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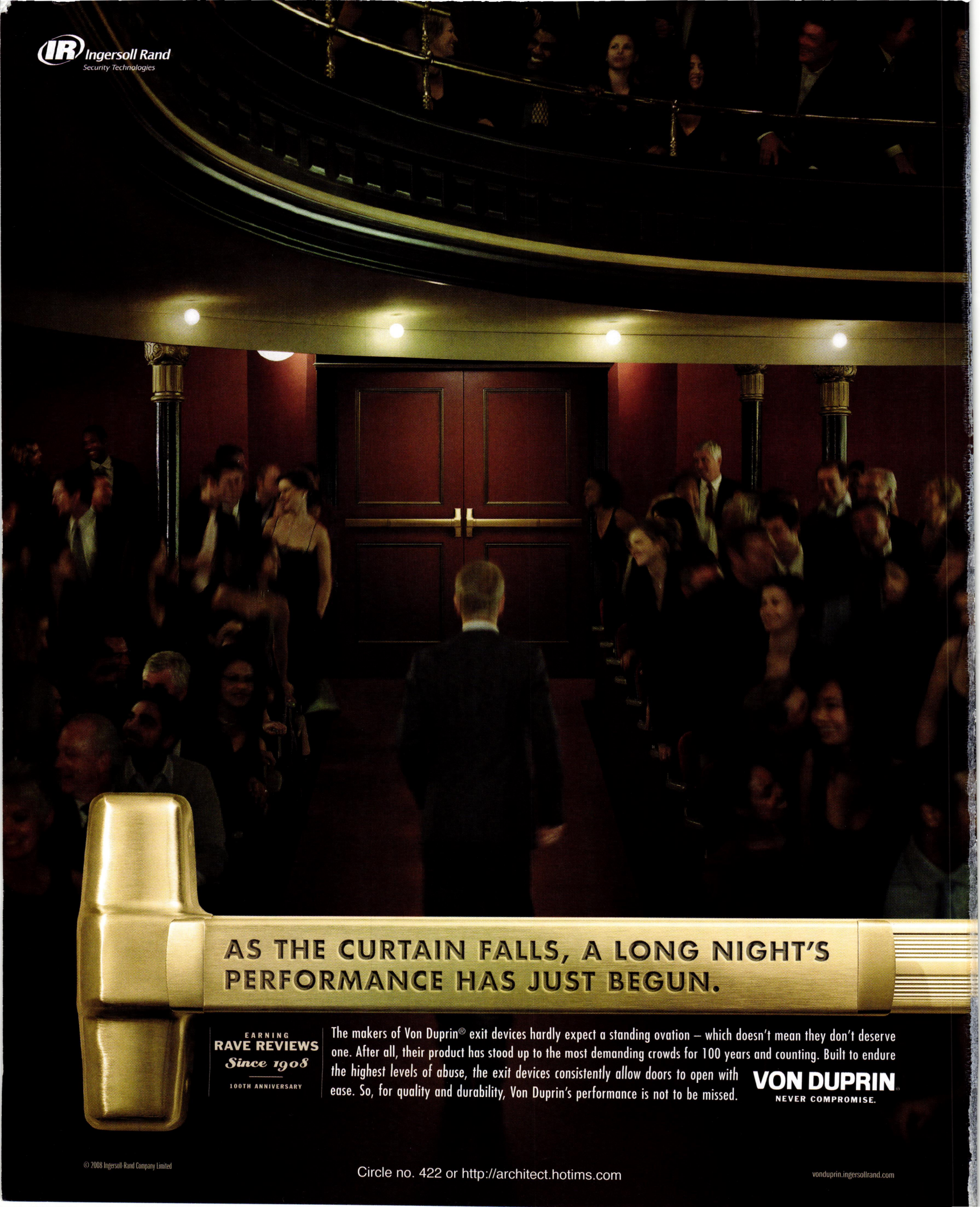
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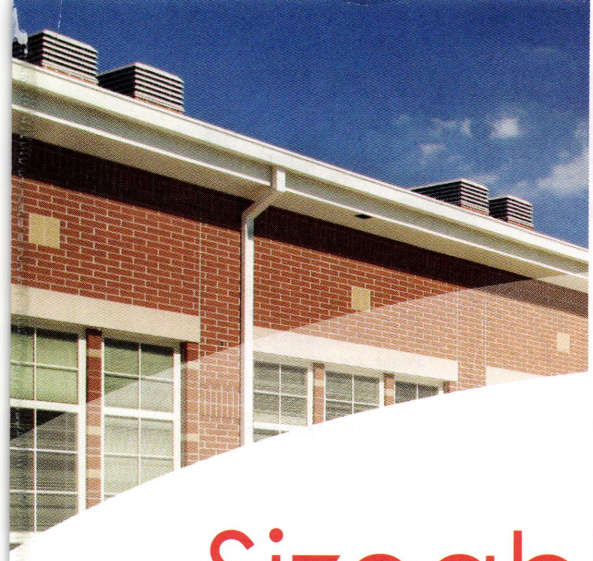

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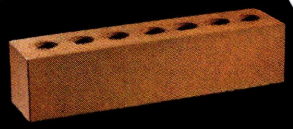

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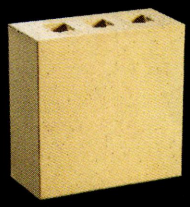

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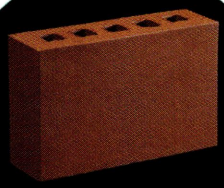

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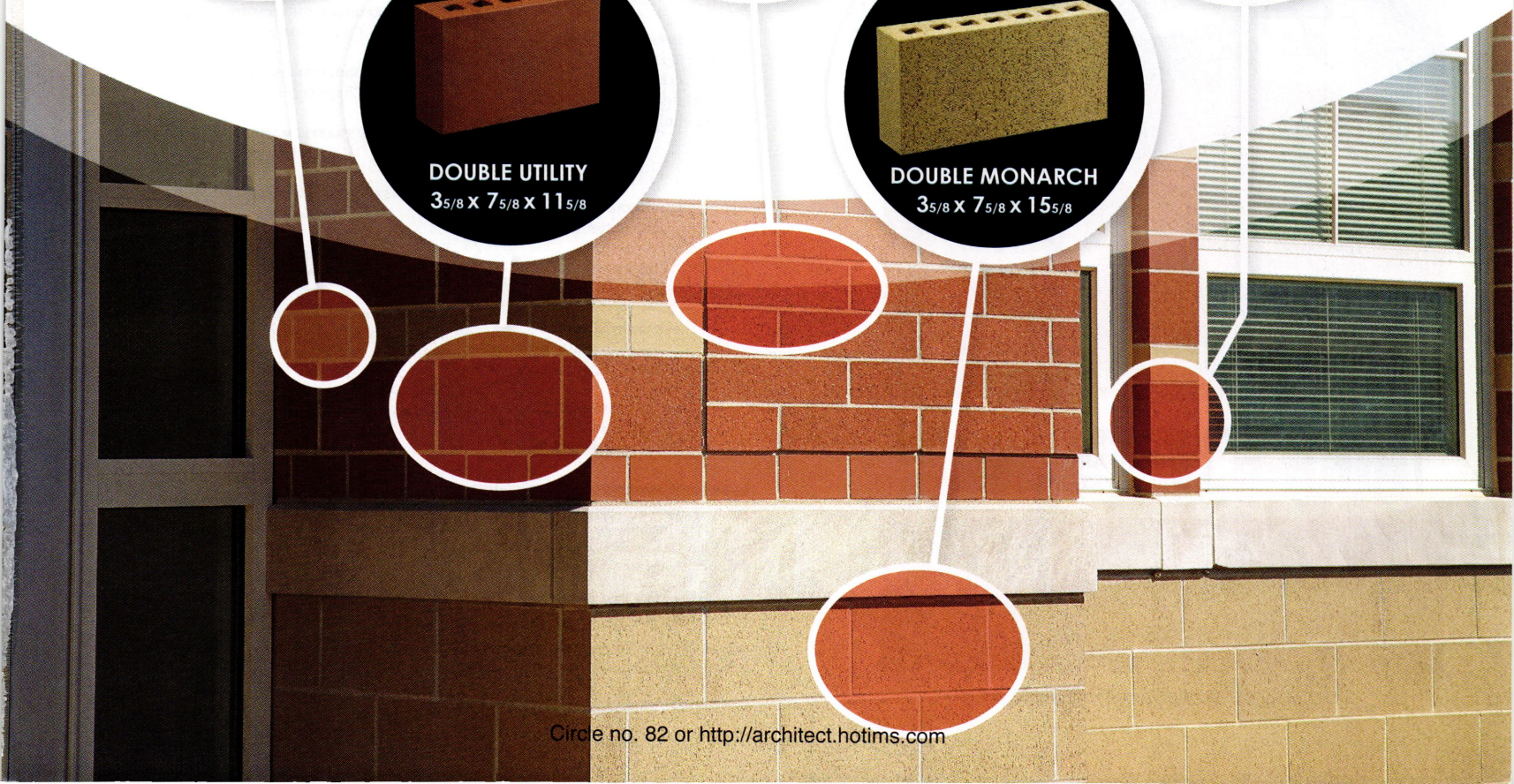

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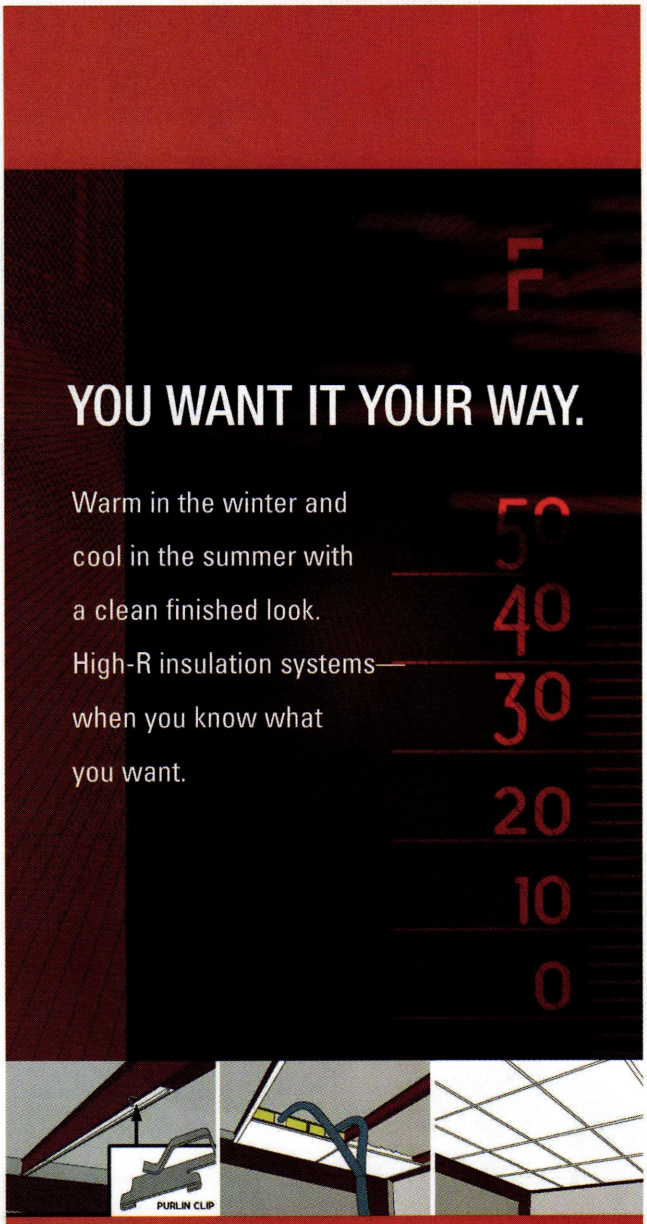

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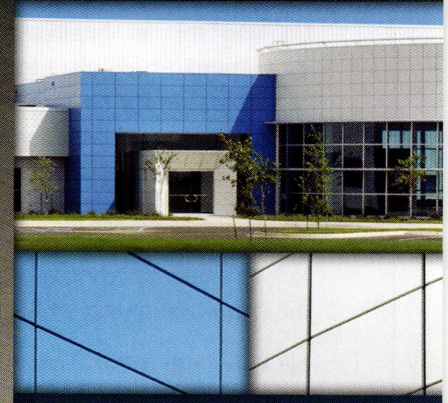

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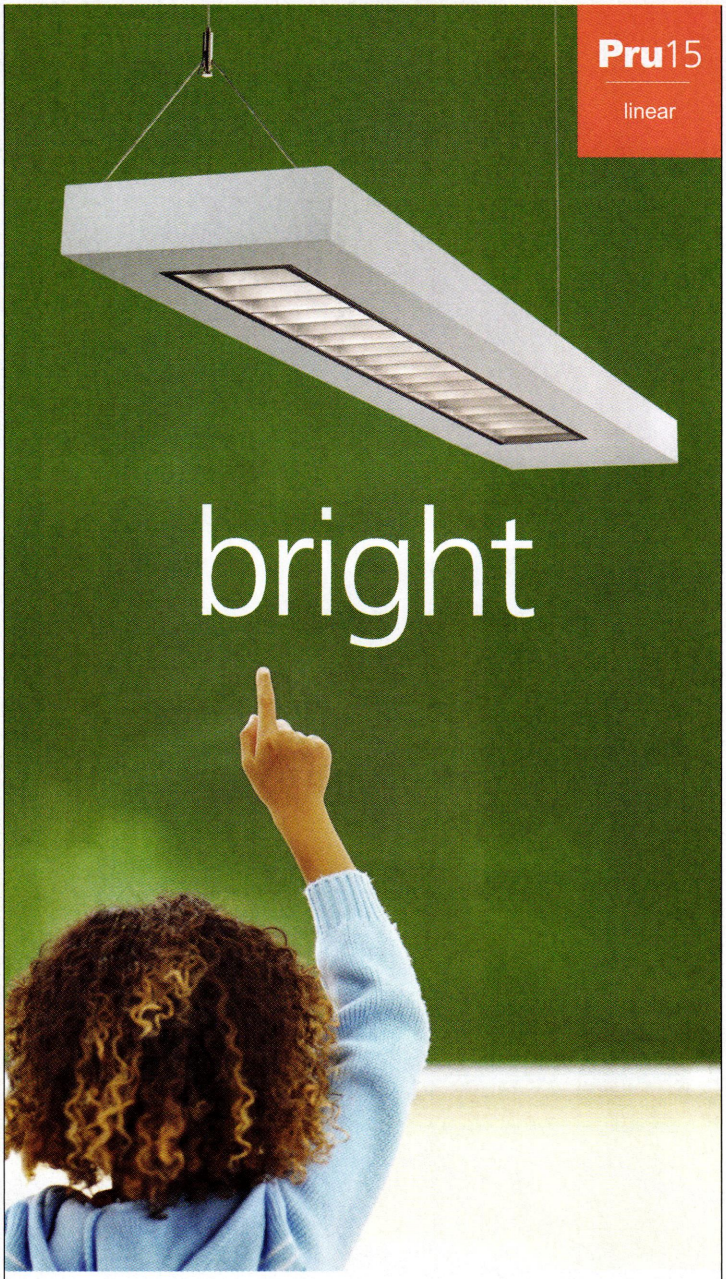

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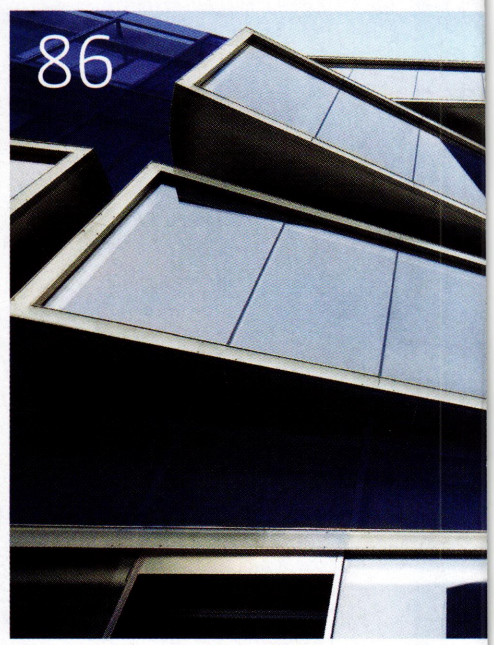

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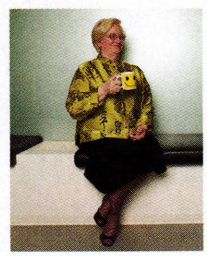
WHEN CONSTRUCTION STARTED, THEY THREW YOU OUT OF THE PLANE.

Giuseppe Lignano, from "LOT-EK Goes to China," page 86



ON THE COVER
Management consultant Gay Herron, from "Salary Survey 2008," page 58. Photo by William Anthony.

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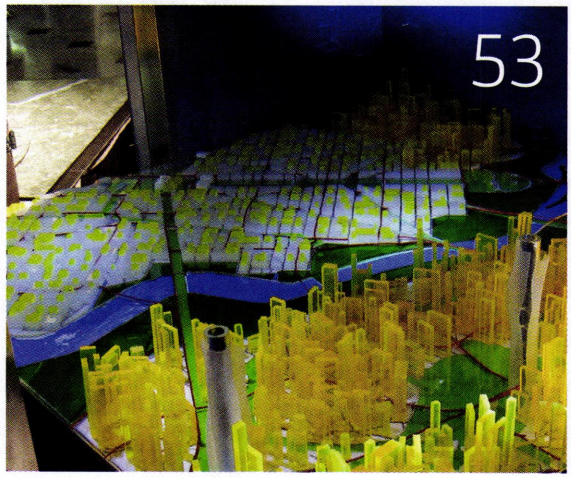

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→ **A map** of new schools in Los Angeles

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→ **Audio** from Edward Keegan's interview with Indiana gubernatorial candidate Jim Schellinger

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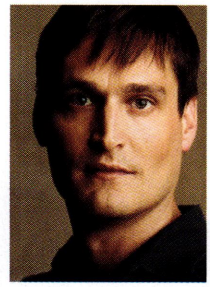


TIMOTHY GREENFIELD-SANDERS

Ned Cramer
Editor in Chief

WE'RE IN A RECESSION, RIGHT? So how come our second annual Salary Survey says that architects' incomes are healthy, even growing? Our partners at the Greenway Group gathered data from 135 firms with more than 250 offices and 17,000 employees—so rest assured that the conclusions are backed by thorough research. Still, it's hard to believe that pay rates are solid amid so much uncertainty.

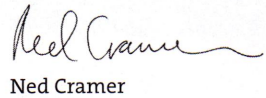
Jim Cramer—chairman and CEO of the Greenway Group and former executive vice president of the AIA—offers a smart analysis of the disconnect between architects' relatively healthy salaries and our particularly scary economy ("Salaries Are Rising?" on page 61). Among the many reasons he gives, including solid markets in healthcare, education, and high-end hospitality, two factors really grabbed my attention. They suggest a tremendous shift in architecture culture—changes that are long overdue.

No. 1: Celebrity. That's right, celebrity. Ever since Herbert Muschamp compared Frank Gehry's Guggenheim Museum Bilbao to Marilyn Monroe's famously fluttering hemline, a small group of international architects has been subject to a nonstop media lovefest. While it's fashionable (and understandable) to be suspicious of the profession's complicity with the star system, it's also one of the key reasons that major developers and governmental bodies are buying into the idea that design adds tremendous, measurable value to raw construction. This is a good change, after years of unconstructive finger-pointing over the perceived failure of Modernism.

No. 2: Professionalism. If architecture's high media profile has an upside, it also has a downside: the stereotype of the architect as diva. Think of the Kohler TV ad, with the arrogant, accented architect showing his office to a couple of young prospective clients (if you didn't catch it, search "Kohler architect" on YouTube). Clichés of intellectual snobbery, brutish management, and indifference to business and construction may apply accurately to some well-known architects and wannabes, but there's no value in such attitudes, and, according to the Greenway Group, the profession as a whole knows better. Who has time for hissy fits?

Here's the proof: Jim Cramer (no relation, by the way) reports an increase in firm profitability, which itself is a miracle in a time of recession. His explanation: "Professional practices today tend to be much better managed and better led than they used to be." Thank heaven. When firms are well managed, profits rise. When profits rise, so do salaries. Divas, take a bow and exit stage left.

So keep that temper in check; treat your co-workers fairly; listen carefully to the business manager, contractors, and marketing staff; and join me in praying for a quick end to the recession. Then we can really count the cash.



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1. William Anthony

Annual Salary Survey • p. 58

Photographer William Anthony whizzed through nine cities over 11 days to photograph the architects and career consultants profiled in our annual salary survey. Anthony (shown here in an overly serious moment with Pamela Sunnarborg, his trusty production manager and fiancée) jokes that he should have ordered custom T-shirts that said "Architect 2008 U.S. Tour."

"We made it out alive!" Anthony marvels. "No lost luggage. No weather delays or cancellations. No horribly uncooperative people, barring a few airline employees." Anthony's photographs have appeared in *Rolling Stone*, *Seattle Metropolitan*, *Vanity Fair*, and other publications.

2. Elizabeth Evitts Dickinson

L.A.'s Learning Curve • p. 70

Journalist Elizabeth Evitts Dickinson spent several days crisscrossing the Los Angeles area by car, meeting architects and school district officials and touring schools built as part of the district's massive $20 billion construction initiative, the largest public-works project in the country right now. "I was heartened to see so many architects, community members, and district leaders taking public education seriously," Dickinson says. "I would love to see this type of commitment spread to other school districts."

Dickinson, a freelance writer and former editor in chief of *Urbanite* magazine, lives in Baltimore. As a contributing editor for ARCHITECT, she has covered trends in movie-theater and healthcare design.

3. Hannah McCann

Construction Toys Make Better Boys • p. 78

Our managing editor Hannah McCann visited the secure storage area that houses the National Building Museum's recently acquired toy collection, but she didn't get to touch any of the toys. Still, she understands what collector George Wetzel means when he says collecting is "a physical thing ... [that] gets in your blood."

The daughter of an architect who collects 19th century coffins and Mennonite bed linens, among other items, McCann herself used to own an antiques business before swearing off the hunt for the old and rare. Her last feature for ARCHITECT, "0.2 %," about the status of black women in the profession, appeared in March 2007.

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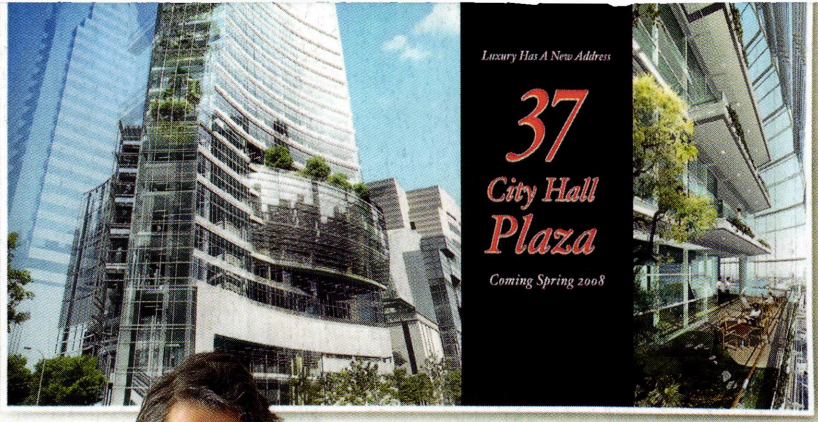
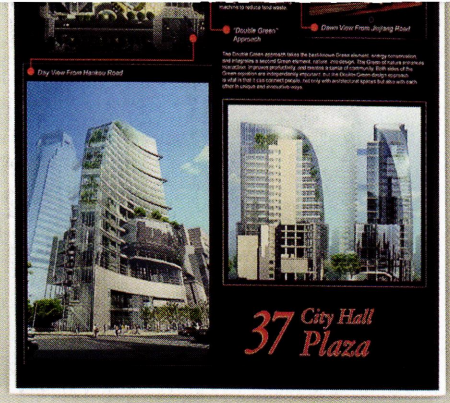
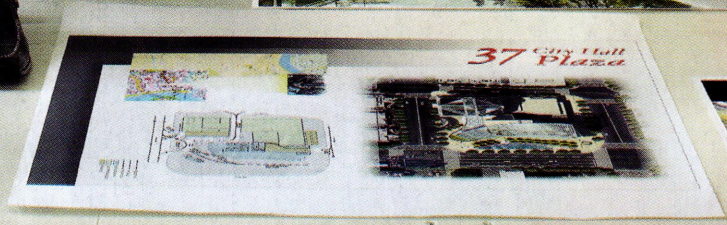
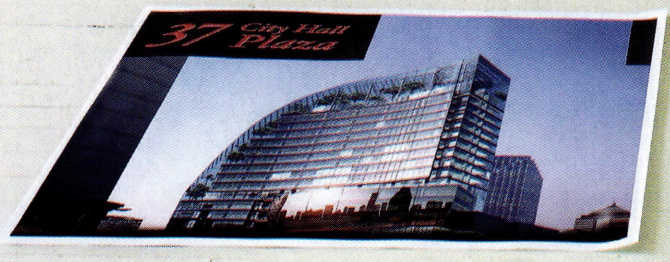

Luxury Has A New Address
37
City Hall
Plaza
Coming Spring 2008


'Double Green' Approach
Down View From Jinjiang Road
City View From Hankou Road
37 City Hall Plaza

City Hall Plaza 37 City Hall Plaza


37 City Hall Plaza

City Hall Plaza 37 City Hall Plaza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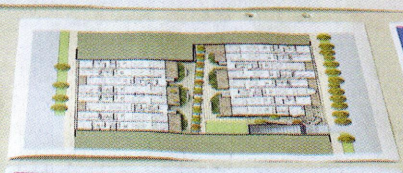
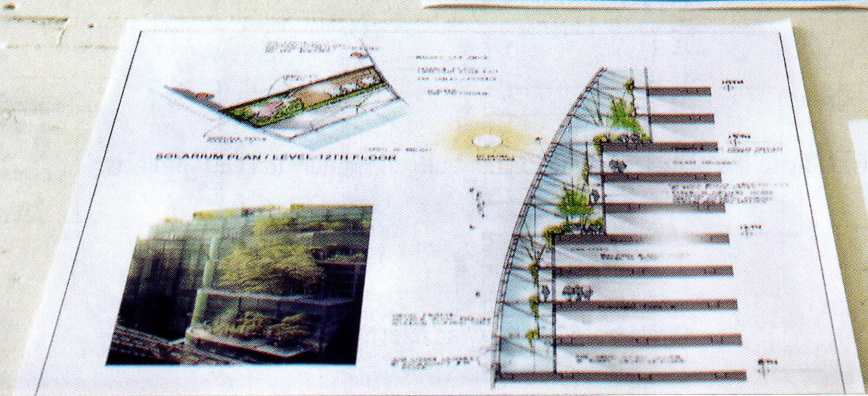
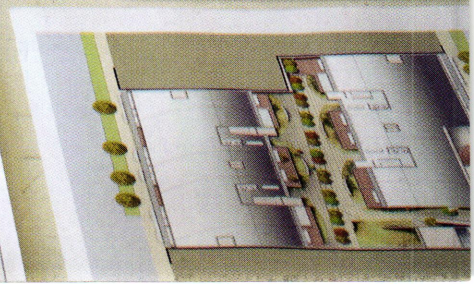


37 Plaza


SOLARIUM PLAN / LEVEL 12TH FLOOR



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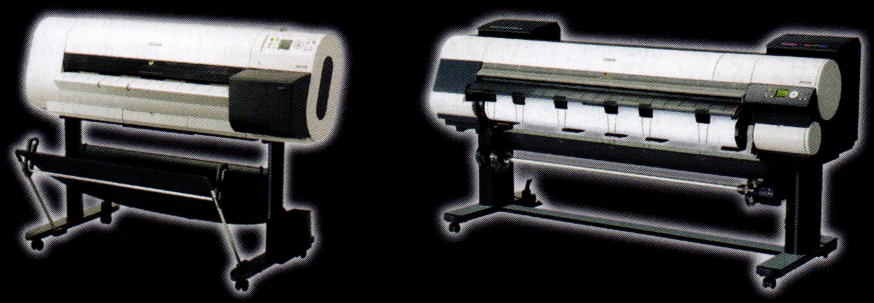

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Green Design

High-Performance Buildings Become a Federal Priority

New GSA office will partner with DOE to establish standards for government and private-sector construction

Kevin Kampschroer

FOURTEEN YEARS after Edward Feiner made the U.S. General Services Administration (GSA) a driver of design excellence in civic architecture, a new office aims to make federal facilities greener as well. The GSA, the federal government's real estate agency, has established the Office of Federal High-Performance Green Buildings (OFHPGB) to ensure compliance with the requirements of the Energy Independence and Security Act.

This measure, which became law in December 2007, initially drew attention chiefly for raising vehicular fuel-economy standards. The building sector's role in national energy consumption, however, implies that the act may accomplish more by promoting sustainable construction. Goals of the law's Title IV, which covers buildings and industry, include a 30 percent cut in total energy use in federal buildings by 2015 (relative to 2005 levels) and a 55 percent drop in fossil-fuel use in new and renovated federal buildings by 2010 (from 2003 levels), with complete elimination by 2030.

Housed within the GSA's Public Buildings Service and initially headed by director of expert services Kevin Kampschroer, the OFHPGB will coordinate with a parallel Office of Commercial High-Performance Green Buildings within the Department of Energy (DOE) to implement standards for federal and private-sector buildings, respectively. Kampschroer, who has been with GSA since 1975 and calls himself a "huge admirer" of Feiner's 1994 Design Excellence Program, notes that both offices' directors will be career civil servants, not political appointees, bringing relative immunity from partisan pressures.

Kira L. Gould, director of communications for William McDonough + Partners and 2007 chair of the AIA Committee on the Environment, describes the GSA as "a key player in the market transformation that has occurred in the past several years." The agency has aided the U.S. Green Building Council, she notes, by funding "a thorough research study of rating systems, which offered really meaningful conclusions about the benefits [and] attributes of five specific programs." However, the new office's stated goals strike Gould as "both lofty and not enough. ... One of the big challenges very soon will be for us to realize how, while getting to 55 percent reductions of fuel consumption will be important, getting far past that—quickly—is imperative. Energy is the hot topic now, but as we aim for progress around that, we would do well to think much more holistically. I would hope that GSA could help lead that, demonstrating that energy issues coexist with others, such as water and mobility, and that all have a social dimension."

This integrated approach aligns well with Kampschroer's priorities. The OFHPGB will address new, renovated, and leased buildings' life-cycle costs and operating procedures as well as design and construction. Despite the act's title, Kampschroer says, "there's an understanding that high-performance buildings go much more broadly than that, and that if you're really talking about the high performance of a building, you must consider how it affects the people who work in the building." Like the LEED system (currently used by the GSA, the DOE, and other federal agencies), the OFHPGB will evaluate site selection, construction waste, and indoor air quality.

Kampschroer likens many federal buildings to commercial owner-occupied buildings, where the initial green premium is more an investment in long-range value than an obstacle. "When we build new buildings, we don't build very many of them, but we build them for the long term," he says. "We don't build buildings to last 30 years and then be taken down." He also notes that green costs are dropping, citing one Virginia developer's claim that it can provide LEED Gold quality at market rates and the 2004 Davis Langdon report (*Costing Green: A Comprehensive Cost Database and Costing Methodology*), which found that nongreen factors have more of an influence on building costs.

"Americans are an extraordinarily inventive people, and I think that there's going to be a lot of push to make these kinds of initiatives effective," Kampschroer speculates. "There are certainly some groups that believe, as the book [*Apollo's Fire: Igniting America's Clean Energy Economy*, 2007] lays out, that this is a real economic opportunity for the U.S. Certainly, what we've seen in the last 10 years is that the capability within the marketplace to deliver higher-performing buildings than in the past has grown exponentially. ... I think we'll see both technological breakthroughs and process breakthroughs that make us wonder why we weren't more hopeful in 2008." BILL MILLARD

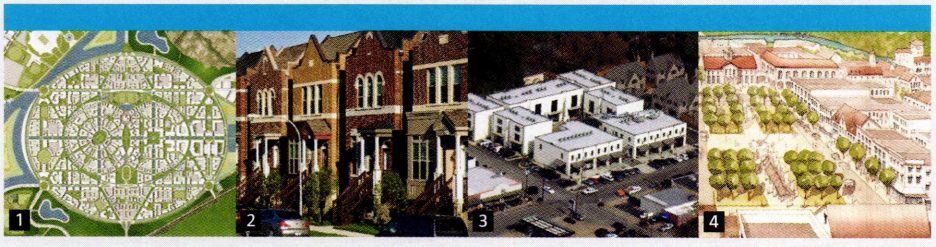
> "If you're really talking about the performance of a building, you must consider how it affects the people who work in the building."
>
> —Kevin Kampschroer, GSA director of research and expert services

New Urbanism

CNU Names Winners of 2008 Charter Awards

SINCE 2001, THE CONGRESS FOR THE NEW URBANISM (CNU) has honored the best of new urbanist projects with its annual Charter Awards. For the program's 2008 iteration, 14 professional and one academic project have been recognized, four of which are in countries other than the United States: the Bahamas, India, Saudi Arabia, and Scotland. The awards will be presented on April 5 during the CNU's 16th congress, which is being held this year in Austin, Texas. The members of this year's awards jury: Andrés Duany (chair), principal, Duany Plater-Zyberk & Co.; Ben Bolgar, director of design theory and networks, the Prince's Foundation for the Built Environment; Victor Dover, principal, Dover, Kohl & Partners; Geoffrey Dyer, director, Placemakers, and principal and urban designer, T-Six Urbanists; Katharine Kelley, president, Green Street Properties; Peter Park, manager of community planning and development, city and county of Denver; Karen Parolek, principal, Opticos Design; and Stefanos Polyzoides, principal, Moule & Polyzoides. Learn more about the award-winning projects at cnu.org/awards2008. BRAULIO AGNESE

2008 Charter Award Winners



METROPOLIS, CITY, AND TOWN
Louisiana Speaks Regional Plan
State of Louisiana
Calthorpe Associates

A Civic Vision for the Riverfront
Philadelphia
WRT Design

1 → **Vedanta University**
Orissa, India
Ayers/Saint/Gross

King Abdullah University of Science and Technology
Thuwal, Saudi Arabia
HOK

NEIGHBORHOOD, DISTRICT, AND CORRIDOR
Woodstock Downtown
Woodstock, Ga.
Tunnell-Spangler-Walsh & Associates

2 → **Oakwood Shores**
Chicago
FitzGerald Associates Architects

Rockville Town Square
Rockville, Md.
WDG Architecture

Mixson Avenue
North Charleston, S.C.
l'On Group

Masterplan for Western Harbour
Leith, Edinburgh, Scotland
Robert Adam Architects

BLOCK, STREET, AND BUILDING
The Vision for Marion Square
Charleston, S.C.
Fairfax & Sammons

3 → **Atlantic & Pacific Development**
Montgomery, Ala.
City Loft Corp.

Almeria Row
Coral Gables, Fla.
de la Guardia Victoria Architects & Urbanists

A Pattern Book for Neighborly Houses
United States
Urban Design Associates

A Living Tradition: Architecture of the Bahamas
Bahamas
Mouzon Design

4 → **STUDENT AWARD**
The North End Plan
Michigan City, Ind.
Andrews University School of Architecture

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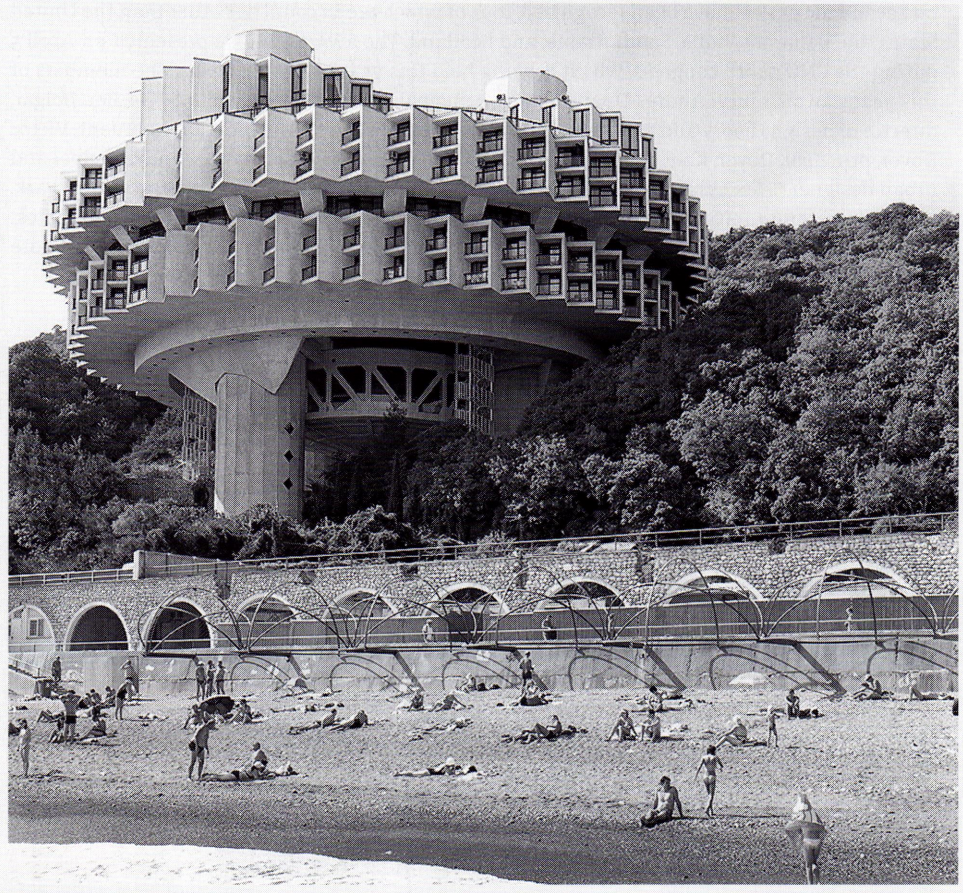
Culture

NYC's Storefront for Art and Architecture Goes Abroad

Temporary galleries in L.A. and outside U.S. will help engender a 'flow of ideas,' says director Joseph Grima



The Pop-Up Storefront in L.A. will showcase Frédéric Chaubin's photographs of Soviet structures built in the last decades of the Cold War, like Igor Vasilevsky's Druzhba Sanitarium (above), completed in 1986.

COURTESY STOREFRONT FOR ART AND ARCHITECTURE

FOR MORE THAN A QUARTER CENTURY, New Yorkers have been introduced to innovation at the Storefront for Art and Architecture. By presenting the provocative work of emerging architectural practitioners including Diller and Scofidio (1987) and artist-designers such as Lebbeus Woods (1984, 1988, and 1994), the Manhattan gallery has focused a laser beam on groundbreaking ideas while also blurring the line between architecture and art.

Now, the Storefront concept is going on the road.

On April 11, the first in a series of temporary "Pop-Up Storefront" galleries will open in Los Angeles. An exhibition of Cold War architecture from the Soviet Union photographed by Frédéric Chaubin, which debuted a year ago in the Manhattan Storefront, will be on display for five weeks. After the photographs come down in mid-May, the Sunset Boulevard space will revert to its former incarnation: a print shop press room. But the pop-up show will go on. With exhibits tailored to each venue, Storefronts will open in Milan in April, in London in July, and in Yokohama, Japan, in September. The Milan exhibition will feature the ring dome of hula hoops and zip ties designed by South Korean architect Minsuk Cho and constructed last fall in Manhattan to celebrate Storefront's 25th anniversary.

"There are so many other cities we'd like to reach out to," says director Joseph Grima, who took the helm of the nonprofit gallery in January 2007. "We hope to generate new exhibits in Los Angeles and bring them to New York, to have a flow of ideas and exchanges." A former staff editor for the Italian architecture and design journal *Domus*, he has a portfolio that includes a video portrait of Pyongyang, North Korea, and a survey of new architecture in Asia.

"Globalism is hugely important today. Our institution has to adapt to the changing cultural context," says Grima, pointing out that Storefront is not so much a place as an idea.

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Recognition

Green Advocate Wins Jefferson Medal

Gro Harlem Brundtland

THE WINNERS of the University of Virginia's Thomas Jefferson Foundation Medal in Architecture aren't always architects. In addition to Alvar Aalto, Marcel Breuer, and Ludwig Mies van der Rohe, past winners include critics Lewis Mumford and Jane Jacobs, artist James Turrell, and politician Daniel Patrick Moynihan. This year's winner, Gro Harlem Brundtland, boasts perhaps the most dynamic résumé of all.

A physician by training, Brundtland served as prime minister of Norway for 10 years, the youngest person and first woman ever to hold that position. Much of Brundtland's career has been dedicated to advocacy of environmental and social sustainability in her positions as Norwegian minister of environment, chair of the U.N.'s World Commission on Environment and Development, and director general of the World Health Organization.

While Brundtland was at the United Nations, her commission published the report *Our Common Future*. Also known as the "Brundtland Report," the document advocated a broad, multidimensional understanding of sustainability, encompassing energy and food consumption, industrial and economic practices, human health and resources, species and ecosystems, and international cooperation and decision-making systems. The report's recommendations led to the 1992 Earth Summit in Rio de Janeiro and the U.N. Framework Convention on Climate Change, the precursor to the Kyoto Protocol.

"In honoring Dr. Brundtland, we celebrate her legendary leadership in global sustainability and the stewardship of our environment," says U.Va. architecture school dean Karen Van Lengen.

10 Fastest-Growing U.S Metro Areas

By Rate of Growth, July 1, 2006–July 1, 2007

7.2%
1. Palm Coast, Fla.

5.1%
2. St. George, Utah

4.7%
3. Raleigh/Cary, N.C.

4.5%
4. Gainesville, Ga.

4.3%
5. Austin/Round Rock, Texas

4.2%
6. Myrtle Beach/Conway/
North Myrtle Beach, S.C.

4.2%
7. Charlotte/Gastonia/
Concord, N.C.

4.0%
8. New Orleans/
Metairie/Kenner, La.

3.7%
9. Grand Junction, Colo.

3.7%
10. Clarksville, Tenn.

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Education

RMJM Founds Business-Focused Program at GSD

ON MARCH 17, the Harvard Graduate School of Design (GSD) announced a $1.5 million gift from U.K.-based architecture firm RMJM to support a new integrated design program at the school. The RMJM Program for Research and Education in Integrated Design Practice will emphasize business management principles and a thorough understanding of the construction process to round out students' design skills.

Speaking to attendees of Harvard's Design Firm Leadership Conference, who filled the GSD's Piper Auditorium, dean Mohsen Mostafavi said, "We believe very strongly in the role of transdisciplinary research. We believe it's the future of design education."

RMJM CEO Peter Morrison told the crowd that "architects must regain the status of master-builder" and that to do so, they must learn "to generate proper reward for the value [they've] created."

GSD professor Spiro Pollalis told the audience that although the details have not been worked out yet, the program will entail collaboration between the GSD and the Harvard Business School. AMANDA KOLSON HURLEY

36%

Percentage of A/E firm leaders who believe the economy will worsen in 2008.

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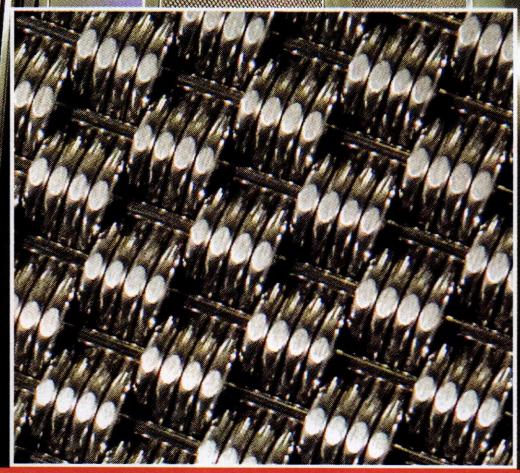

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Sustainability

GBI and Energy Star Team Up

THE NONPROFIT Green Building Initiative (GBI) and Energy Star, the voluntary energy efficiency labeling program of the U.S. Environmental Protection Agency and the U.S. Department of Energy, recently established a partnership to share resources and tools, promote each other's programs, and develop training in energy-efficient and sustainable building design and management for the commercial, institutional, and industrial construction markets.

The organizations' overlapping goals make the alliance a natural step, says Vicki Worden, vice president of commercial programs and product development for the GBI, which is based in Portland, Ore. "Our goal is to continue to build our system and our program to back up the work of the government."

As part of the partnership, the GBI will encourage its members to join Energy Star and enter the Energy Star Challenge, which urges reductions in building energy consumption of 10 percent or more. The organization also will enhance elements of its own green-rating program and management system with direct online links to Energy Star's Target Finder and Portfolio Manager tools to track and share relevant data on energy use. STEPHANI L. MILLER

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—London surgeon Alex Karidis, as quoted in a March 16 *Sunday Times* article about men seeking plastic surgery

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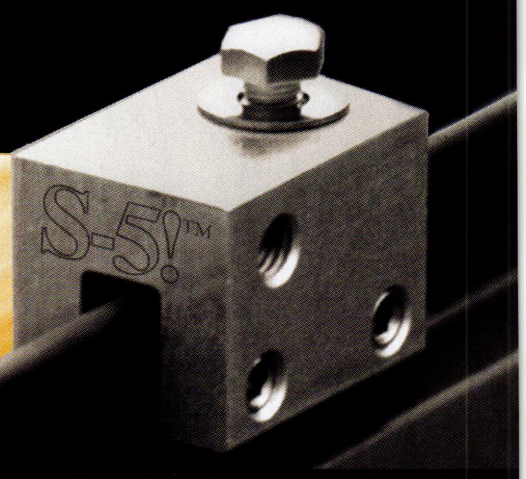

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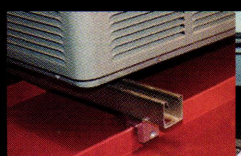
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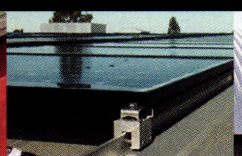
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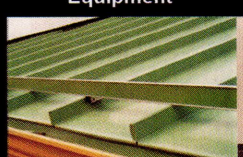
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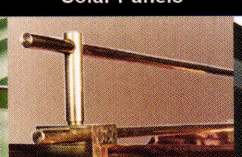
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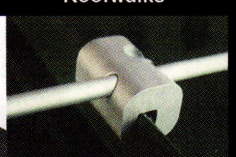
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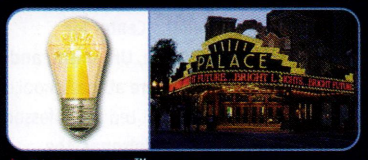

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Clips

Gensler founder and chairman **M. Arthur Gensler Jr.** has been named the recipient of the **Construction Specifications Institute's 2008 Michelangelo Award**. For an individual who has given distinguished and innovative service to the built environment, the award will be presented at CSI's trade show (formerly known as the CSI Convention, now rebranded as Construct2008, owned by ARCHITECT parent company Hanley Wood, and taking place June 3–6 in Las Vegas).

The **World Monuments Fund** has awarded **$50,000** to the **Grosse Point Library** to help efforts to save the midcentury Michigan building, currently slated for demolition. Designed by Marcel Breuer and opened in 1953, the library was placed on the WMF's 2008 watch list of the 100 Most Endangered Sites.

The short list of finalists for the position of **dean of Georgia Tech's College of Architecture** has been announced: **Alan Balfour**, from Rensselaer Polytechnic Institute; **Yehuda E. Kalay**, from the University of California, Berkeley; **Brenda Case Scheer**, from the University of Utah; and **Bruce Stiftel**, from Florida State University.

Anne T. Sullivan joins structural engineering and design firm **Thornton Tomasetti** as vice president in charge of establishing a historic preservation practice sector in the company's Chicago office. Sullivan is familiar with the firm's strategies: She has been involved in a number of Thornton Tomasetti projects over the last 15 years, including at her most recent post as a senior associate with Johnson Lasky Architects in Chicago.

Baton Rouge, La.'s **Trahan Architects** has been selected to design a **new museum in Natchitoches, La.** The planned 27,500-square-foot museum, part of the state museum system, will house the North Louisiana Regional History Museum and the Louisiana Sports Hall of Fame. The firm expects to complete the design phase by the end of the year.

Princeton University has created the **Center for Architecture, Urbanism, and Infrastructure** at the School of Architecture. Led by professor **Mario Gandelsonas**, the center will support collective research and hold symposia, conferences, working sessions, and public dialogues.

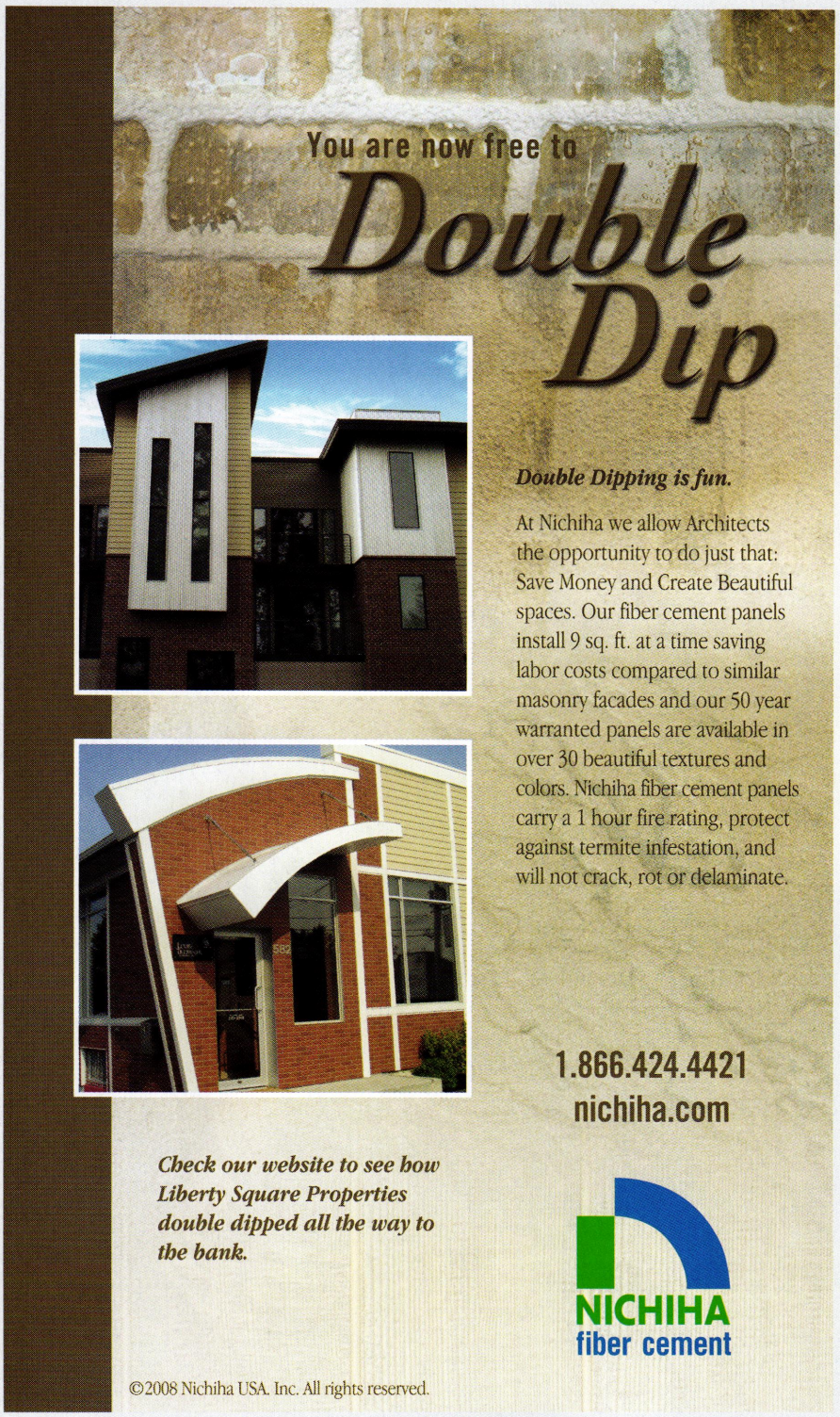
April has been dubbed "**National Landscape Architecture Month**" by the **American Society of Landscape Architects**. The organization will mark the occasion with activities directed to schoolchildren and their teachers at local chapters across the country with the common theme of "Discover Careers in Landscape Architecture."

The **United States Institute for Theatre Technology** has announced that **William Rawn** of Boston-based William Rawn Associates will receive the **Distinguished Achievement in Architectural Design of Theatres**, in recognition of his work on projects such as the Seiji Ozawa Hall at Tanglewood and the '62 Center for Theatre and Dance at Williams College. This is the second time the award has been given since its inception in 1998.

→ *continued on page 30*

"A promotional stunt."

—Dutch architect Erick van Egeraat on Daniel Libeskind's pronouncement that he would not work in China or for any other "totalitarian regime"



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—Norman Weinstein in the March 7 architecture-themed issue of *The Chronicle Review*

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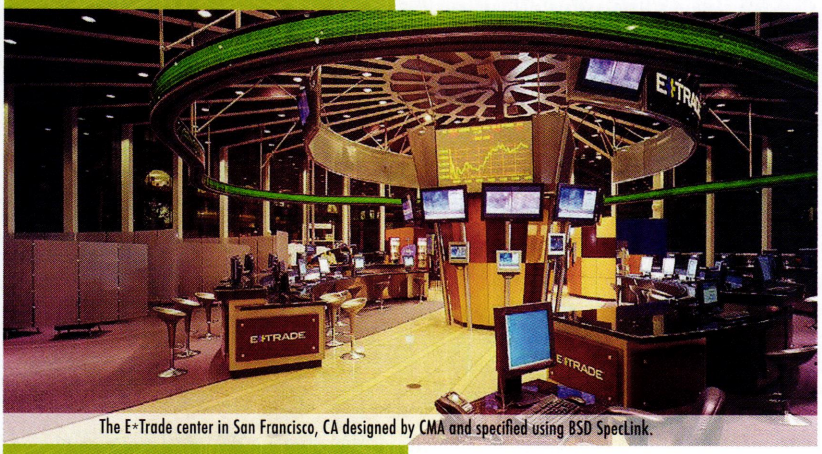

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→ *continued from page 28*

Syracuse University School of Architecture dean **Mark Robbins** is taking on new duties as the school's senior adviser for architecture and urban initiatives. Robbins' role will encompass projects in the city and on campus, including involvement in architect selection, design decisions, and working with community groups.

Tsoi/Kobus & Associates has announced the promotion of two principals and six associate principals. TK&A's two new principals are **Greg Luongo** and **Choy Ng**. **Rebecca Boylan**, **Jonathan Cohen**, **Matt Cotton**, **Alan Fried**, **Katy Tassmer**, and **Kate Wendt** are the Cambridge, Mass., firm's new associate principals.

Santa Monica, Calif.–based prefabricated housing developer **Living Homes** has partnered with Philadelphia-based **KieranTimberlake Associates** to produce a new line of sustainable single- and multifamily housing units. The new LivingHomes Building System includes Smart Panels that integrate mechanical ductwork, electrical systems, and plumbing. The system for the "Expandable Single Family Residence" is already available in California, Arizona, and Florida for the **low, low price of $215/square foot,** not including transportation or foundation.

The **George W. Bush presidential library** and public policy institute, which is being designed by **Robert A.M. Stern**, will be located at **Southern Methodist University** in Dallas. The project—which early estimates claim will cost nearly $200 million dollars—will be financed by private donations.

A stone plaza recently unearthed in the **Sechin Bajo ruins** 230 miles north of Lima, Peru, dates back at least 5,500 years and is the **oldest known urban settlement in the Americas**. The nearly 40-foot-wide circular gathering site's estimated age makes it nearly a millennium older than Egypt's Great Pyramid of Giza.

The Italian newspaper *La Stampa* reports that **Venice officials and engineers** are planning to **raise the city's buildings** as protection against rising sea levels. Piston poles will lift each structure up to 1 meter over the course of a month. Venice was flooded 50 times between 1993 and 2002.

In Memoriam

Martin Pawley, 69, Dies

BRITISH ARCHITECTURE CRITIC Martin Pawley died March 9 at the age of 69. As a young man, Pawley studied architecture at the Oxford School of Architecture, Paris' École des Beaux Arts, and London's Architectural Association. He began his prolific career as a journalist in the 1970s and held positions at *Architectural Design*, *Building Design*, *World Architecture*, and *The Architect's Journal*; he also served for seven years as the architecture critic for *The Guardian*. His writings included several books, among them *Terminal Architecture* (1998) and *Theory and Design in the Second Machine Age* (1990). These works were joined late last year by an anthology of his work—edited by David Jenkins and prefaced by Norman Foster—entitled *The Strange Death of Architectural Criticism: Martin Pawley Collected Writings* (Black Dog Publishing). KATIE GERFEN

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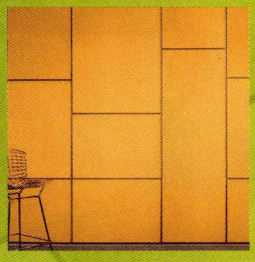

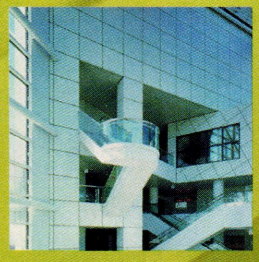
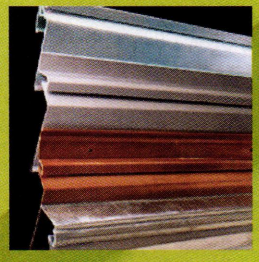

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Edited by Andrew Slocomb West

CALENDAR

APRIL, MAY, JUNE

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	1	2	3
			← LECTURE Discover the Renaissance link between the human body, buildings, and the cosmos at the Institute of Classical Architecture's **Air, Wind, Spirit, Soul**. *classicist.org*	↗ CONFERENCE The National Association of Vertical Transportation Professionals hosts its **Annual Forum** in San Francisco this year, with more pulleys, counterweights, and hydraulics than can fit in one room. *navtp.org*		
4	5	6	7	8	9	10
		SEMINAR See how concrete keeps on keeping on with a tour and classes at **High Concrete Group**'s Denver, Pa., headquarters. *high.net*	LECTURE Thomas Kamm goes retro in D.C. with **Sustainable Architecture**, using traditional building methods. *phillipscollection.org*		CELEBRATION Sneak peak of the Wexner's spring exhibits at its **Spring Exhibitions Opening Celebration**. *wexarts.org*	↓ COMMENCEMENT Next year's interns get out of school (and some of you write a few checks to those lucky grads) as commencement 2008 kicks off across America. *acsa-arch.org*
11	12	13	14	15	16	17
	OPEN HOUSE **The National Concrete Masonry Association** in Herndon, Va., celebrates 90 years of keeping your buildings vertical. *ncma.org*	← LECTURE O'Hare Airport is going green. **O'Hare Modernization Program** aims to write the book on green civil projects. *architecture.org*	DEADLINE Design a do-over of Copenhagen's **Toftegårds Plads Syd**. *arkitektforeningen.dk*	LECTURE The Morgan Library kicks off its **Medieval Costume Lectures** by Anne Van Buren. (Keep clear of the pointy shoes.) *themorgan.org*	REGISTRATION The **One Good Chair** competition gives designers everywhere the chance to eco-vitalize the place where you put your bum. *onegoodchair.com*	
18	19	20	21	22	23	24
↓ BLOCK PARTY You won't find much meat anymore, but **Meatpacking District Design Week** shows off the new commodities in NYC. *info@abenyc.com*	→ COURSE This isn't your father's infrared. **Thermography Training** with the Infrared Training Center in Las Vegas reveals how measurement and imaging works better outside the visible spectrum. *infrared-training.com*				DEADLINE The **PCI Total Precast Design Challenge** puts students and their designs for a new middle school to the LEED test. *pci.org*	
25	26	27	28	29	30	31
	DEADLINE The **Larvik Inner Harbour Competition** in Norway needs a few good architects. *jarl.tore.mehl@larvik.kommune.no*			↘ LECTURE The New School presents sculptor **Kiki Smith**. *newschool.edu*		
1	2	3	4	5	6	7
		CONFERENCE Our own Hanley Wood brings together the building universe at CSI's annual convention **Construct**. Join architects, engineers, specifiers, facility managers ... well, everyone that matters for this year's event in Las Vegas. *constructshow.com*				

Looking Ahead:

CONFERENCE
BEST 1: Building Enclosure Science and Technology; Minneapolis; June 10–12; *thebestconference.org*

FESTIVAL
LOOK3: Festival of the Photograph; Charlottesville, Va.; June 12–14; *festivalofthephotograph.com*

TRADE SHOW
NeoCon; Chicago, June 9–11; *neocon.com*

CONFERENCE
CIB W70: Facilities Management; Edinburgh, Scotland; June 16–18; *fmresearch.co.uk*

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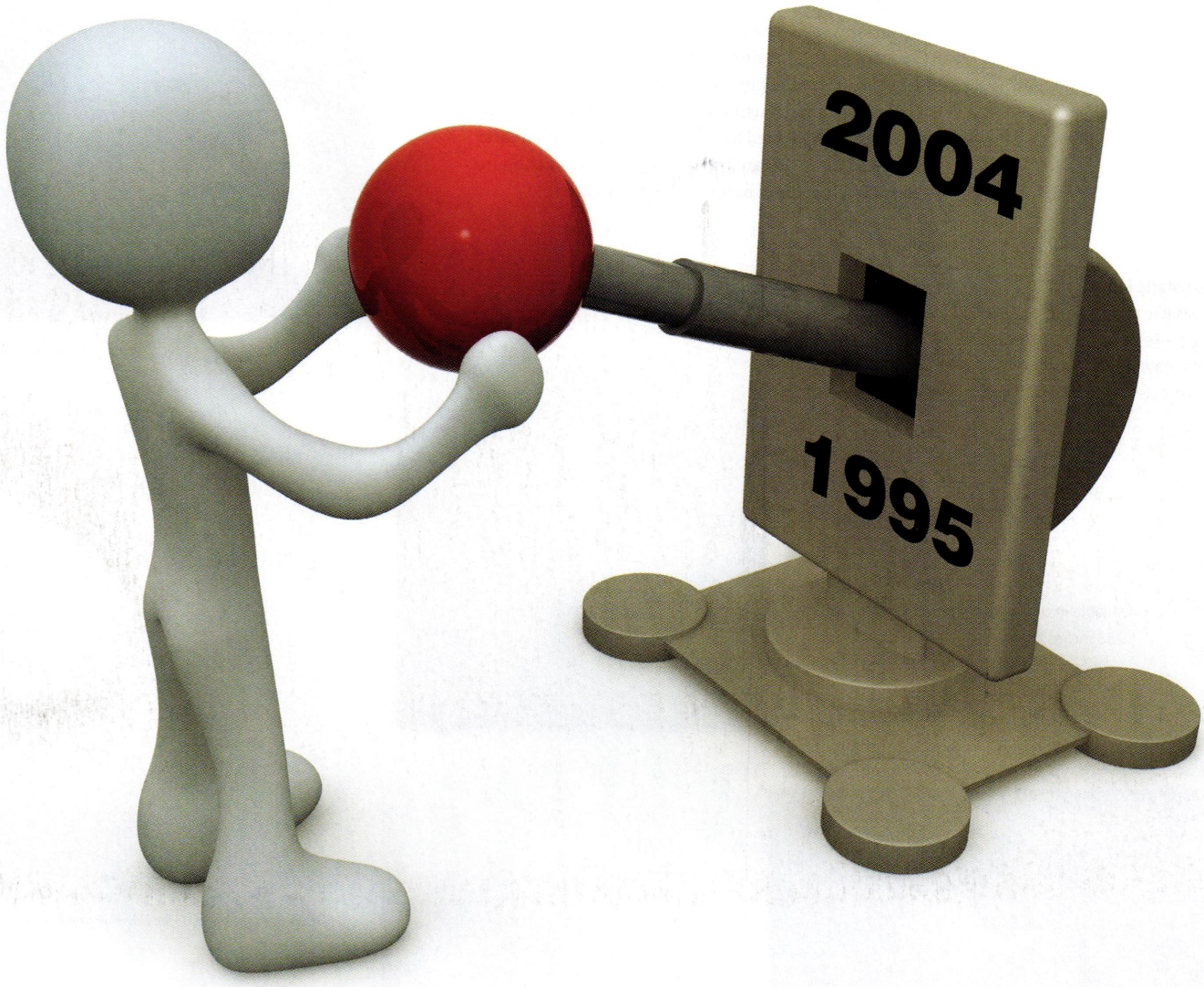

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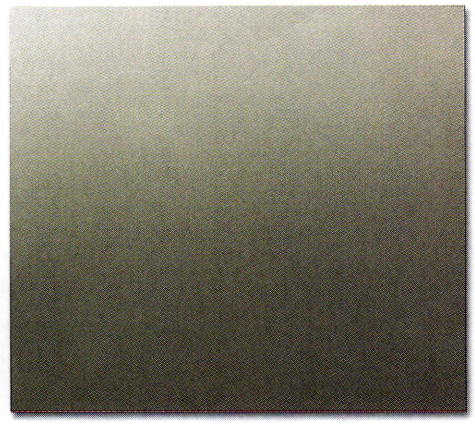

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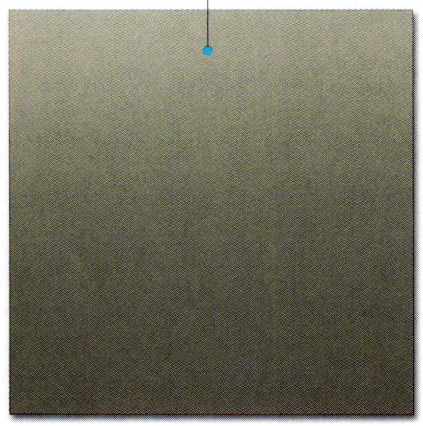
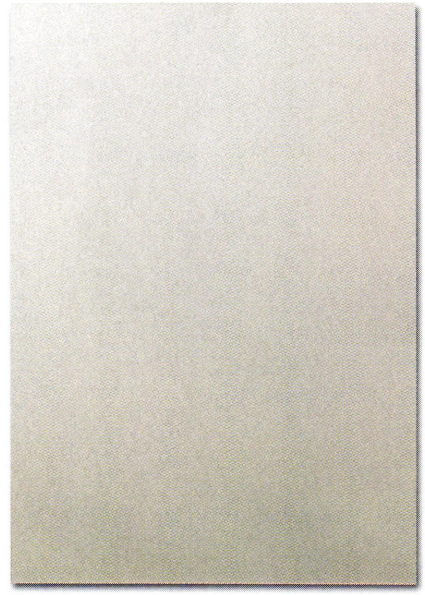
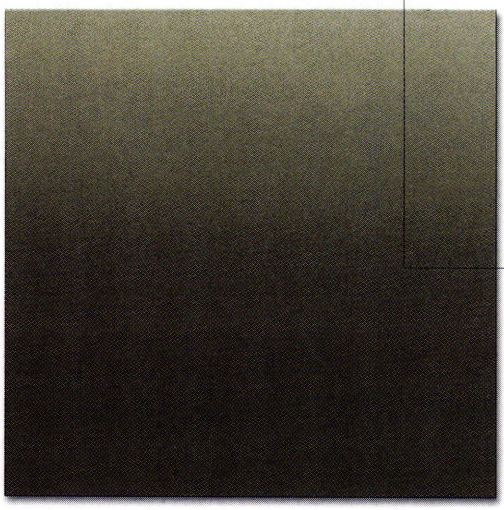
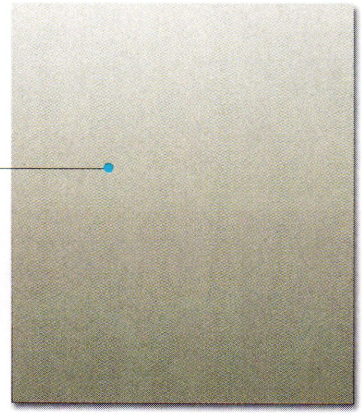


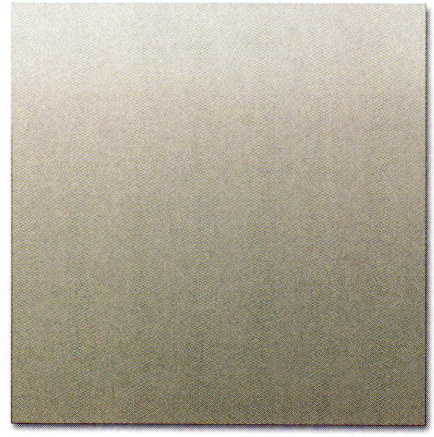


InvariMatte

• Available in coils or in cut lengths up to 288 inches, in widths up to 48 inches • Stocked in standard thicknesses between .024 and .120 inches





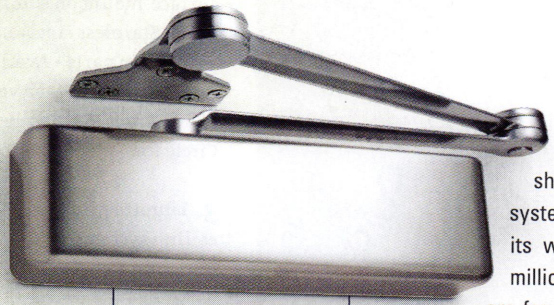


EVEN THE MOST SECURE OPENINGS ARE SUSCEPTIBLE TO THE

BARN DOOR SYNDROME.

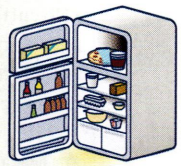
Or as Mom used to say,

SHUT IT! YOU'RE LETTING FLIES IN!

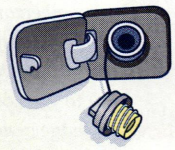


OTHER THINGS THAT COULD USE THE CLOSING POWER OF
THE 4040 XP

(1) Fridge



(2) Gas cap



(3) Mother-in-law

Security gurus may not obsess over door control like we do, but maybe they should. After all, a security system is only as strong as its weakest spring (and at 10 million test cycles, our springs are far from weak). Think about it. If a door fails to close, the security system fails before it even has a chance to succeed. That's why door control should never be an afterthought, but the first thought. Because when it comes to an open door and lax security, flies will be the least of your concerns.

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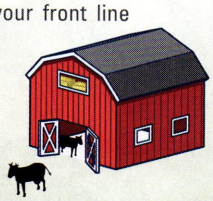
It's debatable where our passion for door control began. Second-grade geometry. Fifth-grade physics. Or Mom's constant nagging. Whether we were letting flies in or cold air out, it was instilled early that an open door is a useless door. That's why we commit every possible gene to developing controllers that not only keep doors closed, but also keep them from wearing out. It's just another way the natural-born closers at LCN protect both your front line and your bottom line.



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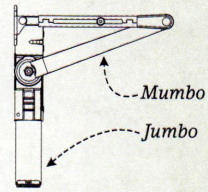

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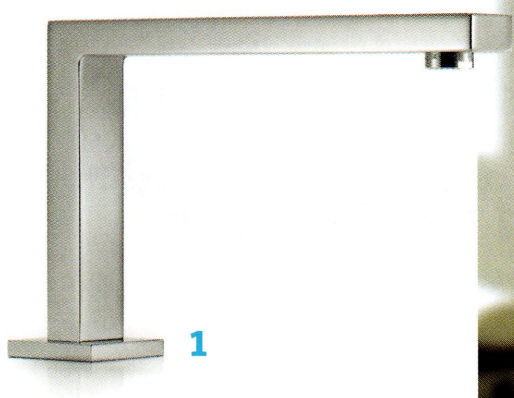

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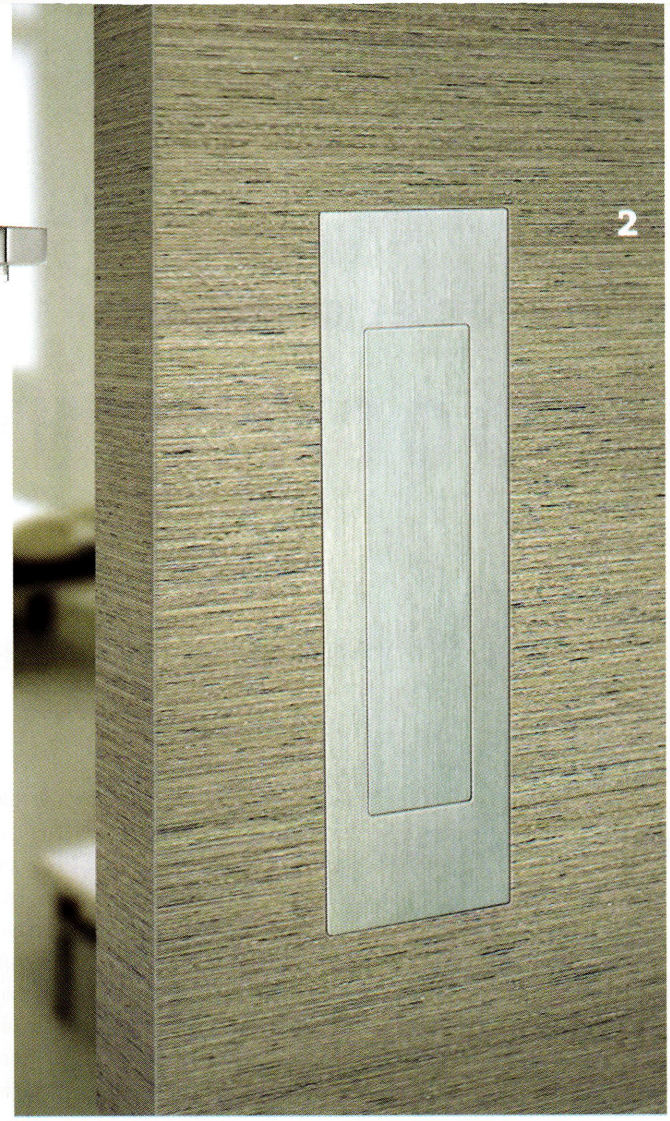

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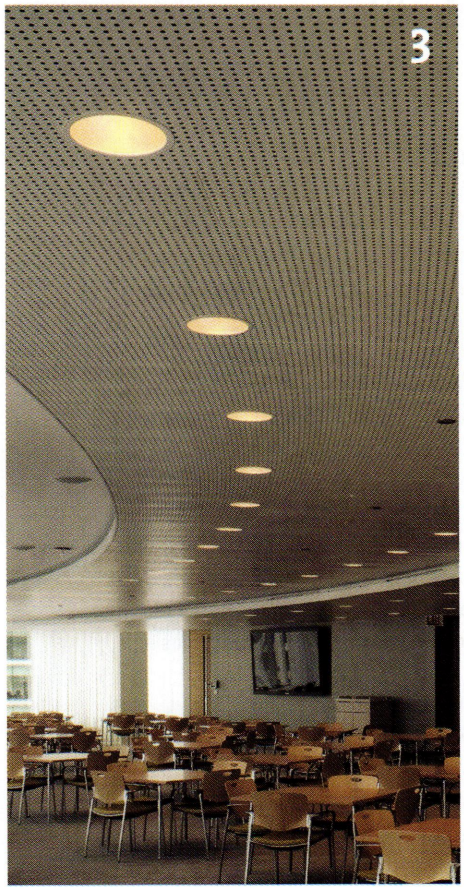

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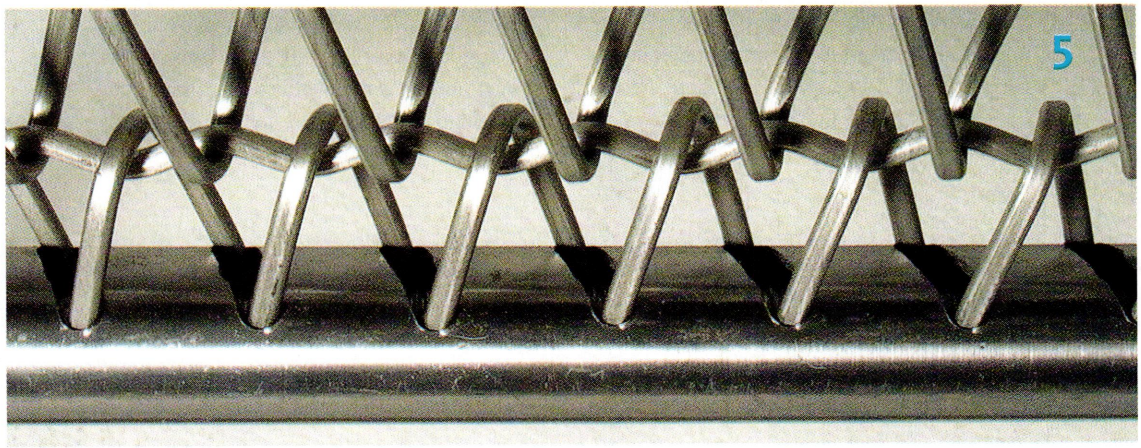

5

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Dornbracht • *dornbracht.com*
Individual modules engineered to a 60-mm-square grid system for simple planning • Precise layouts on each installation • Wall- or counter-mount • Controls and water outlets can be separated on counter • Matching accessories available • Circle 101

2. Flush pull handles
FSB • *fsb.de*
Recessed with spring mechanism • Flush- or surface-mount on sliding door • Stainless steel and aluminum parts • Available in multiple sizes for a variety of door sizes and depths • Circle 102

3. Libretto gridless metal ceiling system
USG • *usg.com*
Gridless, individually fabricated ceiling panels • Hidden steel carrier system • Perforations can form a specific pattern or image • No cutting or fitting necessary • Available in flat white, silver satin, and custom colors • Circle 103

4. Metal Collection tile
Apavisa, distributed by Walker Zanger • *walkerzanger.com*
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5. Eclipse attachment for ExpansRail infill
Cambridge Architectural • *cambridgearchitectural.com*
Holds and suspends tensioned metal fabric up to 100 feet • Suitable for fall prevention • Fabric is held to a tube via custom-cut holes • Structural support required at top and bottom • Circle 105

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Before it answers questions—it has to raise a few.
Is a designer's primary purpose to create beauty,
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Does carpet limit possibilities, or create them?
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challenges you to consider many more possibilities.
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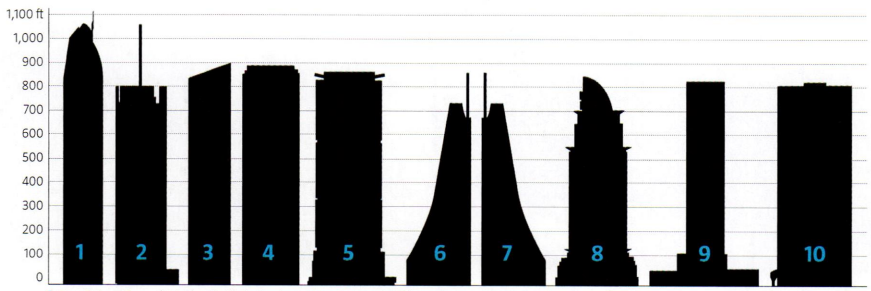
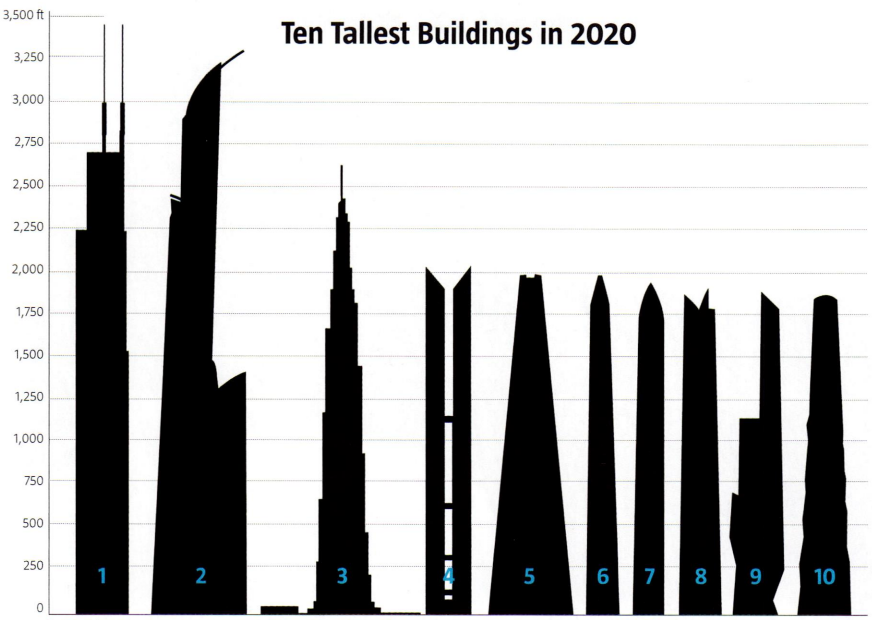
NUMBERS

Ten Tallest Buildings Completed in 2007



1. **Rose Rotana Tower** (U.A.E.) • Khatib & Alami • 1,093 ft. 2. **New York Times Tower** (U.S.) • Renzo Piano/FXFowle Architects • 1,046 ft. 3. **China International Center Tower B** (China) • Shantou Construction Design Institute • 884 ft. 4. **Naberezhnaya Tower C** (Russia) • RTKL/Natal/ENKA • 881 ft. 5. **Hotel Panorama** (Hong Kong) • DLN • 856 ft. 6. **Dual Towers 1** (Bahrain) • Ahmed Janahi Architects • 853 ft. 7. **Dual Towers 2** (Bahrain) • Ahmed Janahi Architects • 853 ft. 8. **Harbour Hotel & Residence** (U.A.E.) • Khatib & Alami • 832 ft. 9. **Park Tower** (China) • John Portman & Associates • 820 ft. 10. **Mid-Town Tower** (Japan) • SOM/Nikken Sekkei • 813 ft.

Ten Tallest Buildings in 2020



1. **Al Burj** (U.A.E.) • Woods Bagot • 3,445 ft. 2. **Burj Mubarak al-Kabir** (Kuwait) • Eric Kuhne Associates • 3,284 ft. 3. **Burj Dubai** (U.A.E.) • SOM • 2,624 ft. 4. **Incheon Towers** (South Korea) • John Portman & Associates • 2,013 ft. 5. **Russia Tower** (Russia) • Foster + Partners • 2,008 ft. 6. **Chicago Spire** (U.S.) • Santiago Calatrava/ Perkins+Will • 2,000 ft. 7. **Shanghai Center** (China) • SOM • 1,903 ft. 8. **China 117 Tower** (China) • Architect unknown • 1,870 ft. 9. **Millennium Tower** (South Korea) • Asymptote • 1,837 ft. 10. **Lotte Super Tower** (South Korea) • SOM • 1,821 ft.

SOURCE: COUNCIL ON TALL BUILDINGS AND URBAN HABITAT

Who's Tall Now?

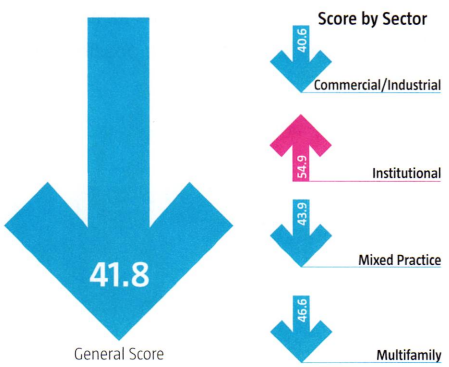
YOU'D THINK IT WOULD BE TOUGH to cloak a nearly 1,900-foot-tall building in secrecy, yet that's exactly what's happening with the proposed China 117 Tower in Tianjin, China, and many other skyscrapers still in the proposal or early building phases. Which is why Philip Oldfield, a research coordinator at the Chicago-based Council on Tall Buildings and Urban Habitat, compiled a "Tallest 20 in 2020" list last November as well as a list of the 50 tallest proposed buildings in January, unveiling some of the mysteries for a greater collective understanding.

"We used strict criteria on real proposals that are moving forward," says Oldfield. The Chicago Spire and 1 World Trade Center, both under way, are the only North American buildings on the 2020 list. "If you made this list 30 years ago, you'd have predicted the majority of the buildings would be steel office buildings in North America," Oldfield says, adding that today's tallest buildings are primarily residential or mixed-use, made of concrete, and located in Asia and the Middle East.

Carol Willis, founder and director of the Skyscraper Museum in New York City, cites cultural differences as a deciding factor in where tall buildings go up. Zoning laws and building codes are cultural, not economic, she says.

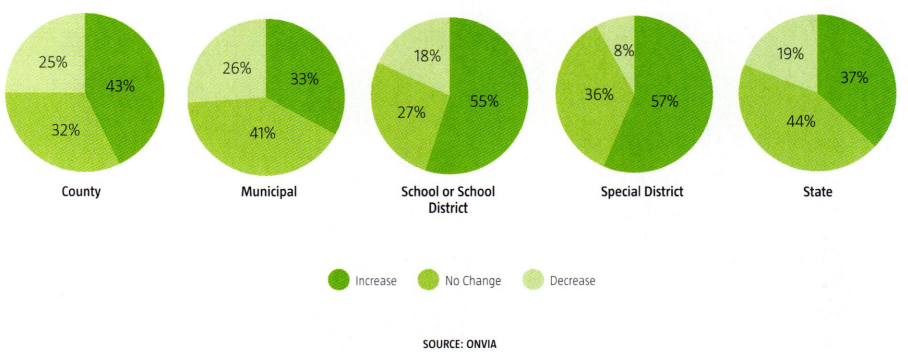
Driven by a desire to create icons in a given city, the tall trend shows no signs of slowing down—at least overseas. But North America's lock on tall design is coming to an end. "It's not that we have a lack of ambition or money [in the United States]—that's not it," Willis says. "There's a limited amount of space you can exploit in the sky. Whether by democratic process or not, it's been decided that the public owns a piece of the sky here."

Architecture Billings Index, February 2008



SOURCE: AIA

Government Spending on Infrastructure, 2008 vs. 2007



SOURCE: ONVIA

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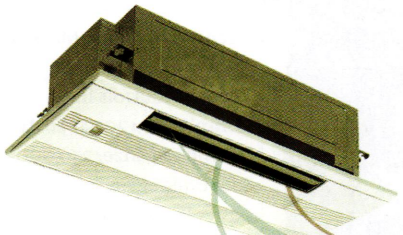

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Text Margot Carmichael Lester

LOCAL MARKET

MIDDLETON, WIS.

Population/Employment
The current population of 17,000 is growing 1 percent annually; job growth is 1.3 percent per year.

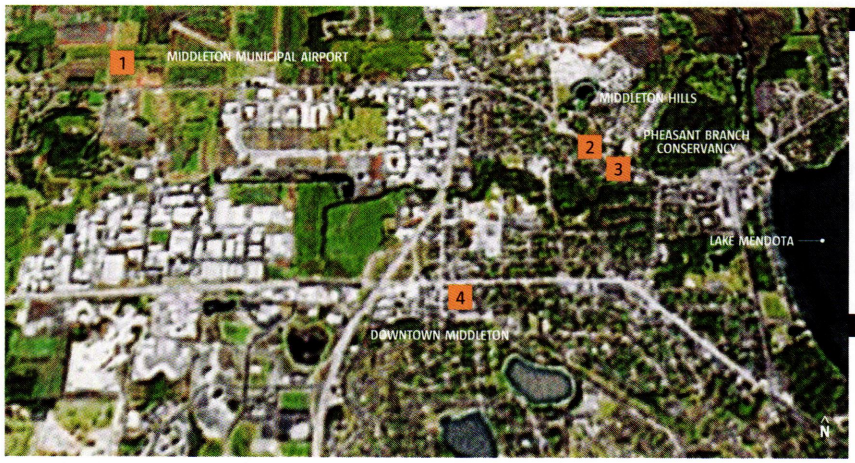
Office Market
Vacancy for Class A offices is under 5 percent; asking rate: $15/s.f.–$17.50/s.f., triple net.

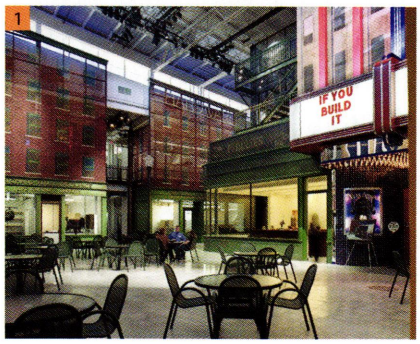
Residential Market
Median home sales price in 2007: $261,000.

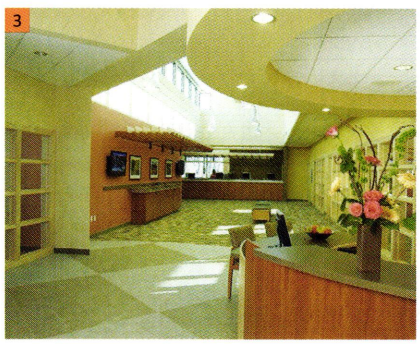
Market Strengths
- Parks and open spaces
- Excellent school system
- Reasonable taxes

Market Concerns
- Threat of suburban sprawl
- Housing affordability
- Limited-growth areas

Forecast
"The current planners appreciate the vision put in place over two decades ago to create a vibrant and centered community," says Ed Linville, principal of Madison's Linville Architects. "I see more emphasis on smart growth and a newfound interest in green design and protection of natural resources. I see footprints that are more concentrated."







ELECTRONIC THEATRE CONTROLS HEADQUARTERS
Architect: Strang, Madison; **Developer:** Electronic Theatre Controls Inc.; **Completion:** 2004; **Cost:** $18 million; **Size:** 250,000 s.f. • Building includes administrative, R&D, and manufacturing operations.

MIDDLETON HILLS CENTER
Architect: Linville Architects, Madison; **Developer:** Erdman-Lynch Enterprises; **Completion:** 2005; **Cost:** $7 million; **Size:** 70,000 s.f. • Phase one received a National Commercial Builders Council Award of Excellence.

UNIVERSITY OF WISCONSIN CREDIT UNION
Architect: Planning Design Build, Madison; **Developer:** Erdman Enterprises; **Completion:** 2007; **Cost:** $1.3 million; **Size:** 4,500 s.f. • Designed to LEED standards, though client did not pursue certification.

TRIBECA VILLAGE
Architect: Plunkett Raysich Architects, Madison; **Developer:** T. Wall Properties; **Completion:** 2009–2015; **Cost:** $250 million; **Size:** 28 acres • To include six office buildings, 169 residences, a hotel, retail space, and more.

IT SHOULDN'T BE TOO SURPRISING that Middleton, Wis., topped *Money* magazine's 2007 list of the 100 best places to live in the United States: In addition to its abundant natural charms, two decades ago the city, just west of state capital Madison, adopted a new urbanist approach to development. (The Middleton Hills neighborhood, north of downtown, is the only project in Wisconsin designed by Andrés Duany and Elizabeth Plater-Zyberk.)

The result is a city that still feels manageable and friendly even as it spreads outward. "The city planning department is excellent to work with," comments Melissa Destree, president of Madison-based Destree Design Architects. "They promote density and progressive design solutions."

But, in recent days, the Good Neighbor City has been struggling a bit to stay true to its motto in the face of big developments like T. Wall Properties' proposed $250 million, 28-acre mixed-use Tribeca Village project—scheduled to begin in 2009—that, until recently, was slated to include a Wal-Mart. At press time, public opposition had turned away the big-box retailer.

Still, Van Nutt, executive director of the Middleton Chamber of Commerce, is hopeful for Middleton's legacy and says he'd like to look back someday and be able to say, "'The community used its remaining land resources well, maintaining balance between commercial growth, residential growth, and green space.'" But, he adds, "It will take ongoing strong leadership and cooperation to make this a reality."

SATELLITE IMAGE: GOOGLE EARTH; BUILDINGS (1–4): PETER TAN; JOHN J. KOROM; SHAWN HARPER; PLUNKETT RAYSICH ARCHITECTS

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Text Eve M. Kahn **Photo** John Soares

SCREEN GRAB

KIRKBRIDEBUILDINGS.COM

Since 2002, amateur historian Ethan McElroy has been archiving photographs and stories of Kirkbride asylums, which were based on the theories of a 19th century doctor.

ETHAN MCELROY TRAVELS THE COUNTRY documenting crumbling Victorian insane asylums, then posts their haunting pictures and stories at kirkbridebuildings.com. But he studies only those structures based on the theories of Dr. Thomas Story Kirkbride (1809–1883), a Quaker humanitarian who regarded the insane as treatable sufferers rather than as public menaces. Kirkbride persuaded dozens of hospital administrators and architects to create secluded, freestanding asylums with long "batwing" wards flanking central offices to maximize staffs' observation opportunities and patients' access to fresh air and sunlight.

McElroy, 33, is a freelance web designer in Framingham, Mass. Two abandoned Kirkbride asylums near his home—in Danvers and Worcester—inspired him to start the site in 2002. "They're otherworldly places," he explains. "I'm fascinated by their size and shapes, the dramatic scale, the quality of the architecture and craftsmanship, and Kirkbride's whole idea that a building could help cure people."

On his travels, McElroy trains his Olympus C-8080 on the masonry exteriors, which are mostly turreted and studded with bay windows; he also accesses interiors (if they're not too dangerous), shooting dusty gurneys in corridors or paint peeling from carved woodwork. About 5,000 people visit his site each month, and McElroy receives up to 50 e-mails a week. "The most common are from people thinking I could get them a job at one of these places," he says. "Some people want to tell me about their memories of working there or being incarcerated there. And some are just a little weird, asking about paranormal experiences I've had or tortures that might have happened at these places."

McElroy hopes that sites like his will help inspire preservationists and developers to save more Kirkbrides. He admits, though, that "it's difficult to find new uses for the layouts." Happily, McElroy reports that an asylum in Traverse City, Mich., has become the mixed-use Village at Grand Traverse Commons. But at least six buildings have been devastated by fire or razed. The Worcester asylum has been condemned, and only a small, turreted portion remains of the Danvers hospital, as the centerpiece of a rental-apartment complex called Avalon Danvers. Its street address: 1101 Kirkbride Drive.

LINKS

sitephocus.com

Created for architects, planners, and others involved in construction and development, Sitephocus is a photo database of building typologies and urban and suburban spaces from around the world. Subscribers can customize image boards to share or use photos in proposals and reports.

rand.org/publications/classics/building.html

In December 1950, as the RAND Corp. was planning to erect its very own building, Mathematics Division chief John Williams circulated an informal memo with his notions of what kind of office layout would benefit the research group most. Read his analysis here.

lcacalculator.com

Do you know what the carbon footprint or embodied energy of a particular product might be? The Industrial Design Consultancy recently released the Life Cycle Assessment Calculator, which the firm claims will help determine the environmental impact of any product.

treehugger.com/files/2008/03/masdar-roundtable.php

Shortly after work began on Masdar City—Foster + Partners' $22 billion carbon-neutral development in Abu Dhabi—the eco-blog TreeHugger convened a panel to separate hype from reality. Learn what EDAW's Christopher Choa and others think of the massively ambitious project.

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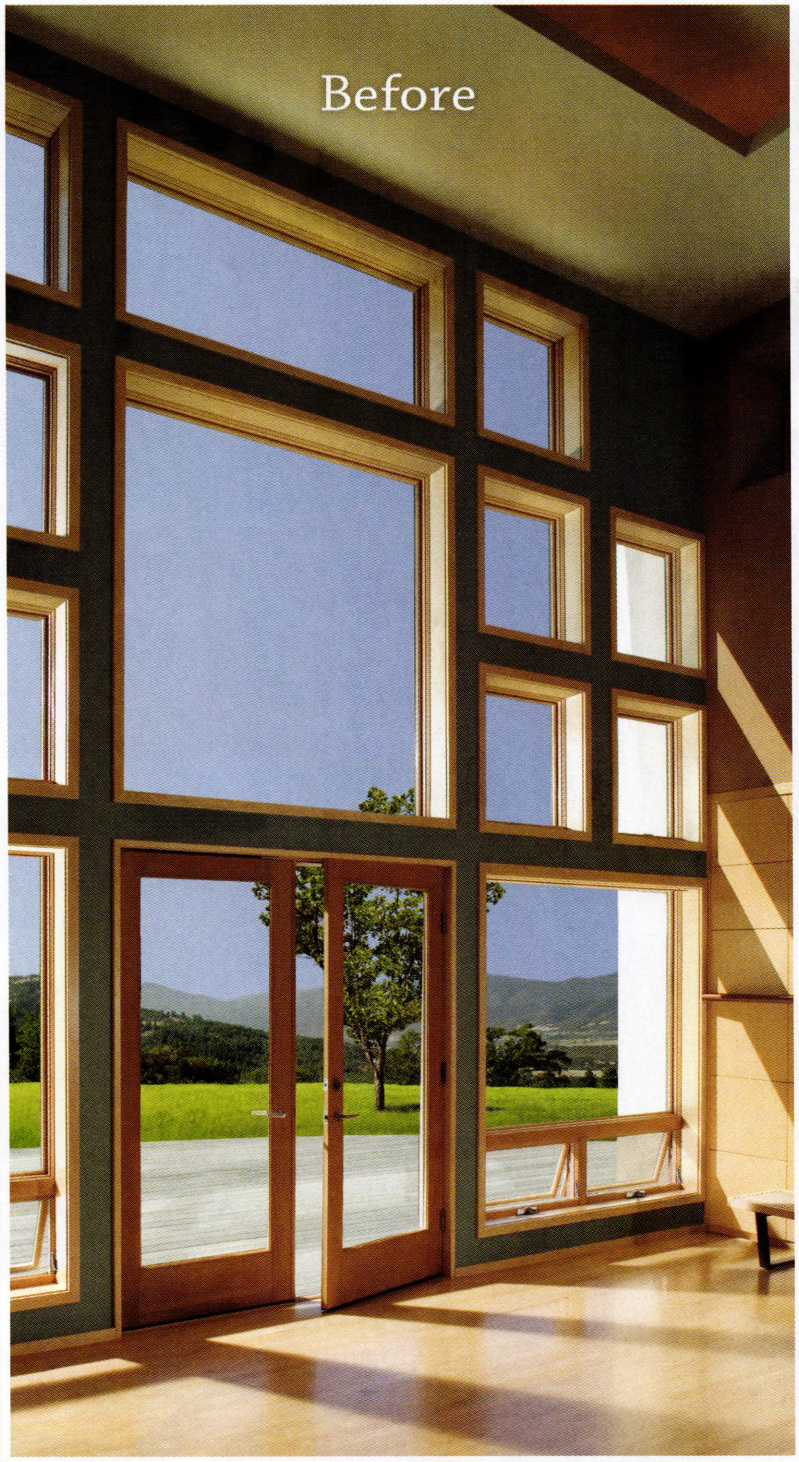

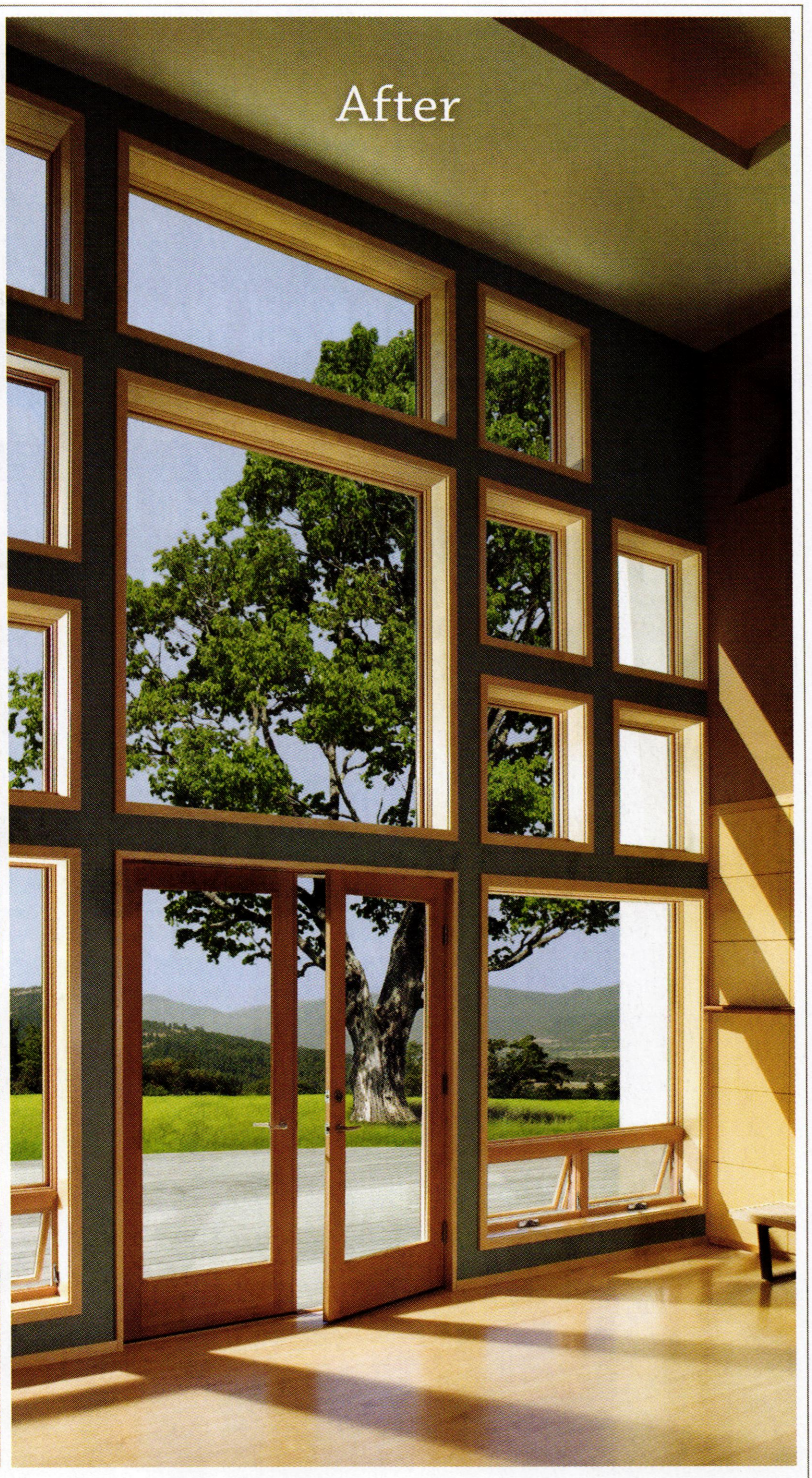

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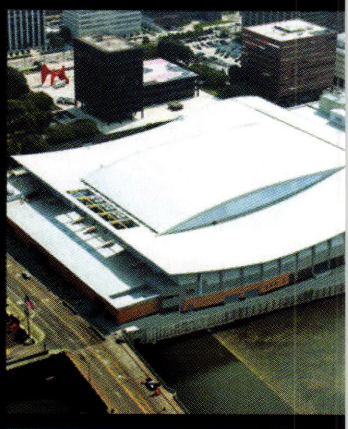

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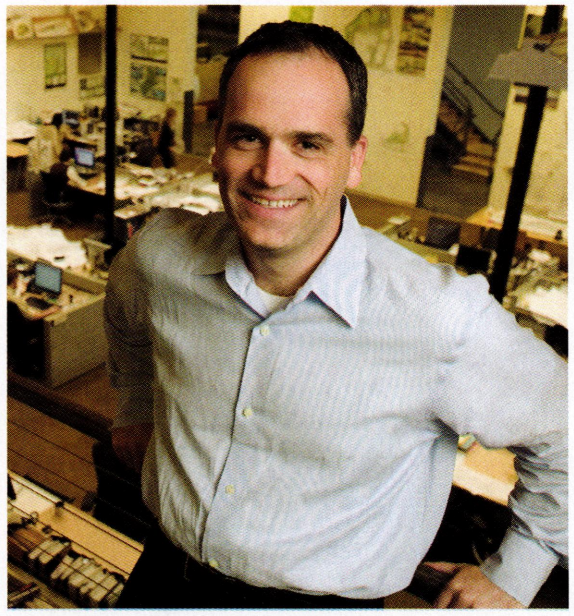
TIPS FROM AN HR DIRECTOR ON HOW TO MAKE PERFORMANCE REVIEWS MORE USEFUL AND LESS PAINFUL. **Text** Fred A. Bernstein **Photo** Anne Hamersky

SO, HOW AM I DOING?



Approach a performance review as a dialogue to set goals for the future, advises Mark Gundacker (right), EDAW's global director of human resources.

MARK GUNDACKER ONCE WORKED at an insurance company, where he taught classes on how to conduct performance reviews—without ever being reviewed himself. His boss at the time assumed that managers didn't need pointers, says Gundacker, who knows better.

These days, Gundacker plans and oversees performance reviews as global director of human resources for EDAW. The San Francisco–based landscape and environmental design firm has doubled in size over the last five years—it now has 1,700 employees in 35 offices around the world—and continues to grow. For the firm to be effective at recruitment and retention, it needs to maintain its reputation for helping employees achieve their goals, says Gundacker, who joined in 2004. One way to do that is to hold periodic meetings to discuss those goals. Although they're known as performance reviews, the meetings offer opportunities to talk about much more than the past, Gundacker says. And though employees are sometimes nervous about being evaluated, they should emerge from a review psyched about the future.

Think about next year.
"Too many people use the performance review as a backward-looking, rather than a forward-looking, tool," says Gundacker. "Sure, it's an opportunity for the employee to get feedback on past performance. But even more important is that managers ask employees questions like 'Where are you hoping to go? What do you need to do to get there?' At EDAW, we use the annual review to talk about goals for the next year. Then we do a midyear follow-up to see if the employee is meeting those goals."

Do it in the fall.
Some companies conduct performance reviews on the employee's anniversary, which could be any time of year. Gundacker prefers to hold them in September or October. That way, people can get a sense of how they're doing before end-of-year bonuses and raises are announced. Reviews are more effective when they're linked to tangible results.

Get more than one opinion.
In design firms, people don't typically work for one person for an entire year. So it's important for the person conducting the review to solicit views from other managers. "This is especially important at a firm where creativity is valued," says Gundacker, since creativity isn't something that lends itself to objective measure.

Evaluation forms should guide the manager ...
At EDAW, managers fill out forms rating employees on five criteria: communication, quality of work, productivity, innovation, and teamwork. The last two are especially important at a design firm, Gundacker says. For managers, there are additional criteria like leadership and financial effectiveness. No EDAW employee—not even a top manager—is exempt from the process.

... and the employee.
Before the review at EDAW, the employee is asked to complete a self-evaluation. The manager can use the employee's own observations to start the conversation rolling. "It's a good icebreaker," says Gundacker. But keep the forms simple: "If the paperwork is too complex," he says, "the process becomes about filling out the forms."

Schedule enough time.
"I tell managers to allow at least an hour, with no interruptions," says Gundacker. "If in the course of a year you can't block off an hour to have a meeting with an employee, that sends the employee a message."

Use the form as a guide, not a script.
A manager should go beyond just reading the evaluation to the employee. The purpose is to have a two-way conversation.

Sign off.
At the end of the meeting, the manager and the employee should both sign the form. That signals that there's agreement, not only about what the employee has done but also about what the employee plans to do—which is what really matters.

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Text Amanda Kolson Hurley

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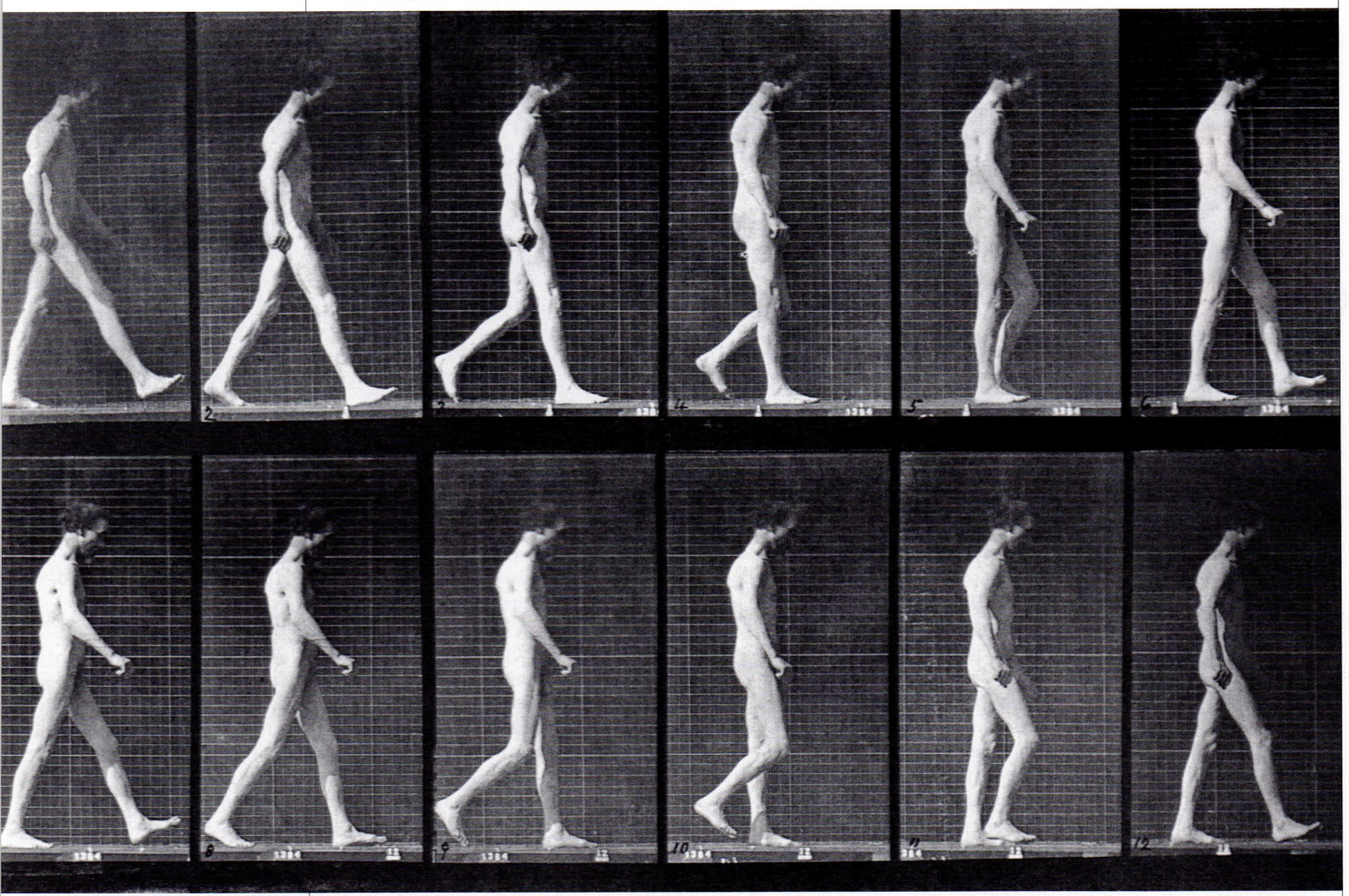


The new Gait Lab takes the 19th century stop-motion photographic analysis of Edward Muybridge into the 21st century.

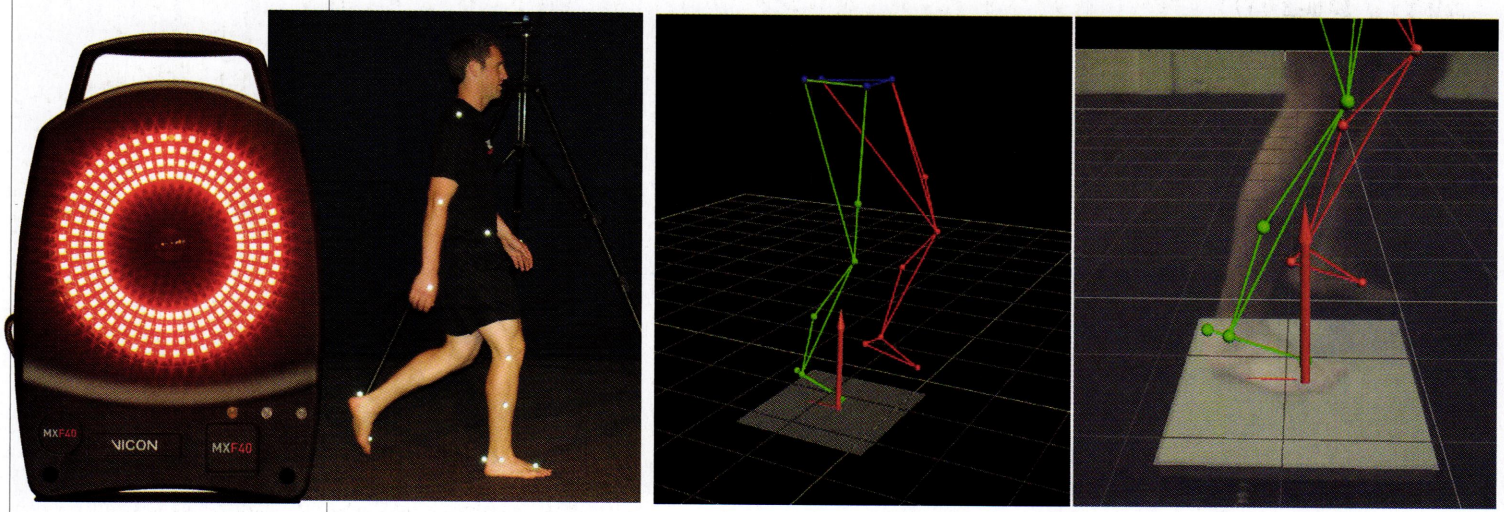
PHOTO: CORBIS

WHEN THE MILITARY ADVANCED TRAINING CENTER (MATC) at Walter Reed Army Medical Center in Washington, D.C., opened last September, it met a long-standing clinical need that has become increasingly urgent: the need for an integrated facility to rehabilitate returning soldiers who had lost limbs, suffered impaired limb function, or sustained brain injuries in Iraq and Afghanistan. The two-story, 31,000-square-foot center includes offices for counselors; a family lounge and kitchen; prosthetics fitting rooms; a climbing wall; and a ceiling-mounted exercise track that lets patients, wearing a harness, walk or run without being tethered to a therapist. The MATC even has an immersive virtual environment where patients, standing on an interactive platform, can test their reflexes.

Besides showcasing the latest technology, the MATC gathers into one place treatment areas that previously had been scattered around the hospital. One of these areas was the Center for Performance and Clinical Research, known as the Gait Lab, where physical therapists and biomechanical engineers study patients' motions as they walk to gauge how rehab could help them and ensure they're using the right prosthetic device with a good fit.

The old Gait Lab was a retrofitted square room, 28 feet by 28 feet, with eight special motion-capture cameras mounted on the walls and staff desks in the corners. There, the actual walkway for patients was about 25 feet long "at best," says Brian Baum, a Gait Lab biomechanist. Patients in the later stages of rehab, able to take fairly large, quick steps, had to stop short. There were other drawbacks, says Baum: "We did struggle with vibration problems ... we were next to prosthetics, where they use their big machines to fabricate prostheses. There was tons of sawing."

So when Congress approved $10 million for the project in 2004 and—after a false start by another firm, whose design came in over budget—the project was awarded the following year as a design/build to Turner Construction Co. and Ellerbe Becket, Baum and his colleagues had the chance to draw up a wish list for their new lab. They wanted the lab to sit on an isolated slab of concrete, so that vibrations from surrounding rooms wouldn't affect their patients' motions (or how they calibrated them). They wanted more space, so patients could walk briskly, even run. They wanted a higher ceiling, so cameras could be mounted higher up to give a bird's-eye view. And, last but not least, they wanted better equipment.



Motion-capture cameras used in the Gait Lab have strobes of LED lights that flash 120 times per second, capturing the positions of reflective markers placed on patients' bodies. Software turns this data into a composite 3-D view. The lab's computer also registers weight on the force plates under the floor.

Pouring the isolated slab was the crucial first step. "We designed a special floating slab for the [virtual environment] area and the Gait Lab, dropped down about 6 feet," says Tom Anglim, director of government services at Ellerbe Becket, who served as its project director on MATC. The extra space was needed for the six force plates that were installed in the floor to register how patients carry their weight as they walk, as well as for a treadmill with two more plates (the old lab had only two in total). This floating slab "does have a soft gasket material around the edge to keep it from contacting the rest of the concrete," Anglim notes. The dimensions of the new room were set at 48 feet 10 inches by 34 feet 5 inches, with an 18-foot ceiling, says Baum. "Size and ceiling height are, from an architectural standpoint, basic things, but they afford us so much more flexibility," he says.

When it came to specifying the new cameras, computer hardware and software, and force plates, the Gait Lab technicians were in the driver's seat from the beginning, says Elihu Hirsch, who was the project manager for the U.S. Army Corps of Engineers, which partnered with Turner and Ellerbe Becket on the center. "Brian and Barri Schnall [a Gait Lab physical therapist] would sit in on our design reviews and comment on what they needed," Hirsch recalls. "[They] had been shopping around for cameras and technical equipment. They told us what the requirements would be as far as control wiring and wiring to cameras and computer monitors—they were able to communicate that to us with a sketch." It was not just desirable that the Gait Lab be planned around the equipment, says Hirsch; it was essential, or it wouldn't perform effectively: "It was very, very critical that when the equipment was set in place, we didn't have any change in elevation. If someone is running to where the force plates are, it's very important they don't experience any tactile difference. We had to make sure the equipment would be integrated into the final construction."

The 23 cameras in the new lab are, unlike their eight predecessors in the old lab, mounted to an aluminum truss system that can be adjusted up or down (though "moving them is not the easiest thing in the world," admits Baum). Baum and his colleagues chose motion-capture cameras of a type commonly used in medical applications and also in the movie industry for animation. The model used in the Gait Lab is the Vicon MX-F40. "Each camera has a strobe of LED lights around it that flash a particular frequency," explains Baum. "Every time they flash out, the flash hits a marker [on the patient's body] that's covered in special reflective tape. If the strobe flashes out 120 times per second, we can get the position of a marker in that camera view every 120th of a second." With 4-megapixel as opposed to 1.3-megapixel resolution, the new cameras are a big upgrade from those they replaced. "They allow us to see the same-sized marker farther away or use much smaller markers at the same distance—we can model motion in a lot more detail," Baum says.

Each camera has a cable that leads to an area with three hardware boxes where the cameras plug in, eight per box. (The 24th plug is the one that connects the force plates.) Those boxes share one connection to the control computer. That computer uses a software program, also made by Vicon and called Nexus, to capture the 2-D views from the 23 cameras and turn them into a single, composite, 3-D image of

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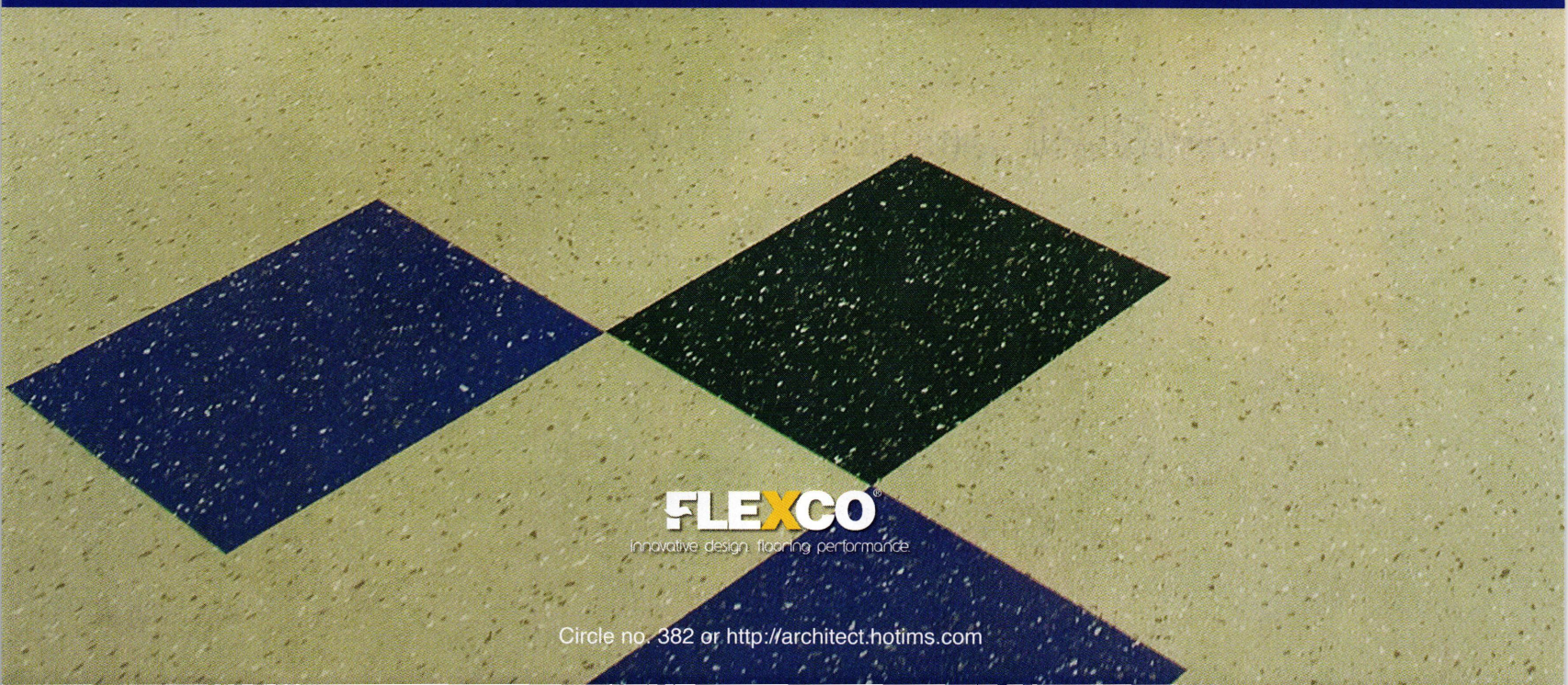

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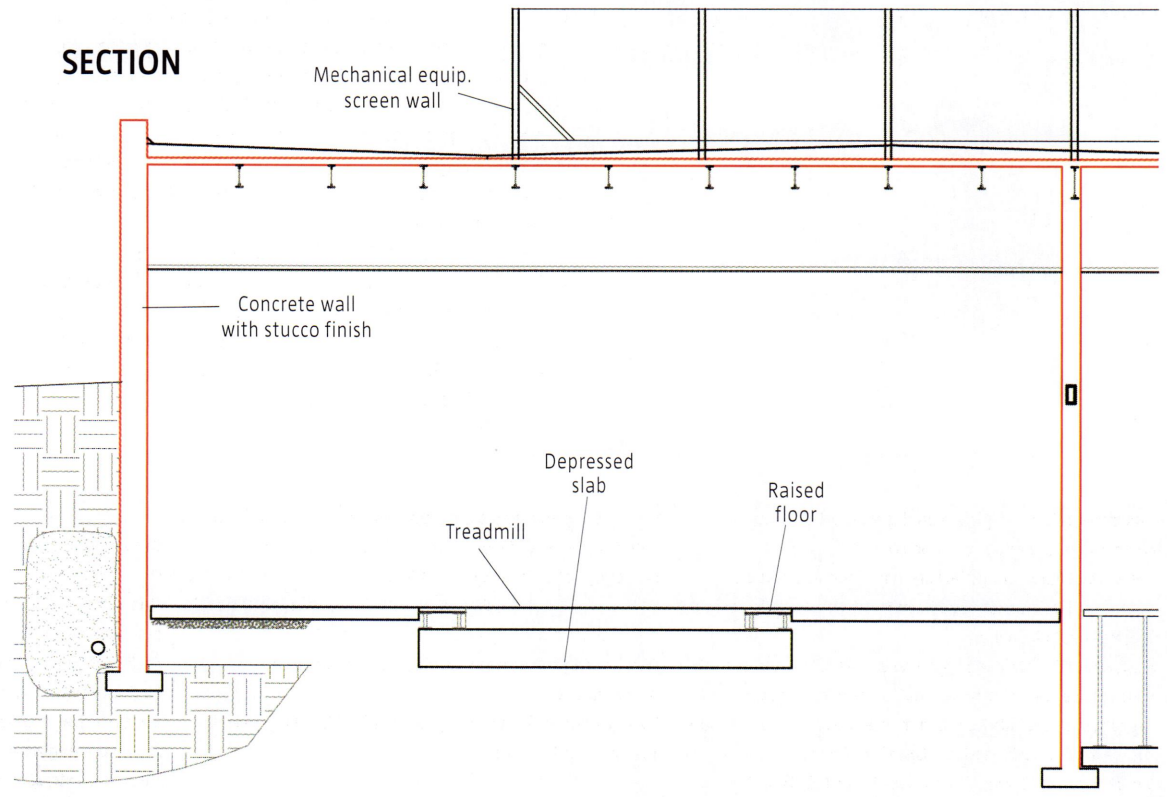
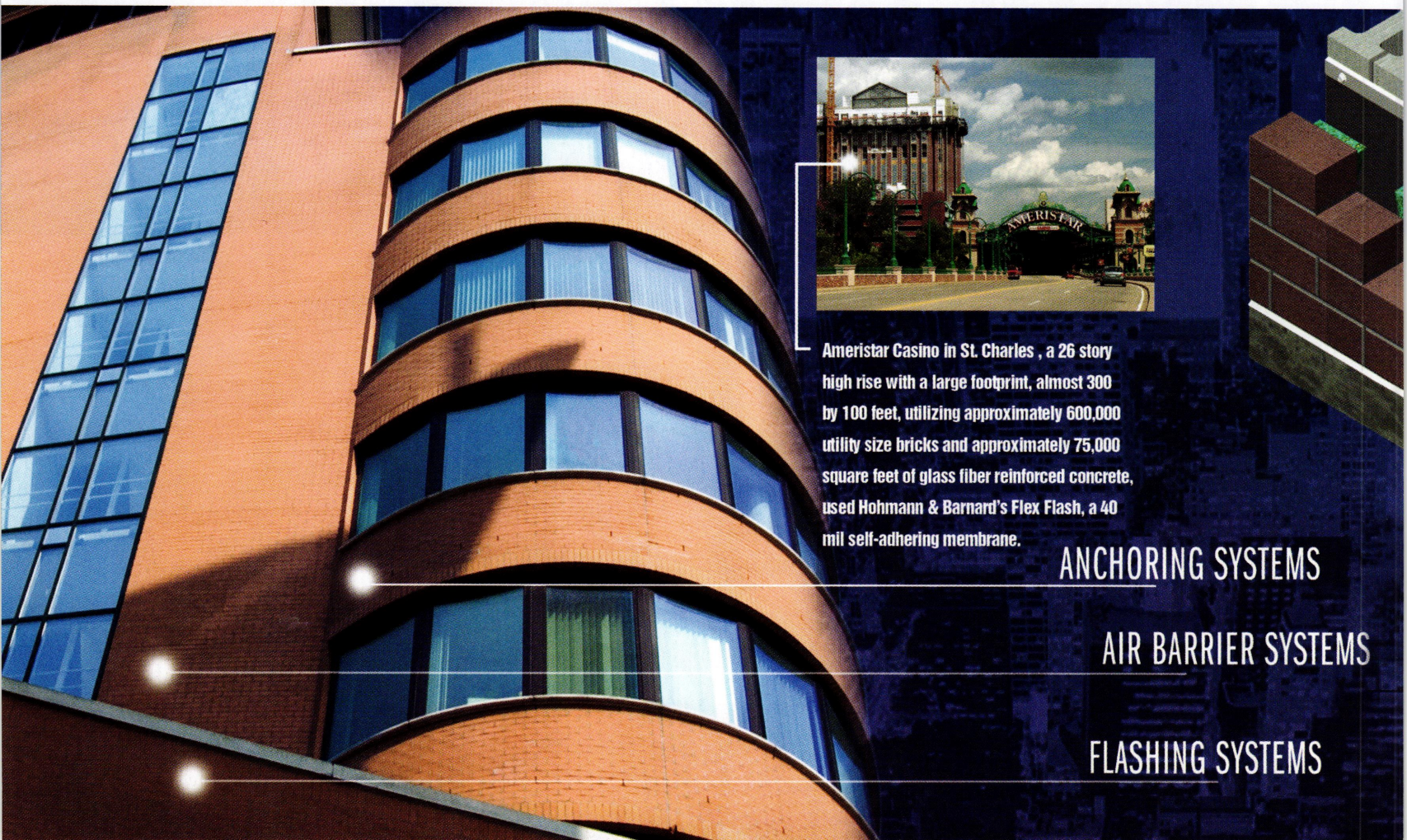
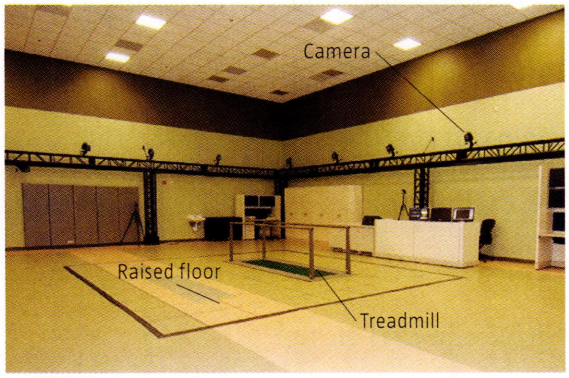
The Gait Lab sits on a sunken, isolated slab (see section, right) so that its data will not be affected by outside vibrations. The floor is raised to accommodate eight force plates, including two in the treadmill.



SECTION AND PHOTO COURTESY OF ELLERBE BECKET



THE GAIT LAB



where all the markers are in space. Did the technical requirements for such detailed motion capture make it an especially difficult project? Not really, says Anglim. "There did have to be inserts in the walls and structural supports" for the truss system, he says, and there was a lot of cabling. But it didn't drive up costs very much, and besides, he says, "Our staff really enjoyed working on it because of some of the complexities."

Baum is excited about the new lab's research potential. "We're in the process right now of collecting both our patients' data and uninjured control [group] data," he says. With the longer walkway, people walk faster, Baum has found: "We get a better sense of what a truly comfortable pace is."

Specs

Cameras: 23 Vicon high-speed digital motion-capture cameras, model MX-F40, vicon.com

Software: Nexus, manufactured by Vicon and touted as "the first Life Science–specific motion capture software on the market," vicon.com

Hardware: The Gait Lab staff use two PCs. The primary PC runs the Nexus 1.3 software that controls the motion-capture system. This PC has two Intel Xeon 5130 processors running at 2.0 GHz, with 2.5 GB of RAM and an NVIDIA GeForce 7600 GT graphics card with 256 MB RAM. The other PC is dedicated to the lab's two high-speed digital video cameras (different from the motion-capture cameras). It has an Intel Core2Duo processor running at 2.4 GHz with 2 GB of RAM and an NVIDIA GeForce 7600 GT graphics card with 256 MB of RAM.

Aluminum truss system provided by LA ProPoint: lapropoint.com

Force plates and treadmill provided by AMTI Engineering Services: amti-es.biz

Project Credits

Owner Walter Reed Army Medical Center, Washington, D.C.

Owner's rep U.S. Army Corps of Engineers Department of the Army

Architect Ellerbe Becket

Engineering services Dynamic Corp.

Geotechnical engineer Haley & Aldrich

Structural engineer Weidlinger Associates

General contractor Turner Construction Co.

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Text Edward Keegan

AND THE FUTURE BELONGS TO ...

Vertical algae farms (above) will produce hydrogen atoms that will power Iwamoto Scott Architecture's scheme for San Francisco circa 2108.

LAST YEAR, THE HISTORY CHANNEL CHOSE AMERICA'S BIG THREE—NEW YORK, CHICAGO, AND LOS ANGELES—FOR ITS FIRST "CITY OF THE FUTURE" COMPETITION, TASKING EIGHT TEAMS OF ARCHITECTS FROM EACH LOCATION TO ENVISION THEIR HOMETOWN IN 100 YEARS. FOR 2008, THE HISTORY CHANNEL TAPPED ARCHITECTS IN ATLANTA, WASHINGTON, D.C., AND SAN FRANCISCO. AFTER A ROUND OF LOCAL JUDGING, THE TOP SCHEME FROM EACH CITY HAS MOVED ON TO THE NATIONAL COMPETITION, WHICH CONCLUDES ON APRIL 28. THE WINNER WILL BE ANNOUNCED DURING A SUBSEQUENT EPISODE OF *CITIES OF THE UNDERWORLD*. CHECK OUT THE FINALIST SCHEMES HERE, AND VISIT HISTORY.COM TO CAST YOUR VOTE.

San Francisco • Iwamoto Scott Architecture

To prepare participants, the History channel sent DVDs of its program *Cities of the Underworld*. San Francisco–based Iwamoto Scott Architecture took the material so seriously that its proposal is largely below grade, in a vast array of habitable, infrastructural tentacles dubbed "Hydro-Net." Built by robots and lined with carbon nanotubes, the structure will store hydrogen atoms to power the city. Hydrogen will come from vertical algae farms in new high-rise residential structures around the bay.

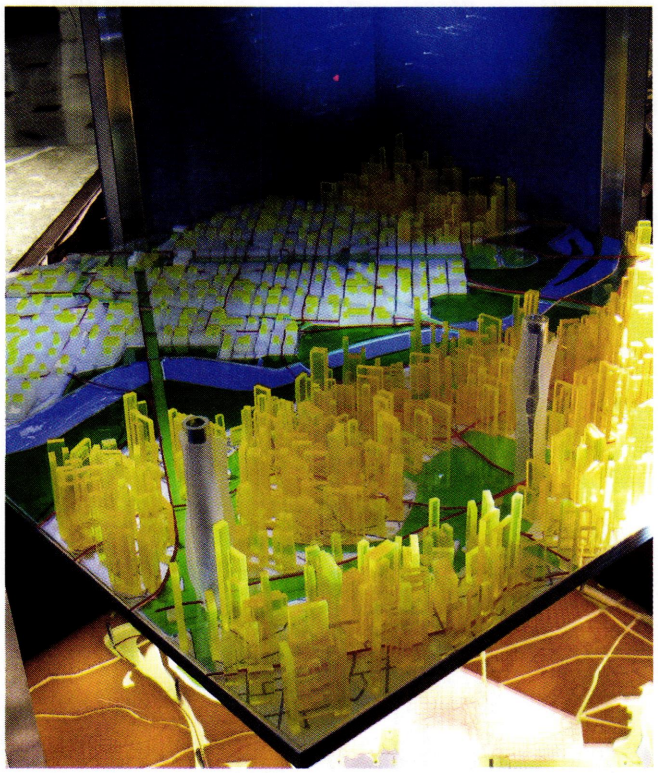
The underground system, with its intricate and densely packed design, blooms periodically above the surface to form the high-rise algae farms and two other types of infrastructural landmarks, which Lisa Iwamoto and her partner Craig Scott have dubbed "fog flowers" and"geothermal mushrooms." "San Francisco is very mired in its past—architecturally and urbanistically," Iwamoto says. "It's tempting to think through visions for the future in a city like this."

Washington, D.C. • Beyer Blinder Belle

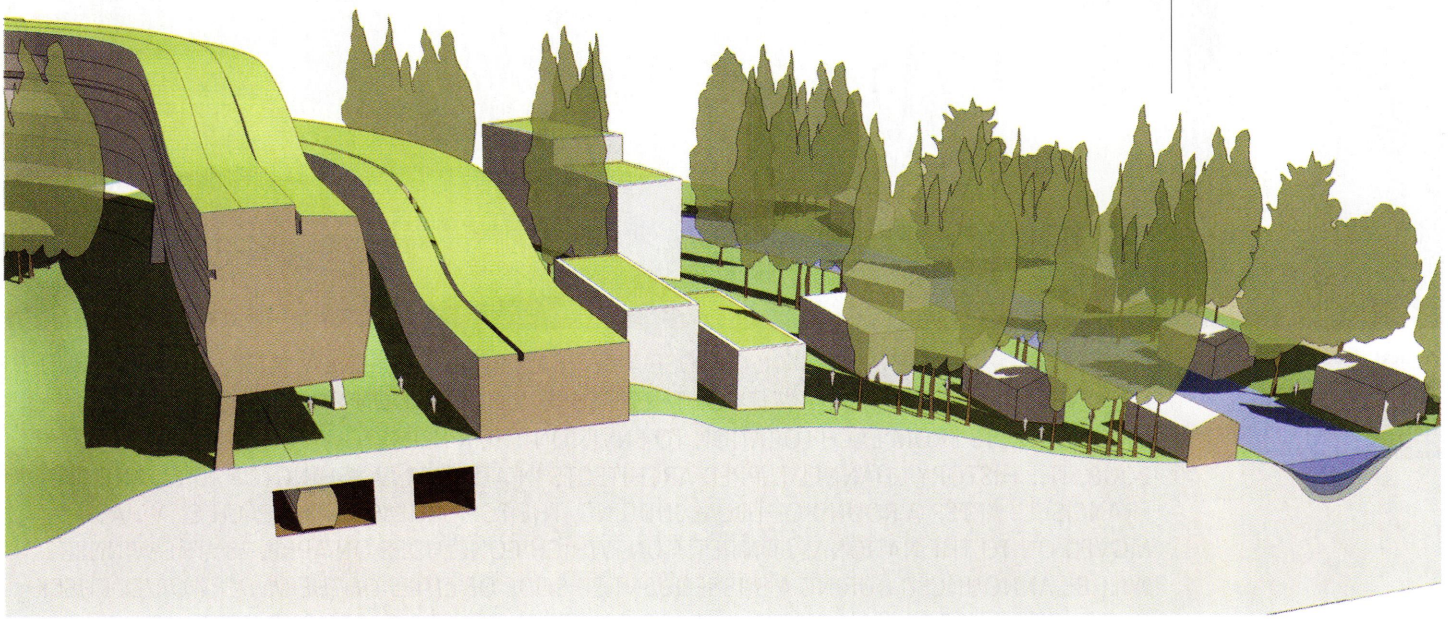
Hany Hassan, a principal at Beyer Blinder Belle, found inspiration in a ring of 69 forts that once protected the nation's capital. His team appropriated about half of these locales as sites for a new series of icons—towers that will produce power and food for inhabitants. "What once protected the city brings new life in a sustainable manner," Hassan says.

The towers connect to the L'Enfant plan at Washington's core by falling within the viewshed of its radiating avenues. But Beyer Blinder Belle revises L'Enfant's logic by establishing the diagonal boulevards as new linear, urban parks. The orthogonal streets are retained for some kind of personal transit. Although the team refused to speculate exactly how people will get around in 2108, it certainly won't be by Metro, as the scheme retasks Harry Weese's iconic stations and tunnels as an underground network for the delivery of goods.

The Capitol building remains at the center of the city, with a new greensward connecting it eastward to the Anacostia River. The National Mall is filled with water from the Potomac, in a radical revision of the monumental core.



Old planning principles become the basis for the future of Washington, D.C., as envisioned by Beyer Blinder Belle. Forts become towers for energy creation, existing metro tunnels become a goods distribution network, and L'Enfant's famous boulevards become green space.



Atlanta • EDAW/ Praxis3/BNIM/Metcalf & Eddy

Atlanta's winning team—a consortium of four firms—proposed a vision, called "The City in the Forest," that's deeply rooted in EDAW's extensive work with underground infrastructure in the sprawling metropolitan area. "You could do a simple thing and create a chain of events that make Atlanta very sustainable," says EDAW senior associate Eric Bishop. The underlying idea is to overturn the logic of existing infrastructure—with its extensive and overtaxed underground storm drainage—allowing stormwater to resurface naturally as streams and rivers, and concentrate building development on the resulting natural ridges rather than in an artificial gridiron. By creating the conditions for nature to reassert its presence, the winning proposal rethinks the form of a city in a rolling piedmont region. The drawings are almost bereft of buildings—stressing how the forest, too, would reclaim large swaths of land. Unlike the winning schemes in the other cities, the Atlanta proposal isn't an architectural fantasy. "If you had the money and the political will, you could do it right now," Bishop says.

To green a future Atlanta, the design team envisions a return to nature, with stormwater runoff brought above ground to form streams and rivers and the forest retaking some of the land.

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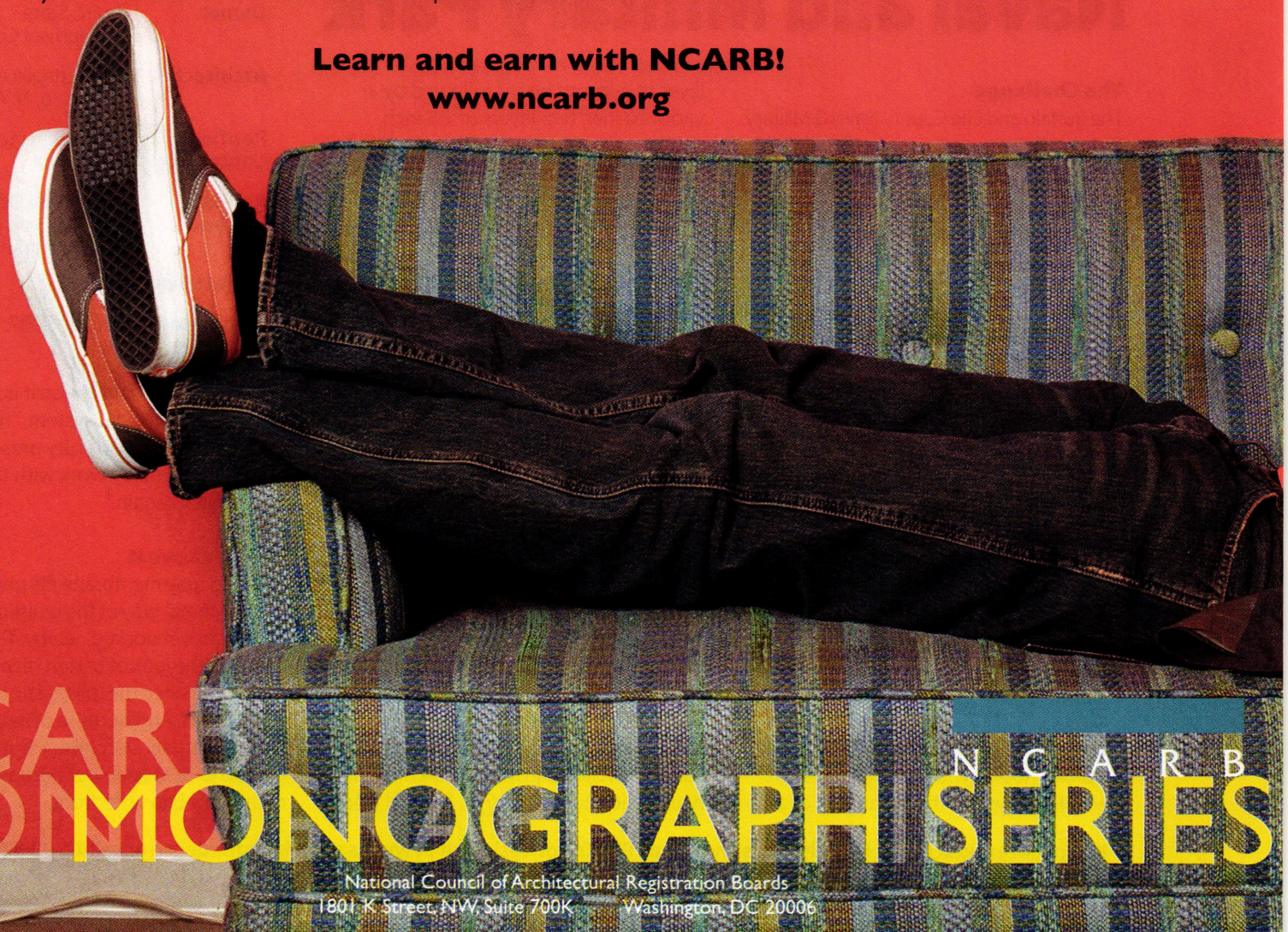

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The watertight roof will repel even the worst Lake Erie weather.

Buffalo and Erie County Naval and Military Park

Project	Buffalo and Erie County Naval and Military Park, Buffalo, N.Y.
Owner	Empire State Development Corporation
Architect	Flynn Battaglia Architects, PC, Buffalo, N.Y.
Roofing Contractor	Grove Roofing Services, Inc. Buffalo, N.Y.
Roofing System	Sika Sarnafil Décor Roof System in lead gray vinyl membrane
Project Size	5,300 sq. ft.
Completed	Summer 2007

The Challenge

The Buffalo and Erie County Naval & Military Park, home to several decommissioned U.S. Naval vessels, is located in an area as weather-beaten as the ships it serves in Buffalo, New York. Sited on the western edge of the Erie Canal Harbor, the two structures that make up this complex were built as part of a broader renovation. The development of the Park required a look that would complement the military theme depicted in the museum's design and exhibits, and stand up to the vicious weather blowing off Lake Erie.

The Solution

Flynn Battaglia Architects, who was tasked with designing the Park, were already considering the Sika Sarnafil Décor Roof System for another project. When they learned that the nearby Erie Intermodal Transportation Center had benefited from the Décor Roof System ("Sika Sarnafil 2008 Décor Design Awards," January 2008, page S-34), they realized that it would address the needs of their new project as well.

Grove Roofing Services installed the Décor Roof System that consisted of a layer of gypsum board followed by a vapor barrier, two layers of 2.5 inch polyisocyanurate insulation board and a final layer of Dens-Deck Prime. The Sika Sarnafil feltback membrane was adhered to the Dens-Deck and the battens were welded to the membrane.

"This roof gave us the look of a batten seam metal roof," explains Michael Meyer, project architect at Flynn Battaglia Architects, PC. "It satisfied the historic contextual design we were looking for, while helping to stay in line with the project budget."

It is fortunate the architect specified such a straightforward roof system, considering the additional challenges that the Lake Erie waterfront posed. At one point, strong winds actually blew the mason's scaffolding into the canal below, forcing the roofing subcontractor to complete the installation with aerial lifts.

The Performance

The structure has already welcomed many admiring visitors, just as the architect is now an admirer of the Sika Sarnafil Décor Roof System. "Design-wise it is a pretty straightforward roof system," notes Meyer. "If the opportunity presents itself, we would certainly work with the Décor Roof System again."

Why We Love It

The lead gray membrane fits perfectly with the gunmetal gray of the cruiser, submarine, and destroyer docked nearby. The battens replicate the look of batten seam metal to further enhance the militaristic theme of the exhibits. And because of its durability, the Sika Sarnafil Décor Roof System is a good choice to keep out the harsh weather of the Lake Erie waterfront.

PHOTO: ©2007 JAMES CAVANAUGH

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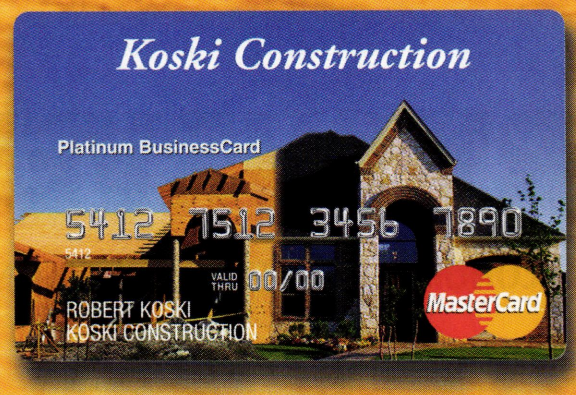

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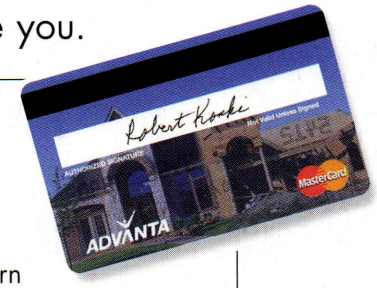

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SALARY SURVEY 2008

DESPITE A SHAKY ECONOMY, ARCHITECTS ARE MAKING MORE MONEY.

Editor Amanda Kolson Hurley **Illustrations** Catalogtree

Portraits William Anthony

MIDCAREER CHOICES

Between the enthusiasm of internship and the expectation of retirement, there lies the great expanse of midcareer. We define "midcareer" as the period between, roughly, the early 30s and the late 40s, a time of life when architects are starting to make career choices akin to crossing the Rubicon: strategizing how to make partner; leaving behind familiar colleagues and routines to launch a solo practice; finding ways to reconcile growing work responsibilities with the work of raising a family. Stay put? Stay nimble? Get out? These are the pressing questions. To give some perspective, ARCHITECT asked nine midcareer architects from around the country to describe how they're finding fulfillment (and paying the mortgage).

26 YEARS AT ONE FIRM

NAME: Lynn Befu

TITLE: Associate principal and director of interior architecture, Anshen + Allen

LOCATION: San Francisco

AGE: 47

ANNUAL SALARY: "Anshen + Allen would prefer I did not release my compensation. I'm happy to say that I'm paid a living wage, but monetary compensation is not what motivates me."

LYNN BEFU DESCRIBES HERSELF as a homebody—which may help explain her willingness to spend her entire career so far in the comfort zone of the same firm and focused primarily on the same building type: healthcare facilities. "I think I was really lucky," says Befu. In 1982, shortly after she graduated with an architecture degree from the University of California, Berkeley, she joined the then regional firm's small interior design department. Her good fortune, she says, stems from the fact that the firm grew and matured on a parallel track to her own development. "As I needed opportunity, the firm was able to offer me new things to do," she explains.

Now Befu heads a department of 25 people working on healthcare and educational projects worldwide. Over the past two and a half decades, her responsibilities have evolved from choosing colors and finishes for a single obstetrical unit to overseeing the full scope of interiors for the 1.2-million-square-foot Intermountain Medical Center in Salt Lake City, Utah, completed last year.

At the same time, Befu has helped reshape the role of interior designers for healthcare environments, broadening the emphasis on creating environments in which patient comfort is a top priority. And for a designer who developed a sense of social responsibility as a student at Berkeley, this mission suits Befu just fine. VERNON MAYS

WHAT OTHER PROFESSIONS ARE PAYING

SOURCE: 2006 DATA ON ANNUAL MEAN SALARIES/TOTAL EMPLOYED FROM THE BUREAU OF LABOR STATISTICS

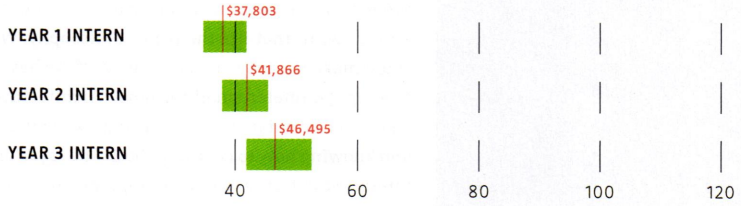
WAITERS AND WAITRESSES
$17,190 / 2,312,930

Data DesignIntelligence

WHAT YOU'RE MAKING (OR SHOULD BE) IN '08

MEDIAN BASE SALARIES (GREEN BAR=MEDIAN SALARY RANGE, LOW TO HIGH; RED LINE=MEDIAN DOLLAR FIGURE)

Interns



5–9 Years' Experience

Analysis James P. Cramer

SALARIES ARE RISING?

ARCHITECTURE'S TOP BUSINESS STRATEGIST GIVES THE BACK STORY ON COMPENSATION

MORE AND MORE, as architecture commands ever higher visibility, architects at all levels are finding that the profession can pay well and offer wealth-generating business opportunities, too. Entry-level and midcareer professionals are increasingly respectably paid. And firm owners on the whole are doing very well—especially those with entrepreneurial flair.

Every year, the Greenway Group, a management consultancy, conducts comprehensive research and analysis to track trends in salaries, benefits, and executive compensation at architecture firms nationwide. This survey is conducted in January and February and published in the March/April issue of *DesignIntelligence*. This year's research includes data from 135 firms with more than 250 office locations that, together, employ more than 17,000 people. The research and analysis staff at Greenway slices and dices the information to create digestible data that can be used for career and business planning.

As an increasing number of consumer publications and other outlets enhance their coverage of architecture and design, architects have become media darlings, both for their artistic solutions and especially now for their capacity to improve communities and the environment. Appreciation for architectural design as a career remains high, with the American public consistently ranking architecture as one of the most prestigious occupations. Appreciation is growing too for the profession's expertise in human health, safety, and welfare, as collective awareness of these issues grows in the face of environmental degradation and uncertainty across the globe. In this context, the architect plays an increasingly important role.

THE SCRAMBLE FOR (NOT JUST DESIGN) TALENT

There are at least two reasons why architects are better paid than in the past: a talent shortage and performance improvement. Evidence of the talent shortage has been revealed repeatedly in AIA Large Firm Roundtable discussions as well as in meetings of the Design Futures Council executive board.

Even as the economy softens, architects' client base is broader geographically, more generous monetarily, and hungrier for real design talent. Notwithstanding frequent downward pressure on architects' fees, the Greenway Group's research reveals that project fees for almost all building types are fair, as are firm profits. It is not unusual for a private practice to achieve a pretax, pre–bonus-distribution profit of 13.5 percent, and for top-performing firms to reach beyond 18

FIRM OWNER, DEVELOPER-FRIENDLY

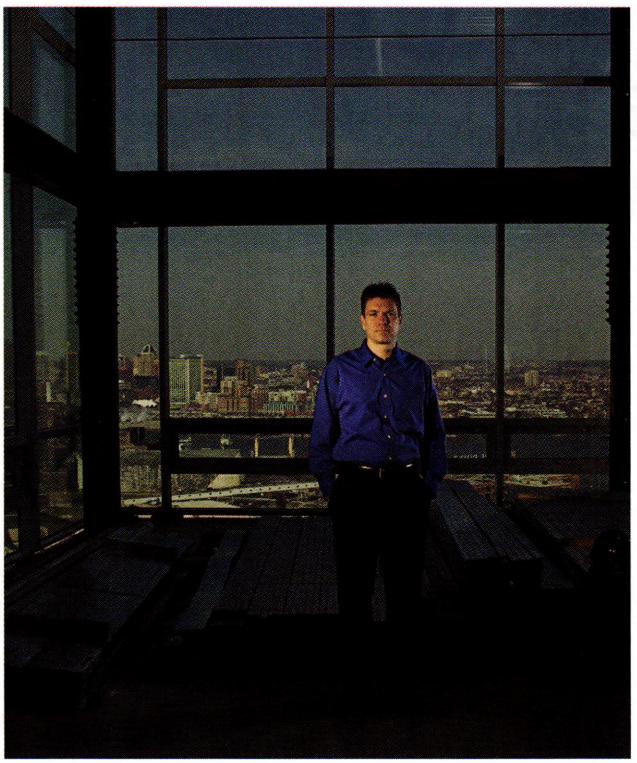
NAME: Christopher Pfaeffle

TITLE: Founder of Parameter Inc.

LOCATION: Baltimore

AGE: 44

ANNUAL SALARY: "I'm making the salary I'd like to be making, although I haven't had a raise in a couple of years."



THE FIRST TIME architect Christopher Pfaeffle met with Baltimore developer Patrick Turner, the two men had to step over a Big Wheel to get to Pfaeffle's office. "I was doing consulting and laying low after being in the business for 15 years," Pfaeffle says. "When Pat called, I said, 'Let me just warn you: I am a one-man show, I'm very happy, and I'm working out of my basement.'"

It's nearly a decade later, and Pfaeffle's practice, Parameter Inc., is no longer headquartered in his family's row house. Now with a staff of 10, the Parameter office sits in the shadow of one of the firm's most ambitious endeavors, the Silo Point condominiums, which will go on sale this summer. Turner hired Pfaeffle to transform a 300-foot-tall 1920s grain elevator and silo complex on 15 acres of prime Baltimore waterfront into a sleek mixed-use condominium development.

Parameter has earned a reputation in Baltimore for successfully navigating complex adaptive-reuse projects, and Pfaeffle is in the position of choosing the kind of work that fits the firm's philosophy. While he could make the leap and grow his staff, he has decided to keep Parameter small for now. "Architecture firms should be a combination of learning, exploration, study, and knowing how to get things built," he says. "I'm more interested in trying to find appropriate projects than in just getting bigger." ELIZABETH EVITTS DICKINSON

TEACHING PAYS THE BILLS

NAME: Sarah Dunn and Martin Felsen

TITLE: Principals, UrbanLab, and directors, Archeworks

LOCATION: Chicago

AGE: 40 (Dunn) and 39 (Felsen)

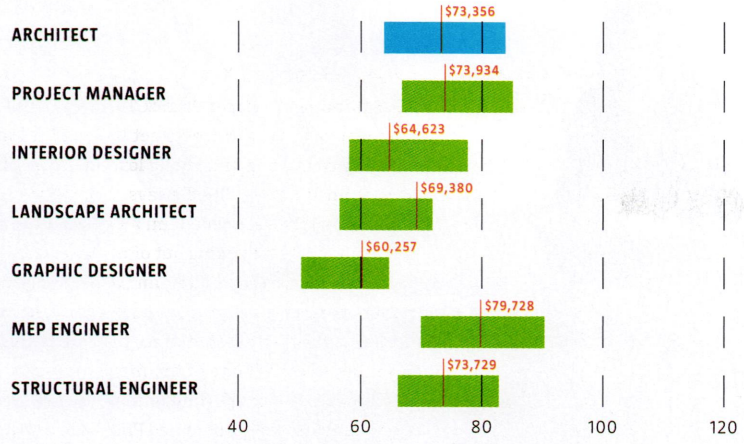
ANNUAL SALARY: About $3,000 per credit hour from part-time teaching gigs at UIC and IIT

HUSBAND-AND-WIFE ARCHITECTS Sarah Dunn and Martin Felsen are on a roll. Last year, their five-person firm, UrbanLab, won the History channel's "City of the Future" competition. Then, in December, Felsen received the Young Architect Award from AIA Chicago. And this January they were appointed co-directors of Chicago's alternative design school, Archeworks. Somewhere amid this string of achievements, Dunn gave birth to their first child.

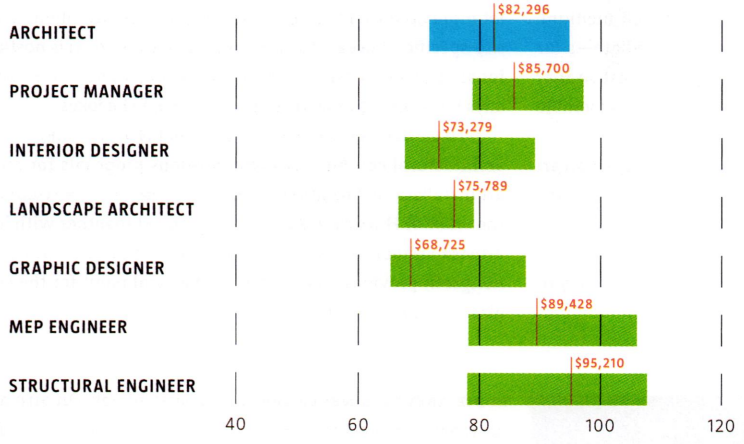
The couple met while graduate students at Columbia. After graduation, he moved to Chicago to teach at IIT while she went to work for Rem Koolhaas in Rotterdam. In a sense, Koolhaas also brought the pair back together: Dunn made numerous trips between Europe and Chicago as project architect for OMA's IIT campus center before joining Felsen full time in 1999.

They designed and built a live-work structure for themselves, sited halfway between their income-producing gigs at IIT (Felsen) and UIC (Dunn). Grants and project fees help keep the shop operating. "We put every penny towards the employees," says Felsen, calling their fees fair and competitive. Says Dunn, "We've always thought, 'We'll do our best and see what happens.'" So far, the approach seems to be working out. EDWARD KEEGAN

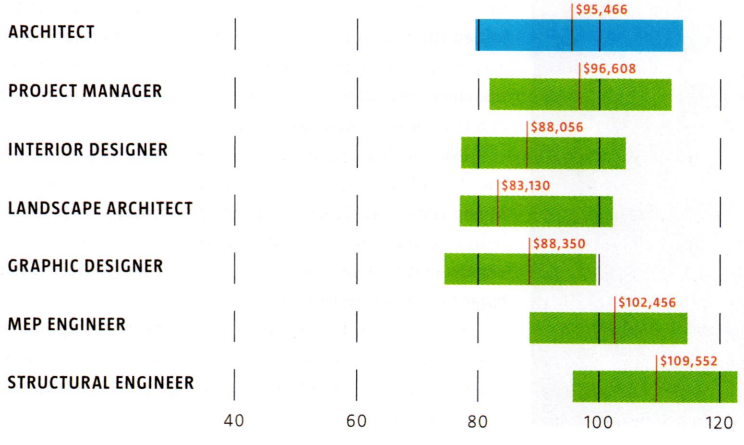
10–14 Years



15–19 Years



20+ Years



... ANALYSIS CONTINUED

percent. There is even an upper stratum of consistent performance above 25 percent. There are exceptions, of course—and sometimes these get the loudest complaints at professional meetings—but scrutiny of project after project and firm after firm tells a story of healthy client-to-architect business and professional relationships. The dynamic economy does not ignore the importance of design talent; in fact, the situation is just the opposite.

Additionally, professional practices today tend to be much better managed and better led than they used to be. The culture of architecture firms increasingly (yet not consistently) leans toward high performance. Because many firms aspire to be top performers in the industry, firm leaders now often emphasize communication skills, maturity, managerial judgment, and collaboration, not just design skills.

According to the Greenway Group's LEAP diagnostic (a cultural analysis of leadership, empowerment, accountability, and processes), it is not unusual for a surveyed firm to perform at best-in-class levels in four to six of 14 standardized assessment categories. This best-of-class status puts them in the company of the top 15 percent of all firms. What this means in terms of architects' compensation is that there is a noticeable increase in meritocratic rewards, and less patience with lower-performing staff. Lower-performing staff (sometimes referred to as "sliders" or "designosaurs") do not fit for the long term in firms that are moving forward. And forward is where the profession is going: According to one recent study by *DesignIntelligence*, the productivity of surveyed firms will have increased 100 percent between 1999 and 2009.

Yes, there are leading corporate and star architects who can and do make more than $2 million, or 1 million pounds, or, for that matter, 7 million yuan. But what is more common is for architects to find a professional practice role that brings admirable compensation and a sense of fairness. Of course, architects can play the pauper if they choose to, but, frankly, this stance represents a self-limiting belief system.

Some architects will find themselves at the low end of the scale, including those who teach architecture in the academy, those with relatively low-level government positions, and those who work in less-than-successful practices. Naturally, architects in the lower quartile—indeed, in the lower half of the profession—are more vocal and less satisfied with their status than their peers are.

RECESSION RAISES: EXPLAINING THE PARADOX

Pay hikes look likely this year, even though perhaps 24 percent of firms will likely reduce staff due to economic

→MAKING IT AS AN ARTIST

NAME: Laurel Porcari

TITLE: Architectural glass sculptor

LOCATION: New Orleans

AGE: 43

ANNUAL SALARY: $60,000–$70,000

"I WAS NEVER AN ARCHITECT'S ARCHITECT. I'm too impatient. I just can't wait around for years for a building to get built," says New Orleans sculptor Laurel Porcari. Her preferred medium, kiln-formed glass, is hot, heavy, and dirty, but immediate—a far cry from CAD drawings. Nevertheless, her pieces, cast so that the material flows and warps to take on textures or resemble landscapes, capture an architect's sensibility.

After receiving her M.Arch. from Columbia in 1993, Porcari headed for Australia, where she taught design in both Perth and Melbourne. She was also working in plastic, hand-printing abstract maps on acrylic sheets to create art installations. Returning to the States, she landed in New Orleans to study in the architecture Ph.D. program at Tulane University.

When she discovered Tulane's glass foundry, she switched to the fine arts department. "I realized that the material held a lot more potential to build something big, environmental, and site-specific." She earned an M.F.A. in 2003. If Porcari is nostalgic for anything in the architecture profession, it's neatness: "Some days I miss going to work and being clean," she jokes.

These days, Porcari casts glass in her NOKO Studio for new architectural commissions and develops proposals for public art installations. She also teaches glass fabrication at Tulane. In the wake of Hurricane Katrina, she banded together with local artists to establish the New Orleans Creative Glass Institute. The nonprofit provides studio space and a focal point for the city's glass arts community. MIMI ZEIGER

→THE YOUNGEST PRINCIPAL AT HKS

NAME: Eddie Abeyta

TITLE: Principal designer

LOCATION: Dallas

AGE: 38

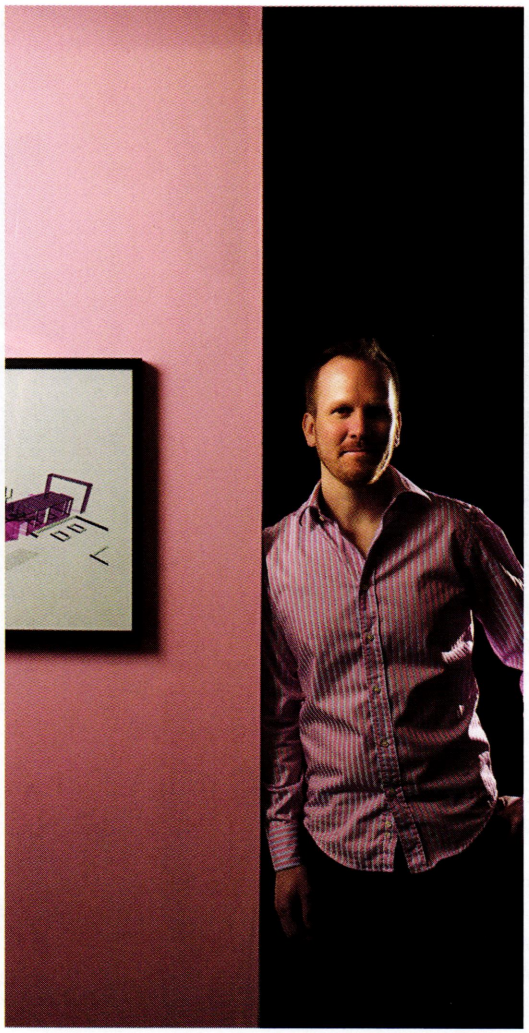
ANNUAL SALARY: $250,000–$350,000

EDDIE ABEYTA IS NEVER FAR from a sketchbook. On airplanes he doodles abstract towers. As a kid growing up in El Paso, Tex., he drew tricked-out race cars. In a high school drafting class, Abeyta (then still thinking he'd make a career designing Ferraris) discovered architecture: "I latched onto the fact that architecture revolved around space," he recalls.

Since then, Abeyta's path has been straightforward. While attending Texas A&M, he began interning at HKS—where his uncle, Nunzio De Santis, is an executive principal—and then joined the firm on graduation. Fourteen years later, he heads a team of six to eight designers at HKS. Add in the project managers, production staff, and consultants who report to him, and the number swells to almost 30.

Even with a stream of high-profile projects to design—like the W Dallas Victory Hotel and Residences and the Aladdin Music Hotel and Casino in Las Vegas—Abeyta is restless. He believes that HKS, with strong project managers and code experts and a full-blown model shop, has the resources to handle bigger, more interesting jobs. It just needs stronger designs.

Abeyta is trying to recruit young talent to a corporate firm, which isn't always easy. "I am trying to push the envelope and expand ideas," he explains. "When I go places, I keep asking myself, 'What can I do to make this better?'" MIMI ZEIGER



→INTELLECT OVER INCOME

NAME: Mark Pasnik

TITLE: Principal, over,under

LOCATION: Boston

AGE: 37

ANNUAL SALARY: Except for teaching, none so far. "Our accountant tells us we should plan a target salary for principals at approximately $90,000 ... For the moment, we are not there."

IF ARCHITECTS ARE EITHER IDEA PEOPLE or tectonic people, Mark Pasnik falls into the former camp. In addition to a 10-year stint at Boston's Machado and Silvetti Associates writing proposals, making presentations, and generally helping out with "the intellectual ends of the office," as Pasnik puts it, he also published three books, taught, and was on the editorial staff of *Assemblage*. "I've done all these things that interested me personally but were on the periphery of practicing architecture," says Pasnik, who received a B.Arch. from Cornell in 1994 and a Master in Design Studies from Harvard in 1995.

Pasnik's decision to leave Machado and Silvetti (where his salary was in the mid-50s) in 2004 and found the multidisciplinary Boston firm over,under with three co-workers suggests he's still following his bliss. (He and co-principal Chris Grimley have also established a design-focused gallery, Pink Comma, as an "extra component" to over,under.) In 2007, over,under's first year of real practice, half of the firm's billings came from graphic identity work. None of the principals is a licensed architect, but that will change soon: Pasnik is pursuing his license because the Wentworth Institute of Technology, where he teaches, requires it for professors to achieve the equivalent of tenure. But it will also mean that over,under can go after planning and building work stateside.

BRAULIO AGNESE

... ANALYSIS CONTINUED

pressures and due to improved performance arising from technology and better project management systems. Savvy firms strategically downsize staff in order to stay financially healthy as the economy softens; however, these firms are likely to keep compensation packages strong for the retained talent. The old industry standard of $110,000 of revenue per full-time equivalent (FTE) is history. Productivity is now approaching $130,000 per FTE and is much higher in successful firms. Correspondingly, staff in these organizations are also earning more.

Architect payrolls can be brought into better focus by a review of supply-and-demand economics. Without doubt, there is a talent shortage in every major category of the profession, ranging from the short list for architect of the Capitol to healthcare facility architects to cemetery architects (yes, one of hundreds of niches). Greenway Group forecasts increasing demand—not a hockey-stick curve, but a steady, gradual incline—for architects in every building type, each category of professional service, and every leadership position industrywide.

The pending (or current) economic slide will have little short-term impact (i.e., over the next six months) on most architecture firms, but it will have noticeable midterm impact. Still, most firms will not experience cash-flow difficulty until about six to 12 months from now (based on Greenway interviews), and they will note backlog slippage of around three to four months by year end. Looking forward 24 months, strong practices in healthcare, education, and luxury hospitality will be the most resilient. Average to below-average design organizations will be the most adversely affected by the downturn. This recessionlike period appears to be entering markets like a slow-moving fog and will probably exit the same way. Professional practices ought to put in place programs to weather the soft economic conditions. New opportunities will soon arise from this period of uncertainty.

Projections by the Brookings Institution of real-estate development growth in urban areas remind us that, notwithstanding short-term peaks and valleys in the economy, the built environment in the United States ought to experience dramatic growth from now through 2025. This will place a huge responsibility on the shoulders of a relatively small—but not fledgling—architecture profession.

DON'T PITY THE INTERNS

Salaries for intern architects have increased, although pay scales vary according to geography and discipline. We define interns as those enrolled in the NCARB Intern Development Program. There are three levels,

FROM COOPER UNION TO CONSTRUCTION

NAME: Darren Guyer

TITLE: Site supervisor, Taocon Construction Management

LOCATION: New York

AGE: 31

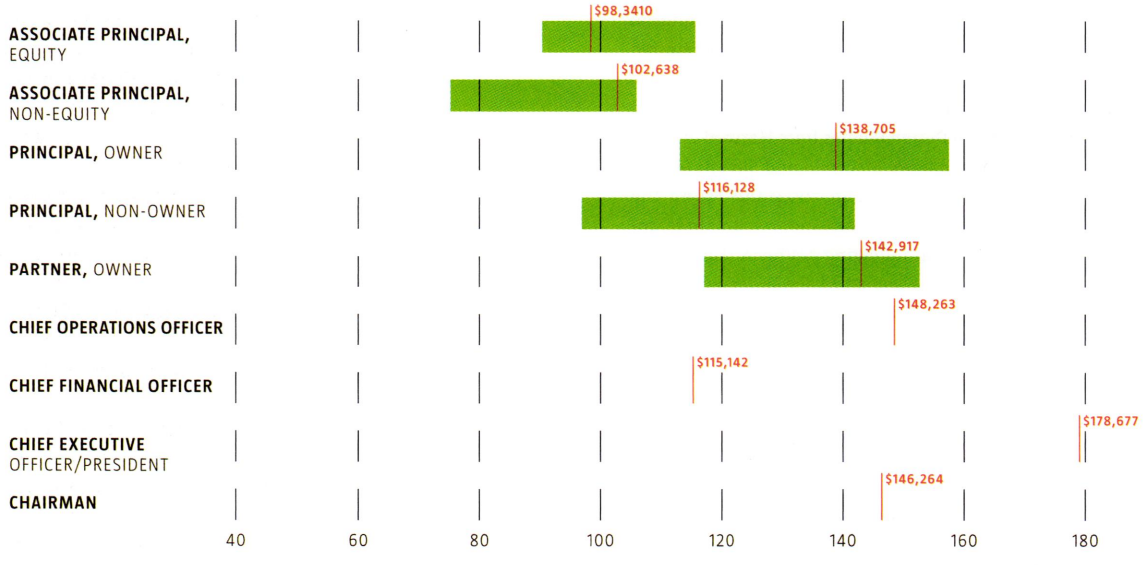
ANNUAL SALARY: "60 to 70 percent" more than his last job in architecture

THE DUST-COVERED JOBSITE is a far cry from the studio Darren Guyer left behind when he switched from junior designer in an architecture firm to a site supervisor for a construction company, but the 31-year-old isn't looking back. Guyer got his architecture degree in 2000 from the Cooper Union and worked at two small New York firms before decamping for construction in spring 2005.

Guyer made the switch for several reasons: frustration with the long hours of architecture (though he says his former employers were "very fair"); the feeling that he had learned all he could at a small firm; and low compensation. "I am making 60 to 70 percent again now what I was making in architecture," he says.

Construction has its own drawbacks. "There's a lot more stress involved in terms of having to deal with crises like fires, God forbid, and accidents," Guyer notes. But he thinks the benefits outweigh the concerns: "Not a lot becomes standard or boring." Guyer's not letting his design training languish, either; he's actively pursuing his license through the ARE testing process. "In construction, it would be an untouchable qualification." KATIE GERFEN

Executive Staff



LANDSCAPE ARCHITECTS $60,480 / 22,130

ARCHITECTURE PROFESSORS $67,390 / 5,820

FASHION DESIGNERS $69,270 / 15,670

ARCHITECTS EXCEPT LANDSCAPE & NAVAL $69,760 / 101,010

FOR THE GREATER GOOD

NAME: Amit Price Patel **TITLE:** Designer, David Baker + Partners **LOCATION:** San Francisco **AGE:** 32 **ANNUAL SALARY:** "More than a Burger King manager but less than a hedge fund manager."

FOR MANY YOUNG COLLEGE GRADUATES, the opportunity to travel abroad means fun and frolic. But for Amit Price Patel, the experience was a life-changing dose of reality. After graduate study at the University of California, Berkeley, Patel moved to South Africa in 2003. "The vestiges of apartheid were still very apparent," says Patel, who worked for Noero Wolff Architects on a low-income housing prototype and the winning competition entry for the Apartheid Museum.

The work in South Africa stirred a lasting interest in housing design, which has become the focus of Patel's career. While working at Goody Clancy in Boston, he won top honors in a 2004 competition for a sustainable mixed-use project in Portland, Ore. The next year he tied for first place in San Francisco's Octavia Boulevard Housing Design Competition.

The Octavia competition introduced Patel to architect David Baker, one of the judges and a specialist in affordable housing. The chance to work for Baker lured Patel back to the Bay Area in late 2005. Currently, he is project manager on a 120-unit complex for former homeless people, just the kind of public project that feeds his interest in the political dimension of architecture. "It's not an easy process," he says. "But affordable housing [is] a great area of practice because it is an essential building type." VERNON MAYS

Support Staff

... ANALYSIS CONTINUED

each representing a year of internship. The most noticeable development is that interns in New York City are now among the better paid in the United States. For a period in the early part of this decade, New York City interns were paid below national averages due to business conditions of firms there and the fact that so many NAAB-accredited architecture school graduates applied to work in New York firms. Supply-and-demand economics lowered intern compensation in New York City then, but not today.

There is another factor giving a bump to U.S. intern salaries, and that is the importation of services. Dozens of foreign-owned firms have moved into New York City and elsewhere in the United States. This has driven up salaries, thanks in part to currency exchange rates: The softening U.S. dollar valuation has had a positive effect on intern salaries in New York; Washington, D.C.; Boston; Seattle; and San Francisco.

How much do intern architects make? The median is $37,803 in year one and $46,495 in year three. Our survey reveals that the top performers can earn more than $70,000 (including overtime) the year prior to taking the Architectural Registration Examination. Immediately upon passing the exam, newly minted architects will see their compensation increase by about 5 percent to 9 percent.

MIDCAREER RISKS AND REWARDS

At midcareer, many architects are launching their own firms, and this represents a time of both risk and rewards. There can be significant pay increases, along with a greater burden of responsibility. However, some midcareer professionals get caught in traps that limit their growth and compensation. Some become "CAD monkeys" rather than project leaders, with self-imposed blinders focusing them on project details rather than the big picture. They can become so absorbed in details that they neglect their own career growth and financial success. This happens slowly and invisibly but very easily, especially to young professionals without mentorship. It is the "invisible obvious" in the profession, and it is preventing the rich unfolding of high-achieving leadership talent.

The *DesignIntelligence* survey for 2008 conducted numerous analyses of midcareer architects along with mature professionals and firm owners. Midcareer architects who own their own firms can earn six figures, and it would not be unusual for an owner of a 200-person firm to receive a bonus equal to his or her salary. (A full examination of executive compensation can be found in the *DesignIntelligence* report.) A midcareer employee architect, with 10 to 14 years' experience and without an ownership stake in the firm,

CIVIL ENGINEERS $72,120 / 236,690
FINANCIAL ANALYSTS $77,280 / 196,960
ELECTRICAL ENGINEERS $78,900 / 147,670
COMPUTER SOFTWARE ENGINEERS, APPLICATIONS $82,000 / 472,520

Interviews Amanda Kolson Hurley **Portraits** William Anthony

CAREER COUNSELING

EXPERT ADVICE ON LANDING THAT DREAM JOB—OR HOLDING ON TO YOUR TOP TALENT

FOR THE ARCHITECT

NAME/TITLE: Judy Wert, cofounder of executive search firm Wert & Co.

New York–based Wert & Co. matches mid to senior-level executives in architecture, industrial design, fashion, and other creative disciplines with companies in search of leaders. Judy Wert describes her role as "a little bit of a psychologist, a little bit of an administrator, a little bit of a trend marketer, and a little bit of a mother hen."

• The war for talent between organizations and across the economy has become far more aggressive. Design is no longer a backseat driver. **Design has become respected**: Look at the iPhone.

• [A strong candidate in today's market:] Results-oriented; business perspective; global awareness; good, **sound business judgment**.

• Education does matter—that's the foundation of how somebody thinks and grows their knowledge. In architecture, **credentials do speak loudly**.

• A résumé is a document; that's all it is. Be clear, concise, and **do spell check**. The portfolio work is what will speak to the talent.

• You need to think of a little bit of theater when you're putting together your portfolio. **Are you telling a story?** Have you thought through the pacing? Can someone see the heart of the work? Separate what you think is interesting from what's going to be interesting to someone who may have limited time.

• Sometimes people need to **make hard decisions** about what their priorities are. Money? A potential mentor? A project? What are their most important criteria? I ask that question from the get-go. It's never been my experience that architects make decisions on money [alone], because they probably wouldn't have picked architecture.

FOR THE FIRM LEADER

NAME/TITLE: Gay Herron, management consultant, Eureka! Learning Tools

Herron is currently working with HOK at its headquarters in St. Louis, Mo., on an employee retention and development initiative. She also helped create a formal mentoring program for HOK. Herron has taught at Washington University in St. Louis and worked with clients including the FBI and numerous Fortune 100 companies.

• HOK was my first time working with architects. My biggest revelation was that, as people move through their [architectural] careers, they still are involved with the **actual project work** of the firm. In a corporation, satisfaction comes from the more people you manage, more visibility in the organization—that kind of thing.

• On the other hand, all employees have some very basic questions they want answered. **What do you want me to do?** How well am I doing it? What do I get out of it?

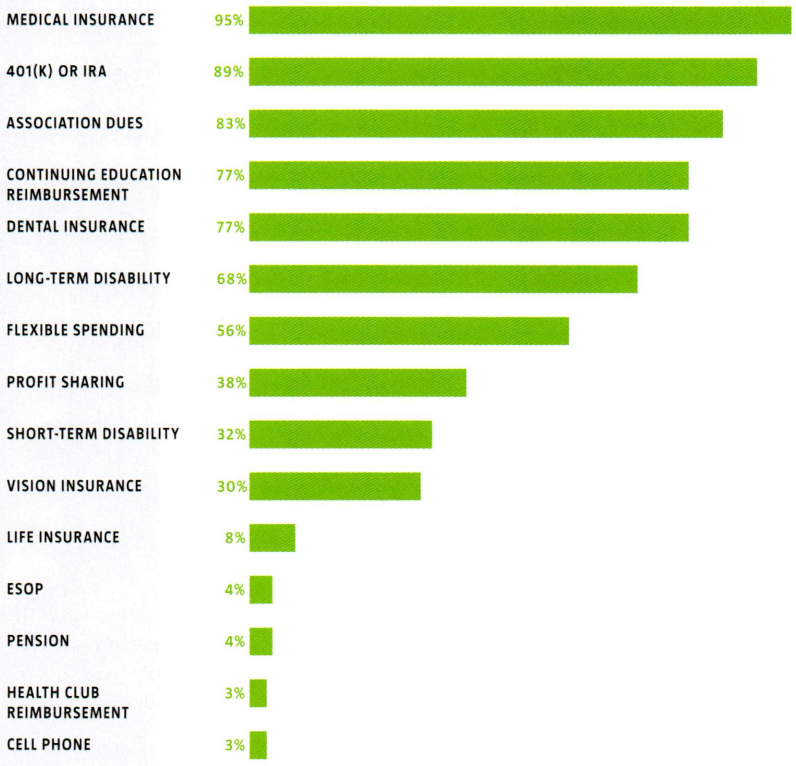
• About five years ago, each of the HOK offices developed a mentoring program, and interested people in the office were matched up with mentees. They had to set goals, and at the midpoint and the end, we did a check-in as to how well it was going. People responded to it very well. But **time is always the enemy of mentoring**.

• I think the recognized leaders are those [for whom] **coaching and mentoring are equally important** as providing architectural expertise.

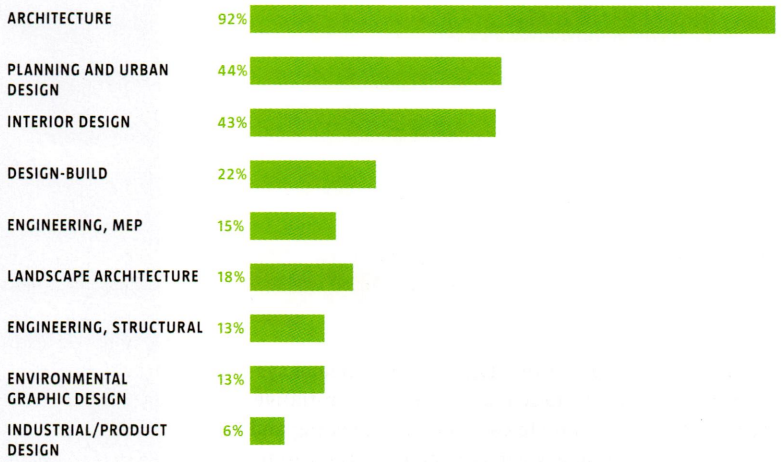
• For people who are in their 50s, there was really no expectation of support. Many worked with the same company all their lives. [The thinking was,] 'If I do a great job and am loyal, my employer takes care of me.' Now employees are responsible for developing themselves. They naturally **gravitate toward [workplaces that have] a support system**.

CONSTRUCTION MANAGERS $82,760 / 207,630
PHARMACISTS $93,500 / 239,920
MARKETING MANAGERS $107,610 / 159,950
AIR TRAFFIC CONTROLLERS $110,270 / 23,240

Benefits Offered to Employees and Partners/Owners



What Services Are Offered by Your Organization?



... ANALYSIS CONTINUED

can expect a median salary of $73,356. Such non-owner architects typically receive an annual bonus of slightly more than 9 percent, to give them a total compensation of $80,178.

WHAT THE FUTURE HOLDS

We now know more about real architect compensation than ever before. It is a story filled with promise. Entry-level, midcareer, and senior-level salaries are competitive in the AEC economies of the world. Moreover, architects are increasingly valued, with an acknowledged economic return on investment. The popularity of architecture as a career is not new. But it is accelerating as a respectably paid and satisfying career option. And especially for partner owners, it can be a highly compensated profession.

We expect further growth of salaries and corresponding benefit plans in 2008, fueled by continued public and client interest in the art of architecture; the brand strength of leading firms and their financial muscle; the new attention being paid to how form and space affect health and welfare; and, of course, the creative professional lifestyle that is sought by members of Generation Y (and those of us wishing we were members).

James P. Cramer is chairman and chief executive officer of the Greenway Group and founding editor of DesignIntelligence. *He is co-chair of the Design Futures Council and a Fellow of the Western Behavioral Sciences Institute. Cramer has authored or co-authored three books, including* How Firms Succeed: A Field Guide to Design Management *and* The Next Architect: A New Twist on the Future of Design. *He is a former executive vice president and chief executive officer of the American Institute of Architects.*

→About the survey

Data presented here is preliminary and may reflect slight differences from the report to be published in *DesignIntelligence*. A complete, unabridged report on the 2008 compensation and benefits survey from which the article is drawn is published in the March/April issue of *DesignIntelligence*. It includes salary ranges and medians by region as well as additional data, such as bonuses, projected increases, hours worked, and more. In addition, the March/April issue contains in-depth analyses of emerging trends in recruitment, retention, and employment from leading AEC human resources professionals. To subscribe or purchase single issues of *DesignIntelligence*, the Design Futures Council's bimonthly report, go to di.net or call (678) 879-0929.

Data provided by
DesignIntelligence®

LAWYERS
$113,660 / 547,710

DENTISTS, GENERAL
$140,950 / 86,110

FAMILY AND GENERAL PRACTITIONERS
$149,850 / 109,400

SURGEONS
$184,150 / 51,900

Text Elizabeth Evitts Dickinson **Photos** Monica Nouwens

Challenge: How does one district build 132 new schools—and update some 800 more—without sacrificing design quality?
(Hint: Get architects involved at the beginning.)

L.A.'s Learning Curve

ELEVEN YEARS AGO, the Los Angeles Unified School District (LAUSD)—the country's second largest public school system—won a major political coup: $2.4 billion in bond dollars for a school modernization and construction initiative. For the first time in 30 years, the LAUSD would have the funds to build new schools and to ease the overcrowding and crumbling infrastructure that plagued the district. The administration set the bar high: Over a period of 15 years, more than 100 new schools would be erected, while more than 800 existing schools would be updated and expanded.

The Belmont Learning Complex was supposed to usher in this new era. Belmont was meant to be an architectural statement of the future of public education in L.A. Placed on a prominent lot in the heart of downtown, the school would brush shoulders with the LAUSD's own high-rise headquarters on South Beaudry Avenue. The construction site was visible from the famously busy state 110 Freeway, so thousands of commuters could watch daily as the public school began to take shape in the distance.

A student stops by his locker at the Miguel Contreras Learning Complex, a high school in west central Los Angeles that opened its doors in September 2006. Designed by Johnson Fain as an "urban village" surrounding a central courtyard, the school has 2,500 students, many of whom had previously been bused to schools outside their neighborhoods because of systemwide overcrowding.

(a)

(b)

Then contractors found noxious gases.

In 1999, workers unearthed a toxic brew where the playing fields would go. Construction stopped, and the LAUSD embarked on an expensive series of tests to see if the gases could be contained. And that's when they found the earthquake fault line.

The press and the community went on the attack, calling the LAUSD incompetent and incapable of managing the public's money effectively. With the cost to complete the school rising to a reported $300 million, Belmont was fast becoming the most expensive public school in the United States. Add to that the news that the district couldn't pay its contractors and design firms on time, and the LAUSD was not only gaining a bad reputation in the public's eye, but architects saw it as an inefficient and frustrating client. The country's most ambitious school-building program couldn't have gotten off to a worse start.

Today, Guy Mehula, the chief facilities executive for the district, can see Belmont from his office on the 23rd floor of the LAUSD building. The school, sited differently with a revised design, will finally open its doors later this year and, in an effort to put the past to rest, the district has renamed it Vista Hermosa, or "Beautiful View." From where Mehula is standing, the view truly is spectacular. The crystalline February day affords a panorama of the Los Angeles basin with the Hollywood Hills rising in the distance. Mehula points to several major school projects already completed or under way, including a new arts-focused high school designed by Viennese firm Coop Himmelb(l)au.

The LAUSD's New Construction and Modernization Program hit the $20.3 billion mark this year, making it the largest public infrastructure project in the United States, surpassing even Boston's Big Dig. Since 2000, 530 acres of land have been acquired throughout Los Angeles and the surrounding counties. Sixty-nine new schools have been completed, with 63 more on line, for a total of some 165,000 new student seats. Despite the initial skepticism and ridicule, the LAUSD has racked up an impressive list of AIA design awards; in 2006, the Urban Land Institute honored the district with its annual Award for Excellence.

"That," Mehula says, looking down at Belmont, "that is all behind us."

A BUMPY PHASE ONE

The district regards its building program as nothing less than an effort to reinvigorate public education in the city and, by extension, the city itself. From the outset, officials recognized the pivotal role that architects would play in realizing this vision. "We didn't want cookie-cutter schools," Mehula says. "We wanted to do something that fit into each community." Over the past decade, the LAUSD has hired more than 105 architecture firms, including high-profile and award-winning ones like Morphosis, Perkins+Will, Johnson Fain, and Gensler. It established a Design Advisory Council composed of top-tier architects to support the design process. And it finally figured out how to pay on time.

To appreciate the significance of these steps, especially the last one, it helps to understand the realities of public education in L.A. The LAUSD is second only to New York City in the number of students it serves. The district is spread thin over 700 square miles of sprawl and encompasses a wide range of socioeconomic and racial demographics. It also has 26 different cities under its purview, which means a host of city councils to lobby and mollify.

As in many public school systems in the United States, high teacher turnover and dropout rates beleaguer the LAUSD, which is known for overcrowding and poor facilities. For years, budget constraints prevented construction from keeping pace with population growth, and, as a result, thousands of students must board buses at dawn and ride an hour or more to a school in a distant neighborhood.

(c)

a) MIGUEL CONTRERAS LEARNING COMPLEX
2006 / JOHNSON FAIN
The school, completed at a cost of $160 million, sits on a 19-acre site in west central L.A. and takes students from Pico-Union, Westlake, Angelino Heights, and other neighborhoods. It comprises three small learning communities, a schools-within-schools model that a number of architects working with the LAUSD helped to develop.

b and c) SCIENCE CENTER SCHOOL
2004 / MORPHOSIS
Thom Mayne designed the K–5 Dr. Theodore T. Alexander Jr. Science Center School, a partnership of the LAUSD and the California Science Center. The $62 million campus joins a boldly geometric steel wing to a historic armory and serves as a gateway to the Exposition Park/University of Southern California area. Morphosis won a 2007 AIA Honor Award for the school project.

Once there, they may sit in a temporary trailer because the main school can't accommodate them. In some areas, the district adopted a year-round calendar to alleviate the overflow.

By 1997, with nearly 700,000 students already in the system, officials predicted a shortage of 200,000 classroom seats in the near future. The L.A. school board, advancing the cause in the political arena, pushed to provide a sustainable school in each community, with a seat for every student, and to return to a traditional two-semester school calendar.

One year after that first bond bill passed, the LAUSD promised 78,000 new classroom seats within six years (that was later adjusted to 65,000 seats by 2007, a goal they subsequently met). In order to get matching funds from the state, they had to get designs on the boards immediately. The New School Construction Program began at a breakneck speed, one reason for the problems in phase one.

"They went out, they engaged 70-plus architects, and they had 70 designs without all of the design guidelines in place," Mehula says today. "To get $700 million in applications before the state as quickly as they did was a phenomenal task, but look at the daily news at the time. LAUSD had published the plan that they would deliver 65,000 seats by 2007 and the nicest quote was: 'It's probably unrealistic.' Even school district officials were testifying to the school board and saying, 'It can't be done.'"

Many of the first-phase architecture firms had never navigated a school through review and regulations in Los Angeles, let alone in the state of California (where the complex design review process takes an average of nine months). Nick Seierup oversees the L.A. office of Perkins+Will, one of the first firms to win a contract for a new high school. Seierup witnessed the challenges faced by younger firms. "The manual from the LAUSD is like *War and Peace*," Seierup says. "The [sustainability] codes are like *Anna Karenina*. And then you have the state regulations on top of that. It really makes it easy to snow under a small firm."

"The manual from the LAUSD is like *War and Peace*. The codes are like *Anna Karenina*. And then you have the state regulations on top of that."—Nick Seierup, Perkins+Will

The district bogged down the process further by simply promoting construction managers to oversee the projects. "In the first phase, they took the construction managers and said, 'Congratulations! You are in charge of everything!' But working with architects requires a different skill set," Mehula says.

A NEW ROLE FOR ARCHITECTS

Things began to change in 2001 when Roy Romer, a former governor of Colorado and a past chairman of the Democratic National Committee, became the superintendent of schools in L.A. Romer used his weekly public-access television show to interview architects and to introduce the public to the design concepts behind the LAUSD master plan. At its core, the plan promoted the belief that a good neighborhood school could enhance more than education. Each school would be individualized to the specific needs of the area and would work to fit in aesthetically.

The schools would embrace multiple uses, becoming centers for the whole community. The LAUSD partnered with the Boys & Girls Clubs of America to bring in after-school programming. It aligned with affordable housing advocacy groups to create mixed-use developments. It forged an alliance with the city's Department of Recreation and Parks for more green space, and it positioned schools near public transit. In the case of the $44 million Morphosis-designed Science Center School, which opened in 2004, architects designed a school and a resource center within the campus of the California Science Center at Exposition Park.

Several years ago, the LAUSD created the Design Advisory Council, composed of area architects to help bridge the communication gap between the design teams, the district, and the community. Stephen Kanner, of Santa Monica–based Kanner Architects, has chaired the council for about a year. "The LAUSD requires each architect to present at least three planning options for a site. Our role is to look at school designs from the inception, which is really great, because you can help shape the environment," Kanner says.

Forming the council "has been a very positive move," says Armando Gonzalez, whose firm, Gonzalez/Goodale Architects, has worked with the LAUSD since the late 1980s and is currently completing a $570 million school complex on the former site of the Ambassador Hotel in the Mid-Wilshire neighborhood. Gonzalez says there was a palpable shift in the way schools got built when Romer and Mehula (who joined the LAUSD a year after Romer) came on board.

"I know some architects who said that they wouldn't work for the district after that first phase," Gonzalez says. "When they brought in new leadership, they now had people who understood how projects go together. They set up their own accounting department, and that really helped, because they understood the whole notion of invoicing."

(a)

(b)

The unintended consequence of the LAUSD not having firm design standards in place at the outset was that architects literally helped rewrite the rules. They began challenging the district to consider new building materials and floor plans. "We went after a lot of design standards thinking that they were wrong," Gonzalez says. "We had some really wonderful people at the project level [at LAUSD] who worked for us. We moved a lot of design guidelines into major firsts."

With tight budgets and rising construction costs, the district needed to be creative, but there was some hesitation. "It all comes down to dollars," Kanner says. "We try to explain that there are ways to deal with design that aren't exotic." Perkins+Will employed its own staff, engineers, and energy modelers to make a case for a diversity of materials and layouts. "Corrugated metal, for example, wasn't something they initially accepted," Seierup says. "It was a big departure from stucco."

HYBRID BUILDINGS

The push for aesthetic change arose also from working in a dense setting. A school that might sit on 48 acres elsewhere is afforded a quarter of that space in L.A. In the case of Helen Bernstein High School in Hollywood, Perkins+Will had to design a facility with 2,600 seats on a mere 12.4 acres. The site, the former home of Metromedia Fox Studio, is bordered by the Hollywood Freeway on one side and an urban neighborhood on the other. After a school district employee saw neighborhood kids playing soccer in a cemetery, the architects were asked to provide green space for an entire community that lacked it.

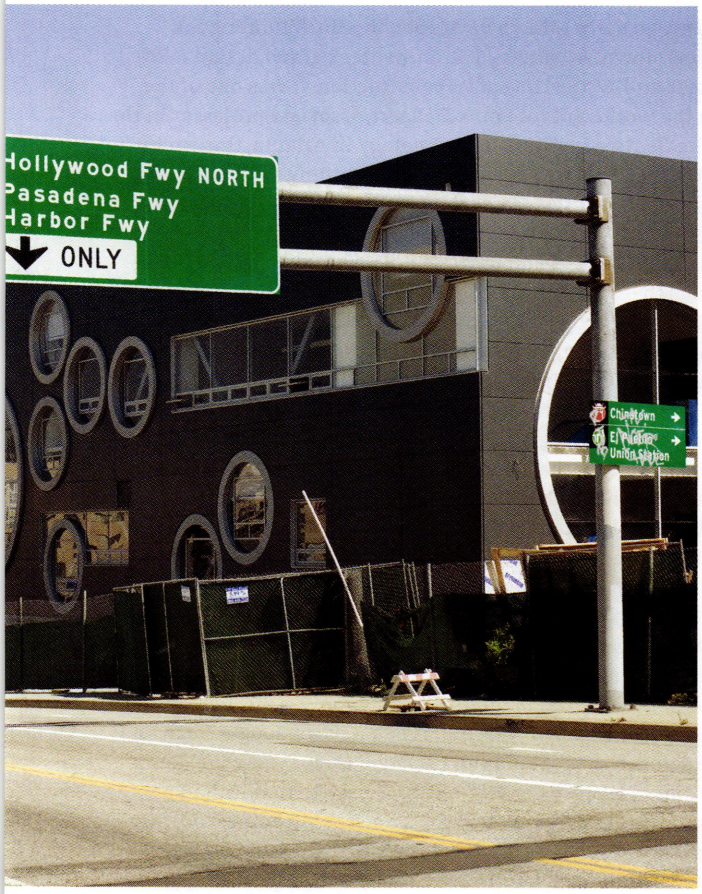
Perkins+Will developed a four-story design very different from the two-story rectangles of traditional L.A. area schools. "Principals were nervous about the density and having a building over two stories," says Wendell Vaughn, a principal at Perkins+Will and the head of its K–12 education division. But the idea of small learning communities changed administrators' minds. Rather than create mammoth schools, architects proposed carving the buildings into small communities of students with the administration dispersed throughout. This way classrooms stayed intimate while the school still accommodated a large student body.

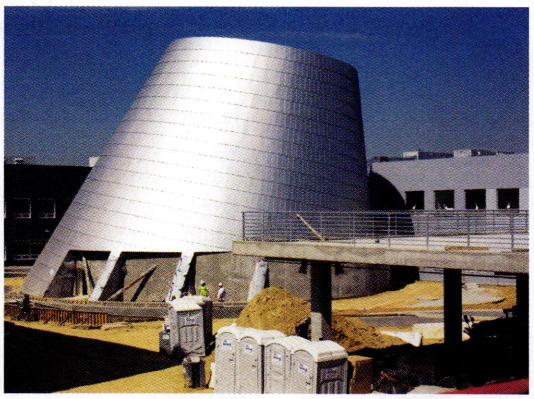
The unintended consequence of the LAUSD not having firm design standards in place was that architects literally rewrote the rules.

Architects also developed clever solutions for balancing the public and private faces of the schools, to allow for openness while protecting the students' safety. Helen Bernstein, which will be completed this summer, has a car drop-off on the east side of the site, facing the U.S. 101 Freeway. Fritted-glass windows mimic the striation of the exterior corrugated-metal cladding and make a striking architectural statement as cars whiz by. Fencing pivots open to create a welcoming entryway that can easily lock when access needs to be restricted to the courtyard beyond. The west side of the school connects to the community via a processional lined with trees; a central plaza incorporates a grand stairway that can double as an outdoor auditorium.

Inside, the architects paid close attention to the student experience. Windows at each end of the hallway mean that you are always walking toward the light. Bump-outs in corridors offer space for students to stop and talk or to work on a laptop. Balconies offer the kind of views that fetch top dollar in nearby condo developments. From one art studio you can look out on the Hollywood sign and the domes of the Griffith Observatory.

The architects are quick to point out that the school not only gives the students a grand perspective on their world but also offers the public a view into the education system. "We wanted to make student activities transparent," Vaughn says. "It's important for people to see public education in action." The LAUSD





(c)

a) HELEN BERNSTEIN HIGH SCHOOL
2008 / PERKINS+WILL
The four-story design of Helen Bernstein, a departure from the norm in L.A., was necessitated by the small (12-acre) Hollywood site, once home to a film studio. The new 250,000-square-foot school includes an auditorium, a dance studio, football and soccer fields, and a swimming pool and will take more than 2,000 students from oversubscribed area schools. Helen Bernstein is scheduled to open this fall.

b and c) CENTRAL LOS ANGELES AREA NEW HIGH SCHOOL 9
2008 / COOP HIMMELB(L)AU
Coop Himmelb(l)au's High School 9, now under construction, sits on a prominent site beside the U.S. 101 Freeway. The LAUSD hopes the building will be seen as a symbol of a vibrant public education system. The $209 million project features an asymmetrical cone with an oculus that will house the library; a tower wrapped by a spiral in the shape of the number 9; and a public theater seating 1,000.

wanted the school to have a symbolic value, agrees Seierup: "This school district had not built much for a good stretch of time, and they were really looking forward to creating symbols for education in Los Angeles. That became a part of their mission as well."

Accordingly, several of the LAUSD's most symbolic new schools are on prominent sites visible from main roads. Coop Himmelb(l)au's $209 million High School 9, set to open later this year, sits across Grand Avenue from the Cathedral of Our Lady of the Angels and joins the nearby Los Angeles Music Center, Museum of Contemporary Art, and Walt Disney Concert Hall. This is the wonder of L.A.'s evolving downtown, where Frank Gehry and Arata Isozaki are sprinkled among the ubiquitous fast food joints, strip malls, and office towers.

"For us, it was very important to make a statement," says Wolf D. Prix, principal of Coop Himmelb(l)au. (HMC Architecture is the executive architect on the project.) "First, we had the chance to contribute to the rising image of downtown. Second was the content. This is a high school for the arts. I think it's the one and only school that brings together the content and the architecture in this way."

On a recent winter afternoon, Prix, fresh in town from Vienna, leads a tour of the construction site. He heads for the location where parents will drop off their kids and stands at the base of a sweeping staircase, looking up onto a courtyard above. The late afternoon sun honeys the sky and reflects in the steel wrapping the cone-shaped library. "This is my favorite view."

In an era of No Child Left Behind bureaucracy and limited arts curriculums, High School 9 feels monumental, not just for its design, but also for the respect it offers the future student body. "This school will produce artists who will exhibit in the museum and musicians who will play in Disney Hall," Prix says. "The architecture has an important effect."

The school's small site (9.8 acres) and limited square footage (230,000) meant Coop Himmelb(l)au had to find creative interior solutions. Hallways have bump-outs, allowing for sculpture displays. A grassy field includes removable goal posts, so it can also serve as a gathering spot. "We call it hybrid building," Prix says. "Increasingly, you have to invent double functions. [This] will be the future of architecture in big metropolitan areas."

THE HOME STRETCH

The future of school construction in L.A., though, will be one of even more squeezed resources. Just as the LAUSD began construction on first-phase schools, Los Angeles was entering a major building boom, and today, despite the dragging economy, union-wage labor remains scarce and expensive, and the cost of construction materials is on the rise. Also, the district's small-site plans often require expensive components like underground parking. Last year, the per-classroom cost to build a new school peaked at an average $600 square foot (this includes soft costs).

As it passes the halfway mark of the building program, the district is working to find solutions. It created an outreach program with unions to get new workers into building jobs, and it is trying to educate small construction firms on how to bid on public projects. It even initiated an architecture internship program for high school students: Juniors and seniors who complete a Saturday course on design and construction are eligible for paid summer internships at local firms. Last year, 157 students went through the program.

On the heels of such successes, Guy Mehula has added lecturing to his busy schedule. He travels the country talking to other school districts about the building program in Los Angeles. His favorite presentation is a riff on MasterCard commercials. He has a slide show that opens with clips of the negative press coverage from the early days.

"Then I put up slides with stats," Mehula says. "Building 214 new schools and additions: $12.6 billion. Modernizing 800 existing schools: $7.7 billion. Proving the press wrong: Priceless."

To see additional images of L.A.'s new and renovated schools, visit www.architectmagazine.com.

Text Mimi Zeiger

4D CITIES

COMPUTER SCIENTISTS AT GEORGIA TECH ARE DISCOVERING HOW TO TRANSLATE DECADES' WORTH OF CITY PHOTOS INTO A DIGITAL MODEL OF URBAN DEVELOPMENT IN SPACE AND TIME.

BUILT IN 1913 FOR JOEL HURT, an early Atlanta developer, the Hurt Building is a cornerstone of the city's downtown. Architect J.E.R. Carpenter's grand design is sited on a broad, triangular parcel, and, at the time of its construction, it was one of the largest office buildings in the world. But for Frank Dellaert, associate professor in the College of Computing at the Georgia Institute of Technology in Atlanta, this isn't why the structure is important. It's the height. At 17 stories, the building's roof offered a sweeping perspective of the city. Over the years, photographers routinely lugged their equipment to the parapet and captured Atlanta on film.

Dellaert and his research team—which includes Grant Schindler and Sing Bing Kang of Microsoft Research—are at work on "4D Cities." The project adds time as a variable to 3-D urban models, creating an image database that shows a city's evolution. Like a kind of virtual time-lapse film, it's an interactive way of accessing historical image archives.

To illustrate their software developments, the team has built a 4-D model of Atlanta using contemporary digital data and historical documents taken from the Atlanta History Center's archive. Dellaert calls it "photographic archaeology." The photographic record is used to shape the model, a process called "spatio-temporal reconstruction." The team fed some 200 images into the system to build the sample model. Determining the camera lens position is just as important as the subject matter it captured. Each locus gives the computer a vantage point from which it can identify where the buildings are in space.

The Hurt Building is one such spot, as is the 44-story Wachovia Bank of Georgia, which lured shutterbugs up to the top when it was erected in 1966.

Inspiration for the project came in 2003 and is equal parts Google Earth and "re-photography." "I came across the book *Atlanta: Then and Now*, by Michael Rose, executive director of the Atlanta History Center," recalls Dellaert. "In it he had photos from the archives and photos from approximately the same spot in 2000–2001. My research is in 3-D reconstruction of images, [and] it hit me that we could add a time aspect. We could virtually revisit the neighborhoods." Today, the project is supported in part by the National Science Foundation and by a gift from Microsoft Research.

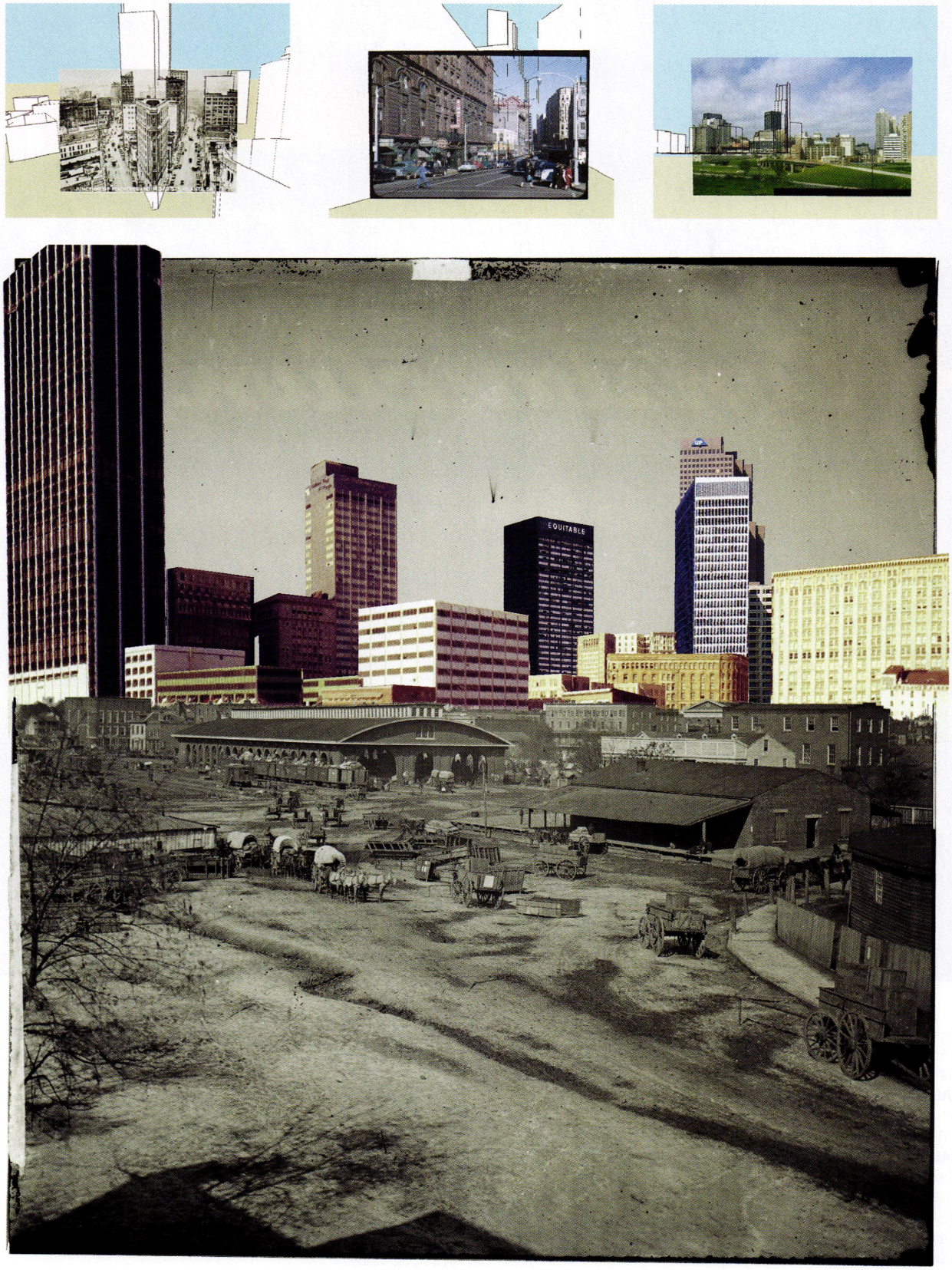
Surprisingly, it is not crucial to know *when* a photograph was snapped. Because the 4-D model is derived from multiple points of view, the program can "see" when new structures enter into the frame. The computer then analyzes what landmarks are in the view and can seamlessly file the photograph into the city's time line. It is precisely this fourth dimension—time—that separates the Georgia Tech group's work from other 3-D modeling projects built from image collections, such as Microsoft's Photosynth (although the root technology for both programs is similar).

4D Cities is essentially an engineering project. "There's a lot of math behind the scenes," says Schindler, translating the computational analysis and computer programming into layperson terms. The number crunching begins once the photographs are scanned into the system. The program then outlines each structure in the frame with identification points. It also determines the camera position in space and focal length. These steps give a rough 3-D understanding of the scene. Combined with other photographs, a "point cloud" is formed, and it becomes possible to flesh out the full spatial picture.

To add time into the model, the programmers derived a classification system for each of the points. While the entire point cloud appears in every image, each point can take on one of four characteristics: observed, missing (corresponding to buildings that don't exist at the time of the photograph), out of view, and occluded. It is this "visibility matrix" (the programmers' term), formed out of these points, that ultimately determines the chronological order. Or, more basically, the passage of time is understood by whether you can see the landmark or not.

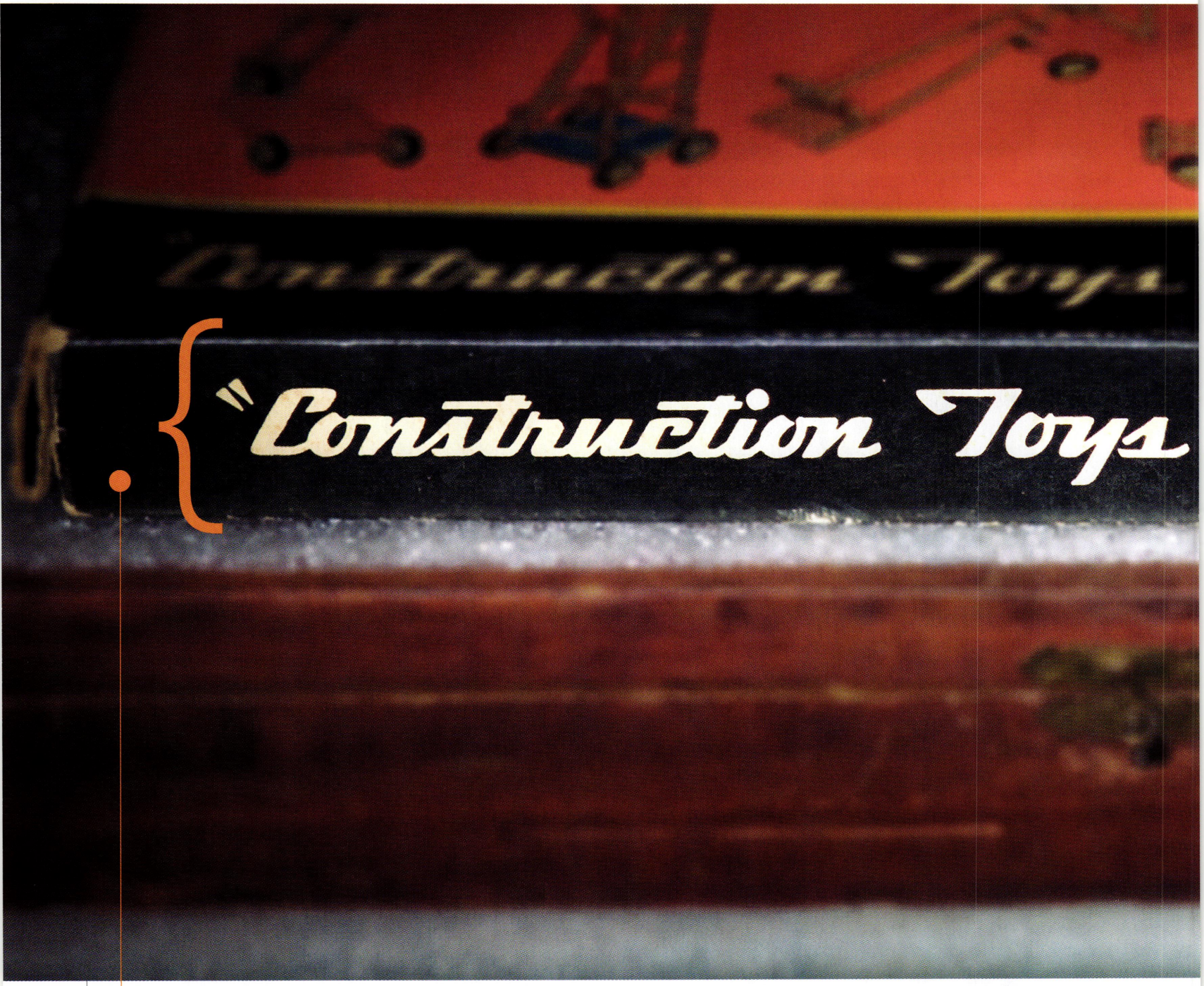
Although 4D Cities is still in the research stage, with no immediate plans for a product release, Dellaert predicts wide application of the program. It can be used by museums and historic preservation societies to access collections and by city planners and municipalities to track urban growth. Schindler, an Atlanta native, has a personal connection to the project: He's watched the city change over his lifetime. He's also tasked with documenting contemporary Atlanta for the database—but it's a race to keep up with the pace of development. A building about to be razed isn't necessarily obvious, says Schindler. "It's hard to notice and photograph [it] before it is torn down."

To see how Atlanta has changed over the past century and a half, experience the still-in-development 4D Cities Viewer at 4d-cities.cc.gatech.edu/atlanta.



Collage City: Frank Dellaert and his fellow researchers at Georgia Tech are using archival images to build a computer model of Atlanta's growth from the mid-1800s to the present day. Screen shots (top) demonstrate the programmers' layered "spatio-temporal reconstruction" technique, in which they use the old photographs to establish a sequence of fixed points in space and time. When the model is complete, it will be possible to scroll chronologically through the photographs and view wire-frame overlays from various periods in the city's development. By approaching the city as palimpsest, the model—many of whose photos have been combined into the single image above—shows how Atlanta's skyline has been drawn and redrawn over the years.

COLLAGE COURTESY COLLEGE OF COMPUTING, GEORGIA INSTITUTE OF TECHNOLOGY



TOY: The Constructioneer Metal Building Set No. 4
YEAR: 1947
MANUFACTURER: The Urbana Manufacturing Co., Urbana, Ohio
MATERIAL: Metal
INFO: Bearing the motto "Construction Toys Make Better Boys," this building set is made of heavy-gauge steel with nickel-plate finish and includes rubber wheels. An electric motor could be purchased separately.

Day after day, in a locked and sealed room on the third floor of the National Building Museum in Washington, D.C., two volunteers in white cotton gloves are quietly and methodically dissecting the question of how we play with form. They're examining building toys—more than 2,000 of them spanning a century from the 1860s to the 1970s. Wooden blocks, Lincoln Logs, Tinkertoys, Erector sets, LEGOs, and many one-hit wonders, all holding the same promise that curator Chrysanthe Broikos neatly sums up: "You can create a whole other world."

One man, George Wetzel, collected these toys in his attic in Peotone, Ill., for the last 25 years. In 2006, the Building Museum acquired Wetzel's collection—thought to be the largest of its kind in public trust—and the museum is cataloging the toys now. It's a process that is slow and precise, painstakingly so given the high fun quotient of the material at hand.

You'll have to wait, kids. Since it takes an average of four hours to catalog each toy, look for the first exhibits of this collection around 2013. In the meantime, here's a peek at what the Building Museum has in store.

Text Hannah McCann **Photos** Mike Morgan

CATALOGING TIMELINE

2006

TIMELINE KEY:

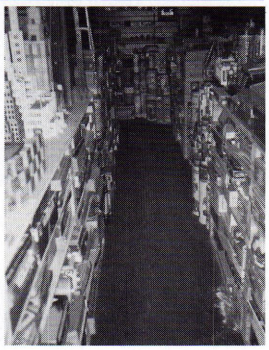
GREATER STAFFING →

- PRECATALOGING
- WOOD TOYS
- STONE TOYS
- METAL TOYS
- PLASTIC TOYS
- CARDBOARD TOYS
- MISC. TOYS

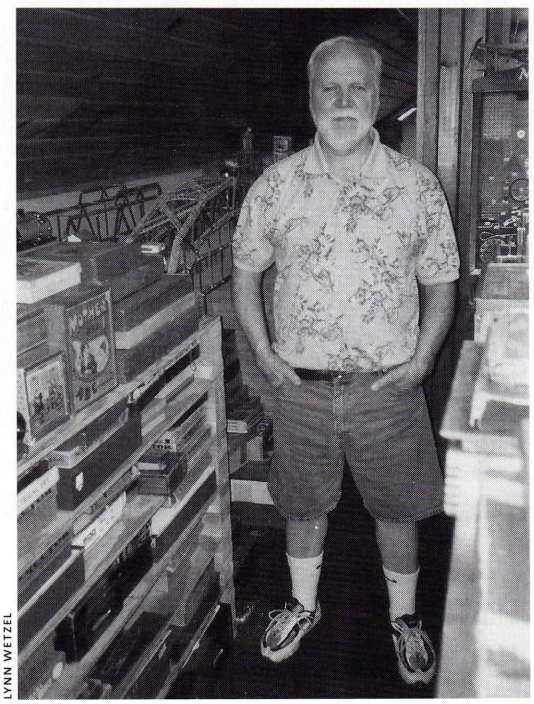
Cataloging will proceed in the order the collection is shelved, by material, at an average of four hours per toy. The time frame for finishing depends entirely on the Building Museum being able to raise money for a full-time staff person next year. Currently, the work is done by two part-time volunteers.

September 2005 Retired schoolteacher George Wetzel calls the National Building Museum in Washington, D.C., to inquire about **donating his collection** of vintage building toys. He estimates his collection, amassed over 25 years and stored in his attic, to number around 1,400. Chase Rynd, the museum's executive director, agrees to visit Wetzel's home in Peotone, Ill. Rynd has been faced with the challenge of collecting for a museum whose core subject—buildings—is essentially uncollectible. Arriving in Peotone, Rynd is astonished to see the size and scope of the toy collection. As a bonus, he recalls, "I got to play with them."

July 10, 2006 Four staff people from the Building Museum arrive in Peotone and begin to **empty the Wetzel attic**, inventorying, tagging, and packing the collection in the family's living room. Each night, art transporters pick up the bins filled that day, usually three to five boxes weighing 200 to 300 pounds each.



MEET THE COLLECTOR



LYNN WETZEL

NAME George Wetzel
LOCATION Peotone, Ill.
AGE 60
JOB Middle school English teacher, retired
HOBBIES Collecting construction toys and toy trains; playing ragtime piano; driving vintage Cadillacs.

Why did you decide to part with the collection?
It was just sitting on shelves gathering dust. I was so frustrated seeing it myself and not being able to share it with the world.

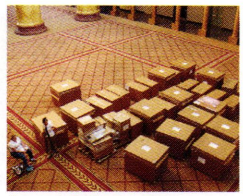
What can people learn from the toys?
These things are so realistic and authentic, I feel like I've got a little piece of history in my hand. You learn cultural history and social history. And you see all the trends and the developments in architecture from one decade to the next. I feel like an archaeologist.

Why did you start collecting?
When my kids were young, I thought, "Boy, they don't make toys the way they did when I was a kid." There was nothing that would challenge your imagination or stimulate any creativity. ... [My sons] liked slot cars and Transformers. So somehow this became my hobby. Why am I drawn to these things? It's actually kind of a physical thing. Building with them, working with them ... it gets in your blood.

How did you acquire these, pre-internet?
It meant a lot of chasing around, going to antique shows and antique shops around the country. I would write letters. I would make a point to go visit people and see their collections firsthand. When you pick [the toys] up in your hand and you touch them, it changes your focus.

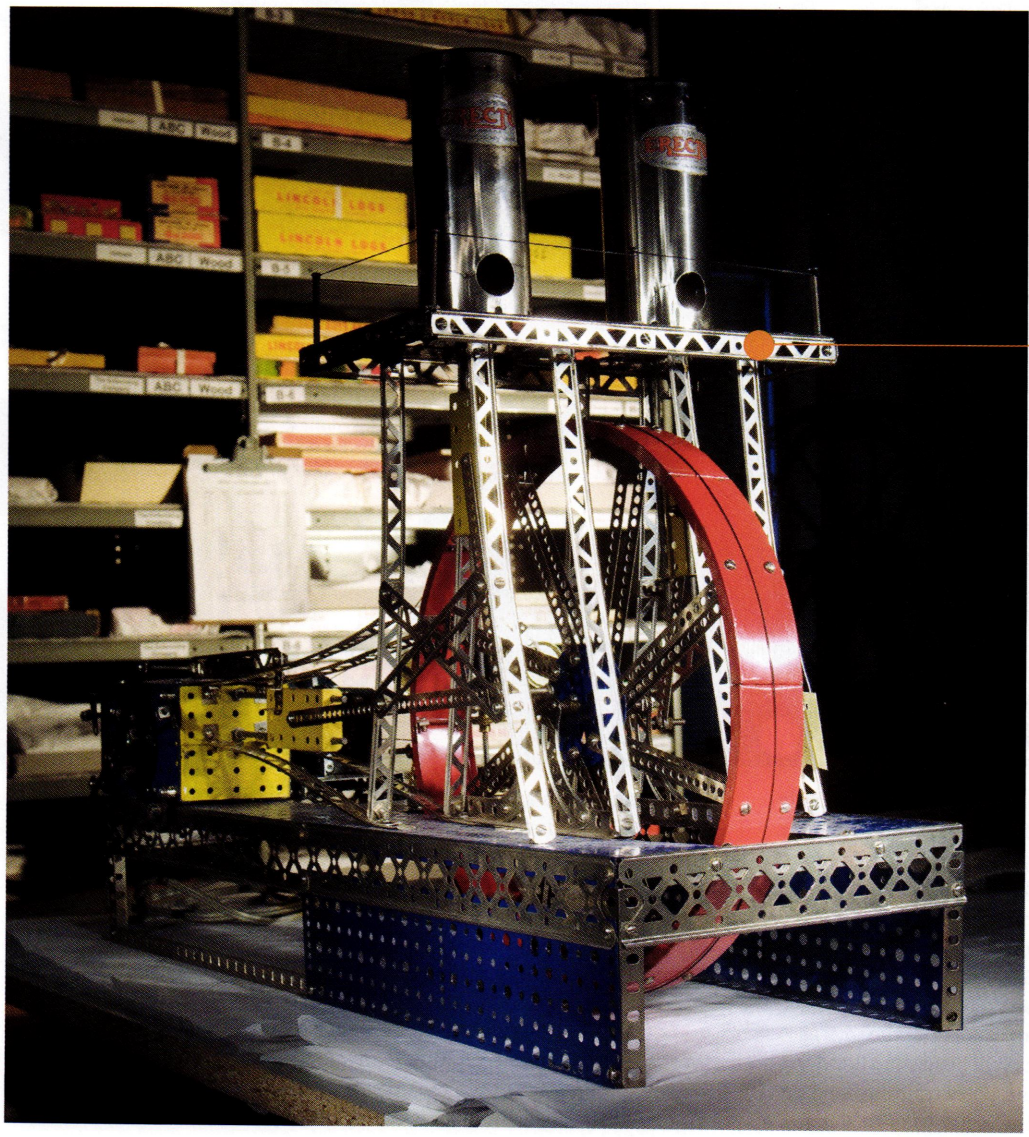
For 25 years you collected these toys. What are you doing with your time now?
I've decided I'm going to do it again. I'm focusing on the Chicago toys—Lincoln Logs, Tinkertoys, American Bricks (an early competitor of LEGO), Bilt-E-Z. ... Many of the best, most popular toys were made right here in Chicago.

July 31, 2006 With the inventory complete, the Building Museum can **attach a dollar figure** to the toys as objects (over $500,000) but not to Wetzel's time and knowledge in building the collection (priceless). The museum buys the bulk of the collection for an undisclosed sum, and Wetzel agrees to donate the rest.



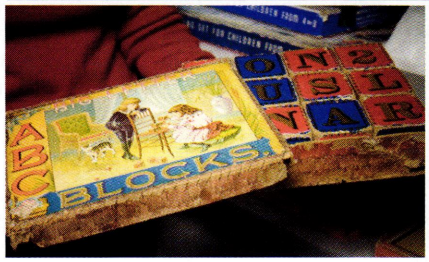
August 9, 2006 Two air-ride, climate-controlled tractor trailers **deliver the collection** to the National Building Museum in Washington, D.C. Fifty-five bins of toys are unloaded in the museum's Great Hall.

November 2006 An empty gallery space on the third floor of the museum is transformed into a permanent **storage and cataloging space** for the toy collection, which on closer inspection seems to number closer to 2,000 than Wetzel's original estimate of 1,400. Baked-enamel steel shelving provides 1,053 linear feet of open-view storage, which not only helps catalogers see what they're doing but also helps the museum's fundraising by bringing visitors behind the scenes to see the work in progress. To protect the toys, a hydrothermograph regulates the climate at 50 percent relative humidity and 70 degrees Fahrenheit. UV sleeves cover the overhead fluorescent lights.



TOY: Erector Set No. 10 ½
YEAR: Circa 1951
MATERIAL: Metal
INFO: The "Giant Power Plant Model" incorporates an electric engine and features a steam cylinder "with valve action," according to the toy's manual; a tower platform with boilers that "represent compressors in the original Corliss engine," the steam engine that powered the 1876 Centennial Exposition in Philadelphia; and a flywheel built from eight wheel segments.

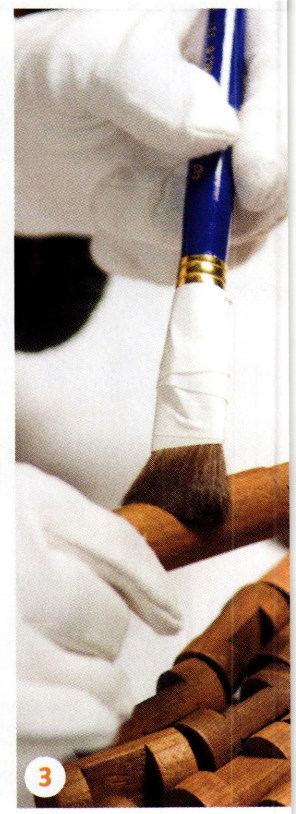
2007



May 22, 2007 Cataloging begins with object 2006.5.001, alphabet blocks, manufacturer unknown. **Wooden ABC blocks** are among the earliest forms of building toys—both in terms of history and the way children learn to play. Pictured here, object 2006.5.37, Big Letter ABC Blocks, copyright 1889 by McLoughlin Bros., New York. The hand-stitched repair along the sides of the box make this one of registrar Dana Twersky's favorite items in the collection.

August 7, 2007 Item 2006.5.97, **architectural wooden blocks** from The Embossing Co. There is no date on the toy, but the box top shows two people in Victorian style clothing, suggesting that the toy is from the late 1800s.

PROCESS



UNTIL MORE FUNDING COMES IN, cataloging is done by two specially trained volunteers rather than salaried staff. The work requires patience, attention to detail, and the ability to work for long periods in isolation. All handling of the toys is done with white cotton gloves. "You have to be a little OCD," says museum senior registrar Dana Twersky.

Pictured here are volunteers Mary Purcell (1) and Joyce Arsnow (2). Purcell, who studied industrial design at RISD, was introduced to the collection when she helped to unpack it. Arsnow is new to the project; a retired preschool teacher, she sees her work cataloging the toys as the "last hurrah" of her teaching career. "This will be used to develop children's minds, and I don't have to deal with potty training," she says.

Toys are catalogued one at a time in the order they're shelved in the museum's archives, which is based on the organizing system George Wetzel developed in his attic. Next up is object number 2006.5.140, a set of Lincoln Logs in an 18-inch-high cardboard tube. Lincoln Logs were patented in 1920 by Frank Lloyd Wright's son John Lloyd Wright. Guessing from "Daniel, Christmas 1955," the handwritten inscription on the side of the container, this set probably dates to the mid-1950s.

1. Photograph • The first step: documenting the toy in the condition it was received from the collector. Using no flash, Purcell photographs the closed container first, then the open container with its contents displayed around it. The object number is clearly displayed on a label .

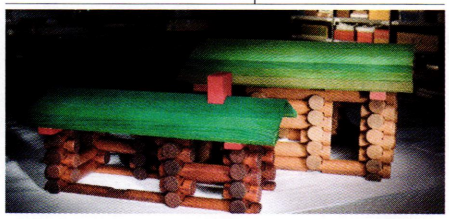
YOU ARE HERE

PROPOSED STAFFING INCREASE ➤

2008

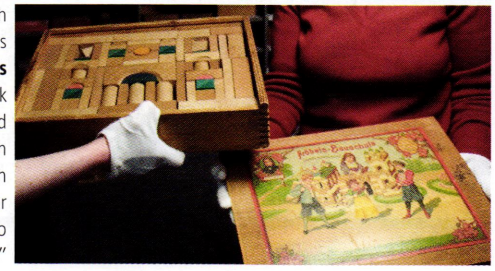
SECOND VOLUNTEER JOINS ➤

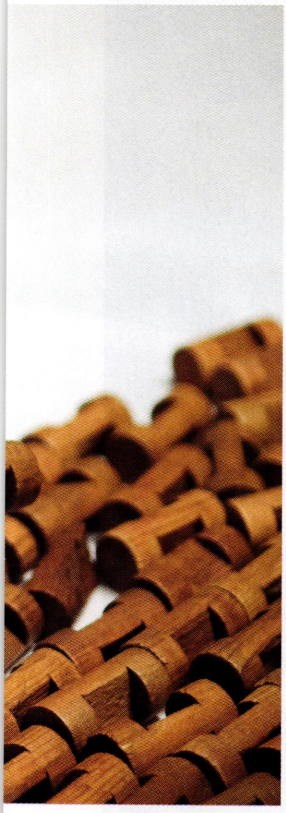
2009



February 14, 2008 One of many sets of **Lincoln Logs**, object number 2006.5.140, circa 1955.

Forecast: October 2009 With a full-timer on staff, catalogers could reach the shelves of **Froebels wooden blocks** next fall. Frank Lloyd Wright had a set as a child and would later recall, "The smooth shapely maple blocks with which to build, the sense of which never afterwards leaves the fingers: so form became feeling."





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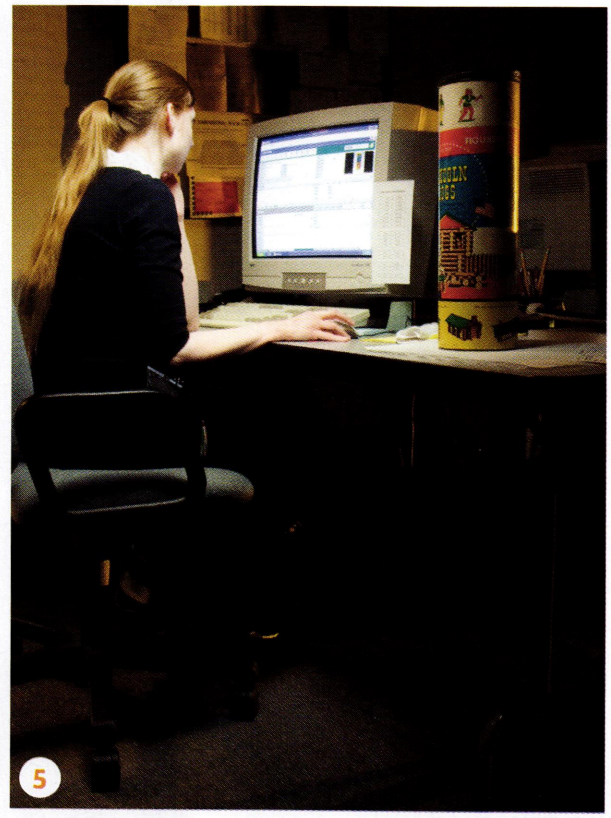


5

2. Measure • With a cloth tape, Arsnow measures the height, width, and depth of all the toy's parts. It can be a tedious process, but "it's worth it to do it the right way up front," says Twersky. The information will help in planning future exhibits.

3. Clean • Arsnow uses a natural-bristle brush, which has the handle's edges taped off to prevent scratching, to gently remove dust, grease, insect casings, or other dirt that might degrade the toy. A small portable vacuum, typically used for cleaning toner dust from electronics, removes 0.3 micron–sized dust. Catalogers only clean preventively now; later, conservators will spend hours cleaning toys that are chosen for display.

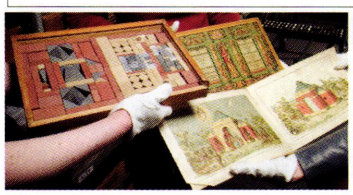
4. Label • Each toy is assigned an object ID number in sequence after "2006.5," which indicates that the item is from the fifth collection the museum acquired in the year 2006. The number is recorded on worksheets and on the toy itself, using a 6B pencil (on a scale up to 9B, it's close to the softest pencil made). If the toy is metal or plastic, volunteers paint the number on it with acrylic paint.

5. Catalog • Purcell enters a report on object number 2006.5.140, the "Daniel, Christmas 1955" set of Lincoln Logs, in a database using PastPerfect software. Eventually, researchers worldwide will be able to access images and information about the toys from the database.

STONE →

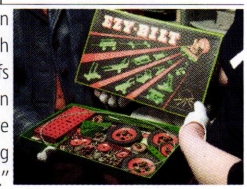
METAL →

2010



Forecast: December 2009 Heavy in their wooden boxes are **"stone" block sets**, such as the Richter's Anchor Blocks shown here. The German stacking blocks feel like real stone but are made from compressed and dyed sand, chalk, and linseed-oil varnish. The popular early 20th century toys came with guides illustrating possible designs. Richter blocks fall into the category collectors call "Sunday toys"—treasured items children played with once a week.

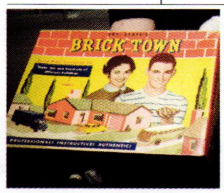
Forecast: July 2010 The collection includes 531 **metal toys**, of which 108 are Erector sets. Knockoffs include the Ezy-Bilt, an Australian toy that claims to be "Creative Constructive Instructive Absorbing 1001 Toys from One."



TOY: Gilbert Skyscraper Erector Set
YEAR: Circa 1935
MATERIAL: Cardboard with metal girders
INFO: A Gilbert Skyscraper Erector Set included up to seven different types of cardboard panels with names such as "Main Entrance," "Garage Entrance," "Office Entrance," and "Upper Story." Each panel is color-lithographed on both faces, offering a choice of two façades: concrete (shown here) or brick. Cardboard panels are fastened to metal girders with either machine screws or snap rivets.

PLASTIC → CARDBOARD → MISCELLANEOUS →

2011 2012

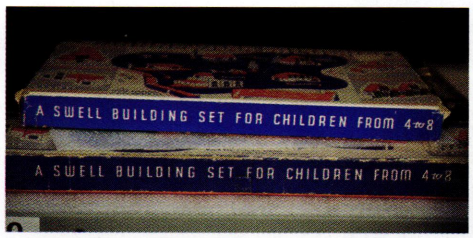


Forecast: September 2011
LEGOs aren't the only **plastic building toys**. Predating LEGOs is the Tri-State Brick Town, advertised as "Professional! Instructional! Authentic!"

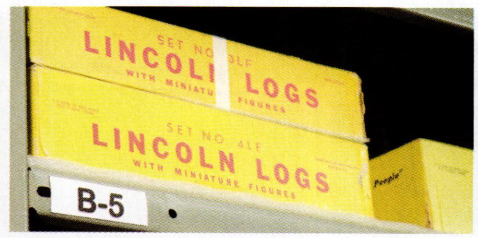
Forecast: April 2012 Ninety **cardboard toys** make up a small section of the collection. Mostly produced during the Depression and World War II, cardboard toys haven't survived the test of time as well as other materials.

Forecast: July 2012
Dominoes, puzzles, and assorted parts are grouped under the **miscellaneous category**, which the museum plans to catalog last.

SHELVING USAGE A sampling from the 1,053 linear feet of storage

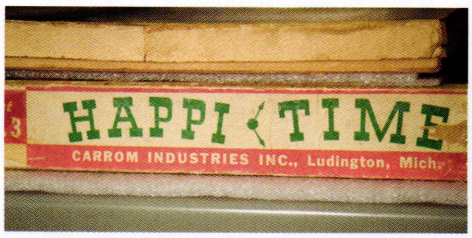


18 ft
WOOD: ASSEMBLY SETS

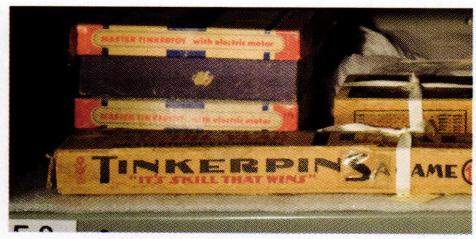


18 ft
WOOD: LINCOLN LOGS

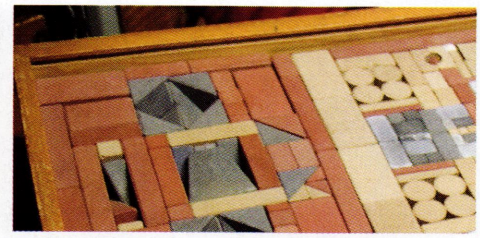
138 ft
WOOD: BUILDING BLOCKS



33 ft
WOOD: CONSTRUCTION SETS



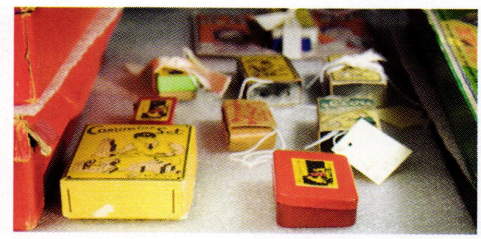
6 ft
WOOD: TINKERTOYS



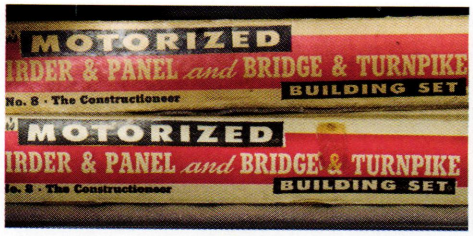
75 ft
STONE: RICHTER BLOCKS

33 ft
METAL: A.C. GILBERT ERECTOR SETS POST-WWII

48 ft
METAL: A.C. GILBERT ERECTOR SETS PRE-WWII

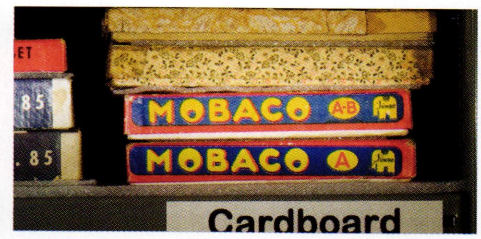


138 ft
METAL: OTHER CONSTRUCTION SETS



24 ft
PLASTIC: GIRDER AND PANEL SETS

27 ft
PLASTIC: BRICK SETS



42 ft
CARDBOARD: ALL

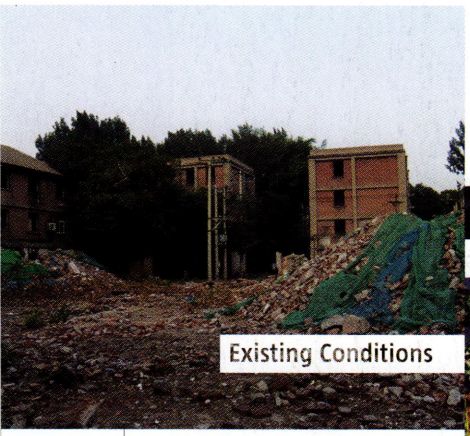
Text Bradford McKee **Photos** Shuhe Architectural Photography Studio (except where noted)

LOT-EK GOES TO CHINA

It was one of those rare projects that came unbidden—and from half a world away. One day in May 2005, Ada Tolla and Giuseppe Lignano, architects and partners in the New York firm LOT-EK, received an e-mail from Kengo Kuma, the Japanese architect well known for his material wizardry, though neither Tolla nor Lignano knew him personally.

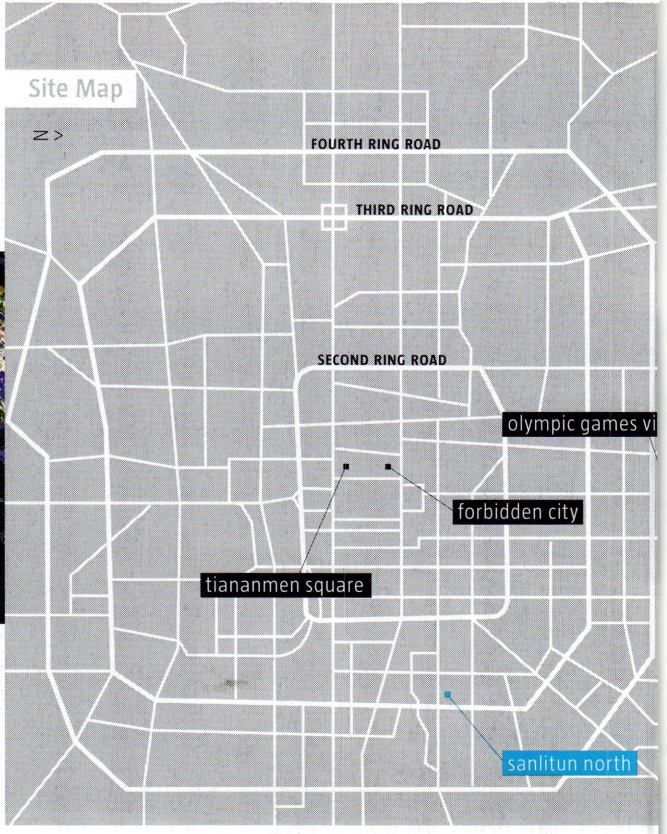
He asked:

Would they like to design a building in Beijing?



Existing Conditions

Site Rendering



CONTINUED FROM PAGE 87

Actually, not the entire building. They would design around a four-story rectangular concrete frame. Kuma had shaped the massing for this and several other buildings as he master planned the larger site, a 7,000-acre office and shopping complex called Sanlitun North (there is also a Sanlitun South). The property lies in Beijing's Chaoyang District, a cosmopolitan area of embassies and nightlife that also holds the Olympic Park and venues for this summer's games. Kuma was designing a hotel and four freestanding boutiques. On behalf of his client, Guo Feng Development, he was looking for architects abroad to design three other buildings.

"It came out of the blue," Tolla says. Having lived and worked in New York together for 18 years, 15 of them as LOT-EK, the Italian-born architects had long wanted to design an actual building, something beyond the installation-scale work that had made their names known as much in the art world as among architects. Strictly speaking, the Sanlitun North job was not a whole building, but, at 97,000 square feet, it came close enough. Kuma also solicited proposals from SHoP Architects in New York and Beijing Matsubara & Architect, a Japanese firm that had relocated to Beijing. "It was generous, courageous, adventurous of Kuma to call on younger offices rather than established offices," Tolla adds.

But having a younger office of 10 people made it difficult for LOT-EK to trek across the globe for a modest-sized building. At times, the client made sure they felt exquisitely engaged, embraced for their design almost as heroes. Yet when the major design phases ended, so too did their roles as architects, and without much warning. "When construction started," Lignano says, "they threw you out of the plane."

THE WORK BEGAN in July 2005. Guo Feng, the developer and builder, held a weeklong charrette in Beijing. All the invited architects were asked to propose designs for Sanlitun North. "They had already decided who would be working on what," Tolla says. "so that it was not many people working against each other." Presiding were Wei Chun Xian, the owner of Guo Feng; his chief engineer, Jin Long Lin; and Vincent Chan, Guo Feng's marketing and sales director. Wei spoke only Mandarin, so Jin translated into Japanese. The senior designers for LOT-EK and SHoP are Japanese (both with the surname Keisuke) and helped Tolla and Lignano to understand what was going on in English. "Fortunately," Tolla says, "we had our Keisukes."

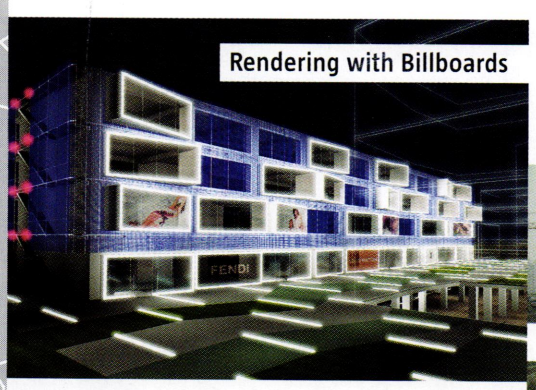
During that first trip, Tolla and Lignano began to take measure of the mammoth changes rolling through Beijing in the run-up to this summer's Olympic Games. "They're tearing down entire parts of town," Lignano says. "I went there in October two years ago and everything [on the site] was still up. I came back in November and not only was everything down, but they had excavated 20 feet." On every drive to Guo Feng's headquarters, "you'd see another Rockefeller Center being started," he says. "This is not a mall outside Atlanta. This is the city of Beijing."

On the Sanlitun site, Guo Feng gave each team a concrete structure with a set grid, height, and number of floors. The only functional mandates were to provide open spaces for stores and the ability to divide the interior vertically or horizontally into multiple configurations. Around the buildings' frames, the architects were given a 3-meter margin in which to elaborate. "So it was not a skin job," Lignano says. "It allowed you to really change the volume of the building."

LOT-EK's concept was to wrap the base building in a lightweight outer frame, like scaffolding, and drape it in blue mesh to resemble a building under construction. Some of the windows spanning the structural bays remain flush with the building, obscured behind the mesh. Other windows punch outward through the mesh, encased in satiny steel frames that look like gigantic ducts, and become articulated billboards.

The idea is surprising only if you've never seen LOT-EK's portfolio, which includes a proposal for a library to be built out of old Boeing 737 fuselages and clothing

TOP LEFT PHOTO AND OPPOSITE RENDERING AND PHOTOS COURTESY LOT-EK; TOP RENDERING SCREAMPOINT



Rendering with Billboards

Construction Boom

Under Construction

stores built inside shipping containers. They like to reuse familiar but ignored industrial items as architectural modules. "The base of our work is to work with [or, in this case, be influenced by] already existing objects and systems," Lignano says.

He explains that he and Tolla love "accumulating objects" such as vent shafts or fire escapes or ductwork, because they transform a building unintentionally. "They come out of it, they overlap, they attach some way," he says. "They aggressively change the building and create a complexity that we're fascinated by."

Yet, true to their name, LOT-EK's way of assembly is simple and straightforward. "Ada and I were building with our hands 15 years ago," Lignano says. "It still reflects that."

ONCE THE CONTRACTS WERE SIGNED, the meetings in Beijing grew steadily larger. "There was a big component of just learning how to do something like that in China—for everybody," Tolla says. The first meetings included the local architects, the code consultants, and the structural and mechanical engineers. "Then they brought in even more people," Tolla says, such as the curtain wall company and other manufacturers. "A lot of the stuff we were designing was tested immediately." Not always with the best results.

When it came to supplying materials, Guo Feng was very DIY. When Tolla and Lignano described the coated stainless-steel mesh made in Germany that they wanted for the building's outer screen, the client asked for a sample. "And then they would make it," Tolla says. "They would make the same thing."

Or as close as they could come. The Chinese copies couldn't always match the quality of the originals. "They showed us a sample, and we're like, 'Ha! This is terrible!'" Tolla says. (Lignano describes the copy as "chicken wire with the paint that comes off.") Needless to say, the mesh was refined before going onto the building.

"When you get this mesh from the fabricators in Germany," Tolla says, "it's engineered to be set up in a certain way. There are certain mountings and so on. You're not just getting a material. You're getting everything, the entire intelligence that goes behind the material." But their clients were averse to imports generally. "They would just replicate stuff rather than get it, because they have the manpower," Tolla says.

"There is a completely different perception about labor and labor costs," Tolla remarks. "Here [in the U.S.] you're trying to minimize labor because it drives the cost of things up. And there, you don't have to worry about that. So they can afford to replicate things."

In one of the more eye-rubbing moments along the way, Lignano arrived at the building site in Beijing to find a huge likeness of himself and Tolla next to the firm's logo on a billboard at the perimeter. "He called home and said '"Ohhh, you're not going to believe this... ,'" Tolla recounts. They found the adulation a bit more than they expected, especially in a society where, Lignano finds, "individuals' creativity is not that important." Yet as Beijing globalizes, a group of eccentric American architects confers a fashionable status on a project. "They go crazy with celebrity because they don't know it at all," Lignano observes. "They put up posters with faces—they understand that part of it." But, he says, they don't know how to use the architects completely.

Lignano and Tolla were unprepared for their work to end abruptly after design development, once their drawings were turned over to local architects to become a full set of construction documents. In the course of designing the building, they had gone through elaborate meetings in concert with the client, the consultants, and the other architects, where details would be translated to local standards and the architects would present their respective designs as they evolved. Despite certain quizzical moments, Tolla says, "they made a genuine effort to try to do the right thing and do it well."

However, there would be practically no role for LOT-EK in overseeing construction, which Tolla and Lignano quickly learned not to take personally. They arranged to have Judith Tse, a LOT-EK staff member leaving the firm to move home to Hong King, check in on the project on a contract basis. "But before long," Tolla says, "she could not talk to anybody. It became this crazy thing." Eventually, Tse stopped going. But in early 2007, pictures began

The Sanlitun North site is part of a massive building boom in Beijing to prepare for the 2008 Olympic Games (above middle). A 7,000-acre site was cleared to make way for the development (opposite, far left), which includes buildings by Kengo Kuma, New York firm SHoP Architects, and Beijing Matsubara & Architect in addition to the LOT-EK building.

The architects were asked to design around a predetermined concrete shell, with a three-foot zone around the frame into which they could expand. The LOT-EK team took advantage of this zone by creating extruded window frames (above left), which will serve as billboards for the stores housed within once the interior is fully complete.

Construction on the exterior is complete. During the construction phase (above right), it was encased in precarious-looking bamboo scaffolding that looked substantially different from that used in the United States.

TOOLBOX

At times as LOT-EK designed the Sanlitun North project, the familiar became strange, and, after a while, Tolla and Lignano could be forgiven for not quite knowing what to expect. Here is how the firm dealt with the practical side of things day to day:

Communication

Communication was the hardest part, Tolla says. She and Lignano probably saw the client and their fellow architects on the project in Beijing as much as they talked on the phone. Language differences made phone communication hard. "From the client side, there was only one person who spoke English, but he actually was the marketing person!" Tolla says. Usually calls were made to clarify details of the last meeting. Plus there's the time difference of 12 to 13 hours. "We usually called them at the end of the day here—morning in China."

Software

LOT-EK used 3Ds Max for all rendering, plus Adobe CS for presentation drawings and AutoCAD for drafting. Transfer of files to Beijing occurred via e-mail with no problems. When Tolla and Lignano visited the client in person, they brought full-size prints of their work: one vellum and three bond-paper copies.

Contract

Rather than sign a contract with the developer client, LOT-EK had its contract with architect Kengo Kuma's office in Japan. Tolla is not sure whether the contract was based on Japanese or Chinese boilerplate. "Given the large scope of the projects, the contract was extremely simple compared to American standards," she says. "It was literally a couple of pages—no smaller text or legal details!"

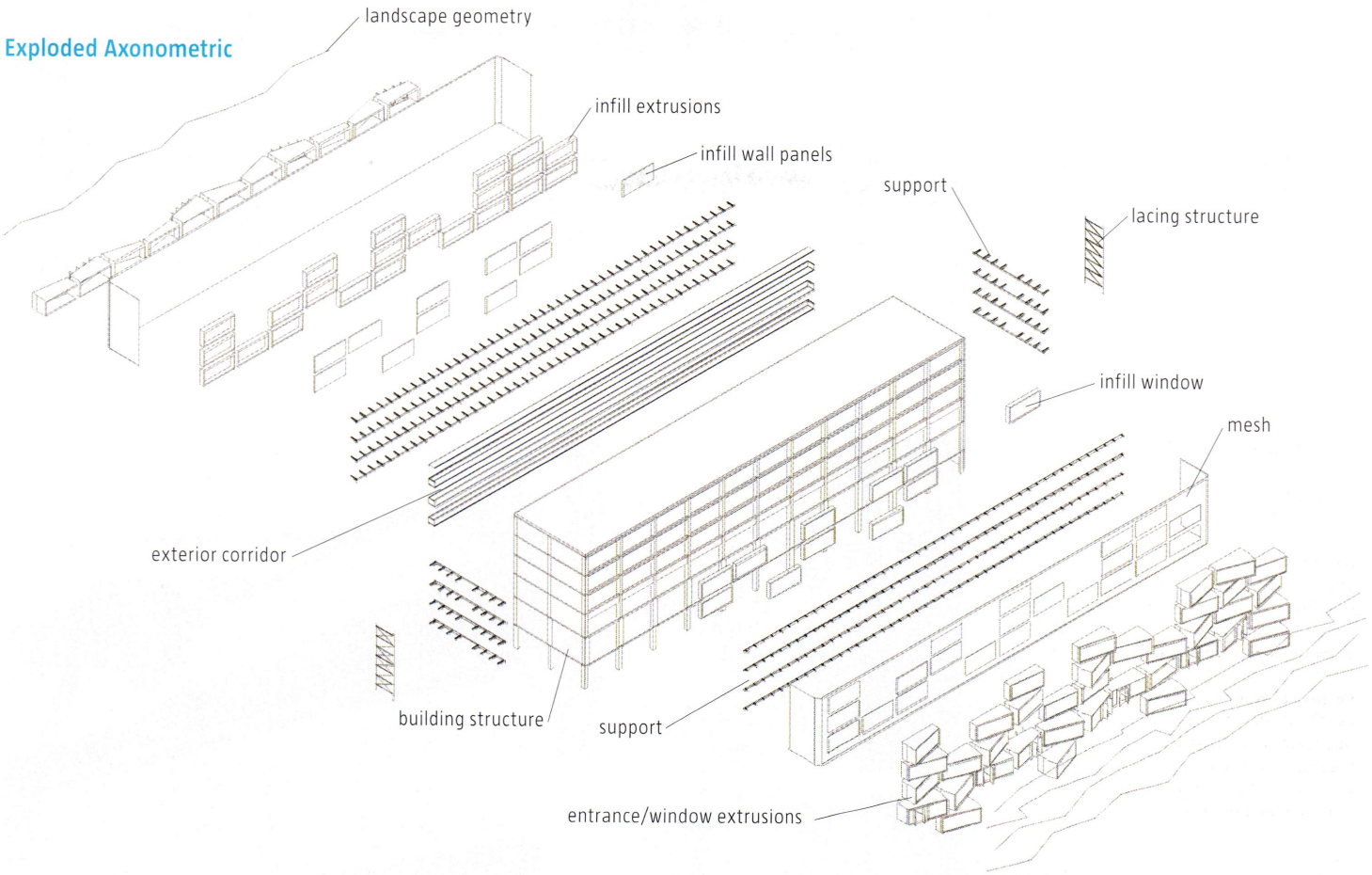
Liability

Tolla found nothing in the contract addressing liability head-on, but LOT-EK's liability insurance covers overseas projects. "Also, the construction package was issued by a Chinese firm," she says, "and that definitely shifts the issues of liability."

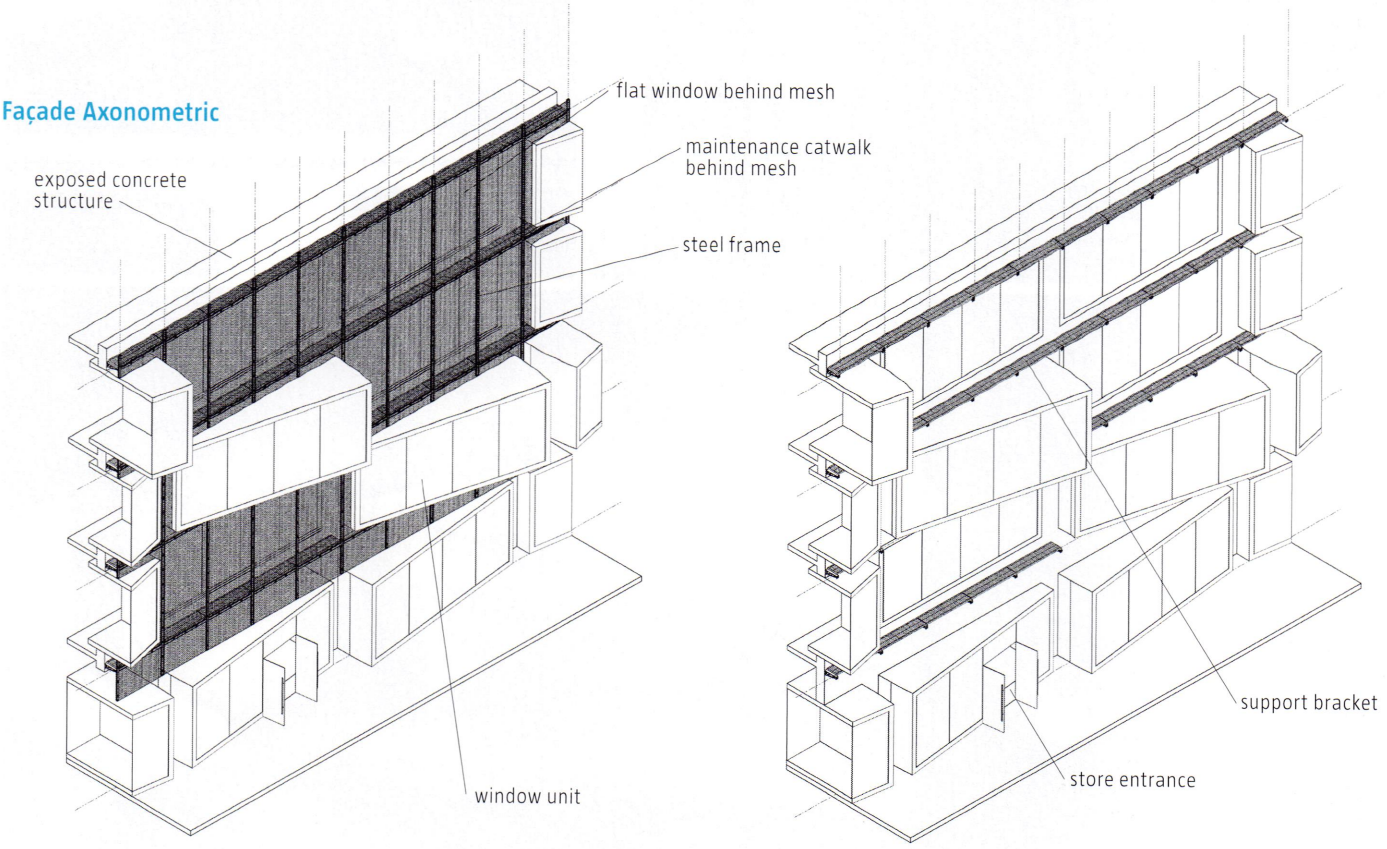
Payments

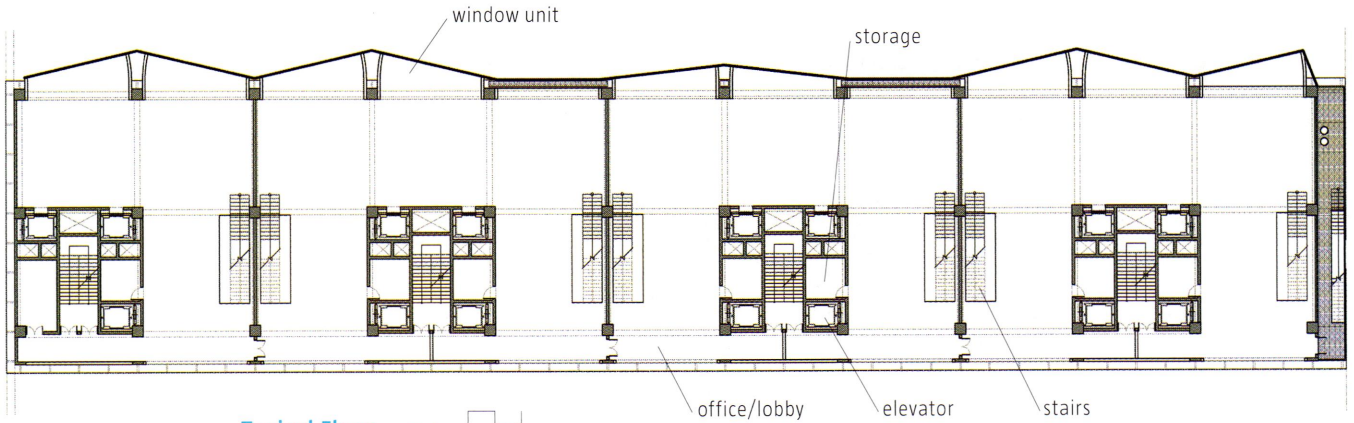
Because the contract was with Kuma, LOT-EK was paid by Kuma's office at the end of each phase of work. "In terms of fee, there was very little negotiation," Tolla recalls. "The client offered a number—which was quite limited!—but they (and we) knew that they were offering it with a great opportunity, and we accepted it." They have no regrets. "We would definitely do it again."

Exploded Axonometric



Façade Axonometric

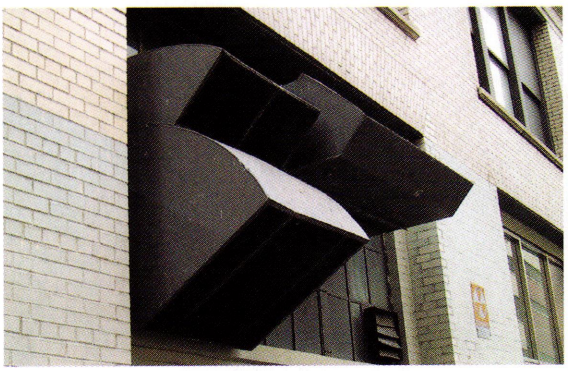


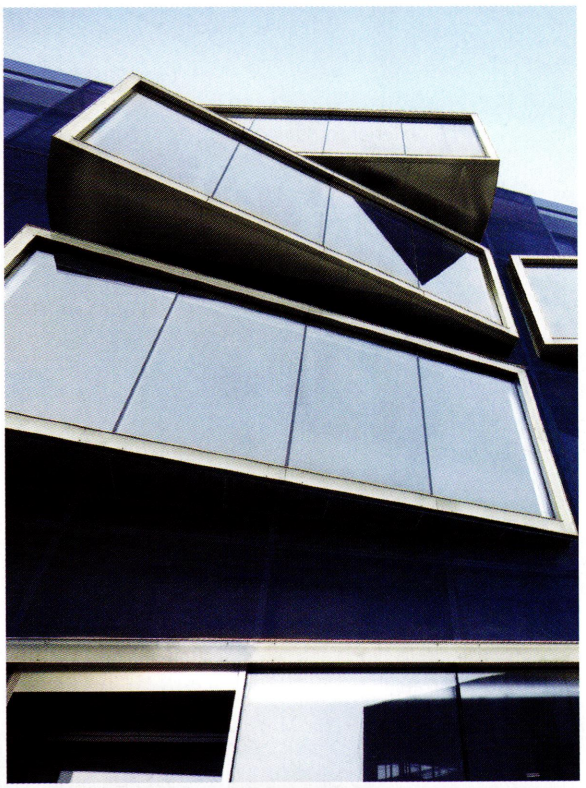


Typical Floor ≥> 0 10 20

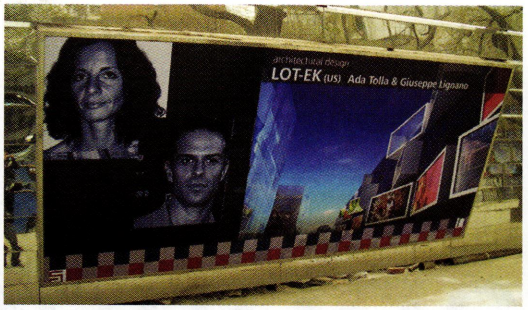
The floor plan of each of the four levels is roughly the same, allowing for expansion horizontally or vertically between the retail spaces. But because of the way LOT-EK was cut out of the loop after construction began, not even the design team knows how the interior is being divided.

Exterior elements such as the egress staircase (opposite) and extruded and canted window frames (far right and bottom) were informed by the phenomenon of add-on elements that Lignano and Tolla noticed on buildings around Beijing. Unlike the stateside renovation strategy of imbedding HVAC systems within walls or floors, the Chinese apply new ductwork, vents, and air returns directly to building exteriors (right).





TOP LEFT AND MIDDLE PHOTOS AND INSET PHOTO OPPOSITE COURTESY LOT-EK



PROJECT Sanlitun North
DEVELOPER Guo Feng Development, Beijing
ARCHITECT LOT-EK, New York—Ada Tolla, Giuseppe Lignano (principals in charge); Keisuke Nibe (project manager and project architect); Koki Hashimoto, Judith Tse (project architects)
MASTER ARCHITECT AND PLANNER Kengo Kuma, Tokyo (north site); Oval Partnership, Hong Kong (south site)
ARCHITECT OF RECORD/ENGINEER Beijing Architectural & Engineering Design Company
SIZE 97,000 square feet
COMPLETION DATE (INCLUDING INTERIOR) August 2008

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Co-Principal Investigator PROM/SE - NSF-funded Math Science Partnership,
School of Education, Michigan State University

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Youth Trends Expert, Creative Artists Agency

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Edited by Ned Cramer

CULTURE

BOOKS, EXHIBITS, OBJECT

COURTESY NEUE GALERIE

OBJECT LESSON

Original Wiener Werkstätte jewelry (such as the bracelet, shown here) commands six-figure prices on the rare occasions that it comes to market. Some 40 pieces are on display at New York's Neue Galerie this spring, and the museum's design shop is celebrating the occasion by commissioning a small collection of reproductions from Viennese artisans, in editions of five per year. A single brooch can take 180 hours to complete, which explains the limited availability.

Wiener Werkstätte–inspired jewelry • 2008 • $275–$8,300

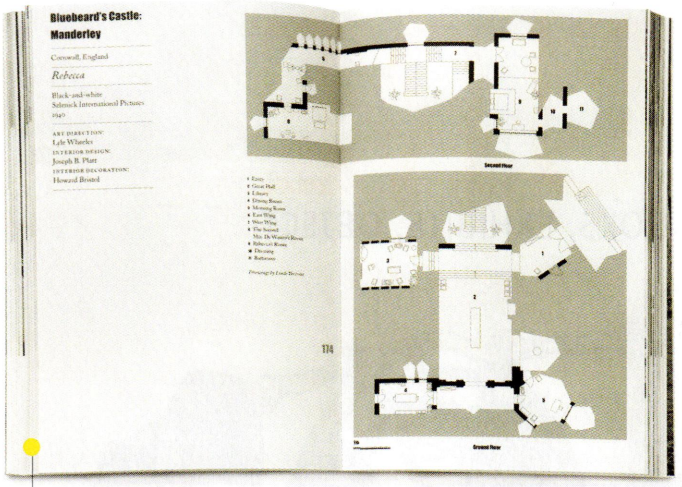
AT THE TURN OF THE LAST CENTURY, Vienna was a hotbed of progressive art and design. Nowhere was the spirit more in evidence than at the Wiener Werkstätte, the Vienna workshop co-founded by Josef Hoffmann. The architect applied his revolutionary vision to large-scale projects but also to finely crafted jewelry. Banishing the swirling shackles of Art Nouveau, he designed silver bracelets and brooches in orderly geometries studded with colorful semi-precious stones. These modern baubles spoke a new language of decoration, and their distinctive hallmark, the Werkstätte's double W in a square, remains a graphic reminder of the impact architects and artists can have when they join forces to change their world.

At the Werkstätte, there was little pretense of making affordable objects for the masses. Beautifully crafted and functional furniture, ceramics, metalwork, and fashions exuded an avant-garde spirit for a rarefied clientele.

Hoffmann's strict geometric impulses gave way to flamboyance in the hands of later Werkstätte members, such as Dagobert Peche. The whole dazzling experiment petered out amid materials shortages after the first World War.

Today, New York's Neue Galerie preserves the excitement of Hoffman's era at a museum dedicated to the arts of Austria and Germany from 1890 to 1940. Through June 30, the spotlight is on Wiener Werkstätte jewelry. LINDA HALES

CULTURE

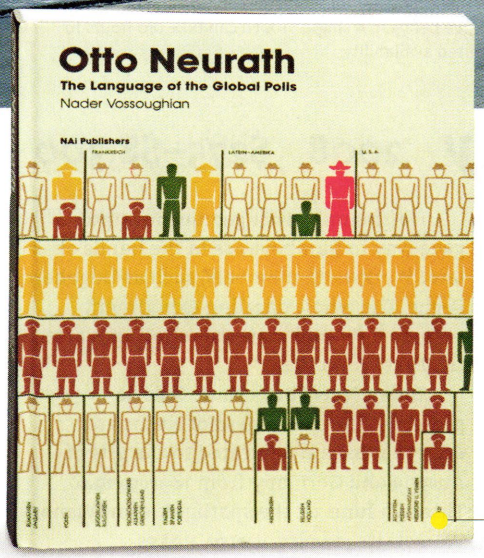


BOOK

The Wrong House: The Architecture of Alfred Hitchcock • *By Steven Jacobs* • Hitchcock worked as a set designer in the 1920s, and architecture plays a major role in his movies. Jacobs, an art historian, analyzes the director's use of cinematic space, providing fascinating architectural plans of fictional film landmarks such as Manderlay, the country house in *Rebecca*; the Jeffries apartment from *Rear Window*; and, of course, the Bates Motel and house from *Psycho*. *010 Publishers; €29.50*

EXHIBIT

Southern Exposure: Contemporary Regional Architecture • *Virginia Center for Architecture, Richmond, Va.* • Through June 8 • In this group show, ARCHITECT editor at large Vernon Mays assembles projects by the best progressive architects working south of the Mason-Dixon: Frank Harmon, Marlon Blackwell, W.G. Clark, Mack Scogin and Merrill Elam, Lake/Flato (whose World Birding Center is shown here), and the Rural Studio. *virginiaarchitecture.org*



BOOK

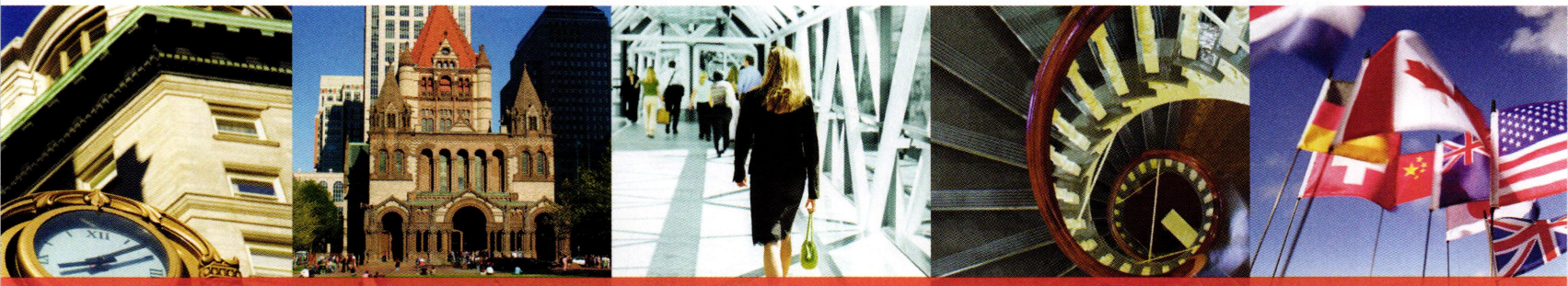
Otto Neurath: The Language of the Global Polis • *By Nader Vossoughian* • Cross-pollinate infographics guru Edward Tufte, sociologist Richard Florida, and planner Jaime Lerner, and you might capture the significance of Otto Neurath (1882–1945). The German philosopher, sociologist, curator, and urbanist collaborated with such giants of modernism as Le Corbusier and Adolf Loos, but Neurath's spectacular graphics alone should earn him a place in history. *NAi Publishers; €47.50*

EXHIBIT

Gregory Crewdson • *Luhring Augustine, New York* • Through May 3 • Artist Gregory Crewdson brings a novelist's sense of drama to his large-scale photographs. Typically set on the fringes of American towns and cities, in suburban homes and along small-town streets, the monumental photographs read like a latter-day equivalent of Edward Hopper's lonely realist paintings. *luhringaugustine.com*

TOP RIGHT PHOTO BY PAUL HESTER; CREWDSON COURTESY LUHRING AUGUSTINE; BOOK PHOTOS BY CHARLIE BROWN

AIA



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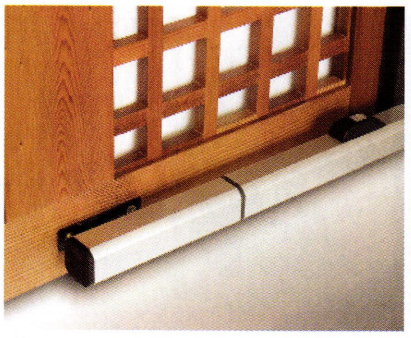

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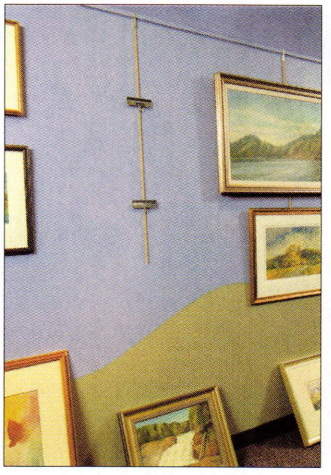

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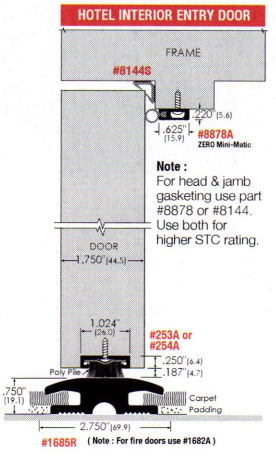

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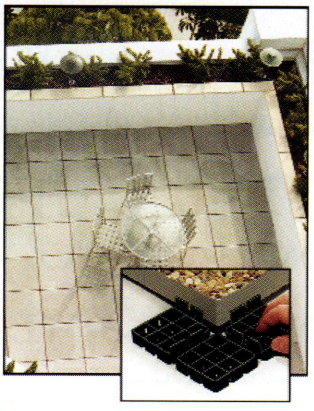

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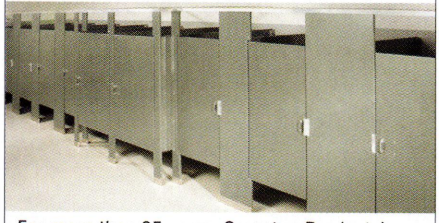

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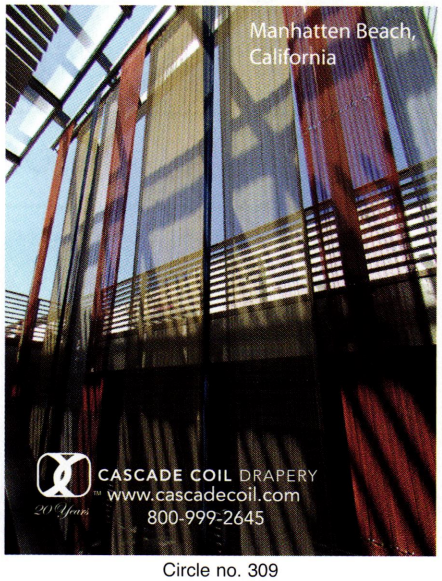

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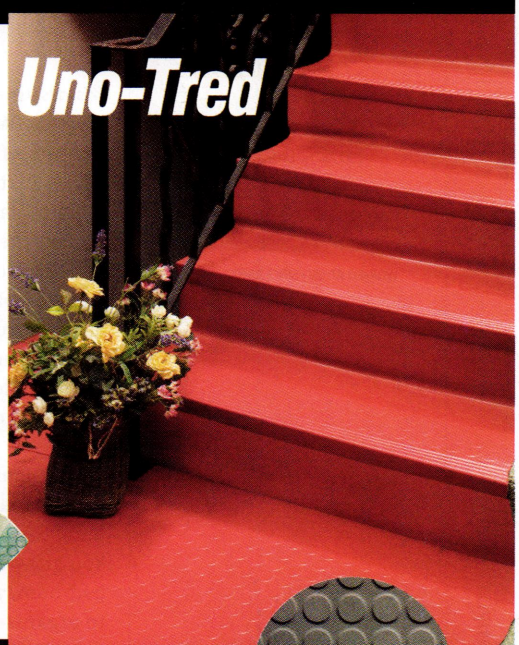

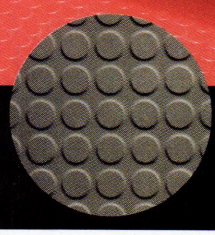

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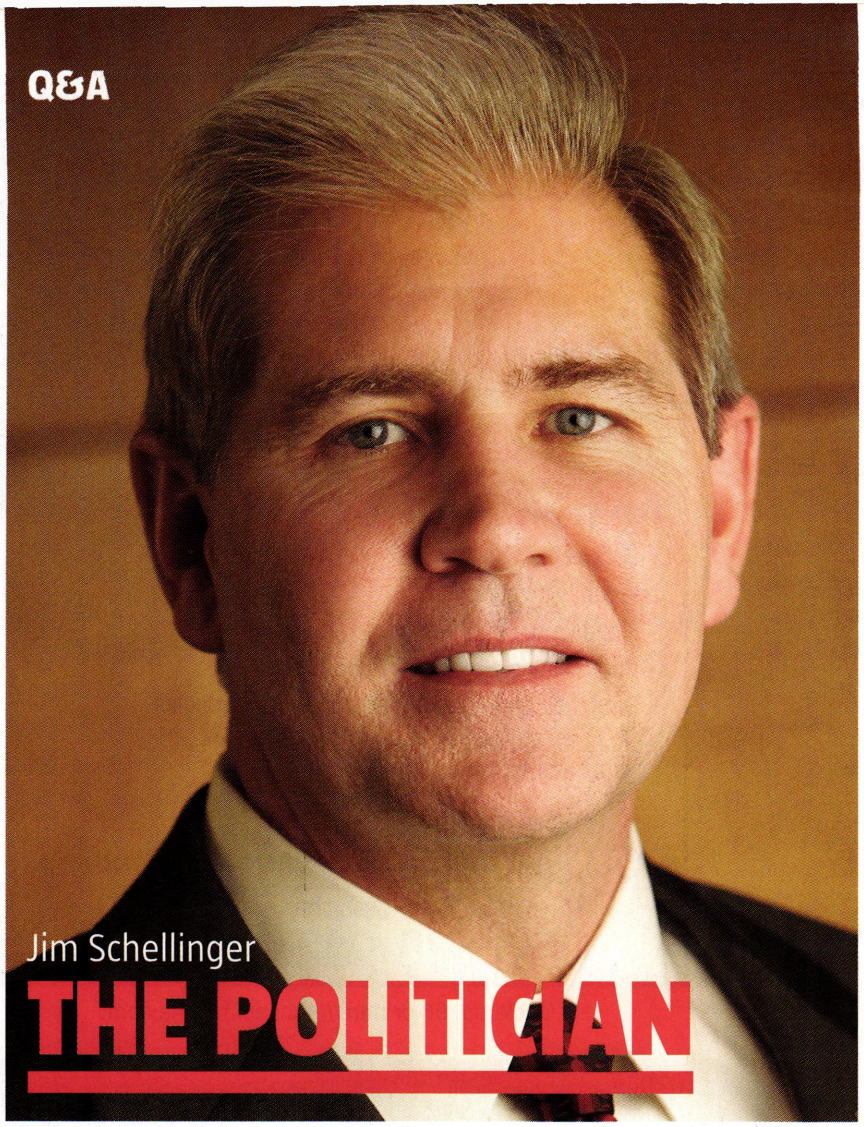

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THE POLITICIAN

Interview Edward Keegan **Photo** John Bragg

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AGE 47

TITLE PRESIDENT

FIRM CSO ARCHITECTS, INDIANAPOLIS

OTHER THE SOUTH BEND, IND., NATIVE ATTENDED ARCHITECTURE SCHOOL AT THE UNIVERSITY OF NOTRE DAME AND HAS WORKED AT CSO SINCE 1987.

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

It's assumed today that politicians were trained as lawyers. What in your background made you consider the jump from architect to politician?
I grew up the sixth of eight kids in a working-class family with parents that taught us the importance of caring about other people. I worked my way through college on the second shift at a tool and die shop, grinding steel to help pay for my college education. I have built a successful architectural business. These experiences, understanding what the challenges are growing a small business, led me to the conclusion Indiana can and should be doing better.

What inspired you to become an architect?
When I was young, I was constantly drawing buildings, and I was always curious about spatial relationships. You grow up with four brothers sharing the same bedroom, you become aware of the importance of how to organize space.

What brought you to Indianapolis after you graduated from Notre Dame?
I got a job at Cole Associates, in South Bend, and they transferred me to Indianapolis. My first assignment was running blue lines for six months. Eventually, I learned of an opportunity at CSO.

Governor seems a pretty high entry-level position into politics, particularly since it would be only your third career move. Did you consider school board or something more modest first?
No. Being a governor of a state or mayor of a city is very similar to being the president of a company. The guiding principles that have led our firm to success will be the same that will lead our state to success. When I became president of CSO Architects in 1996, I worked hard to give everybody a seat at the table. We do that as architects. We work with very diverse groups of people: site engineers, structural engineers and mechanical engineers and electrical engineers, and people that specialize in technology or life safety. We bring them together; we work toward the good of the whole to make sure that the end product is representative of everybody's expertise, knowledge, and input.

If you become governor of Indiana in November, do you expect to remain involved in your architecture firm?
No. It will be a full-time job being governor of Indiana. When I win the primary, I am going to take a leave of absence. Then, when I win in November, I would sever ties with the firm.

There are a few pockets of architectural interest in the Hoosier state. Columbus and New Harmony come immediately to mind. Unlike neighboring Ohio, where many avant-garde practitioners have built in recent decades, Indiana seems pretty mainstream. Will that change if you become governor?
My influence from the governor's office is going to be trying to improve education, to stand up for the rights of working men and women, to help grow and preserve our working families, and to create jobs throughout our state, to resolve our property tax crisis, to work hard to get health insurance for the 800,000 Hoosiers who do not have it, and to protect our environment. Our firm is one of the leading firms in Indiana in terms of having LEED accredited professionals on our staff. The architects in our state do a fine job, and I will be there to support them when I can.

Do you think more architects should become politically involved?
Architects are specially equipped to combine the left brain with the right brain and to bring people together. That gives us a unique ability to look at things from all sides. For architects that have good communication skills, we bring people together with different views toward a better solution. We need good government because government is the one entity that makes sure no one gets left behind. My involvement—because I was raising a family and building a business—was to support good people. Slowly, I became involved in things and gained respect for my leadership skills outside of architecture.

August 60¢

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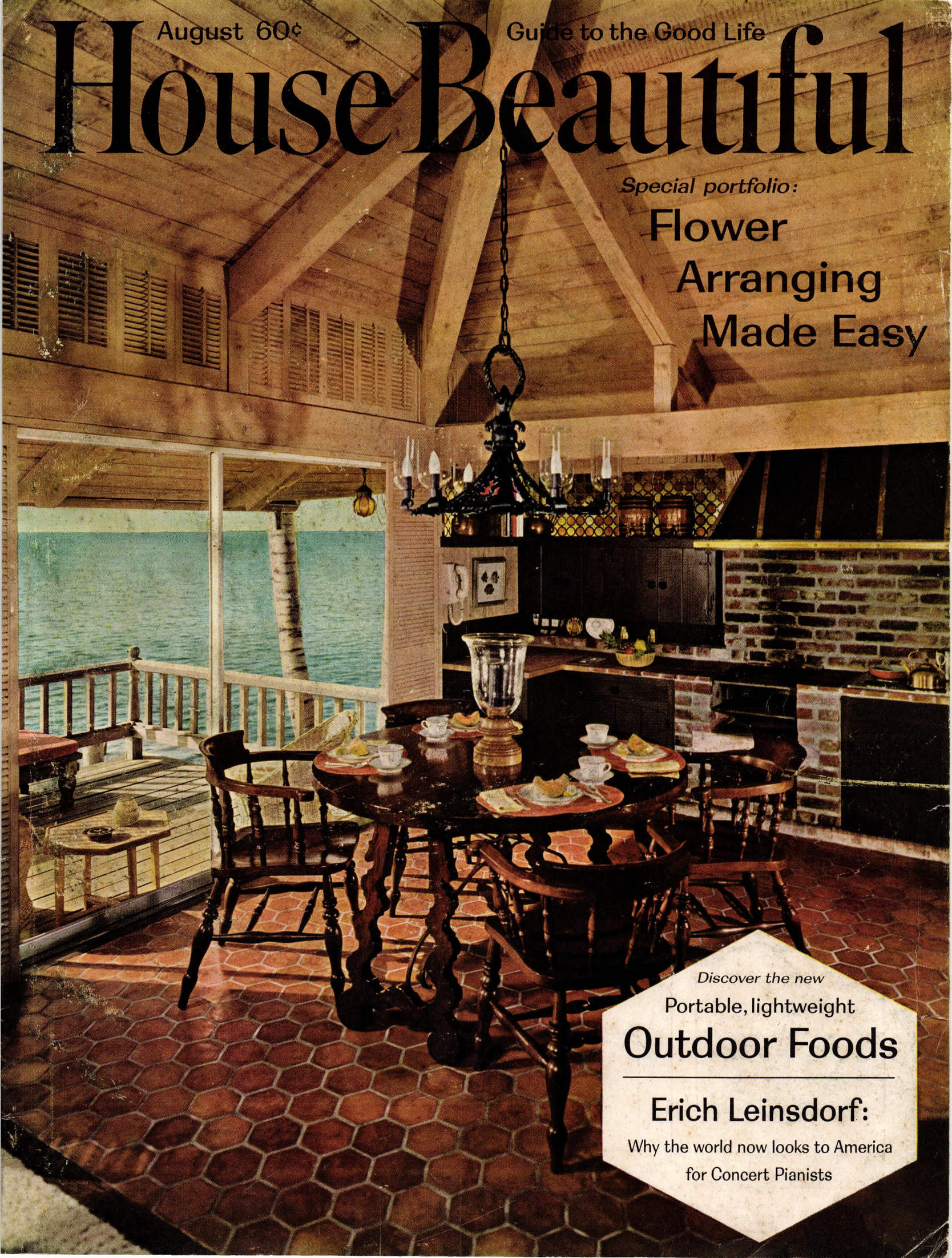

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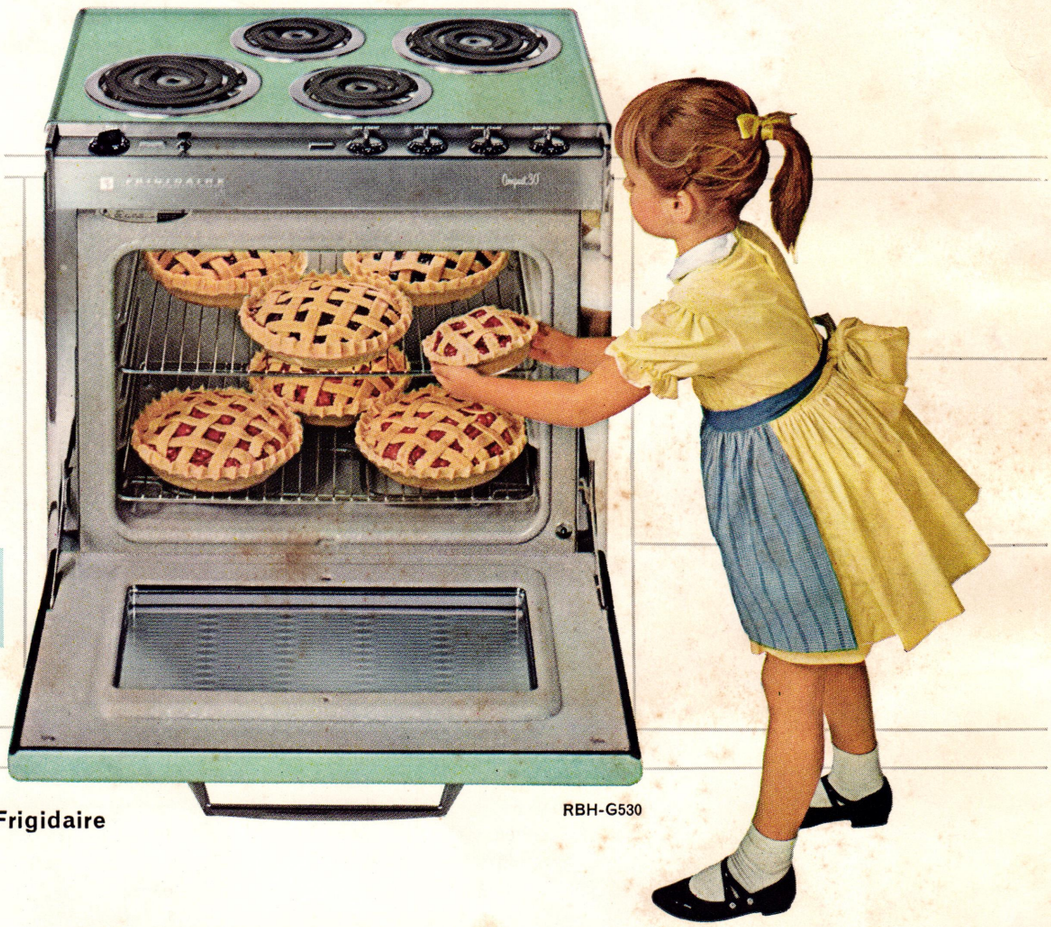

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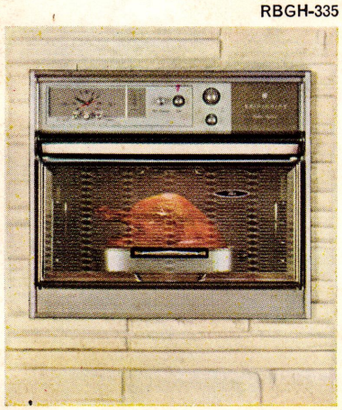

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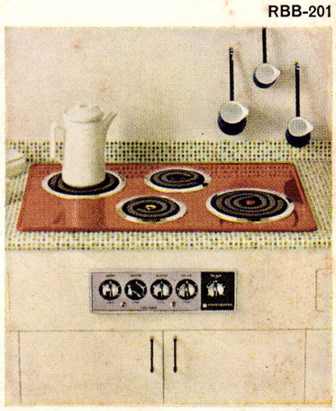

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