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 FEATURES  

**First Annual R+D Awards**  
**KATIE GERFEN**  
ARCHITECT celebrates the technological innovation of five award-winning projects, ranging from a “soft” prefab house to perforated furniture.  
- Atrium Daylight Control System, Zimmer Gunsul Frasca Architects  
- Lightweight Façade System, KieranTimberlake Associates  
- Riddled Furniture, Steven Holl Architects  
- Soft House, Kennedy & Violich Architecture  
- 12 Blocks, LOOM

**Meet the Bloggers**  
**GIDEON FINK SHAPIRO**  
From outside the media establishment, online commentators are shaking up architectural discourse.

**Water Power**  
**TIM NEVILLE**  
Creating the world's largest whitewater park was a wild ride for the Charlotte, N.C.-based firm Liquid Design.

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**ON THE COVER**  
Ralph Nelson of LOOM poses with reconfigured concrete masonry units from the R+D Award-winning project 12 Blocks (page 82).
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dressed to kill

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THE GREAT LEAP BACKWARD

Ned Cramer
Editor in Chief

EVERYBODY HAS A DOOMSDAY SCENARIO these days. Climate change, Peak oil, Unchecked immigration, Big government, Nuclear conflict. You name it. Could any or all of these factors, unchecked, lead to an unravelling of American, or even global, society? A growing number of people seem to think so—including architects. Not for nothing did Al Gore pack the house at the AIA convention in San Antonio with his grim forecasts about the environment.

A lot of architects are doing more about concerns like global warming than just sitting and listening, if the results of the first annual R+D Awards (page 68) are any indication. The winning entries, without exception, set aside the notion of unbridled progress. The central idea of each of the five winning teams lies in a well-established technology, rethought and incorporating more recent advances. Take, for instance, Kennedy & Violich Architecture’s Soft House (page 82). With its use of photovoltaic curtains, it couldn’t be more up-to-the-minute. But bear in mind that the architects are actually using a new technology to reduce the house’s reliance on other technologies, such as artificial lighting, air conditioning, and the larger energy infrastructure.

For hundreds of years, scholars have pondered the cause of past civilizations’ failure, looking for patterns and pitfalls to avoid in the future. Edward Gibbon, for instance, blamed the fall of Rome on a loss of civic virtue and the advent of Christianity, in his seminal text of 1788, The History of the Decline and Fall of the Roman Empire. As recently as last month, the BBC and other media outlets reported that the 12th–14th century temple complex of Angkor in Cambodia was in fact, at 1,160 square miles, the preindustrial world’s greatest example of sprawl—and that a failure to maintain the city’s infrastructure brought about the civilization’s collapse.

Joseph A. Tainter, an anthropologist and author of The Collapse of Complex Societies (Cambridge University Press, 1988), takes Gibbon’s ground-breaking study to an entirely new level, questioning why the Western Roman Empire collapsed in the fifth century but the Eastern Empire managed to survive for another thousand years. As Tainter sees it, the Western Romans responded to the growing internal and external pressures of empire by increasing the size of the army and adding layers of bureaucracy and regulation. They responded to an unbearably complex situation by making it more complex. The result, as every schoolchild knows, were disastrous. Hello, Dark Ages.

In the East, by contrast, the Byzantine Empire survived thanks to a strategy of simplification. Cities, the army, and civil administration all underwent a deliberate reduction in size. (The Byzantine population was also reduced in size, but unintentionally, by a plague in 541–542.) By simplifying, the empire became more resilient and flexible. (Hear Tainter make the argument himself at archaeologychannel.org/commentary/Tainter.html.)

Architects are uniquely positioned to advocate for change in our society. But the kind of change that’s required today isn’t another modernist Great Leap Forward, where we run roughshod over everything that’s come before in our zeal to reach the next big idea or technological solution. Progress is no longer about wiping the slate clean and starting fresh. With sustainability and related movements, we’re witnessing the advent of true postmodernism—not the superficial style of the 1980s, but a fundamental shift toward informed simplification and wholistic problem-solving. How Byzantine.

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E V E R Y B O D Y H A S A D O O M S D A Y S C E N A R I O

Ned Cramer
Editor in Chief

Lifelong Learning

My father has been a friend of Walter Netsch’s since their time at SOM. He too is pressed into earning continuing education credits [“Walter Netsch, Architect,” August 2007, page 12]. It is ridiculous. Lunch with either of these architects would surely be equal to any credits given for a plastic-laminate seminar.

Jim Pavlecic
Chicago
jim@b10a.com

Emeritus Protection

When I had been an AIA member for 25 years, had reached the age of 65, and was no longer an active architect, I filed my application with AIA for emeritus status. I no longer pay dues and do not have any CEU requirements. I’m wondering if Mr. Netsch is an emeritus member of the AIA? I would think the AIA would go to bat for Mr. Netsch to get this absurd wrong righted.

Steve L. Wintner
The Woodlands, Texas
slwintner@worrelldesign.com

Ex Post Facto

I wonder where the AIA is on the recent May article in the Post by Phillip Kennicott regarding his views on architects, the architectural profession in general, and specifically who he thought should be the Architect of the Capital [“Beltway Bull,” July 2007, page 16]. Generally I am a pretty calm and not very activist architect—applying myself very diligently to getting the particular client in front of me the best possible design and service that I can. I was truly outraged by his views and most of my colleagues were too, but alas being (fortunately) very busy, I did not get active on it when the trail was hot.

Then I saw the recent ARCHITECT editorial “Beltway Bull” by Ned Cramer. I felt this exactly expressed my feelings, and I applaud him for stepping up. I think Kennicott is unqualified to review this subject [of architecture], and in fact he has dangerously misinformed, negative feelings which he actively can push from this very high podium the Post has given him. Give us back [retired Washington Post architecture critic Benjamin] Forgey! I think Kennicott has done and will continue to do damage to our profession’s reputation—which frankly is not well understood by the public anyway—and we must aggressively push back and not take this lying down! What is the AIA doing about it?

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Infrastructure

**Minnesota Looks to Fast-Track New Minneapolis Bridge**

As cleanup and investigation of I-35W collapse continue, debate over design and potential memorial begins

*This photoillustration, downloaded from the Minnesota Department of Transportation’s website on Aug. 16, shows the footprint of the proposed I-35W bridge, which would be two lanes wider than the bridge that collapsed on Aug. 1.*

**MINNESOTA’S STATE TRANSPORTATION** officials were fast—taking less than two weeks—in announcing their push to replace the I-35W bridge that collapsed into the Mississippi River in Minneapolis on Aug. 1. Yet almost as quickly as officials could unfurl a rather raw preliminary plan of a 10-lane bridge, two lanes larger than the old bridge, and announce a short-list of five contractors to design and build the replacement, Minneapolis community leaders and architects called for a unique bridge with a design that dignifies the disaster, which killed 13 people and injured many dozens.

The state has set a goal of completing the new bridge by December 2008 to restore a link that was carrying about 140,000 vehicles a day. State officials, who will be spending federal highway money, by law need the municipal consent of the Minneapolis City Council to help move the project along its fast-track schedule. State officials released a doctored site photo (above) showing the footprint of a 10-lane highway bridge and its ramps laid over the footprint of the previous bridge, but they did not release prospective elevations.

But Councilwoman Diane Hofstede, whose district borders the site, was among the first to tell the state that a standard-issue bridge should not be the fast fix to the city’s new transportation crisis. She has not insisted that the bridge incorporate a memorial, though one could be placed nearby. Other council members have pressed for future light-rail access on the bridge.

“’The public is extremely supportive of having something that truly is distinctive,’ Hofstede tells ARCHITECT. She adds that the schedule, right now a breakneck 16 months to christening, should not be the only consideration. ‘I understand we need to have a bridge put into place,’ Hofstede says. ‘But it’s a 100-year bridge, and it’s a different environment than when we built the previous bridge.’

Thomas DeAngelo, president-elect of AIA Minnesota and the president and CEO of Minneapolis-based Architectural Alliance, notes that the site’s urban surroundings have gone from a rail and barge corridor to a public amenity, with park space, walkways, and riverside access. “The whole [bridge] underbelly is part of that public space,” DeAngelo says, and the new bridge’s design should engage it.

But state and federal highway officials are feeling pressed to work quickly to move cars across the river, he says, and they may fear losing control of the schedule and the proposed budget, said to be at least $200 million, if they involve the public too intimately in making the design. (Within days of the bridge’s collapse, the U.S. Congress voted to authorize $250 million for a new bridge, but at press time the money had not been appropriated. On Aug. 10, U.S. Secretary of Transportation Mary E. Peters announced that $50 million in emergency federal funds would be immediately available to help with recovery efforts and plans for a new bridge.)

“They want to come out with a plan and do it the old-fashioned way of taking it in-house and deciding what’s right for everybody,” DeAngelo says.

Boston-based bridge designer Miguel Rosales, who had not yet joined in any bids to win the project, says the state should evaluate all the types of structures that could span the site before settling on any specific design. “Many times, the geometry is fixed before you know what the bridge is going to look like, and it’s hard to force a bridge into that geometry,” Rosales says. But the outcome depends largely on the public’s interest and will to be part of the design process, he says: “If the people in Minneapolis want to have a nicer bridge, they will have to ask for it.” BRADFORD MCKEE
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**Competitions and more**

**SEPT. 12**

**Arts Writers Grants Program**
The Creative Capital | Warhol Foundation Arts Writers Grant is a three-year pilot program to support writers whose work addresses contemporary visual art. In its first year the program issued awards for books, articles, and experiments in new and alternative media. In this, the program's second year, it introduces a new grant category for texts of 1,000 words or less. All applications must be submitted online by 4:59 p.m. (EST).

www.artswriters.org

**SEPT. 30**

**Call for Papers and Posters: Greening Rooftops for Sustainable Communities Conference**
Green Roofs for Healthy Cities invites paper and poster proposals for the 2008 Greening Rooftops for Sustainable Communities Conference. Accepted papers will allow authors to present for 25 minutes and address questions for another five minutes. Accepted posters will allow authors to present for five minutes and address five minutes of questions.

greenroofs.org/baltimore

**OCT. 1**

**Zumtobel Photographic Competition**
Lighting manufacturer Zumtobel presents the 11th iteration of its photographic competition for architects, in which entrants submit an unprocessed disposable camera and see the photographs only after the judges have made their decision. No photo experience is needed, just an eye for a good shot. Go to the website, enter your data, and a camera will be sent to you posthaste. One entry per architect, but more than one architect per firm may enter.

www.zumtobelphoto.com

**OCT. 5**

**Topeka Riverfront Student Design Competition**
The AIA 150 is hosting a Topeka Riverfront Design Competition for students, broken down into three divisions: K–6, 7–12, and college level. Students' grade levels as of September 2007 determine which division they should enter, and the guidelines are different for each category. More than $4,000 in prizes will be awarded to the winners.

www.reclaimourriver-topeka.org

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The AIA's Architecture Billings Index for June was 59.3 (any score over 50 indicates an increase in billings), the highest level since August 2006. The Inquiries Index for the month was 62.4.

Mohsen Mostafavi has been named as the Harvard Graduate School of Design's new dean, starting in January. Currently dean of Cornell University’s College of Architecture, Art, and Planning, Mostafavi was previously director of the Architectural Association School of Architecture in London and, before that, an associate professor and director of the Masters of Architecture program at the GSD.

→ continued on page 24

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Development

Three Proposals for San Francisco's Transbay Neighborhood

Designs offer sustainable aspects as well as skyline-defining towers

**SIXTY MILLION.** That's the anticipated population of California in 2050. And because the city of San Francisco is one of the most traffic-clogged states in the country today, it has embarked on an ambitious transit-oriented development (TOD) aimed at mitigating car congestion while transforming the city's skyline.

The Transbay Joint Powers Authority (TJPA), a group formed in 2001 to redevelop the aging 1930s transit station located at Mission and 1st streets, put out an international call last year for architect-developer teams to design the city's Transbay neighborhood. The guidelines called for a transit center and tower with a million square feet of public and transit space—housing eight regional rail and bus systems as well as the future High Speed Rail System (which would whisk riders to Los Angeles in 2.5 hours). The competition also asked for a new neighborhood with offices, shops, parks, and 3,400 new homes.

On Aug. 6, three teams—Rogers Stirk Harbour + Partners (formerly Richard Rogers Partnership) and Forest City Enterprises with MacFarlane Partners; Skidmore, Owings & Merrill and Rockefeller Group Development Corp.; and Pelli Clarke Pelli Architects and Hines—presented their solutions to the city and a nine-member selection jury. Offering sustainable aspects from wind-powered turbines to LEED Platinum certification, each proposal also included a soaring tower that would rise well above the city's existing 550-foot height limit (the city has embarked on a feasibility study to assess whether the tower could reach as high as 1,200 feet).

Planners hope this will become the Grand Central of the West. "We want an iconic building," says Maria Ayerdi, executive director of the TJPA and one of the jurors. "We're looking for a design that's inspiring, yet whose functional excellence is at a level that serves the public."

The jury will select its final architect-developer team later this month, and construction is anticipated to begin in two years. In the meantime, the TOD designs are generating their own kind of traffic: When the initial concepts were posted to the TJPA's website (www.transbaycenter.org), the site crashed temporarily from the public's overwhelming response. "We had over 60 pages' worth of comments within the first few hours," Ayerdi says. **ELIZABETH A. EVITTS**
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At the School of the Art Institute of Chicago, associate professor Hennie Reynders has become chair of the Department of Architecture, Interior Architecture, and Designed Objects. Former department chair Anders Nereim is now the director of the Master of Architecture and Master of Architecture/Emphasis in Interior Architecture programs.

United Nations Secretary-General Ban Ki-Moon has tapped architect Michael Adlerstein to oversee the $1.9 billion renovation of the U.N.'s four-building New York headquarters complex. Adlerstein, who will be executive director of the Capital Master Plan, was previously vice president and architect of the New York Botanical Garden. Among the many notable projects he has worked on in his career, during the 1980s Adlerstein was project director for the renovation of Ellis Island and the Statue of Liberty. The U.N. complex has not had a major overhaul since its completion in 1952.

Bean counters say Beantown's architecture industry has achieved a record level of profitability. According to the 2007 architectural survey by the accounting firm Tofias (www.tofias.com), the average profit per billable hour in the metropolitan Boston area increased by 53 percent, the highest level in the survey's 22-year history. Also, billable hours are up 17 percent, and the average billing rate rose by 5 percent. A free copy of complete survey results can be obtained by contacting Tofias.

On July 1, Andres Lepik began his tenure as curator of contemporary architecture at the Museum of Modern Art. Previously, Lepik—whose published work includes the 2004 book Skyscrapers—served as chief curator of the 20th and 21st century architecture collection at Berlin's Kunstbibliothek.

The Orange County Performing Arts Center has filed a lawsuit against Cesar Pelli and Fluor Corp. that blames the architect, the construction company, and their subcontractors for more than $30 million in cost overruns and irreparable design flaws in the new Renee and Henry Segerstrom Concert Hall in Costa Mesa, Calif.

The Project for Public Spaces (www.pps.org) has named the five best neighborhoods in North America: Pearl District, Portland, Ore. (best new neighborhood); Chapel Street, New Haven, Conn. (best revitalized neighborhood); The Plateau, Montreal (best hip neighborhood); Division Street, Northfield, Minn. (best small-town neighborhood); and Country Club Plaza, Kansas City, Mo. (best shopping center that is also a real neighborhood).

The Royal Institute of British Architects has named the shortlist for the 2007 Stirling Prize. The press release making the announcement also notes the odds—provided by betting company William Hill—that each building will win the prize. From best to worst: the America's Cup Building, Valencia, Spain, by David Chipperfield Architects (3:1); the Casa da Musica, Porto, Portugal, by the Office for Metropolitan Architecture and Arup-AFA (5:1); the Dresden Station redevelopment, Dresden, Germany, by Foster + Partners (3:1); the Museum of Modern Literature, Marbach am Neckar, Germany, by David Chipperfield Associates (5:1); the Savill Building, Windsor, England, by Glenn Howells Architects (5:1); and the Young Vic Theater, London, by Haworth Tompkins (7:1). The winning building will be announced on Oct. 6.

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Awards

2007 Aga Khan Award for Architecture Given to Nine Projects

EVERY THREE YEARS since its creation in 1977, the Aga Khan Award for Architecture has celebrated the built environment in places where Muslims have a significant presence. For the 2004–2007 competition cycle, 343 projects were submitted, and the jury chose nine recipients, shown here.

The jury for the triennial award’s 10th cycle:

Homi Bhabha, professor at Harvard University; Okwui Enwezor, curator and dean at the San Francisco Art Institute; Homa Farjadi, principal of Farjadi Architects; Sahel Al-Hiyari, principal of Sahel Al-Hiyari and Partners; artist Shirazeh Houshiary; Rashid Khalidi, professor at Columbia University; Brigitte Shim, partner at Shim Sutcliffe Architects; Han Tümertekin, principal of Mimarlar Tasarım Danışmanlık; and Kenneth Yeang, principal of Llewelyn Davies Yeang and Hamzah & Yeang.

More information on each of the winning projects can be found at www.akdn.org.

Project: Samir Kassir Square, Beirut, Lebanon; Architect: Vladimir Djurovic Landscape Architecture

Project: Rehabilitation of the City of Shibam, Wadi Hadhramaut, Yemen; Architects: GTZ Technical Office and GOPHCY

Project: Central Market, Koudougou, Burkina Faso; Architect: Swiss Agency for Development and Cooperation/Laurent Séchaud

Project: Royal Netherlands Embassy, Addis Ababa, Ethiopia; Architects: Dick van Gameren and Bjarne Mastenbroek

Project: Moulmein Rise Residential Tower, Singapore; Architect: WOHA Architects/Wong Mun Summ and Richard Hassell

Project: Rehabilitation of the Walled City, Nicosia, Cyprus; Architect: Nicosia Master Plan Team

Project: Rehabilitation of the Amiriya Complex, Rada, Yemen; Conservators: Selma Al-Radi, Yahya Al-Nasiri

Project: School in Rudrapur, Dinajpur, Bangladesh; Architects: Anna Heringer and Elke Roswag
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**REPORT NEWS**

**Preservation**

**Getty Foundation Names 2007 Campus Heritage Grant Awardees**

The Los Angeles–based Getty Foundation recently announced more than $2 million in grants to 15 colleges and universities as part of its Campus Heritage program. Some $13.5 million was dedicated toward the preservation of 86 different institutions during the six-year-long program that concludes with this year's awards.

"American colleges and university campuses contain some of the country's most significant historic architecture and designed landscapes," says Getty Foundation associate director Joan Weinstein. Too often, these facilities have grown over long periods of time without an awareness of how to plan for their management and long-term care. The Getty Campus Heritage grants allow each school to gather the information necessary to better understand its historic resources. "Many schools are working to incorporate preservation into their overall campus master plans—to make sure that preservation is always part of the equation as they make decisions about their campuses," Weinstein adds.

This year's grantees run the architectural gamut, from the modernism of Edward Durrell Stone at the University of Albany and Robert Mosher at the University of California, San Diego, to Moravian College's colonial buildings, to Cass Gilbert's distinctive work at the University of Texas at Austin. Alabama's Talladega College, one of the distinguished historically black colleges and universities, is another recipient.

The University of Albany's grant will be used to develop a historic preservation master plan to establish preservation policies for its Stone precincts. "We are mindful of increased national interest in the future of the mid-20th-century built environment," says William B. Hedberg, associate vice president for academic affairs. "We believe we are stewards of something very special here and are hoping to nurture and tap into that interest as we seek to grow the University of Albany and preserve the campus."

Previous grant recipients include the architecturally distinguished campuses of Cranbrook (2003), Columbia University (2002), the University of Chicago (2002), and the University of Virginia (2003). Since 1995, the University of Cincinnati has been expanding its campus with the work of many contemporary stars—Michael Graves, Peter Eisenman, Morphosis, and Bernard Tschumi, to name a few. The school is about half complete with the report made possible by a 2006 grant. "Our study combines the work of an architectural critic and a firm with credentials in historic preservation," says university architect Mary Beth McGrew. "While the standard practice of preservation awaits the test of time, the University of Cincinnati has made a significant investment and wanted to access this body of work before it had stood the test of time."

As the Getty's program wraps up with this year's grants, Weinstein notes that the earliest grants are now coming to fruition. Publication of the results during the coming years will share these lessons with the broader community. EDWARD KEEGAN

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**2007 Campus Heritage Grant Recipients**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bard College</td>
<td>Annandale-on-Hudson, N.Y.</td>
</tr>
<tr>
<td>Clemson University</td>
<td>Clemson, S.C.</td>
</tr>
<tr>
<td>Marlboro College</td>
<td>Marlboro, Vt.</td>
</tr>
<tr>
<td>Miami University</td>
<td>Oxford, Ohio</td>
</tr>
<tr>
<td>Moravian College</td>
<td>Bethlehem, Pa.</td>
</tr>
<tr>
<td>Pittsburgh History and Landmarks Foundation</td>
<td>Pittsburgh</td>
</tr>
<tr>
<td>University of California, San Diego</td>
<td>San Diego, San Diego</td>
</tr>
<tr>
<td>Rocky Mountain College</td>
<td>Billings, Mont.</td>
</tr>
<tr>
<td>Talladega College</td>
<td>Talladega, Ala.</td>
</tr>
<tr>
<td>University at Albany Foundation</td>
<td>Albany, N.Y.</td>
</tr>
<tr>
<td>University of Arkansas</td>
<td>Fayetteville, Ark.</td>
</tr>
<tr>
<td>University of Hawaii</td>
<td>Honolulu</td>
</tr>
<tr>
<td>University of North Carolina at Chapel Hill</td>
<td>Chapel Hill, N.C.</td>
</tr>
<tr>
<td>University of Texas at Austin</td>
<td>Austin, Texas</td>
</tr>
<tr>
<td>Virginia Union University</td>
<td>Richmond, Va.</td>
</tr>
</tbody>
</table>
Cutting-edge design meets innovative precast technology in the award-winning Rosenthal Center for Contemporary Arts in Cincinnati, OH. Architects chose High to execute the expressive, black and white, sculptural precast concrete facade because they knew High precast would be most effective in enhancing the dramatic play of light and shadow on the jigsaw puzzle-like facade. Using a blend of aggregates and a combination of innovative, high-range, water-reducing, and viscosity-modifying admixtures, structural needs were met and the finished product is stunning. High’s unparalleled commitment to new technology and innovation has led to solutions like this and advancements including carbon fiber C-GRID® reinforced CarbonCast™—precast that’s stronger, lighter, better insulating, and more durable, allowing a virtually unlimited selection of colors, textures, and finishes. And High’s exclusive 15’ and 16’ wide MEGA-Tee deck systems enable wider spans and more open plans with shallower tees in precast-framed buildings and parking garages. With expert technical assistance in all phases of a project, from design to erection, High gives architects and engineers the flexibility to explore unique solutions while ensuring a job is completed on schedule and on budget. Call High Concrete to learn more about the Art of Precast.
June 2007

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

TOTAL CONSTRUCTION (SEASONALLY ADJUSTED)

<table>
<thead>
<tr>
<th>Months</th>
<th>June '06</th>
<th>February '07</th>
<th>March '07</th>
<th>April '07</th>
<th>May '07</th>
<th>June '07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Construction</td>
<td>1,204,042</td>
<td>1,162,252</td>
<td>1,169,647</td>
<td>1,166,171</td>
<td>1,178,436</td>
<td>1,175,425</td>
</tr>
<tr>
<td>Residential</td>
<td>657,271</td>
<td>569,496</td>
<td>562,214</td>
<td>558,467</td>
<td>555,398</td>
<td>551,588</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>546,771</td>
<td>592,716</td>
<td>601,433</td>
<td>607,704</td>
<td>623,038</td>
<td>623,837</td>
</tr>
</tbody>
</table>

Percent Change From:

<table>
<thead>
<tr>
<th>Category</th>
<th>June '07</th>
<th>May '07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodging</td>
<td>30,215</td>
<td>-0.3</td>
</tr>
<tr>
<td>Office</td>
<td>64,459</td>
<td>-2.4</td>
</tr>
<tr>
<td>Commercial</td>
<td>85,806</td>
<td>-16.1</td>
</tr>
<tr>
<td>Health care</td>
<td>44,954</td>
<td>14.1</td>
</tr>
<tr>
<td>Educational</td>
<td>96,348</td>
<td>-0.7</td>
</tr>
<tr>
<td>Religious</td>
<td>7,737</td>
<td>0.1</td>
</tr>
<tr>
<td>Public safety</td>
<td>9,743</td>
<td></td>
</tr>
<tr>
<td>Amusement and recreation</td>
<td>20,532</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>30,095</td>
<td></td>
</tr>
</tbody>
</table>

SELECT NONRESIDENTIAL CONSTRUCTION (SEASONALLY ADJUSTED)
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FROM 2000 TO 2006, St. George, Utah, was the fastest growing metro area in the country, and that ain't whistling Dixie.

You might, however, hear old-timers humming that tune. The area, founded in the 1860s, is known as Utah's Dixie. It earned the name because Mormon pioneers settling there attempted to grow cotton. Unfortunately the crop didn't take to the mild, dry environment. But the settlers did, putting St. George on course to be a retirement and recreation mecca.

Today, people continue to flock to the city, which experienced a 40 percent increase in population in the first seven years of this century. Part of the draw, says local architect Greg Mathis, president of MRW Design Associates, is the location: "You can drive to Brian Head [Resort] and snow ski in the morning and head south to Lake Mead and water ski in the afternoon."

But business likes St. George, too. Because of its reputation as a retirement community, the healthcare and social-services sectors are the primary drivers of economic growth. Dixie State College and the tourism industry also spur job growth.

"We currently do not have an abundance of Class A space in St. George," says Ray Rosenthal, an associate real estate broker with Commerce CRG, "although we do have an increasing amount coming online and under construction."

These factors contributed to Forbes naming St. George as one of its 2007 Top 20 Small Places for Jobs. MARGOT CARMICHAEL LESTER
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NOTABLE PROJECTS

TONAQUINT BUSINESS CENTER
Architect: Campbell & Associates Architects, St. George
Developer: Tonaquint Properties
Completed: expected in 2012
Cost: $150 million
This 47-acre high-tech business center will feature 42 buildings, plus retail and service facilities in support of the office space. Thirteen buildings totaling 190,000 square feet have been completed; two more are under construction.

FURNITURE ROW SHOPPING CENTER
Architect: Furniture Row Cos., Denver
Developer: Furniture Row Cos.
Completed: 2006
Cost: undisclosed
The 54,195-square-foot shopping center is home to four of Furniture Row’s 270 stores owned by the privately held, family-owned company.

VIRACON FABRICATION FACILITY
Architect: MRW Design Associates, St. George
Developer: Viracon Inc.
Completed: 2007
Cost: $35 million
This new manufacturing space houses one of the largest single-source architectural glass fabricators. The 210,000-square-foot facility features state-of-the-art technology and was designed to maximize energy efficiency. The glazing is Viracon’s own hybrid low-E glass, called VRE-57.

BLUE BUNNY ICE CREAM PARLOR
Architect: VCBO Architecture, Salt Lake City
Developer: Jennings Management Inc.
Completed: 2003
Cost: $1.4 million
More than an ice cream parlor, this 9,000-square-foot retail/restaurant space is a tourist destination and community meeting center, too.

DIXIE REGIONAL MEDICAL CENTER
Architect: Anshen + Allen, San Francisco
Developer: Intermountain Healthcare
Completed: 2003
Cost: $100 million
The St. George Area Chamber of Commerce hailed the 400,000-square-foot River Road campus as “the largest single investment in [Washington County’s] history.” Its newborn intensive care unit is the first of its kind in the area.

ESCALERA
Architect: The QRS Group, St. George, a real estate development company
Developer: The QRS Group
Completed: First phase, September 2006
Cost: $5 million (land development only)
This 46-acre housing development includes 68 completed homes; 50 homes are slated to start construction later this year. The neighborhood abuts the 64,000-acre Red Cliff Desert Reserve.
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digitalurban.blogspot.com
Sophisticated visualizations of the cityscape aren’t only for the experts

"WHERE IS ANDY?" asks a link on Andrew Hudson-Smith’s blog, Digital Urban. Clicking on the question takes you to a Google map embedded with geotags (geographical identification metadata) and a video clip tracking London streets. The interactive map represents Hudson-Smith’s activity around the University College London, where he is a senior research fellow at the Center for Advanced Spatial Analysis (CASA). Much of the time, it seems, Andy’s in his office, working out ways to represent architecture and the urban environment digitally, from 3-D models to high-dynamic-range imagery (a way of accurately representing the complete spectrum of light and dark in an image).

Before founding Digital Urban in 2006, Hudson-Smith used traditional means to broadcast his efforts: academic papers and occasional updates on CASA’s website. But the researcher, who holds a Ph.D. in web-based communications and urban planning for public participation, wanted to find a broader audience. “With the level of technology changing on an almost daily basis, a blog seemed the perfect solution to share research and thoughts on best practice,” he explains. “It comes down to the need to inform the public of the changes to their environment in a free and open way.”

Tutorials on Digital Urban put imaging techniques developed at CASA in the hands of the blog’s intended readership: 3-D modeling hobbyists and professionals. More open-source and DIY than didactic, the how-to’s walk through the process, for example, of building and rendering Second Life environments or importing SketchUp 3-D models into the computer role-playing game Oblivion. A project possible only in the age of web 2.0, in which online software facilitates user-generated content, the tutorials rely on familiar tools—YouTube, Flickr, Google—while the blog links to social networks like Twitter and Meebo and fosters a wide, interdisciplinary community.

Hudson-Smith foresees digital technology’s influence on real-life design and community activism. “Three-dimensional environments have become important in the last 18 months, due to the release of Google Earth,” he says. “Combine this with tools such as SketchUp, and suddenly people have the power to visualize [an urban] development’s impact with free software. Visualization is no longer in the hands of high-end, trained personnel, but the person on the street.” MIMI ZEIGER
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ARCHITECTS SHOULDN'T DISAPPEAR FROM A PROJECT ONCE GROUND HAS BEEN BROKEN, SAYS ATTORNEY BARRY B. LEPATNER.

Text Fred A. Bernstein  Photo Peter Reitzfeld

STAYING IN THE PICTURE

Being involved in every stage of a job gives architects more control over the finished product—and can translate into higher fees, says Barry B. LePatner.

ARCHITECTS SHOULDN'T DISAPPEAR FROM A PROJECT ONCE GROUND HAS BEEN BROKEN, SAYS ATTORNEY BARRY B. LEPATNER.

Text Fred A. Bernstein  Photo Peter Reitzfeld

STAYING IN THE PICTURE

Be there.

"If you're visiting the site once a week for a walk-through, you're not seeing what goes up," says LePatner. "Once the sheetrock is in place, you may never know what's behind it." Architects, he says, "need to show that they are going to be present at every stage of the job." Doing that will give you more control over precisely what gets built and will make you indispensable to your client.

IF YOU DON'T UNDERSTAND CONSTRUCTION, HIRE SOMEONE WHO DOES.

"The architect used to know as much about construction—and construction costs—as the contractor," LePatner says. "Now, most architecture firms will admit they do not have sophisticated, construction-savvy people on staff. I have recommended for many years that architects hire people from the contracting world. Put them on your team and have them work with you on design docs and specifications. If the client can build from your drawings, you can remain in the picture." And remaining in the picture means not only having more control over the finished product, but earning higher fees.

INVEST IN TECHNOLOGY.

These days, software makes it easy to stay on top of a construction project. With Wi-Fi, you can run a project from a laptop at the job site. If a change order is required, you can have it approved by the client in minutes. And software costs are no longer prohibitive.

ARCHITECTURE IS INCREASINGLY the focus of media attention, but architects are, in some ways, less significant than ever, says Barry B. LePatner, a New York attorney who has represented architects, engineers, and property owners for more than 30 years. Only a small fraction of buildings are designed by architects, he points out, and even when architects are involved, they typically take a back seat once ground is broken. The days when architects oversaw projects from conception through completion have given way to an era in which construction managers (or owners' representatives) have usurped much of that role. In his new book, Broken Buildings, Busted Budgets: How to Fix America's Trillion-Dollar Construction Industry (University of Chicago Press; www.brokenbuildings.com), LePatner describes what is wrong with the current system and suggests ways that architects can help—by retaking their rightful place as master builders.

Technology makes it possible for even small firms to control large jobs.

EXPAND BY CONTRACTING.

In the 1970s, says LePatner, the AIA set out to reduce architects' exposure to malpractice suits by reducing their involvement in the construction process. Before then, the AIA's standard agreement required architects to provide "full-time" oversight during construction; the new version reduced that role to "periodic observation." That change marginalized architects. Construction managers and owners' reps stepped in to fill the void. But, LePatner says, "it isn't too late to retake the ground that was lost." One way to do that? Make sure that your contract gives you the right to visit the site in order to protect the owner against unwarranted substitutions or deviations, and that it stipulates that the contractor will be responsible for the costs—including your fees—of making the necessary corrections.

FORM A DESIGN-BUILD TEAM.

"Learn how to work with a contractor you trust, setting up a design-build entity that will market specific building types that you are knowledgeable about," says LePatner. "For example, small medical facilities are being built all over the country, for 6 to 10 million dollars apiece. One of these buildings can bring a design-build team a seven-figure profit for about 18 months' work. This is a perfect way for architects to get themselves back in the game."
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SKATEPARK ADVOCATES HELP YOUNG SKATERS BUILD SAFE, LEGAL SITES WHERE THEY CAN CUT LOOSE—AND MAYBE OVERTURN A FEW STEREOTYPES.

Text Amanda Kolson Hurley Photos Stewart Ferebee

SKATING FREE

Peter Whitley is the author and designer of the Public Skatepark Development Guide and a board member of the group Skaters for Public Skateparks.

Thea’s Park (right) is a popular skate spot on the waterfront in Tacoma, Wash., where Whitley lives. He was instrumental in convincing city officials that skating, far from being a nuisance, would actually deter vandalism and graffiti in the park. All it took was removing some anti-skateboarding knobs on the concrete ledges (placed there by the city) and installing one concrete-and-granite pad.

THE NEW WEST SIDE SKATE PARK in Albuquerque, N.M., could get any skateboarder’s adrenaline pumping. For fans of the angular, “street” style of skating, there are banks, walls, ledges, and stairs that mimic the feel of a downtown plaza; in another area, a dogbone—two deep bowls connected to a third by a one-of-a-kind, skylit V-pipe—caters to fans of the more fluid, dramatic transition style (known in skaterese as “tranny”).

West Side opened in March with one instant proof of its skating cred: Professional skateboarder Dorian Tucker helped design it. But West Side has earned a different kind of credibility, too—from the architectural establishment. It is featured as a case study in the 11th edition of the Architectural Graphic Standards, the industry bible published by the American Institute of Architects.

“It’s a big boon to the acceptance of skateparks as a legitimate design specialty,” says Greg Miller, principal
landscape architect at Morrow Reardon Wilkinson Miller in Albuquerque, who designed the park in collaboration with Tucker and ARTIFEX Skatepark Environments of San Diego. "[Skateparks are] not so fringe anymore," Miller says.

There's no question that skateboarding, once perceived as the nuisance hobby of a few punk rockers, has entered the cultural mainstream. According to data from the Sporting Goods Manufacturers Association, there are now almost 13 million skateboarders in the United States, making it the second-most popular "extreme" sport (right behind rollerblading—which hardly counts as extreme). Ninety-four percent of those skaters are under the age of 24, meaning that across the country, young people need challenging, convenient, and legal places in their communities to skate. (Many municipalities have passed ordinances that prohibit skating near businesses or public areas.)

But if places to skate don't exist, and you're too young to vote, how can you effectively lobby for a park to be built?

Peter Whitley, a graphic designer and longtime skater in Tacoma, Wash., knows how to make the case for skateparks, and he wants to share that knowledge with others. As a board member of the nonprofit group Skaters for Public Skateparks (SPS), Whitley wrote and designed a 100-page-plus handbook, The Public Skatepark Development Guide, that walks skaters through the process of negotiating with community members, public officials, designers, architects, and contractors—and gives those other groups insight into a hobby that is still burdened with negative stereotypes.

"Unlike most other recreational activities, [skateboarding] carries more than its fair share of negative, anti-authority stigma," says Whitley. In the guide, he strove to use accessible language and graphic design that will, as he writes, "reconcile the differences between Skate-rat and Bureaucrat."

The guide was co-published in May by SPS, the International Association of Skateboard Companies, and the Tony Hawk Foundation (established in 2002 by the world-famous skater and video-game star). It's available for free, except for a $6.95 shipping charge, at www.skateparkguide.org. It's not published online—the 8.5-by-11-inch book format was thought to be more portable for skaters on the move and at public meetings.

Content falls into five sections: Vision, Advocacy, Fundraising, Design, and Skatepark Management. Peppered throughout are troubleshooting tips, copious black-and-white photos and graphics, and sidebars that entertain as well as instruct (one, on "The Language of City Administration," admonishes: "Don't ... attempt to impress anyone with flowery language. Consider what it would be like to have a bureaucrat trying to speak 'skater.'"). A single-page crash course in "Simple Civics" breaks down the government structure into digestible pieces, while a handy appendix offers templates for letters to local officials as well as a visual glossary of common skatepark structures.

The United States now has 2,000 operational skateparks and many more on the boards or under construction, says Whitley. Even so, "there is very little in the way of oversight [of] ... or programming support for these facilities," he says. City officials don't always understand what skaters want in a park, and even skaters themselves have to consider the finer points of siting, design, and construction quality, which can spell the difference between success and failure.
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Skateparks can be DIY efforts, like the legendary Burnside park in Portland, Ore. They can be designed by specialist skatepark designers, by landscape architects, or by partnerships of the two, as in the case of Albuquerque’s West Side (but many skatepark design firms, Miller points out, have a landscape architect on staff to handle construction documents). There are custom concrete, modular steel-framed, and now modular concrete skateparks ranging in size from less than 3,000 total square feet of terrain to 40,000 square feet or more, in various typologies: skate spots or “dots” with a single ramp or pad; microsites that can accommodate two or three simultaneous skaters; full-service regional skateparks that offer parking, lighting, and concessions. In short, there are options for every community and budget.

The guide doesn’t advocate for any one typology or method of fabrication, but it does counsel skaters against what the publishers say are all too common pitfalls. No. 1: entrusting the design to a person or team with no skateboarding experience. “One of the mantras we have is, ‘Work with experienced skatepark designers.’ It’s a specialized facility,” says Miki Vuckovich, executive director of the Tony Hawk Foundation, which funds community skatepark projects around the country.

Both Vuckovich and Whitley draw an analogy with golf: Most top golf courses are designed by golfers (although simply being a golfer doesn’t qualify someone to design a course, they add). The user’s needs must be paramount to the design.

A second pitfall is substandard construction quality. “[One] intent [of the book] was to reveal the consistent quality issues that skateboarders often experience but rarely articulate,” says Whitley. Badly built or poorly maintained parks suffer from problems that, although they may appear minor to the untrained eye, can spoil a skating session—or pose a serious danger.

“Unlike an athletic field—which may have a pothole here and there, but you can work around it—with skateboarding, a small 50-mm wheel is rolling over a surface, and any kind of seam or bump or crack is really going to change the user’s experience,” says Vuckovich. The guide includes enough photos of loose screws and pitted and chipped surfaces to make even a nonskater wince.

Since its publication a few months ago, the guide has been an overwhelming success, says Vuckovich: The initial print run of 3,000 copies is almost gone. “If only I had this when I started [the project],” is how he sums up the typical response. SPS and the Tony Hawk Foundation welcome feedback from readers who want to share insights from skatepark projects they’re working on, so that the book can continue to be updated.

Well-planned public skateparks have a positive effect on more than the built environment, of course. Vuckovich has seen the advocacy process transform teenage skaters, many of whom start out feeling marginalized from their communities but wind up with responsibility for a major public-works project—quite a feat for a 16- or 17-year-old.

“The kids step up, get an overwhelmingly positive response, and go, ‘I didn’t expect that,’” says Vuckovich. “That opens the door. They’ve seen a whole new perspective on their community and what it means to belong to it.”
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<td>1.28 gpf High-Efficiency Toilet (HET)</td>
<td>Saves up to 3,200 gallons of water per year and meets LEED requirements</td>
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Shown on front: K-3496-HE-96 Cimarron Comfort Height 1.28 toilet with Class Five EcoSmart technology

© 2006 by Kohler Co.
Both Meejin Yoon and Eric Höweler teach architecture at MIT. Access to the school's milling machine facilitates their firm's research.

HÖWELER+YOON ARCHITECTURE DESIGNS WITH LIGHT.

Text Edward Keegan

ON THE CIRCUIT BOARDS

This year marks the centennial of the now-ubiquitous LED—the light-emitting diode. But it's taken until the last decade for LEDs to develop to the point where architects can exploit their technological and aesthetic advantages at a large scale.

Eric Höweler and Meejin Yoon are partners in Boston-based Höweler+Yoon Architecture. Their first lighting design was on a very public stage: The pair won an international competition for an outdoor interactive installation beneath the Parthenon during the 2004 Athens Olympics. Their solution, White Noise White Light, required a hands-on approach. Höweler and Yoon prefabricated the curving fiber-optic fixtures in Boston themselves, soldering the circuit boards and producing the plastic housing and polycarbonate cover plates. "Because it was temporary, we felt it was OK," explains Yoon. It was only a 30-day installation, and there was no warranty.

The experience and publicity that Höweler+Yoon gained from the Olympics project have led to new commissions and further explorations in up-to-the-nanosecond lighting technologies. Yoon explains that the four-person office approaches lighting as architects. "In our discipline, people are trained to be fearless," she says. "They think they can do anything. If you work component by component, you can figure it out."

For the 2004 Olympics in Athens, Höweler+Yoon designed a fiber-optic light installation beneath the Parthenon, prefabricating the components stateside.
Threading through the stair's 6-foot-wide, six-story-high opening, the light fixture will be activated by movement or temperature sensors.

LIGHT HELIX, Washington, D.C., Spring 2008

A Washington, D.C., law firm has commissioned Höweler+Yoon to design a light installation within a six-story-tall spiral stair. "They wanted something technologically affirmative, attractive, and light-based," says Höweler. The solution, centered in the stair's 6-foot-wide opening, is a wire helix that supports a series of 6-inch-long LED fixtures with a pixel at each end.

There are four wires that—in addition to providing structural support—supply power to the LEDs and send a message to each pixel controlling on/off and color functions, depending on programmed signals sent from sensors. Höweler and Yoon plan to activate the lights based upon movement on the stair. "If you take two steps forward, one step back, the lights will flicker and trace you," explains Höweler, who refers to this sort of interaction as a "digital shadow." "It tempts you to deploy your body in specific ways," he says.

Will Pickering, principal of Brooklyn, N.Y.–based Parallel Development, is the firm's go-to technology consultant. "Will is trained as an artist," says Höweler. "He has incredible skills in programming and fabrication—metal fabrication and electronics fabrication." The proposed colors for Light Helix are a direct result of Pickering's interest in developing an RGB LED pixel that can display millions of colors. (RGB refers to the red, green, and blue color language of TV and computer monitors.)

The method of sensing movement for Light Helix is still being developed, also in collaboration with Pickering. A passive infrared (IR) sensor is one possibility. "Passive IR measures difference—for example, temperature," explains Yoon. "It calculates what's normative, then reacts when there's change." Another option is to integrate a pressure sensor in each tread, which would produce a higher resolution response to movement on the stair. Either way, the controller will be a custom product. "Because we can't find a product that does what we want it to do, we develop our own electronic thing," says Yoon.

Höweler stresses the fun of interaction with the light. "It's digital narcissism," he says. "You fall in love with your image, which is being broadcast to you."
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LIGHT DRIFT, Boston, Spring 2008

Höweler+Yoon's Light Drift promises to be an on-water, high-tech ballet of artificial, jellyfish-like plastic pods, illuminated by solar-powered LEDs. The units will be tethered to one another and anchored to the harbor floor. A 9-foot difference between low tide and high tide in Boston Harbor will dramatically affect the form of the composition. At high tide, the cables will tighten, and the pieces will coalesce into something of a grid. Low tide will leave the cables loose, and the pods will spread across the water's surface.

The pod shape is not yet finalized. Initial studies were pillow-like in form; newer variations interlock and play with the patterns possible with the tides. "We're testing different shapes and their performance in the water," explains Yoon. Each piece will be self-contained, powered by its own photovoltaic power source, battery, and LED light. The solar panel acts as a light meter, charging from the sunlight during the day and lighting the fixture after dark. "We're interested in finding wireless energy—energy that's not plugged into a wall," says Höweler.

Unlike Light Helix, "Light Drift's electronics are straightforward because it's not interactive," explains Höweler. While some rubber castings were done for the housing, current material investigations are exploring vacuum-formed PET—also known as polyethylene terephthalate, the same plastic used in milk containers. The concept is to develop a two-part assembly of a translucent material that can be put together with the electronic components in the middle. "We're finding that the things that fail first are the low-tech parts, the mechanical components rather than the electronics," says Yoon.

LED technology is developing rapidly. Brighter light, better energy efficiency, and even longer life are expected within just a few years. Höweler insists that their work is low-tech because they're working with just a couple of LEDs at a time and are not interested in high-intensity output. But, he notes, "We're doing some interesting things in terms of integration into environments."

Light Drift's success will rely on how it creates the surreal impression of a luminous, gelatinous substance floating on the water's surface. "If we could figure out how to make a bioluminous jellyfish," says Yoon, "we'd be happy."
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"Chain-of-custody" refers to the Forest Stewardship Council's certification program for wood products.

"SMACNA" is the acronym for the Sheet Metal and Air Conditioning Contractors' National Association, which publishes a LEED-recognized standard for indoor air quality during construction.

LEED SPEC·IFIC

Many contractors are new to the idea of sustainability and the specifics of the LEED certification process. Pay careful attention to writing LEED requirements into the construction documents—keeping the following points in mind—so that the contractor understands how integral LEED is to the success of the project.

1. Eliminate the fear factor. Use the pre-bid meeting to educate potential contractors about the LEED process, discuss what their role will be, and preview examples of the documentation they’ll be required to submit. This information brings in better bids the first time around.

2. Decode LEED-speak. LEED uses materials and standards new to even seasoned contractors. Help them understand industry terms like "chain-of-custody" and acronyms like "SMACNA."

3. Set procedures. Define the material-approval procedure and the contractor's schedule. Provide a sample cover sheet to ensure all LEED information is submitted. Highlight material selection on supporting docs (like material safety data sheets or manufacturer's cut-sheets) for quick and accurate review.

4. Require reports. Monthly progress submittals are necessary to track the contractor's progress with LEED certification goals. For best results, require these reports to coincide with the contractor's pay applications.

5. Designate a driver. Should the contractor submit documentation for construction credits directly to LEED-Online or hand over the docs to the architect to review and submit? The former option allows more buy-in from the contractor, saving you review and edit time.

6. Get verified. Commissioning, or "Cx," is a third-party verification and documentation process for energy-related systems. It’s also a LEED prerequisite. Include commissioning in the construction documents, as the contractor has a participating role.

7. Cost counts. Contractors need to be forewarned that a total materials cost is required when pursuing many material and resource LEED credits. Cost breakouts will be required for some specific materials, such as wood and recycled content.

8. Plan for Plan B. Mandate a substitution policy, because alternative materials the contractor selects may not have the same LEED value as the original selection.

9. Place the waste. Before construction starts, contractors need to submit a construction waste management plan for separating and recycling so-called trash.

Valerie Walsh is principal of LEED Management Services, a LEED consulting firm in Boulder, Colo.
architect as DEVELOPER

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This is not a photo; it's a rendering, showcasing the realistic qualities of 3-D rendering as well as program interoperability. Autodesk's Revit Architecture was used for the building information modeling, and 3ds Max was used for visualization and more dimension.

**BIM WARS**

DESIGNERS ENTERING THE PROFESSION today might not believe it, but there was a time not too long ago when the closest an architect could get to computer-aided design was an Etch A Sketch. The release of AutoCAD in 1982 revolutionized the industry, and 25 years later, the design process is being turned on its head yet again, with the popularization of 3-D modeling and building information modeling (BIM). In some ways, says Autodesk senior vice president Jay Bhatt, the latest change is even bigger: "Unlike CAD, which moved drafting from paper to screen, BIM represents an entirely new vision and workflow for the A/E/C industry, where digital design tools capture and make available consistent and coordinated information to all stakeholders in the process."

BIM is emerging as an industry standard, and Autodesk is once again at the forefront with Revit Architecture. But, Bhatt says, "Because BIM represents such a paradigm shift, ubiquity will not happen overnight." Not everyone has jumped on the BIM bandwagon. Some users are content with 3-D modeling. Since even the idea of working in 3-D is still relatively new, and since different practices have different software needs, there are still a number of 3-D modeling programs fighting for dominance, even within individual technology companies (Autodesk, for example, currently owns Revit, 3ds Max, and Maya).

Moreover, no single program satisfies everyone’s needs. Considering the economic investment of the transition from a 2-D to a 3-D design process (in the millions of dollars for larger firms), program allegiance is not a decision to be made lightly.

Conversion entails a greater investment than the program purchase; training is also a big expense. Hanbury Evans Wright Vlattas and Co., a firm headquartered in Norfolk, Va., is in the midst of transferring its designers from AutoCAD to Revit. The company is introducing the program team by team as new projects come on board, and nearly 20 percent of the designers have made the switch. To facilitate the process, the company has set up training sessions every month, bringing in a paid consultant from Autodesk. The designers are happy to have made the effort. "BIM allows you to be an architect," says principal Stephen Wright. "The programs are intuitive enough to take a back seat and let the architecture shine through."

Architects seem to be climbing on board. It will be interesting to see how the rest of the A/E/C community responds, from product manufacturers to contractors. But with so many factors to consider, that response will be calculated and years in the making. In the meantime, take a moment to ponder four of the latest 3-D modeling software upgrades. →
Graphisoft's ArchiCAD continues to evolve into a fully BIM-enabled software package. It's designed to support every stage in the building process, with early design iterations and fast-sketch modes as well as detail-level design tools for off-site fabrication and coordinated digital construction sequences. ArchiCAD is focused on the practicalities of building and helping the A/E/C industry achieve a digitally integrated construction process. As such, it comes with a learning curve, but the payoff comes in the form of solid operations, automatic and associative dimensioning, reliable seam tolerances, and file-sharing options for managing complex virtual models that rely on precision data and multiple import/export functions. ArchiCAD functions as a hybrid 2-D/3-D environment, where a design can be developed and executed in 3-D, with the ability to generate sections and plan views as needed for the production of traditional document sets. ArchiCAD also offers a repository for sharing already modeled objects and textures, and it is compatible with a handful of plug-ins for glazing, object creation, freehand drawing, terrain modeling, free-form structures, Navisworks design review tools, and finite element analysis for structural engineers.

**Software interoperability:** ArchiCAD supports DXF/DWG transfers and ICFs; exchanges with structural analysis programs including TEKLA; structures and energy analysis programs such as Green Building Studio, Energy Plus, Riuska, ArchiPhysik, and Ecotect; export to Google Earth, as well as import from Google SketchUp 6 and Google 3D Warehouse.

**Improvements:** Virtual-trace technology allows better coordination between and simultaneous development of the 2-D documents at the same time as the 3-D model • The worksheet tool allows user to integrate consultant information easily into the model data • Interior elevations are continuously updated • Complex elements geometry allows more freedom with curving and slanted surfaces • Faster navigation through the model • Multistory buildings can be hotlinked and separated into smaller pieces for concentrated design work.
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Rhino 3D 4.0

**MANUFACTURER:** Rhinoceros  
**WEB:** rhino3d.com

Rhino 3D is a modeling program that translates NURBS curves, surfaces, and solids. NURBS stands for "non-uniform rational b-splines," which in layman’s terms is a mathematical representation of 3-D geometry that describes a 2-D object (e.g., extrapolating a model of a curved wall out from a 2-D line drawing). Often the tool of choice for exporting data to in-house rapid-prototyping machines, Rhino appears committed to improving the functionality and precision of its toolsets.

Its latest version introduces over 200 new functions and enhancements, most intended to improve base geometry—modeled curves, surfaces, polysurfaces, and meshes—and allow for cleaner, better-blended seams. They’ve developed over 70 new tools for editing and deforming surfaces and objects and more than 20 upgrades to the overall user interface.

Like many of its competitors, Rhino has focused on the need for better view-ports for reviewing work and running animations. Their new view-port comes equipped with more than 60 additional tools. What’s more, the software boasts 70 new commands for editing, repairing, and analyzing meshes for exporting to rapid-prototyping machines, which allow for more precise geometry evaluations, measurement verification, and detection of object interferences. Overall, this latest iteration has responded to the need for an affordable, intuitive, freeform 3-D modeling tool that is easy to learn and packed with capabilities. Even novices will be experimenting in state-of-the-art model shops in no time.

**Software interoperability:** Supports exchanges between DXF/DWG and Adobe Illustrator files, STL export, KML export to GoogleEarth, and import from SketchUp and Solidworks. Also supports IGES, STEP, and ACIS.

**Improvements:** Better large-project support with reference files, layer managements, and file locking • Increased compatibility with other programs • Faster basic rendering • User interface improvements • Speedier display of models and new analysis tools • Improved texture-mapping tools

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3ds Max 2008

**MANUFACTURER:** Autodesk  
**WEB:** autodesk.com

A 3-D modeling program most often used for creating visualizations of projects from 2-D drawing sets.

**Improvements:** Faster material assignments and transformations • Scene analysis and editing tools • New modeling user interface • Improvements to lighting both indoor and outdoor scenes • Increased compatibility with other Autodesk products • Improved file-linking for better tracking of information

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Form Z 6.5

**MANUFACTURER:** AutoDesSys  
**WEB:** formz.com

A 3-D modeling program that uses both polygonal and smooth parametric modeling to improve versatility and render detailed structures and interiors.

**Improvements:** Exposure correction will automatically adjust over- and underexposed images • Materials library has been expanded to include over 600 new predefined materials • New shaders for the A/E/C industry such as frosted glass, sidewalk and road paving, and brick pavers • New sketch-rendering features
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Text Fred A. Bernstein  Portrait Tim Tadder

DOING IT ALL (AND RAKING IT IN)

IN HIS SUNLIT OFFICE east of downtown San Diego, Jonathan Segal is working on a model of a mixed-use building that he has named the Q, “for James Bond’s widget guy.” As his son, Matthew, an architecture student, applies bits of foamcore board and balsa wood to the building’s exterior, Segal jokes about his minimalist approach: “You shake the model, and whatever falls off, you probably didn’t need.”

Which is as good an architectural theory as any.

For a moment, Segal and his son consider the merits of a large vertical fin next to the building’s entrance, before the architect decides he wants a smaller canopy. The fin, he explains with a bit of false modesty, “is too big a gesture for a guy like me.”

Minimalist or not, Segal has never been afraid to have an impact. Since opening his office in 1990, he’s designed, financed, and constructed nearly two dozen buildings, most of them handsome assemblages of stucco, wood, and rusted mild steel (which he has dubbed “the poor man’s Cor-Ten”). Almost all of the buildings contain rental apartments.

Last year, he sold 141 apartments, in five separate developments, to a group of investors. The price, he said, was just over $300,000 a unit, which sounds modest — until you do the multiplication: Segal’s take was about $45 million. And he accomplished that while in his early 40s, a time when many architects feel lucky to make ends meet. (Not jealous yet? Without clients to rein in his aesthetic choices,
Entrepreneur

Segal has also won a slew of local and national design awards.

Now 45, Segal is hardly hiding his light under a bushel. He is planning a series of seminars around the country—beginning with one in Los Angeles on Oct. 28—for architects hoping to do what he did. In his opinion, young architects facing financial and artistic roadblocks should follow the trail he blazed, becoming their own clients. Of course, the $795 price tag for the one-day seminar may be more than some of those young architects can afford.

But those who do attend may come away surprised. Among Segal's rules is that he only builds rental apartments, because in California, condo owners often sue architects for design defects. ("If you do condos, you get sued," is his to-the-point formulation.) And he serves as his own contractor. Two new apartment buildings adjacent to his office cost about $95 a square foot to build. If he had added a general contractor, the price would have been $135 or more.

That project, called the Union, exemplifies Segal's approach. The site was a 20,000-square-foot lot, close to the San Diego freeway, containing one small building: a former union hall built out of slump block in the '70s. Segal bid against more than a dozen other developers for the lot. His winning offer was by far the highest, he says, but that wasn't a problem: He knew that he could turn the union hall into an office (for his firm) plus two loftlike apartments.

"Demolition would have cost $100,000. And [the hall] was worth about $250,000." Which meant that, by reusing the building, he saved himself $350,000. To him, the site was like a Cracker Jack box: "You open the lid and this little building is the prize."

Segal's office is a stunning space, with storefront-sized windows and custom metal furniture. On a typical day, his staff doesn't have to turn on a single light—skylights are positioned so that work areas are perfectly illuminated from above. Next door is an office for his wife, Wendy, who manages the company's buildings and, he says, weighs in on all design decisions. Between the two offices is a reception area with a single white Barcelona chair. Jokes Segal: "That's the chair for the client we'll never have."

On the remainder of the Union site, he added two buildings containing 13 rental units. (Beneath one of the buildings is a garage in which Segal houses his collection of classic cars, including a fleet of Porsches, plus the Toyota Prius he uses most days.) Typically for Segal, the apartment blocks have no hallways, elevators, or underground parking—all of which he finds dehumanizing.

Instead, the buildings open directly onto public spaces that are landscaped with drought-tolerant vegetation. Photovoltaic panels on the buildings' roofs supply most of their electricity. Cross-ventilation—designed into every one of the apartments—eliminates the need for air conditioning.
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Entrepreneur

"I'm not a tree hugger by any means," Segal insists, but good design is good business. Low utility bills make his apartments a bargain, the architect claims. As a result, tenants stay longer, which reduces wear and tear and increases his income. In his view, an outside management company would be an unnecessary middleman, so Segal entrusts the management of the properties to Wendy (adding, "I have cleaned out clogged pipes myself").

Segal was born in South Carolina and raised in Manhattan Beach, Calif., and got his architecture degree at the University of Idaho. After school he went to work for Homer Delawie, an important midcentury modernist, and for Antoine Predock, who was then designing an auditorium at the University of California, San Diego.

In 1988, Segal and his wife were living in a one-bedroom loft unit on the edge of downtown. Their landlord's mother owned an oddly shaped piece of property across the street, but she had no money to develop it.

Segal arranged to buy the property for $5,000 down, with the closing six months in the future. In that time, he raised half a million dollars to complete the acquisition and build seven condos. Within a year, he says, he had paid back the investors and made a significant profit.

So he quit his job with Predock and went off on his own, with Wendy as his partner. On his next project, he made two mistakes, he says: It was a condo building—"we're lucky we didn't get sued"—and he used a general contractor. "That's when I realized that the GC is just another middleman you have to get rid of," he says. "You want the money to actually go to the project, not into everyone else's pockets."

Segal also discovered the tax advantages of building rental units. "You get rental income; the government lets you take depreciation. At the end of the year, your expenses and your income zero out. That means you don't pay a lot of taxes. And if you manage it right, you're building equity. Then, if you sell the buildings, you pay taxes on capital gains—not ordinary income." Capital gains are taxed at lower rates than normal income.

That means the Segals got to keep much of the $45 million from their recent sale (though they did have mortgages to retire). The couple lives in a dramatic house that Segal designed in La Jolla. They also have a summer home, in Idaho, built by Segal and his staff during a recent lull between large projects.

Now he is preparing to build the Q, which, if all goes well, will contain a duplex apartment for him and his family above 35,000 square feet of office space. The building may not have a fin next to the entry, but, with its concrete walls and large expanses of glass, it will make a striking addition to the San Diego streetscape.

By serving as your own client, Segal says, "You're doing your own architecture, you're teaching others by example, and you're hopefully doing great things for the city."

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The Challenge: What kind of system would allow light into an atrium, without casting glare on adjacent work spaces, at the new EPA regional headquarters in Denver?

The design team at Zimmer Gunsul Frasca Architects was led by Peter van der Meulen, John Breshears, and Mark Perpetitza (facing page, left to right). Their challenge was to bring light, but not glare, into a nine-story atrium (far left) located at the center of the new U.S. Environmental Protection Agency regional headquarters in Denver (left).
The Solution: The new 305,000-square-foot U.S. Environmental Protection Agency regional headquarters in Denver has a skylit atrium that, at nine stories, is too tall for the daylight filtering in to reach the ground levels during much of the day. It was clear to the architects at Zimmer Gunsul Frasca Architects (ZGF) that a system of fins would be useful to direct the light and that, for budgetary reasons, these fins would have to be fixed—there wasn’t enough money for a motorized system to follow the angle of the sun.

The central question for ZGF became whether the fins should be placed above or below the skylight. The firm built a scale model with the fins situated above, but realized that this was going to direct a certain amount of glare onto the workstations situated around the atrium, making what should be prime office seating into a problem, in terms of the use of computer monitors and temperature levels. By moving the fins below the skylight, the architects were able to better diffuse the daylight and shield those adjacent workstations from glare.

ZGF tested several different shapes and forms—including flat panels and egg crate-style louvers—before they arrived at the final setup: a C-shaped reflector with a smaller radius at the top and drooping corners at the bottom. The design team termed it the “butterfly-wing solution.” ZGF also tested a variety of materials, from stainless steel to architectural textiles, but each came in over budget and under performance goals. The team ultimately selected material from a Portland, Ore., sailmaking shop and employed a Denver theatrical rigging company for installation. With some creative thinking, the ZGF team was able to achieve the maximum performance by alternative means and still come in under budget.

The R+D Awards jury appreciated the amount of time and energy spent figuring out the most appropriate materials and forms for the atrium sails. Extensive thermal imaging demonstrates just how successful the system is.

“I thought this project was really innovative,” said juror Victoria Meyers. “And it does provide a new technology, which is interesting, because that technology is very simplistic.”

The nontraditional end result reveals just how determined the firm was to go beyond the easy solution to find the right one. “It does what it’s asked, and no more,” said juror Reed Kroloff. “And it does it in a very elegant manner.”
The final shape of the sails started as an examination of a metal egg crate louver system (above). The curves were then extrapolated to the sail forms because of their ability to reflect light downward regardless of the angle of the sun (right).

Bright red indicates a high luminance level, and therefore a high amount of glare, in the thermal imaging diagrams of the ninth floor next to the atrium space. Without the sails (above, left two images), the glare extends into the work area. With the sails in place (above, right two images), the glare is reduced.

The project team included (left to right) Breshears, van der Meulen, consultant G.Z. Brown, Perepelitza, rigger James Acuna, and sailmaker Kerry Poe.
The Challenge: Can a façade system provide not only thermal resistance, but also a high degree of transparency?
The Solution: KieranTimberlake Associates has developed a strategy to achieve high performance in façade systems over a series of three projects: the Melvin J. and Claire Levine Hall at the University of Pennsylvania in Philadelphia; the Loblolly House, a vacation home on Taylor’s Island, Md.; and the Sculpture Building and Gallery at Yale University in New Haven, Conn. In each project, the architects took a slightly different approach based upon the specific needs of the site and program and also upon the lessons learned from previous projects.

The earliest of the three projects, Levine Hall, was completed in 2001 and employs a double-glazed curtain wall. The space between the two layers of glazing serves as a return-air plenum for the HVAC system. As a result, the interior glass wall is maintained at room temperature, reducing radiative heat loss, and the inside of the building remains comfortable.

The 2006 Loblolly House uses a double skin, designed to fit a residential setting. KieranTimberlake placed two sets of folding doors 18 inches apart to create an interstitial space that is sealed at the top and permeable at the bottom. The exterior layer of the double façade consists of translucent polycarbonate hangar doors that fold horizontally. The interior layer comprises a set of glass doors that fold vertically. The differences between the two layers allow the façade to operate in three distinct configurations, each with its own thermal performance: (1) Both sets of doors can be opened completely, allowing breezes to enter the house directly; (2) the interior doors can be closed with the exterior doors folded up and acting as a sunshade; or (3) both sets of doors can be closed, with the air in the interior plenum being heated by the sun to create a thermal blanket.

The third and most recent building, a 60,000-square-foot sculpture school at Yale, opened this year. Its thermal performance needed to meet the demands of the extreme northeastern climate and still admit plenty of natural light for the artists working within. Standard ventilating-cavity double-skin walls were discounted because of thermal concerns during

Loblolly House, Taylor’s Island, Md.
Melvin J. and Claire Levine Hall, Philadelphia

The cavity between the glass panes in the curtain wall system at Levine Hall (above) acts as a return air plenum for the HVAC system (right).

The active curtain wall system at the Sculpture Building and Gallery (right) incorporates a separate sunshade layer (above) that helps control heat gain.

Sculpture Building and Gallery at Yale University, New Haven, Conn.
the harsh summer and winter months. Instead, the team devised a system that includes 8-foot operable windows, triple-glazed low-E vision panels, and a translucent double-cavity spandrel panel. The warm air trapped in the cavities creates a thermal layer to increase performance, and the entire façade admits light into the interior.

The R+D jury appreciated the engineering of the systems and the team's commitment to exploring different options and technologies within a small subsection of the firm's buildings.

Juror Eric Owen Moss was impressed overall, but a bit disappointed that the designs don't look further ahead. "The basic linguistics, the form, and the modules belong to a discussion that is 100 years old," Moss said. "I think the art of it really has to do with the sophistication of making the systems and the versatility of them." The jury was also impressed by how the firm learns from its experiences.

"What's great about this is that it isn't trying to make a product," said juror Reed Kroloff. "This is a firm that is investigating an entire way of working on buildings." KieranTimberlake continues its research long after the construction of each façade is complete. All three projects are monitored to make sure that performance is consistent and systems are working as intended. Any unexpected side effects are analyzed for reference in upcoming projects.

REED KROLOFF: What's great about this is that it isn't trying to make a product. This is a firm that is investigating an entire way of working on buildings.
The culmination of research into and continued monitoring of the active curtain wall system is a prototype design, potentially for a future project. The next generation curtain wall system (right) contains an actuated damper that alternately allows ventilation through the mullion section and acts as insulation.

The design team at KieranTimberlake Associates includes (left to right) Steven Johns, Richard Maiman, Marilia Rodrigues, Jamie Unkefer, Stephen Kieran, David Hinch, David Riz, and James Timberlake.
The Riddled Furniture series was designed for manufacture by the Italian furniture company Horm by Nick Gelpi (above, right) and Steven Holl (above, left) of Steven Holl Architects.

Early schematic drawings show different possible configurations of the boxes that form the Riddled Cabinet.
Riddled Furniture

The Challenge: How do you "lighten" furniture?

Research and Solution: The concept of porosity has been a favorite point of exploration in the buildings of Steven Holl Architects, so applying that concept at the scale of furniture seems like a natural progression for the firm. The Riddled Furniture project not only examines how to design and fabricate perforated furniture using the CNC milling process, it also uses a new four-ply composite material ideal for CNC milling. The form of each object is intended to showcase the best properties of the innovative surfaces.

The furniture is playful in its approach to geometry and space. For example, five perforated boxes snap together to form the Riddled Cabinet. Each component influences not only the shape of the whole, but also the shape of the adjacent box. The overall cabinet is minimal in form; handles and hinge joints are incorporated directly into the CNC process, eliminating the need for applied hardware. Another item, the Riddled Table, casts shadows and reflections around itself as light permeates the glass top and filters through the closely folded base.

The four-ply composite material that the architects chose to use is itself an interesting innovation. Developed by an Italian supplier, the material has a core made of a proprietary cloth and paper composite, topped by cross-laminated piles of wood veneer. This material offers several advantages over a laminate with a conventional sheet-metal core: There is no need for special tools, and it has a much slimmer profile, only 1.8 mm. The material is flexible enough that it can be bent in the field, but strong enough to support itself in furniture applications.

The jury was impressed by the tailoring of a fabrication process to showcase a new material (though one juror wished this process was discussed more in the submission). The jurors equally appreciated the design team's facility with—and innovative use of—the CNC milling technology. Also of interest was the way the milled surface relates to the furniture's overall shapes and forms.

"What's of interest to me," said juror Eric Owen Moss, "is how they put together languages that are not often put together in that way. The designers of this project are making very specific choices about function, intention, and space."
The Challenge: How can prefabricated housing be energy efficient, even to the point of generating its own power?

Led by Frano Violich and Sheila Kennedy (facing page), the project team conducted research on the properties and capabilities of photovoltaic (PV) cells, looking at how soft PV cells (left) can be woven into a malleable fabric (below).
**Ambient radiant heating and cooling** is achieved with two piped systems in the floor (above, left). A fan coil unit can be installed as necessary. For appliances that cannot run off direct current (DC) power, an alternating-current power core can be hooked up to the outside electrical grid or to local wind power (above, right). The DC power generated by the textiles is collected three ways (right): via the large central curtain; via the movable perimeter curtains; and via small handheld textiles that emit light, providing a mobile illumination source in the space.

**Eric Owen Moss:** This ought to be the Hard and Soft House, as opposed to the Soft House. There's a lot of hard stuff in the house that makes the soft stuff legible in a completely different way. And the hard stuff holds the soft stuff up, so the soft stuff in a very fundamental way is contingent.
The large central curtain can be raised and lowered, as shown above, to redefine the interior space and to respond to the availability of sunlight for energy production. It does not take long to reposition the material, so users can make changes easily.

The project team at Kennedy & Violich Architecture included Sheila Kennedy, Patricia Gruits, Frano Violich, Tonya Ohnstad, Jason O'Mara, Veit Kugel (pictured at right, clockwise from far right)

Soft House

PROJECT Soft House
ARCHITECT Kennedy & Violich Architecture, Boston (Sheila Kennedy, Frano Violich, Veit Kugel, Tonya Ohnstad, Patricia Gruits, Sloan Kulper, Jason O'Mara, Ted Steinemann, Daniel Bonham, Skender Luarasi, and Isamu Kanda, project team)
The Challenge: How can the standard concrete masonry unit be re-examined, renewed, and ultimately improved?
Manufacturing CMUs is a fairly efficient process because the entire formation of each block can happen in one machine (left). With different formwork, the same machines can manufacture all 12 profiles (right).

**Research and Solution:** The primary goal of the project was to define the benefits and deficiencies of the concrete masonry unit (CMU) as it exists today and to improve upon the current form while taking into account the full life cycle of the product. The research team settled on three specific areas to be considered: the combination of materials that make up each block; how wear and tear—including gravity and weather—affect components of the block formwork; and conditions of specific CMU installations. The team determined that newly engineered blocks could become stronger, more durable, more environmentally sensitive, and even more useful as surfaces once installed.

From this research emerged 12 different reconfigurations of the standard CMU that can completely redefine its traditional uses. These modified blocks create a visually complex surface, in terms of size, configuration, or pattern, but also can be used to form a microenvironment to grow plant matter or support avian life. By pushing the boundaries of what a CMU can do, LOOM, a five-person studio in St. Paul, Minn., envisions a much more dynamic building material. The standard CMU becomes not-so-standard.

The jury was impressed with the ingenuity of the schemes. Some of the configurations are particularly arresting, like Habitat, which incorporates niches where birds can roost and build nests. Others are much more subtle in their approach. The jury remarked upon the simplicity of the overall project: "The process, they claim, is very simple because there's just this series of molds that form the patterns," said Reed Kroloff. "But it's the same system each time; it just changes shape, and I think that really is pretty great."

One concern, however, was the too-perfect appearance of the abundant computer models. Victoria Meyers noted, "The computer drawings are not as convincing to me as the actual physical object, which is much less perfect. And if these things were perfect, they would not be nice. If they're imperfect, they're much nicer."
Digital renderings of the blocks in application (above) show how the environment and the elements will interact with the different profiles, which become everything from a growing surface for moss to a habitat for birds.

The LOOM design team includes Ralph Nelson, Dan Clark, and Don Vu (left to right).

The LOOM project is fully copyrighted and patent pending in its entirety.
WITH AN UNORTHODOX MIX OF REPORTING, COMMENTARY, AND ACTIVISM, A NEW GENERATION OF ARCHITECTURAL PUNDITS IS MAKING ITS VOICE HEARD—ONLINE.

THE RANKS OF SMALL, independently published magazines that enlivened architectural discourse in the 1960s and 1970s have left few direct offspring in print. Instead, that culture of intrepid architectural commentary has re-emerged online, in the form of blogs.

"Blogging has become an incredibly important part of how architecture is discussed," says Joseph Grima, director of the Storefront for Art and Architecture, a nonprofit Manhattan gallery. To underscore this point, last spring Grima tapped four architecture-oriented bloggers—Geoff Manaugh of BLDGBLOG, Jill Fehrenbacher of Inhabitat, Bryan Finoki of Subtopia, and Dan Hill of City of Sound—to orchestrate Postopolis!, the first conference about blogs and the built environment.

For five humid days in Storefront’s snug Manhattan gallery, the host bloggers and their invited guests discussed architecture, the web, and related subjects. Acknowledging the passion and mischief in the air, Grima compared the well-attended marathon to Woodstock.
Bloggers Geoff Manaugh of BLOGBLOG, Bryan Finoki of Subtopia, Dan Hill of City of Sound, and Jill Fehrenbacher of Inhabitat (from left to right) step away from their laptops long enough to get photographed. The foursome helped organize Postopolis!, the first conference about blogs and architecture, held last May at New York's Storefront for Art and Architecture.
Although the most thorough research and criticism of buildings is still done by scholars and professional journalists, bloggers are transforming the forum of architectural discourse through topical creativity as well as the sheer speed and accessibility of their medium. Blogs have reinvented the concept of "breaking news" in a notoriously slow-paced profession. New renderings and photos may traverse the web months before mainstream design journals print an editorial. On the other hand, some bloggers shun the journalistic "scoop," preferring to venture deep into the realms of theory, commentary, and fantasy.

New voices are flourishing amid the crossfire of hyperlinked articles, images, and videos. Some of these authors have a direct connection to the world of architecture, while others are pure enthusiasts. Most of them defy simple categorization, reveling in combining the subject of design with tangentially related interests, from social policy to planetary acoustics. "I much prefer the outsider perspective," says Finoki, whose background includes as much literature and psychology as architecture. Ryan McClain, an intern architect, describes the informal tone of his blog, Architecture My Ninja Please, as "reminiscent of a buddy approaching you."

At this stage in the history of architectural blogging, the endeavors range in scale from part-time web diaries of practicing architects and graduate students to a handful of more-prolific blogs with dedicated editorial staff. Australian architect Marcus Trimble, creator of the blogs Gravestmor and Super Colossal, has begun deliberately to cross-pollinate his blog with his day job. Lockhart Steele's blog, Curbed, recently became his day job. And the avid research and originality of BLDGBLOG is presumably one of the reasons the print magazine Dwell recently hired Manaugh as a senior editor.

Like Curbed, the green-themed blog Inhabitat has organized a business structure with advertising revenue to support professional staff and equipment. "We currently occupy an interesting and challenging middle ground between labor of love and commerce," says Fehrenbacher, who founded Inhabitat in 2005. The blog's dozen or so contributors earn a nominal fee for their work, but less than a professional freelance rate. The full-time managing editor earns a salary. "Obviously, ad revenue is very important to us," adds Fehrenbacher, "though we are very sensitive to trying to keep all of our advertisers high-quality and in line with the values of our site."

Blogs may represent the first indigenous web publications, formatted as continuous

architecture.myninjaplease.com
Ryan McClain (left), 24, Boston
Kiyé Apreala (right), 24, New York
First post: December 2006
Total posts as of June 30, 2007: 380
Unique visitors in May 2007: 22,000

Architecture My Ninja Please combines the language of design and youthful slang to describe architecture. It's fun, hip, and occasionally silly. "Not only is the massing interesting," writes Ryan McClain about a house designed by Santa Monica, Calif.-based MINARC, "but the details inside are sick!" This popular new blog—created by Kiyé Apreala as a microsite within his myninjaplease.com (MNP) family of blogs—features splashy projects that catch your attention, even if you know nothing about design. McClain's fresh zeal for the work of starchitects and students alike makes you want to pardon the endless repetition of the word "ninja," the epithet used throughout MNP to refer to readers and anyone the MNP bloggers favor. McClain, who holds a B.Arch. degree from Roger Williams University, works at a large Boston firm he declines to name for fear of implying a connection with the blog. The Spanish version of Architecture MNP, translated by Cesar Cotta, was launched in July as a response to the discovery that a surprising portion of the blog's readership is located in Spanish-speaking countries.

"THE FOLDING, ZIG-ZAG ROOF-WALL FLOOR ... COMBINES THE TWO FUNCTIONS OF THE BUILDING STRUCTURALLY, WHILE [IT] SEPARATES THEM VOLUMETRICALLY... AND, OH YEAH—IT APPARENTLY GLOWS YELLOW AT NIGHT, BECAUSE IT'S ILL LIKE THAT."
—ON HIROMI TANABE'S NEW DENTAL CLINIC/RESIDENCE IN NAGANO, JAPAN

BLDGBLOG

bldgblog.blogspot.com
Geoff Manaugh, 31, San Francisco
First post: July 2004
Total posts as of June 30, 2007: 800
Unique visitors in May 2007: 150,000

Geoff Manaugh's posts on "architectural conjecture," "urban speculation," and "landscape futures" (as he describes the content) have catapulted BLDGBLOG to the center of the architectural blogging universe. BLDGBLOG was born in Los Angeles, which might help explain Manaugh's preoccupation with film and geology. "Plate tectonics," he says, "outdoes any landscape design studio with its sheer impact and scale."

Manaugh has also written about the architecture of science fiction movies and biologically cloned building materials. In 2009, Chronicle Books will publish a print version of the blog. Meanwhile, Manaugh—whose multidisciplinary background includes art history, cultural studies, a summer architecture studio at the Rhode Island School of Design, and a brief stint at Foster + Partners—begins working this month as a senior editor at Dwell, which has necessitated a move to San Francisco.

"I'VE FOUND MYSELF IN AN ONGOING THOUGHT EXPERIMENT FOR THE LAST FEW MONTHS, TRYING TO IMAGINE WHAT WOULD IT LOOK LIKE IF THEORETICALLY NON-DOMESTIC ARCHITECTURAL STYLES WERE USED TO BUILD THE HOUSES, OR CITIES, OF THE FUTURE."
—ON THE NOTION OF HOUSING BUILT LIKE ENGINEERING INFRASTRUCTURE
Does a diagram of a soccer match have architectural properties? What about the underwater mesh caverns created during a traditional Sicilian fishing ritual? Or the structural narrative of a work of music? Dan Hill’s City of Sound explores buildings and cities through a kaleidoscope of images, memories, sounds, rituals, and engineering. Although Hill has no architectural training, he cites the “deliberately unfocused peripheral vision” espoused by Finnish architect Juhani Pallasmaa as grounds for his own creative digressions. Throughout Hill’s work as the head of interactive technology and design for BBC Radio & Music/Future Media & Technology and now as the director of web and broadcast for the recently launched magazine Monocle, City of Sound has served as sketchbook, sounding board, and laboratory for honing new ideas. His extrapolations from Google Earth include an interactive “timeslider” of Barcelona that incorporates historic maps and audio recordings.

“PSYCHOGEOGRAPHIC RIVERS CAN RUN DEEP, BUT WHEN CHINATOWNS AND LITTLE ITALYS LOSE THEIR ORIGINAL CHARACTER, THEIR SOUL FORM MAY NOT MELT INTO AIR BUT THEIR MEANING DOES.”
—ON THE CHANGING RETAIL MAKEUP OF LONDON’S SAVILE ROW

Lightning fast and irreverent through and through, Curbed keeps the pulse of development in New York, Los Angeles, and San Francisco—with coverage of additional cities coming soon. Lockhart Steele and his invisible army of “tipsters” have built Curbed into a churning clearinghouse of news and hearsay. Its roots run to Steele’s personal blog, lockhartsteele.com, from which he learned that “people liked to track the minutiae of neighborhoods as much as I did.” Steele says his nonarchitectural background gives Curbed certain advantages: “For instance, I don’t tend to lapse into archibabble. ... If something’s ugly, we say it’s ugly.” The site’s posts, which are as concise as they are abundant, make generous use of signature vocabulary such as “floorplan porn” and “advertecture.” Steele recently left web publishing company Gawker Media, where he was managing editor, to concentrate full time on running the Curbed network.

“IF THE FIRST OR MOST RECENT ONE DIDN’T DO IT, THIS NEW HARLEM PARK RENDERING ABSOLUTELY PROVES THAT THIS WHOLE ‘OFFICE BUILDING’ THING IS JUST A COVER FOR WHATEVER SUPERVILLAIN WHO PLANS ON USING THIS AS HIS LAIR.”
—ON SWANKE HAYDEN CONNELL ARCHITECTS’ DESIGN FOR A MANHATTAN TOWER

Dished out in illustrated spoonfuls, architecture glides right down the hatch. John Hill’s Daily Dose of Architecture, an offshoot of his earlier Weekly Dose of Architecture, comprises a revolving gallery of hand-selected design artifacts, where photos of gorgeous structural details complement architectural field trips and choice literary excerpts. Free of hyperbole and cheap sarcasm, the site functions as a soothingly minimal vessel for a sip of content. Hill is a registered architect with a decade of experience at DeStefano and Partners in Chicago. Having just completed the graduate program in urban design at the City College of New York, he is currently mapping his next move. “Even though I don’t take everything on my page seriously,” he says, “I take architecture, urbanism, and design in general very seriously.”
digital scrolls rather than adapted from print journalism. Along with the excitement of autonomous publishing, though, come a few pitfalls. Chief among them may be what Bill Millard—a frequent contributor to the print magazines *Oculus* and *Icon*—described in a conversation at Postopolis! as "the enormous temptation for everyone's inner windbag to come out." In addition, bloggers must accept the ephemerality that the internet imposes upon their work. "If I stopped posting to my blog," Manaugh muses, "nobody would refer to it in a year."

Gideon Fink Shapiro is a freelance writer based in New York City and a contributor for the blog gothamist.com.

In early June, as the editors considered a feature on architecture-related blogs and websites, we ran an online poll to help inform our decision. Here are the questions and results.

(1) Which of the following blogs/websites do you read on a regular basis? (1,064 responses; multiple responses permitted)

<table>
<thead>
<tr>
<th>Blog/Website</th>
<th>Number of Mentions</th>
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<tbody>
<tr>
<td>A Daily Dose of Architecture</td>
<td>277</td>
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<tr>
<td>Archinect</td>
<td>558</td>
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<tr>
<td>Brand Avenue</td>
<td>36</td>
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<tr>
<td>Inhabitat</td>
<td>494</td>
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<td>Tropolism</td>
<td>75</td>
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<td>Worldchanging</td>
<td>96</td>
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<tr>
<td>Other</td>
<td>304</td>
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Top six other blogs/websites regularly read:

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<thead>
<tr>
<th>Blog/Website</th>
<th>Number of Mentions</th>
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<tr>
<td>BLDG.BLOG</td>
<td>86</td>
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<tr>
<td>Curbed</td>
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<td>ArchNewsNow</td>
<td>14</td>
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<td>Treehugger</td>
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<td>Pruned</td>
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(2) Do you think blogs are:

A good forum for information and discussion 493
A worthwhile diversion 326
A waste of time 62

(956 responses; multiple responses permitted)

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**Inhabitat**

Jill Fehrenbacher, 30, New York
First post: March 2005
Total posts as of June 30, 2007: 1,500
Unique visitors in May 2007: 350,000

Inhabitat aims to bridge the gap between green design and good design. Founder and editor Jill Fehrenbacher spent seven years as a commercial graphic and web designer before refocusing on something she found more inspiring: "design that makes a difference in the world." With a large audience and an upbeat tone, the blog is well positioned to perform the role of educator and promoter of enlightened innovations such as green-roof tiles, wind microturbines, and prefab homes. The prolific site, which has a dozen modestly paid freelance contributors, is equally adept at explaining San Francisco's ban on plastic bags, identifying the most stylish LED light fixtures, and pointing you to a Barcelona nightclub made of recycled industrial tanks. Fehrenbacher is currently completing the M.Arch program at Columbia's Graduate School of Architecture, Planning, and Preservation.

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**Life Without Buildings**

Jimmy Stamp, 26, San Francisco
First post: July 2004
Total posts as of June 30, 2007: 380
Unique visitors in May 2007: 5,000

Resisting the possible onset of intellectual hunger following his 2004 graduation from the School of Architecture at Tulane University, Jimmy Stamp created his blog to extend the academic spirit of inquiry and discourse. Life Without Buildings offers a worldwide sweep of captivating projects and media, from a 258-truck concrete pour in San Diego to North Korea's monumental urban spaces. Stamp will post on any topic he digs, but he admits, "I have a definite bias toward anything that involves gigantic statuary." He is employed by the San Francisco studio Mark Horton / Architecture and currently finds inspiration in the work of British architects David Adjaye and FAT (Fashion, Architecture, Taste).

"THAT MOVIE DOES AN INCREDIBLE JOB OF CHANNELING 1970S SAN FRANCISCO, AND THERE'S A PARTICULAR SCENE THAT HAS TO BE ONE OF THE COOLEST USES OF A BUILDING AS SET PIECE IN FILM (AFTER CREMASTER 3 AND KING KONG)."

—ON THE 2007 FILM ZODIAC
Miss Representation

www.missrepresentation.com
Anonymous, 38, New York
First post: March 2004
Total posts as of June 30, 2007: 500
Unique visitors in May 2007: 4,000

Miss Representation offers some of the web’s most biting architectural commentary. While architects are not unique in having a responsibility to improve society, says the blogger, “their failings are simply far more evident than most.” The blogger who writes as Miss Representation prefers to remain unidentified, noting in an e-mail that “my words (in [the blog’s] context, at least) aren’t ‘mine.’” Anonymity, says the blogger, gives the persona of Miss Representation the freedom to embody a critical voice that “people can both celebrate and attack, or even appropriate and evolve.” Questioning the willy-nilly transformation of Lower Manhattan, the blog’s home turf, Miss Representation challenges the agendas of developers, preservationists, and hipsters. Before becoming an architectural and graphic/branding consultant, the blogger studied architecture at the Savannah College of Art and Design and worked as a junior architect at a Savannah firm—“the best work experience I’ve had”—for two years.

“I’M NOT HERE TO COMPLAIN AGAIN ABOUT HOW SHOCKINGLY IGNORANT LOCAL AND REGIONAL PLANNING IS IN NEW YORK; WE JUST HAVE TO SIT TIGHT FOR A COUPLE MORE YEARS, AND THE SHIMMERING EVIDENCE OF THAT WILL BE VISIBLE FROM MOST OF LONG ISLAND.”
—ON GENERAL GROWTH PROPERTIES’ PROPOSAL TO REPLACE MANHATTAN’S SOUTH STREET SEAPORT WITH CONDOS

Subtopia

subtopia.blogspot.com
Bryan Finoki, age withheld, San Francisco
First post: December 2005
Total posts as of June 30, 2007: 250
Unique visitors in May 2007: 10,000

If enclosure, warfare, and surveillance form an all-too-real netherworld of contemporary architecture, Subtopia is its unflinching scribe. Dispatches from fortified borders, data bunkers, and floating prisons scrutinize the social conditions that fuel the proliferation of militarized space. Although Bryan Finoki once thought he would become an architect, “My urge to write was as strong as the urge to draw.” He is currently earning a master’s degree in psychology, but created the blog to overlay his converging cultural and political interests with the notion of “architecture as a spatial dimension of power.” (As for why he refuses to give his age or the name of his school, Finoki says, “I would rather just play with the whole mystique around bloggers and their culture of anonymity, and keep the audience curious on some level.”) Subtopia underscores Finoki’s belief that architecture has daily political relevance in an age of gated communities, armored skyscrapers, and a worldwide “border fence-building boom.”

“IT ALMOST GOES WITHOUT SAYING I AM OBSESSED WITH THE IDEA OF CONVERTING THE FENCE INTO SOMETHING ELSE, ADAPTIVELY RE-USING ITS PHYSICAL AND ACOUSTIC PROPERTIES FOR SOME OTHER, CONSIDERABLY MORE NOBLE PURPOSE.”
—ON SOUND SCULPTOR GLENN WEYANT’S USE OF THE U.S.-MEXICO BORDER FENCE AS AN INSTRUMENT

Super Colossal

supercolossal.ch
Marcus Trimble, 29, Sydney
First post: May 2004 (Gravestmor) / July 2007 (Super Colossal)
Total posts as of June 30, 2007: 450
Unique visitors in May 2007: 16,000

Super Colossal is the new website by veteran blogger Marcus Trimble that fuses the DNA of blog, portfolio, and research tool. It inherits a large readership from Trimble’s previous site, the cheeky Gravestmor. Conceived as a satirical comic strip to mock architectural clichés, Gravestmor emerged as a well-rounded design blog with a distinctly Australian twist. Trimble recently quit his job at the large Australian architecture firm BVN to launch his own practice, and he decided to merge his blogging and professional activities. Super Colossal features an openly accessible online product library and links to other Australian architects. Trimble has also been a leading proponent of Pecha Kucha (www.pecha-kucha.org), a rapid-fire design-presentation format devised in 2003 by Tokyo-based Klein Dytham Architecture that has since caught on around the world over.

“SURE AT FIRST GLANCE, IT MAY APPEAR TO BE [THE STAR WARS DEATH STAR,) THE PLANET DESTROYING SUPER STRUCTURE OF OUR DREAMS—IT IS BIG, IT IS ROUND, IT HAS CRATERS. BUT AS WE ALL KNOW THE DEATHSTAR ONLY HAD THE ONE CRATER ...”
—ON OMA’S DESIGN FOR THE RAK CONVENTION CENTER IN RAS AL KHAIMAH, UNITED ARAB EMIRATES
Liquid Design's Michael Williams (left) and Mike Standley at the U.S. National Whitewater Center in Charlotte, N.C.
WATERPOWER

THE WORLD’S LARGEST WHITEWATER PARK CHALLENGES CHARLOTTE’S LIQUID DESIGN TO LIVE UP TO ITS NAME.

THE RAFTING GUIDE, A BARREL-CHESTED twentysomething nicknamed Butter, yells for everyone to paddle hard through the rapids, but it is already much too late. “Forward!” he shouts as the bow slams into a standing wave four feet high. The hull buckles. In seconds, three paddlers to my left and Butter himself pop out of the boat like hot kernels of corn.

It is quite the show, watching them get worked in the current, and a few folks relaxing on a breezy patio nearby cheer wildly. They have the best seats in the house for watching the meanest rapid here, a monster called Tourist Trap that ranks a class IV out of V in difficulty. While a waitress ferries chilled lagers to the onlookers, another boat comes over the falls, this one backward. All but two paddlers get ejected, and the hoots erupt again.

The strange thing? We’re not on some remote river, but minutes away from the banking skyscrapers that loom over uptown Charlotte, N.C. The bottom here is smooth as concrete—because it is concrete. The water, warm and sweet, comes from a tap. That tremendous thunder? That’s mostly the noise from massive pumps that circulate more than 12 million gallons of water in this, the world’s largest, completely artificial whitewater park.
The centerpiece of the 316-acre USNWC complex is the River Center (above, seen from the northeast), built of concrete, cedar, and steel in a contemporary style that eschews rustic clichés. Of the concrete ellipse that forms the main entry, architect Michael Williams says, “We wanted a strong iconic element that played off of rocks we saw in all of the rivers we visited.”

Views inside the two-story, 40,000-square-foot River Center: (1) an overlook jutting from the upper (entry) level; (2) stairs down to the channel level, canopied by perforated steel and accented with rocks on the landings; (3) the pro shop selling rafting and kayaking gear; and (4) the Eddy Restaurant & Bar. (See facing page for locations on the floor plans.)

Welcome to the U.S. National Whitewater Center (USNWC), a $37 million complex of man-made rapids and waterfalls, where every rock, ripple, and chute was meticulously designed on drafting tables and with computer models. Here on the outskirts of North Carolina’s largest city, workers spent 18 months converting some 316 acres of red clay and pine forests into a sprawling compound of cedar-clad commercial space, murky ponds, and nearly a mile of surprisingly real rapids. The result—a raft trip before dinner if you like—is an outdoorsy adventure in a decidedly urban setting. Get maytagged in Tourist Trap, and a $17 plate of grilled Atlantic salmon served on the patio above can certainly mend the woe.

“This is about much more than just rafting or kayaking,” says the project’s lead architect, Michael Williams, a principal of the Charlotte-based firm Liquid Design. Williams, his partner Mike Standley, and the design team drew some 580 pages of plans for the center, which opened last August. “The last thing the community wanted was another Slip ‘N Slide. This is an outdoor lifestyle park.”

Indeed, rafters and kayakers can bounce down 50-foot-wide concrete channels that gurgle with rapids—some easy riffles, others industrial spin cycles. Mountain bikers roll along 12 miles of undulating single-track trails that weave through the woods. Rock climbers scamper up plastic holds on an artificial spire 46 feet high, while other visitors launch canoes into the Catawba River—a real river—that slips languidly by to the west.

The idea for such a place isn’t new. Athens and Sydney built whitewater venues for Olympic canoe and kayak events, and a smaller park recently opened in Maryland. But the Charlotte center is novel because it is the first major—and biggest—park in the country to cater to weekend warriors who can’t live in sporty towns like Boulder, Colo., or Bend, Ore., where job
prospects are often limited. In that way, the center also brings outdoor adventure to urbanites who can’t or won’t drive two and a half hours into the mountains in search of it.

“When you see a center like this, you think every community should have one,” Williams says, adding that cities in Florida, Texas, Arizona, and California are talking about building similar ones.

The USNWC was born around 2000, when Jeff Wise, a lawyer from Charlotte, began dreaming of a recreation center that focused on the sports he loves, like paddling and mountain biking. Wise, now 44, teamed up with Williams and Scott Shipley, a three-time Olympic paddler who runs Recreation Engineering and Planning, a Boulder-based firm that has helped communities like Reno, Nev., build fake rapids in real streams for kayakers. Modifying the Catawba in this way might have been a cheaper alternative to the center, but Wise dismissed it immediately. The permitting process would take too long, and Wise wanted something much larger.

“We wanted to create a more compelling place to visit,” he says. “We want people to think of Charlotte as a vibrant, fun place. Can a center like this do that single-handedly? I say yes.” Wise, Williams, and Shipley honed their vision on a long trip around the globe, rock climbing in Oregon and rafting in Europe.

Back in Charlotte, Williams designed 40,000 square feet of building space with a contemporary Scandinavian feel, introducing sleek lines of cedar, perforated steel, and concrete to distance the center from both woody clichés and the traditional brick-and-column architecture so prevalent in the South.

Conceived of as a chasm between buildings, the sheltered stairway (above, left) is the park’s main thoroughfare, dividing the entry area from the pro shop (at right) and leading down to the channel level. A section (left) shows the relationship of the entry and channel levels to each other and to the slalom channel, which lies another 15 feet below. On the entry level are meeting rooms and offices (above, top floor plan). Locker rooms and the restaurant are located on the channel level (bottom floor plan).
About 300 feet from the River Center sits the pump house (above, at right), containing seven pumps that circulate more than 12 million gallons of water through the park. A conveyor (foreground) whisks kayaks and rafts from the lower pond to the upper pond. Between the River Center and the pump house are the climbing center (right) and pavilions (far right) where paddlers congregate before trips. These structures' angled roofs of metal and cedar allude to the River Center's stair canopy.

He built a "chasm"—like that through a canyon—between buildings to serve as the main thoroughfare into the park. Steps drop to landings decorated with rocks, alluding to how a river might pool over a series of falls. To help foster après camaraderie, the architects placed a restaurant with patio seating near the biggest rapids as well as about 2,400 square feet of meeting space that overlooks the channels. For practical purposes, Williams designed locker rooms near two pavilions where paddlers meet before trips to learn about the equipment and what to do should they get tossed from the boat. He designed airy storage rooms for hundreds of kayaks and mountain bikes, and spent every Tuesday for months positioning boulders around the channels to make for perfect sitting spots. None of it is rustic.

"We really didn't want this to feel 'lodgy' or like we were trying to be a national park," says Williams, 37, who has a B.Arch. from the University of Tennessee.

"That can get cheesy quickly. We don't want to be Jellystone."

The design had to be functional, so Williams offset roof lines to help air move through buildings likely to be filled with wet people and gear. He positioned patios and eating areas near the biggest rapids. As opposed to a real raft trip, where clients put in and take out at different spots along the river, here Williams had to cluster buildings in ways to smooth the flow of people moving in and out of life jackets and boats in practically the same locations. The challenge excited him.

"Design a mall and everyone has an expectation of what a mall looks like," he says. "No one knows what an outdoor lifestyle park looks like, so this gave us a chance to really design—and go rafting for work."

But the real novelties came with designing a river. To make a recirculating current, the team created an upper pond and a lower pond, divided by a dam
and a phalanx of seven, 12,500-pound submersible pumps that cities might use to move stormwater. The pumps, which cost $1.6 million for the set, can fill an Olympic-size swimming pool in 71 seconds. Senior project manager Scott Carr of Rodgers Builders, based in Charlotte, got to work moving 350,000 cubic yards of dirt and pouring 1,400 truckloads of concrete using special forms he invented to pour perfectly sloped channels that flow between the ponds. Filtration systems from Israel and a UV-purification rig can disinfect the entire park's water volume in a day, which pleased the code enforcers, who weren't sure how to handle a project with virtually no precedents.

"It brought up a lot of interesting questions," says Jeffrey Gustin, a former principal at Liquid Design who has since quit to work full-time on also added drops that mimic those on real rivers, like the Chattooga, which forms the state line between Georgia and South Carolina. Thanks to Shipley's calculations, some rapids at the park turned out easy—like the class II Entrance Exam—and others more difficult, such as the class III M Wave, which took some skin off Williams' knuckles when he tried to paddle it and wrecked.

Maybe the coolest part of all: When paddlers reach the lower pond, a conveyor belt carries the raft 180 linear feet and 21 vertical feet to the upper pond and the start of the runs. There's no need to get out of the boat. "People always ask how long it takes to make a run," Williams says. "It's like shopping. Sometimes you go in and out. Other times you hang out. I can tell you this: We took out most of the flat water to make nearly nonstop rapids. After 90 minutes, you're worked."

Well before the center opened, it caught the attention of the U.S. national canoe and kayak team, which had independently relocated its headquarters from upstate New York to Charlotte. The nonprofit paddling organization got behind the idea and now leases the land occupied by the park. Already, top-tier athletes like 2004 Olympian Brett Heyl use it for training. Other Olympic hopefuls like Butter—whose real name is Eric Hurd—moved to Charlotte

"WE REALLY DIDN'T WANT THIS TO FEEL 'LODGY' OR LIKE WE WERE TRYING TO BE A NATIONAL PARK." —MICHAEL WILLIAMS

1. River Center
2. Climbing Center
3. Pavilions
4. Rafting Storage
5. Pump House/Conveyor
6. Day Camp
7. Kayak Storage
8. Raft Storage
9. Maintenance
10. Upper Pond
11. Lower Pond
12. Slalom Channel
13. Freestyle Channel
14. Wilderness Channel
15. Big-Water Channel
16. Filtration System
“IT BROUGHT UP A LOT OF INTERESTING QUESTIONS. WE’RE CREATING A MAN-MADE, RISKY ENVIRONMENT. IS IT A POOL? DO WE NEED A FENCE? IT WAS DEFINITELY AN ONGOING PROCESS.” —JEFFREY GUSTIN

competeative advantage.”

But it’s the everyday visitors—a lawyer looking for a workout, bored teens casting around for something cool to do—that the center really aims to attract.

has to. Wise has two large loans to repay and needs the center to make money. To do that, he wanted a facility that catered largely to rafters, a forgiving and social way to play in whitewater.

Sixty rafts, each with a guide and six paddlers who pay $33 a pop for a 90-minute session, could help turn a profit. Kayakers can pay $25 for the whole day.

“Compared to the overall river experience, it’s not a substitute,” says Kyle Irby, a 22-year-old college student and tireless kayaker who’s taking classes in Charlotte for the summer. The river he normally paddles, the Watauga, near Boone, N.C., hadn’t had water for 20 years.
months as the dry summer set in. "It's kind of like skiing in North Carolina. You can get bored once you do everything. It's still really nice to be able to come here and practice." Irby sets off to make a few more runs before cracking the organic chemistry books.

"A lot of people know about this place, but I don't think they know how fabulous it is," says Cindy Irby, Kyle's mom, who sits on the concrete shore watching her son fly off drops and bounce through the rapids like a toy. "I'm not a kayaker," she adds, "but doesn't that look like fun?"

Tim Neville frequently writes for Outside, National Geographic Adventure, and The New York Times. He lives in Bend, Ore.
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55th Annual P/A Awards

Jury
Coleman Coker, buildingstudio, New Orleans
Sarah Herda, Graham Foundation, Chicago
Thomas Phifer, Thomas Phifer and Partners, New York City
Julie Snow, Julie Snow Architects, Minneapolis
Karen Van Lengen, School of Architecture, University of Virginia

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Call for Entries
It All Started ...
Napkin sketches capture first gist of famous designs

DURING AN INTERVIEW some years ago, Frank O. Gehry pulled out his pen and sketched on the only paper available—a napkin. He doodled his latest iteration of an addition to the Corcoran Gallery of Art. On the back, he drew the outline of a rare failure, an Alessi teakettle, whose fish-shaped handle had been no match for Michael Graves’s iconic bird whistle. Over time, fortunes were reversed: The Corcoran canceled Gehry’s waves, while Alessi revived the kettle. Such flukes of design history are preserved on my wrinkled napkin, under the scrawled signature “FOG.”

I was reminded of the napkin when the Washington Architectural Foundation issued a call for napkin sketches to be auctioned this month to fund its Washington, D.C.—based Architecture in the Schools program. Napkins and Sharpie pens were sent to an international roster. Returns included a sketch by Cesar Pelli of a Tulsa, Okla., arena, and a corner concept identified simply as “X” by Helmut Jahn.

Beyond the worthy cause, napkin art may be serious business. Not only do these humble drawings bear witness to the spontaneity of creation, David Jameson, director of ArchiTech gallery in Chicago, believes they are to buildings as Rodin’s drawings were to his sculptures. “How else can one explore the mind of Gehry than to see how he boils down an idea of how a building should ‘feel’ with only a couple of strokes?” he asks.

Jameson prefers “the earliest examples of a designer’s ideas”—say, Daniel Libeskind’s original concept for the Michael Lee-Chin Crystal at Toronto’s Royal Ontario Museum, which the architect is said to have sketched on a napkin at a 2001 wedding reception. Or look for value in “the most elemental story of a structure in the least number of lines.”

Jameson appraised my napkin sight unseen, and knowing it’s not for sale. “My guess is that Gehry’s napkin could be valued at anywhere from $1,000 to $5,000,” he said. Matted and placed in an expensive titanium frame, he figured it could go “for at least $10,000, if my client requests are to be believed.” At auction, he said, there’s always the chance that “some bejeweled and tuxedoed couple could stand up in that crowd and yell ‘$50,000’ if it would get their mugs in the society pages.”

I countered that it didn’t capture a “Eureka!” moment, like Libeskind’s crystal palace. But Jameson replied, “Gehry is more famous and probably more long-lasting than Libeskind.” And besides, he said, “The Corcoran project looks to have been a far better design.”

Bottom line: Bid early and often for charity, and always carry a Sharpie.

LINDA HALES
By Philip Jodidio
The story of Santiago Calatrava's architectural career begins with a small book by Le Corbusier, which enticed the young Spanish art student to change his field of study. The rest of the Calatrava story unfolds in a stunningly large book, which weighs in at 12.4 pounds and requires its own carrying case. Monographs are published with such regularity that the reader can be forgiven for disregarding the genre, which constantly struggles to be more than a vanity press. But there is a case to be made for a 530-plus-page record of works by the 55-year-old Spaniard. For one thing, it takes a really big page to convey the gargantuan scale of his engineering, whether it's a bridge or the intricate ribbing of an airy galleria. Watercolors and figural studies are surprisingly intimate and unheroic. The author seeks to make a case for Calatrava as “the Da Vinci of our time.” Such an accolade carries a burden almost as heavy as this magnificent volume. The book offers much to inspire. It also demands a sturdy table. Taschen; $125

2. Critical Modernism: Where is Post-Modernism Going?  
By Charles Jencks
Thirty years after The Language of Post-Modern Architecture, theorist Charles Jencks strikes again. This book is an update of a lecture first given in 1985. At heart, it is a search for a new way forward. If postmodernism evolved into the sweet nostalgia of Michael Graves, and its architecture in a world grappling with climate change and terrorism should spark something with more prickly armor, he argues. Say, Rem Koolhaas’ Casa de Musica in Portugal (up for this year’s Stirling Prize) or Peter Eisenman’s City of Culture of Galicia in Santiago de Compostela, Spain, both of which he admires. In a risk-laden pluralistic world, Jencks argues for more skepticism. But the “critical” in the title is essentially optimistic. He sees “critical mass,” which means architects are already on to something. For a clearer explanation, read the book, which tracks modern thinking from the third century Christians to, yes, 21st century Dubai. Wiley; $100

3. Seventy-Nine Short Essays on Design  
By Michael Bierut
Rather be famous than rich, but how? Waiting for permission to do great work? Wondering why Eero Saarinen’s TWA Terminal shows up in so many movies? Such queries are fodder for this simple, humorous, and thoughtful collection of essays from graphic designer and Pentagram partner Michael Bierut. His musings will delight and surprise, whether he’s telling how he learned to prefer domesticity with Josef and Anni Albers over the uber-cool of Donald Judd, or how Target’s Clear Rx bottle became the Guggenheim Bilbao of product design. Each chapter is like a conversation with a great dinner guest who dispenses wisdom laced with humor. The typefaces are cool, too. Princeton Architectural Press; $24.95

4. Contemporary World of Interiors  
By Susan Yelavich
This 512-page compendium is among the first to record the fresh and exotic world of commercial interiors—retail, restaurants, religious institutions, schools, libraries, and healthcare facilities, to name a few. Susan Yelavich, visiting professor at Parsons The New School for Design and a well-known curator, has compiled 450 examples of interior environments around the world. The author says she is less interested in how spaces “look,” though they all look pretty terrific. Her goal was to identify best practices rather than the usual suspects. Koolhaas and other cultural icons are included, but this is not a celebrity sourcebook, and no one aesthetic language dominates. Yelavich notes the slide of creature comforts from domestic to institutional settings. (Libraries and hospitals are among the needy beneficiaries of the shift.) And although she expresses a conviction that the long-marginalized world of interior design should be allowed in from the cold, the majority of examples were overseen by architects. Phaidon; $79.95
Historical Highs and Lows
Cartographic Relief Presentation

By Eduard Imhof

The legendary Swiss cartographer Eduard Imhof (1895–1986) had no high-tech tools when he created his famously hyper-realistic images of jagged peaks and rushing rivers. With little more than sharpened pencils, paintbrush strokes, and exacting perspective, he escaped the limitations of flat paper to create mountainous topography that wants to leap off the page.

In the digital era, mapmakers produce 3-D images with a few keystrokes. Terrain is routinely photographed by satellites. With holographic film and laser optics, virtual landscapes can be created in minute detail, and even viewed from the inside out. Yet Imhof’s reliefs remain so compelling that information specialists such as Edward Tufte still turn to Imhof for guidance.

The task is made easier thanks to Imhof’s classic technical guide, Cartographic Relief Presentation, published in 1965 and reissued this year in paperback. Imhof, who worked as a professor of cartography at the Swiss Federal Institute of Technology for 40 years, is chiefly known for maps of the mountainous nation used in Swiss schools. He also earned the unofficial title of founder of modern academic cartography for drawing intricate contours and rocks and, as Tufte puts it, developing “all sorts of methods for escaping the flatlands of paper and display screen.”

ESRI Press; $59.95
Provoking Magic: Lighting of Ingo Maurer
Cooper-Hewitt National Design Museum

In four decades, Ingo Maurer, the German lighting designer, has produced enough artistry to earn the nickname “Goethe of the Light Bulb.” This month, the Cooper-Hewitt National Design Museum puts an overdue spotlight on the 75-year-old designer.

Long before pedestrian traffic lights beamed with LED bulbs, Maurer was embedding light-emitting diodes in his hat, his shirt, and a wedding gown. “Light can be sensual, it can be comforting, it can even be dangerous,” the designer has said. “It goes beyond science or nature or even art—it is as potent as life itself.”

For the exhibit, Maurer has created some site-specific installations. One promises to light up the grand old Carnegie Mansion staircase with New Age sound and light effects. Another combines lighting, color, and mood swings. He says he’s working on OLEDs, or organic light-emitting diodes, which “don’t give off bright enough light yet, but we are working on it.” It’s just such experiments, usually in the form of avant-garde art, that push the boundaries of expectation for lighting in 21st century buildings. Up next, Maurer sees LED-enhanced walls and maybe a new era of dynamic LED wallpaper.

It’s worth noting that Maurer is not a fan of compact fluorescents, because their light “gives off no feeling.” This exhibition illuminates the argument for lighting with romance in its soul. www.cooperhewitt.org
It has been 25 years since the illustrator Saul Steinberg’s 75-foot-long mural of the Queen City has been on view. The artist’s commentary, writ in black line on white canvas, caricatures vintage streetscapes and socialites, not to mention Cincinnati’s breathtaking suspension bridge and iconic central fountain. Steinberg completed the mural, then 90 feet long, for a restaurant in Cincinnati’s austere modern Terrace Plaza Hotel, a building Fortune magazine would dub a postwar prototype of its genre and “a triumphant marriage of art and economics.” The hotel closed in 1965.

Now, after 10 months of cleaning, the mural is worth a detour to the Cincinnati Art Museum, especially since it has been smartly combined with a traveling retrospective of 100 examples of Steinberg’s archive of wit and art. “It’s a wonderfully spectacular and speculative view of Cincinnati,” says museum director Aaron Betsky. In Steinberg’s hand, Betsky says, “the stones of the city come to life.”

Over a 60-year career, Steinberg rendered modernity and its trappings with whimsy and a draftsman’s respect. His most visible works were covers and cartoons for The New Yorker magazine—more than 1,000 in all. Before his death in 1999, Steinberg indulged in fashion, greeting cards, and stage sets, too.

If Steinberg returned to Cincinnati today, he would find Kohn Pedersen Fox’s Procter & Gamble headquarters, César Pelli’s Aronoff Center, and campus buildings by Michael Graves and Frank Gehry. How would Steinberg treat Zaha Hadid’s Contemporary Arts Center? Without any doubt, larger than life.

www.cincinnatiartmuseum.org

Xefiotarch: Playful, Radical Designs
By Hernán Díaz Alonso
Art Institute of Chicago
Through Oct. 28

Argentina-born architect Hernán Díaz Alonso is a master of the baroque, inspired by Francis Bacon as well as science fiction films. His digital designs challenge easy definition: They could be animals, plants, or, just maybe, architecture. No wonder the Art Institute of Chicago calls them radical.

While curator at the San Francisco Museum of Modern Art, Joseph Rosa organized this exhibition of avant-garde projects by Xefiotarch, the Los Angeles–based firm Díaz Alonso founded in 2001. The exhibit includes architectural models, digital animations, and a fiberglass sculpture called Sangre (Spanish for “blood”), coated in Ferrari-patented red paint. Rosa believes these pieces show welcome progress beyond what he calls the “blob-based structures” of digital architecture circa 1999.

“Díaz Alonso has expanded the theory and practice of this new architectural approach,” Rosa says. “His vision represents flexible arrangement in architectural form rather than stasis.” www.artic.edu
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ARCHITECTCES
Ohio's two-decade binge on cutting-edge museum architecture (Eisenman in Columbus, Hadid in Cincinnati, Gehry and SANAA in Toledo) continued with July's ribbon cutting for the new John S. and James L. Knight Building at the Akron Art Museum. Viennese architects Coop Himmelb(l)au won the commission through a 2001 design competition limited to those who had not previously built in Ohio. The end result is the firm's first completed building in the United States. A metal-clad "Gallery Box" (above, at right) houses exhibition spaces much larger than those in the original museum, a converted 1899 post office (above, at left). Shards of twisted, folded glass planes connect the two buildings in the "Crystal," while a 327-foot-long, cantilevered steel canopy hovers over all three elements. ARCHITECT chatted briefly with several denizens of the Akron area to get reactions to the new building.

**THE CRITICS SPEAK**

**LEE WEBER** is a security guard at the museum.

What are people saying about the building? People are having a tremendous experience exploring the new space. The building is a good example of form and function. It's intuitive; things flow. People use the word "ethereal."

Visitors can't touch the art, but they can touch the building. Have you noticed them touching anything in particular? Yeah, some of the diagonal beams. It's like a work of art housing works of art. It's so immediate and immersive. It's funny to see people run their hands down certain surfaces. Of course, we need to be careful with certain things like the [Sol] LeWitt mural.

**ARNIE TUNSTALL** is the museum's registrar.

What do you think of the contrast between the new and the old? I'm a real preservationist and a lover of all the old buildings downtown. I was one of the people saying, "We've got to hang onto this building." I fell in love with Himmelb(l)au's design because they actually engage the old building. It makes the old building more alive than it has been in years.

What's the best part of the new building? For me, the art storage. Nobody's ever going to see it, but it makes us more functional than we have been in the past.

**HERBERT ZOBEL** is a retired geography professor and a museum member.

What do you think about the new building? I'm intrigued by the lines and the patterns.

Do you see any downsides to the design? My concern is flying objects. We recently had a hailstorm with some the size of tennis balls. I'm wondering if it will bounce and slide off or will it be like a BB going into a plate glass window.

What have you noticed since first visiting the building? The clouds moving through the sky remind me of one of the essentials of geography. You make observations minute by minute, 24 hours a day. When you're connecting things that are changing, you feel better about yourself.
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CULTURE EVENTS

MONTREAL

What do footwear, cynicism, and modern architecture have in common? The first retrospective of Bernardo Rudofsky, at the Canadian Centre for Architecture, examines the multitalented architect’s work, including the design for a Bernardo Sandals shoebox shown here. www.cca.qc.ca

SEPTEMBER

Federico da Montefeltro and His Library
THROUGH SEPT. 30
NEW YORK
The Morgan Library is exhibiting codices from the 15th century collection of the Duke of Urbino. Curators have draped the walls of Renzo Piano’s new Clare Eddy Thaw Gallery in digital images of the duke’s study. www.themorgan.org

Street and Area Lighting Conference
SEPT. 23–25
SEATTLE
The Illuminating Engineering Society of North America holds its annual conference on outdoor lighting in Seattle. Learn about emerging technologies, lighting’s effect on health, and relamping. www.iesna.org

Can the Suburbs Kill You?
SEPT. 26
WASHINGTON, D.C.
A panel at the National Building Museum will explore the long-term side effects of living in today’s urban sprawl and some possible remedies. www.nbmm.org

OCTOBER

Sustainable Design With Fabric
OCT. 2
LAS VEGAS
Learn how architects and engineers are using fabrics to keep a green shade on their buildings and score cool points. The event kicks off the Industrial Fabrics Association’s annual expo. www.designwithfabric.com

The Architecture of Stewardship
OCT. 11–12
WASHINGTON, D.C.
The Association of Collegiate Schools of Architecture is having its Southeast Fall Conference at Catholic University, where the discussion will center on architects and designers as stewards of the earth. www.acsa-arch.org

Society of Fire Protection Engineers Exposition
OCT. 15–19
LAS VEGAS
The fireworks in Vegas will be at the fifth annual SFPE Engineering Technology Exposition on leading trends in fire protection and prevention. www.sfpe.org

Restore, Rebuild, Revitalize
OCT. 17–20
NEW ORLEANS
The Traditional Building Exhibition and Conference chooses the City That Care Forgot for its annual trade show on historic restoration, renovation, and traditionally inspired new construction. www.traditionalbuildingshow.com
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THE GSD STUDENT AND ARCHINECT.COM EDITOR EXPLAINS HIS MISSION TO REWRITE WIKIPEDIA’S ENTRIES ON ARCHITECTURE.

Interview Gideon Fink Shapiro Photo Jim Flynn

QUILIAN RIANO

Why reconsider Wikipedia’s entries for “architecture,” “landscape architecture,” and similar terms? If you type “architecture” in Google, what’s the first thing that comes up? The Wikipedia page. There are straight-out errors in facts in there. And there’s an insistence on attaching a certain kind of cuteness to architecture, and this gets into an internal conversation we’ve been having for the past 100 years about decoration. I’m left with the sensation that architecture is something of the past, not something that is moving forward constantly.

Why is it so important that architects control Wikipedia’s descriptions of architecture? These pages have the culture’s view, whether we like it or not. Are we going to continue to let other people define who we are? Or are we going to take that bull by the horns and say: We are this, this, and this; and this is the value of having an architect; and this is the value of design in an urban environment. So maybe it’s to break some of those stereotypes. It won’t be a world-changing thing. But in the few areas that we have power, why not?

Has Archinect ever undertaken any comparable projects that involve online group collaboration? I would point you to MAPA [Modern Architecture Protection Agency] and the work they did for the Grosse Pointe Library by Marcel Breuer. Someone posted a news item [on Archinect about the library’s possible demolition], then someone put a thread in the forum. The conversation grew, and they were able to save the building. It was a controversial project, but it was good for Archinect to undertake. It was the first time that something grew out of Archinect and became real.

Do you feel a responsibility to represent the profession of architecture and design? I do feel responsibility because it’s my chosen profession. And I feel like it’s my job to bring a certain expertise to the larger world. Or maybe I just don’t feel comfortable with letting other people define what I do. The AIA does a good job, but their mission is different. I hope they’re doing a good job going to Capitol Hill and lobbying for us. I don’t have the time or expertise. And I don’t have the organization to do that. But I can change a Wikipedia page.

Gideon Fink Shapiro is a freelance writer based in New York City.
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