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### FEATURES

### 2008: The Year in Review

A lot happened in the world of architecture this year:

- → SUBURBIA SUFFERED A SETBACK
- $\rightarrow$  The economy took a nosedive
- → DAVID ADJAYE GOT FAMOUS
- $\rightarrow$  Adrian smith made a comeback
- → AMERICA'S INFRASTRUCTURE CONTINUED TO CRUMBLE
- $\rightarrow$  CHINA THREW A PARTY
- $\rightarrow$  DUBAI GOT EVEN STRANGER
- → PALLADIO TURNED 500
- $\rightarrow$  some cool buildings got built
- $\rightarrow$  and much, much more.

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Andrew Yang in "Year of the Dragon," part of "The Year in Review," beginning on page 45.



ON THE COVER Adrian Smith, the comeback kid. Photograph by Nick Burchell.



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RIGHT One of the buildings from Hans Scharoun's Ring Estate in Berlin, a symbol of what can go right when public housing is designed well.

FAR RIGHT John Ochsendorf's research into masonry techniques is being used in the construction of the Mapungubwe National Park Interpretive Centre, north of Johannesburg, South Africa.



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(Ned Cramer's letter appears on page 46 in this issue)

### **Unwise Comment**

Michael Z. Wise, by resorting to Bush-bashing in the last sentence, infected his otherwise well-written report ["The Ugly American," Sept. 2008, page 78] of the Berlin Embassy design process and result. That last cheap shot diminished the credibility of the entire article.

**Richard T. Reep** Jacksonville, Fla. *dreep@kbi.com* 

### **Big and Green**

In the article on Jill Greenberg ["Contributors," Sept. 2008, page 16], she comments that her 6,000-square-foot LEED Platinum house in the Hollywood Hills would be "green." I fail to see how any 6,000-square-foot home built for two people could ever be considered sustainable, just because you slap a LEED Platinum certificate on it. Surely, you can apply the strategies and methods of LEED to any megalithic mansion, but you have to have missed the point, the intent, of LEED. Even if the couple has children and uses this space for a home office and studio, it is hard to imagine how expending so many resources in constructing a private residence could ever be called green.

### Nathaniel L. Flowers

Orange County, CA eneph@juno.com

### Archi-porn

Thank you for your editorial in the Sept. 2008 issue ["Prefab Is Fab, But Only Half the Battle," page 14]. I believe it was [the critic and historian] Richard Ingersoll who referred to architectural imagery without solid information (although he was referring to drawings at the time) as "nothing more than pornography." You are right on with this.

### John Breshears

Zimmer Gunsul Frasca Architects Portland, Ore. *jbreshears@zqf.com* 

### More Data, Please

In response to the Oct. 2008 editorial ["You're Green? Then Show Us the Data," page 16], the proponents, designers, and owners of green buildings describe how beneficial they are, especially from an energy or emissions perspective. However, they almost never provide data to support their claims. When publishing stories on those buildings, editors should print 12 consecutive months of metered energy-consumption data. The article should also identify any rebates, subsidies, or unique circumstances that might limit broad transferability of the technologies involved.

Larry Spielvogel King of Prussia, Pa. speilvogel@comcast.net

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### CONTRIBUTORS













### 1. Zoë Ryan

Ryan is the Neville Bryan Curator of Design at the Art Institute of Chicago. She recently organized the first solo exhibition of the work of Graphic Thought Facility, a London graphic design firm.

### 2. Thomas Fisher

Dean of the College of Design at the University of Minnesota, Fisher has lectured or juried at 35 schools of architecture and has published 34 book chapters and 247 major articles.

### 3. Andres Lepik

As curator of architecture and design at the Museum of Modern Art, Lepik organized the show "Dreamland: Architectural Experiments Since the 1970s." He joined MoMA in 2007 from Berlin's Kunstbibliothek.

### Joan Ockman

Ockman has taught at Columbia University since 1985 and has held visiting professorships at the University of Pennsylvania, Yale University, and other institutions. Among her books is Out of Ground Zero: Case Studies in Urban Reinvention (2002).

### 5. Frances Anderton

Anderton is host of "DnA: Design and Architecture," broadcast on 89.9 KCRW public radio and on kcrw.com. She produces "Which Way, L.A.?" and "To the Point," also aired on KCRW.

6. Lee Bey Bey leads the Chicago Area Central Committee, a prominent civic group. He was previously the director of governmental affairs for Skidmore, Owings & Merrill's Chicago office, and prior to that, deputy chief of staff to Chicago Mayor Richard M. Daley.

### 7. Sarah Williams Goldhagen (not pictured)

Architecture critic for *The New Republic*, Goldhagen taught for 10 years at Harvard University's Graduate School of Design and is the author of *Louis Kahn's Situated Modernism* (2001).





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### The White House

# **Obama to Establish Office of Urban Policy**

**ON ELECTION DAY 2008,** after casting his vote and predicting a Barack Obama win, Chicago Mayor Richard M. Daley pointed out that the candidate would be the first president with an urban background since Boston's John F. Kennedy. Within a week of Obama's victory, architects, planners, and designers across the nation were learning of one city-focused campaign pledge that had eluded much comment during the campaign: The Obama/Biden administration will establish an Office of Urban Policy at the White House.

While not specifically noted in the campaign's 83-page "Blueprint for Change," the proposed new executive office was mentioned by then-Sen. Obama in a June 2008 Miami address to the U.S. Conference of Mayors and further explained on the Obama/Biden website (barackobama.com).

Mark Robbins, dean of the School of Architecture at Syracuse University, lauds the decision. As director of design for the National Endowment for the Arts from 1999 to 2002, Robbins recalls, he would sit in meetings with representatives from Housing and Urban Development, the Department of Transportation, and the Environmental Protection Agency where design was regularly marginalized and treated as decor—to be added after the substantial planning, program, and policy decisions were made.

"In an ideal world," says Robbins, "those agencies would all deal with physical planning as part of their mission." Robbins hopes that the new Office of Urban Policy will bridge the gaps between policy, design, and infrastructure issues.

Not so fast, says John Norquist, president of the Congress for New Urbanism and the 1988–2004 mayor of Milwaukee. The Democrat, who dealt with four presidential administrations and was once described as a "fiscally conservative socialist," derides the proposal as yet another "czar" position. "You're given this overall authority, but you're not in charge of anything," he says. Rather, Norquist suggests, the new administration should be populated with leaders who understand and value cities.

"The president-elect is from one of the most successful cities, [chief of staff] Rahm Emanuel knows cities, you don't need a czar," says Norquist. Apparently, Norquist was not under consideration for the post, although his doubts about the position's efficacy aren't great enough for him to definitively rule out any interest. "I could probably adjust my attitude if asked to do the job," he says. EDWARD KEEGAN

"Cities enable the concentrated exchange of ideas and resources that generates the nation's innovation and entrepreneurship. Particularly in the knowledge economy, we cannot afford to waste any of the human capital, real estate and business assets of cities. ... Today, government programs aimed at strengthening metropolitan areas are spread across the federal government ... with insufficient coordination or strategy. Obama and Biden will create a White House Office of Urban Policy to develop a strategy for metropolitan America and to ensure that all federal dollars targeted to urban areas are effectively spent on the highest-impact programs."

-from "Barack Obama and Joe Biden: Supporting Urban Prosperity," available at barackobama.com/issues/urban policy

Historic Landmark

## **Indianapolis Museum Acquires Miller House**



**THE MILLER HOUSE AND GARDEN,** in Columbus, Ind., has been donated to the Indianapolis Museum of Art. Commissioned by J. Irwin Miller and his wife, Xenia Simons Miller, and completed in 1957, the home was designed by Eero Saarinen, with interiors by Alexander Girard and a landscape shaped by Daniel Urban Kiley. Members of the Miller family and the Irwin-Sweeney-Miller Foundation are pledging \$5 million toward an \$8 million endowment for the property; the museum is raising the other \$3 million, as well as \$2 million for a renovation of the house, expected to take 18 months. The Miller House and Garden was designated a national historic landmark in 2000. BRAULIO AGNESE

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-Kent Duffy, FAIA, Design Principal-SRG Partnership



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### Sustainability

# **USGBC Members Approve LEED 2009**

### Revised certification system 'reweights' certain credits, rewards design innovation.

**IN MID-NOVEMBER**, after more than a year's work, the U.S. Green Building Council announced the approval, by its 18,000 member organizations' ballots, of LEED 2009, a major overhaul of its green-building certification system for design and construction projects. The revised ratings scheme is meant to keep the council's revered gospel of green abreast of new technologies and environmental concerns.

Among the new version's notable changes will be the "reweighting" of some LEED credits to favor design strategies that address climate change and energy efficiency. For example, easy pedestrian access to public transit may now gain six points rather than just one; the credit for water-efficient landscaping has doubled, to two points; and the use of renewable energy sources on a site can earn a maximum of seven points (depending on the percentage of total energy use) rather than three. There are enhanced credits for design innovation, and still in the works are "regional credits," bonus points for a project's adaptations to its local conditions.

The new rating system is more streamlined, to reduce conflicts among the multiple LEED versions for specific types of projects, such as schools, retail, and renovations. Criteria common among various project types are now consolidated into a single "pool" of credits reflecting general requirements, though market-specific credits will remain in effect for design solutions that are peculiar to certain building types.

LEED is also expanding in scale. The same week, the council announced that it had opened a public-comment period, through Jan. 5, 2009, for its new LEED for Neighborhood Development rating system, its first attempt to make the designs of communities more sustainable. For more information, visit usgbc.org. BRADFORD MCKEE

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### REPORT

Science

# CASE Study

SOM and Rensselaer Polytechnic launch a collaborative research center.



Situated between panes of glass, the Integrated Concentrating Dynamic Solar Façade being developed at the Center for Architecture Science and Ecology would follow the sun, generating the most photovoltaic (PV) electricity possible while still allowing interior spaces to benefit from daylighting. Each module (the curved pieces in the rendering) is a lens that concentrates sunlight onto a stamp-sized PV cell.

LAST MONTH, Skidmore, Owings & Merrill (SOM) and Rensselaer Polytechnic Institute (RPI) launched a joint endeavor, the Center for Architecture Science and Ecology (CASE), at a multimedia exhibition and cocktail reception held at SOM's recently completed 7 World Trade Center. Although the announcement was largely official, the event was designed to celebrate bridging the professional and academic divide for a common cause: sustainable environments.

CASE participants, both master's degree students and doctoral candidates in the Rensselaer School of Architecture's Built Ecologies program, live in the New York City area and work in collaboration with SOM's engineers and architects. The firm is known for pioneering highly integrated building systems, so setting aside the development of green materials, the partnership takes aim at the heart of the sustainability issue building performance. An ambitious search for new technologies drives CASE researchers and faculty. On the boards: active vegetative wall systems that can reduce excess airborne carbon, electromagnetic daylight filters (based on pixels), and ceramic masonry components tooled to induce cooling.

According to Anna Dyson, director of CASE and of RPI's Built Ecologies program, it is no accident that the word "science" is included in the center's acronym—CASE researchers look to that field for inspiration. "High performance is already radical in biotechnology, nanotechnology, and material sciences," says Dyson. "How can CASE, through these engineers and architects we are already working with, accelerate the pace of innovation?"

For SOM, having the center headquartered in its offices means the firm doesn't have to wait for new systems to hit the marketplace. And CASE will take SOM's global project roster—including buildings in New York City, Shanghai, and Dubai—as subjects of study. Additionally, the program is an opportunity for the firm to cultivate talent on its home turf. SOM is not the first architecture firm to partner with a university, but with the economic, energy, and environmental challenges that continue to engage the design profession, the move is as much strategic as it is part of a greater collaborative trend. MIMI ZEIGER

### Clips

New York City's Parsons The New School for Design, which launched

the nation's first interior design program in 1906, has announced a new **MFA in Interior Design** degree. Slated to begin next fall, the twoyear program will have a studiocentered, research oriented focus.

The National Transportation Safety Board has determined that gusset plates on the I-35W bridge in Minneapolis that collapsed in August 2007 were the likely cause of the bridge's failure. The "underdesigned" plates were about half as thick as they should have been, said the NTSB, which ruled out corrosion and pre-existing cracks in the bridge as possible reasons for the collapse.

German architecture firm **Behnisch Architekten**, in partnership with Baltimore firm **Ayers/Saint/Gross**, has won an international competition to design a **new law school building for the University of Baltimore**. The building is expected to be completed in 2012 and cost \$107 million.

**Hitoshi Abe**, who chairs the UCLA Department of Architecture and Urban Design, has won the second **SIA-Getz Architecture Prize for Emergent Architecture in Asia**. Established by the Singapore Institute of Architects and the Getz Bros. company, the prize—\$30,000 (U.S.) and a medallion—is awarded every two years.

Houston urban land planning firm Vernon G. Henry & Associates has merged with TGB Partners, Texas' largest landscape architecture and planning firm. VHA's employees will relocate to TGB's Houston office.

Peter Templeton has been named the new president of the Green Building Certification Institute. Previously, Templeton was senior vice president of education and research at the U.S. Green Building Council, where he led the annual Greenbuild Conference and Expo, LEED training and professional certification programs, and research initiatives.

There are **104,126 registered architects in the United States**, according to the National Council of Architectural Registration Boards' 2008 survey, which collects data from all 50 states, Washington, D.C., Guam, Puerto Rico, and the Virgin Islands. The five states with the most registered architects: California, New York, Texas, Illinois, and Florida.

Washington, D.C.-based public relations consultant **Marilynn Deane Mendell** has been named the 2008 PR Woman of the Year by Washington Women in Public Relations. Mendell, whose **expertise is in the architecture and engineering fields**, counts D.C. firm Hickok Cole Architects among her clients.

# Netherlands Coin Honors Dutch Architects



**APART FROM THE HISTORIC BUILDINGS** that appear on American currency, architecture gets no love from the U.S. Treasury. Not so in many other countries, which regularly issue coins and bills that feature local buildings and architects of more recent vintage. Earlier this year, the Dutch Ministry of Finance invited a group of architecture firms and artists to participate in a design competition for a commemorative five-euro coin—known as the "Architecture Fiver" and legal tender within the Netherlands—that would celebrate the country's architectural history. The winning design, shown here, is by graphic designer Stani Michiels and was released in late October. The front contains the names of 109 architects, past and present, rendered in a single line that coils to create the likeness of Queen Beatrix. The back features Dutch architecture books arranged to form an outline of the country. Learn the process behind the design at Michiels' blog, pythonide.blogspot.com. B.A.

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**NUMBERS** 

The rank of noise in the 2007 American Housing Survey as a "bothersome neighborhood condition," putting it atop litter or housing deterioration; poor city or county services; undesirable commercial, institutional, or industrial facilities; and everything else.

### **Unwanted Sound**

**How LOUD IS TOO LOUD?** It's hard to tell. Since 1981, U.S. noise regulations have been handled at the state and local levels, making it tough to keep track of laws, and many jurisdictions leave it to complainants to determine when noise—whether from a neighbor's dog, a nearby wind turbine, or a construction site jackhammer—is inappropriate. And new housing isn't really addressing the issue

of noise pollution, says Les Blomberg, executive director of the Noise Pollution Clearinghouse. As proof, he cites the U.S. Census Bureau's American Housing Survey. According to the 2007 survey, of the 33 million units where traffic, neighbors, or the general neighborhood was considered too noisy,

3 percent were built in the previous four years and new construction accounted for 5 percent of all the units surveyed. Blomberg notes that many sound-dampening solutions can be made up front if architects work with acousticians, adding, "it's orders of magnitude cheaper than fixing the problem later." Sound advice.

23.5%

The percentage of units in the 2007 survey where street or traffic noise was considered bothersome. (Total units surveyed: 110.7 million.)



In the 2005 survey, the number of housing units (out of 108.9 million) where street or traffic noise was such a problem, residents wanted to move. The question was dropped in 2007.



# 80 DECIBELS

The noise level that can trigger an increase in aggressive behavior, according to the World Health Organization.

Transportation Initiatives, Election Day 2008



The noise level of a whisper. The American Wind Energy Association says noise from most wind farms rises just above this level at a distance of 750 to 1,000 feet.



# \$75,000,000,000+

The dollar amount of **23 major transportation projects** approved across the nation on Nov. 4, including \$18 billion for mass-transit expansion in Seattle and \$10 billion for high-speed rail connecting Los Angeles and San Francisco. Three of the ballot measures authorized bonds, four provide funding through property taxes, and 14 increased sales taxes.

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### Text Margot Carmichael Lester

# LOCAL MARKET OAKLAND, CALIF.

### Population/Employment

Residents: 415,492 in 2007; city projected to add 50,000 jobs in next quarter century.

**Office Market** Average asking rate: \$2.43/s.f.; vacancy: 10.3%.

### **Residential Market**

August 2008 median home sale price: \$310,000, down 47% from a year earlier.

### Market Strengths

- Attractively priced
- commercial space
- Culturally diverse
- Concentrated intellectual
   and venture capital

### **Market Concerns**

- Declining home valuesHigh cost of living and
- doing business

  New development pushing
- out low-income residents

### Forecast

"Oakland will be a great city in 10 years," predicts Ernie Vasquez, partner and vice president at MVE & Partners. "There will be an ongoing renaissance. In the long run, a city with so many amenities will inevitably prosper as our West Coast urban populations densify."









DURING THE SECOND GOLD RUSH — also known as the tech boom — Oakland, Calif., struggled as neighboring cities flourished. "The city had to figure out ways to attract new market-rate development," says Allison Brooks, managing director of Reconnecting America, a transitoriented development (TOD) think tank based in the city. In 1999, thennew mayor Jerry Brown set a goal of attracting 10,000 new residents. With little suburban land available, a strong desire to redevelop a historic downtown, and a huge rapid-transit network, TOD was a natural fit.

"Oakland is now seen as [strategically located] between the job centers of San Francisco and the suburbs," says local architect Michael Pyatok. And little-used Bay Area Rapid Transit (BART) parking lots became developable land. "They are relatively easier to develop since there is one landowner with a somewhat public interest orientation," Pyatok adds. The crown jewel may be MVE & Partners' Fruitvale Village. The 2004 mixed-income project connects with busy International Boulevard and a BART station; offers office, community, retail, and residential uses; and has revitalized a low-income neighborhood. Today, there at least six TOD projects across the city in progress or already completed.

Like any regentrification effort, the developments aren't without thorns. "The concern is [ensuring] that affordable housing is preserved, so that neighborhoods remain economically diverse and culturally vibrant," says Brooks, adding that new buildings will likely be higher density than the existing area. "The challenge is to create buildings that work together to foster a more walkable, safe, and hospitable environment."

### 7TH STREET WEST OAKLAND TRANSIT VILLAGE

Architect: Hood Design, Oakland; Completion: ongoing; Cost: \$1.6 million; Size: 2.5 acres. • Streetscape project at West Oakland BART station revitalizes commercial hub and jazz club center.

### UPTOWN APARTMENTS

Architect: MVE & Partners, Oakland; Completion: 2008; Cost: Undisclosed; Size: 409 units • Two-building LEED Silver complex in city's original shopping district, near two BART stations.

### MADISON @ 14TH STREET

Architect: Leddy Maytum Stacy Architects, San Francisco; Completion: 2008; Cost: \$20 million; Size: 80,000 s.f. • Affordable housing offers on-site social services; award winner, 2008 AIA East Bay Exceptional Residential Design Awards.

### LION CREEK CROSSINGS, PHASE THREE

Architect: Pyatok Architects, Oakland; Completion: 2008; Cost: \$32.7 million; Size: 8.5 acres • Public housing turned into HUD Hope VI TOD near Coliseum BART station.

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### The web video series Mister Glasses follows the seriocomic travails of a modernist architect.

**IMAGINE LE CORBUSIER** or Philip Johnson as a film noir protagonist or action-comic hero. That's the premise for *Mister Glasses*, Mitch Magee's series of video shorts featuring an embattled modernist architect and his quirky entourage. Outwardly dour yet determined to help the world, Mister Glasses (Magee) perseveres in the face of rampant Postmodernism. He narrowly survives an assassination attempt by a rival, restores harmony among his bickering staff, and uses a model of the Farnsworth House to aid a lovesick teen. His deadpan delivery and trim black wardrobe never waver.

Brooklyn, N.Y.–based Magee has written and directed six *Mister Glasses* episodes since fall 2007. Each has debuted at the competitive monthly amateur screening Channel101:NY, where attendees have consistently voted to extend the series. The five-minute videos then become available on sites like ny.channel101.com, funnyordie.com, and YouTube. (The "videos" link on Magee's site points to Funny or Die.) You don't have to be an architect to appreciate the humor, but design references abound. The first episode credits Mister Glasses as the architect of masterpieces such as the "Amalgamated Orange Juice Building," instantly recognizable as Corbu's Unité d'Habitation, for example, and the old form-and-function debate spirals into absurd sexual innuendo in the sixth episode.

Magee keeps production costs below \$500 per episode, working around the schedules of his actor friends and filming on borrowed sets. Like a Wes Anderson film, *Mister Glasses* is full of "weird situations that are played straight," says Magee. The lush black-and-white videography reflects his passion for film noir, while his protagonist's idealism alludes to "a particular strain of American Modernism that was meant to be a cure-all for poverty."

Magee plans to extend *Mister Glasses* to a total of eight episodes in 2009. An Art Institute of Chicago graduate, he performed with improv comedy groups before focusing on film and video for the past three years. Two of his other series, *Sexual Intercourse: American Style* and *Welcome to My Study*, are also minor underground hits. As for his architect hero's genesis, Magee says the character occurred to him while touring New York City with friends. They saw the Urban Glass House under construction, and one person asked who designed the building—a Philip Johnson/Alan Ritchie creation, with interiors by Annabelle Selldorf. Magee replied, "You know, Mister Glasses."

### LINKS

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both old and new, on his blog.	benefit of all designers.	history will have many new entries.	depicted over the centuries.

# THE ARCHITECT 50

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### **COMING IN MAY 2009**

Which architecture firms are the best in the country, outclassing their peers in quality of work and employee satisfaction? Are the biggest firms always the best? Who's really at the forefront of sustainable design?

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HOW TO PASS THE LEED EXAM. Text Fred A. Bernstein Photo Michael Schmitt





#### Sam Stadler of SRG Partnership says the firm wants to "embrace the concept of sustainability and integrate it into everything we do." The firm hopes that go percent of its employees will be LEED accredited by early next year.

#### Prioritize the exam.

"The leadership in the office came out and asked everyone who's not accredited to try to take the exam by year's end," says Stadler. And that included not just architects and designers, but support personnel. The firm agreed to pay the exam registration fee (about \$300) for every employee who passes.

#### Get people studying together.

Stadler organized a series of lunchtime training sessions—one a week for seven weeks, ending in late October. To keep the momentum going, he encouraged people to register to take the exam in November or early December.

#### Make the material concrete.

The training sessions, Stadler says, featured "people from the office that had worked with the LEED system on a project. If, for example, we were talking about site selection, we would bring in someone who worked on a building that had achieved seven of the 12 LEED site-selection credits." That helps people "visualize the concepts they're studying," he says.

#### Make study guides available.

The firm makes copies of the LEED reference guides available to employees to sign out overnight. But Stadler also wrote abbreviated versions of each section of the reference guide (he compares these to Cliffs Notes).

**"WE PROMOTE OURSELVES** as a leader in sustainability, and we wanted to make sure we walked the walk," says Sam Stadler of SRG Partnership, an architecture, planning, and interiors firm with offices in Portland, Ore.; Seattle; and San Francisco. One way to do that is to make sure every firm employee is LEED accredited. Stadler, a 2005 architecture graduate of the University of Oregon, says the LEED system is "far from a perfect measure of sustainability, but it's an important step." Looking beyond LEED, SRG has formally adopted the 2030 Challenge (a pledge to make its buildings carbon neutral by that date).

Becoming a LEED AP (that is, accredited professional) means passing a multiple-choice test of surprising complexity. The questions aren't about sustainability per se, but about how the LEED system measures it; the focus is on the credits a building can achieve for meeting various "reference standards," described in detail in LEED guidebooks. Stadler and an SRG colleague designed a program that would motivate their coworkers to take and pass the LEED exam by the start of 2009.

"There's a lot of material, and it helps to break it down," he says.

#### Practice, practice, practice.

Several companies offer practice LEED exams online. One that Stadler likes is greenexamprep.com, which makes 320 practice questions available for two months for about \$50. The program is interactive, which Stadler says is "really helpful. If you get a question wrong, the website will send you to the appropriate part of the reference guide and will also explain in plain English where you went wrong."

#### Organize your time.

You can't take study materials, computers, or even cell phones with you into the exam room. But you can have pencil and paper. The exam begins with a 10-minute orientation; Stadler recommends speeding through it, then using the remaining eight or nine minutes to write down a list of LEED credits and reference standards. Then you'll be able to answer questions by consulting the piece of paper, which is far less time-consuming than running through the material in your head for every question.

#### Don't be afraid to guess.

Your score is based on how many questions you get right. So if you don't know the answer to a question, go ahead and guess.

# ARCHITECT

### THE NEW FACE OF ARCHITECTURE

"The articles are concise, they're easy to read, and it's interesting. And it does give more of a picture of architecture as a whole instead of just the end product."

ANDY KING, BBH Design Designer. Environmentalist Connoisseur.



#### MIT'S JOHN OCHSENDORF REINFORCES MASONRY'S HISTORIC SIGNIFICANCE. Text Mimi Zeiger





#### Guastavino vaulting is a

passion of John Ochsendorf's. He, his research assistant Philippe Block, and former student Michael Ramage used it to design spaces for South Africa's Mapungubwe National Park Interpretive Centre (above). The structural masonry technique also helps form the basis of thrust network analysis (right), a methodology he and Block are developing for creating compression-only surfaces. LOUIS KAHN LIKED TO TALK TO BRICKS. Famously, he asked, "What do you want, Brick?" And the brick replied, "I like an arch." Yet aside from Kahn's earnest chats with building materials, masonry rarely enters the Modernist discussion. John Ochsendorf, an associate professor of building technology in the MIT School of Architecture + Planning, looks at this and sees an impoverished legacy. Masonry construction — with arches, vaults, domes — was the dominant pre-Modernism building method, but it languishes in an era of steel, glass, and reinforced concrete.

"You cannot study masonry without being in awe of what cultures have accomplished over the years," Ochsendorf says. "We are taught, particularly in engineering school, that we are at the pinnacle of history, but when you look at these old masonry structures, you realize that people in the past knew more than what we know. You have to ask: What can we learn from a Gothic vault today?"

As an engineering undergraduate, Ochsendorf wanted more cultural information than he was getting in his history classes, so he began studying archaeology in conjunction with his more technical engineering courses. His undergraduate thesis on rope suspension bridges in Peru was as much about how their construction is integrated into Incan culture as it was about the bridges' structural merits. Yet it was the Catalan vaulting—thin



The Mapungubwe National Park Interpretive Centre is sustainable in many ways. Among them: (1) The vaults are composed of locally made stabilized earth tiles and designed to be structurally sound with a minimum use of material and at the lowest cost possible; (2) the tiles' high thermal mass passively cools spaces and radiates heat at night; (3) as part of the project's Poverty Relief Program, the structures are being built by locals trained in a masonry technique that is quickly and easily learned.

tile vaults that can stretch across large spaces without formwork—Ochsendorf researched while on a Fulbright fellowship in Spain that became the foundation for much of his current work.

Engineer and architect Rafael Guastavino Moreno brought this Mediterranean masonry technique to the United States when he emigrated from Spain in the 1880s. Simultaneously structural, decorative, and fireproof, the vaulting system is known for its use in, among other notable structures, Manhattan's Grand Central Terminal, by Reed and Stern/Warren and Wetmore, and McKim, Mead, and White's Boston Public Library.

Between 1885 and 1962, the R. Guastavino Co. (the founder's son Rafael Guastavino Esposito inherited the business) erected nearly 1,000 buildings across North America, a body of Beaux Arts structures largely neglected by historians. "They fought for the losing team," Ochsendorf laments. The feats of structural engineering that pushed the limits of masonry were all but eclipsed by modern construction materials. (The Guastavino Project, created by Ochsendorf and managed by the MIT's architecture department at guastavino.net, documents the company's Boston-area oeuvre.)

Although Ochsendorf draws on masonry's past, his work is decidedly forward-looking. In September, he received a prestigious MacArthur fellowship, more commonly known as the "genius grant," for his research on structural engineering history and technology. With research assistant and Ph.D. candidate Philippe Block, he is developing 3-D modeling and parametric tools that can decipher the compression loading in historic structures and assess their safety. Called thrust network analysis (TNA), this same computational method makes it possible to design and engineer new kinds of structural vaults. Currently, the MIT Masonry Group, led by Ochsendorf, is using TNA in conjunction with Buda, Texas–based



#### The Interpretive Centre makes extensive use of vaulted

extensive use of vaulted spaces. The structures' shapes take their inspiration from the hilly surrounding landscape—the park is located at South Africa's border with Zimbabwe and Botswana, on the Limpopo River—and the local culture.

Now being used to create a compression-only stone masonry pavilion in Texas, thrust network analysis allows designers to see how the internal forces of a particular three-dimensional shape are distributed. The thickness of the tubes in the computer model represents compression loads.

Escobedo Construction to erect a privately owned pavilion with a free-form, compression-only, unreinforced stone masonry vault outside Austin, Texas.

Also under way, though on the far side of the globe and at the other end of the technology spectrum, is the Mapungubwe National Park Interpretive Centre, located a few hundred miles north of Johannesburg, South Africa. The ambitious sustainable project, situated in a UNESCO World Heritage site and designed by Lerotholi Rich Associated Architects, makes exclusive use of Catalan vaulting to form the interior spaces of the center's handful of buildings. The vaults were designed by Ochsendorf, Block, and Masonry Group alumnus Michael Ramage in collaboration with South African engineer Henry Fagan.

Masonry's high thermal mass makes it perfect for an energy-efficient project, but it is sustainable in broader ways. The Mapungubwe construction team is working with stabilized earth tiles that were made near the site, rather than fired-clay bricks. And as part of the project's Poverty Relief Program, dozens of local workers have been trained as masons. In November, the center received an Africa/Middle East regional acknowledgment prize from the 2008 Holcim Awards for Sustainable Construction.

Ochsendorf is passionate about re-envisioning masonry architecture and engineering as part of a community ecosystem. "We're giving people a new means of livelihood, and people are very excited about building these vaults," he says of the Mapungubwe project. "If we had concrete panels prefabricated and brought them in on a boat, the building wouldn't have changed the area."

In Ochsendorf's hands, masonry is not a relic of history, but a means of economic empowerment and a catalyst for new, sustainable forms.

Learn more about John Ochsendorf's research and projects at web.mit.edu/masonry.



John Ochsendorf (B.S., Cornell, 1996; M.S., Princeton, 1998; Ph.D., Cambridge, 2002) received a MacArthur grant in September—the first one given to an MIT architecture school professor. Last year he was the first engineer to be awarded a Rome Prize by the American Academy in Rome.

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Crit

BERLIN'S INTERWAR SOCIAL HOUSING DESERVES ITS UNESCO LISTING— AND OUR CLOSE ATTENTION. Text Clay Risen

### LOOKS GOOD, GOOD FOR YOU



In July, UNESCO delegates voted to add six modernist housing estates in Berlin to the organization's list of more than 800 World Heritage sites. Among the new listings are Hans Scharoun's 1934 Ring Estate (one of its buildings is shown above, left) and the oldest of the six properties, Bruno Taut's colorful Falkenberg Garden City (above, right), completed in 1916. **THE INDUSTRIAL REVOLUTION** didn't hit Germany until the late 19th century. But when it did, it transformed the country almost overnight. Berlin went from 960,000 to 1.89 million people in just 25 years. Public expenditures for housing were minuscule, and by the eve of World War I, unsanitary and overcrowded apartment blocks were the norm for most Germans. In 1924, the government passed a 15 percent tax on rent in previously erected buildings, the proceeds from which went to new construction. Berlin alone saw the addition of 135,000 units, the bulk of them in sprawling housing estates, between 1924 and 1931.

More important than quantity was quality: Built by some of the country's leading architects, the estates reflect the best of the early modernist commitment to design for contemporary urban life. "City planning and reform of the civic body is a critical question of the highest degree," declared architect Martin Wagner, director of the Berlin Building Administration, in 1929.

The estates were immensely popular at the time,

and they remain sought-after addresses today. Despite average rents of 5.5 euros per square meter in some of the developments — well above the Berlin average of 4.75 euros — waiting lists are frequent. Six of the estates were added to the UNESCO World Heritage list this summer as "exceptional examples of new urban and architectural typologies, designed in the search for improved social living conditions." But as models for how mass housing can be built efficiently and work effectively, they have long been overlooked by governments that prefer short-term savings, even at the cost of the long-term social ills that come with bad public design. It's time for that to change.

**WEIMAR ARCHITECTURE** is largely thought to begin and end with the Bauhaus. But in terms of built work, the interwar city housing authorities, responsible for hundreds of projects a year, were the real center of German architecture. Most of the projects were funneled through nonprofit building cooperatives, a Another apartment block (right) belonging to Scharoun's Ring Estate, which currently has about 2,800 residents in total. The balcony balustrades on this building were renovated during the 1980s.





**Completed in 1930,** Bruno Taut's Horseshoe Estate is anchored by a large U-shaped building (right). The apart-ments had access to both private and public gardens.

decentralized approach that guaranteed a diversity of styles and solutions.

While several of the country's largest estates were built in a conservative, *völkisch* idiom, modernism became the de facto style of interwar housing construction. It appealed to the era's progressive mayors and city officials; they saw it as an architectonic version of their own desire for new solutions for the new masses of urban, industrial workers. After setting high standards for quality and amenities—all apartments had running water, toilets, and kitchens—they hired forwardthinking planners like Wagner in Berlin and Ernst May in Frankfurt to carry out their visions; those men in turn hired up-and-coming architects like Hans Scharoun, Bruno Taut, and Walter Gropius.

Perhaps the most famous of the Berlin projects is Taut's *Hufeisensiedlung*, or Horseshoe Estate, so-called because the centerpiece is a three-floor apartment building in the shape of a 1,150-foot inverted U. At the boundaries and extensions, seclusion and openness."

Taken as a whole, the estates are a systematic historical record of modernism's efforts to reconcile urban conformity with the human urge toward individualism and free communal interaction. How do you design a facility that is rational and efficient, but also loose and varied enough in its program to allow for chance encounters and personal expression? Not every answer was the right one, but the continued popularity of the estates makes for a convincing case that many of their designers were on the right track.

WEIMAR PUBLIC HOUSING architecture may be loved in Germany, but its legacy outside the country has fared poorly. For too many people, particularly in the United States, Modernist German architecture is too easily conflated with the Bauhaus, which is too easily conflated with the failed public housing projects that went up in America by the hundreds after World War II. Witold

Weimar architecture is largely thought to begin and end with the Bauhaus. But in terms of built work, the city housing authorities, responsible for hundreds of projects a year, were the real center of German architecture.

horseshoe's center lies a tree-flocked pond, and each of the apartments has access to both private garden space and public greens arrayed around the pond's edges. That dense, central block is complemented by more than a dozen rows of two-floor attached row houses loosely ranged around it; each fronts on a narrow road and sports a private garden in back.

Working with a slim budget and a narrow range of materials, Taut nevertheless achieved a striking level of pleasant detailing and softening asymmetries. The apartment rows don't meet the street uniformly, but rather move back and forth to create a variety of spatial settings. He varied brickwork and paint colors. And he arranged the different blocks to maximize social interaction; the center of the horseshoe, combining play areas for children and gardening spaces for adults, becomes an external, communal "room."

Across town, the developers of the *Siemensstadt*, or Ring Estate, took another approach by drafting young, talented architects to design different takes on the same basic unit, an elongated four- and five-floor block. Built between 1929 and 1934, the project employed Gropius, Scharoun, Hugo Häring, Otto Bartning, and other rising stars of German architecture. Each was free to conceive his own floor plans and access routes, resulting in a stunning array of living spaces within a tightly conceived general plan. All, however, displayed a humane attention to detail that prevented the blocks from sinking into numbing sameness.

Scharoun, charged with creating the zoning plan, brought the same balance of variety within uniformity to the estate's green spaces. "The idea," note preservationist Jörg Haspel and Bauhaus Archive director Annemarie Jaeggi in their book on the estates, "was not the rigid functionalist elongated building; it was a spatial subdivision based on the natural features of the site and including narrower and wider sections, spatial Rybczynski titled a 1993 piece in *The Public Interest* on Chicago's infamous Cabrini-Green projects "Bauhaus Blunders"; Bauhaus modernism was likewise blamed by some for the 2005 *banlieue* riots in suburban Paris, in which immigrant youth battled with police after a teenage boy died while fleeing arrest.

Yet viewed in light of the Berlin estates, the crisis of the modern housing project is not its Modernist provenance but its divergence from the ideals that fueled the movement's earliest minds. The failure of Cabrini-Green and other projects, like the Robert Taylor Homes on Chicago's South Side, lay in their complete surrender to the pressures for efficiency and uniformity (not to mention, as historian Arnold Hirsch notes in his book *Making the Second Ghetto*, the corruption and racism of postwar housing authorities). Their designers were not interested in the paradoxical demand to create a uniform structure that cradled individuality. The dollar trumped diversity.

Saving money is concrete; individualism and community are abstract. And yet it comes together in the end: Design that fosters expression and neighborhood creates healthy, stable communities of people who invest in their built environment. The residents of the Taylor homes didn't let their buildings fall to pieces because they didn't care, but because the buildings' design didn't give them a reason to. As one person told columnist Mike Royko, "See that balcony, these outside hallways? That's my kid's playground. And when that wire fence tears through those little babies fall through and die. Man, this is real isolation."

Both Cabrini-Green and the Robert Taylor Homes have been torn down, and housing authorities are casting about for a new paradigm for public housing. With reform of the urban built environment back on the minds of politicians and city planners, it's worth paying attention to the Berlin estates — an example of public housing done right.



**Clay Risen** is the managing editor of *Democracy: A Journal of Ideas.* He has written about architecture for *Metropolis, The New Republic,* and *Slate.* 



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#### TIME FOR A CHANGE IT'S NOT AS SCARY AS YOU THINK.

Text Ned Cramer Illustrations Peter Arkle

**I'M SOMETHING OF A GLOOMY GUS.** The books I'm reading these days have titles like *Collapse: How Societies Choose to Fail or Succeed* and *Are We Rome?: The Fall of an Empire and the Fate of America.* My personal neurochemistry notwithstanding, I'd like to think that my present literary tastes also happen to be indicative of the times: There's been a violent upswing in the popularity of apocalyptic nonfiction. Most of these titles arrived too late to be precisely, chronologically Millennialist. But who's counting, what with signs of the End Times all around us?

The Apocalypse started behind schedule, not on Jan. 1, 2001, as predicted, but eight months later, on Sept. 11. The attacks lit a spark of national self-reflection, which, instead of blazing into a collective drive for reform, gave way to an epic state of decadence. Heedless of all warning, and despite the conflicts that ensued in Afghanistan and Iraq, the United States embarked on a seven-year binge after 9/11, with Paris Hilton, Lindsay Lohan, and Britney Spears playing the Whores of Babylon, and architects like Daniel Libeskind and Zaha Hadid building the sets. The War on Terror came with no rationing or draft, just a presidential enjoinder to spend freely. "Get down to Disney World in Florida," George W. Bush said two weeks after the attacks. "Take your families and enjoy life, the way we want it to be enjoyed." The nation obeyed.

When Rem Koolhaas' Prada "epicenter" store opened in SoHo on Dec. 15, 2001, the late *New York Times* critic Herbert Muschamp breathed a sigh of relief that the terrorists hadn't stopped the party: "If we must shop to save America, some of us won't mind shopping for architecture. If you're in the market for ideas, here's the place to stock up. Try Contemporaneity—your free gift." Free? Muschamp, the voice of the baby boomer architecture generation, underestimated the hefty price of our consumer culture—the American Dream in its latter-day, credit-fed, McMansion-sized variety.

The whole house of cards came crashing down this year, in the form of 1.76 million foreclosures and counting. Other markets followed suit, and the succession of disastrous news reports sounded like the breaking of so many seals. Were there seven of them? I lost track: The subprime market tanked, and a 90-year-old Ohio woman shot herself rather than face losing her home; gas prices reached \$4.50 a gallon; Lehman Brothers filed for bankruptcy, as did Aloha, ATA, and Frontier airlines; car sales reached a 15-year low; unemployment reached a 16-year high; food riots broke out in Bangladesh, Haiti, and Egypt; and polar bears resorted to cannibalism as Arctic ice shrank.

Then, thank heaven, Barack Obama won the presidential election. Jesse Jackson wept openly on television, and for a moment the nation breathed easier. Despite all that has happened, and all that's sure to come, I'm fairly confident that the end of the world is *not* nigh. But we're definitely witnessing the end of the world as we know it, the one fueled on easy credit and cheap energy. The loss of thousands of lives on 9/11 wasn't enough to change our habits, but the loss of millions of jobs during 2008 sure seems to be doing the trick.

The party's over, people. Life, and architecture with it, will never be the same.

WELCOME TO THE AGE OF AUSTERITY. The moralizing backlash against the architectural excesses of recent years has already begun. In October, *The New York Times* critic Nicolai Ouroussoff noted the spectacularly bad timing of Hadid's Chanel Mobile Art pavilion, a multi-million-dollar paean to a handbag, erected in Central Park as part of a six-city world tour. "The pavilion's coiled form," Ouroussoff wrote, "in which visitors spiral ever deeper into a black hole of bad art and superficial temptations, straying farther and farther from the real world outside, is an elaborate mousetrap for consumers."

There's no denying the valuable contributions of Frank Gehry, Hadid, Libeskind, and other shape-makers of the early 21st century, but I can't shake the feeling that today

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there are more pressing matters to address than the design and construction of radical form. In 20 years, or 200, history may recall such works without moral bias, the way we've disassociated the Roman Baroque from the conservative excesses of the Counter-Reformation. (Remember, while Bernini was building the *baldacchino* at St. Peter's, his patron, Pope Urban VIII, sicced the Inquisition on Galileo for daring to suggest that the Earth revolved around the sun.) Can we forgive Hadid for fiddling while Baghdad burned?

Methinks the profession's 10-year love affair with Shock Value Modernism is nearing an end. This is cause for celebration, not because Modernism lacked value at its inception or because we have nothing to learn from it now—we do, as Clay Risen observes in "Looks Good, Good for You" [page 41]—but because the current, formfollows-fashion version is totally disassociated from the movement's socially minded origins. The torch has passed to a different kind of architect, one concerned not with global spectacle but with saving the planet. Given what's at stake, I hope we can agree that salvation's the better product.

**GET READY FOR THE GREAT LEAP BACKWARD.** With the passing of extreme Modernism, so too will go the obstinate faith that technology can solve all of society's problems.

When did buildings start to look the same on all sides? At some point, seduced by air conditioning, artificial lighting, and other apparent necessities, architects forgot the ancient, elemental strategies of environmental design. The time has come to remember. Try this one: "Summer *triclinia* should be towards the north," Vitruvius wrote in *De Architectura*, "because that aspect, unlike others, is not heated during the summer solstice, but, on account of being turned away from the course of the sun, is always cool, and affords health and refreshment." Granted, the translation's a bit dry, but the idea is hot.

Innovation will persist, even flourish, in the new era, with its epic challenges, but many of our efforts will concentrate on the recapturing or refining of long-neglected technologies, as MacArthur "genius" John Ochsendorf is doing with load-bearing masonry [page 37]. Twenty years ago, who could have imagined that a windmill would epitomize the future of energy? Building-performance experts say that the architecture of the future will look-or, more precisely, work-a lot like the architecture of the past. The new model office, for instance, will adopt strategies from the high rises of the late 19th and early 20th centuries, with their setbacks, light wells, and narrow floor plates to encourage daylight and airflow. Even the risk-averse, costconscious development community is beginning to grasp that sun and wind come free of charge. Indeed, all across the nation, prejudices are fading in the face of necessity. Some architects may even overcome their superficial stylistic objections to the New Urbanism and begin to appreciate the value of mixed-use, pedestrian-friendly communities.

Many advances of the next decades will feel an awful lot like retractions, as we undo decades of damage to our built and natural environments. Ultimately, the goal is to consider the built and natural environments with one all-encompassing vision. Just imagine the aesthetic possibilities of nanotechnology and biomimetic design. The reformation of architecture doesn't have to result in a creative setback—nobody has to wear a hair shirt. We can do just about anything, so long as we do it naturally.

#### Text Braulio Agnese Photos Jason Fulford

# DEFERRED

IF THE UNITED STATES WERE A HOUSE, ONE MIGHT QUESTION THE PRIORITIES OF ITS 305 MILLION OWNERS. BIG MONEY GOES TO TCHOTCHKES—A STADIUM HERE, A CONDO TOWER THERE—WHILE THE REPAIR BILL KEEPS GROWING (BECAUSE WHO WANTS TO DEAL WITH *THAT*?): \$1.6 TRILLION FOR CRUMBLING INFRASTRUCTURE, \$4 BILLION TO \$6 BILLION FOR DETERIORATING NATIONAL PARKS, AND ON AND ON. THE NATIONAL MALL—SHOWN HERE IN EARLY NOVEMBER—IS OFTEN CALLED "AMERICA'S FRONT YARD." BUT TO LIVE UP TO ITS POTENTIAL, THE MALL NEEDS \$350 MILLION. CONGRESS HAS COME UP SHORT, NOT SURPRISINGLY, SO A PRIVATE TRUST IS STEPPING IN TO FIND THE DOLLARS.



# 1AINTENANCE



Text Lance Hosey Photos Shuli Hallak





#### CAN GREEN DESIGN AND THOUGHTFUL URBANISM SAVE DUBAI?

**IN HIS NEW BOOK,** *Hot, Flat, and Crowded*, Pulitzerwinning *New York Times* columnist Thomas Friedman urges America to lead the green revolution, which he portrays as an international struggle for power (pun intended) akin to the Cold War's space race. He worries that China might outpace the United States, but in fact the Middle East may be giving both countries a run for their money. Ironically, while Americans dream that going green will liberate us from Arab oil, some Arabs fantasize about liberating themselves. Abu Dhabi, one of the United Arab Emirates (UAE), has become a leader in renewable industries, and Foster + Partners' planning of Masdar City as the world's first zero-carbon city signals bold ambitions for sustainable development.

But any progress made in Masdar could be compromised by the explosive growth, about 75 miles to the northeast, of the UAE's largest city, Dubai. Two decades ago, Dubai was a dusty coastal plain on the Persian Gulf. Today it is the Manhattan of the Middle East. Its population, which has doubled in the last 10 years, continues to mushroom, as does its skyline.

Supposedly up to a quarter of the world's construction cranes are located there, and, like the city itself, everything being built is big. Very big. The Dubai Mall will be the largest shopping center in the world, with over 9 million square feet of retail space. Dubailand will be the largest amusement park, twice the size of Disney World. The Palm Jumeirah, a 3-mile-by-3-mile artificial island, allegedly can be seen from the moon. Dubai will have the largest metro, the largest airport, the longest waterfront, and the largest indoor skiing facility—because a place where the annual rainfall totals a couple of inches and the temperature routinely surpasses 110 F simply *must* have great snow skiing.

Impossibly high skyscrapers are sprouting up like weeds—literally, in the case of Dubai Towers, four sinuous structures rising reed-like on the water's edge. The world's tallest building, the Burj Dubai, soon may be overshadowed by the Nakheel Tower, which, at a proposed 3,900 feet, would be nearly three times the height of the Empire State Building. While the other Manhattan went vertical because of space limitations, Dubai reaches for the sky just to show off, gazing at its own seaside spectacle like an urban Narcissus.

"Dubai is Vegas on steroids," says Douglas Kelbaugh, who moved there last month. He stepped down as dean of architecture at the University of Michigan to become executive director of building and urban design for Limitless, a UAE-based developer with a worldwide portfolio. The city's rapid construction, Kelbaugh feels, has produced a spate of ostentatious buildings with little connective tissue between them, a condition he calls "dense sprawl."

"Dubai is burdened by the postwar American model of superblock, superhighway, single-use zoning, and subsequent lack of road and street connectivity," he says. "If we don't deal with land use and transportation, we'll come up short. We can't solve these problems one building at a time."

I caught up with Kelbaugh in early November at a University of Pennsylvania conference, "Re-Imagining

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Cities: Urban Design After the Age of Oil." Hosted by the Penn Institute for Urban Research and sponsored by the Rockefeller Foundation, the symposium brought more than 300 participants from around the globe to brainstorm about how the changing climate is changing cities. "The biggest and scariest takeaway from this conference," Kelbaugh told me, "is the lack of time compared to the magnitude of the problem."

His new home, the UAE, provides a dramatic case in point. Its per capita impact on the environment is roughly six times the global average—another "world's largest" distinction. Most of this comes from carbon emissions, so, ironically, oil is providing the Middle East with great wealth but poor health. Kelbaugh has written that the pursuit of "More, Bigger, Higher" has led architects to "a joy ride of consumption and exploitation."

Nowhere is "More, Bigger, Higher" more explicit than in Dubai. While desalination and cogeneration plants are creating an efficient infrastructure, modest conservation seems to justify overblown development. It may take less energy to operate these buildings, but it takes more to build them in the first place, so green tech has become a green crutch. "We're still talking about making marginal changes," says Kelbaugh. "We have to radically transform how we think about the built environment." Kelbaugh hopes Dubai's Arabian Canal, a Limitless project planned by Peter Calthorpe, will provide a strong model for a dense, walkable, mixed-use community with diverse transit. "We have to get smarter about where and why we need buildings. Build less, but build better."

### THE COMEBACK KID

ADRIAN SMITH DIDN'T WANT TO RETIRE. TURNS OUT HIS CLIENTS DIDN'T WANT HIM TO, EITHER.

Text Vernon Mays Portrait Nick Burchell

**IN EARLY JANUARY**, Adrian Smith was holding out hope that his newly founded firm, Adrian Smith + Gordon Gill Architecture (AS+GG), was on the verge of getting its first big break. By month's end, jaws had dropped at the startling announcement that AS+GG had won the international competition (against finalists Foster + Partners, Atkins, Murphy/Jahn, and the New York office of Skidmore, Owings & Merrill [SOM]) for the Masdar Headquarters, a 1.5-million-square-foot complex in Abu Dhabi. (See "Positive Energy," June 2008, page 74.) It was the first in a series of developments that made 2008 a banner year for the firm—and made Smith the year's comeback kid.

Not that Smith is by any means a young buck. In fact, it was his age—just a few years shy of mandatory retirement at 65—that prompted him to jump ship from SOM in late 2006 and launch Chicago-based AS+GG with partners Gordon Gill and Robert Forest, also SOM alums. Smith says a forced transition to consulting design partner at SOM gave him the sense he was being marginalized—"and I didn't like that feeling." So, at a point in life when many might have just accepted the inevitable, he started a new firm.

When the Masdar selection was made, AS+GG had 37 employees. Now the staff totals 185. Asked about other metrics to measure the firm's success, Smith simply offers: "Financially, we are very secure."

That's because the work keeps coming. On the heels of the Masdar victory, AS+GG won another competition held by Meraas Development to design a three-tower complex in Dubai known as 1 Dubai. In proposing



a massive sculptural composition with soaring clusters of cables and sky bridges, the firm beat out SOM New York, Pelli Clarke Pelli, Kohn Pedersen Fox, and Atkins. Each of the towers will be at least 2,000 feet tall; together they will enclose 13 million square feet of space. "This is the largest project ever built in the world," says Smith.

Recently, AS+GG was selected to oversee the greening of the Sears Tower, a commission that could easily have gone to the building's original architects, SOM Chicago. "They were interviewed," Smith says with a discernible grin. The ongoing renovation will involve reglazing of the building, updated lighting, and an overhauled mechanical plant. New green roofs will be installed—the first test section is already in place—along with a rooftop photovoltaic array. In addition, the firm will explore the use of wind turbines as a viable energy source.

Given his experience with large-scale, mixed-use projects, Smith says he knew the firm would have to be fairly sizable in order to do the work he wants. But the rapid rise of AS+GG — with 27 projects now in the works, in Chicago, Philadelphia, Vancouver, Abu Dhabi, Qatar, Dubai, London, Belgrade, and Mumbai — has surpassed his wildest expectations. The firm's first two wins got a lot of attention, but as Gordon Gill notes, "The third and fourth time you do it, you're in the game. It's not a fluke."

# EEKONOMY

THE ECONOMIST JOHN KENNETH GALBRAITH ONCE SAID OF HIS FIELD OF STUDY, "ON FEW TOPICS IS AN AMERICAN AUDIENCE SO PRACTICED IN TURNING OFF ITS EARS AND MINDS." WHAT A DIFFERENCE A YEAR MAKES—SPECIFICALLY. FOURTH QUARTER 2007 TO THIRD QUARTER 2008, AS REPRESENTED BY THE SIX ECONOMIC INDICATORS ILLUSTRATED HERE. (DISMAL SCIENCE, INDEED: IF A 1.6 PERCENTAGE POINT INCREASE IN UNEMPLOYMENT DOESN'T SEEM LIKE MUCH, UNDERSTAND THAT IT TRANSLATES TO ABOUT 2.4 MILLION LOST JOBS.) BY THE TIME ALL HELL BROKE LOOSE IN SEPTEMBER, PRETTY MUCH EVERYONE IN THE U.S. WAS PAYING CLOSE ATTENTION. THINGS HAVEN'T GOTTEN ANY BETTER SINCE, AND THE OUTLOOK FOR THE MONTHS AHEAD IS EQUALLY BLEAK. AS A RESULT, IT'S NOT LIKELY ANY OF US WILL STOP BEING VIGILANT—EVEN WHEN THINGS DO TURN AROUND (AND THEY WILL).



#### DOW JONES INDUSTRIAL AVERAGE



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# IL MAESTRO

FIRST CAME THE MENIL, THEN THE TWOMBLY, NASHER, HIGH, AND MORGAN. IN 2008, TWO MORE OPENED, AND HALF A DOZEN ARE UNDER WAY. IT'S OFFICIAL: RENZO PIANO BUILDING WORKSHOP HAS BECOME THE MASTER OF THE AMERICAN MUSEUM, AND—DARE WE SAY IT?—A 21ST CENTURY MCKIM, MEAD, AND WHITE.



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LYNDA AND STEWART RESNICK EXHIBITION PAVILION • Los Angeles • Executive architect: Gensler • Expected completion: 2010



BROAD CONTEMPORARY ART MUSEUM AT LACMA • Los Angeles • Executive architect: Gensler • Completed in 2008



THE MODERN WING AT THE ART INSTITUTE OF CHICAGO • Chicago • Architect of record: InterActive Design • Expected completion: 2009





ISABELLA STEWART GARDNER MUSEUM EXPANSION • Boston • Architect of record: Burt, Hill • Expected groundbreaking: 2010

FOGG MUSEUM AND BUSCH-REISINGER MUSEUM RENOVATION AND EXPANSION AT HARVARD UNIVERSITY • Cambridge, Mass. • Architect of record: Payette • Expected completion: 2013



CALIFORNIA ACADEMY OF SCIENCES • San Francisco • Local architect: Stantec Architecture (formerly Chong Partners Architecture) • Completed in 2008



OPPOSITE PAGE, CLOCKWISE FROM TOP LEFT: IMAGE COURTESY OF RENZO PIANO BUILDING WORKSHOP IN COLLABORATION WITH COOPER, ROBERTSON & PARTNERS; COURTESY LACMA; ROBERT IRWIN, MUSEUM ASSOCIATES/LACMA; COURTESY OF THE ART INSTITUTE OF CHICAGO; KATVA KALLSEN, PRESIDENT AND FELLOWS OF HARVARD COLLEGE; RENZO PIANO BUILDING WORKSHOP. THIS PAGE, TOP TO BOTTOM: TIM GRIFFITH; RENZO PIANO BUILDING WORKSHOP; RIGHT: AP IMAGES

## MOMMIE DEAREST

BUILD ALL THE LEED BUILDINGS YOU WANT—CLIMATE CHANGE IS ALREADY HAPPENING. SEA LEVELS WILL KEEP RISING AND WEATHER PATTERNS WILL JUST GET WEIRDER. MEET THE NEW ENEMY, MOTHER NATURE.

Text Bradford McKee



Hurricane Ike approaches the Texas coast in September. Look for increasingly erratic weather as the 21st century progresses.

**SOMEDAY, THE NEW SECOND AVENUE SUBWAY** line in Manhattan could help save a good chunk of New York City from going under water. The world's oceans, you may have heard, are rising, probably because the atmosphere is warming as it becomes more saturated with carbon dioxide from the burning of fossil fuels.

CONTINUED ON PAGE 56  $\rightarrow$ 

#### ARCHITECTS NEED TO START THINKING ABOUT THE PROBLEM, OR OTHERS WILL THINK ABOUT IT FOR THEM. THE GREATEST CONSCIOUSNESS ABOUT THE BUILT **ENVIRONMENT IN** THE FACE OF RISING SEAS AND EXTREME WEATHER MAY BE COMING NOT FROM ARCHITECTURE AND PLANNING, **BUT FROM THE** INSURANCE INDUSTRY.

#### → CONTINUED FROM PAGE 55

Soon enough, coastlines, not least New York's, could be swallowed by the breakers as they creep inland, perhaps by as much as 3 feet between now and 2100, as some models suggest. Even sooner, storm surges from monster hurricanes could drive water up 20 feet over the doorways of Tribeca, just as one did in New Orleans-if the predictions of the world's leading climate scientists are true, and unless somebody starts thinking our way around such a mess.

The engineer and Princeton professor Guy Nordenson has started thinking, and not in small steps, about how to avert this particular disaster in New York and, perhaps, other coastal cities. This month, a research team Nordenson leads is scheduled to release in book form its master strategy for keeping New York dry as the oceans gradually rise or suddenly rebel in storms. The project, titled "On the Water," won the 2007 Latrobe Prize, a \$100,000 research award from the AIA, and it seems as audacious as it does plausible.

Nordenson and his team looked at the New York–New Jersey Upper Bay, as bracketed by the Bayonne Bridge on the west, the Holland Tunnel and the Manhattan Bridge on the north, and the Verrazano Narrows Bridge on the south. Around the edges of Jersey City and Red Hook in Brooklyn, they propose a "softer" shoreline of sloped, fingerlike piers, extending out from what are now hard, vertical seawalls, that could help tame storm waves and enhance the tidal ecology. They also considered ways to blunt the impact of rising tides and surges by baffling the water's energy across a new series of islands, shoals, and reefs in the middle of the bay (shipping channels would stay where they are). That's where the Second Avenue subway comes in.

The Nordenson plan works with the city more or less as it exists, based in a deeply practical reality. It proposes to create islands, mudflats, and new shoreline transplants within caissons by using up to 40 million cubic yards of dredged material from the Port Authority's Harbor Deepening project and also the cutaway earth that will come from the Second Avenue line. New York subway cars themselves could be submerged to become reefs, as they have elsewhere. On a nice day, the grand composition would become a kind of aquatic parkland connecting the boroughs.

It's a proposal worthy of Frederick Law Olmsted, with supercomputers thrown in. "One of the things we're trying to do is marry rigorous science with the urban design proposal," Nordenson says. He has been working alongside Princeton colleagues who are involved with the United Nations' Intergovernmental Panel on Climate Change, using their modeling capabilities to "design" hurricanes and storm surges with geographic information systems and computational fluid dynamics to find the best way to keep the city's friendship with water intact.

"We're not going to get permission tomorrow to build islands in the middle of the bay," Nordenson concedes, "but we're trying to promote ways of thinking about this problem."

If anyone has different ideas, it's time to speak up. Architects need to start thinking about the problem, or others will think about it for them. In an issue of Harvard Design Magazine last year, Kristina Hill and Jonathan Barnett wrote an essay that described the vast challenges of addressing rising waters in coastal environments. Beyond the obvious but largely unheeded suggestion that we should avoid development on shorelines, most resounding in their analysis was that the greatest consciousness about the built environment in the face of rising seas and extreme weather was coming not from architecture and planning, but from the insurance industry. They noted that Allstate, for one, has been cutting its coverage of properties in some coastal areas, and that large groups of insurers' shareholders want insurers to keep close tabs on the risks related to climate change when they write policies. Insurance companies are "likely to increasingly shift the costs of sea-level rise and more damaging storm patterns to governments and individuals," Hill and Barnett wrote. More encouragingly, some companies, they added, "are also looking farther into the future and are influencing builders and other market agents to do more to mitigate climate change."

Underwriters and their shareholders have seen the data. Scientists in the journal Nature reported earlier this year that hurricane frequency rose by 40 percent between 1996 and 2005, likely owing to a 0.9 F rise in ocean temperatures. A warming atmosphere is believed to be causing more intense tornadoes (like the one that leveled Greensburg, Kan., in the spring of 2007), relentless floods in some places and, in others, droughts that lead to forest fires. Development near the coasts and within danger zones inland has been driven largely by profit but, unless decent design solutions arise, will increasingly be driven by loss.

Amazingly enough, though, considering the sloth with which any industry moves without obvious gains ahead, it has taken only about 15 years for the idea of sustainability to pervade mainstream architecture. In 1993, the Congress for the New Urbanism and the U.S. Green Building Council both formed (coincidentally, but perhaps not) and changed the conversation about sprawl, transit, open space, sustainable materials, macroeconomics, and human health. Now architects and designers can be seen leading the way toward more environmentally sound buildings and infrastructure, and the message has caught on among the keepers of architecture's purse-namely, developers and financiers – and trickled into the public consciousness. Americans haven't yet achieved the ingrained ecoconsciousness of your average European, but it's a very promising start for a culture bent on human dominion over all things.

It is not unthinkable that, in a similar time frame (or faster), architects, planners, and engineers could mobilize about the climate threat and design innovative defenses against it. For now, that job rests mainly with building code officials and ad hoc reponses to catastrophe, usually after the fact. Efforts in the building arts to mitigate environmental damage grow more sophisticated by the year, but reducing our collective carbon footprint will do only so much good when the issue unavoidably becomes one of trading our shoes for a pair of waders.



## TEMPLE STANDOFF

IDEALLY, THE EXQUISITE 11TH CENTURY KHMER TEMPLE OF PREAH VIHEAR SHOULD BELONG TO THE WHOLE WORLD—BUT THEN THERE'S MESSY GEOPOLITICAL REALITY. A DECADES-LONG STRUGGLE BETWEEN THAILAND AND CAMBODIA OVER OWNERSHIP OF THE REMOTE TEMPLE WAS REIGNITED IN JULY, WHEN UNESCO NAMED PREAH VIHEAR A WORLD HERITAGE SITE. FOLLOWING THE LISTING, BOTH COUNTRIES BEGAN MASSING TROOPS AROUND THE TEMPLE, AND IN OCTOBER, THE TWO SIDES CLASHED, LEAVING AT LEAST TWO SOLDIERS DEAD AND SEVERAL MORE WOUNDED.

ACCORDING TO *TIME* MAGAZINE, THERE WAS ANOTHER NEAR-CASAULTY OF THAT SKIRMISH: AN ANCIENT STONE *NAGA* (SERPENT) FIGURE NARROWLY ESCAPED A GRENADE.

### VISIBLE MAN



Text and Photo R. Steven Lewis

DAVID ADJAYE is fast becoming a household name among architects, notwithstanding the widespread confusion over how to pronounce his surname (Adj-eye, for the record). There is, however, one characteristic of his rapid ascension to the top of the profession that is unmistakable. Adjaye is a black man. Born in Tanzania and educated in London, he has a global practice at an opportune time in history, when being black is arguably fashionable, the way it was for artists, writers, and musicians during the Harlem Renaissance. What is interesting and ironic about the comparison of that epic period in black American history with today is that few, if any, black architects of the 1920s attained the status that Langston Hughes did as a writer and Aaron Douglas did as an artist.

Adjaye's success can most credibly be attributed to a perfect storm—a confluence of design talent, business acumen, a boundlessly high level of self-expectation, good fortune with respect to early clients and publicity, an embrace of cultural iconography as inspiration, and perhaps just a little bit of novelty in the persona of the man himself. He exudes self-assurance and confidence, humility and grace.

Adjaye has rock star status in the architecture community—as evidenced by the capacity crowd (left) at his lecture for the 2008 National Organization of Minority Architects (NOMA) Conference in Washington, D.C.—and he has the potential to achieve that status in the mainstream. He has transcended the limitations that typically encumber anyone who is non-white in becoming a "starchitect."

Adjaye is emblematic of all that is possible when talent is the primary factor in achievement. David is a compelling phenomenon who is boldly going where no black architect has gone before. He has made accessible to aspiring architects, irrespective of race, gender, or physical disability, the possibility of transcendent success.

*R. Steven Lewis is the 2009–2010 president of NOMA.* 

# THE SEAGRAM AT 50

#### Text Giancarlo La Giorgia

With the Seagram Building, Philip Johnson, Ludwig Mies van der Rohe, and Phyllis Lambert-tastemaker, designer, and benefactor, respectively (shown here, left to right, in 1955)—set the standard for the postwar office tower.



AFTER HALF A CENTURY, New York City's Seagram Building remains among the finest examples of Modernist architecture; one of the 20th century's most important buildings; and the corporate high-rise against which all others are judged. But if the original plan had been followed, Manhattan's skyline might have taken a very different shape.

"When I learned my father had chosen Charles Luckman, who was behind the Lever House, to do a typical 'wedding cake' design, I wrote him back a long letter with just one word repeated over and over: No," says Phyllis Lambert, the architect daughter of late Seagram Co. chief Samuel Bronfman.

Dubbed the "quirk in the works" by the building's chief developer, Lambert cemented her place in the pantheon of great architectural benefactors by singlehandedly convincing her father to hire Ludwig Mies van der Rohe (in collaboration with Philip Johnson) to design the 38-story bronze-and-whisky-hued glass tower, with the then-scandalous "wasted" space of its open-air plaza-key factors why, at the time, it was the most expensive skyscraper per square foot ever built.

Now 81, Lambert – who would go on to found the Canadian Centre for Architecture, in her hometown of Montreal, in 1979—is currently working on a retrospective book, due out in 2009, about the building and her behind-the-scenes experiences leading up to

its completion in 1958. The Seagram's 50th anniversary seemed like a good opportunity to ask her if, given the chance to do it again today, she would do anything differently.

The answer, unsurprisingly, was an emphatic "No."

"Mies' tower and plaza wasn't just a building," Lambert writes in an e-mail, "but rather a new type of urban form that shaped an oasis in the city's fabric ... Seagram's example inspired ... the development of privately owned public places. Following its example, small plazas appeared all over New York, but it would be more salutary if all of these offered the amenities of Seagram-places to sit and watch, to smooch or to schmooze.

"I would take the same approach today. We are living in different times, but we can make places in the same spirit. I think of the changes that are now being made to Lincoln Center—where street and plaza become spaces of pleasure - and the transformation of the abandoned High Line....

"And then again, as I walk along Park Avenue, I always wonder why, in the 50 years that have passed since it was built, architects have not created places so satisfying, and-dare I say it-so simply beautiful."

Giancarlo La Giorgia is a freelance journalist and author based in Montreal.



### HABS AT 75

#### Text Amanda Kolson Hurley

#### An early HABS employee,

M. James Slack, documented Acoma Pueblo in New Mexico (above, right) the oldest continuously inhabited community in North America—in 1934. **IN 1933,** four years after the stock-market crash that kicked off the Great Depression, President Franklin D. Roosevelt established the Historic American Buildings Survey (HABS), a make-work program for unemployed architects, draftsmen, and photographers. Soon HABS recorders began streaming into every state of the union, where they documented America's architectural heritage—and, in the process, laid the groundwork for the emerging historic preservation movement.

Compared with bulwarks of the New Deal like the Civilian Conservation Corps and agricultural subsidies, HABS was a minor program, yet its impact has been profound and enduring. Remarkably, "it's the only work relief program of the '30s that still continues in some form," notes C. Ford Peatross, director of the Center for Architecture, Design, and Engineering at the Library of Congress. Co-administered by the National Park Service, the Library of Congress, and the AIA, HABS and its newer sister programs, the Historic American Engineering Record and the Historic American Landscapes Survey, have yielded an archive of 550,000 drawings and photographs of 38,000 sites and structures. These have helped generations of architects and historians better understand the built environments of the past.

Today, documentation is done mainly by student teams working in the summer. You don't have to be a design professional or scholar to enjoy the fruits of their labor: HABS records are online, at loc.gov/rr/print/ catalog.html, and fully accessible to (and downloadable by) the public, with no restrictions on use. HABS "has always been one of our highest-use collections," Peatross says, and is now becoming a popular online tool for K–12 education.



### PALLADIO AT 500

Text Edward Keegan

**ANDREA PALLADIO WAS BORN 500 YEARS AGO,** on Nov. 30, 1508, a mere 16 years after Christopher Columbus opened the Western hemisphere to European exploration. When Palladio published the first edition of *I Quattro Libri dell'Architettura* (in 1570), it became the 16th century's equivalent of *Vers une architecture, Complexity and Contradiction,* and *S,M,L,XL* combined.

Palladio's Four Books features his measured drawings depicting the monuments of Rome, as well as his own designs for villas, palazzos, and public buildings. The tome remains available in two different editions on amazon.com, but it was Thomas Jefferson who brought the first folio copy of the book to America in the 18th century. The nation's third president owned at least five copies and sourced important works including Monticello, the Virginia Capitol, and the University of Virginia Lawn from its etched pages—establishing Palladio as America's first influential starchitect.

Significant events have been held around the world in 2008 to celebrate Palladio's continued relevance to contemporary practice. These included "Palladio, 500 Years: The Great Exhibition" in his native Veneto in northern Italy; a symposium evaluating Palladio's urban and American legacies at New York's Institute of Classical Architecture and Classical America; and the completed restoration of James Madison's Montpelier in Orange, Va., a Palladian-inspired design.

But even among those who celebrated Palladio's quincentennial, questions arose about the nature of his legacy. Accepting the 2008 Driehaus Prize for Classical Architecture in March, noted New Urbanist Andrés Duany described the narrow path Palladio's followers have hewed for five centuries. "The canon was very arbitrarily reduced by Palladio to four [books]," said Duany of the *Quattro Libri*. "The classical canon needs to be expanded for the 21st century."





IN 2008, HOUSE PRICES CRASHED, FORECLOSURES SWELLED, AND GASOLINE TOPPED \$4 PER GALLON. WE ASKED TWO NOTED URBANISTS: DOES THIS SPELL THE END OF THE SUBURBAN DREAM?

Levitt and Sons, builders of ur-suburbs Levittown, N.Y. (above, right), and Levittown, Pa., filed for Chapter 11 bankruptcy in late 2007.

#### Joel Kotkin

FOR THE BEST PART of the last 40 years, planners, pundits, and environmental activists have predicted and wished for—the demise of suburbia. They have blamed everything from global warming to expanded waistlines on these communities, whose growth has proceeded largely unabated. Indeed, despite predictions of a movement back to the city, the vast majority of all metropolitan growth since 2000—roughly between 80 and 90 percent—has been outside of core cities. Even those cities that have grown most rapidly, like Las Vegas and Phoenix, are largely suburban in character.

Now, of course, we hear that other factors—rising energy prices, an aging population, and the current housing bust—will lead to the reversal of the suburban trend. If so, the census has not captured any such trend. The preferences of most home buyers, young and old, have remained constant for nearly four decades, with no more than 10 to 20 percent wishing to live in dense urban areas. And roughly 80 percent prefer single-family homes to apartments, according to surveys.

Of course, sales of all residential properties, including those in suburbia, have slowed markedly: The mortgage crisis is stopping everyone in their tracks. In the end, it's really all about the economy. The financial industry has continued to cluster in core cities, even as most others moved to the suburbs and smaller towns; as a result, the problems once ascribed to suburbs are now spreading to much-ballyhooed urban cores. In Chicago, there is a reported 73 percent drop in downtown home sales for the first half of the year.

When the smoke clears from the current crisis, it is likely that single-family homes and suburbs will reassert their predominance. One often overlooked reason is that suburbia is where the jobs are: Since 2000, job growth in cities has averaged less than one-sixth that of suburbs, according to research by my colleagues at the Praxis Strategy Group.

This is not to say that suburbs won't continue to evolve. Once exclusively white, they are now increasingly multiethnic; about half of all immigrants now live in peripheral communities. In the future, look for suburbs to become less attached to their traditional cities. Many are already developing their own cultural and commercial centers. These changes will lead to a more sustainable suburban future, one where people can work, shop, and recreate in the moderate-to-low-density communities they overwhelmingly prefer.

Joel Kotkin is a presidential fellow in urban futures at Chapman University. He is executive editor of newaeography com

#### **Christopher B. Leinberger**

**INTRODUCED IN THE EARLY 20TH CENTURY,** the low-density, car-oriented suburb was a new way of developing the built environment. Americans loved the space and privacy that it offered, and we in real estate gave the market what it wanted. So much so that, after World War II, the U.S. government put in place de facto domestic policies (like home loans under the G.I. Bill) that made this the largest social engineering experiment in American history.

But in the 1990s, the consumer began to change. The so-called Millennials, raised on urban entertainment like *Seinfeld* and *Friends*, want something other than car-dependent suburbia. What they want, but find in short supply, is walkable urbanism. The dearth of walkable urban options has resulted in huge price premiums in such areas, even those that were slums 30 years ago—a process otherwise known as gentrification.

These places have held their value in the housing meltdown, while fringe suburbs have collapsed. When the smoke clears, it might be that this financial nightmare was sparked by building too much of the wrong product—i.e., drivable suburban developments—on the outskirts of our metro areas, the next slums.

But it does not mean the death of the suburbs. It means the transformation of some suburbs. The Washington, D.C., area is a model for where America is heading, with about six significant walkable urban places per million people. And most of these places are in the suburbs: There is Dupont Circle, but also Reston, Va., and Bethesda, Md. In Los Angeles metro, there are currently 13 to 15 walkable urban places; there will probably be 20 to 30 more before long, representing tens of billions of dollars of development. Where will they be? Mostly in the suburbs, following the ever-expanding rail system.

High energy costs are accelerating, not driving, the transformation of the suburbs. However, energy costs will only get higher as we address climate change. Fortunately, transforming the suburbs will offer a major solution to climate change and the problem of energy security. Walkable urban households use one-third of the energy and emit one-third of the greenhouse gases of households in car-based suburbia.

There's nothing like giving the market what it wants while solving the great challenge of our age.

Christopher B. Leinberger is a developer and a visiting

### FLIP A STRIP

Text Katie Gerfen

**THE SCOTTSDALE MUSEUM OF CONTEMPORARY ART** in Arizona exhibited perfect timing with its Flip a Strip design competition and the subsequent show, which opened on Oct. 5 and runs through Jan. 18. Aimed at reinventing the strip mall for a hopefully greener 21st century, the competition gave architects a constructive outlet for anxieties about gas prices, global warming, and a decaying economy.

Boston-based Studio Luz Architects was named one of 10 winners. The firm's design (above) reimagines strip mall circulation, cutting away portions of the retail block to make room for pathways and evoking a marketplace in the process. The brutal Southwestern summers are conditioned by a system of roof ponds and Trombe walls that circulate cool water, siphoning heat away from the occupied space. Also mitigating heat gain is a fabric roof canopy, which integrates photovoltaic cells and light-emitting fabric to illuminate the covered parking lot for festivals.

These concepts can be applied elsewhere, Anthony Piermarini, one of the firm's co-founders, says: "We were interested in realism and practicality, given that the strip mall is such a beast of burden."

Text Andrew Yang

## YEAR OF THE DRAGON

#### WITH THE OLYMPICS BEHIND IT, WHAT DOES THE FUTURE HOLD FOR CHINA?

**FOR MANY BEIJINGERS,** the best moment during this summer's Olympics was not the grand opening ceremony or a heroic athletic feat—it was the ability to see the sky. As China prepared for the Olympics, all kinds of measures were put in place: shutting down industrial factories curbed air pollution, and traffic restrictions cut by 50 percent the number of cars on the streets. So, during the games, the appearance of blue skies and unjammed roadways reminded many, for the first time in a long while, how Beijing could seem pleasant and feel intimate.

Manna.

After five years of Olympics-related construction, and nearly two decades of increasing investment in China, what is the future of China's megasized building culture? August's Olympics frenzy immediately segued into the financial crises of September, and while the United States and Europe deal with the biggest economic disaster in a century, the view from within China is ... surprisingly, business as usual. If anything, a through-the-roof economy is giving way to an economy that's just vastly expanding.

That's not to say that the country won't experience a delay in some of its major projects; no country is immune in the current downturn, and China is in fact slowing down. In October, the government reported that during the period of July through September, China's economy grew only 9 percent—a boon for most nations, but not for fast-growing China, where 10 percent growth or more is the norm.

There also came signs that a sense of truthfulness has begun to pervade even the Chinese central government, which attributed the slowing economy of the late summer and fall, in part, to the restrictions imposed on foreign visitors during the Olympics. (The economy was also hampered by the closure of factories for the Olympics and a major natural disaster in Sichuan.) This was a direct admission that the measures designed to protect China's Olympic image — measures like preventing foreigners from obtaining visas — had actually hurt the country economically. To a country that often holds the Communist party line above the truth, *bravo*.

In the coming months, financially lean conditions will trim the fat off the incredibly bloated developments in China, and in the long term create a healthier system. That won't come without some pain and some discipline. For example, the luxury housing and retail markets in Beijing are heavily saturated—the speculators and foreign investors

#### THE MIDDLE OF THE MARKET— CHINA'S VASTLY GROWING MIDDLE CLASS—WAS NEGLECTED. WHILE GOING FOR GOLD, INVESTORS FAILED TO REALIZE THERE WAS HONOR IN AIMING FOR SILVER AND BRONZE.

#### $\rightarrow$ CONTINUED FROM PAGE 61

kept building and building, emboldened by the belief that the demand will be there because their products are. Encouraged by the government to spend and invest, everyone overlooked the critical detail: The Olympics lasts for only two weeks. Reports of empty malls and unsold apartment units are widespread. However, the building boom in China was never just about reaping the returns. That was a big part of it, but it was mainly an exercise in national pride, epitomized by none other than the Olympics.

In this process, the middle of the market—China's vastly growing middle class—was neglected. To give you an example, while luxury retailers such as LVMH and Lane Crawford experience so-so sales in Beijing, retailers like H&M and Zara are making a killing. It's not so much China that's learning its lesson, but the investors with deep pockets who are experiencing a market correction. While going for gold, they neglected to realize there was

easily come from China's cash \$1.6 trillion reserves, including \$541 billion in U.S. debt that it owns. However, on closer inspection, this money may have *already* been earmarked for infrastructure and then repackaged as a stimulus.

In China's next wave of expansion, look for building projects to center on philosophies of building efficiently, improving public space, and taking greater stewardship of the built landscape. No more fat, bloated building budgets: Smart entrepreneurs will insist on getting the most for their renminbi. Look for more public space, a demand for quality over quantity, and projects with a brighter impact on the urban, pedestrian level. No longer will be grand stadiums be built without regard for what they become (the Olympics "Water Cube" will reportedly be turned into a mall), but projects will follow the lead of Minsheng Port in Shanghai, spearheaded by Miami developer Craig Robins to include green design



In July, China's central bank issued 6 million 10-yuan notes (worth about \$1.46 each) commemorating the Beijing Olympics. They quickly became a collector's item, commanding \$350 or more on eBay.

also much honor in aiming for silver and bronze.

What will China's post-Olympic era look like? Well, World, rest assured that the building and economic boom will continue. As the Shanghai World Financial Center (SWFC) recently opened to be that city's tallest skyscraper, the news was overshadowed by another announcement: Gensler had won the contract to build the Shanghai Center, an even taller building that would stand alongside two other gleaming towers, the SWFC, designed by Kohn Pedersen Fox, and the Jin Mao Tower, by Skidmore, Owings & Merrill. In economic centers such as Shanghai, Guangzhou, and Hong Kong, the physical landscape will continue to intensify. In November, the Chinese government announced that it would spend about \$586 billion over the next two years on major infrastructure projects and to rebuild towns devastated by the earthquake earlier this year. This money could

and public art programs. Gradually, public demand will dictate such strategies in the program of private developments, and Chinese developers will get the credit for being savvier.

Indeed, I think an emerging collective consciousness was the best result of the bravado-filled Olympics of a Communist government. People here finally saw that the sky is bluer on the other side. And at 1.2 billion, what the people want, the people will get. You can't keep it from them any longer. After this market adjustment, the demands and stakes will be even higher in a more mature China. And architects will find themselves heeding that call, whether their clients ask for it, or not.

Andrew Yang is an American design journalist based in Shanghai and a consultant to 100% Design Shanghai, the spinoff of the annual London interiors show

**ARCHITECT** DECEMBER 2008

## PROJECTS OF THE YEAR

### SEVEN CRITICS FROM AROUND THE COUNTRY NOMINATE THEIR FAVORITE BUILDINGS OF 2008.

#### SPANISH PAVILION

Zaragoza, Spain



#### SARAH WILLIAMS GOLDHAGEN Architecture critic, *The New Republic*

Buildings can be the best in some important ways and simply good, mediocre, or bad in others. Francisco Mangado's Spanish Pavilion for Expo 2008 in Zaragoza, Spain, succeeds in many dimensions. A dense thicket of fluted ceramic columns set in a shallow reflecting pool, Mangado's pavilion distinctively marries ecological and progressive design solutions with historically resonant forms. Recalling precedents such as Josep Lluís Sert's Spanish Pavilion for the World's Fair of 1937, Mangado offers a poetic reinterpretation of the proverbial primitive hut.

#### CHARLES W. HOSTLER STUDENT CENTER Beirut, Lebanon



#### THOMAS FISHER Dean, College of Design, University of Minnesota

Islam and the West share what political scientist Robert Lee calls a "struggle against the fatalism of the traditional world and against the passivity of a world swept toward modernity." The Hostler recreation center at the American University of Beirut, by VJAA, explores this struggle, combining vernacular means of shading and ventilating space with sustainable materials and methods. By reinterpreting tradition and reimagining modernism, VJAA shows how the West and Islam might overcome their differences.

#### OSLO OPERA HOUSE Oslo, Norway



#### ZOË RYAN Neville Bryan Curator of Design, Art Institute of Chicago

The Oslo National Opera House, which opened in April 2008, appears to erupt from the Oslofjord like a giant iceberg. The vision of local architects Snøhetta, the five-story building is a complex facility that houses the Norwegian Opera and National Ballet. Openness and accessibility are achieved through the design, which sweeps up from the water and results in a strikingly angular structure ramped over with a public space - the main gathering space in this formerly industrial part of the city. Whether attending a performance or not, the public can access the ramped plaza and look down into the building through a series of glass towers that punctuate the surface, further encouraging interactivity between inside and outside.

#### ANDRES LEPIK

#### Curator of Architecture and Design, Museum of Modern Art, New York

The new opera house in Oslo is a terrific building. Its concept and urban setting make it a touchstone for the buildings that are yet to be built in this area, in the former harbor. It was a brilliant idea to open its various workshops to the passersby. The interior creates a very intimate and warm feeling, and the various zones of the building afford intense views of the surrounding area. It is a building that can be experienced as much with the eyes as with the heart.

#### TAHITI HOUSING COMPLEX

Santa Monica, Calif.



#### FRANCES ANDERTON Host of "DnA: Design and Architecture" on KCRW, Los Angeles

I chose the newly completed Tahiti Housing Complex by Daly Genik in Santa Monica because of what it represents: an effort to bring good design to lowincome families in one of America's most expensive cities. Tahiti is just the latest multifamily, affordable housing complex created by the nonprofit developer Community Corporation of Santa Monica. Director Joan Ling hires talented L.A. architects—also on her slate: Pugh + Scarpa Architects and Kanner Architects—and encourages them to push the envelope on design and sustainability, on a budget.

#### **BEIJING NATIONAL STADIUM** Beijing, China



#### LEE BEY

Executive director, Chicago Central Area Committee, and former architecture critic, the *Chicago Sun-Times* 

My favorite building of the year is the Beijing National Stadium, affectionately known as the "Bird's Nest," a host site of the 2008 Summer Olympics. With its seemingly random crisscrossing structural members, the exterior of the stadium, created by architects Jacques Herzog and Pierre de Meuron with China Architecture Design and Research Group and artistic consultant Ai Weiwei, is chaotic, yet orderly; a marriage of structure and façade. The 80,000-seat stadium is as dramatic as the events it hosted.

#### JOAN OCKMAN

Former director, Temple Hoyne Buell Center for the Study of American Architecture, Columbia University

A disclaimer: I haven't seen the Bird's Nest yet in three-dimensional reality. But for creating a dazzling contemporary symbol and media image that brilliantly captured the popular imagination during last summer's Olympic games, *bravo* to the architects and their Chinese collaborators. They turned straw into steel, the stuff architectural dreams are made of.

# HOW ARE YOU

#### 1. ARE YOU WORRIED ABOUT HOW THE ECONOMIC DOWNTURN WILL AFFECT YOUR FIRM?



# FEELING?

DECIDEDLY QUEASY, ACCORDING TO THE RESULTS OF OUR READER CONFIDENCE SURVEY. NEARLY 800 OF YOU TOLD US HOW THE DOWN ECONOMY IS AFFECTING YOUR FIRM AND YOUR OWN PROSPECTS. THE GOOD NEWS? FOR MOST OF YOU, THE END OF THE RECESSION DOESN'T SEEM CLOSE, BUT IT *IS* IN SIGHT.

Text Kermit Baker

**ENTERING 2008,** nonresidential construction was among the bright spots in the U.S. economy. While consumers were fighting their way out of a mound of debt and coping with falling home prices in many markets, businesses were taking advantage of favorable financing costs, a healthy stock market, and emerging international opportunities, particularly given a favorably priced dollar. These conditions resulted in the need for additional nonresidential facilities.

What a difference a year makes. While a devastated housing market remains one of the few constants, we're entering 2009 trying to cope with an international credit market meltdown, a national economy that appears to be well into a recession, and a nonresidential construction market that has suddenly reversed direction.

In this environment, it's no surprise that architects are concerned about their future. According to Architect's 2008 Confidence Survey, 94 percent of respondents are worried about how the economic downturn will affect their firm. At most architecture firms, commercial projects (offices, retail, and hotels) began to soften earlier this year. Recently, we've seen signs that even the usually vigorous healthcare and education markets will not be spared from this downturn.

As this issue goes to press, the national unemployment rate has reached a 16-year high, and architects are not being spared. Sixty-five percent of respondents know of architects who have been laid off during this downturn. And while two-thirds feel reasonably certain that their job is secure, a quarter are nervous about their prospects, and 8 percent feel that their position is almost certain to be eliminated.

This pessimism springs from client actions in the face of a weaker economy. Almost half of respondents report that one or more projects at their firm have been canceled in recent months, while almost eight in 10 report at least one project put on hold. Of those projects that are continuing, budget cutbacks are common.

With increasingly frequent cutbacks by clients, architects report that their firms are also implementing cost-cutting measures. Almost two-thirds of respondents report hiring cutbacks at their firm, over half are seeing more modest staff pay increases, and others report restrictions in expenses like I.T. investments and travel.

Business cycles are unpredictable, but many respondents are preparing themselves for the worst. Just over 60 percent feel that we'll see better conditions sometime in 2010, while 30 percent feel that the economic and construction downturn will remain through 2011 or 2012. The remainder are bracing themselves for a downturn that will extend beyond 2012.

Kermit Baker is chief economist of the AIA and a senior research fellow at Harvard University's Joint Center for Housing Studies.

6.1% Not really

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#### WE HEAR YOU: IT'S ROUGH OUT THERE

**OVER THREE WEEKS** in late October and early November, ARCHITECT administered a 12-question reader survey on economic confidence, administered via SurveyMonkey, a web survey tool, and announced in ARCHITECT'S weekly e-newsletter. The total number of responses was 788, though not all respondents answered every question—some questions were skipped by a handful, others by dozens of respondents. (What gives? Aren't architects known for their attention to detail?)

The charts on these pages show how you responded, while the captions offer our own, inexpert analysis of those results. There are a few reassuring surprises: A full 35 percent of you, for instance, reported that no one you know in the industry has been laid off in the past nine months. Then again, that was before the Architecture Billings Index dropped to an all-time low in late November. However bad you were feeling when you took the survey, the symptoms can't have improved much since. AMANDA KOLSON HURLEY



 Anxiety (preceding pages): 94 percent of survey-takers say they're worried about the economy.

2. Cost-cutting: Not surprisingly, the firms where you work are cutting back on hiring, raises, and T&Es. However, close to 20 percent of you (the "fancy fifth," perhaps) report no belttightening at all.

Among the 27 percent of firms that are trimming I.T. investment, some must face the vexing question of how to save money while also staying up to date with BIM and other emerging technologies.

3. Layoffs: Most of you know at least one architect who's been laid off recently. Given the waves of layoffs that took place nationwide in November, though, there are bound to be even more of you now.

4. Job security: Although most of you are worried about your jobs, only a shade over 8 percent report sharp anxiety. Again, the recent rounds of layoffs may have increased that percentage.

5. Backlogs: Only 10.6 percent of you say your firm has a backlog of work that will last a year or longer.

**6. Business strategy:** Firms' strategic responses appear to be evenly divided among sitting tight, reining in, and branching out.



41.0% Yes, more than a few 35.1% Everyone I know is still holding on 23.9% One or two

#### 4. DO YOU THINK YOUR JOB IS SECURE?







#### 6. HAS YOUR FIRM ALTERED ITS BUSINESS STRATEGY TO WEATHER THE ECONOMIC STORM?



focus to core practice areas



3.9%

151-300

9.8%

51-150

21.6%

Less than 50

**26.0%** 

31.1%

51-60

7. Client behavior: An overwhelming 79 percent of your clients have put a project on hold due to financial jitters. The silver lining? Other clients, 41 percent of you report, are staying the course.

8. Strong sectors: It's kind of a no-brainer, but healthcare, education, and government work is seen as a safe harbor. "International" was reported as a strong category; will it still be in 2009?

**9. Weak sectors:** Predictably, residential, retail, and office are perceived as weak spots.

10. Length of downturn: At the time of the survey, just shy of 9 percent of you saw this crisis as on par with the Great Depression. That number may have now risen, along with the jobless rate.

**11. Age:** Most survey-takers were over 40, and half were over 50, so it's probably not a stretch to conclude that many are firm leaders with inside knowledge of firm strategy and finances.

12. Firm size: Smaller firms predominate. Are they feeling the heat more than larger firms, or are they nimbler, and therefore better able to adapt to the turbulent economy? ARCHITECT DECEMBER 2008



Gensler's new JetBlue Terminal 5 at JFK airport sits respectfully behind Eero Saarinen's 1962 TWA terminal (at left), which was placed on the National Register of Historic Places in 2005.

# **PREPARED FOR TAKEOFF**

### THE NEW JETBLUE TERMINAL AT NEW YORK'S JFK AIRPORT SETS A HIGH STANDARD FOR AIR TRAVEL WITHOUT OVERSHADOWING A CHERISHED LANDMARK.

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A DISCUSSION OF URBAN OR ARCHITECTURAL CONTEXT at New York's John F. Kennedy International Airport (JFK) would be short: There is none. JFK, which opened as Idlewild International Airport in 1948, has evolved through terminal and auxiliary expansions and additions into a daunting labyrinth of on- and off-ramps, parking lots, and information overload. The latest addition is the one exception that proves the rule.

The new \$550 million facility for New York City—based JetBlue Airways—also known as Terminal 5, or T5—actually has a context of historic significance. T5's site is directly adjacent to the iconic TWA Flight Center, designed by Eero Saarinen, which opened in 1962 and closed in 2001. Due to programmatic complexity, terminals typically are designed from the inside out. In order to secure the site, however, JetBlue had to commit to providing a contextual solution respectful of, if not deferential to, the Saarinen structure, which received historic landmark status from the City of New York in 1994 and was placed on the National Register of Historic Places in 2005.

The Washington, D.C., and New York offices of Gensler, the design architect of record, responded with a crescent-shaped structure that slips quietly behind the landmark, separated from it by arrival and departure roadways. Though the TWA terminal will never be an operational component of JetBlue, it will house, when renovations are complete, an e-ticket kiosk for passengers who choose to enter there. Passage to T5 will be provided through Saarinen's original tubular corridors, which have been restored and joined to the new terminal.



#### **EFFICIENCY AND COMFORT**

JetBlue's brand identity stands out for its emphasis on high-value, low-cost service. Gensler translated the airline's brand and business model into a minimalist architectural aesthetic by the smart use of simple materials, including exposed structural steel, corrugated metal, and glass.

The 635,000-square-foot, 16-gate facility will be JFK's busiest, accommodating 20 million passengers a year and 10 flights at each of 26 gates every day. One primary goal is to maintain a 30-minute plane turnaround time, which is 40 percent faster than the industry average. "Optimal operational performance of all functions in the terminal

was a priority," explains Gensler principal William Hooper Jr., who led the design team. "The by-product of efficient operations is passenger comfort," he says, "and comfort is a major part of the JetBlue paradigm."

The budget was extremely tight. "Any constructionrelated cost that might result in an increase in the price of a plane ticket was out of the question," says Hooper. "On the other hand, durability is essential to efficiency. If we could demonstrate that a particular material, though slightly more expensive, would reduce the kind of maintenance and repair that can interfere with operations, the client was amenable."




The departures drop-off roadway (opposite) separates T5 from the TWA terminal. A large overhang (below) protects travelers from the elements, while clerestories admit light into the interior.

The exterior of the arrival gates (left) is clad in a system of concealed-fastener corrugated wall panels in a gunmetal color. Access stairs and baggage handling areas offer necessary access for airline employees.



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# SECURITY AND TRANSPARENCY

Since 9/11, all U.S. airports have undergone extensive security upgrades and reorganizations, many of which have a stress-inducing, jerry-built feel to them. When building the new terminal, Gensler seized the opportunity to apply lessons learned from the 50 passenger terminals it has completed over the past two decades. The central security area has 20 lanes, each with an X-ray for carry-on baggage and magnetometers for passenger screening, making it the largest single checkpoint in the country. To expedite traffic, there are special lanes for families with small children and strollers, as well as "black diamond" lanes for seasoned travelers, called after the name for expert ski slopes. "Passengers can clearly see which channel they should take, and there is enough space to allow them to move down the line without overcrowding," says Hooper. "Such transparency speeds movement."

The floors in the screening area feature soft rubber flooring, typically found on playgrounds and in athletic facilities. "We determined that this surface was more comfortable than cold, hard terrazzo for standing without shoes," says Hooper. "We also wanted to reduce the stress of having to hurriedly gather your belongings as they come off the conveyor, so we designed a 225-foot-long bench for 'revesting' before continuing to the gate or marketplace area "



The security area (above) is just off the main ticketing hall, allowing for ample space for passengers to line up before going through screening.

# TOOLBOX

TRANSLUCENT PANELS Panelite • Panelite.us



Gensler chose Panelite's Laminated Series with custom blue facings for 10,000 square feet of backlit walls in the Marketplace (above) and security and baggage-claim areas, reinforcing JetBlue's brand and creating a novel design feature to designate transitional moments. The panels are ideal for backlit applications due to their translucent facing and self-structural qualities, which reduce the need for significant vertical framing members, allowing for large, lightweight expanses.

Panelite's Insulating Glass Unit with blue ClearShade IGU core was used in the clerestory windows in the ticketing hall. The ClearShade IGU offers a significantly better solar heat gain coefficient than other typical IGUs due to the integral shading properties of its core.



RUBBER FLOORING

Nora Rubber Flooring • www.norarubber.com Nora products were used extensively throughout the National Aquatics Center at the Beijing Olympics in corridors and high-traffic areas. At JetBlue, the slip-resistant and durable products are in the baggage claim areas (left).

#### WALL COVERINGS

#### Trespa • trespa.com

Durability and ease of maintenance was the mantra during materials selection for JetBlue. Since passenger traffic is expected to be among the highest in the country, Gensler picked Trespa Virtuon wall panels that are impervious to moisture, chemicals, disinfectants, impact, and wear. Its sealed surface and pore-free core make it virtually stain-proof and resistant to bacterial growth. Seams and joints are all designed to minimize dirt retention.

#### **PROJECT** JetBlue Terminal 5, New York

ARCHITECT AND INTERIOR DESIGNER Gensler. New York and Washington, D.C.-Chris Banks, Sophie Berry, Kashyap Bhimjiani, Cliff Bollmann, Jeffrey Brite, Pati Coleman, Karina Elizalde-Ferrales, David Epstein, Arthur Gensler, Kristian Gregerson, Thomas Gregory, William Hooper Jr., Darris James, Ruth Jansson, Matt Johnson, Kathleen Lepley, Giulio Leucci, Kap Malik, Beth Miller, Francesca Miller, Ty Osbaugh, Beth Ready, Maurice Reid, Joseph Romano, Umang Shah, Stephanie Shapiro, Carolyn Sponza, Tim Taylor, Marion White, Joyce Young (project team) ASSOCIATE DESIGNER Daroff Design Inc. ASSOCIATE ARCHITECT Anthony C. Baker, Architects & Planners **STRUCTURAL ENGINEER** Ammann & Whitney **CIVIL ENGINEER** DMJM Harris M/E/P, IT, SECURITY, AND TELECOM ENGINEER Arup BAGGAGE ENGINEER BNP Associates Inc. LIGHTING CONSULTANT Fisher Marantz Stone **CONCESSIONS CONSULTANT** AirProjects Inc. curtain wall consultants Gordon H. Smith Corp.; Gilsanz Murray Steficek, LLP COST ESTIMATOR U.S. Cost **CONSTRUCTION OBSERVATION** Domus AG MARKETPLACE IMAGE CONSULTANT Rockwell Architecture Planning & Design, PC

size 635,000 square feet cost \$550 million



# **INTERIOR ORGANIZATION AND CIRCULATION**

Gensler worked in collaboration with the engineering firm Arup, which, as master planner and design manager, (as well as building services engineer), determined air-side and terminal capacity, operation needs, and public-access requirements. Arup conducted rigorous computer analyses of projected passenger flow through the building, in order to maximize efficiency and reduce passenger stress.

In the end, the design team adopted several creative measures with regard to logistics, recognizing that all systems are interdependent and performance is only as good as the weakest link. First of all, dual taxi lines on the runway allow two planes to arrive and depart simultaneously, thus alleviating backup delays. Since baggage transfer can impact the 30-minute aircraft turnaround, the design team chose an inline baggage handler to speed clearing and delivery to the planes. "The more hand-handling of bags, the slower the process," explains Hooper. "This system allows bags to be X-rayed right on the conveyor belt in an automated mode." Although there are 40 ticket counters, checkin is largely self-service. Sixty-five e-ticket kiosks are evenly distributed on both sides of the ticket hall with the entrance to security located in the center. Because of the generous spacing, congestion is minimized and circulation becomes more intuitive, reducing the need for abundant signage.

After clearing security, passengers are funneled down gradually sloping floors to the Marketplace - a central hub from which three concourses lead to the gate areas. New York-based Rockwell Group developed the concept and design for the 55,000-square-foot Marketplace. The signature architectural move is a 4-foot-tall ziggurat for performances, inspired by the steps of the Metropolitan Museum, the bleachers of Yankee Stadium, and other New York landmarks. When vacant, it serves as an additional seating area. A twisting array of stainless-steel cables, reminiscent of the forms of the TWA terminal, support an "information yoke" - an egg-shaped aluminum structure with 43 40-inch LCD monitors that flash sponsored videos and scenes of New York City. Lighting consultant Fisher Marantz Stone designed a field of suspended downlights, which adds another layer of interest and is visible from all concourses.



The Marketplace (opposite), located just past the security area, serves as the central concessions area. The three concourses branch off it. Restaurants and stores, a performance venue, and a suspended, egg-shaped "information yoke" dominate the space.

Passengers arriving at JFK via the city-encouraged AirTrain access the new T5 via a skybridge (below right), which offers views of the Saarinen TWA terminal from moving walkways. Upon arriving at the new building, travelers come to the main ticketing hall (below left), an expansive curving space that mimics follows the arc of the roadway outside. Clerestories admit natural light, and a canted ceiling is one of the signature architectural features.







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# **GATE AREA SECTION**





The concourses (opposite) are peppered with information stations and concessions. White walls and light-colored flooring allow JetBlue's signature blue and other accent colors to pop.

Baggage claim areas (left) are on the lower level, directly below the main ticketing hall. These carousels are merely the public face to an extensive baggage handling system that snakes throughout the entire terminal building. **ARCHITECT** DECEMBER 2008

# <text>

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#### **OBJECT LESSON**

Bookbinding for Cirque • Designed by Paul Bonet • 1959 • Most of the bindings designed by French bookbinding artist Paul Bonet in the 1950s were some variation on a swirl. This one, designed to cover André Suarès' Cirque, was especially intricate. But somebody murdered the publisher, and the book was never printed. A half-dozen copies exist, elaborately bound but blank inside.

Skin doesn't just wrap a living body; it's a vital organ itself. The same could be said for a book's binding. Yes, says George Fletcher, curator at the Morgan Library in New York, the binding's primary purpose is "to ward off the tooth of time" from the pages it holds. But some bindings transform a book from printed word to artifact. Witness the example shown above, one of the more contemporary artifacts in the Morgan's holdings. J.P. Morgan started collecting bookbindings over 100 years ago. Now the library named for him owns more than 1,000 historically and artistically significant bindings spanning the globe and 1,600 years. A selection of 55 outstanding works are on display in "Protecting the Word: Bookbindings of the Morgan" from Dec. 5 through March 29. themorgan.org

# CULTURE

80

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**Brought to Light: Photography and the Invisible 1840–1900** • *San Francisco Museum of Modern Art* • *Through Jan.* 4 • In 1853, the world got its first look at the male itch mite. Scientists were experimenting with cameras. Put to microscope or telescope, the camera's lens could capture the infinitesimally small, the unimaginably large, and, occasionally, the paranormal. *sfmoma.org* 



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#### OBJECT LESSON

Ferris Wheel • A.C. Gilbert Co. Steel Erector Set • circa 1955 • \$1,000 • The Pharaohs stashed architectural toys in their tombs for the afterlife. George Wetzel, an Illinois schoolteacher, recently donated his collection of more than 2,000 toys to the National Building Museum. Now get your own from ArchiTech Gallery in Chicago. A collection of 20 architectural toys—including Froebel blocks, Tinkertoys, and Erector sets—are on exhibit and on sale, Dec. 5–27. Some, like the Ferris Wheel shown, come preassembled. architechgallery.com



# BOOK

Chairs: Catalogue of the Delft Faculty of Architecture Collection • By Otákar Mácel, Sander Woertman, and Charlotte van Wijk • For more than a century, the faculty of architecture at the Technische Universiteit Delft has been collecting chairs. All kinds of chairs: 17th, 18th, 19th, and 20th century chairs; household chairs; rare chairs; work chairs; baby chairs; and even African milking stools. Managed over the decades with varying degrees of attentiveness, the whole collection has recently been conserved and cataloged. Unfold the catalog's dust jacket into a full-color poster of all 240 chairs. Uitgeverij 010; €24.50



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# John Jeanes THE REBUILDER

# Interview Edward Keegan Photo Mike Morgan

A SEVEN-YEAR EFFORT TO BRING JAMES MADISON'S PALLADIAN-INSPIRED VIRGINIA HOME BACK TO ITS ORIGINAL GLORY OFFERS A LESSON IN EARLY AMERICAN CONSTRUCTION PRACTICES, SAYS THE HEAD OF THE PROJECT.

#### **AGE** 54

TITLE Director of Restoration, Montpelier FYI Prior to joining the staff of the national historic landmark, Jeanes worked for several custom home builders in Virginia. What's your background?

I began as a math teacher. In school, I was involved in the construction industry and carpentry. After teaching for about five years, I realized that I really wanted that hands-on life, and so fine-home construction has been my thing.

## What brought you to Montpelier?

That happened based on the need for someone to work with carpentry. The architect thought they needed someone to run a feasibility study who could handle the joinery and be able to put it back without any damage. I happened to be in the right place at the right time.

#### How long have you been working there?

The feasibility study began in October 2001 and carried on through late 2003. We found a large amount of original fabric nested in post-Madison additions. We began the restoration in January 2004. By September 2008, we opened the house with a grand celebration.

# Given the historical significance of the residence, what kind of oversight did you have to deal with?

I was in charge of assembling the carpentry crews, working with the architects to restore the house to about 1820. I would make sure the carpenters were restoring elements appropriately, following the architectural drawings in a proper fashion. I would also acquire the historic materials. We would generally go with something of a similar species and quality, so that meant salvage materials. Maintaining the budget and the schedule were two other elements of the project.

# What differences did you discover about carpentry between the respective eras?

The 1760 flooring is splined—the old growth heart pine materials are grooved on both edges, and the wooden spline is inserted in between them. Everything is face nailed. Then you move to 1797: they moved from the splined flooring to tongue and groove, much as we know it today, yet it's still face nailed. In 1809, it's tongue and groove flooring; however, by that time they are learning to blind nail.

## How do those periods compare to today?

They overbuilt timbers in girth, yet the joints are a little less than what you need. If it worked the last time, they do it again. As we study beams, we understand more about tension and compression, so you need less material to have structural integrity. They achieved that integrity in a different way—by overbuilding.

# Did you find any differences in the quality of the wood?

The wood is of exceptional quality, but the materials diminish in width as time goes on. Random-width flooring in the 1760s runs from 5½ to 9 inches, but by 1797, the planks aren't quite as wide. In 1809, they're still random width, but they're down to 4 to 6 inches. The quality was very difficult to match because it was very tight-grained, old-growth heart pine.

## What kind of tools did you use?

We wanted to have the joinery of the period and match the profiles. If we needed a hand-planed surface, we would take it down to a certain point with modern equipment and leave enough material to achieve an appropriate hand-planed finish. There would have been no way to do this project in the time frame we had if we had been using period tools.

# We always hear about Thomas Jefferson's legacy as an architect, but what's your opinion of James Madison as an architect and builder?

Madison depended on Jefferson to give him advice, and you see this constant conversation between the two. Jefferson is trying to get very classical, whereas Madison is creating more of a country manor, so he's tempering the suggestions Jefferson made. Between the two of them they came up with quite a beautiful building.

# What's next?

We have some loose ends. We need to have a restroom facility for our visitors.

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→ Audio of this Q&A is available of at www.architectmagazine.com.



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