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ON THE COVER

The Dalian International Conference Center, in northeast China, designed by Coop Himmelb(l)au. Photo by Duccio Malagamba.

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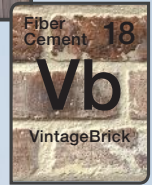
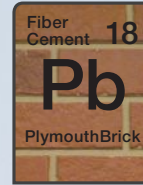
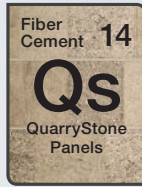
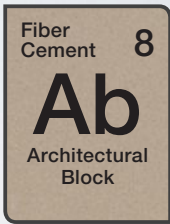
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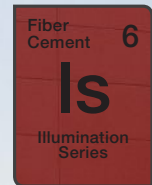
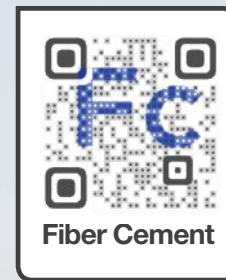
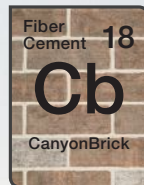
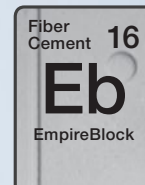
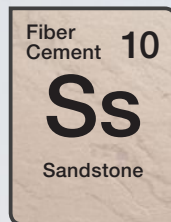
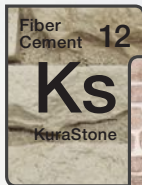
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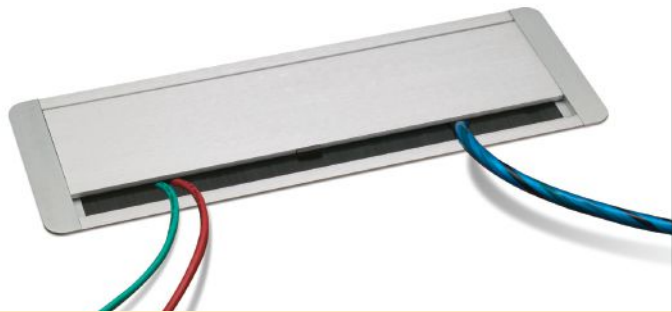
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Ned Cramer, Assoc. AIA
ncramer@hanleywood.com

MANAGING EDITOR
Greig O'Brien
gobrien@hanleywood.com

ART DIRECTOR
Marcy Ryan
mryan@hanleywood.com

DESIGN AND TECHNOLOGY

SENIOR EDITOR, DESIGN
Katie Gerfen
kgerfen@hanleywood.com

ASSOCIATE EDITOR, TECHNOLOGY
Wanda Lau
wlau@hanleywood.com

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Deane Madsen, Assoc. AIA
dmadsen@hanleywood.com

COLUMNS AND FEATURES

SENIOR EDITOR, FEATURES
Eric Wills
ewills@hanleywood.com

ONLINE
SENIOR EDITOR, ONLINE
Kriston Capps
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ASSOCIATE EDITOR, ONLINE
Lindsey M. Roberts
lmroberts@hanleywood.com

SENIOR WEB PRODUCER
Armando Manzanares
amanzanares@hanleywood.com

ART

SENIOR GRAPHIC DESIGNER
Melissa Meyers
mmeyers@hanleywood.com

GRAPHIC DESIGNER
Jessica Rubenstein
jrubenstein@hanleywood.com

COPY AND RESEARCH
QA/COPY EDITOR
Alexandra Rice
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CONTRIBUTING EDITORS

Aaron Betsky; Blaine Brownell, AIA;
Elizabeth Evitts Dickinson; John Morris Dixon, FAIA;
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UNITED KINGDOM, EUROPE
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stuart.smith@ssm.co.uk
44.020.8464.5577

E-MEDIA SALES MANAGER
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amowrey@hanleywood.com
724.612.9319

GROUP PUBLISHING
SUPPORT MANAGER
Angie Harris
aharris@hanleywood.com

INSIDE SALES

AD TRAFFIC MANAGER
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sroche@hanleywood.com

AUDIENCE MARKETING DIRECTOR
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PRODUCTION

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EDITORIAL AND ADVERTISING OFFICES
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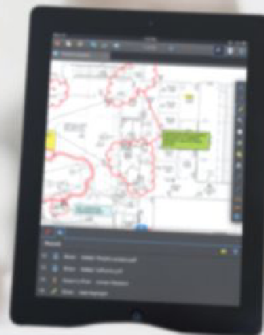
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DIALOGUE



CLASSICISM WAS MARGINALIZED IN POSTWAR EUROPE FOR THE SAME GOOD REASON GERMANY BANNED THE SWASTIKA.

SPRINGTIME FOR SPEER

LÉON KRIER HAS REPUBLISHED HIS CONTROVERSIAL 1985 BOOK ON ALBERT SPEER. IN IT, KRIER ATTEMPTS TO RECONCILE HIS CONTEMPT FOR INDUSTRIALIZATION WITH HIS LOVE OF THE NAZI ARCHITECT'S WORK.

I WAS THE BENEFICIARY of many professorial dressings-down during architecture school. The one I probably deserved most (and I did deserve most of them) was for citing, as precedent for a colonnaded columbarium project, the grandstand that Nazi architect Albert Speer built on the Nuremberg parade grounds, because it too had rows of columns. I pinned a picture of it on the jury-room wall, alongside a plan of the Stoa of Attalos and my smudgy pencil-on-vellum renderings. The instructor was quick to reprimand me for my naïveté about the relationship between design and ethics.

I had found the image in the school library, in *Albert Speer: Architecture 1932–1942*, a 1985 monograph by traditionalist Léon Krier. Monacelli Press released a new edition last month. Krier's enthusiasm for Speer was (and still is) controversial. His position: The Nazis spoiled classicism for the rest of us, in an unfair case of guilt by association. "Classical architecture was implicitly condemned by the Nuremberg tribunals to a heavier sentence than Speer the Reichsminister," he wrote in his original essay. Of course, classicism was marginalized in postwar Europe for the same good reason that Germany banned the swastika: Both had come to represent an abhorrent political ideology.

All architecture is political, as Peter Eisenman notes during his conversation with Krier (see page 68). In such matters, one typically takes the good with the bad. I'm comfortable separating my love of Bernini's *baldacchino* in St. Peter's from my sadness about the Inquisition's mistreatment of Galileo, though Pope Urban VIII was responsible for both. But regardless of how talented Speer was or how compelling a case Krier makes for his work, it's difficult to separate the architecture of National Socialism from the clientele.

What Krier didn't anticipate, while writing the Speer monograph in the early '80s, is just how far and how quickly classicism in general would rebound. At the time, the postmodernists were already reviving interest in historic design vocabularies and planning patterns. Within a decade, Berlin itself was being rebuilt along traditional lines, both architecturally and urbanistically. And today, Krier teaches at Yale, boasts the Prince of Wales as patron,

and can fairly claim to be godfather of New Urbanism. These are not the circumstances of an underdog.

In a new preface to the book, Krier outlines an aggressive position on social and environmental issues. "We consume goods that may be produced by slave labor, use machinery that may ruin the conditions of life on the planet," he writes. "How can we behave ethically and responsibly if we are an organic part of an unsustainable world economy?"

Globalization has its discontents, but Krier considers it as corrosive as the Third Reich was, which strikes me as hyperbole. Manichean thinking leads to logical fallacy. Globalization is evil, Krier maintains, and modern architecture is its agent. Therefore modern architecture is bad. His antidote, not surprisingly, is classical architecture, and lots of it, built using traditional construction methods. But by Krier's own argument, shouldn't classicism be condemned for its Nazi affiliation?

Speer believed that his stripped-down, monumental classicism would bring order and purpose to the machine age, but of course he was really producing brick-and-mortar propaganda, a high-culture cover for assembly-line slaughter. "I repeatedly reproached Speer for his unrepentant belief in industrial civilization," Krier recounts. "But Mr. Krier," he boldly answered, "There is nothing to think about, industry is right, *there is no going back.*"

What a chilling conversation, this clash of extremisms. Don't be fooled by the fact that Speer and Krier have classicism in common. The former was an out-and-out technocrat and the latter is a Luddite. While there is a growing consensus that architecture's 20th-century stampede toward progress was not an absolute good, it wasn't all bad, either. And while the profession has much to learn from history, going back shouldn't mean unconditional surrender to nostalgia, or total abandonment of innovation. Building a better world—reworking the machine for living to be more equitable and sustainable—requires a careful sense of balance.

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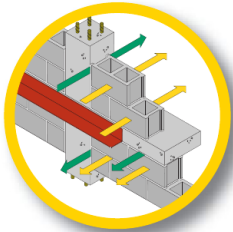


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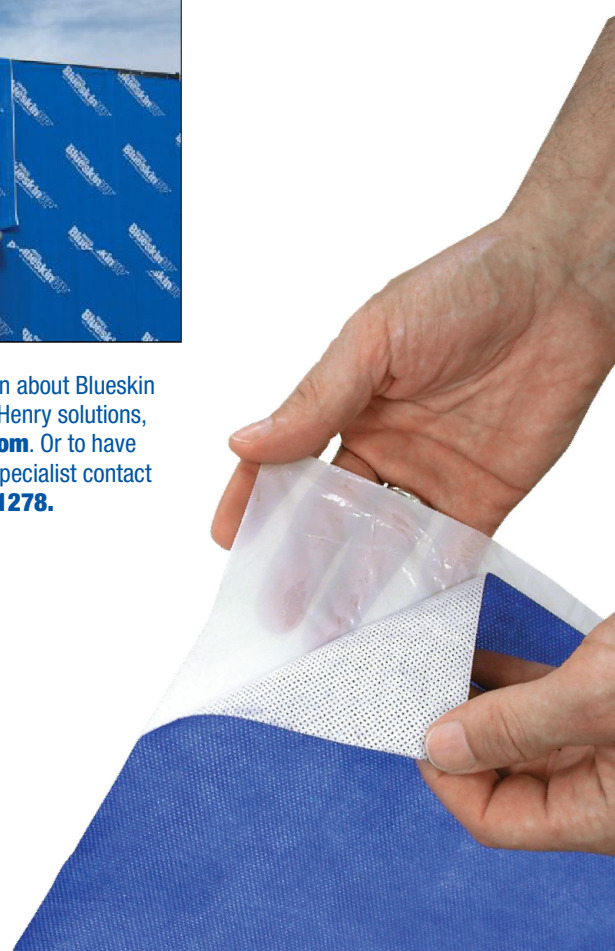


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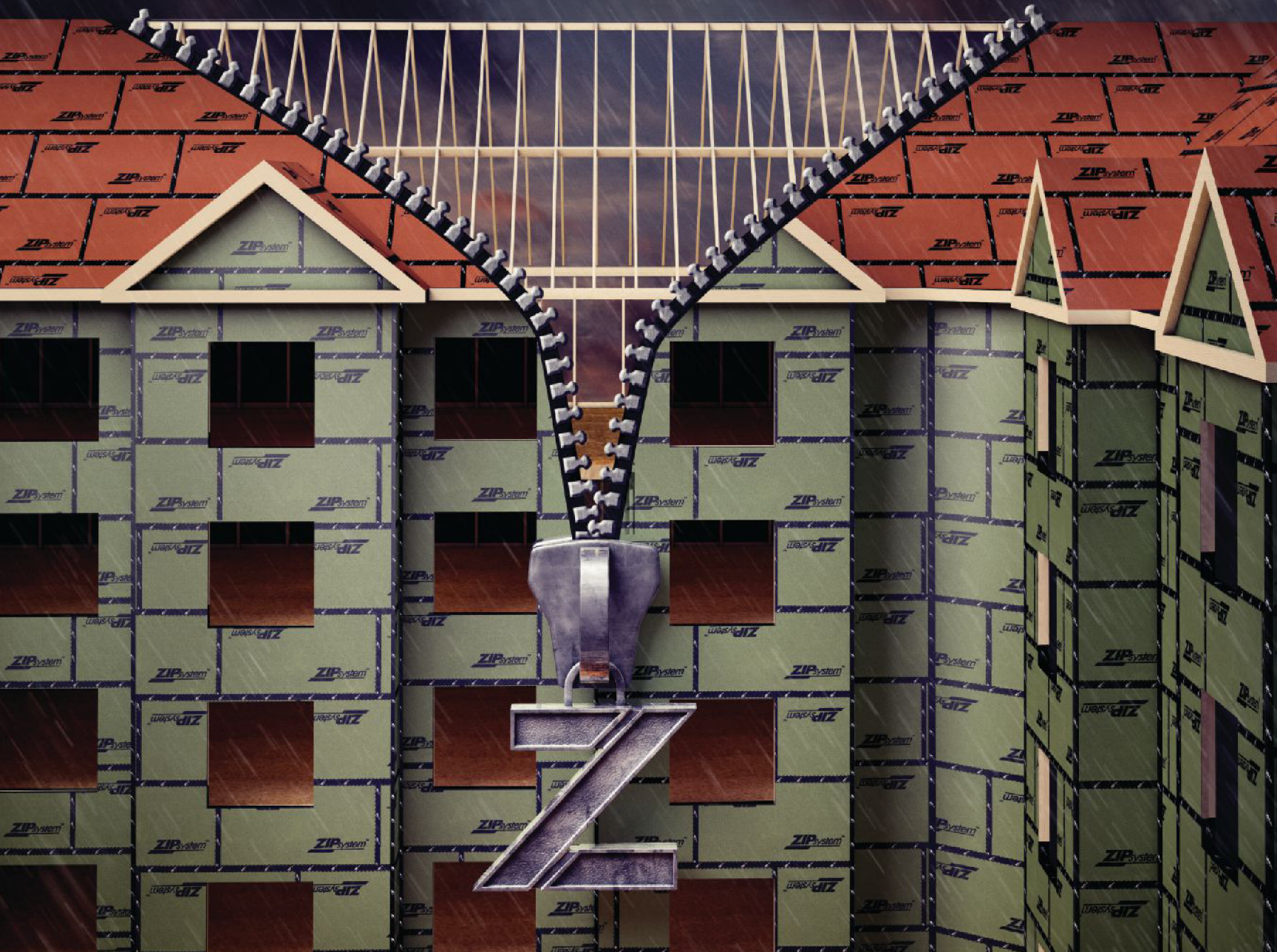


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CATEGORIES

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

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

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

ELIGIBILITY

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

PUBLICATION

The winning entries will appear in the July 2013 issue of ARCHITECT, both in print and online.

DEADLINE

Friday, April 5, 2013
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(postmark)

Wednesday, April 10, 2013
late submission deadline
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LETTERS



Dialogue, January 2013

I have to take issue with your assertion that “It’s hard to blame Millennials—and Gen Xers and Boomers—who gripe about architecture’s cumbersome intern development program (IDP) and an educational system that too often provides insufficient preparation for the realities of practice.” I became a registered architect in 1982 and I am not familiar with the present-day internship experience. I do feel, however, that the architecture curricula of the universities do not represent those found in trade schools, and were never meant to. They are, instead, meant to be sources of education, including knowledge acquisition and learning skills. The architect’s practice is always changing. The best thing that sources of architectural education can do is equip future architects with the awareness of the ever-changing needs of those who need and use the built environment. **MARK T. EPLING, AIA, CHARLESTON, W.V.**

In reference to the issue of the length of time it takes to get licensed in the profession, I can say I’ve seen this get far worse over the last decade. I believe the problem is human nature. Once the licensing exam became computerized and offered every day of the week, we saw a decline in the number of licensed professionals. I had every one of my

interns tell me they were taking the exam “next month.” I can tell you that next month never comes. It is human nature to put off unpleasant tasks when it will be there next week, next month, and the month after that. Back when NCARB offered the test once a year, you rearranged your life to take that week off and take the exam. The convenience of the exam has let too many defer taking it and months become years. **JAMES DRAHEIM, AIA, FAIRFAX, VA.**

Seven is Enough, January 2013

What a great discussion in your January issue regarding internship and the path to licensure. It is our hope at NCARB that efforts to provide a structured option within the academy will spur further collaboration to best leverage the tools of education, experience, and examination along that path. As reported, recent changes to the Intern Development Program (IDP) have intentionally added flexibility and expanded opportunities to acquire experience, which can assure the public of competency to practice. The downside of flexibility in both examination and internship is that the lack of structure can result in a longer timeline to licensure; ironically, the structured path takes about the same amount of time as it did a generation ago. A generation later, the culture and the marketplace have dramatically changed. Thus,

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more must be done to marry and refine the three e's.

It is our hope to encourage further evolution on two fronts. With licensing jurisdictions: to move toward uniformity in allowing examination simultaneous with, rather than subsequent to, internship. With the academy, collateral organizations and licensing boards: to propose a season of experimentation regarding a new licensure-at-graduation model that would preserve the essential elements of each of the three e's and reassert the value and necessity of licensure. To quote NCARB president Ron Blitch, "the council's leadership has been thinking outside of the norm of what regulation of education, experience and examination has become in order to push the momentum on change and improvements to the path to licensure."

Let's also assure we have a clear-eyed approach in our forward direction: While we worry about a deterioration of the profession, actual numbers show an uptick in licensees since 2009 from 101,673 to 105,596 in 2012; and, half of those enrolled in IDP complete their hours in 5.5 years or less with enrollment now available at graduation from high school.

So, while it is absolutely prudent to focus on the issue of structure—imposed either through individual responsibility and/or with the encouragement of the academy and organizations—this is one of a variety of approaches to be considered. Through greater exploration, collaboration,

and conversation, we may find even more refined formulas toward shortening the time between graduation and licensure, with the goal of creating a path that is defensible and continues to protect the public's health, safety, and welfare. MICHAEL ARMSTRONG, CEO, NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS

Millennials, January 2013

If Mr. Jimenez Lai is afraid of some liability and fearful that licensure would inhibit his creativity, I suggest that he is in the wrong profession. The licensure laws are essential to test for a minimum capability and to protect the public from incompetent practitioners of the mother art.

DONALD J. RICHARDS, AIA, MIDDLETON, WIS.

A Vision Deferred, January 2013

Christopher Hawthorne's article was well written. My experience in Lou Kahn's 1962 master's class would not lead me to expect Kahn to engage in what appears to be optical manipulation in the Roosevelt Memorial, so I wonder if Hawthorne or anyone familiar with the design concept has any insight about the design's strange descending perspective.

RICHARD T. REEP SR., AIA, JACKSONVILLE, FLA.



Tim Lee
@timeleedesign
On a roll!: AIA billings index up sixth straight month in Jan. 54.2 highest score since Nov. 2007. bit.ly/VuJW8f

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Brilliant article: Q: What will the rise of the Millennials mean for architecture? soc.li/40kfwfI

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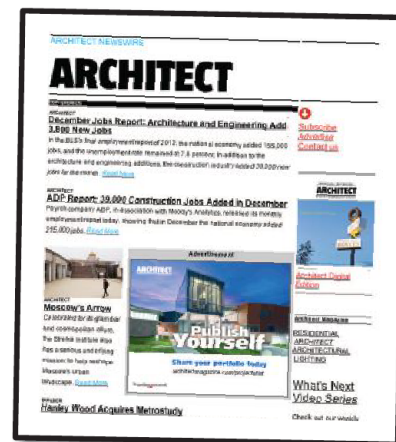


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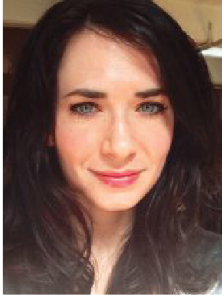
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CONTRIBUTORS



MURRYE BERNARD

MURRYE BERNARD, ASSOC. AIA, is an architectural journalist based in New York City. Before pursuing her career as a writer and editor, she earned a Bachelor of Architecture from the University of Arkansas and spent several years working for firms including Polk Stanley Rowland Curzon Porter Architects (now Polk Stanley Wilcox) in Little Rock, Ark.; Polshek Partnership Architects (now Ennead) in New York; and TEK Architects in New York.

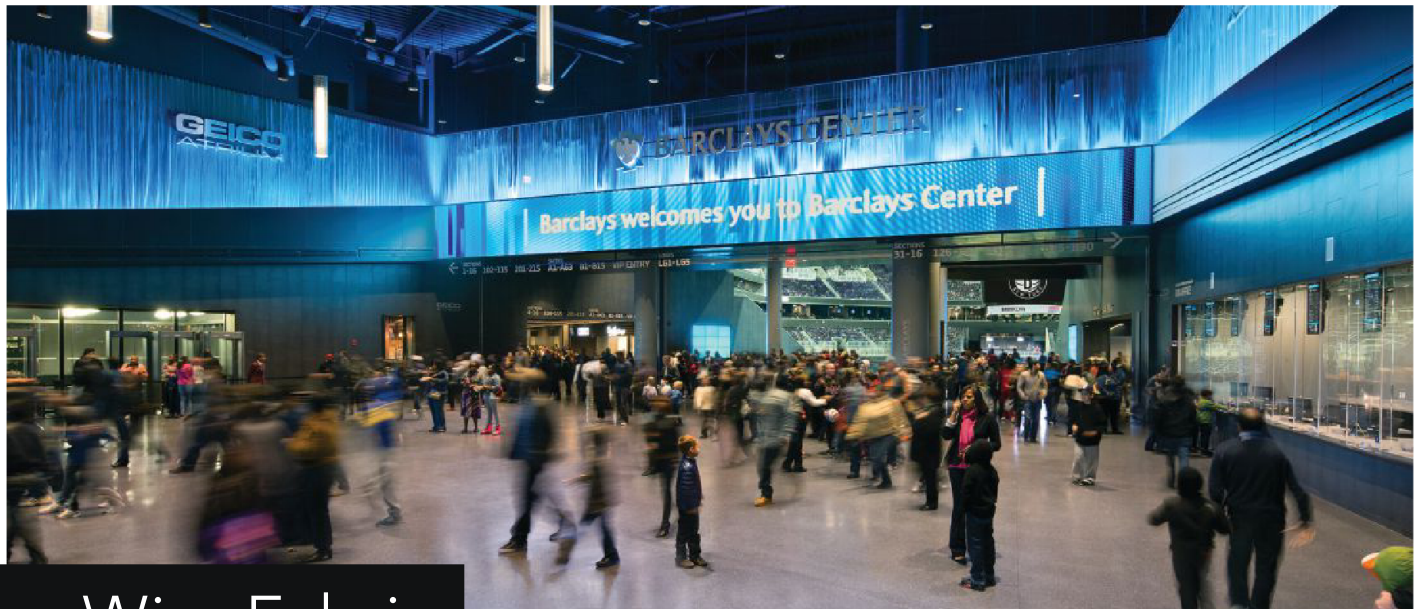
In 2005, Bernard was appointed editor of *AssociateNews*, a newsletter of the American Institute of Architects (AIA) National Associates Committee (NAC). The following year she served as director of *Forward*, another NAC publication.

After moving to New York in 2006, Bernard was named contributing editor of *e-Oculus*, the newsletter of the AIA New York Chapter.

Bernard contributes to several publications on the topics of architecture and design. She is a regular contributor to *Architectural Record*, *Contract*, *Design Bureau*, and *EcoStructure*. Last year she completed the Design Writing and Research Intensive course in the D-Crit program of the School of Visual Arts.

She is halfway through taking exams in pursuit of her architectural license, which she expects to attain in the coming year.

SEE BERNARD'S STORY ON SILO 468, AN ART INSTALLATION FOR HELSINKI, FINLAND, BY LIGHTING DESIGN COLLECTIVE, ON PAGE 50.



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FRONT



AMERICAN STORIES

STEVEN HOLL'S EXPANSION OF THE KENNEDY CENTER AIMS TO FIX THE PREMIER PERFORMING-ARTS VENUE'S HISTORIC FLAW.

The John F. Kennedy Center for the Performing Arts has commissioned Steven Holl Architects to build a \$100 million expansion of the center. Preliminary renderings for the addition, to be designed by Steven Holl, FAIA, and Chris McVoy, a senior partner at the firm, reveal a reflecting pool, a floating outdoor stage, a "Glissando Pavilion," new performance space and green space, and several cube-ish volumes typical of Holl's work. Crucially, the expansion of the Edward Durrell Stone–designed performing-arts center promises to correct some aspects of its chief flaw: its disconnect from the nation's capital.

There's no talking about Steven Holl Architects' expansion plans for the center without talking about the history of the Kennedy Center itself—and why an intervention is so sorely needed. The Kennedy Center was built during a surge of enthusiasm for design and performance, as a shrine to the belief that the arts could capture American minds and encapsulate the American spirit. But something has changed since its opening in 1971, and more than just a growth in program and resulting decline in available space. Just two years ago, *The Washington Post* published testimonials from five

critics—on classical music, theater, jazz, dance, and design—focused on the Kennedy Center. Each was a variation on a theme: The national performing-arts venue was physically and artistically isolated.

At a glance, Holl's expansion would help the Kennedy Center to be less remote and imperious, connecting it with the waterfront along the Potomac River and adding to its program space. The additional 60,000 square feet of space is modest compared with an abandoned \$650 million plan by Rafael Viñoly announced in 2003 that would have added 400,000 square feet of program space. But while that plan would have also addressed the Kennedy Center's physical isolation, it was proposed before sequestration was the watchword in Washington.

As the *Post*'s Philip Kennicott writes, "Holl's success in 2007 with a major expansion to the Nelson-Atkins Museum of Art in Kansas City, Mo., bodes well for his ability to integrate new facilities into the Kennedy Center campus." (*New York's* Justin Davidson profiled Holl, too, for *ARCHITECT* back in May.) One measure of success will be the degree to which Holl can address the Kennedy Center's oversights. KRISTON CAPPS

53,000

Estimated number of jobs lost as a consequence of the sequester's impact on cuts to the U.S. Department of Housing and Urban Development's programs for low-income housing and historic preservation.

SOURCE: NATIONAL HOUSING AND REHABILITATION ASSOCIATION

MORE DESIGN NEWS AT
ARCHITECTMAGAZINE.COM

Final Plans Revealed for the Tallest Tower in the West

AS THE TALLEST SKYSCRAPER IN LOS ANGELES, THE WILSHIRE GRAND WILL REDEFINE THE DOWNTOWN SKYLINE.



Downtown Los Angeles is getting a significant (read: very tall) new landmark that promises to draw more visitors to the heart of the business district: the 73-story Wilshire Grand, a hotel and office skyscraper designed by locally based AC Martin Partners. At 1,100 feet (including the spire and a sail-shaped architectural feature), it will become the tallest building west of Chicago when it is completed in 2017, surpassing the nearby 1,018-foot-tall U.S. Bank Tower, designed by Henry Cobb of Pei Cobb Freed & Partners.

The new glass-clad tower will feature 900 hotel rooms, 400,000 square feet of office space on 30 floors, and 45,100 square feet of ground floor retail. High-speed elevators will transport hotel guests to the lobby on the 70th floor; the 71st floor will house a restaurant. The roof will feature a pool and lounge area with views of the Pacific Ocean, the Hollywood Hills, and the San Gabriel Mountains.

The site of the new building, 930 Wilshire Boulevard, was home to the 1952 Wilshire Grand hotel, whose demolition is currently under way. ERIC WILLS

CONTINUING ED

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January 2013

Architecture Billings Index



↑ 3.0 pts from December

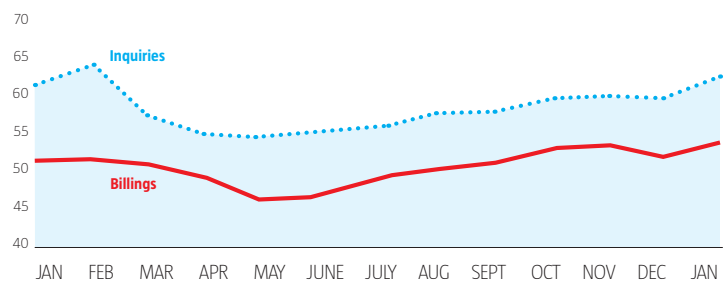
Commercial ↓



Institutional ↓

Mixed Practice ↑

Multifamily Residential ↓



ABI UP FOR SIXTH STRAIGHT MONTH

THE AIA'S ARCHITECTURE BILLINGS INDEX SHOWS CONTINUED STRENGTH IN CONSTRUCTION.

In January, the American Institute of Architects' Architecture Billings Index marked its sixth consecutive month of growth in the demand for architectural design services. With a national score of 54.2, up significantly from December's score of 51.2, the architecture industry is seeing continued strength as we begin to come out of the winter.

The national score for project inquiries came in at 63.2, which is also up—significantly—from the AIA's revised score of 57.9 in December. This represents the 48th straight month that project inquiries have shown growth.

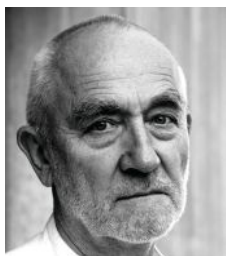
(A score above 50.0 means that demand is increasing.)

January was a good month for the architectural profession, possibly the best month since the beginning of the financial crisis and recession. The 54.2 score for billings is the highest score since November 2007. The 63.2 for project inquiries is the highest score since July 2007. The six-month run of billings scores above 50 is the longest such run since 2007.

In more good news, all four of the nation's regions and all four of the industry's sectors also showed growth. GREIG O'BRIEN

PETER ZUMTHOR, RIBA GOLD MEDALIST

THE ARCHITECT, WHO HAS ABOUT 20 PROJECTS TO HIS NAME, HAS BEEN HONORED FOR HIS LIFETIME ACHIEVEMENTS.



The Royal Institute of British Architects (RIBA) has awarded Peter Zumthor the Royal Gold Medal, the U.K.'s top architecture prize.

The Swiss architect's projects range from Steilneset Memorial—a monument in the Arctic Circle to the victims of witch trials, which he designed with artist Louise Bourgeois—to an English home for philosopher Alain de Botton's Living Architecture holiday-home scheme. Zumthor's best-loved works include the Kunsthaus Bregenz in Austria, the Therme Vals in Switzerland, and the Kolumba art museum in Germany.

But Zumthor is loved in part because he has built so few works. With some 20 completed projects in his portfolio, his reputation is defined as much by his careful selection of commissions as by his designs for them. With this recent honor, there is one more reason to envy him. *k.c.*

[MORE NEWS AT ARCHITECTMAGAZINE.COM](#)

"IT TURNS OUT THAT THE OLD COMPLAINT AGAINST GENTRIFICATION, THAT IT DRIVES OUT MINORITIES, IS FAR TOO SIMPLISTIC. INSTEAD, WE SHOULD BE WORRYING ABOUT A DIFFERENT CONCERN: IT HASN'T BUILT THE DIVERSITY THAT JACOBSIAN URBANISTS ENVISIONED, AND THAT CITIES NEED."

—INGA SAFFRON, *THE NEW REPUBLIC*

TRACKING SEATTLE'S BUILDING ENERGY PERFORMANCE

SEATTLE IS ONE OF AT LEAST FIVE MAJOR CITIES REQUIRING OWNERS OF LARGE BUILDINGS TO TRACK ENERGY PERFORMANCE.

After collecting data for the year 2011, the City of Seattle has determined that more than 87 percent of its commercial and multifamily buildings of 50,000 square feet or larger are reporting their building energy performance. The data represents about 1,160 properties and 200 million square feet of total building space.

Data are collected in adherence to Seattle's benchmarking ordinance, which requires owners of commercial and multifamily apartment and condo buildings of 20,000 square feet or larger to annually benchmark energy performance. Owners who don't submit their buildings' data are fined.

Other major cities that have similar energy benchmarking legislation include New York City; San Francisco; Philadelphia; Austin, Texas; and Washington, D.C. While some cities require public disclosure of energy data, Seattle requires disclosure to tenants, buyers, and financial institutions.

Energy use in Seattle on a broader scale is also tracked through the 2030 District's Building Dashboard, part of the Seattle 2030 District Planning Committee's work to set up a high-performance building district encompassing some 83 square miles and nearly 600,000 people.

LINDSEY M. ROBERTS

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JEANNE GANG ON
ECOLOGY, #ARCHITECTURE,
AND FLW: "I WANT TO
TURN WRIGHT'S LEGACY
UPSIDE DOWN."

@CTHON1C:
"CONTEXTUALISM IS AN
OPIATE FOR THE MASSES."
—@VISHAANNYC ON
#DOMINO

NEW STORM BARRIER PROPOSED FOR MANHATTAN

WXY ARCHITECTURE + URBAN DESIGN HAS DEVELOPED AN APPROACH TO A 4-MILE STRETCH OF THE EAST RIVER AS PART OF THE BLUEWAY PLAN FOR CREATING NEW STORMWATER BARRIERS.



In the wake of the devastation left by Hurricane Sandy last October, New York has announced a plan to combat stormwater surge should the city suffer another such storm. Developed by New York-based WXY Architecture + Urban Design, in concert with local officials and community groups, the East River Blueway Plan calls for the creation of stormwater barriers along a 4-mile stretch of the East River waterfront.

The plan, which has been in development since 2011, calls for the creation of wetlands, parks, bicycle and pedestrian pathways, and bridges, as well as the redevelopment of a disused beach at the base of the Brooklyn Bridge. "We're looking at how to bring the East River back, how to make it great from a habitat point of view," says WXY principal Claire Weisz, FAIA.

The plan also proposes raising the existing park road and replacing a bulkhead that currently blocks access from FDR Drive to the river. Instead of being blocked by solid infrastructure, storm surges would be mitigated and absorbed by the natural buffer of wetlands that extend into the river.

The Blueway Plan fills in the gaps left between existing infrastructure development plans—including the East River Esplanade designed by SHoP Architects and Ken Smith Landscape Architects, the first phase of which opened in 2011—and will complete the East River Waterfront up to 38th Street. Though the project has been in the works since long before Hurricane Sandy hit, the timing is right for the new plan to get under way. KATIE GERFEN

President Obama Appoints Michael Graves to Access Board

President Barack Obama has appointed Michael Graves, FAIA, to the Architectural and Transportation Barriers Compliance Board. The board, which is known more popularly as the U.S. Access Board, is an independent agency that ensures that designers account for people with disabilities.

Graves, whose bio is now posted on the White House website, has used a wheelchair since suffering a spinal infection in 2003. He is a rare advocate for accessibility-minded design who has lived life both as an abled and disabled person. (He is something of a rare design talent, too.)

In 2010, *The Washington Post* ran a feature on ability, accessibility, and design after Graves visited the nation's capital to talk at "Revealing Culture," an exhibit he designed for the Smithsonian Institution's International Gallery.

Does that mean that President Obama is a fan of Postmodernism? It might. By the sound of it, the admiration is mutual. k.c.

STEP UP, STEP DOWN

↑
Yvonne Thurman-Doğruer
Director,
Beverly Willis
Architecture Foundation

↑
Robert Hammond
Executive director,
Friends of the High Line

↑
Roger Call, AIA
President,
AIA Academy of
Architecture for Health

↑
Adel Shalaby
Project architect,
Rhodes+Brito Architects

↑
Dakin Hart
Senior curator,
The Noguchi Museum

↑
Joe Boyer
CEO,
North American group,
Atkins

↑
John Pulley
Director of technical
engineering,
Buro Happold

↑
Dakota Jackson
Honorary chair of
furniture design,
Savannah College of Art
and Design

↑
Major General L. Dean Fox, USAF (Ret.)
CEO,
North American group,
Atkins

BETTING ON BENTONVILLE

THE SUCCESS OF A BOUTIQUE 21C MUSEUM HOTEL IN BENTONVILLE, ARK., DEPENDS ON THE DRAW OF CRYSTAL BRIDGES—WHICH DEPENDS IN TURN ON THE HOTEL.



[➔ MORE IMAGES ONLINE AT ARCHITECTMAGAZINE.COM](#)

When the **Crystal Bridges** Museum of American Art opened in November 2011, it made for a convincing vanity project. Walmart heiress Alice Walton had spent years studying up on American art and millions buying up the finest available examples. Crystal Bridges was the first major American art museum to open in decades when it opened in the historical Walmart home of Bentonville, Ark.: population 35,000.

Crystal Bridges has since been met with unambiguous success. Several Bentonvilles worth of people have poured through the doors of the Moshe Safdie–designed museum, with first-year attendance exceeding 600,000 visitors. Now the 21c Museum Hotel chain is banking on that success. The third 21c Museum Hotel, designed by Deborah Berke Partners, will be built in downtown Bentonville.

The design for Bentonville includes some 12,000 square feet of curated art space. In as much as 21c is betting on the continued draw of Crystal Bridges for its continued success, Crystal Bridges is betting on design to cement the status of Bentonville. K.C.

BEYOND BUILDINGS

FROM LOS ANGELES TO GILMORE CITY

LOS ANGELES DEVELOPER TOM GILMORE GIVES SCI-ARC \$1 MILLION FOR A FACULTY CHAIR.

The **Southern California Institute of Architecture (SCI-Arc)** found a permanent home in downtown Los Angeles in 2011 and a friend in one downtown developer in 2013.

Tom Gilmore, a SCI-Arc trustee and Los Angeles developer, has given the school a \$1 million gift to support a Gilmore City Chair for the school's design and architecture faculty. Gilmore, who is known for his work in acquiring and rehabilitating historic buildings in the Old Bank District and other Downtown Los Angeles neighborhoods, has been a SCI-Arc trustee since 2001.

"Design, architecture and cities have played a defining role in my life, and these interests originally led me to SCI-Arc," Gilmore said in a release. "As I began to consider my gift, I wanted to acknowledge these influences in a meaningful way. The idea of creating a named chair, the Gilmore City Chair, seemed like a natural fit." K.C.

ANTARCTITECTURE

ONE HUNDRED YEARS AFTER THE END OF THE ERA OF EXPLORATION IN ANTARCTICA, A RELOCATABLE RESEARCH STATION OPENS NEW FRONTIERS ON THE WORLD'S MOST INHOSPITABLE CONTINENT.



The **Heroic Age of Antarctic Exploration** claims some of the greatest adventures in human history, thanks to an especially inhospitable climate. The continent boasts the coldest air temperature ever recorded—that would be -128.6 F, at Vostok, Antarctica, on July 21, 1983.

The Halley VI Antarctic Research Station, designed by Hugh Broughton Architects with AECOM and built by Galliford Try, marks a new era in Antarctic exploration. The Halley VI, commissioned for the British Antarctic Survey and stationed on the Brunt Ice Shelf, is able to relocate

rapidly through the use of hydraulically elevated ski-based modules. The station is designed to be moved if and when an iceberg threatens to break off the ice shelf—a growing concern, given the rate at which Antarctic ice is receding.

U.K. minister for universities and science David Willetts praised the station as belonging to the legacy of Heroic-era explorer Robert Falcon Scott. "The legacy of Captain Scott, together with our strong track record of scientific discovery in Antarctica, is set to continue in this excellent new facility." K.C.

2

Percentage of 891 surveyed architects who said that the economic downturn disproportionately affected men in the industry. Another 58 percent said it disproportionately affected women.

SOURCE: ARCHITECTS' JOURNAL WOMEN IN ARCHITECTURE SURVEY

A TALK WITH...

Joseph Becker, co-curator of a new SFMOMA exhibition on Lebbeus Woods, the experimental designer who died in October.



When did you start working on the exhibition?

Last summer, which made for a very compressed timeline for an exhibition. SFMOMA was about to close for an expansion, and we really wanted to do this show with Lebbeus [before then]. At the time, he was alive and we were working directly with him.

Why this subject for your last exhibition before the expansion started?

It was a good moment to put works on view that had been collected by the past four curators. It was a good opportunity to state that SFMOMA's collection of architecture and design is really focused on the questions that architects can pose and the potential of architecture to challenge our perception and our environment.

At what point in the process did you lose Woods?

He passed away right in the middle. We had planned on perhaps doing an installation with him, but then the exhibition shifted. It's now really devoted to drawings and models. That's the bulk of his career, though he did do a number of spatial installations through exhibitions.

How do you explain to visitors who don't know Woods how he was an architect, though he never built anything?

That has to do with the questions your work is attempting to ask, questions of space and usage and functionality. What does architecture do? What does architecture do for humanity? What are its shortfalls? What are its potentials? Even without building something, he's [Woods is] engaging within the process of architecture, the discourse. As a professor for so many years at Cooper Union, he was able to inspire generations of architects in thinking about what questions to ask and how to answer them. It's not that he never built anything, it's just that he never built a building. But when you think of an architect, you think of an entire building envelope. The built form ... might have inhibited him from ever wanting to build a building. It would always be constrained by the rules within which we live, and he was proposing something beyond that: What if we didn't have to deal with gravity? What if we didn't have to deal with government agencies? What kind of architecture would that reveal? L.M.R.

➔ FULL INTERVIEW AT
ARCHITECTMAGAZINE.COM

ESTO GALLERY

In the 21st century, libraries have been undergoing an identity crisis: They have begun to see fewer stacks, and more computer terminals. Nevertheless, one of the few bright spots to emerge from the Great Recession was the resurgence of the American library, as stimulus-related bond measures revamped facilities, and communities turned back to them as central gathering spaces with public information services. See a slide show of Esto images for this constantly evolving building type at ARCHITECT's site. K.G.



Wellesley Library by Carl Koch

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ENCLOSURE EVOLUTION

The envelope needs air barriers, continuous insulation and better drainage. More than ever.

By: C.C. Sullivan Strategic Communications LLC

Sponsored by:  ES ICC EVALUATION SERVICE



Perkins+Will designed the Centre for Interactive Research on Sustainability (CIRS) in Vancouver with a highly insulated, wood-clad exterior. (Martin Dee, courtesy Perkins+Will)

CONTINUING EDUCATION

Are today's building enclosures getting more complicated? Some expert opinions heard at local Building Enclosure Council meetings contend that yes, they are. Behind this tendency are advances in construction methods and materials as well as the persistent drive to reduce operational costs. Severe weather is another factor, with higher average annual temperatures and more intense storms anticipated.

Green building has its unintentional side effects also, often leading to more complex enclosure solutions that may offer little in the way of new benefits, say experts like Wagdy Anis, FAIA, LEED AP, of Wiss, Janney, Elstner Associates. Some of the hybrid enclosure assemblies for high-performance projects that actually have been tested fall far short of meeting "the technical requirements of energy-efficient, durable assemblies," according to Anis.

Even new directions in sustainability challenge assumptions about recent enclosure designs. The notion of resilience, for example, promoted by groups like Alex Wilson's Resilient Design Institute and the International Living Future Institute (ILFI), is often equated with massive, heavy enclosures of cast concrete, cob, or straw bale and with reduced fenestration area. But they don't need to be so. Many recent projects use modern, lightweight technologies that still achieve the goal of 100-year buildings that bounce back after floods or storms. Several Living Building Challenge projects have proven the case, such as the San José offices of Integrated Design Associates or Hawaii Prep's Energy Lab in Kamuela, Hawaii, designed by Flansburgh Architects.^[1]

Net-zero-energy buildings are another example. Like the 1970s dream of supertight, super-insulating enclosures

LEARNING OBJECTIVES

1. Describe recent trends in building enclosure design that impact sustainability factors including energy use, durability and indoor environmental quality.
2. Discuss codes/standards for enclosure performance, such as air barriers, continuous insulation and moisture control.
3. Explain how continuous insulation relates to energy and green building goals in addition to fire-safety performance.
4. List the typical features of water-managed walls and how they relate to high-performance and sustainable building.

CONTINUING EDUCATION

Credit: 1 LU/HSW



Use the learning objectives above to focus your study as you read this article.

To earn credit and obtain a certificate of completion, visit <http://go.hw.net/archceu> and complete the corresponding quiz. If you are new to ArchitectCEUniversity, create a free learner account; returning users log in as usual.

with passive-solar elements such as tromb  walls, the new generation of zero-emissions projects seems to hinge on perfect exterior performance. The first facilities certified under ILFI's Net Zero Energy Building Certification program launched in late 2011 include thick sections with concrete, cellulose-filled cavities, structural insulated panels (SIPs) and argon-filled triple glazing. Combined with renewable power, these facilities often have utility meters spinning backwards.

How is it done? In particular, there are three key competencies for anyone involved in building enclosure design: Thermal management, air barriers, and moisture control. The latter involves water vapor movement – often driven by solar heating – as well as interior condensation and plain old bulk water movement, such as draining rainwater. Air barriers are a source of confusion and, often, costly



Even lightweight, glazed enclosures can contribute to lasting buildings with low energy use. Examples include the San José headquarters of Integrated Design Engineers and Associates. (Photo by David Wakely, courtesy Integrated Design Engineers and Associates)



Hawaii Prep's Energy Lab in Kamuela, Hawaii, has an energy-efficient enclosure with a traditional tropical three-pitch roof design that shades a lanai area on the south-facing exposure and carries mauka (mountain-side) winds moving across the roof to create an augmented vacuum in the broken peak. Local lava rocks were added as aggregate to the poured concrete wall. (Photo by Matthew Millman, courtesy Flansburgh Architects.)

mistakes for many designers. And standards for insulating the building are changing quickly. A few simple rules of thumb can aid in proper design development; for construction documentation, engaging a façade consultant, engineer, or knowledgeable manufacturer can be important.

Taken together, however, the three variables often abbreviated as H.A.M. – for heat, air and moisture – are the focus of today's newest materials and methods. Prototype development, including new sustainable design standards, have offered very specific goals for enclosure function. National and state guidelines such as CalGreen are good for promoting the basics, while local benchmarks codified by seasoned designers or jurisdictions like the city of Portland, Oregon, are the most responsive to micro-climates and other native conditions. In New Mexico, for example, a former head of passive solar research at Los Alamos National Laboratory, J. Douglas Balcomb, has documented best practices for dwellings in Northern New Mexico. Among his guidelines are a minimum perimeter R-value of 15, windows with U-values less than 0.37, and air infiltration rates not to exceed 0.0065 times the house's enclosed volume. (Infiltration can be tested with a blower door apparatus.) Many other benchmarks were also given that affect aesthetics, such as window-to-wall ratios, or WWRs, and a thermal mass area of about six to eight times the direct-gain glass areas.^[2]

New ideas from old places
Balcomb's suggestions for building

enclosure design are borne out by the history of architecture, too. Whether working with state-of-the-art systems for envelope and cladding, today's design must also discover anew some longstanding ideas about making buildings efficient, comfortable and resilient. Start with the opaque, massive shells that humans have used for millennia as shelter, as at Taos Pueblo in New Mexico, America's oldest continuously inhabited dwelling, or the Mission Style buildings that followed.

Until the late 1800s, a building that was more glass than opaque material was an oddity. The seminal example was the 1851 Crystal Palace, with its cast-iron posts and beams and some 300,000 large glass panels – two significant advances in manufacturing and construction technology that created a new era in indoor living. Wealthy patrons began to demand glass conservatories with similar arches made of trusswork and finger supports. Architects started experimenting alongside a glass industry that would flourish. Over the decades, glass took on an entirely new role in driving an architecture of transparency, beauty and apparent lightness.

The appeal was crystal clear. But like the modern era's flat roofs – actually they are all low-slope roofs, technically – the use of glass brought on as many functional challenges as they did aesthetic breakthroughs. Passive solar heating was a benefit, but left unchecked led to excessive solar heat gain. Daylight and views enhanced life but often also meant glare and lost privacy. New safety and security issues arose, too.

The glass industry and structural engineers have brought solutions to all these woes. Low-emissivity coatings, electrochromic panels, triple-glazed insulating glass units and transparent silica gel insulation for glass assemblies are among the major advances of our day. The gains are impressive, especially in energy efficiency and control of solar gain with undue loss of visible light transmittance (VLT). Yet a nagging fact remains: Today's best glass enclosures offer less than one-third of the R-value of a good opaque wall system.

How much window, how much wall?
To those concerned about averting climate change or those simply interested in sustainable design or net-zero building, this statistic implies a moral obligation to build more opaque walls, or to use greater aperture percentages, or WWRs, in their building designs. Other practitioners, such as Kiel Moe, have suggested that by decoupling ventilation from heating and cooling buildings, the building structure and enclosure could act as its primary thermal system.

There are other ideas, but prevailing codes and standards are likely to encourage the former concept. WWRs are higher in recent iterations of both the International Energy Conservation Code (IECC), in 2012, and the mother of all energy standards, the ANSI/ASHRAE/IESNA Standard 90.1-2010 (abbreviated as ASHRAE 90.1 in this text, unless a different edition is given). The U.S. Department of Energy (DOE) recently tasked its Building Energy Codes Program (BECP) to compare the two, as part of new energy grant funding to states that call for



For this new lab and incubator office building in New Orleans designed by Eskew+Dumez+Ripple, glazed areas are heavily shaded or recessed into punched-out openings. The opaque walls are made of a hybrid system of thin precast concrete on a light-gauge steel frame, shop-applied with continuous spray-foam insulation and weather barrier. (Photo by Timothy Hursley, courtesy Turner Construction)



For 55 Park Street, a clinical lab building in New Haven, Connecticut, Behnisch Architekten and executive architect Svigals + Partners developed a curtain-wall façade of translucent and reflecting panels dictated by the lab layout within and energy efficiency goals. The insulated, high-performance curtain wall was systematically applied in order to temper the indoor environment in response to both façade orientation and diverse interior requirements. (Photo by Roland Halbe)

CONTINUING EDUCATION

Glass or Mass? Both Achieve WWR Goals

A few recent buildings demonstrate the benefits of increased opaque wall area. Some of them employ the tried-and-true method of mass wall, while others use curtain wall with spandrel and similar details to present the look of glass without the attendant solar gain. Both can achieve the window-to-wall ratios (WWRs) or effective aperture (EA) required for tough standards like LEED Gold.

On the former approach, a recent example is the BioInnovation Center in New Orleans by Eskew+Dumez+Ripple with NBBJ. The project uses a mix of traditional precast, a hybrid lightweight precast on stud framing with spray-foam insulation, and a large glazed entry gesture with aluminum sunscreens.

Envelope modeling of solar heat gain and bulk moisture drive showed that – even with 68% glazing – the main entry façade was only the

equivalent of 18% glass, thanks to incorporation of the sunscreen and the highly insulated precast.

For projects such as 55 Park Street, a lab building in New Haven, Connecticut designed by Behnisch Architekten with Svigals + Partners includes a curtain-wall façade of translucent and reflecting panels dictated – in part – by the lab layout within.

“This high-performance curtain wall is well insulated and includes clear, colored silkscreened, and opaque glazed glass panels in a range of ochre hues,” said Christof Jantzen, formerly with Behnisch, who helped design the enclosure. “The glass sections were systematically applied in order to temper the indoor environment in response to both façade orientation and diverse interior requirements.” The result improves user comfort by reflecting and shading daylight; it also offers outside views of a nearby park and harbor.

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residential energy codes that at least meet IECC and commercial energy codes as good or better than ASHRAE 90.1 before about 2017.

The results are worth understanding. The International Building Code (IBC) mandates minimum energy performance using both ASHRAE 90.1 and the IECC. The 2012 version of IBC references both the IECC and the International Green Construction Code (IgCC) as of last year. (IgCC is based in part on another ASHRAE standard 189.1, for High-Performance Green Buildings. Both are voluntary and some of their requirements for building enclosures are covered in this learning unit.)

Keep in mind that the energy codes usually offer several paths to compliance. Even though this article refers to numerous prescriptive paths, a project can also comply using system (trade-off) performance or through whole-building energy analysis. In any project situation, compliance is only required by one method.

Comparing WWRs, the 2012 version of IECC is more restrictive, permitting aperture percentages of only 30% of total vertical enclosure to be glazed, and 3% of the roof can be skylights, roof windows or space

frame. ASHRAE 90.1 allows up to 40% glazed area for a given enclosure section, along with 5% of the roof area as skylights or similar. If a building exceeds the 30% aperture percentage or has more than 3% aperture percentage on the roof area, the two references are virtually identical for thermal envelope provisions. Yet they also differ in important ways: Notably, ASHRAE 90.1 defines “wall” as including below-grade walls, while IECC does not. For this reason, more architects refer to 90.1 for their WWR calculations.

Not surprisingly, the percent window guidelines vary based on the direction of exposure and the VLT of the glass used. LEED has used the measure effective aperture (EA), equal to the WWR multiplied by VLT, with a recommended target EA of 0.30.

With this in mind, how are high-performance designs using glass curtain wall, window walls and other large-expanse glazed systems be used? Clearly the answer is very selectively. LEED 2012 calls for ASHRAE 90.1 as a baseline, and beating



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it by at least 10% is the rule for Minimum Energy Performance. Points for Optimizing Energy Performance start at 13% — up from 12% in the current LEED versions — and shoot up to a heady 70%.

This article continues on <http://go.hw.net/archceu>. Go online to read the rest of the article and complete the corresponding quiz for credit.

RESOURCES

- [1] <https://ilbi.org/lbc/casestudies/ideas-z2-design-facility>, <https://ilbi.org/lbc/casestudies/HPAenergylab/home>
- [2] www.nmsea.org/Curriculum/Courses/Passive_Solar_Design/Guidelines/Guidelines.htm#Indirect
- [3] www.eia.doe.gov
- [4] www.iccsafe.org/iccforums/pages/default.aspx?action=ViewPosts&fid=32&tid=24958
- [5] <http://resourcecenter.pnl.gov/cocoon/morf/ResourceCenter>
- [6] [www.ncma.org/resources/design/Technical%20FAQ/Continuous%20Insulation%20\(2012\).aspx](http://www.ncma.org/resources/design/Technical%20FAQ/Continuous%20Insulation%20(2012).aspx)
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- [9] Joseph Lstiburek, "Water Management," Building Science Press, 2008
- [10] Straube, Canadian Conference on Building Science and Technology, Montreal, May 2008
- [11] Karagiozis, et al., 2005; cited in articles and "Drainage and Drying for Absorptive Claddings: Adhered Masonry and Stucco"
- [12] Building Commissioning: A Golden Opportunity for Reducing Energy Costs and Greenhouse-gas Emissions, Evan Mills et al., LBNL, 2010

TEST

1. There are three key areas that primarily affect building enclosure performance. Which are they?
 - A. Water movement, air gaps, and condensation.
 - B. Condensation, bulk water movement, and vapor diffusion.
 - C. Thermal management, air barriers, and moisture control.
 - D. Insulation, window films and solar thermal gain.
2. True or false: The window-to-wall ratio (WWR) in the codes and green-building standards describes a building's aperture percentage.
 - A. True
 - B. False
3. The measure effective aperture (EA), is equal to ...
 - A. window-to-wall ratio (WWR) multiplied by solar heat-gain coefficient, or SHGC.
 - B. WWR multiplied by visible light transmittance, or VLT.
 - C. VLT multiplied by SHGC.
 - D. SHGC multiplied by U factor.
4. Continuous insulation, or c.i., is called for in ASHRAE 90.1 and IECC, but the architect may use various criteria for complying with the codes for concrete walls, including:
 - A. Prescriptive R-values for c.i.
 - B. System performance combined R-values.
 - C. Whole-building energy analysis.
 - D. All of the above.
5. In nine out of 10 U.S. jurisdictions, c.i. is mandatory for steel-framed walls above grade. The exceptions are DOE climate zones ...
 - A. 3 and 4.
 - B. 1 and 2.
 - C. in northern regions.
 - D. in the Pacific Northwest.
6. Wall assemblies with foam plastic insulation and some water-resistant barriers (WRBs) and flashings must meet the standards ASTM E84 and NFPA 285 for
 - A. flame and smoke propagation.
 - B. water permeance.
 - C. air and vapor resistance.
 - D. resistance to deformation and delamination.
7. Heating by the sun or other climate and seasonal effects can cause moisture to move deeper into porous cladding materials, such as stucco. This effect is called:
 - A. Vapor permeance.
 - B. Inward vapor drive.
 - C. Capillary action.
 - D. Bulk moisture migration.
8. For effective moisture management, an enclosure should have which of the following features?
 - A. Flashings and weep holes.
 - B. A continuous, water-repellent drainage plane.
 - C. An air gap between the cladding and drainage plane.
 - D. All of the above.
9. What project delivery technique related to enclosures has been shown to reduced maintenance and energy costs by an average of 13% for new buildings and 16% for renovations and retrofits projects?
 - A. Building information modeling, or BIM
 - B. Hygrothermal modeling, or WUFI
 - C. Building enclosure commissioning, or BECx
 - D. Blower-door testing, or BDT
10. The three keys for enclosure design, often abbreviated as H.A.M., include:
 - A. Solar heating, albedo and mass.
 - B. Hygrothermal analysis, air movement and moisture control.
 - C. Thermal control, albedo and mass.
 - D. Thermal management, moisture control and air infiltration

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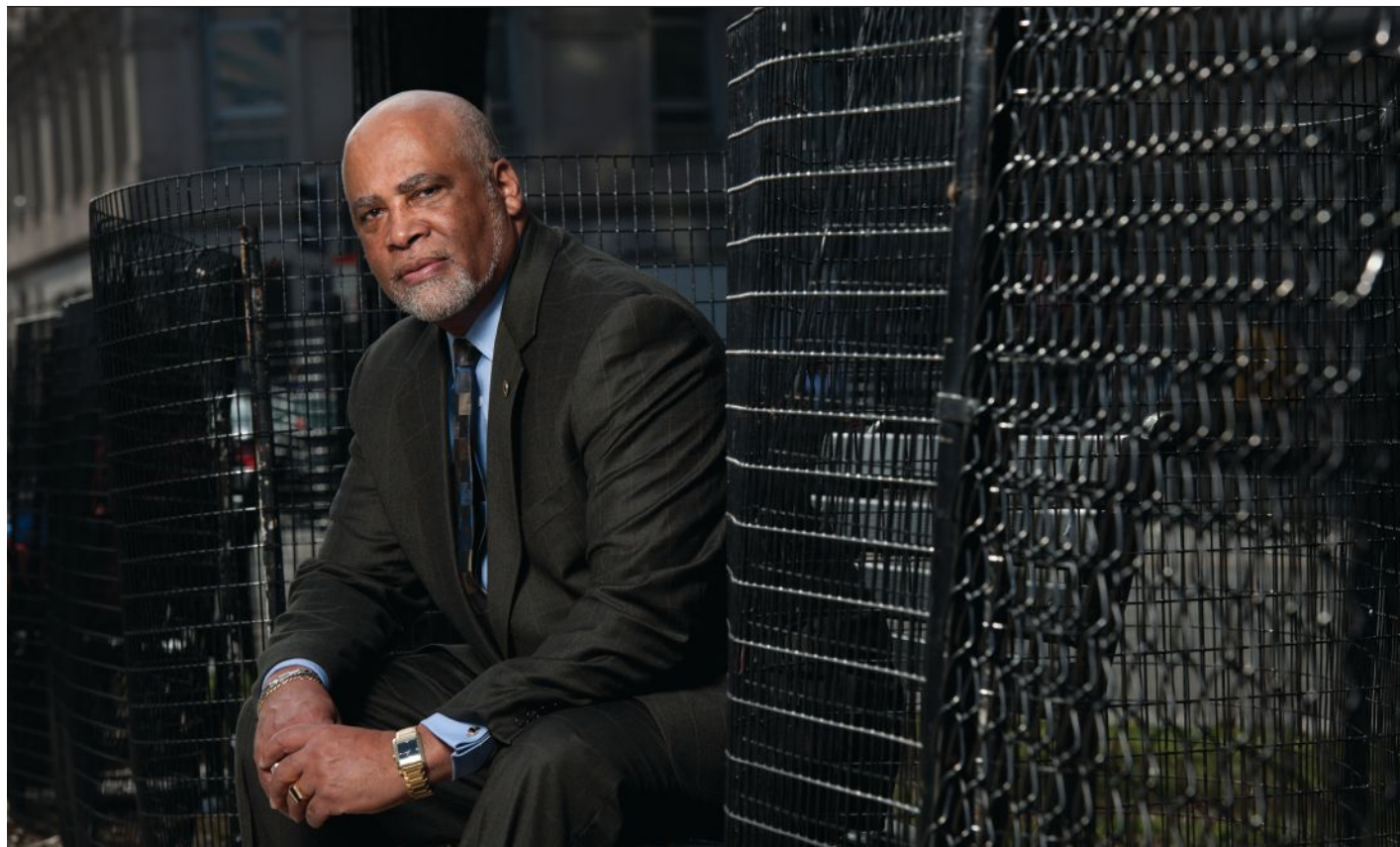


PHOTO: VINCENT RICARDEL

AIA VOICES

COLLECTION POINT | WHAT A BRIK WANTS TO BE

Henry Green, Hon. AIA, is president of the National Institute of Building Science (NIBS), based in Washington, D.C. Recently, NIBS and the AIA launched the Building Research Information Knowledgebase (BRIK), a digital library that serves as a repository for peer-reviewed research. BRIK (brikbase.org) will focus initially on healthcare, building performance, and learning environments as pilot interest areas, and in coming months NIBS and the AIA will expand it to other areas. “Sure, there are a lot of repositories out there,” Green says, “but none of them are connected in the way that BRIK is.”

THE IDEA OF BRIK IS TO COLLECT THE PIECES OF SCHOLARSHIP and information about best practices and put it in one place. All of the information is peer-reviewed by invited organizations, which adds credibility to the enterprise—but the important thing is that we’re creating a platform for reliable content that’s accessible and scalable. Folks can find information through BRIK and recommend that information to others. Here’s the beauty of this: Not only are those organizations going to be able to contribute material to BRIK as content providers, but their individual members will have the ability to directly contribute to BRIK as well.

Our project committee for BRIK is an expansive group, and they’ve identified healthcare, building performance, and learning environments as three areas that will help launch this initiative. We’ll

put out a call for papers and convene experts with reach in those areas. NIBS will be contributing content as well—and I suspect that one area we’ll want to engage is the Building Envelope Program. We’re also doing more work with regard to resiliency programs—information on how to use enclosures for thermal heat and security. Our National Clearinghouse for Educational Facilities (NCEF) is the largest repository of school information anywhere in the world—and it’s something we’ve looked to as a model for BRIK. One of the tragedies of this is that there’s been no funding for NCEF for the last two years, so the site is rather static right now. But we can still use that information to move forward with BRIK. We also have our journals that we publish that will feed into BRIK.

One of the things I’m confident we’ll find is that BRIK will become contagious. Once we start the first areas and people see the value of it, others will be driven to want to contribute. We’re also going to work with AIA Knowledge Communities to draw out the best research. All of the material BRIK will have will be resonant, even if it won’t always be relevant over time, so less relevant pieces will fall off the site. In terms of partners, we will seek them out initially, but there will probably be a call for organizations to work with us and provide content. Here’s something I think is really important: New ideas come from new people. And now we’ve got a way for those new ideas to come to light. —As told to William Richards **AIA**

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Stuart Kaplow, Esquire, Green Building Attorney

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ACROSS THE INSTITUTE

Compiled by William Richards

1. Liminal Spaces. When Brigham Young came upon the Utah Territory's Great Salt Lake in 1847, he and his Mormon followers decided it might be a nice place to start a city. Since then, Salt Lake City has grown far beyond its original grid to become the largest city in Utah. It's a common refrain, but in the process of growth and development, some of SLC's cultural amenities have been disconnected from each other, making it hard for pedestrians to access them. Enter the SixtyNine Seventy Project, spearheaded by AIA Utah's Young Architects Forum, which hopes to knit together the Capitol Theatre, Ballet West, the Utah Performing Arts Center, and the Utah Theater in "The Spaces Between," an ideas competition, which closes on March 23.

➔ To learn more, visit sixtyninseventy.com.

2 Was ist das? Germany has grown to be one of the most economically stable and successful countries in the European Union. In addition to the Bauhaus legacy, the nation has also grown to be an architecture and building powerhouse in the areas of sustainable design and construction. With an eye toward greater energy efficiency in the U.S. in the coming decades, policy, research, and industry experts from Deutschland will gather for the German American Smart Building Symposium at the AIA Center for Architecture in Philadelphia on March 12.

➔ Learn more at aiaphiladelphia.org.

3 Cruz Control. For a decade, Teddy Cruz has been pushing students, city officials, and architects to study the lines that divide economic classes, political enfranchisement, and geography, which he argues pose a design challenge as much as a social one. His research, through San Diego-based Estudio Teddy Cruz, has centered on the Tijuana/San Diego border—but his argument about urbanism's role in defining community and opportunity extends well past the 13-mile fence that separates those two cities. Cruz, a Rome Prize recipient (1991) and the first recipient of the James Stirling Memorial Lectures on the City prize (2005), will speak on what he calls the "political equator" at the California College of the Arts in San Francisco on March 4.

➔ Learn more at cca.edu.

4 Planting the SEED. There are a few different definitions of what designing in the public interest entails; its scope varies from community-focused design/build projects to broader ideas about social policy and economic incentives. For the last few years, Design Corps, founded in 1991 by Bryan Bell, AIA, has held Public Interest Design Institutes—two-day courses on the Social Economic Environmental Design (SEED) metric for community engagement—in cities across the U.S. Design Corps and the University of Minnesota College of Design will host the latest SEED event in Minneapolis on March 21–22.

➔ Learn more at publicinterestdesign.com.

5 Modern Marvels. For historians, the so-called modern era in architecture does not map cleanly onto markers, such as the years 1850, 1900, or 1950—just about when you'd think it might have ushered forth. The curators of "What Is Modern?" at the Denver Art Museum have assembled objects that trace design's ability to represent what they call the "modern experience" as far back as the early 19th century and into our own era. What is "modern," then? For one, as these works of design demonstrate, it's anything but straightforward. The show runs until March 24.

➔ Learn more at denverartmuseum.org.



1



5



4



3



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ILLUSTRATION: MICHAEL GIBBS

NOT LONG AFTER THE DEVASTATION WROUGHT BY HURRICANE Katrina in 2005, David Perkes, AIA, established the Gulf Coast Community Design Studio at Mississippi State University to provide planning and architectural design support for a number of coastal communities in dire need of housing. When colleagues from the East Coast called to ask him for his thoughts on rebuilding in the more recent wake of Hurricane Sandy, his advice was succinct: “Architects can’t do this on their own. Find partners in the community.”

Perkes is among four recipients of AIA’s 2011 Latrobe Prize who will present their research findings in a session called “Public Interest Practices in Architecture” at the 2013 AIA National Convention. Fellow recipients are Roberta Feldman, a professor at the University of Illinois at Chicago; Sergio Palleroni, a senior fellow for the Institute for Sustainable Solutions at Portland State University in Oregon; and Bryan Bell, AIA, executive director of Design Corps, a Raleigh, N.C.-based nonprofit devoted to helping communities through design services. Together, they examined how the architecture profession could grow to directly address societal needs by institutionalizing the nascent field of public interest design. Their research involved hundreds of surveys and interviews directed at architectural professionals to help assess current practices and determine a path forward.

“The last 10 years have been important in collecting evidence of this type of practice, and, certainly, individuals are doing some excellent work,” Bell says. “But now we need to go beyond disparate, individual projects and come up with a systemic solution to make this type of practice achieve greater scale.”

To that end, Bell co-founded the Social Economic Environmental Design Awards to publicize and showcase projects that exemplify “best practices” in public interest design. The 2013 SEED Awards for Excellence in Public Interest Design recognize a number of inspired efforts: a project that created affordable, green modular classrooms

in Oregon; the design for what will become the first school—and important community gathering place—in a war-torn region of South Sudan; a community center and affordable housing project designed in the manner of a traditional longhouse on the Puyallup Tribal Reservation in Tacoma, Wash.; and a major waterfront reconfiguration project that will help a crowded and impoverished fishing community in Indonesia. Several other remarkable projects—all community-oriented undertakings—were also recognized.

Indeed, the field of public interest design is most concerned with improving lives through consensus-building and social sustainability. Perkes likens the field to public medicine. “The aim of public medicine is to provide services to a community, especially for those who can’t afford it, but it should also address the underlying causes of illness,” he says. “Likewise, public interest design’s two overlapping efforts are to bring design services to underserved communities and to become more attuned to communities so our professional skills can be applied in a broader sense.”

That’s why it is so important to “find partners in the community and learn how to work with them,” Perkes advised his East Coast colleagues in the wake of Hurricane Sandy. “Public interest design will typically involve securing funding through nontraditional means,” he says. One of the outcomes of the study was the identification of learning objectives that have shaped the recently established Public Interest Design Institute, which provides training in best practices from professionals around the globe. “It’s crucial that we are poised to apply ourselves in the field of public interest design, as it is likely to become increasingly important with the consequences of climate change, among other existing challenges,” Bell says. “And it will bestow on the profession an increasingly meaningful role in our communities.” —Ben Ikenson **AIA**

➔ Learn more at convention.aia.org.



Trial and Error

How do firms incorporate research into their design practices?

BY WILLIAM RICHARDS

THE NORMATIVE PRACTICE OF ARCHITECTURE BEGINS WITH boundaries and ends, hopefully, with a building. In between, at least one person on the design team will have a clever idea, and a good project can be transformed into a great one. But, if Euripides is right and cleverness is not the same thing as wisdom, what is the golden thread of the design process?

Research on materials, technology, ecology, and delivery systems has been an element of this process as far back as Vitruvius. Gothic cathedrals benefited from experimentation among architects, engineers, and builders working to achieve greater heights with ever-thinner walls. Renaissance architects tinkered with geometry to probe Platonic ideals, and 19th-century metallurgy helped architects and engineers create stronger structures in iron and glass.

For the last century, architects have sought greater distinction from the fields of engineering and building—as arbiters of art and science who design for a living. And, in doing so, the explicit pursuit of research has largely been eclipsed by the pursuit of design as a business and a trade. The tide seems to be turning again, however.



Call it Post-Modernism or call it pluralism, but over the last 40 years architects have been co-opting other research-intensive disciplines—from chemistry to geography to sociology—in order to bolster their design aspirations. “Architecture can connect to just about anything, if you let it,” says Jennifer Yoos, AIA, principal of VJAA Architects, the 2012 AIA Architecture Firm of the Year. The Minneapolis-based firm has made research a consistent thread throughout all of its work in what its principals describe as an “ecological approach” to design—emphasizing site, circumstances, and climate, which led to back-to-back COTE Top Ten Green Project Awards in 2008 and 2009.

In the case of Tulane’s 151,000-square-foot Lavin-Bernick Center for University Life (completed in 2007 and awarded a COTE Top Ten Award in 2008), VJAA achieved a design that can be passively cooled for half the year—not a small feat in muggy New Orleans—as well as one that adapted more than two-thirds of an existing building at a cost of \$189 per square foot. The Lavin-Bernick Center was only half complete when Hurricane Katrina struck in 2005, but the project remained on track, in part because of a hurricane-resistant glazing system—an important research consideration during the design phase, a phase that lasted several years.

For VJAA, research is a reinvestment in practice. “A knowledge-based firm means that content and methodologies are transferable across our practice to inform our ideas. We’re not a large firm, so we don’t have a lot of overhead costs, but we consciously allocate profit for research that benefits all

of our work,” Yoos says.

In general, research on, say, cutting-edge uses of carbon nanotubes, renewable kenaf fibers, or durable carpet that doesn't off-gas takes time (and labor). So does research on systems such as high-performance façades and graywater filtration, or research on historical context for an adaptive reuse project.

“Research requires some tricky management skills, and it potentially opens the door to endless amounts of work,” says Vincent James, FAIA, founding principal of VJAA. “There's a tension between the pragmatics of delivery and the desire to investigate something, so there has to be rigor.”

Research is tricky enough, in fact, that only 6 percent of AIA member firms report offering it as a specific service, according to the 2012 AIA Firm Survey. When compared to other services such as engineering (8 percent), construction management (18 percent), and planning (52 percent), research ranks as the least common service on the menu. But that doesn't mean it's not an explicit (or implicit) part of the design process. “We don't have a categorical research service that we offer clients, but, categorically, we engage research all the time,” says Ted Flato, FAIA, of 2004 AIA Architecture Firm of the Year Lake|Flato Architects in San Antonio, Texas. “We employ an engineer, whom we call our ‘sustainability coordinator,’ and she acts as a resource to everyone in the office to make each project more scientifically sustainable. But every architect in our office invests time in research on climate, weather, soil, and context—both historical and geographical,” Flato says.

A few years ago, Lake|Flato established a separate company called Porch House, which provides architect-designed, factory-built homes to communities in need of more housing. Porch House has grown to be much more than a side project for the firm because it offers a useful feedback loop. Research conducted to build a better Porch House often finds its way back into the design process for other commercial projects. In turn, resources and lessons learned in those other projects help buoy Porch House as a discreet enterprise.

It's all of a piece, though. The \$200 per finished square foot of Porch House might cost less than Lake|Flato's custom residential projects, but the same basic design constraints exist in either case: budget, time, resources, and environmental factors. And creating transportable housing units that can meet demand caused by natural disasters or economic migrations, such as the one surrounding the Bakken shale oil boom in North Dakota, is fundamentally the same as creating a solution to any other client's problem.

But Porch House's first real client was Lake|Flato itself. “It started out as a business strategy to weather the recession,” Flato says. “A whole lot of research goes into Porch House, but it continues to bolster the rest of our practice.”

Kennedy & Violich Architecture Ltd. (KVA) has a slightly different take on design-driven research. Since 2000, the Boston-based firm has incorporated the efforts of its in-house materials research unit, KVA MATx, into its institutional and civic projects. The thinking was this: Architects design buildings, but people experience spaces. And spaces are material propositions. “Architecture has traditionally been a domain which uses and organizes materials,” says Sheila Kennedy, AIA, a founding principal at KVA who teaches architecture at the Massachusetts Institute of Technology. “We've always made a strong commitment to

“We don't have a categorical research service that we offer clients, but, categorically, we engage research all the time,” Ted Flato says.

materialize our work and to reflect on changes we see in material culture.”

Kennedy is quick to point out, however, that her firm's work centers on design-driven research rather than research-driven design. “We insist on not segregating design workflows,” Kennedy says, “so there's no ‘research department,’ which means we had to literally create a new type of architecture studio workspace—one that brings open-office 3D modeling and parametric design in close proximity to analog and digital production workshops.”

One of KVA's most recent projects to incorporate MATx research is the 34th Street Public Ferry Terminal in New York City, which combines real-time GPS and water-flow data to interpret the tidal flows of the East River estuary. At 15,000 square feet, it's a relatively small public building in a larger transportation system that incorporates information from disparate sources, such as hydrology and solar energy, to create a safe, functional terminal on one of the busiest waterways in the U.S.

The firm accomplishes what its principals call “intelligent infrastructure” in several ways. If adverse river conditions disrupt ferry routes, real-time information is incorporated into posted schedules. Fluctuating temperatures inform the integrated radiant heating in the terminal's floor to keep passengers comfortable. And, in a more static way, the river's wave formations were folded into the design of the terminal's perforated walls, which appear to undulate in a nod to the program's maritime function.

It's also, reportedly, the first public building in New York born of digital fabrication. “We had to really think about how our workflows could be integrated by design in a studio and not just have a model shop in the basement,” Kennedy says. “It was a significant investment to break away from the rental architecture office paradigm, [but] I recommend this move for all young practices.”

For Kennedy, utilizing design research on materials and digital fabrication is the firm's identity, but it has also been an important economic factor in the aughts, a turbulent decade for any firm's bottom line. “We've developed areas of research expertise that are relevant both to the discipline of architecture and to larger global shifts in attitudes toward materials and infrastructure,” Kennedy says. “And for this, we've had the privilege to work with Fortune 500 companies—something which we did not do before.” **AIA**

➔ Learn more about architectural research at aia.org/practicing/research.





AIAPERPECTIVE

ABANDONING THE MIDDLE GROUND



PHOTO: WILLIAM STEWART

RECENTLY, I LEFT THE OFFICE EARLY TO JOIN MY FAMILY FOR A night at the movies. After much debate, we agreed to see *Lincoln*. It was not a unanimous decision, and was met with some protest. But after we left the theater, we all agreed that Steven Spielberg's depiction of our 16th president was brilliant. I don't think I was the only one who felt the contemporary relevance of what unfolded on the screen.

Here was a man who was not afraid to pursue with passion, vigor, and fearlessness, in the face of great odds, what he believed was the greater good for the nation, whatever the political and personal price he would, and ultimately did, have to pay. It was the portrait of an extraordinary leader. A reading of history tells us that Abraham Lincoln's thinking about the great issues of his day was an evolutionary process.

His leadership, too, was a work in progress, right to the very end of his life. As his understanding and knowledge grew, his thinking changed and he adjusted his actions accordingly. This is another crucial trait of leadership: having the capacity to learn from experience, to discover opportunities for change where others see only roadblocks, and to grow.

Perhaps only the most senior AIA members will recall a time when there was a widespread belief that our profession was indifferent to historic preservation; our Honor Awards even created a special category in the early '80s called "Extended Use." The category fell away when it was evident that a commitment to America's design heritage had become an important part of the profession's DNA. Inspired by the most forward-thinking of our colleagues, who grasped the cultural, environmental, and economic potential of this nation's rich inventory of buildings and special places, we as a profession acquired the mantle of leadership.

A similar perception reigned until recently, that our profession was not at the forefront of promoting and advocating for sustainable design. This, too, is rapidly changing. Through the influence of thoughtful and dedicated architects, sustainability is no longer considered an option; rather, it's integral to our daily creative process that is redefining design excellence. Here, too, with the tools of the Institute's continuing education program and a vigorous advocacy agenda, we are earning a reputation as leaders committed to and capable of creating a healthier, safer, and environmentally responsible quality of life for our communities.

Each generation confronts issues that will affect those who come after them. Within each generation, a small number of voices will be raised to show the way forward. An equally small number will advocate a different course. Most will stay quietly in the middle, hoping that, somehow, things will turn out all right. Yet, as each day passes, I become more convinced we cannot, as a profession, occupy the comfortable middle ground. Whatever the issue—sustainability, land use, accessibility, aging in place, healthy and resilient communities, or a more inclusive profession—when it comes to the magnitude of our responsibility as shapers of the built environment, we must step forward as bold, visionary, and passionate leaders.

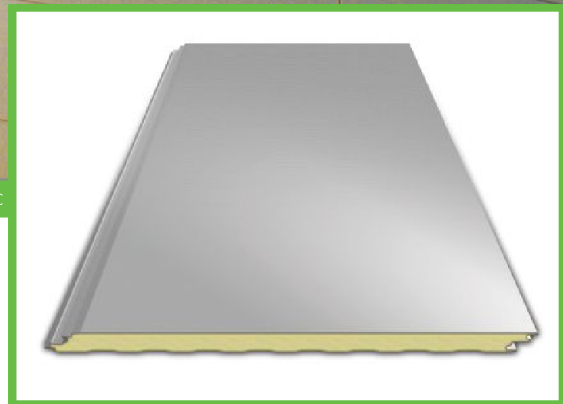
Individually, we are not likely to be in a position to bend the arc of history. But, as citizens and as a profession, we can grow as leaders in whatever sphere that circumstance has placed us. Leadership is not granted; it's earned. Have no doubt: Whenever architects dare to lead with passion and vision, we will make a difference. **AIA**

➔ Join our conversation at aia.org/repositioning.

Mickey Jacob, FAIA, 2013 President



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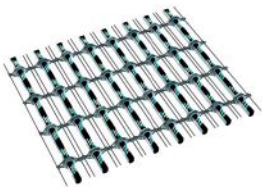
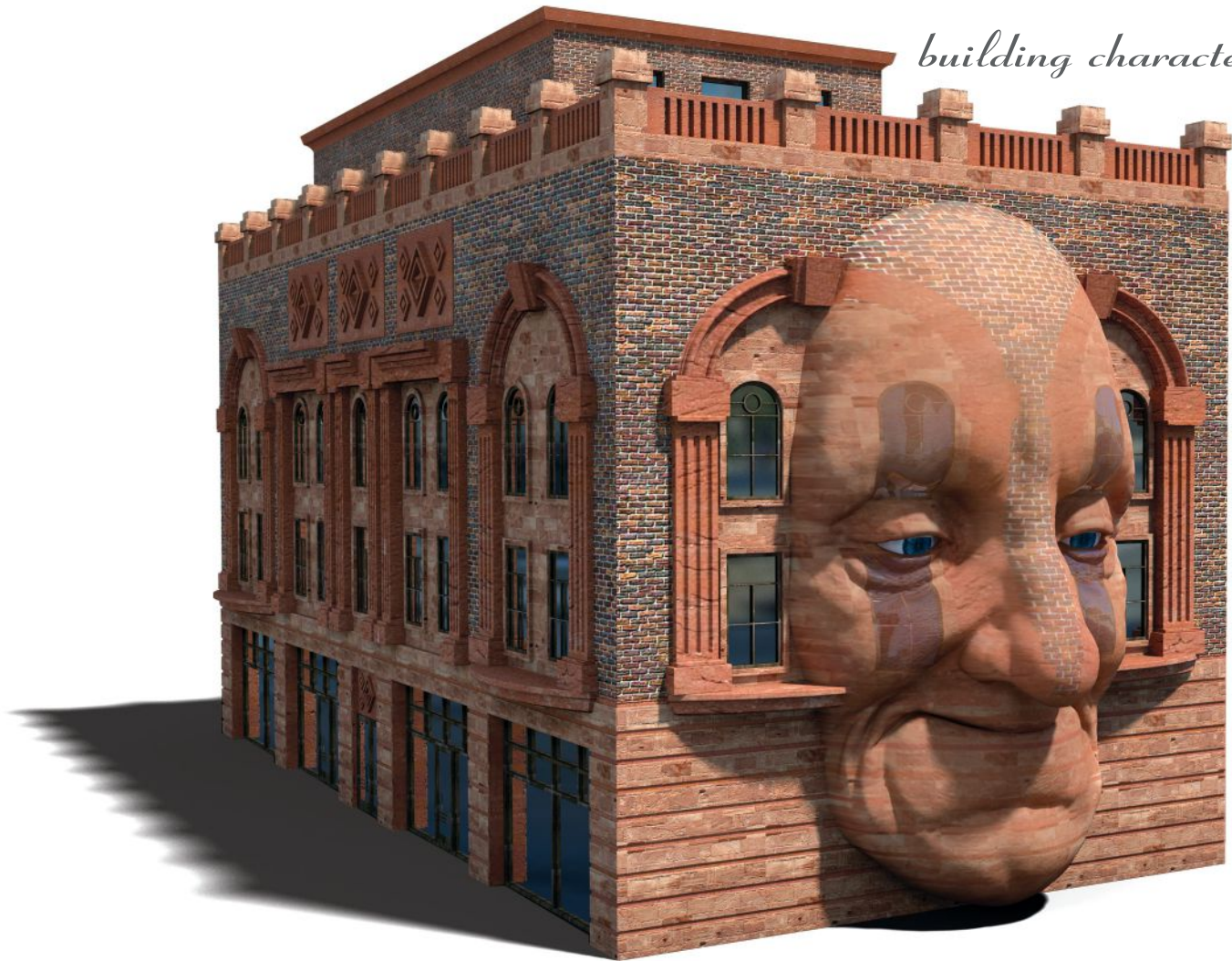
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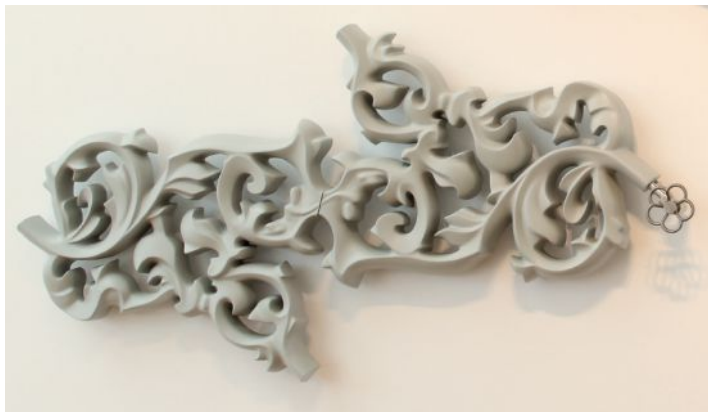
For a new line of rebar and mesh chairs, **PrimeSource Building Products' Grip-Rite** brand polled jobsite workers to gather opinions on available high chairs. The responses helped guide the design of three new products: The stackable High Chair can secure a rebar intersection without tie wire or bar ties; the Tilt-Up Chair (shown) allows concrete to flow through the panel's reinforcing grid and cuts the number of ties and prep time by half, according to the manufacturer; and the Sandplate Base provides additional support and stability for Prolok high chairs when used in soft or sandy substrates. All three reflect light for low-light applications. grip-rite.com Circle 100

Written by **Lindsey M. Roberts****LIGHT GLASS TECHNOLOGY**

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Some products are so well designed that they become works of art. Designed by Dutch artist Joris Laarman, **Jaga Climate Systems'** concrete radiator is now part of the permanent 21st-century collection at Atlanta's High Museum of Art. It comes in gray and black and in four sizes, from 21³/₁₆" by 30⁵/₈" to 53³/₁₆" by 107³/₆₄". jaga-usa.com Circle 104

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STOOL 60

In 1933, architect and designer Alvar Aalto introduced the Stool 60 at the "Wood Only" exhibition in London. Eighty years later, the seat is still coveted and copied around the world. To celebrate its continued success, **Artek** asked designers to reimagine the three-legged, stackable, birch stools; German artist Mike Meiré responded with a multicolored special-edition series (shown). artek.fi Circle 105

JAZZ GLASS

Get out your jazz hands for **Artistic Tile's** Jazz Glass, which comes in 43 witty patterns, including Ice White Satchmo Sticks, Ellington Gunmetal, and Foliage Be Bop White Glass Mosaic (shown). Handcrafted from U.S.-made stained glass, each pattern comes in 14³/₄"-by-14¹/₄"-by-1¹/₈" sheets. artistictile.com Circle 106



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This thermally insulating, freeze- and thaw-resistant, ready-mixed product from **Terra Bona Materials** is 20% lighter than conventional concrete, according to the manufacturer, making it easier to place. Tiny aerated aggregate pre-blended with cement produces the mixture's lightness. terrabonamaterials.com Circle 107



PL SERIES

Vancouver, B.C., sculptor **Marie Khouri** was struck when Rem Koolhaas noted how Middle Eastern designers who are familiar with the Arabic script's flourishes tend to share design sensibilities. "We ... have these curvatures that appear in our work," says Khouri, who herself is from the Middle East. The collection of five planters, ranging from 37.8" by 23.6" to 35.8" by 59"—the designer's first series to enter production—illustrate her sensual style. Available in polyethylene in custom colors. khouridesign.net Circle 108

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Text by **Wanda Lau**Illustrations by **Peter Arkle**

MASSARANDUBA WOOD TILES, BISON INNOVATIVE PRODUCTS

For its LEED Platinum-rated office in Atlanta, Perkins+Will deconstructed and cataloged everything in the former 1980s office building from wood paneling to carpets, distributing 125,000 pounds of materials to nonprofits. The firm did repurpose some items, such as cherry baseboards that became conference tables. For Paula Burns McEvoy, AIA, co-director of sustainable design, one commercially available product stood out as her favorite: Massaranduba, an FSC-certified wood tile made with pre-consumer manufacturing remnants that installs like carpet tile. "You lay them on top of a raised flooring system," she says. "You don't have to go [through] the waste of using big pieces of lumber." The tiles, which look like teak, are successfully enduring the office's heavy traffic.



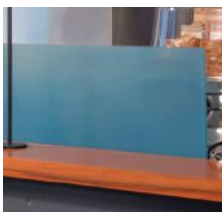
POZZOTIVE CONCRETE MASONRY UNITS, KINGSTON BLOCK & MASONRY SUPPLY

For the 2012 Hegeman supportive housing project in Brooklyn, N.Y., Cookfox Architects upped its practice of specifying concrete with high-recycled content by using Pozzotive, a concrete block manufactured with recycled glass. Cookfox partner Rick Cook, FAIA, says that Kingston had contacted fellow partner and firm co-founder Robert Fox Jr., AIA, about making green concrete block. "Bob said, 'You need to find somebody else's waste.'" As it happened, the city has an abundance of waste glass, prompting Kingston to create Pozzotive. The glass, which is ground into a powder, comprises about 30 percent of the CMUs. The Hegeman residence uses Pozzotive in its structural system, courtyard, and green roof, and as a permeable paver—the first project to do so.



CYPRESS SINKER LOGS, KRANTZ RECOVERED WOODS

Set for completion in 2014, the Chesapeake Bay Foundation's Brock Environmental Center in Virginia Beach, Va., will feature wood siding made from sinker cypress logs sourced through Krantz Recovered Woods. Because the old-growth logs have been sitting at the bottom of the Gulf of Mexico for 150 years, they have a high concentration of cypressene, a natural chemical resin that resists rot but takes several decades to form. Cypress wood found on the market today lacks cypressene, says Greg Mella, AIA, co-leader of sustainable design initiatives at SmithGroupJJR. The sinker logs have "the patina of aged hardwood." Locating them required thorough research and work. "Being connected to the local demolition industry makes a difference," Mella says.



VARIA ECORESIN PANELS, 3FORM

The Land's End Lookout in San Francisco's Golden Gate National Recreation Area has reclaimed materials in the visitors center, café, and gift shop. "The building is designed to be a storyteller," EHDD associate Phoebe Schenker, AIA, says. "[T]hese materials ... have their own story." For decorative screens in the café, EHDD turned to 3Form's Varia Ecoresin panels—specifically, Color Weave in translucent blue. The project uses two panels refurbished from other 3Form projects. Varia Ecoresin panels are Greenguard certified for indoor air quality and 40 times stronger than glass. The visitors center also uses redwood planks, salvaged by North Cal Lumber from a decommissioned sawmill, and mulch from oyster shells found on the site, which formerly housed a seafood restaurant.



PAULA BURNS MCEVOY

Co-director of Sustainable Design, Perkins+Will



RICK COOK

Partner, Cookfox Architects



GREG MELLA

Co-leader of Sustainable Design Initiatives, SmithGroupJJR



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Silo 468, a permanent art installation and public space by Lighting Design Collective, has become a literal beacon of light for the redevelopment of Kruunuvuorenranta, a once-thriving oil port in Helsinki, Finland.

DETAIL

Embodied Energy

ONCE A STORAGE VESSEL FOR OIL, SILO 468 HAS BECOME A BEACON IN HELSINKI'S NEW DISTRICT OF LIGHT.

Text by **Murrye Bernard**

WHILE WATER TOWERS or steeples defined some city skylines, large oil silos punctuated the horizon of the Kruunuvuorenranta area in Helsinki, Finland. With the city's ongoing redevelopment of this once-thriving port into a residential district, most of the structures were removed save for one. To promote the area's new identity as a "district of light," Helsinki held an international design competition to transform the last remaining waterfront silo into a permanent art installation and public space.

The winner of the competition was Lighting Design Collective (LDC), a Madrid-based practice founded by Finland native Tapio Rosenius. LDC proposed drilling thousands of holes

into the silo drum and illuminating some of them with blinking LEDs. The 17-meter-tall (55.75-foot-tall) drum with a 36-meter (118-foot) diameter sits on the ground along the water. "Entering the silo is almost like walking into the Pantheon," Rosenius says. "Its perfectly round steel drum has a templelike quality."

Though the sturdy structure did not need reinforcement, it did require a few updates, including a new concrete floor, and water and power connections. Sandblasting the existing paint, which didn't meet environmental standards, ate up most of the allotted renovation time. The exterior was repainted white and the interior a deep red color similar to the silo's rust.

Those original rust patterns that covered the silo's interior inspired LDC's artistic inter-

ventions. The team photographed the patterns and created half-tone images; the pixels were then translated and integrated into the pattern of holes around the silo's surface—2,012 holes total, to be exact, in recognition of Helsinki's tenure as World Design Capital of the year.

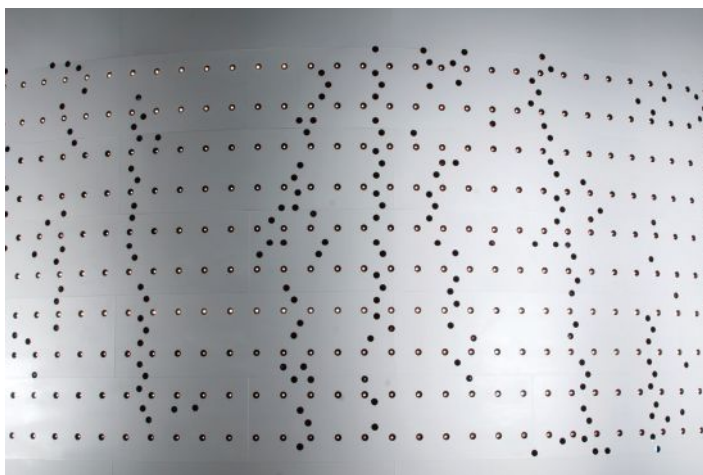
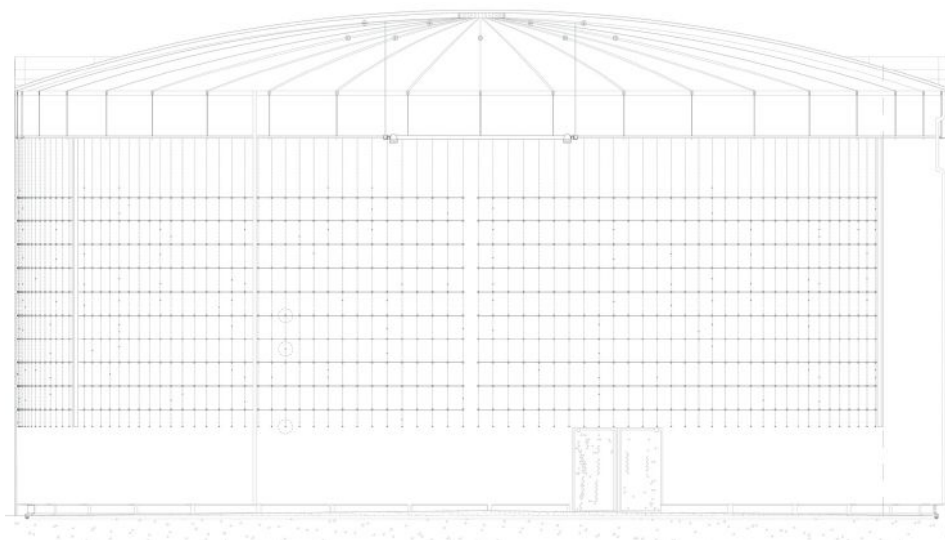
One worker with a flame-cutter made each of the 150-millimeter- (5.9-inch-) diameter holes—a challenge given that the silo's shell is 22 millimeters (nearly 1 inch) thick at its base. The holes allow for smoke extraction, air circulation, and daylight penetration. They also fulfill an aesthetic need. Throughout the day, the silo appears to shimmer, thanks to 400 polished stainless steel discs measuring 50 millimeters (nearly 2 inches) in diameter. Spaced at random intervals around the drum, the mirrors sit flush against some openings and flicker in the wind. At night, 1,280 warm-white LED dome luminaires in the evenly spaced holes set the silo aglow. Steel brackets attach the mirrors and LEDs to tensioned steel wires that run vertically inside the silo wall.

In developing the pattern for the lighting, LDC analyzed the area's prevailing winds and the swarming patterns of birds. Following nature's cue, the designers avoided creating a repetitive light show, which would become tedious for residents. "In nature," Rosenius says, "there are opportunities to look at movement without ever getting bored with it. Watching a river flowing or seawater rippling remains fascinating and beautiful even when you stare for hours."

LDC created custom software to control the LEDs. Within the video game industry, some coders develop algorithms that mimic nature and then make their code available as shareware. LDC's designers downloaded and tweaked OpenFrameworks, an open-source C++ toolkit, to include parameters such as wind speed, direction, and temperature. Housed inside the silo, the computer system, an industrial model from Siemens used to control factory robots, dials out every five minutes to download local weather reports via a 3G modem. The data directs the movement of each particle of light, which is imbued with a similar level of artificial intelligence, much like a bird within a flock. The pattern of the lights is unpredictable even for the designers.

Since the silo predominately serves as a space for contemplation, the designers kept its interior free of clutter, save for a simple concrete bench that rings the perimeter. LDC added rigging under the roof to increase the space's versatility. Silo 468 has been a set for TV programs and commercials, as well as a stage for poetry readings and fire-juggling shows. Potential future uses include a wedding venue and ice rink. Perhaps the only disappointment of the space is its acoustics: The silo is not conducive for hosting rock concerts. A shame, Rosenius says half-jokingly, given Finland's affinity for heavy metal.

Section

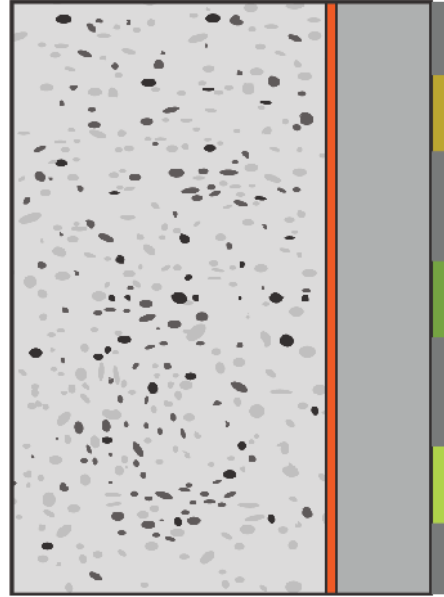
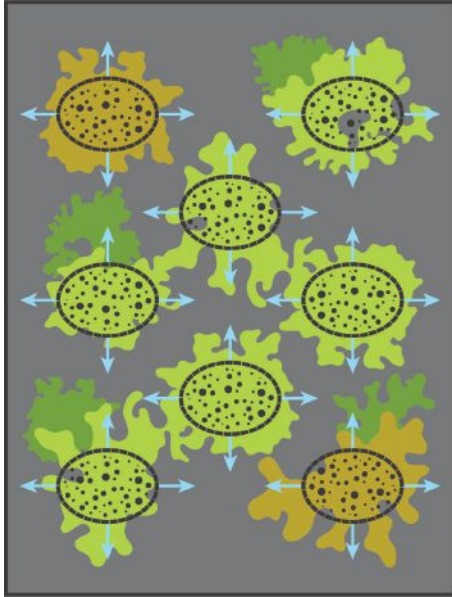


After spending 30 minutes in the all-red interior, visitors exiting Silo 468 will perceive complementary and contrasting colors—such as the blue water and sky, and the green of nearby trees—as more intense, designer Tapio Rosenius says. At midnight, the deep red hue seeps to the silo's exterior when, for one hour, the surface is awash in red lights, a reminder that the silo was once an energy source.

MIND & MATTER

Bring in the Fungi

ONCE A NEMESIS OF BUILDINGS, MOLD, ALONG WITH OTHER ORGANIC LIFE, IS BECOMING A WELCOMED ARCHITECTURAL FEATURE.



FIRST THERE WERE GREEN ROOFS, then vertical gardens. Now there are microbial façades. Fungi and algae—once associated with decay and considered undesirable in architecture—have captured the attention of designers and researchers interested in the organisms' latent aesthetic and practical potential.

The Structural Technology Group at the Universitat Politècnica de Catalunya (UPC) in Barcelona is developing a multilayered concrete cladding panel system designed to support the growth of mosses, fungi, and lichens. The biological concrete blends conventional Portland cement with the slightly acidic magnesium phosphate cement, which supports biological growth.

The façade system—the focus of UPC doctoral candidate Sandra Manso Blanco's thesis—has four components: a waterproofing layer, a structural layer, a bioreceptive layer that promotes organism growth, and a reverse waterproofing layer that retains water for the plants. It promises several benefits, including carbon dioxide reduction, urban heat island effect mitigation, and applicability on existing structures. Perhaps its most compelling contribution is visual—a living patina that transforms every season.

Arup, Splitterwerk Architects, Colt International, and the Strategic Science Consult of Germany have collaborated on another microbial façade system. Housed within glass curtainwalls, the "bio-adaptive façade" uses living micro-algae

to harvest solar power while providing shade. The envelope, which will be installed on the BIQ house project in Hamburg, Germany, for the International Building Exhibition (IBA) this spring, generates power in two ways: capturing solar thermal heat and generating biomass for harvest.

Moreover, the research team estimates that the amount of shading proffered will be directly proportional to solar access, since photosynthesis will drive the microbial growth within the liquid-infused glazing panels. "To use biochemical processes for adaptive shading is a really innovative and sustainable solution, so it is great to see it being tested in a real-life scenario," says Jan Wurm, Arup's Europe research leader.

Both the bio-adaptive façade and biological concrete take the pursuit of "green" to a new—and quite literal—level. However, using living microorganisms presents challenges. Will UPC's lichen-covered concrete readily develop and retain an attractive appearance, or will it turn brown with the first heat wave? Will the BIQ house's façade preserve its luminous chartreuse aura, or could a cold snap convert the algae-based fluid into a kind of dead pea soup?

Despite these unknowns, the effort to harness living matter as an integral part of building assemblies points to a future in which cladding embraces non-homogeneity, continual change, and life support—all radical, captivating approaches to envelope design.

8.1

The estimated amount of energy in megawatt-hours produced by 1.5 tons of microalgal biomass, which is the expected annual harvest from the BIQ house's bio-adaptive façade

SOURCE: STRATEGIC SCIENCE CONSULT OF GERMANY



Text by Blaine Brownell, AIA



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CENTER

Next Progressives **Karrie Jacobs** on the rise of SO-IL 56 Technology **Michael Green's** quest for a wood skyscraper 62 Ethics **Léon Krier** and **Peter Eisenman** debate the legacy of **Albert Speer**, Hitler's architect 68



Visitors lounging at Pole Dance, the installation that New York firm SO-IL designed for the 2010 Young Architects Program run by the Museum of Modern Art and PS1 in Queens, N.Y.

NEXT PROGRESSIVES

THE ART OF BUSINESS

JING LIU AND FLORIAN IDENBURG FOUNDED THEIR FIRM SO-IL TO BE STREAMLINED AND SELECTIVE—A STRATEGY THAT HAS THEM ON THE VERGE OF LANDING HIGH-PROFILE, BIG-BUDGET PROJECTS.



Text by **Karrie Jacobs**
Photo by **Noah Kalina**

EVERY SQUARE INCH of the shiny white conference table, recently cleared of coffee and donuts, is crammed with intricate foam-core models of a new 25,000-square-foot museum for the University of California at Davis campus. Florian Idenburg, 37, looking well scrubbed in a blue dress shirt and a pair of black chinos, is leading what is much more of a charrette than a sales presentation. He's joined by his wife and business partner, Jing Liu, 32, and most of the six-person staff from their firm Solid Objectives—Idenburg Liu (SO-IL). Also joining them on this February afternoon in the firm's Dumbo, Brooklyn, office: an executive architect from Bohlin Cywinski Jackson of San Francisco, a contractor, and an engineer. The client, UC Davis, is represented by about a half dozen staff members led by the campus architect, Clayton Halliday.

"We took your diagram," Idenburg says, "and came up with this." He holds aloft a graphic that depicts the museum's program as a cluster of bubbles. Then he shows a model that's a compound of small buildings linked by courtyards and topped by a roof that is a latticework of steel spaghetti. As the meeting progresses, the architects field questions ranging from what it might mean for the roof to "take on a program" to how the loading dock's hydraulic lift will work. The conversation, interrupted by a request from UC Davis officials in California—listening in via teleconference—to rotate the models ("Can we see the view from the Quad?") is so in-depth, so much about the nuts and bolts, that you'd think that SO-IL had already won the commission.


In fact, SO-IL is one of three finalists for the project, which will be awarded in late April. The firm is competing against another young New York firm, WorkAC, and the Danish firm Henning Larsen, well established in Europe but largely unknown

Next Progressives is a new monthly section that looks at an emerging designer or practice.

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WOOD



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– Anne Schopf FAIA, Partner, Mahlum

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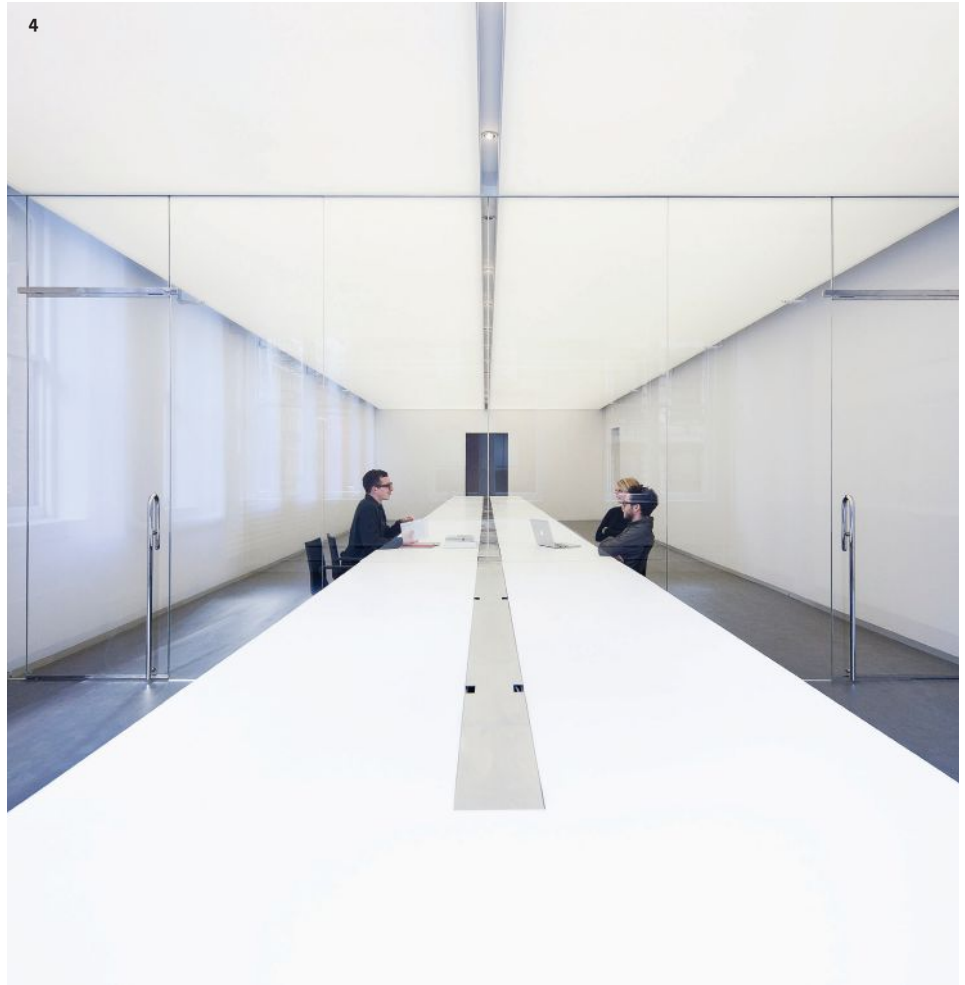
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1. SO-IL's 2010 PS1 installation, Pole Dance, was both a source of fun for visitors and, the architects say, a reflection on the economic instability of the times. **2.** A model of the Open Fort, a 500,000-square-foot mixed-use project in Amsterdam that the firm is designing for Ymere, a local housing association. **3.** The Kukje Art Center in Seoul, South Korea, is wrapped in chain metal mesh. **4.** A workspace in the offices that SO-IL designed for the New York digital filmmaker Logan.

in the United States. According to Halliday, the finalists were selected because “we were looking for something fresh”: The university wants the living museum, which will house the university’s fine arts collection and also include classrooms and studios, to be appealing to students, and not to be “perceived as a monument.” The building will be a design/build project, meaning that each firm, from the outset of the competition, has partnered with a contractor and an engineer. Each team was given a \$125,000 stipend, and all the design details will be ironed out and budgeted, from circulation patterns to sprinkler systems, before a winner is chosen. For SO-IL, it would be a breakthrough \$25 million project, which for the moment remains enticingly just out of reach.

SO-IL IS NO STRANGER to precariousness. Founded in 2008, the firm has a stated business model of running lean, so Idenburg and Liu can do the work that they find most interesting rather than the most lucrative. Their aesthetic is unusual, highly tactile, and deceptively simple at a time when young architects tend to design buildings that advertise their own complexity.

“There are a lot of people who try this, very lean and very humble. You’re in the bedroom taking calls and sending emails,” says Liu, recalling when she and Idenburg decided it was time to get a business license and rent desk space in Dumbo. “After a while, it’s clear that if you don’t take that leap and make a commitment. ...”

She doesn’t finish the thought. But the story goes like this: Liu, born in China and educated in Japan and the United States, was working on a master’s in architecture at Tulane when she landed a job as an intern at SANAA in Tokyo. Idenburg, a Dutch native, graduated from the Delft University of Technology and also pursued a job with SANAA, he says, because he was interested in “spatial and experiential qualities” and was put off by the data-driven way the so-called SuperDutch architecture firms were designing buildings.

The future partners met in 2001 and together worked on SANAA’s Glass Pavilion for the Toledo Museum of Art. Liu returned to Tulane after the project, and they lost touch until two years later, when Idenburg was in New York with SANAA partner Sejima Kazuyo during the early stages of the competition to design the

New Museum in the Bowery. “We were having a coffee, and she walked by and recognized us,” Idenburg recalls. “That’s when we reconnected.”

They married in 2006. Liu, pregnant with their second child two years later, gave up a steady job directing spa design for the Starwood Hotel Group so that the couple could hang out their shingle. Arguably, the timing made sense. The partners had managed to secure a handful of clients: a Derek Lam office in SoHo (inherited from SANAA), a building for a Dutch collector who initially wanted a SANAA knock-off (they refused), and a house for famed graphic designer Ivan Chermayeff that got as far as construction drawings and a hole in the ground. Then Lehman Brothers went bankrupt in September, followed by a series of nightmarish drops in the Dow. Idenburg and Liu completed the Lam project. The Dutch collector went away. And the Chermayeff project? “Literally, the budget evaporated,” Idenburg says.

Though the timing of the firm’s launch practically ensured that it would run lean, Liu says that “if we had started five years earlier, we would have been lean and humble anyway.” Adds Idenburg: “It’s our nature.” The firm’s first name, Solid Objectives, is intended as a declaration against practicing “paper architecture.” It means, according to Idenburg: “Ideas materialized” — although the firm’s website makes no distinction between architectural concepts and completed buildings (“Everything is a project,” argues Idenburg), so there’s plenty of “paper” in the mix.

They desperately avoided the more mundane projects that fledgling firms take on to pay the bills, Liu says, especially apartment renovations. “We were lucky enough that we were able to stay afloat by teaching,” says Idenburg, a Harvard Graduate School of Design professor. Liu teaches at Columbia. The two don’t collect a salary through their firm. “And then we took on these projects that didn’t pay us, but gave us visibility,” Idenburg says.

Some of those low-paying gigs, like a show room for a friend’s green roof business, quickly vanished. Others, like a 1,500-foot-long tent for the Frieze Art Fair’s New York edition, generated endless publicity and landed them in the *Guinness Book of World Records* (for the largest continuous tent structure in North America). They did so many low-yield projects that Idenburg estimates that the firm donates 50 percent of its billable hours, compared to the 1 percent most firms strive for. “It’s not pro bono in the sense that we are donating the time to those projects,” Idenburg says: The jobs pay. They just don’t pay enough.

PERHAPS THE PIVOTAL MOMENT that signaled the firm’s rise came when they were invited

to compete for the coveted Young Architects Program (YAP) run by PS1, the innovative Queens arts space owned by the Museum of Modern Art (MoMA). The prize is a commission, with a budget of roughly \$100,000, to design and build a temporary structure for the PS1 courtyard, New York’s answer to London’s Serpentine Pavilion. If the architects do it right, it becomes the focal point of a memorable summer.

SO-IL did it exactly right. They created an installation called Pole Dance, inspired by Bauhaus artist Oskar Schlemmer’s performance by the same name. The description on MoMA’s website makes it sound quite serious: “an interconnected system of poles and bungees whose equilibrium is open to human action and environmental factors.” In fact, what Pole Dance brought to PS1 was a sense of fun. The crowds who showed up for the institution’s Saturday afternoon dance parties — adults and children — loved playing with the flexible upright 25-foot-tall poles, which supported a floppy ceiling of netting stocked with colorful exercise balls. In a dozen years of YAP installations, Pole Dance was perhaps the least overtly architectural, and the most viscerally pleasurable.

Today, when you ask Liu and Idenburg about Pole Dance, they don’t mention the idea of play or fun. They say that the project, bright and festive as it was, was intended as a metaphor for the state of society in the wake of the economic meltdown. “The notion of instability was very much the driver of the idea,” Idenburg says. The installation was “a reflection of the way we experienced that time.”

“I think that’s 20-20 rear vision,” responds Barry Bergdoll, MoMA’s Philip Johnson chief curator of architecture and design. “It’s not at all what they discussed at the time. They were interested in the relationship between being in a place and emerging social media. They talked at the time about building an occupiable video game or an occupiable iPhone game app.”

Maybe the architects have reassessed the meaning of Pole Dance, or maybe Idenburg and Liu were clever enough, when selling the project, to de-emphasize the inherent shakiness of the structure: “MoMA, when we told them we were going to make a structure above their visitors that was always on the verge of collapse, got very nervous,” Idenburg recalls. The engineering firm Buro Happold told the architects, in Idenburg’s words, that “there’s no way to calculate so much uncertainty.” They just had to make the thing stand up through trial and error. Early versions did, in fact, collapse. Eventually, SO-IL was able to build an unstable system that was strong enough to stand. Metaphoric perfection. Or, as Bergdoll says, “I

IT’S THIS ABILITY TO MAKE ARTISTIC ARCHITECTURE, WITHOUT BEING UTTERLY IMPRACTICAL ABOUT IT, THAT SETS SO-IL APART. “THERE’S SOMETHING THAT THE DUTCH AND CHINESE SHARE,” LIU OBSERVES. “PRAGMATISM.”



SO-IL's prefabricated structure for the 2012 Frieze Art Fair on New York's Randalls Island not only impressed gallery-goers but also landed the firm in the *Guinness Book of World Records* for the largest continuous tent structure in North America.

think the project is a bit like their personality. They appear modest and very straightforward. It takes a while to realize that they've got this slightly subversive undercurrent."

EVEN BEFORE WINNING the PS1 commission, SO-IL had started work on its first completed free-standing building, the Kukje Art Center in Seoul, South Korea. They were hired for the art center based on a model that was equally incalculable. A woman named Hyun-Sook Lee came to New York shopping for an architect to design the third building in her cluster of galleries. She found SO-IL by word of mouth and told them she wanted "the biggest box possible" for the site. The architects designed a concrete structure that had unbroken space inside, with the building's circulation pushed to the outside edges. "But then we thought, 'How do we deal with the soft historical fabric of the context?'" Idenburg says. "We said, 'What if we wrap this thing in some sort of continuous mist or soft border?' So we wrapped this box in a stocking. And the client said, 'I like it. Make it.'"

But what material could mimic the stocking? Eventually, SO-IL decided on chain mail, the metal mesh that knights once wore, which had the requisite structural integrity but still appeared soft. The firm worked closely with the façade engineering firm Front, which generated computer models that allowed the architects to understand the material's properties well enough to fabricate it. Their search for likely chain-mail manufacturers led them to a promising company in a Chinese town called Anping, some six hours southwest of Beijing.

It wasn't until Liu, Idenburg, and one of their engineers, Michael Ra, journeyed there that they realized that their manufacturer didn't exactly have a factory: "We wound up in this little courtyard where there was one person in the back welding by hand," Idenburg recalls. "We needed a half million rings." As it turned out, everyone in Anping could weld, and the town, working together, was able to produce 14 gigantic swaths of chain mail. They borrowed the town's car wash to clean the expanses of metal before shipping the mesh to South Korea.

In the end, the concrete box surrounded by an amorphous cloud of silvery gray is stunning; the material does look like a stocking, with all the implied sensuality and mystery. There is a tactility to the building that is unusual in an era when most sophisticated architecture is designed, sourced, and fabricated on computers. "Material," Liu says, "is very experiential. And light is very important to us. And the experience of space is very important to us."

Consider the SoHo offices the firm designed for the New York digital filmmaker Logan. The company mostly hires freelancers on a project basis, so the space is intended to be flexible, accommodating anywhere from a handful to dozens of workers at two 65-foot-long tables lined with computer work stations. The two tables are in rooms separated by a floor to ceiling scrim of white fabric. The same translucent fabric covers, but doesn't totally obscure, the old cast iron building's giant windows. The overall effect is ethereal, like the office is full of fog. It is more art than architecture, but it is also a well-thought-out, practical work environment.

It's this ability to make artistic architecture, without being utterly impractical about it, that sets SO-IL apart. "There's something that the Dutch and Chinese share," Liu observes. "Pragmatism."

That might be the real story. Not that SO-IL, born of the recession, runs lean. But that SO-IL, inspired by SANAA, makes it entirely reasonable to create architecture that reads as art. Whether or not the firm manages to land the UC Davis project, it is poised to have a breakthrough year. SO-IL was recently anointed as one of the Architectural League's Emerging Voices of 2013. And the firm's new Fifth Avenue flagship store for Benetton is scheduled to open in September. The Italian sweater manufacturer is "trying to refigure how they're perceived in the world," says Idenburg, who is otherwise close-mouthed about the project. If the store is any good, if this large, publicly accessible place in the heart of Midtown Manhattan possesses the same approach to materials, light, and space that the firm has brought to Long Island City, SoHo, and Seoul, SO-IL may never have to run lean again.

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TECHNOLOGY

BRANCHING UP

MICHAEL GREEN SAYS HIS WOODEN TOWERS CAN HELP OFFSET CLIMATE CHANGE. CAN HE FIND A CLIENT WILLING TO GO OUT ON A LIMB AND BUILD ONE?

A rendering by Vancouver architect Michael Green of the wood towers—up to 30 stories tall, and featuring dorms, offices, and classrooms—that he's proposing for the Cornell NYC Tech campus on New York's Roosevelt Island. Skidmore, Owings & Merrill is designing the master plan for the site.

Text by **Alex Hoyt**

MICHAEL GREEN BELIEVES that his son, Makalu, might be the youngest person in history to visit all seven continents. It's plausible. Makalu was 10 years old in January 2012, when he and his father saw their seventh, Antarctica. Over three weeks, they sailed on a 50-passenger ship down the Antarctic Peninsula, a region where temperatures have risen more in the last five decades than anywhere else on Earth. Toward the end of their trip, father and son passed the embayment left by the collapse of the Larson B, an ice shelf the size of Rhode Island that slid

into the ocean in 2002. "When [Makalu's] 40, I hope he takes his son to Antarctica to see how much the landscape has changed," Green says. It was a firsthand reminder about why he is striving to transform the architecture of our cities with a radical idea: wooden skyscrapers.

"Architecture hasn't seen a new structural system—a new approach to big building—in a hundred years," says Green, 46, the founding principal of Vancouver-based Michael Green Architecture (MGA) and a fellow of the Royal Architectural Institute of Canada. "The face of architecture has always been contingent on a structural system. Modernism came about

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because of steel and concrete and our ability to move large scales of stuff around.”

The load-bearing steel skeleton helped give rise to the modern skyscraper in the late 1880s, and just after the turn of the century, developments in reinforced concrete—cheap, strong, durable, soundproof, nearly fireproof, and possessing a high thermal inertia—made it nearly the perfect building material for high-density urban structures.

The problem: The production of both concrete and steel emits tremendous levels of carbon dioxide, the primary greenhouse gas responsible for anthropogenic climate change. Most problematic is the manufacture of cement, the binding agent in concrete, in which kilns of limestone are heated upwards of 2,600 F, typically with coal—a process responsible for 5 percent of the world’s annual carbon emissions. The production of steel, even more energy-intensive, accounts for 3 percent.

Those carbon emissions will likely increase as architects confront another crisis: the world’s shortage of affordable housing. According to U.N.-Habitat, 1 billion people live in slums, a figure that the agency says is on pace to reach 3 billion by 2050.

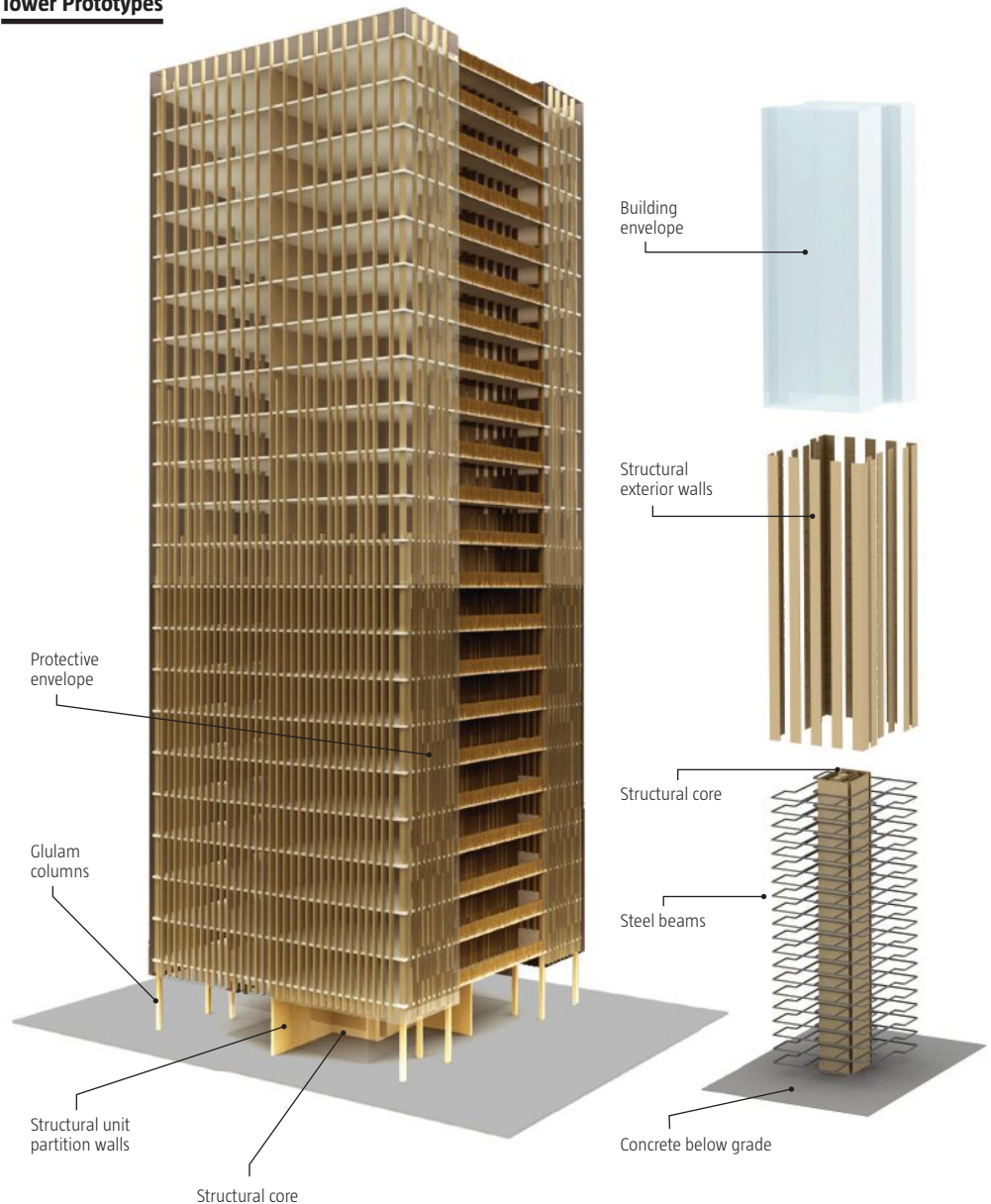
To tackle this issue, the U.N. announced, in its Millennium Declaration, its intent to house 100 million slum residents by 2020. Meanwhile, in China, where over a third of city-dwellers live in slums, the government has embarked on a plan to build 36 million affordable-housing units by 2015—projects that will likely be built using concrete.

“There hasn’t been any reason to innovate until now,” says Green, who argues that the need for so much new housing will contribute to climate change if there isn’t a systemic structural shift in high-density urban construction. “Green carpet, green roofs, solar panels—they’re relatively minor fixes,” he says. Building with wood, he says, would not only limit the creation of carbon dioxide associated with the production of concrete and steel, but it also has another benefit: carbon storage. Trees sequester carbon through photosynthesis; when they decompose, that carbon is re-released into the atmosphere. But when you build using wood, the carbon remains stored for the life of the building. A typical North American timber-frame house stores 28 tons of carbon dioxide, roughly the amount emitted by a mid-size car over seven years.

As Green often says, “Man can’t compete with photosynthesis.” But here’s the real question: If you’re a developer building a skyscraper, can wood compete with concrete and steel?

FIVE YEARS AGO, as an arts-and-crafts project, Green and his son made an 18-inch wooden

Tower Prototypes



skyscraper out of sticks and foam board. As Green recalls, when he showed it to Eric Karsh, a structural engineer he often partners with, Karsh said, “Yeah, this works. Let’s talk about it.” With a grant from the Canadian Wood Council, which represents the country’s wood manufacturers, they began researching how to make that model a reality.

Last March, they compiled their findings in a weighty white paper, “The Case for Tall Wood Buildings.” Peer-reviewed by two structural engineering firms, it shows how high-rises might be built out of giant panels of engineered wood, known as mass timber. It comes in several forms, all made from the scraps of fast-growth trees, including aspen and birch, that are bonded with formaldehyde (at levels well below what the U.S. Department of Housing and Urban Development

Above left: An illustration of a 20-story wood tower with interior structural walls and a glulam curtainwall. **Above right:** An axonometric diagram of a 20-story tower with exterior structural walls.

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FOR NOW, GREEN DOESN'T ENVISION MASS TIMBER REPLACING CONCRETE AND STEEL AS THE SOLE DOMINANT URBAN BUILDING MATERIAL; HE SIMPLY WANTS TO PROVIDE A MORE SUSTAINABLE ALTERNATIVE.

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considers potentially carcinogenic). Green intends to build primarily with cross-laminated timber, invented in Europe in the 1990s.

The report offers structural diagrams for four building prototypes: 12 stories, with a wooden structural core, no structural walls, and a flexible floor plan suitable for commercial or residential use; 20 stories with either interior or exterior structural walls, both better-suited to residential use; and 30 stories, with interior and exterior structural walls, and a rigid layout solely suited for residential use. In each prototype, the floor slabs, elevator and stair cores, and structural walls are made of mass timber. Linking those panels are wide-flange steel beams, designed to lend ductility to the structures in the event of an earthquake. The foundations are reinforced concrete. To erect these buildings, Green proposes a balloon-frame method, in which six stories are tilted up at a time.

The biggest concern? Fire. But the sheer size of mass-timber panels makes them far less combustible than 2x4s, just as logs are harder to ignite than kindling. Additionally, when a mass-timber panel is exposed to flames, its exterior chars, insulating the inner wood and containing the fire for more than an hour. The material has also performed as well as concrete and steel in seismic and acoustic tests. But the biggest advantage, Green says, is how quickly and quietly mass timber high-rises can be built compared to their concrete and steel counterparts—and, according to Green's estimates, for the same price.

A notable caveat: Wooden buildings only offset carbon emissions if their wood comes from sustainably harvested forests, such as those in Canada, where the annual rate of deforestation is less than 1 percent. But if Green attempts to bring wooden skyscrapers to China, where the timber industry is far less regulated, deforestation will be a larger obstacle.

For now, Green doesn't envision mass timber replacing concrete and steel as the sole dominant urban building material; he simply wants to provide a more sustainable alternative—and an incentive for the steel and concrete industries to reduce their carbon emissions. "We're trying to make wood competitive," he says. But his long-term ambitions are anything but modest: "We want to go from log cabins to Shangri La."

GREEN WAS DRAWN to architecture at an early age. His maternal grandfather, Richard Bennett, worked as a draftsman for Edward Durrell Stone and served as the chairman of the Yale Department of Architecture in the 1940s. When Green was a teenager, his paternal grandfather helped him build a wooden cottage on Michigan's Upper Peninsula.

He received his bachelor's degree from Cornell's School of Architecture in 1989. "It's a bloody hard school, and I had a hard time," he says. Of the half-dozen longtime professors I contacted, only one remembered him—primarily because of their shared love of ice-climbing.

After Cornell, Green went to work for César Pelli and contributed to the renovation of Ronald Reagan National Airport. In 2002, after a stint with Vancouver-based Architectura, he and his colleague Steve McFarlane left to create their own firm, which later became McFarlane Green Biggar Architecture + Design (MGB). But Green's ambitions to build tall eventually clashed with his partners' commitment to more traditional residential projects, and after nine years at the firm he founded his own practice in March 2012, joined by 15 former MGB employees.

ONE OF THE MAIN HINDRANCES to Green's quest has been building codes, which in North America have long restricted heights of wooden buildings because of the potential fire risks. In 2009, the British Columbia Building Code raised the maximum height from four to six stories, but the research informing the code remains based on stick-frame construction. Building codes for wood construction in Europe are less strict—in London, Waugh Thistleton Architects designed a nine-story mass-timber apartment building that went up in 2011, and in Kirkenes, Norway, Reiulf Ramstad Architects is designing a 16-story timber tower.

Although Green eventually wants to build wooden skyscrapers as affordable-housing projects in the developing world, he feels the first project has to target the high-end commercial market. "If it's going to work, we have to find a private developer to do it," he says. Twice he's come close to building mass-timber high-rises for Canadian universities, but both projects stalled. "Everybody wants to build the third one," he says. "But nobody's stepped up to build the first one."

Ian Gillespie, a Vancouver-based developer who worked with Green on one of those projects, at the Great Northern Way Campus in Vancouver, remains confident. "There's a lot of money being spent trying to figure out all the code issues and seismic issues," he says. "It isn't just academic anymore. The forestry industry is interested in being part of the solution. There's a better than realistic chance of this happening in the near future."

In February, Green gave a presentation at the annual TED Conference, in Long Beach, Calif., where he shared a rendering of five wooden towers, up to 30 stories tall, on Roosevelt Island in New York. That image is part of MGA's unsolicited proposal for a series of dorms, classrooms, and offices for the new Cornell NYC

Tech campus, which will break ground in 2014.

Such publicity hasn't always endeared Green to Vancouverites. "There are some people in this community who think Michael Green spends too much time being Michael Green," Gillespie says. "He doesn't fit in the typical Canadian architecture mold. But if you can't sell yourself, and your dream, and your ideas, they don't get off the ground."

Whether Cornell seriously considers his proposal or not, Green remains confident that wood will be embraced. "You never see anyone walk into a building and hug a concrete column," he says. "But a big wood column, it's like an individual. You totally see people walk up and touch it. No two are the same. It's much closer to people. It's much closer to who we are."



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ETHICS

REVISITING THE REICH

LÉON KRIER'S NEWLY REPUBLISHED BOOK ON NAZI ARCHITECT ALBERT SPEER ARGUES THAT A WAR CRIMINAL CAN BE A GREAT ARTIST. PETER EISENMAN SITS DOWN WITH KRIER TO CHALLENGE THAT CLAIM.



Léon Krier (left) and Peter Eisenman, both professors at the Yale School of Architecture.

Introduction by **Eric Wills**
Photo by **John Midgley**

LÉON KRIER ACKNOWLEDGES that celebrating the work of Albert Speer, Hitler's architect of choice and a war criminal who served a 20-year prison sentence, has subjected him to vociferous criticism. Studying Speer's buildings "without a priori condemnation has made me, in the eyes of many sound minds, an ally of sordid crimes," he writes in *Albert Speer: Architecture 1932–1942*, first released in 1985 and now being republished by Monacelli Press.

Krier, a traditionally minded architect and urbanist who perhaps is known best as master planner of Poundbury in Dorchester, England, interviewed Speer in the early 1980s as he explored the elderly German's ambitious

plans, devised in close concert with Hitler, to transform Berlin into the capital of Europe.

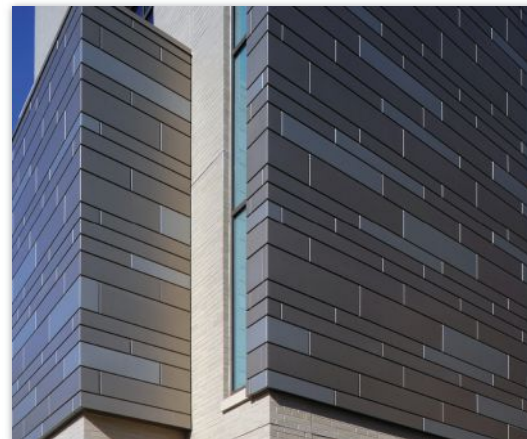
But Krier's book is more than just an attempt to disentangle the political intent behind the Berlin plan, the Reich Chancellery expansion, and the Nuremberg parade grounds—to name a few of Speer's most prominent projects—from the monumental classicism of the architecture itself; it's also an attack on Modernism as "an ideological byproduct of fossil energies." Krier writes: "The present-day ethical blindness to the consequences of global industrialization resembles that of the Germans towards the consequences of the Third Reich's racist policies. We consume goods that may be produced by slave labor, use machinery that may ruin conditions of life on the planet."

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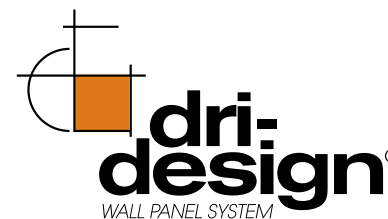


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CENTER



From top: Two projects that Albert Speer designed for Hitler before World War II: the Zeppelinfeld on the Nuremberg parade grounds, and the Marble Hall in the Chancellery, the new Berlin headquarters for the Reich.

In February, Krier gave a lecture on Speer during “Achtung: Berlin,” a symposium at the Yale School of Architecture, before discussing his book with one of his fellow panelists, the unrepentant provocateur Peter Eisenman.

PETER EISENMAN: Here’s my question. I’m not interested in classicism versus Modernism. That doesn’t interest me in the least. I’m very fond of the Reich Chancellery. I think it’s a fabulous plan: It’s not rigid, classical, symmetrical. I’m not so interested in that.

When I knew Albert Jr. [Speer’s son, also an architect], he used to believe in his father’s innocence. When you first did the book, there was the belief in Speer’s innocence in the general public. He wasn’t executed. He claimed not to know about the Holocaust. It was public understanding that he was innocent of any knowledge of slave labor. [His guilt] came to light 10 years ago, and it was just devastating for Albert Jr.—I know because we talked about it. He was so upset because he lost his belief in his father’s humanity, let’s say.

And so when you republished this book, I expected to see at least an acknowledgement that the situation had changed. It has nothing to do with the quality of his architecture. It has to do with his ethic, his morality, that he publicly hid the facts as he knew them. That omission, I’ve found problematic. I’m curious how you feel about that.

LEON KRIER: Well, the book was [first] published in 1985. Speer died in September 1981.

PE: But these admissions came out in the last 10 years.

LK: The [German edition of the] book by Matthias Schmidt, *Albert Speer: The End of a Myth*, was published in August 1981, and it is that book which killed Speer. I saw him in end of June and the first week of July in 1981. And he told me that there will be a book that I’m not going to be able to handle. And I told him that I didn’t need a book to know that he was responsible in his role as Minister of Armaments, which had far-reaching powers, because he controlled the attribution of building materials around the Reich. So it was unthinkable that he would not have known. Because the death camps were colossal building sites, and he knew where this stuff was going.

PE: This was not public knowledge.

LK: It was published. If you wanted to know it, you knew it. I knew it. But that’s not the question. The question is about the ambiguity of humankind, that we can be involved in

horrendous actions and yet be very kind to our families. This is an extraordinary thing.

PE: You talked today about the deaths that occurred in industrialization, the mass deaths perpetrated by capitalism or communism. I happened to be in Nuremberg two summers ago and went to the museum and realized that in the construction of the Zeppelinfeld, the Märzfeld, only slave labor was used and there was a certain deadline for construction. And many people died from the conditions of labor that built this extraordinary—no question—extraordinary place. So your questions about industrialization killing people in a regular fashion rings hollow, because people died constructing these very projects.

LK: It was a criminal regime. They used slave labor initially, relatively modestly. But then during the war, they needed it because they had the men fighting.

PE: I have no problem with discussing architecture in this, as you know. I studied Palladio. I'm doing Alberti. Albert Speer could be a subject for me. No, you know that's not my problem. My problem is, I expected in the new edition a more ...

LK: No, because it proves you have not read the book.

PE: I read the book. I just re-read it.

LK: The initial book, it was a little sentimental, I would say. The style was a bit emphatic. There was nothing really to correct, apart from the stylistic flaws. But the content is even sharper than it was before, because really the problem is not our differences with the Nazis, but our parallels. That is what the book is about.

PE: I don't believe in Nazi architecture. I don't believe in Fascist architecture. All architecture is political.

LK: The best architecture is political. Because it builds polis, it builds society.

PE: So the question is, the son felt differently about him. You don't have a different sense of Speer as a person? Because he was different than all of the people around Hitler. He was of a different class, of a different sensibility.

LK: He came from a bourgeois family.

PE: He could have been different.

LK: He should have, yes. But so should have

the whole German upper middle class: the engineers, the doctors, all the people who participated in the system.

PE: So you still would maintain there's no difference today in the view of Albert Speer?

LK: No, the book gives you that view, which I think is the right reading. He is highly

responsible. He is all the more responsible because he was in this high position. He was very educated. He was extremely good looking. He had everything, really, to his advantage. He's all the more guilty. Yet, he's a great artist. I forgot to show my last slide today, where you see the Berlin skyline by Speer, with the big dome. And then the [projected] Manhattan skyline in 2050. What is the more humane city?

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Top: The Palazzo dei Congressi in Rome, designed by Italian architect Adalberto Libera in 1938 and completed in 1954. Above: A street in Poundbury, the English town that the Prince of Wales hired Krier to plan in the late 1980s.

What is going to survive better into the future?

PE: A humane city? Now you're sounding like Hans Stimmann, [the former *Senatsbau-direktorin* in Berlin]. Because the reason I did not build [the Max Reinhardt House] in Berlin is because it was not considered humane. Those towers were monuments, they were icons. But let's talk about master planning. You made a plea today about the need for master planning. My feeling is that master planning, through at least the 19th and 20th century, has proven to be illusory, and in a certain way destructive, whether it's [Ludwig] Hilberseimer or Corbusier. I don't even count Speer.

LK: I think you maybe confuse the term of master planning. You confuse the result with the technique, because you cannot do a city without master planning.

PE: I don't want to do a city. That's what I'm saying. We don't need to do a city. I don't need a master plan for New Haven today.

LK: And look what it is like.

PE: It's awful, but they have a master plan.

LK: They had the wrong master plan. Again, you condemn the instrument, instead of condemning the idea, which ruined the town.

PE: The wrong master plan is devastating. It's better to have no plan than a bad master plan.

LK: It's like you have bad shoes and you condemn the shoe. Just change your shoes.

PE: It's not so easy to get the right master plan. Here's the way I would argue with you, given the change in my own work. I am starting to do larger-scale projects. ... But I also realize that I'm not capable of operating beyond a certain scale.

LK: You are much closer to Albert Speer than you think. I am very, very far away. But a project like you did in Santiago [de Compostela in Spain], it's a scale that is no longer the size of a building. It's a whole landscape. At Harvard now they call it landscape urbanism.

PE: Santiago is 200,000 square meters. Six buildings. We're doing 15 buildings in Istanbul, the same outside of Naples. We're starting to do larger-scale projects, but they're not what I would call master plans.

LK: So where is your limit? What is too big?

PE: I don't know what it is.

LK: I am now your client. I have a load of funds and political pull. I ask you to design a new town for me. Would you refuse?

PE: I would say no. These towns that people are designing in China ... I have some morality.

LK: Come on. I don't believe you. I design anything I can fit on this size of paper, whether it's a town or a chair.

PE: No, no, see, I don't believe that. It makes a difference to scale, to the human individual. You think you could design a town—honestly, you—for three million?

LK: Yes. I am strongly convinced I can do it better than most people do.

PE: See, I don't believe I could. Do you believe there is any urban plan since World War II of any value urbanistically?

LK: Yes, there are many. Poundbury is an important development. It's a real city. You won't go there; it's not to your liking. But the master planning process works there.

PE: It's not a question of my liking. It's a question that you believe, you keep arguing for the present. You argue that the Nazi leaders argued for an architecture of the present. And I would argue that Poundbury is an architecture of nostalgia. There is an aesthetic at Poundbury that I don't think is of the present.

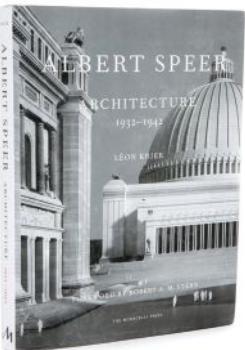
LK: But that's where you are wrong, because it has nothing to do with going back into the past or thinking that the past was better.

PE: I would argue that there is a difference between Poundbury and [the work done by Luigi] Moretti, [Giuseppe] Vaccaro, and [Adalberto] Libera [for Mussolini]. I think that you're unwilling to admit that my liking for Moretti and Vaccaro is not nostalgia. It's something else. We're not going to talk about Speer's plan for Berlin because I think it's another thing: The North-South Axis is a great idea. The scale of that dome, I think, is a little big. The scale of the 405,000-seat [stadium Speer designed in Nuremberg], to me, is crazy.

LK: You would refuse to plan it.

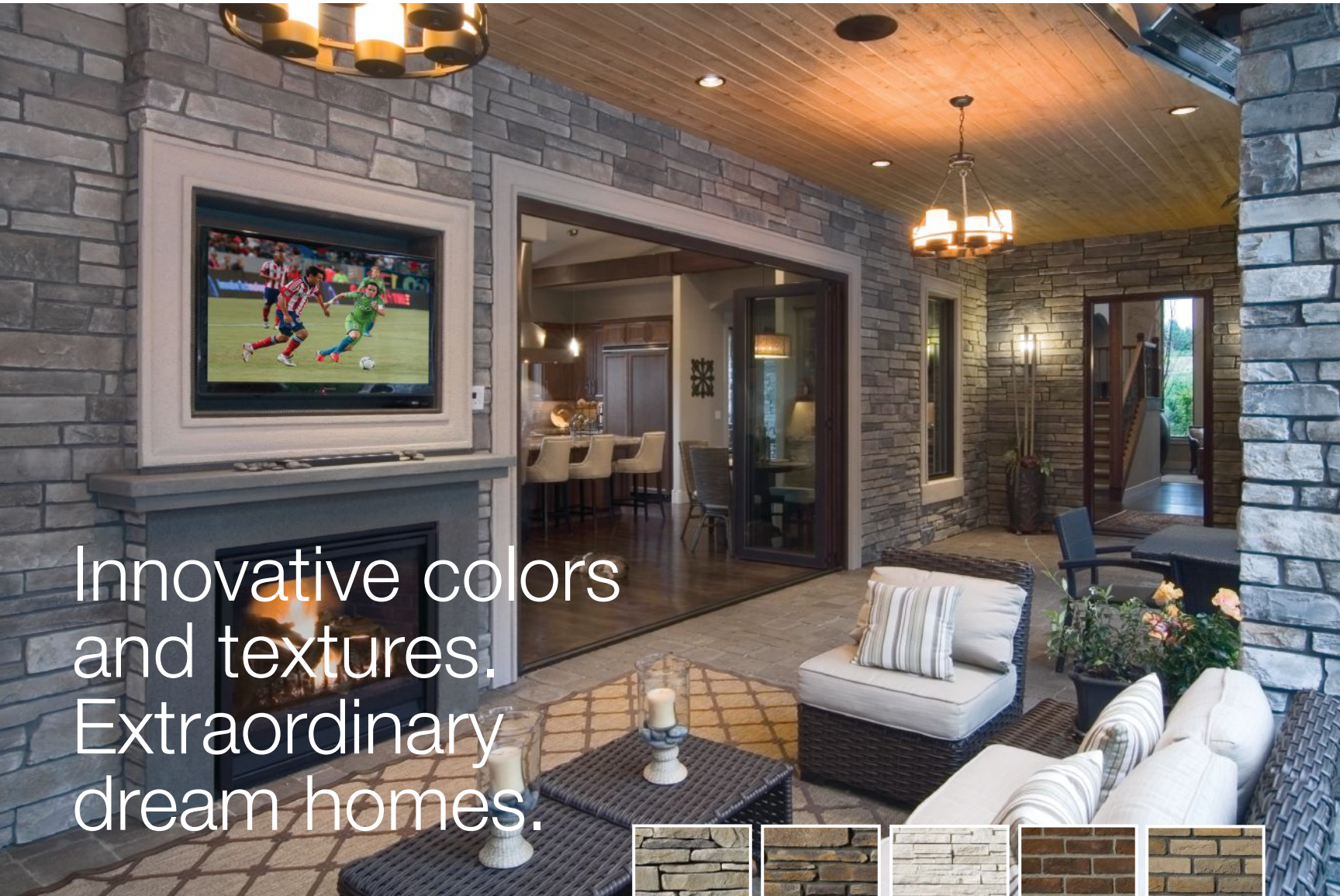
PE: Yeah. I would. I'd plan it at 70,000. The traffic. Come on, Léon, think of it, trying to get in and out of a 405,000-seat stadium.

LK: I am not proposing it. I am just looking at it as well done. It's a beautiful thing.



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DALIAN INTERNATIONAL CONFERENCE CENTER

THE CENTERPIECE OF AN EMERGING CENTRAL BUSINESS DISTRICT IN THE CHINESE CITY OF DALIAN, COOP HIMMELB(L)AU'S NEW CONFERENCE CENTER BRINGS PARAMETRIC DESIGN TO THE SHORE OF KOREA BAY.





Previous spread: At night, dramatic lighting plays off of the parametrically designed aluminum skin of the Dalian International Conference Center. **This image:** Louvers in the skin expose the glass envelope underneath, while allowing daylight to penetrate public spaces and airflow to naturally ventilate the building.



Text by **Joseph Giovannini**
Photos by **Duccio Malagamba**

CHINA IS DIFFERENT. Over the last decade, the country has emerged as architecture's pre-eminent client-state because of a confluence of factors above and beyond the needs of 1.3 billion people who have been underhoused and underserved by previous regimes. In the new China, leaders and citizens alike want to show that the country has emerged as a first-world nation. With major and minor cities competing against each other for visibility, status, and business, politicians have enlisted architecture as a tool of both economic progress and civic branding. Architects are being imported like Ferraris as the new status symbols of cities emerging on the world stage.

Dalian, a port city at the tip of Liaodong Peninsula situated on Korea Bay, across from North Korea, is striving for first-tier status. On a visit to Munich several years ago, Dalian's mayor saw the BMW headquarters by the Vienna firm Coop Himmelb(l)au: Its cornerstone is a monumental spinning ramp that looks like a hurricane touching ground. The mayor wanted one.

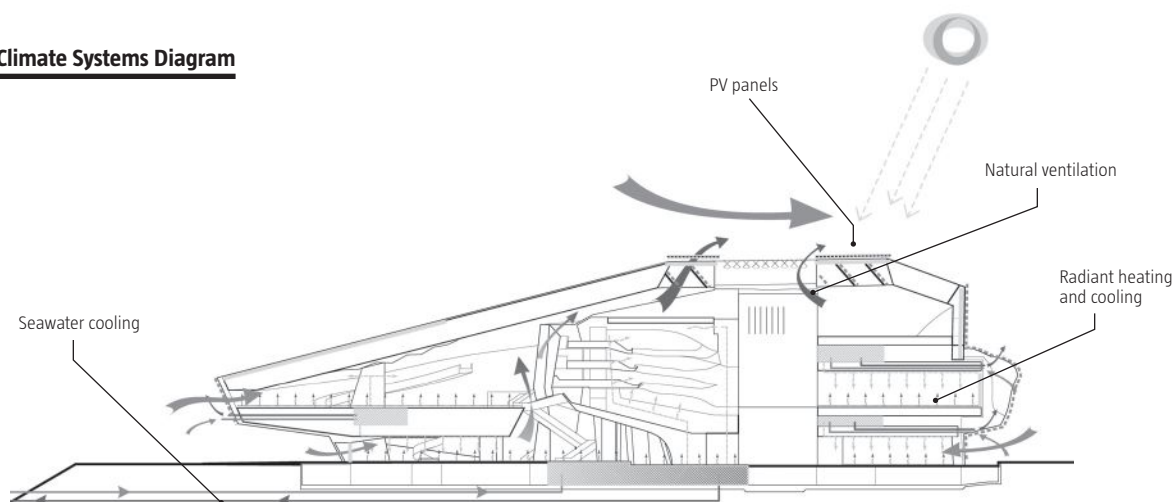
But its designer, Wolf Prix, Hon. FAIA, does not copy himself and has never designed dynamism as a pre-fabricated cliché. The characteristic flows of his architecture—its sense of movement within a tensed matrix of structure, space, and surface—instead emerges from a nonlinear design process in which a field of perceived forces pushes and pulls form and

space in ways that yield architectural complexity.

At first the program for the center called for a hotel with a conference center to be used as the summer Davos World Economic Forum, but the hotel dropped out of the brief to be replaced with a 1,600-seat opera house—with all facilities under one big tent. The program of a shell covering several cultural venues is a building type common to, and popular in, China. In Dalian, the chosen site sat at the intersection of two new boulevards in an emerging Central Business District (CBD), now galloping tower by tower across land reclaimed from the sea. As in many of China's cities, the new CBD in Dalian would focus on this new cultural centerpiece—conceived and celebrated as a stand-alone architectural event. Throughout China, landmark buildings are news items plastered on posters advertising their host cities.

Coop Himmelb(l)au, however, is not in the postcard business. Prix started tenting the program, which also included a theater and exhibition center, within a roughly triangular shell rising like an off-centered cone that accommodates the planned high-rise hotel. Unlike other architects whose original shapes start with Euclidean geometry, Prix was fitting the shell to a program whose elements stretched and deformed what was already a hybrid triangular-conical shape. "I took care not to create a one-liner corporate building," Prix says. When the hotel dropped out in favor of the opera house, "We suppressed the peak, and the new height limit provoked

Climate Systems Diagram



pushing out the conference spaces beyond the shell, creating a sculptural shape and a new geometry.”

Unlike some architects who work from the façade in, and others who work from the plan out, Pritz designs in a reiterative process that alternately tenses and relaxes the shell, creating surfaces curving in two directions. Precedent reaches back decades to his Open House in Malibu, a project where, he says, “You have the feeling the inside pushes on the skin,” and to Oscar Niemeyer’s own house outside Rio de Janeiro, “where the roof doesn’t follow the ground plan, and the skin doesn’t follow the structure.” In Dalian, the building’s aluminum skins define the volume, but it behaves independently of structure. The structure—a hybrid of space frames, columns, and beams joined in complex knots—plays a recessive role without structuring the experience. Structure is neither dominant nor determinant.

Striving for a building that would generate more energy than it consumes, the rooftop is lined with photovoltaic panels, and the building is cooled with seawater, with the heat exchanges taking place in the basement. To add further energy savings, the architect operated on the shell. Pritz combines a metal skin on the outside with a glass skin on the inside to create a hybrid membrane that responds to different functions. Using a parametric program, the architects created window openings that, like a brise-soleil, control sun exposure while admitting natural light. A system of louvers is angled to receive and channel prevailing winds. “We guide streams of air through the building by openings in the façade. A new aesthetic emerged from energy considerations,” Pritz says. The architects set the dimensional parameters of the paneled aluminum cladding, and the program triangulates the skin into an elegant quilt of differently sized facets. One densely punctured roof façade, called “the chandelier,” emits a golden environmental glow inside as it channels sunlight.

With conferences and performances for up to 6,000 people at a time, the building has to accommodate the population of a small town, and Pritz approached the design for the spaces between the conference rooms and performance spaces urbanistically, conceiving the gaps as streets, avenues, and plazas, complete with bridges, ramps, stairways, and dead-ends—as in a real town. A low, wide entrance compresses space as visitors enter into the main spatial event, a voluminous plaza that reveals a delirious interior landscape of

Piranesian complexity, with forms that warp and spaces that bend out of sight. Space and form are inextricably interlocked in what Pritz’s compatriot architect R.M. Schindler in pre-World War II Los Angeles used to call space/form—though Pritz’s space/forms behave with a liquidity made possible by computational intelligence. “Liquid, fluid, dynamic, continuous spaces are the new space of our century,” Pritz says.

He achieves the complexity through what he calls an “open system of design,” and works with several computer programs—not one—and many geometries—not a single one—during an iterative process of trial and error. “We always introduce mistakes, unintentionally,” Pritz says. “Chance occurrences break the systematic ordering of authoritarian systems. I believe that parametric design is a closed system, and that trial and error factored into computerized systems opens them and yields new shapes and ideas.”

At Dalian, and in other projects such as BMW Munich and the monumental new Busan Cinema Center in South Korea, Pritz develops the buildings as omnidirectional force fields that deform shapes inside and out: “They are not single-surface buildings that follow a regular geometry,” he says. “Trial and error in an open system generates a lot of geometries.”

Still, the public spaces are “complex without being complicated,” Pritz says, and the interior is easy to navigate, with the opera house at the center and conference areas to the left and right. The space is not just the residual space leftover from the conference rooms and theaters, but spaces shaped as a positive: “Our design method is always going in a feedback loop,” he says. “We design back and forth, constantly checking out optimal solutions, to create a synergy between outside and inside. It’s not function follows form, or form function, but how each shapes the other dynamically.”

Whereas in his early work, Pritz designed with linear elements, in his more recent, monumentally scaled work, he shapes spaces with volumes deformed in a three-dimensional vectorial field, creating hyperbolic surfaces. Pritz has succeeded in scaling up from boutique dimensions to the largest of monuments, with no decrease in intensity.

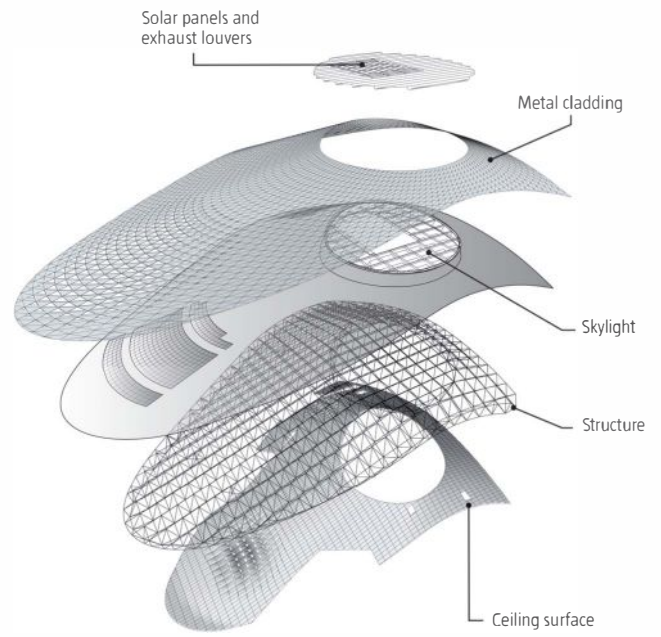
Why does the Dalian International Conference Center have such an iconic presence, when the towers around it do not? “I think it’s because of the new geometry,” Pritz says. “We use geometries from sources other than the bottom line or the program, and the buildings take on their own life.”



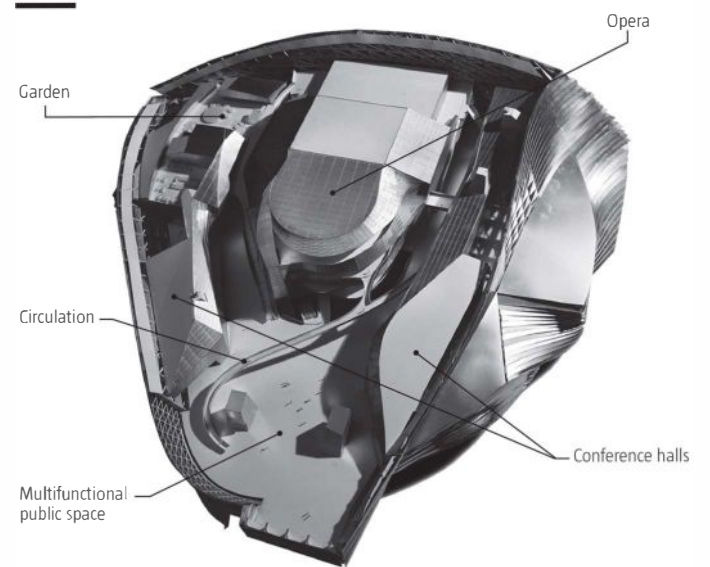
The articulated form of the building contrasts sharply with the orthogonal towers that are driving the expansion across much of Dalian's emerging Central Business District. Seen as the central architectural piece in the master plan, the conference center is surrounded by landscaping and will stand apart from the density of the rest of the area.



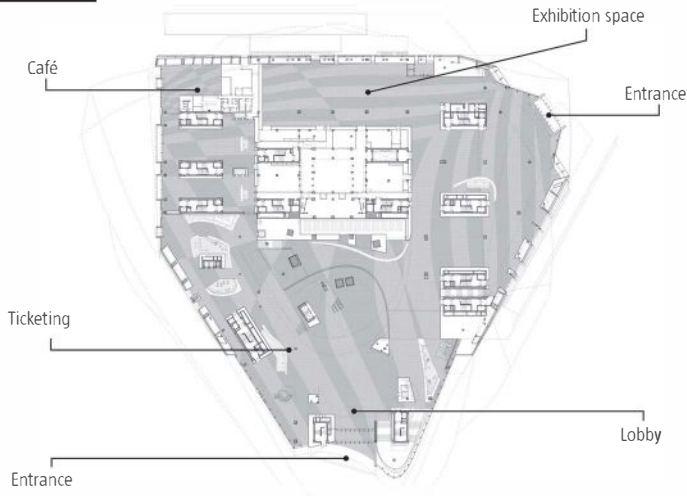
Roof Structure Axonometric



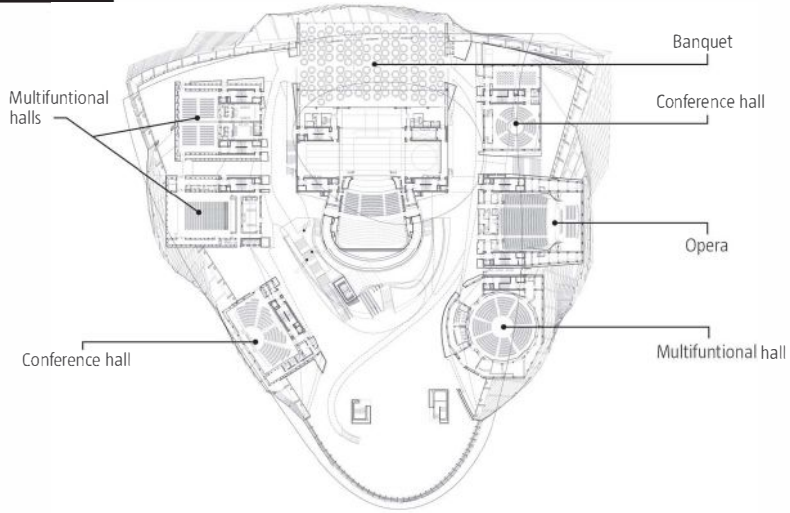
Model



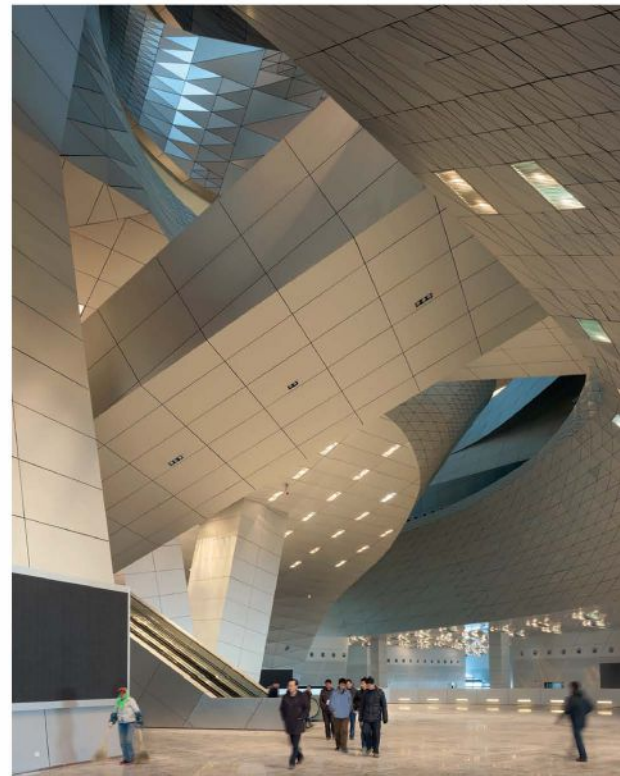
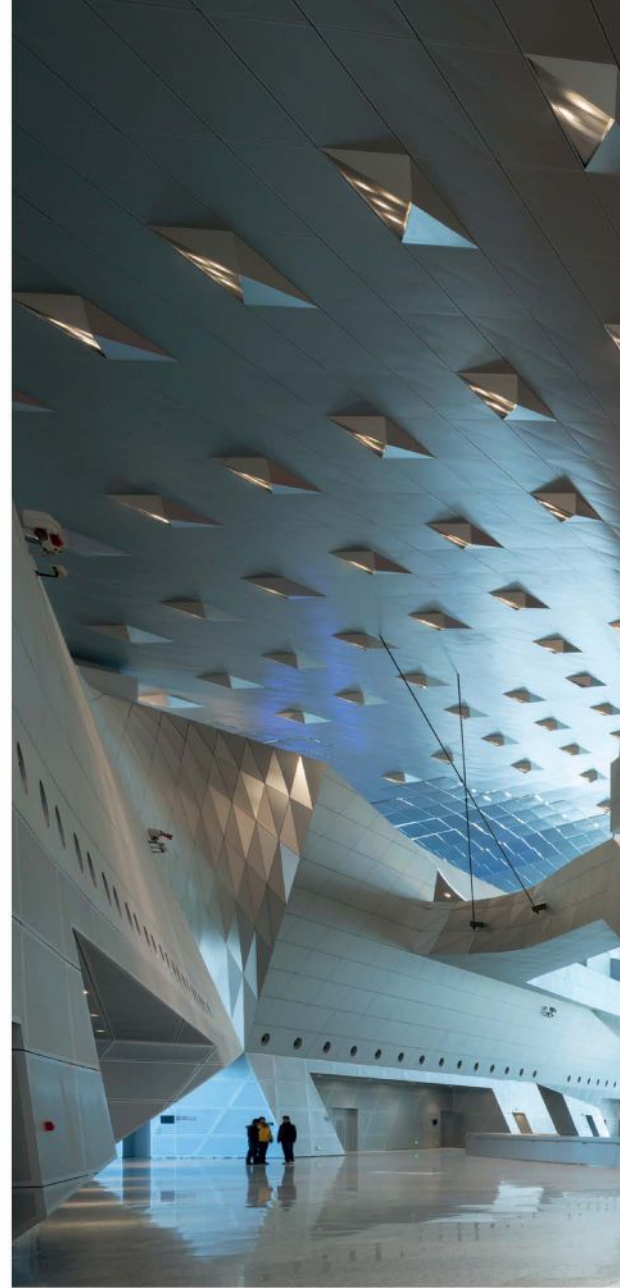
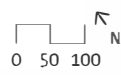
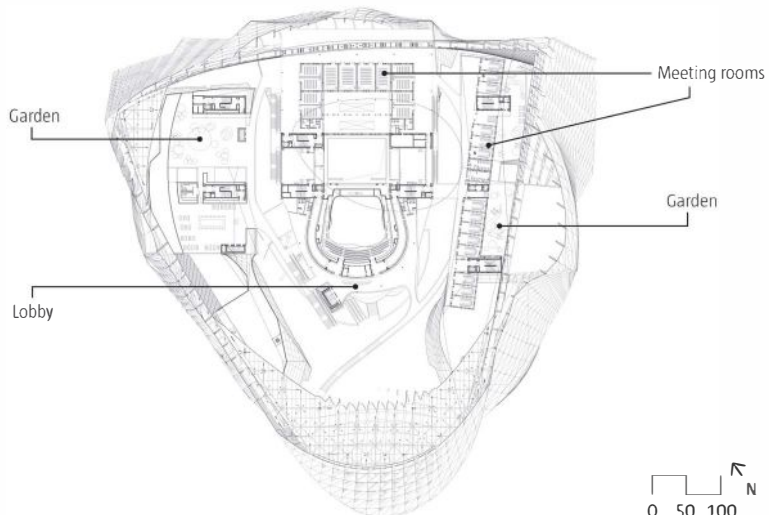
Ground-Level Plan



Third-Level Plan

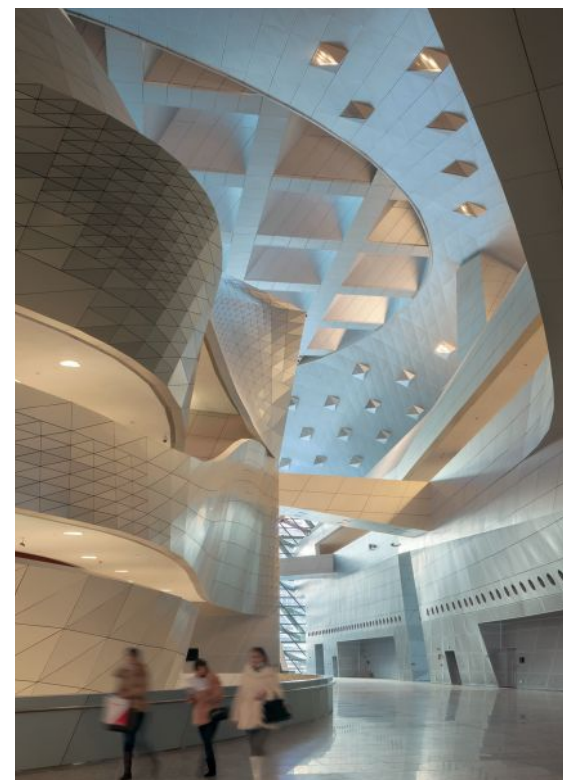
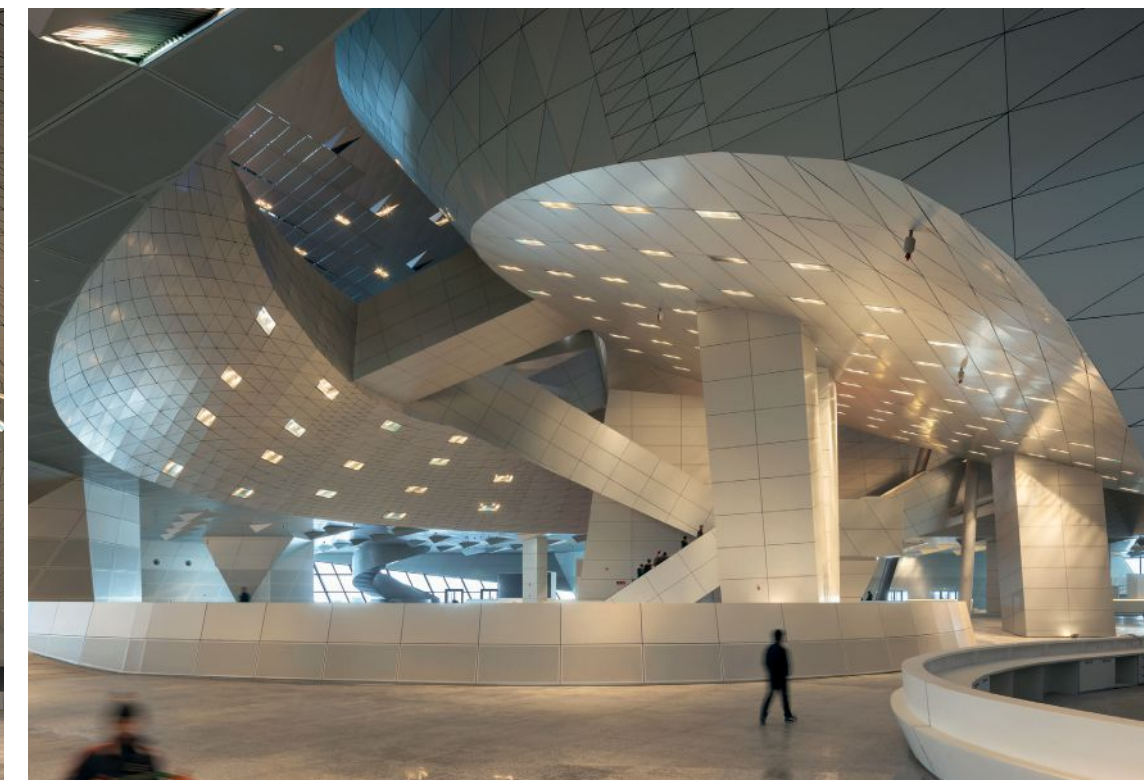


Sixth-Level Plan





This image: The building's geometry is driven by the concept of tenting the individual interior elements of the structure's varied program. The central element houses the main theater. **Bottom:** A series of stairs and bridges connecting conference rooms and public areas lends an urbanistic quality to the interior.







The 6,000-seat opera house is the centerpiece of the complex. With seats spread across four levels, and shielded by molded balconies, the space maintains a compact footprint.



FEDERAL CENTER SOUTH BUILDING 1202

A NEW HOME FOR THE SEATTLE OFFICE OF THE U.S. ARMY
CORPS OF ENGINEERS REINVIGORATES A SUPERFUND SITE.

Text by **John Gendall**
Photos by **Benjamin Benschneider**



THE SITE FOR Seattle's newly opened Federal Center South Building 1202 has taken a drubbing over the years, positioned as it is on the banks of the Duwamish Waterway—a highly industrialized urban estuary that earned an unenviable place on the Environmental Protection Agency's Superfund list. Occupied originally by a string of organizations with, at best, spotty environmental records (Ford Motor Co., the U.S. Department of Defense, and Boeing), the existing WWII-era building represented the organizational and environmental miscues of past generations. So, when the U.S. General Services Administration (GSA) set out to replace it with a new federal office for the U.S. Army Corps of Engineers (USACE), it targeted ambitious green standards as a way to create a model for reclaiming this toxic ecology.

With the new structure, the design/build collaboration between ZGF Architects and Sellen Construction sought not only a sustainable approach to construction, but also to the

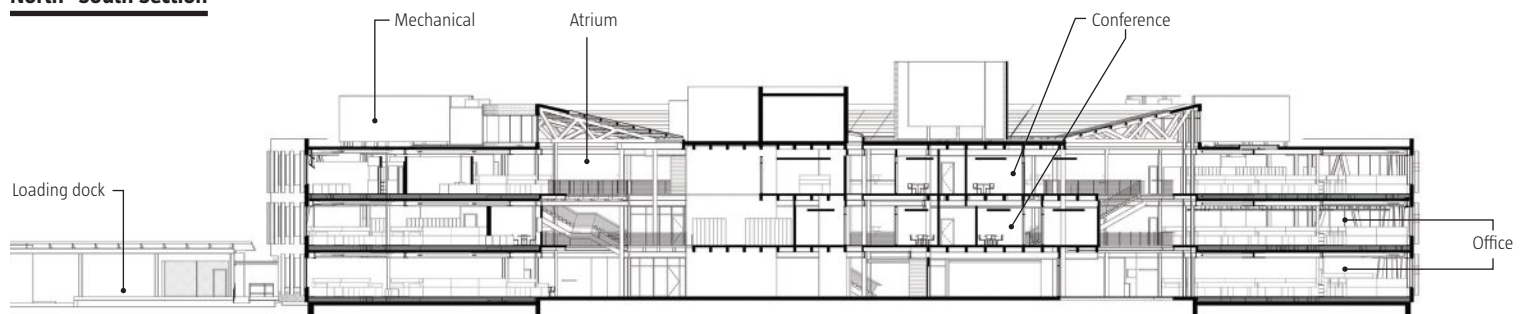
experience of the user. Since moving into the old building more than 30 years ago, the USACE had been confined to a space with 100,000-square-foot floor plates and no operable windows. What this expansive footprint made difficult, 6-foot-high cubicle partitions squelched altogether: Natural air and daylight stood no chance of penetrating this space.

Setting out to reverse this effect, the design team undertook extensive massing studies, and determined that an oxbow-shape plan would allow sunlight to reach the majority of the interior spaces, while limiting the western exposure that would drive up solar heat gains. "We considered a lot of variations, but this particular shape really helped to keep peak loads down," ZGF partner Allyn Stellmacher, AIA, says.

Individual offices and open-plan workspaces line the perimeter of the new building, giving everyone plenty of exposure to daylight. To boost light levels, offices and conference rooms are located around a skylit, garden-filled atrium.



North-South Section



0 10 20



The atrium “provides an amenity for the employees, but it also does multiple things for the building’s energy systems,” says ZGF’s high-performance green building specialist Chris Flint Chatto, Assoc. AIA, citing its role in venting the natural convection exhaust generated in the perimeter offices. The atrium provides measurable energy-performance benefits, but it also renders the workspace qualitatively more pleasant. Now used as a shared communal space, the atrium has become an important connective tissue between departments that were previously segregated. “I’ve worked here for a few years now, and I’ve been meeting people that I’ve never known or interacted with,” says Robert Paulson, a USACE project manager. “There’s a lot of kinetic energy throughout the building,” he adds. “The elevators don’t get used that often, since people now use the building’s many stairs.”

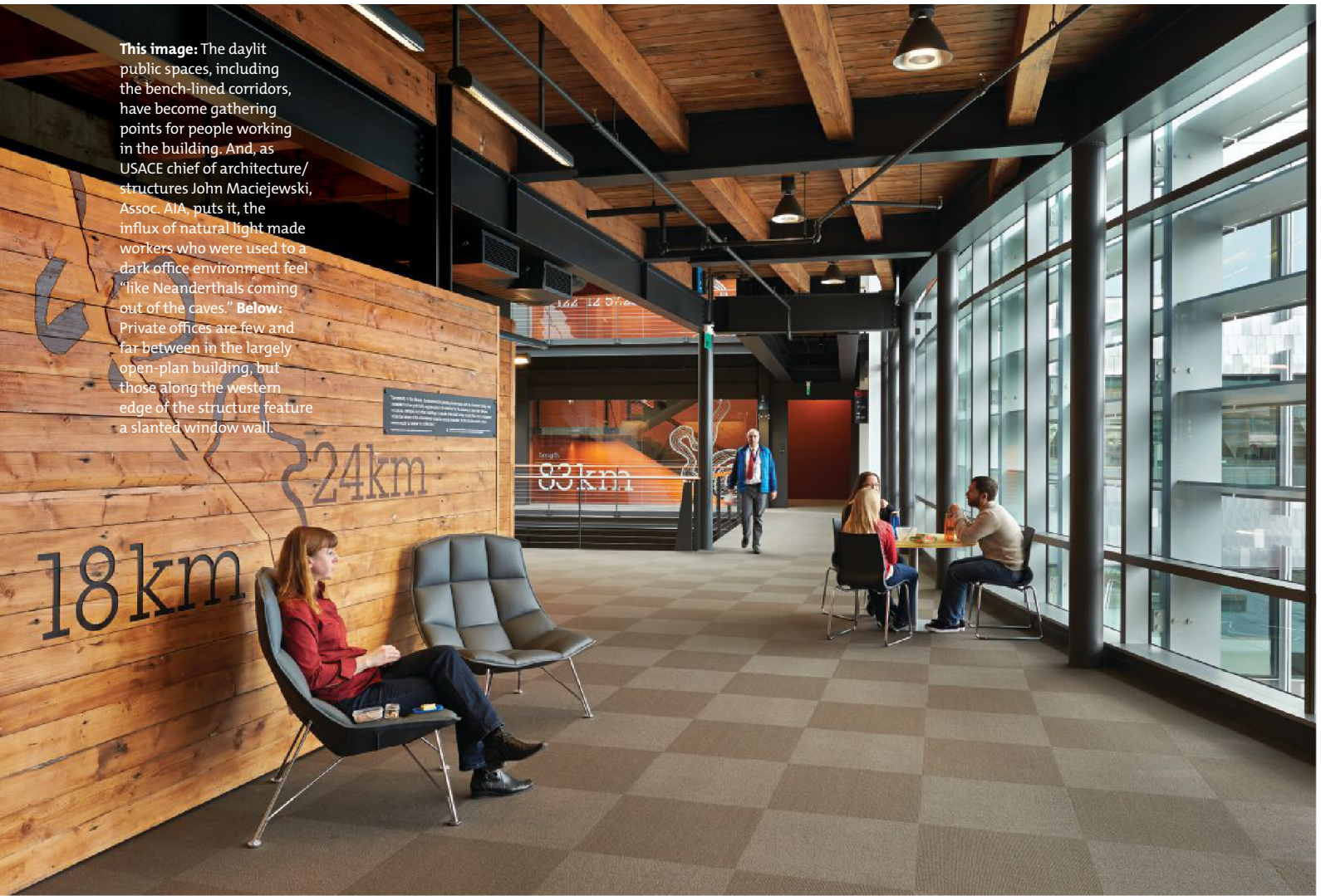
The foundations themselves also integrate different systems. Because the building sits on sedimentitious soil, its

piles reach 150 feet deep. Not content to devote that material and energy to a single purpose, the team coupled the piles with hydronic loops for geothermal systems. But the systems are not all below-grade: Chilled sails provide radiant cooling to the interior and a phase-change material tank keeps loads low. And with 100 percent outside air intake, the working environment is noticeably fresher. As part of the contract with the USACE, the GSA will monitor energy performance each month during the first year. Though the first month’s numbers have not yet been compiled, GSA project manager Rick Thomas has heard unofficial reports from the independent group that monitors the numbers, saying, “They look good.”

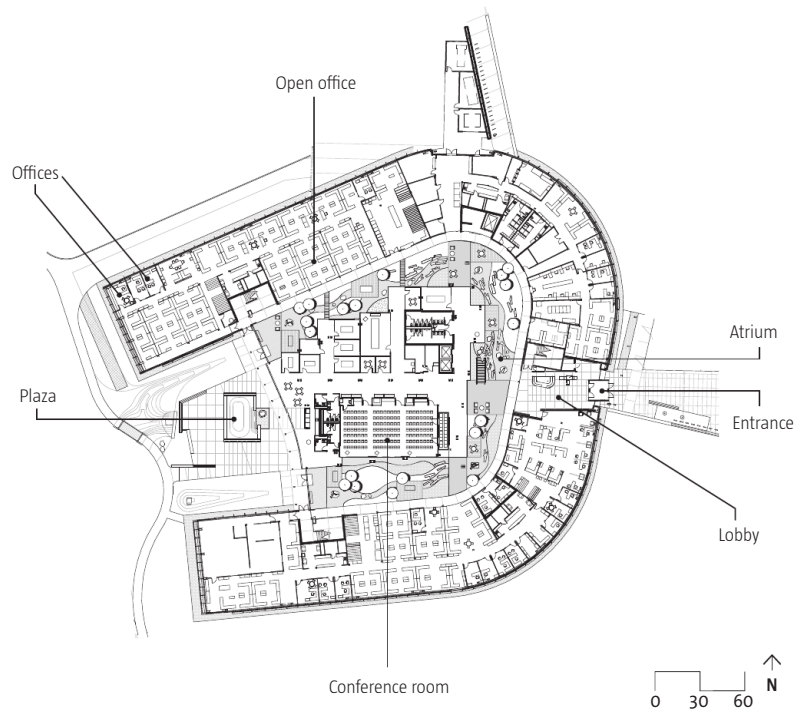
Even with impressive quantitative objectives, the team was determined to push beyond the metrics that have come to define sustainable design. “We had an ambitious model for energy efficiency,” Stellmacher says. But with every decision, “we were always focused on the workplace environment.”

Previous spread: Funded by the 2009 American Recovery and Reinvestment Act, the new Federal Center South Building 1202 was one of the shovel-ready public works meant to provide an economic jolt to communities hard-hit by the recession. **Above:** The building’s oxbow-shaped floor plan is intended to maximize daylight, while minimizing heat gain on this western façade.

This image: The daylight public spaces, including the bench-lined corridors, have become gathering points for people working in the building. And, as USACE chief of architecture/structures John Maciejewski, Assoc. AIA, puts it, the influx of natural light made workers who were used to a dark office environment feel "like Neanderthals coming out of the caves." **Below:** Private offices are few and far between in the largely open-plan building, but those along the western edge of the structure feature a slanted window wall.



Ground-Floor Plan





The architects clad the triple-height, greenery-filled atrium in timber reclaimed from a warehouse taken down on the site.



ST. LOUIS CENTRAL LIBRARY

CANNON DESIGN'S RESTORATION AND RENOVATION OF A 1912 CASS GILBERT GEM BRINGS THE BEAUX-ARTS ELEGANCE OF THE ORIGINAL INTO THE MODERN ERA.



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DECORATING

NEW RESTAURANT DESIGN

Text by **Ian Volner**

Photos by **Timothy Hursley**

AS EXECUTIVE DIRECTOR of the St. Louis Public Library, Waller McGuire is understandably proud of the grand 1912 Central Library building over which he presides—and of its new renovation, completed in December by the St. Louis office of Cannon Design. But he isn't the only St. Louisan who feels a special connection to the place. "One thing that happened over and over during the renovation," McGuire says, "is I'd take people into the Great Hall and they'd say, 'I remember the first time my mother (or father) brought me into this room.'"

St. Louis has an unusually rich architectural heritage (they don't call it the Rome of the West for nothing), and the Central Library is one of its foremost landmarks. The building was designed by pioneering American architect Cass Gilbert, of New York's Woolworth Building and the United States Supreme Court in Washington, D.C. Less outré in ornament and filigree than some of his other projects, the library is an instance of the master in one of his more restrained moods. For a century, the Central Library has been a mainstay for the surprisingly bookish denizens of the Midwestern metropolis: According to a recent study from Central Connecticut State University, St. Louis is the country's ninth-most literate city, and its 17-branch library system is ranked third in the nation for overall quality.

With a building that means so much to so many, the architects at Cannon had to tread carefully. Design principal George Nikolajevich, FAIA, spearheaded the project for the office, and from his earliest involvement in the commission he understood the needle that the team would have to thread. "My point all along was this: Cass Gilbert is a unique, precious American architect," he says. "This is an important building in the city, and one has to be careful when one deals with that—without going into the trap of unnecessary imitation of the historical style."

Such middle-way approaches are hardly unfamiliar, and certainly recent precedents abound of significant historical buildings receiving contemporary interventions. (Think of the Renzo Piano, Hon. FAIA, addition to New York's Morgan Library, or of the Norman Foster, Hon. FAIA, expansion of London's British Museum.) What made Cannon's challenge unique was the double nature of the commission: Gilbert's plan is laid out as a kind of five-leaf clover, with the Great Hall at its middle. Four of the five wings required a bit of functional repurposing, sensitive restoration, and technical upgrading to meet the needs of the 21st century. Cannon brought in a full retinue of consultants and specialists to see that the job was done correctly.

The fifth and northernmost wing, however, required a thorough overhaul. It contained what Nikolajevich terms "a building within the building"—a steel-frame structure, housing the library's nearly 4 million items, which was completely disengaged from the masonry that helped support the upper floors. This embedded structure had to be removed for reasons of fire and seismic safety. Cannon's solution, unique among the proposals in the library's invited competition, was to replace the existing structure with another, rather different one: This time the interior frame would be opened up and light-filled, with the collections and reading spaces visible from behind glassed-in enclosures. "We've exposed the books on the upper level," Nikolajevich says. "We use the books as decorative elements, enriching the beauty and color of the space." These revealed spaces, complemented by a sleek new marquee along the northern façade, make for a grand atrium entrance on a side of the library that previously turned its back to the poor, minority neighborhood behind it.

Already, the public response has been positive, and the approval extends beyond the nearby community and its thousands of loyal library users. In the run-up to the renovation, McGuire traveled extensively to look at new libraries in other cities, such as Chicago's Harold Washington Library and the Rem Koolhaas–designed Seattle Central Library. Today, he claims, it's St. Louis that's become a model: "We're having people visit us now."



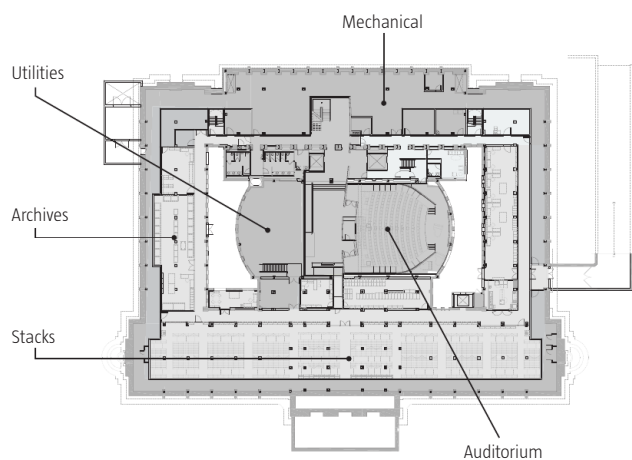
Previous spread: A reading room in the St. Louis Central Library is restored to glory and outfitted with all the trappings of a 21st-century facility. **This image:** The architects at Cannon Design did more than restore the building, they converted the north wing from dense book storage to a multistory atrium with glassed-in reading rooms that create a gracious new entrance on this side of the building.



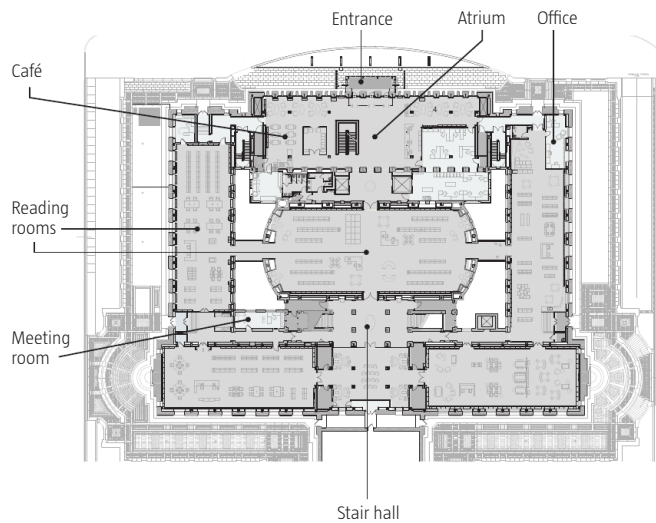
This image: A historic counterpoint to the new entry to the north, Cass Gilbert's original entry hall is now restored, and continues to offer access to the Great Hall (see page 2) at the center of the complex. **Opposite, bottom left:** Reading rooms throughout the building were restored and updated with new lighting and furniture. **Opposite, bottom right:** A new glass-enclosed meeting room offers gathering and event space inside the library.



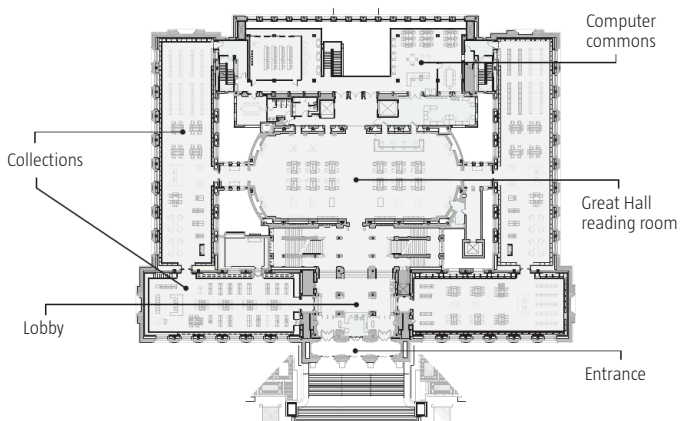
Lower-Level Plan



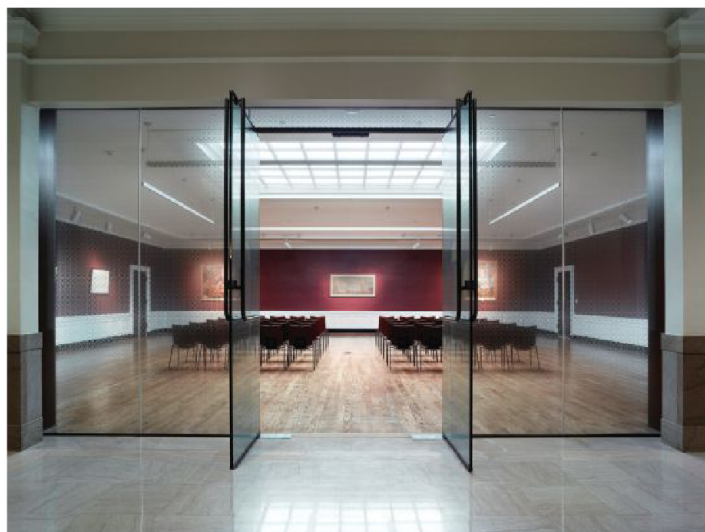
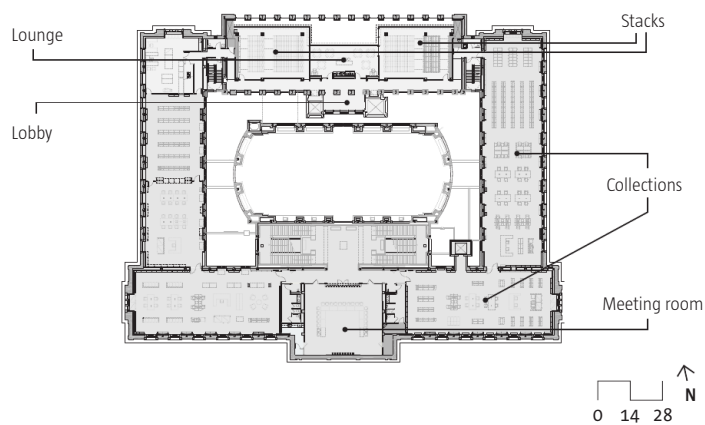
First-Floor Plan



Second-Floor Plan



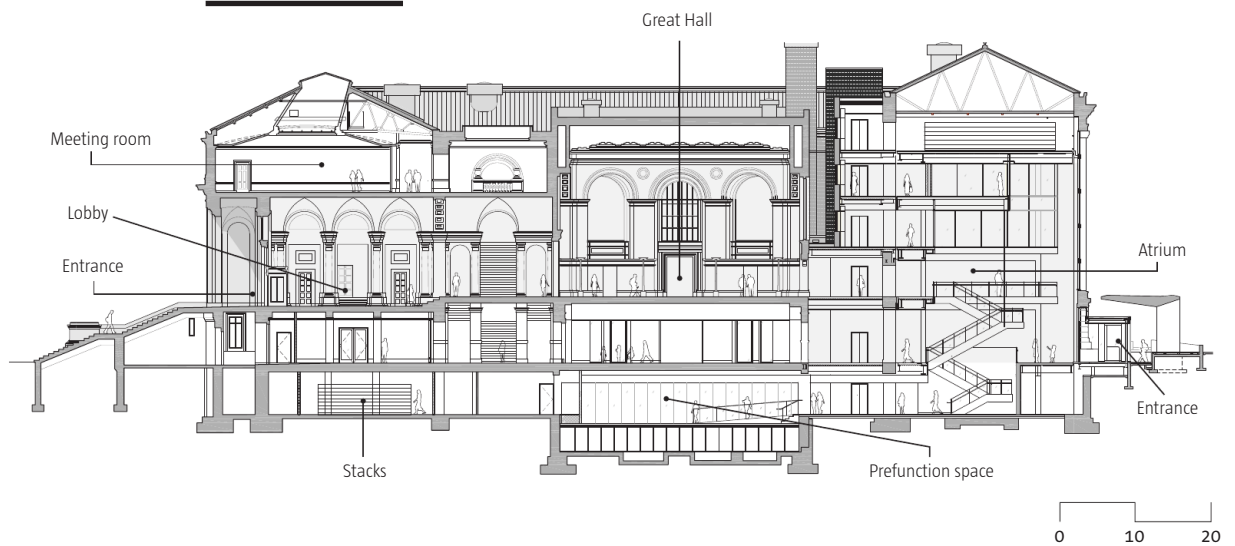
Third-Floor Plan





Above: The southern façade of the library retains the grand staircase that leads to the original entrance hall. **Opposite:** To mark the entrance to the new atrium on the north side, a metal marquee runs along the façade of the building, marrying Gilbert's historic masonry with modern materials.

South–North Section





Dalian International Conference Center

Project Dalian International Conference Center, Dalian, China

Client Dalian Municipal People's Government, People's Republic of China

Architect Coop Himmelb(l)au, W. Dreibholz & Partner, Vienna—Wolf D. Prix, Hon. FAIA (design principal); Paul Kath (until 2010), Wolfgang Reicht (project partners); Alexander Ott (design architect); Quirin Krumbholz, Eva Wolf, Victoria Coaloa (design team); Nico Boyer, Liisi Salumaa, Anja Sorger, Vanessa Castro Vélez, Lei Feng, Reinhard Hacker, Jan Brosch, Veronika Janovska, Manfred Yuen, Matthias Niemeyer, Matt Kirkham, Peter Rose, Markus Wings, Ariane Marx, Wendy Fok, Assoc. AIA, Reinhard Platzl, Debora Creel, Hui-Cheng, Jessie Chen, Simon Diesendruck, Yue Chen, Thomas Hindelang, Pola Dietrich, Moritz Keitel, Ian Robertson, Keigo Fukugaki, Gaspar Gonzalez Melero, Giacomo Tinari, Alice Gong (project team); Nam La-Chi, Paul Hoszowski, Taylor Clayton, Matthias Bornhofer, Katsyua Arai, Zhu Juankang, Lukas Allner, Phillip Reiner, Moritz Heinrath, Olivia Wimmer, Silja Wiener, Katrin Ertle, Maria Zagallo, Logan Yuen, André Nakonz, Arihan Senocak, Rashmi Jois, Sachin Thorat, Marc Werner (model builders)

Planning Coop Himmelb(l)au, W. Dreibholz & Partner

3D Visualization Isochrom; Jens Mehlan and Jörg Hugo

Photography Markus Pillhofer

Local Partners DADRI Dalian Institute of Architecture Design and Research Co.; UD Studio; J&A Interior Design

Structural Engineering B+G Ingenieure; Bollinger Grohmann Schneider; DADRI Dalian Institute of Architecture Design and Research Co.

Acoustics Müller-BBM

Stage Design BSEDI Beijing Special Engineering Design and Research Institute

Lighting Design a•g Licht

Audio & Video CRFTG Radio, Film and Television Design & Research Institute

Climatic Design Brian Cody

HVAC, Sprinkler Reinhold A. Bacher; DADRI Dalian Institute of Architecture Design and Research Co.

Façade Meinhardt Facade Technology

Photovoltaic Baumgartner

General Contractor China Construction Eight Engineering Division

Size 33,000 square meters (355,210 square feet)

Cost Withheld

Federal Center South Building 1202

Project Federal Center South Building 1202, Seattle

Client U.S. General Services Administration (GSA)

Tenant U.S. Army Corps of Engineers

Architect ZGF Architects, Seattle—Allyn Stellmacher, AIA, Robert Zimmerman, AIA (partners-in-charge); John Chau, AIA, Dan Simpson (design principals); Todd Stine, AIA (project manager); Daniel Brindisi, AIA, Elizabeth Grace, Justin Rabe (project architects); Michael Steinberg (project designer); Kimberly Scott, Lisa Schettler (space planning); John Breshers, AIA, Christopher Flint Chatto, Assoc. AIA (high-performance green building specialists); Randal Bennett, Ellen Campbell, AIA, Marc Chavez, AIA, Melissa Eby, Brian Geller, Assoc. AIA, Gabriel Hanson, Assoc. AIA, Stephanie Hsie, Glen Justice, AIA, Kirsten Justice, Heather Karch, AIA, Bertha Martinez, AIA, Camila Obniski, Frances Orona, Chris Peterson, Timothy Pfeiffer, Franco Rosete, AIA, Jonah Ross, Molly Simmons, AIA, Elizabeth Strohane, Jessica Swann, Asmund Tweto, Assoc. AIA (design team); David Fedyk, Curtis Ma, Maria Angela Mills, Leslie Morison, Chloe Mitchell, Heidi Schindler, Jill Sandnes, Tomoko Uno, James Wise, Mary Ann Shepherd, Erin Zangari (team)

Interior Designer ZGF Architects

Mechanical Engineer WSP Flack & Kurtz; University Mechanical

Structural and Civil Engineer KPFF Consulting Engineers

Electrical Engineer Lane Coburn & Associates; Sequoyah Electric

Geotechnical Engineer Hart Crowser & Associates

Construction Manager Heery

General Contractor Sellen Construction

Landscape Architect Site Workshop

Lighting Designer WSP Flack & Kurtz

High Performance Design Built Ecology

Signage, Wayfinding, and Graphics Studio SC

Acoustics Greenbusch Group

Elevator Lerch Bates

Life Safety Rolf Jensen & Associates;

Tuazon Engineering

Size 209,000 square feet

Cost \$65 million (construction);

\$72 million (project cost)

Materials and Sources

Glass Northwestern Industries nwiglass.com

Green Roof System Xero Flor xeroflora.com

Horizontal Louver Blinds Levolor levolor.com

Insulation Knauf Insulation knaufinsulation.us

Rubber Tile Flooring Capri Cork capricork.com

Skylights Sunoptics skylights.sunoptics.com

Stone Quarry S/E lakeviewstone.com

Super Graphics GlasPro glas-pro.com

St. Louis Central Library

Project St. Louis Public Library, Central Library Renovation, St. Louis

Client St. Louis Public Library

Architect Cannon Design, St. Louis—George Nikolajevich, FAIA (design principal); Thomas Harvath, AIA (project principal); Richard Bacino, Thomas Bergmann, AIA (project management); Stephen Johnson, FAIA, Bradley Lukanic (library expertise); Lynn Grossman, AIA (interior project architect); John McAllister, Erik Mease (project design); Matthew Huff, AIA (project architect); Stephen Brown, AIA, Daniel Stewart, Ruofei Sun (project team)

Environmental Graphics and Signage Kuhlmann Leavitt

MEP and FP Engineering, Audiovisuals William Tao & Associates

Structural and Civil Engineering, Exterior Restoration David Mason & Associates

Lighting Design Derek Porter Studio; William Tao & Associates

Historic Preservation Frens & Frens

Architectural Support Grice Group Architects

Fountain Design Hydro Dramatics

Acoustical Consultant AcoustiControl

Security and Technology Consultant Faith Group

Code Consultant Code Consultants

Exhibit Design Heller Studio

Construction Manager BSI Constructors

Owner's Representative CLR Consultants

Size 185,000 square feet

Cost \$70 million

Materials and Sources

Acoustical System Golterman & Sabo gsacoustics.com;

Baswaphon baswaphon.com; RPG rpginc.com

Curtainwalls YKK AP America (interior) ykkap.com;

Wausau (exterior) wausauwindow.com

Fabrics Designtex designtex.com

Library Equipment 3M 3m.com/us/library

Lighting Control Systems Lutron lutron.com

Paints and Finishes PaintSmiths psslinc.com;

Sherwin Williams sherwinwilliams.com

Seating Irwin Seating (auditorium) irwinseating.com

Skylight Wasco Products wascoskylights.com

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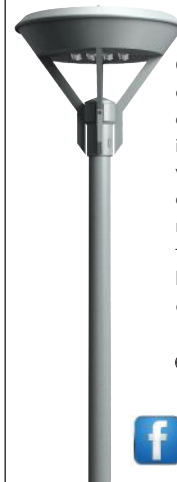
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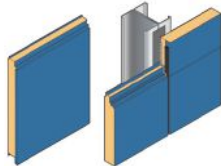
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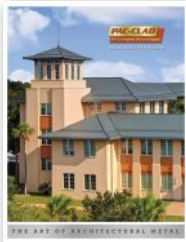
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1991 P/A AWARD CITATION

A Village for Those in Need

IN ESCONDIDO, CALIF., DAVIDS KILLORY DESIGNED A COMMUNITY FOR HOMELESS MOTHERS AND CHILDREN.

Text by **John Morris Dixon, FAIA**

IT'S EASY TO think of architects around 1990 as preoccupied with form-making and historical allusion, but social issues had by no means been forgotten—and certainly not by that year's jury of architects, planners, and researchers. A development for needy Escondido residents, identified as "Housing for Homeless Mothers and Children," satisfied the jurors' desire to find socially responsible housing solutions.

Completed by the North County Housing Foundation and now known as Daybreak Grove, this complex includes 13 townhouses neatly lined up around a shared courtyard. Davids Killory Architecture's design emphasizes the home-scaled identity of the individual units, each provided with a front porch and a room-sized private open court. Each unit also includes a first-floor bedroom, with a second loft bedroom overlooking the double-height living

room. On the exterior, crisp geometric forms and tinted stucco yield compositions that are playful yet dignified—and compatible with the Southern California residential vernacular.

In this citation-winning scheme, the shared central courtyard was filled with play structures that some jurors found excessive for this project. In actuality, the play equipment has been sharply scaled down, and the largely open space features a modest laundry building, topped with steps for climbing and sitting. A canopy of trees now shades this community space.

In 1992, a P/A Award went to a second project in Escondido by Davids Killory for the same client: a seven-unit vest-pocket development for homeless families, now known as Sunrise Place. Both can still serve as models for affordable housing in which residents and the larger community can take pride.

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