Polyester
- c. Plastic
- d. Resin

7. True or False. Solid surface can be installed both horizontally and vertically.

- a. True
- b. False

8. Solid surface can be formed into which of the following?

- a. Tub surrounds
- b. Vanities
- c. Sinks and bathtubs
- d. Partitions
- e. All of the above
- f. Both b. and d.

9. Which of the following materials are naturally resistant to bacteria and therefore ideal for installation in healthcare facilities?

- a. Wood
- b. Solid surface
- c. Laminate
- d. Stone

10. Most spills and stains can be removed with which of the following?

- a. Common household cleaners
- b. With the help of a certified fabricator/installer
- c. Strong acidic cleansers
- d. No cleanser should ever be used on solid surface



Designing With Solid Surface

You have the option of taking the test online free of charge or you may mail your test along with a check in the amount of \$10. A score of 80% or higher earns 1 AIA/CES LU hour of credit. Certificates of completion are available upon request and delivered by email.

test>	1.	a	b	c	d	e	6.	a	b	c	d
	2.	a	b	c	d	e	7.	a	b		
	3.	a	b				8.	a	b	c	d e f
	4.	a	b	c	d		9.	a	b	c	d
	5.	a	b	c	d		10.	a	b	c	d



MAIL-IN TEST: Photocopy this page. Clearly circle the letter of the correct answers. Mail this test with the completed form and check for \$10, payable to ArchitectCES, to:

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CULTURE

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OBJECT LESSON

Scandinavian Seating

Hans Wegner's designs represent an alternative modern aesthetic

IT IS NOT A STRETCH to say that Hans Wegner joined the words "Danish" and "modern" as efficiently as he combined pieces of wood to make elegant chairs.

Wegner, who was 92 when he died Jan. 26, was the last of a generation of innovators such as Finn Juhl, Arne Jacobsen, and Poul Kjaerholm, who rose to international prominence in the 1950s on the strength of an alternative modern aesthetic. Theirs was steeped in Scandinavian reverence for craft.

Where Bauhaus devotees turned tubular steel into gymnastic cantilevers, Wegner sculpted straightforward forms in natural wood, which was warmer to the touch and easier to sand into organic curves. Both schools were modern in spirit, but the Dane's chairs seemed to have been carved on a summer day in the Nordic woods. In fact, they were produced by Denmark's major furniture manufacturers, from Johannes Hansen in the 1940s to Carl Hansen and PP Mobler today.

Wegner, a cabinetmaker who studied architecture, worked for Jacobsen on the town hall in Aarhus, Denmark. But chairs were his life's work. "A chair is to have no backside," he said. "It should be beautiful from all sides and angles."

Wegner's best-known chairs were Model No. 501, known as the Chair or the Round chair. With its curved bow of teak for a backrest, *Interiors* magazine dubbed it "the most beautiful chair in the world" in 1950, sparking a fashion for Danish design. During the 1961 presidential debates, Vice President Richard Nixon and Sen. John F. Kennedy sat on the Chair's woven-cane seats.

Wegner designed more than 500 chairs, many of which ended up in museum



OBJECT Wishbone chair
ARTIST Hans Wegner
DATE 1949
PRICE \$499
SOURCE Hive, www.hivemodern.com

CARL HANSEN & SON

collections. The Peacock chair riffed on the classic Windsor. A Valet chair supported a jacket and offered a box under the seat to store the rest of the outfit. The upholstered Ox chair competed with the Eames Lounge Chair. A Swivel desk chair rolled the sculpted Shell chair from 1963 required wood to curve in three directions and was produced in a limited series. The Y-backed Wishbone chair

remains a best seller for Carl Hansen & Son.

Though Wegner believed that no perfect chair had yet been devised, his best works preserve a legacy of pure form, clear purpose, and fine craftsmanship, which is the essence of good design.

The price of Wegnerian form: A pair of 1949 Chairs sold for \$8,000 in December at Phillips de Pury & Co. in New York. A 1960 Ox chair went for \$26,000. LINDA HALES

IT'S GOOD TO **LOOK AHEAD**

THE FIRST ANNUAL **R+D SUMMIT**

**R+D SUMMIT
AT SCI-ARC
OCTOBER 4-5, 2007
LOS ANGELES**

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ABOUT SCI-ARC

SCI-Arc, an independent, degree-granting educational laboratory, tests the limits of architecture in order to transform existing conditions into the designs for *the future*. With its location in a quarter-mile-long former freight depot in the intensely urban Artist District in Downtown Los Angeles, SCI-Arc provides a uniquely inspiring environment in which to study Architecture.

ARCHITECT

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Women and the Making of the Modern House

By Alice T. Friedman

Wellesley professor Alice T. Friedman investigates how women clients influenced domestic design through their dealings with their architects. Her subjects—Edith Farnsworth and Vanna Venturi among them—were the unconventional patrons of powerhouse designers. Friedman fills in the portraits of artistic and driven women through letters, diaries, and interviews. One can only imagine the houses equally strong-willed women architects might have built. Yale University Press; \$29.95

Building: 3,000 Years of Design, Engineering, & Construction

By Bill Addis

This mega-survey of Western design and construction was produced by a British engineer, who included more than 800 photos, archival drawings, and diagrams to help explain complex structures to nonprofessionals. Images reveal the inner life of the Parthenon as well as a new green skyscraper. The book is a perfect sequel to the 824-page *Phaidon Atlas of Contemporary World Architecture*. Phaidon Press; \$75

Architectural Regionalism: Collected Writings on Place, Identity, Modernity and Tradition

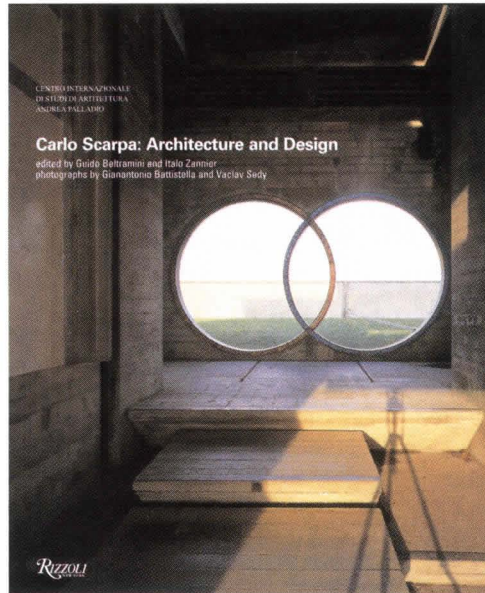
Edited by Vincent B. Canizaro

Essays in defense of regionalism go down more smoothly in an age of globalism and numbing sameness. Customization as self-expression is taking hold from the auto industry to sports shoes, so why not in architecture? From his vantage point at the University of Texas at San Antonio, Canizaro argues that regionalism, far from fostering provincialism, can “open up the possibility of shared purpose, in which the concerns of here are understood as linked to there: ecologically, economically, and socially.” Princeton Architectural Press; \$39.95

Visionary Architecture: Blueprints of the Modern Imagination

By Neil Spiller

About 100 pages into this fantasyland of radical architecture, one comes to “Project 124, the Peanut House,” which resembles a space capsule at the end of a Tizio desk lamp. It may not be the ideal mobile home, but at least the guys at Future Systems were thinking, back in 1984. This book gathers the most outlandish ideas of the past 60 years and takes the whimsical seriously. Thames & Hudson; \$60.



Carlo Scarpa: Architecture and Design

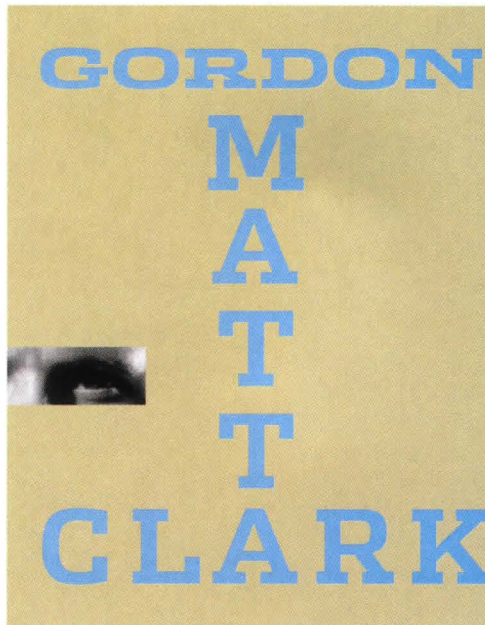
By Guido Beltramini

Edited by Italo Zannier

Photographs by Gianantonio Battistella and Vaclav Sedý

The 20th century Italian master Carlo Scarpa (1906–1978) emerged from a Venetian tradition that merged art, craft, intellect, and, especially in his case, architecture. Over his varied career, which is the subject of this book on the centenary of his birth, Scarpa designed 58 structures, furniture, and Murano glass for the elite house of Venini. Scarpa’s respect for craft, materials, and decoration, which played out in iron, marble, wood, and copper, may inspire architects seeking to do the same

today. A preoccupation with light and detail found lyrical expression in concrete. Scarpa’s fascination with the organic architecture of Frank Lloyd Wright is well known. Ultimately, the Italian expressed his own instincts in such iconoclastic buildings as the 1973 Banca Popolare di Verona, with a concrete façade punctuated with portholes. Among the works detailed in exceptional and unusual photographs is the Castelvecchio Museum in Verona, which Scarpa worked on intermittently from 1958 to 1975. Of his iconic Brion-Vega Cemetery tomb, a monument to post-modern eclecticism, Scarpa wrote that the austere work “will get better over time,” providing a garden for the deceased, rather than “shoe boxes.” Scarpa, who died in 1978 after a fall along a stairway in a Japanese temple, is buried in the cemetery. Photos in the book make clear that Scarpa’s works may need reviving, lest they too pass away. Rizzoli; \$65



Gordon Matta-Clark: You Are the Measure

Edited by Elisabeth Sussman

Essays by Briony Fer, Tina Kukielski, Gwendolyn Owens, Spyros

Papapetros, Christian Scheidemann, Joan Simon, and Elisabeth Sussman

The artist Gordon Matta-Clark

(1943–1978) trained as an architect, which may be why he was so skillful at turning crumbling urban landscapes into political and social indictments. The book, which accompanies a retrospective at the Whitney Museum of American Art in New York, traces his too-brief career as a radical “anarchitect.” The son of Chilean Surrealist painter Roberto Matta and godson of Marcel Duchamp, Matta-Clark created pointed commentaries on the unsatisfying drift of the American

dream. A 1970s series of black-and-white photos of the devastated Bronx mocked the emerging neocons of design, who were heading deep into classicism. Matta-Clark bought and photographed forlorn plots of land for a commentary called “Fake Estates.” Temporary projects were created with a power saw and then demolished. The artist’s life was also short: He died from cancer at the age of 35. His work remains a call to conscience. Yale University Press; \$50

BUILDING: A COMMUNITY

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hanley wood

ARCHITECT ONLINE



COURTESY SOM & EMAAR PROPERTIES

NEW YORK

World's Tallest Building: Burj Dubai Skyscraper Museum

April 25–August 2007

The Skyscraper Museum follows its commemoration of the World Trade Center, "Giants: The Twin Towers and the Twentieth Century," with a glimpse of the tallest building rising now in the city-state of Dubai in the United Arab Emirates: the Burj Dubai by Skidmore, Owings & Merrill's Chicago office. Consulting design partner Adrian Smith drew inspiration from a flower, as well as traditional Islamic architecture. The tower's website projects that "only a select few" will call the tower home. How tall will it be when completed, circa 2008? The Skyscraper Museum figures 2,300 feet, or more than 1,000 feet taller than the Empire State Building. But that's still a guess. *Above: The Burj Dubai is under construction up to the 116th floor (1,334 feet). It will contain the world's highest elevator installation.*

ATLANTA

Decorative Arts of the Kings High Museum of Art Through September 2

The High Museum's three-year partnership with the Louvre Museum in Paris brings Gobelins tapestries, Sèvres porcelains, silver, and furniture from the courts of the three Louis (xiv, xv, and xvi) to Richard Meier and Renzo Piano's temple of modernism.

BARTLESVILLE, OKLA.

Tokyo the Imperial Capital Price Tower Arts Center Through May 13

Woodblock prints by Koizumi Kishio preserve the frenzy of rebuilding efforts in Tokyo in the aftermath of a 1923 earthquake, which Frank Lloyd Wright's Imperial Hotel famously survived. Kishio's work, amassed in a traveling show from the Wolfsonian in Miami Beach, encompasses a then-modern airport as well as ancient temples.

CAMBRIDGE, MASS.

David Adjaye, Design in Africa Harvard Design School April 2–May 23

The London-based, Tanzanian-born designer, a visiting professor at the Harvard GSD,

shows the work that has brought him global acclaim: the Nobel Peace Center in Oslo, "Idea Stores" in London, and Denver's Museum of Contemporary Art.

CHICAGO

Louis H. Sullivan: A System of Architectural Ornament, Part II Chicago Art Institute Through June 8

Joseph Rosa, curator of architecture and design, offers the second installment of Sullivan pencil drawings: 10 more examples of the master's hand and eye for detail. They are originals for a print series of 20 produced between 1922 and 1923 and commissioned by the Art Institute's Burnham Library. Like the related manuscript, "The Inorganic and Organic," Sullivan's final work, the drawings convey respect for the geometries of science and the curvilinear brilliance of nature.

COLUMBUS, OHIO

Architecture Interruptus Wexner Center for the Arts Ohio State University Through April 15

The Church of Saint Pierre in Firminy, France, was designed in the 1960s by Le

Corbusier with José Oubrerie, then one of the master's young associates and now a professor of architecture at Ohio State University. Only now has Oubrerie been able to bring the project to fruition; the church opened last year. An exhibition and catalog convey the process and partnership in sketches, photos, and drawings, as well as a new model.

HOLLYWOOD, CALIF.

Some Assembly Required: Contemporary Fabricated Houses Pacific Design Center Through May 13

If dreams of an Airstream trailer lurk in Steven Holl's shiny metal Turbulence House, a sunny day in Napa Valley must have inspired Michelle Kaufmann's Breezhouse. Six more forward-looking houses expose modularity at the edge.

LONDON

Surreal Things: Surrealism and Design Victoria & Albert Museum Through July 22

Architecture, design, and the decorative arts, seen through the prism of the 20th century's most bizarre arts movement.

MIDLAND, MICH.

Frank Lloyd Wright and the House Beautiful: Designing an American Way of Living Midland Center for the Arts Through May 27

The legacy of Frank Lloyd Wright is preserved in a traveling exhibition of 100 original objects, including drawings, furniture, metal, textiles, and accessories. A catalog with text by Virginia T. Boyd and Bruce Brooks Pfeiffer puts objects on the Wright pedestal.

MONTREAL

Clip/Stamp/Fold 2: The Radical Architecture of Little Magazines 196X-197X Canadian Centre for Architecture April 12–Sept. 9

Experimental periodicals that inspired a fertile period of architecture, as curated by Beatriz Colomina and a group of Princeton Ph.D. candidates. The cca has added examples from its own archives to the initial presentation shown in New York. *Archigram*, *Melp!*, *Polygon*, and *Bau* join forces with *Oppositions* and *October* (circa 1970), avant-garde critiques that allowed architects to feel radical.

THE FIRST ANNUAL R+D AWARDS

CALL FOR ENTRIES

ELIGIBILITY

The awards are equally open to architects, designers of all disciplines, engineers, manufacturers, researchers, and students.

JURY CHAIR

Eric Owen Moss

Principal, Eric Owen Moss Architects, Culver City, Calif.; director, Southern California Institute of Architecture (SCI-Arc), Los Angeles

PUBLICATION

The winning entries will appear in the September 2007 issue of *ARCHITECT*, both in print and online.

EVENT

Winners will present their ideas at the first annual **R+D Summit**, which will occur at **SCI-Arc in Los Angeles on October 4–5, 2007**. For more information about the event, visit www.architectmagazine.com or email r+dsummit@hanleywood.com

DEADLINE

Friday, May 18, 2007

regular submission deadline (postmark)

Tuesday, May 22, 2007

late submission deadline (postmark, additional fee is required)

FEE

Subscribers: \$100 first entry

Non-subscribers: \$140 first entry (includes a one-year subscription to *ARCHITECT*)

Additional entries: \$75 each

Late entries: \$50 additional fee per entry by May 22, 2007

PAPERWORK

Application forms and submission requirements are available for download in PDF format at www.architectmagazine.com

CATEGORIES

The awards will be judged in three categories, reflecting different stages of the research and development process:

- **Prototype**—Products, materials, and systems that are in the prototyping and testing phase
- **Production**—Products, materials, and systems that are available for use
- **Application**—Products, materials, and systems as used in a single architectural project or group of related architectural projects

The jury will consider new materials, products, and systems as well as unconventional uses of existing materials, products, and systems. Entries will be judged for their potential or documented innovation in fabrication, assembly, installation, and performance. All entries will be judged according to their potential to advance the aesthetic, environmental, social, and technological value of architecture.

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FOR MORE INFORMATION EMAIL:

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NEW HAVEN, CONN.

Responding to Kahn: A Sculptural Conversation

Yale University Art Gallery
Through July 8

Students and interns have gathered postwar sculpture from the collection to draw the connections between modern art and architecture—in this case, the renovated 1953 Louis Kahn masterpiece, which re-opened last December after a \$44 million rehab accomplished by Polshek Partnership Architects.

UN Studio: Evolution of Space Yale University School of Architecture Through May 4

The Amsterdam-based firm is best-known for the Erasmus Bridge in Rotterdam and the Prince Claus Bridge in Utrecht, in the Netherlands. This exhibition, created by the Deutsches Architektur Museum in Frankfurt, Germany, will include the firm's recently completed Mercedes-Benz Museum in Stuttgart, Germany.

NEW YORK

Bruno Mathsson: Architect and Designer

Bard Graduate Center
Through June 10

A leading figure in Swedish modernism, Mathsson (1907–1988) designed sensuous furniture and environmentally sensitive buildings. His special blend of ergonomics and aesthetics can be seen in graceful woven chairs on the catalog cover. This traveling exhibition made its debut at the Bard Graduate Center in March and will continue on to Seattle's Swedish Cultural Center this summer.

Barcelona and Modernity: Gaudí to Dalí

Metropolitan Museum of Art
Through June 3

This exhibition brings together work by Barcelona artists, architects, and designers between 1888, the year of the Barcelona Universal Exposition, and 1939, when the Fascist regime of Francisco Franco put a lid on the heady creativity that produced Antoni Gaudí and Salvador Dalí in this center of radical thought.

PASADENA, CALIF.

Open House: Architecture and Technology for Intelligent Living Art Center College of Design

April 14–July 1

When 15 architects from nine countries are asked to rethink shelter for the next 25 years, the single-family box becomes a desert dune and apartments take on life as cells in a topiarylike tower commune. The exhibi-

tion was curated by Vitra Design Museum in Germany.

ROTTERDAM, NETHERLANDS

Architecture of the Night: Luminous Buildings

Netherlands Architecture Institute
Through May 6

A century of artificial light has transformed modern life, and the built environment. This exhibition begins with the novel choreography of illumination staged for the debut of the Eiffel Tower at the 1889 Paris world's fair and progresses to the "light pollution" experienced in cities today. Illuminated models, photographs and collages create a total work of art in the darkened gallery.

WASHINGTON, D.C.

America's Favorite Architecture AIA Gallery

April 10–July 13

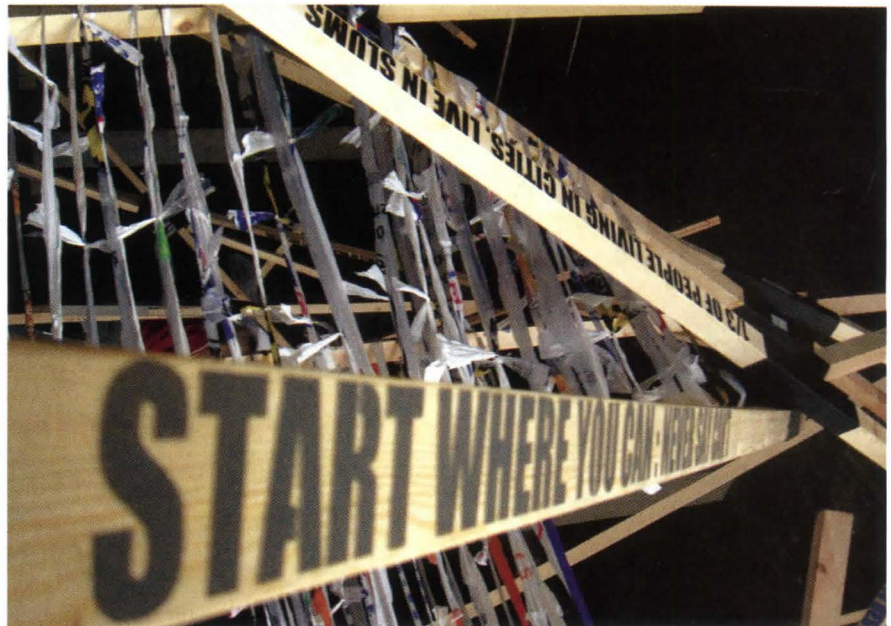
Which buildings inspire public affection? Don't look for undulating waves of titanium. The AIA polled the citizenry for the 150 "best" works of architecture, in honor of the institute's anniversary. The populist exercise, which named the Empire State Building No. 1, has now become an exhibition, debuting in Washington, D.C., and destined to be replicated for the AIA's annual meeting in San Antonio May 3–5.

WINTERTHUR, DEL.

Furniture Meets Its Maker Winterthur Museum

May 12–Aug. 12

Henry Francis du Pont's bastion of 18th and 19th century American decorative arts opens the door to Gord Peteran, a contemporary furniture designer from Ontario. The 25-year retrospective includes a table that disassembles into its own carrying case.



LONDON

Fragile Seams—Life on the Edge Royal Institute of British Architects

Through April 28

Doctors Without Borders has teamed with the Royal Institute of British Architects (RIBA) to produce a labyrinth dedicated to urban despair. Installed in the Art Deco hall of Britain's architectural establishment, the timber and woven plastic structure is designed to mimic the bare but efficient spaces slum-dwellers create out of found materials—chiefly plastic bags and scrap wood—in teeming cities from Sao Paolo to Mumbai. The installation is intended to "evoke the chaotic environment of slum-dwelling and highlight the innovative reused materials by people living in poverty," RIBA says, while voices of architects who have worked in such communities ground theory and artistic merit in gritty reality. The intersection of poverty and architecture was Topic A at the Venice Biennale of Architecture last fall. RIBA's installation allows the dialogue about humanitarian design to continue. The future of cities, the need for sustainability, and the role of architects in the unglamorous back lots created by natural disasters, war, and urban migration comes into view. Above: A massive, labyrinthine structure fabricated from timber and interwoven with plastic fills a hall in RIBA's Art Deco HQ in London.

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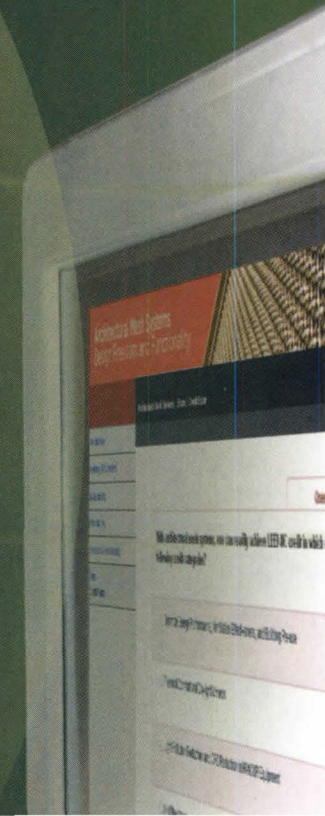
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The Glass House

APRIL 30
NEW CANAAN, CONN.

Among the most beautiful houses created in the 20th century, Philip Johnson's 1949 residence, which he willed to the National Trust for Historic Preservation, opens for preview tours. The official inauguration is scheduled for June 23, complete with a Merce Cunningham dance troupe performance staged as it took place in 1967, when Johnson was 60.
www.philipjohnsonglasshouse.org



PAUL WARCHOL

National Landscape Architecture Month

APRIL 3
WASHINGTON, D.C.
A lecture by James Corner of Field Operations kicks off the month at the National Building Museum (www.nbm.org). Local and regional landscape events can be found at www.asla.org/lamonth/index.html.

National Architecture Week

APRIL 8–18
WASHINGTON, D.C.
With the theme of "Celebrating the Past, Designing the Future," the American Institute of Architects inspires 150th anniversary activities at chapters.
www.aia150.org

Structures for Inclusion 7 Conference

APRIL 13–15
CHARLOTTE, N.C.
This latest in a series of annual conferences on public-service architecture will focus on design/build as a tool for immediate community action.
www.designcorps.org/sfconference.htm

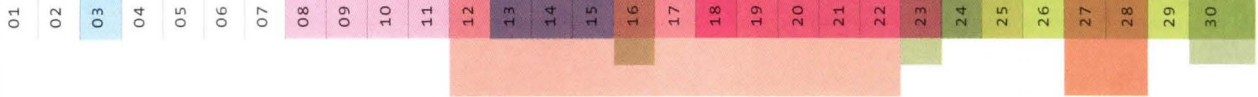
Design Philadelphia '07

APRIL 12–22
PHILADELPHIA
A citywide festival of design and architecture opens doors.
www.designphiladelphia.org

Giants of Modernist Architecture

APRIL 16, 23, 30
WASHINGTON, D.C.
The lecture series starts with Ken Burns on Frank Lloyd Wright. April 23 features Paul Goldberger on Philip Johnson. On April 30, John Szarkowski will discuss Louis Sullivan.
www.corcoran.org

APRIL



Salone 2007

APRIL 18–23
MILAN, ITALY
The International Furniture Fair will take on extra glitter with an installation in Swarovski crystals by architects including Diller Scofidio + Renfro and Hariri and Hariri.

Brandism: Signature as Brand

APRIL 24
NEW YORK
The fourth in a series of panels on the branding boom, this one with Daniel Libeskind, Richard Meier, Susan Grant Lewin, Stanley Perelman, and Reinhold Martin.
www.aiany.org

35th Annual Kips Bay Decorator Show House

APRIL 24–MAY 2
NEW YORK
Interior design trends emerge from this polished production in a Beaux Arts mansion by C.P.H. Gilbert. Look past the antiques for new products such as Benjamin Moore's AURA—an environmentally sensitive premium paint—and a stainless steel kitchen by Electrolux.
www.kipsbay.org/show_info.html

Out From Under

APRIL 25
SAN FRANCISCO
Australian architect Sean Godsell, designer of the refugee prototype Future Shack, lectures at Berkeley at the close of the exhibition "Out From Under: Australian Architecture Now."
www.aiaf.org

Design and Its Publics: Curators, Critics, and Historians

APRIL 27–28
MINNEAPOLIS
A think tank co-hosted by the Design Institute and the Department of Art History will foster discourse among curators such as Paula Antonelli and Barry Bergdoll of New York's Museum of Modern Art, Joe Rosa of the Chicago Art Institute, and Brooke Hodge of the Museum of Contemporary Art in Los Angeles.
www.design.umn.edu



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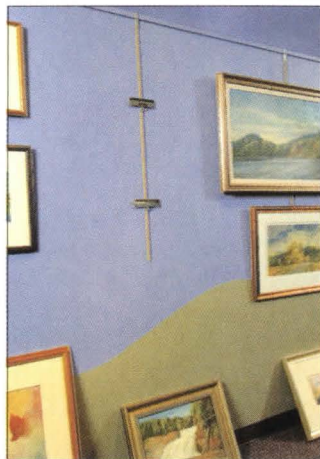


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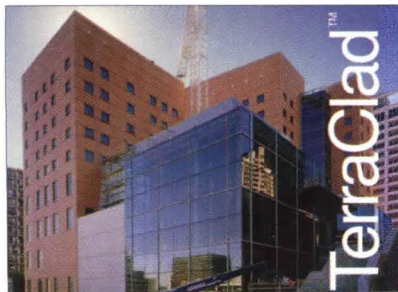
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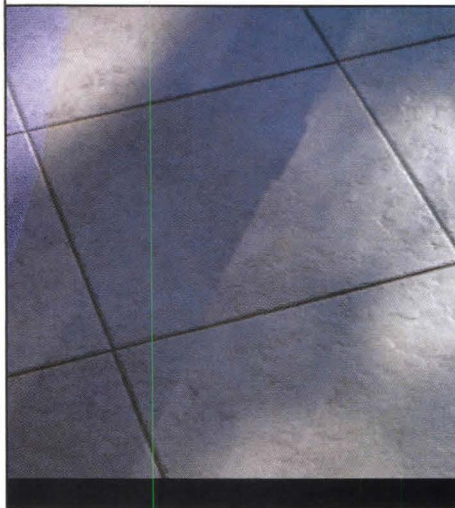


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Q&A

THE FOUNDER OF OKLAHOMA-BASED SUSTAINABLE SOLUTIONS INC. FINDS NEW USES FOR POST-INDUSTRIAL WASTE AND PROVES THAT GREEN CAN BE PROFITABLE.

Interview Elizabeth A. Evitts Photo Paul S. Howell

JOY NUNN

Sustainable Solutions is a zero-waste company. Is this more expensive?

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Describe the products you created for Ford and Mazda.

We take leather from the scraps of shoes and furniture, and we regenerate those back into seating upholstery for automobiles. It's breathable, soft, and sound-absorptive. We've also taken the rubber soles of athletic shoes and turned them into floor mats. That product is called Nike Grind.

And you're developing wood flooring?

An executive at Ford Motor Co. said, "We've got all of these wood pallets. Can you use them?" We developed a product called Urban Wood that goes into beautiful flooring applications for companies like Ford and others.

You also counsel companies on how to be less wasteful.

We've worked with Nike. We are in negotiations with Wal-Mart to do Urban Wood flooring for their new and renovated stores. I am amazed that they are putting muscle and money behind their talk and trying to become sustainable.

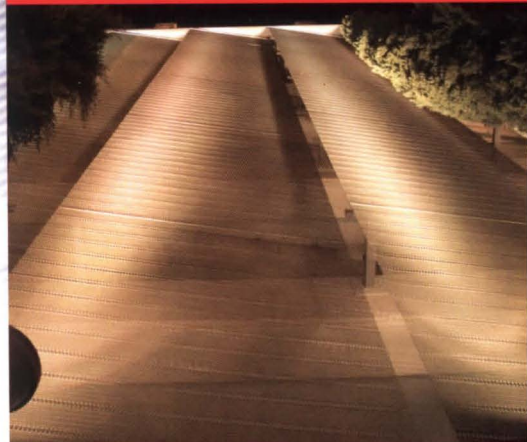
Elizabeth A. Evitts lives in Baltimore and writes about architecture



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