North America’s largest convention center and Illinois’ biggest tourist draw share more than superlatives—Chicago’s McCormick Place and Navy Pier, despite their usefulness in attracting visitors, have never made it as year-round, 24/7 destinations.

The area around each landmark will see big changes, Mayor Rahm Emanuel’s administration revealed on the first day of his third year in office. The initiatives echo his oft-repeated promotion of tourism and trade shows in the city.

Chicago Pours $1.1 Billion Into McCormick Place and Navy Pier

sweetening the pot

In May, the Minnesota Vikings unveiled plans for a new, dome-less stadium. The design, by Dallas-based sports and entertainment veteran HKS, features a steeply pitched roof that has been calculated to shed snow automatically—direct response to the 2010 Metrodome roof collapse, which occurred during a massive winter storm. The roof’s southern half will be constructed from ethylene tetrafluoroethylene, a transparent polymer with a “nonstick” surface. The material has another benefit—it is exceptionally clear. Since the team shunned a retractable roof due to its estimated $25 million to $50 million cost, the new design still attempts to deliver what many fans say they want: an outdoor feel. In addition, five 95-foot-tall pivoting glass doors face west and offer game attendees a skyline view of Minneapolis.

In planning the school—located just north of the Loop—continued on page 5

LOYOLA PLANS NEW BUSINESS SCHOOL AND RESIDENTIAL TOWER

Entrepreneur’s Atrium

Natural light can be a luxury in downtown settings, where smaller buildings are often shaded out on all sides. In Chicago’s Gold Coast neighborhood, the developers of Loyola University’s forthcoming Quinlan School of Business are looking to keep students and faculty out of the dark. Scheduled to break ground this fall, the ten-story business school—named for McDonald’s CEO and Loyola alumnus Michael Quinlan, whose $40 million gift made the project possible—will be built alongside a 35-story residential high-rise developed by Newcastle Limited.

In planning the school—located just north of the Loop—continued on page 5

Passive Aggressive

Corinna and Rodrigo Lema’s home might not appear all that different from its suburban Chicago neighbors, but the 4,000-square-foot, cyan-colored house has no vents, ducts, or air conditioning units, no furnace and no connection to a gas utility.

in lightS

continued on page 6
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Two years after the city razed the last tower of Cabrini-Green, the specter of unequal housing looms large in Chicago. No longer manifest in the high-rises of the Robert Taylor and Henry Horner Homes, affordable housing is still in a state of crisis.

As downtown adds residents, jobs, and corporate headquarters at a pace that rivals any urban center in the country, stabilization efforts continue to do little but staunch the bleeding in South and West Side neighborhoods where foreclosures and neglect have gutted the urban fabric.

Several grassroots movements have emerged in the absence of any considerable recovery from the plague of vacant homes across the city’s poor, predominantly minority neighborhoods. Liberate the South Side, D.C.-based Take Back the Land, and Chicago’s Anti-Eviction Campaign, which were the subject of Ben Austen’s recent cover story for The New York Times Magazine, appropriate abandoned homes left to rot and fix them up for willing tenants.

Over months and often years of neglect, vacant homes become gathering spots for drug dealers, mausoleums for dead animals, and worse. Squatters risk mold and structural decay. The Anti-Eviction Campaign attempts to stop and reverse that decay, and the blight it brings the community, by moving “home-less people into the people-less homes.” Motivated owners abound, the logic goes, if given the opportunity. As community members already, they have a vested interest in maintaining the improvements.

Without a broader push for the kind of citywide housing recovery that Anti-Eviction Campaign envisions, these individual actions will struggle to hold back the downward spiral of blight, crime, and disinvestment that make vacant homes such a danger to their communities. That’s why, as Austen reports, lawyers are looking to winnow a legal pathway for these “takebacks” Local government has not been absent, approving the nation’s largest land bank and targeting several lagging neighborhoods for federal funding.

But while these top-down and grassroots movements begin to cross paths, Chicago’s massive school closings pose a new challenge for those trying to revitalize their neighborhoods. The Mayor’s refrain is that the closing of 50 elementary schools, many in the same areas already upended by evictions and poverty, is a necessary step and even an opportunity. This will only be as true as his administration’s ability to turn around housing in those neighborhoods, as economic development does not follow the same formula in Englewood as it does downtown.

This disconnect shows up in many ways. Austen reports “contempt” among locals for the ambitious Lakeside masterplan led by SOM.

The project’s aims are lofty and long-term, and the residents nearby “believed that any plan that enriched others had to be for them.” Their suspicion is not unwarranted, but the task of delivering on Lakeside’s goals does not fall solely on designers. Whether building new neighborhoods or rejuvenating historic ones, the city must plan with and not against its grassroots groups.

Cleveland’s theater district gets new public lighting, signage

As Cleveland continues to push a downtown resurgence that has buoyed some ailing areas across to the Midwest, one nonprofit organization looking to make a downtown theater district. PlayhouseSquare, the nation’s second largest theater complex after Lincoln Center, has been the target of a few renovation projects in the past. But the time is right for a lasting comeback, some say, more than 40 years after suburbanization first sapped the district of visitors and led to theater closings.

Preservation efforts have saved the Ohio and State Theaters from demolition. In the late 1980s, public private partnerships garnered some $40 million to restore several theaters in the area. But despite those successes, the neighborhood’s historic buildings and roughly one thousand performances across 10 stages never produced the round-the-clock foot traffic that would cement its status as a vibrant downtown district.

A new $16 million plan is now in the works to update the district’s public square, Star Plaza. According to PlayhouseSquare Foundation’s Tom Einhouse, the plan will add a series of LCD signs, displays, and marquees to the area, lining up the streetscape while providing a long-term source of funding in the form of branding and naming rights. “We’ve built in the ability to fund this over the long-run,” said Einhouse. “It’s going to look great, but everything has a life. Things will need to be maintained.”

Asked whether the naming rights will overrun the district’s historic charm, Einhouse pointed out photos from the 1930s heyday of PlayhouseSquare that reveal a flood of billboards and flammable signs stacked on top of one another. “What we’re doing is under-stated compared to that stuff,” he said.

The lighting displays are being designed by Baltimore-based Barnycz Group, which has worked on large-scale digital displays around the world for locations such as Times Square and Chicago’s Crown Fountain at Millennium Park. Einhouse said Barnycz Group’s design for PlayhouseSquare unifies elements proposed in previous lighting attempts with new ideas aimed at continuing real estate momentum that recently brought new apartment projects to the area, as well as a 205-room Wyndham Hotel. In addition, Cleveland State University is currently developing a new $45 million Center for Innovation in Health Professions nearby, which could feed into the year-round, after-dark vibrancy of the district.

The lighting scheme aims for subtlety. All of the fixtures specified in the design are LED sources that splash just a bit of color on the neighborhood’s historic buildings. The centerpiece is a 24-foot-tall glass crystal chandelier that hints at PlayhouseSquare’s early 20th century glamour, although its 4,600 crystals will twinkle with 21st century LED light. Other amenities in the plan include a take-out sidewalk café, outdoor dining areas, a fire pit, and an elevated stage.

Corrections
In the comment we ran on two vacant hospitals in Chicago (A Tale of Two Hospitals ANMW/06.04.17), we stated that the Edgewater Medical Center had broken windows and unsecured entrances. In fact, the Ravenswood Hospital had fallen into such a state of disrepair.

In our recent feature on interiors (Rooms Worth A View ANMW/06.15.13) we credited all of the photography of The Residences At W Hollywood Amenity Deck project to Jeff Simons. In fact, three of the photos were taken by Jim Simmons for Rios Clemente Hale Studios.

Edgewater Medical Center

Ravenswood Hospital
Ever since designing the Logan’s Square trend-setting eatery Longman & Eagle, Chicago-based design studio Land and Sea Dept., has been overwhelmed with requests to replicate the restaurant’s look of reclaimed wood and Edison bulbs. So it was refreshing to take a stab at something new with its design of Parson’s Chicken & Fish. Robert McAdams of Land and Sea said, “We’re trying to branch out after being type cast by Longman & Eagle with a space that’s clean and simple.”

Parson’s is filled with light—light grey walls and floors, big picture windows looking out onto what may be Chicago’s largest al fresco dining area. Inside, the booths have blond wood tabletops accented with a white stripe. The bar is turned out in a down-home, red and white, quilt-like geometric print. That clean, bright theme is carried outside in the restaurant’s signage, a large word-less circle with the quilt print and a red arrow pointing to the door, as if to say “Eat here!”

RYAN LAFOLLETTE
SWEETENING THE POT
continued from front page

Navy Pier will be remodeled at a total cost of $278 million. The first phase of the overhaul will cost $165 million and includes two new attractions. One is a fountain at Gateway Park, where the Pier meets the lakeshore, which will double as an ice skating rink during winter. The second is an expansion of the Children’s Museum. The plan also adds 54,000 square feet of dining and entertainment space at the Pier’s east end, as well as a staircase leading to the Ferris wheel. Many of the pier’s existing amenities will be upgraded, including the South Dock, South Arcade, Pier Park and Crystal Garden.

Future phases of the project will involve redesigned public and commercial spaces along the pier, additional dining space, and a new park featuring a bicycle flyover on the pier’s west end. Last year, High Line landscape architect James Corner was chosen to head the renewal.

Some 8.5 million visitors flock to Navy Pier each year, but many Chicagoans feel disconnected from the tourist trap. Recent plans to connect the pier to downtown and Union Station via bus rapid transit could help ease travel between the Lake Michigan playground and the rest of the city.

Gensler helped author Navy Pier’s Centennial Vision, which imagined a less cluttered pier, divided into “neighborhoods” reflecting Chicago’s urban fabric. “Navy Pier is a real place, and it could be a showcase that celebrates Chicago culture,” wrote Gensler principal Elva Rubio in a recent blog post.

Some three miles south, the area around McCormick Place is also poised for a facelift. A $173 million basketball arena will become the DePaul University Blue Demons’ new home. The project received a $33 million boost from tax increment financing, which some have questioned because of the arena’s predominantly private use.

The arena—located on a site bounded by Cermak Road, Prairie Avenue, 21st Street, and Indiana Avenue, and connected to McCormick Place West by a skybridge—will double as a event center for mid-sized shows too large for Navy Pier and too small for McCormick Place. The city could use the arena up to 24 times each year, for public events like Chicago Public Schools and City College athletics.

To the southeast will be a boutique hotel with 500 rooms, as well as a 1,200-room headquarters hotel to increase lodging capacity for the convention center’s larger shows. Since those shows are booked many years in advance, it is probable that more movement will be seen in the small-to-mid-size shows until the hotels are completed.

McCormick Place is situated in the newly designated Motor Row historic district. Near Chinatown, Bronzeville, and the South Loop, it’s somewhat of a cultural crossroads, but, like Navy Pier, it lacked public transportation options. A new CTA Green Line station, designed by Ross Barney Architects, should improve the transit situation. Ross Barney designed the sleek Morgan Green/Pink Line stop in the West Loop. The new $40 million Cermak-McCormick Place station on the south side of Cermak and 22nd Street takes the form of a glass tube that calls to mind the OMA-designed chute at the Illinois Institute of Technology. Transportation engineers T.Y. Lin contributed to the project, which is expected to be complete in 2014.

In all, the various projects will total more than $1 billion over several phases.

ENTREPRENEUR’S ATRIUM
continued from front page

Lead architect Devon Patterson, a principal with Solomon Cordwell Buenz (SCB) Architecture, put lighting first. “Because it’s an urban environment, two of our facades touch up against adjacent property lines, so we don’t have a lot of opportunities for daylight,” said Patterson. SCB worked with German climate engineering firm Transsolar on studies aimed at maximizing natural exposure, especially in offices with windows facing proximate buildings.

The resulting design is a glass atrium that makes up the center of the building, bringing natural light into most of the school’s floor space. On bright days the building has little need for electric lighting, what Patterson calls “daylight autonomy.” The atrium features a double glass facade that ventilates exhaust air to the roof and prevents the building from trapping heat radiation like a greenhouse.

The lobby design includes a 220-seat “social staircase” that serves as a special events area and provides access to classrooms and faculty offices. The facility, expected to cost $67 million, will replace Loyola’s existing business school, which is located across the street.

“We believe the design of this new building will not only continue to advance Loyola’s commitment to building sustainable and green buildings but also reflect the latest needs for teaching and learning,” said Loyola Director of Capital Planning Wayne Magdziarz.

Funding for the business school project will come from the sale of the adjacent residential tower. That glass-and-metal structure will house 387 rental units, with rents starting at $1,500 for studios. Plans for the building call for 165 parking spots and 240 bike spaces.

SCB and Transsolar have collaborated on similar reduced-energy designs for Loyola, including a mechanical conditioning system at the university’s Information Commons building, and its new School of Nursing in suburban Maywood, Illinois. The business school and the residential building are slated for completion in 2015.

IAN FULLERTON
If some buildings take on the character of the activities they house, Missouri State University’s recreation center reflects the agility of the student athletes within. The new $29.7 million Bill R. Foster and Family Recreation Center in Springfield, which opened for the academic year that is currently wrapping up, replaced an aging tennis court with 100,000 square feet of athletic and leisure programming, from rock climbing to swimming.

The building’s defining design feature is a jagged pathway that cuts through the site, forming a gateway between the student union to the southeast and the athletic and arts portion of campus to the northwest. “Creating a large pedestrian pathway really energizes that intersection on campus,” said Cannon Design vice president Reed Voorhees.

David Polzin, associate principal with Cannon, said the center’s split massing and diagonal orientation mimics its dynamic programs. “Prior to this building, the arena and the arts center were somewhat isolated within the context of the campus,” he said. “If you just placed all these subjects on a plinth, they could be quite overwhelming in their volume, but the way the section of the building pushes functions down and lifts others, it fits quite nicely.” Those subjects include new basketball courts, a multiuse activity court, a fitness center, a natatorium with fitness lap lanes and leisure pool, multipurpose group exercise rooms, a jogging track, and office space. Though not an Olympic pool, the natatorium has hosted swim-up movie nights and other activities geared towards a wider audience than student athletes.

And while pool rooms can be “harsh,” Polzin said, the recreation center’s second-floor overlook and natural light help temper the otherwise intense spatial and acoustic environment. Likewise, a large north-facing glass wall opening onto the basketball courts provides daylight, but not glare.

The natatorium, like most of the interior, is visible from a double-height lobby around which all of the building activities pivot. A 26-foot-tall climbing wall, textured to mimic rock found in the Ozarks, looms by the entry. There the exterior pathway joins with the building, in the middle of its elongated form. “It’s a really unique experience,” Polzin said, “to enter the building in the middle as opposed to along the edge.” Meanwhile the outdoor path, hugged by a valley of cast stone panels that reference the building’s campus context, energizes the campus thoroughfare. “You can actually go through the building and not go through the building,” said Cannon’s Thomas Bergmann. “You’re inside, but you’re outside, like going through a Utah slot canyon.” Whether looking inward from the track or out to campus, views are complemented by splashes of bright color. Maroon laminate glass layers express the school’s colors, while signage bearing athletics-themed pictograms facilitates circulation.

The groundbreaking will take place in October. Completion is slated for 2016. MADELINE NUSSE
Although he can feel the sun on his back and draw deep breaths of fresh, humid air, Richard Piacentini is not outside. He is surrounded by plants in Pittsburgh’s Phipps Conservatory and Botanical Gardens. As the facility’s executive director, he could hardly be more pleased with his new building, the Center for Sustainable Landscapes. “It feels wonderful to be in there,” Piacentini said. “It’s clean, fresh and airy.” The 24,350-square-foot structure is the first building designed to pass muster with LEED Platinum, the Living Building Challenge, and the Sustainable Sites Initiative certification.

Pittsburgh-based architecture firm The Design Alliance and Philadelphia-based landscape architects Andropogon Associates collaborated on the design of the $23 million project. “We wanted an all-local design team,” Piacentini said. The team worked closely with the conservatory to incorporate the six principles of biophilic design: Environmental Features, Natural Shapes and Forms, Natural Patterns and Processes, Light and Space, Place-Based Relationships, and Evolved Human-Nature Relationships. In particular, bringing ample amounts of natural light into the interior was a guiding force. “The fundamental design principle provides opportunities to utilize natural daylight in significant ways,” said principal architect Chris Minnerly. “We live and work better in natural daylight, and it’s an energy benefit.”

During the day, 80 percent of the time, the sun fulfills all of the building’s lighting needs. The designers employed multiple daylighting strategies to optimize views and light while avoiding glare and maximizing energy performance. The two-story building’s windows are outfitted with light shelves, louvers, and overhangs that shade, diffuse, and direct the sun’s rays and the interior’s neutral color schemes were chosen to keep the spaces bright and airy.

Inside, the office space is an atypical take on the traditional cubicle farm. Plants of all kinds surround the cubicles. Almost everything, including the desktops and conference tables, is made from wood. Management-level employees, who were formerly housed in private offices, now have open offices.

An atrium offers interpretative displays that explain the building’s sustainable design measures. Just beyond the atrium is a classroom that is used to teach children about ecology and healthy living. “We want to get kids into this building,” said Piacentini. “We want them to see what we’re doing.”

The facility was built to serve as Phipps’ environmental education, research, and administration center. However, with walking paths, a hillside amphitheater, and a boardwalk just outside, art gracing the walls, and fresh air throughout the interior, Piacentini said he hopes the building will reunite people with nature. “We see the connection between people, plants, health, and beauty,” said Piacentini. “Everything is connected.”

TUNETTE POWELL

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If you’re a reader of design magazines, you may be forgiven for thinking that 21st-century urbanism is a product of popsicle stands and micro-gardens. In part, fueled by a distaste for anything that had a hand in the 2008 economic collapse (main characters: bankers, big government, and needlessly risky developers), urban theory took a turn to the grass-roots, self-starting stories that sprang up in the fault lines of the Clinton/Bush-era real estate bonanza. The American city, though, is facing a critical turning point, having to reckon with changing economic engines, the public health realities of environmental abuse, and a cultural reevaluation of the suburbs. While I like artisanal popsicles as much as the next person (truth be told, I like them more), with a glut of these so-called D.I.Y. Urbanism projects pinballing through blogs and magazines, it seems right to ask ‘where has the master plan gone?’

One answer would be Chicago, where what is expected to be a $4 billion development is reconfiguring an entire swath of the South Side. Back in 1901, when U.S. Steel set up shop—a shop in the form of a 600-acre landfill on Lake Michigan—it chose its site directly on the lake, where its long horizontal mills could make use of the water for incoming supplies and outgoing waste. Though the industrial site drove a wedge between the city’s South Side and the waterfront, economic benefits in the form of thousands of jobs justified the location. When it was shuttered in 1992, not only did those jobs vanish, but the environmentally compromised site was left as a blight to the neighborhood. Less than ten years ago, Lakeside Development (a joint venture between U.S. Steel and McCaffery Interests) hired SOM and Sasaki to design a master plan for the future development of the old mill.

“One of our first priorities is to deliver infrastructure to the site,” said Douglas Voigt, SOM’s director of urban design. “And we don’t want those technologies to come from 40 to 50 years ago, but rather 100 years in the future.” The way the designers see that future is in the form of a possible micro-grid (not unlike a university campus), where energy from wind and/or...
solar technologies could be generated by the district and sold to the city in times of excess. The plan also overhauls the site’s relationship to the water. Taking advantage of the landfill’s porous slag, the designers plan to allow rainwater to filter through the remediated terrain, where it will then return to the lake and recharge its water table. For the design team, the project is not about mitigating the environmental detriments of building, but about casting development as an environmental possibility. “We want the project to create a positive contribution to the site’s ecology,” said Voigt. But this is no experiment in environmental technologies. The designers are quick to foreground the human experience of what will become a new district. Parks and open space, a recreational marina, and smaller block sizes will enhance the quality of life for residents.

Mention large-scale master plans and transportation policy is never far behind. “Transportation is still one of the larger challenges,” conceded Voigt. “It’s as much cultural as it is an issue of technology.”

Nowhere is this truer than in Los Angeles. The city that mythologized the age of the automobile is now expanding its subway system, seeing surging volumes on its regional rail lines, and is anticipating the arrival of high-speed rail. In the midst of this diversifying transportation network sits Union Station, a 1939 architectural gem ringed by parking. Metro, which bought the 47-acre property in 2011, hired Gruen Associates and Grimshaw Architects to turn the building into an urban workhorse. Built in the Golden Age of Hollywood, it was designed for 7,000 daily passengers. It now moves 76,000. In the midst of a burgeoning downtown, and next door to the vibrant Little Tokyo and Chinatown neighborhoods, Union Station was never fully integrated into the urban landscape. “Our first goal is to address the transit needs,” explained Cal Hollis, Metro’s executive officer of countywide planning. “It was built as a transit building, but it’s now a multi-modal transportation hub.” The master plan will also include two office buildings and approximately 250 residential units as a way to link the building with the surrounding area. “It’s now perceived as not a part of downtown, so we want to tie it in better with the area by making better pedestrian connections,” said Hollis.

L.A. can find a useful model in Denver, which, next spring, will cut the ribbon on its own historic Union Station as the center of a multi-modal transportation network. “We had several disconnected elements feeding into downtown,” explained Bill Mosher, senior managing director of developer Trammell Crow and the owner’s representative for the Denver Union Station Project Authority. “The issue was where to put the hub.” That hub, they determined, would be the 19th-century train station that the design/build joint venture between SOM, Hargreaves Associates, and Kiewit is now reconfiguring into not only a centerpiece for a revamped city and regional transportation strategy, but also as an important connective public space between downtown...
and the Central Platte Valley. Owing to the real estate development that the project has instigated, Mosher said the project will account for more than $1 billion of development, dramatically transforming the physical and economic landscape of that area.

The Denver project highlights the critical role of what has become an Obama-era lightning rod: government spending. “There has to be an understanding of the role of government,” said Mosher. Citing voter-approved financing for a 2004 transportation initiative, he added, “there has to be public investment, which is then followed by the private sector.”

This is a formula that New Yorkers will recognize from the much-anticipated Hudson Yards redevelopment, the genesis of which can be found in the extension of the MTA’s No. 7 subway. A master plan conceived by KPF will harness the $2 billion of transportation investment into a 26-acre mixed-use area, zoned for more than 13 million square feet of development, both commercial and residential. Whereas urban development on this scale has been maligned in the past for carrying government spending, which is then followed by the private sector. “This is a formula that New Yorkers will recognize from the much-anticipated Hudson Yards redevelopment, the genesis of which can be found in the extension of the MTA’s No. 7 subway. A master plan conceived by KPF will harness the $2 billion of transportation investment into a 26-acre mixed-use area, zoned for more than 13 million square feet of development, both commercial and residential.

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different community voices. “It takes time and money, yes, but it also takes a remarkable amount of civic will and a real commitment to the area,” said Mosher. Sasaki principal Dennis Pieprz put it differently: “We work on projects around the globe, and one of the things that is present in the U.S. that you don’t see elsewhere is the very active process of community engagement.”

“To see Jane Jacobs as only a community activist is problematic,” said Vishaan Chakrabarti, partner at SHoP Architects and associate professor of real estate development at the Columbia Graduate School of Architecture, Planning, and Preservation. “She is also an advocate for the economic expansion of cities. She wanted to see development in the form of mixed-use environments.”

She did write The Death and Life of Great American Cities, yes, but she followed that up with The Economy of Cities and Cities and the Wealth of Nations. To turn that popsicle stand into a popsicle store, and then to parlay that into a popsicle distribution company demands a dense local market complete with efficient transportation networks, diverse housing stock, and infrastructure.

The knee-jerk vilification of Moses is similarly unproductive. “Urban renewal is such a loaded term because it is so associated with Robert Moses and with community displacement, but it did some important things, like transit-oriented affordable housing,” said Chakrabarti. “That whole era has been made a caricature of itself.”

Dense urban areas make an environmental and economic case for themselves, but there is also a more intangible argument to be made for this type of urban regeneration: the cultural reconsideration of the suburbs as the desired life endpoint. “The suburbs are not just a consequence of the market,” said Chakrabarti, paraphrasing a theme of his forthcoming book, A Country of Cities (Metropolis Books, 2013). “There is a $100-billion-per-year federal subsidy to support the suburbs. If you were to level the playing field, we’d see even more movement into cities.”

As that movement happens, master plans—having learned from mistakes in the past and responding to active, thoughtful community engagement—have the capacity to render these cities more equitable, environmentally sustainable, and perfectly suitable for all kinds of D.I.Y interventions. “These types of projects are opportunities to do more than just design a few buildings,” said Pieprz. “It’s an opportunity to develop a new vision for the city and how this area can evolve. Everything goes back to the human occupation of space, how people experience a place.”

John Gendall is a New York-based architecture writer.
While designing a sustainable project is a holistic job, one of the largest contributors to the success of a green building—both in terms of energy efficiency as well as occupant comfort—is the facade. In this special section, we look at the manufacturers who are pushing the envelope of building cladding systems, and zero in on five projects that show the design potential of the contemporary facade.

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SikaMembran System
Sika
Sika.com

Made from a special EPDM rubber for all climates, the SikaMembran System is composed of a series of sheet materials that bond directly to proprietary adhesives. The sealant solution is not a vapor barrier but a method of control, permitting humidity within construction materials to evaporate. A relatively high diffusion resistance facilitates applications on both the warm and cold sides of construction. When applied to facade elements and windows, SikaMembran ensures resistance against wind pressure and high mechanical stress, including wind loads of up to 4 kPa.

SSG4600
GE
GE.com/Silicones

GE’s SSG4600 is a silicone-based sealant made for protective glazing applications. In addition to firmly sealing out air and water long-term, SSG4600 can withstand exposure to ultraviolet radiation, high and low temperature extremes, rain, snow, natural weathering, and seismic activity. The two-part elastomeric adhesive/sealant features a handling time of four hours to meet demanding timelines, with a flexible mix ratio that can be adjusted to suit the project or climate at hand. Its smooth consistency adheres to most conventional substrates including anodized aluminum, alodine, PVF2, powder coating, and glass. It is available in Black and Grey.

890FTS and 890FTS-TXR
Pecora
Pecora.com

This field-tintable silicone maximizes efficiency with a mixing time of only three minutes, thanks to the absence of an activator. Its oil-free formula doesn’t pick up dirt like traditional silicone products, so the materials’ color and texture qualities remain uncompromised. It does not stain marble, granite, or limestone, and bonds firmly to mill-finished aluminum and Kynar without a primer. 890FTS and 890FTS-TXR come in a smooth or textured consistency for a grout-like finish that permits joint movement of +/- 50 percent. Available in Pecora’s 61 standard colors, the sealants also coordinate with the company’s urethane products.

791 Silicone Weatherproofing Sealant
Dow Corning
DowCorning.com

Designed for general glazing and weather sealing on curtain walls and building facades, 791 Silicone Weatherproofing Sealant cures neutrally by reacting to moisture in the air for a flexible yet durable rubber seal. Ideal for expansion, connection, perimeter, and other movement joints, the sealant extrudes smoothly in any weather and adheres to a variety of building components without any requisite preparations. In addition to reliable weather, sunlight, rain, snow, and ozone resistance, Dow Corning’s 791 meets ASTM requirements and VOC content guidelines determined by the South Coast Air Quality Management District of California. It is available in Black, Gray, Bronze, Limestone, Precast White, and White with the option of a 20-year limited warranty.

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For the renovation of and addition to the Mark Jefferson Science Building at Eastern Michigan University, Lord Aeck & Sargent devised a multitude of opportunities to reduce the building’s carbon footprint. In addition to stormwater management strategies and a green roof, updating the building’s facade presented great opportunity for daylight management. A new pedestrian walkway shades the original 1960s brick and stone trim along the west side. Elsewhere, metal fabric supplier GKD fabricated exterior sunshades to mitigate direct sunlight, while maintaining the user benefits and energy savings of natural daylight. Applied to all three tiers of the building’s exterior, 89 panels of stainless steel mesh shield the curtain wall for substantial temperature control. According to a recent case study, portions of the curtain wall that were shaded on a sunny, 75-degree day were only 9.3 percent warmer than the air temperature at 82 degrees, whereas un-shaded exterior areas were 25.3 percent warmer at 94 degrees. The combined strategies yielded a 31.5 percent improvement in baseline building performance and the project was recently awarded LEED Gold in the New Construction v2.2 category.

**PROFILE**

**MARK JEFFERSON SCIENCE BUILDING, EASTERN MICHIGAN UNIVERSITY**

**YPSILANTI, MICHIGAN**

**Architect:** Lord Aeck & Sargent

**Engineer:** Mike Leonard of GKD

**Facade consultant:** GKD Metal Fabrics

**Facade supplier:** GKD Metal Fabrics
For the James B. Hunt Jr. Library in Raleigh, North Carolina, Snøhetta sought to relate to the campus' and state's historical connection to the textile industry. "The idea of weaving threads and inserting textural quality was very appealing," said Nic Rader, an architect who worked on the project. The facade itself is a weave of the interior and the landscape as the zig-zag of exterior louvers correlates to the stairs inside the building. Working with executive architects Clark Nexsen to devise the most efficient facade, the design team selected glass with a 30 percent charcoal frit and outfitted the wall with aluminum solar blades that reflect and diffuse light, mitigating glare. The panoramic south-facing window features a cantilever that twists at opposing corners to absorb the bulk of summer sun, but maintains solar access for passive heating in winter.

Since the state-funded project had to be built to LEED Silver standards, the facade is one of several sustainable building strategies. The building’s roof is white to reduce the heat island effect; solar panels heat hot water; native vegetation dots the landscape; and an automated storage retrieval system reduced the footprint needed to accommodate 2 million volumes by 1/8. The design team also used a chilled beam system in the building’s heating and cooling strategy, an energy-saving approach that is popular in the Northeastern U.S. but has not been utilized with as much frequency in the South.

Architects: Snøhetta; Clark Nexsen (executive)  
Engineers: Stewart Engineering (structural); ColeJenest & Stone (civil)  
Facade suppliers: AkzoNobel; Viracon (glass); Bonnell (vertical solar blades)
During the Utah State Capitol renovation and seismic upgrade, 204 terra cotta-clad panels were fabricated and installed on the historic 90-year-old building. Each radial truss was engineered to incorporate both new and restored terra cotta while maintaining the original rotunda drum dimensions and blending harmoniously with the handset terra cotta as well as the pieces that were never removed.

“Your accomplishments on the terra cotta work were extraordinary; the terra cotta column design, fabrication, and erection was definitely ‘out of the box thinking’, a trait that is common for your group.”

Kevin Brown, Project Executive
Jacobsen Construction
During the Utah State Capitol renovation and seismic upgrade, 204 terracotta-clad panels were fabricated and installed on the historic 90-year-old building. Each radial truss was engineered to incorporate both new and restored terracotta while maintaining the original rotunda drum dimensions and blending harmoniously with the hand-set terracotta as well as the pieces that were never removed.

Architectural Cladding System
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"Your accomplishments on the terracotta work were extraordinary; the terracotta column design, fabrication, and erection was definitely 'out of the box thinking', a trait that is common for your group."

Kevin Brown, Project Executive
Jacobson Construction

Horseshoe Casino - Cincinnati, Ohio
Architect: Friedmutter Group
General Contractor: Messer Construction

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DEVELOP
ACTUALIZE
IMPLEMENT

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ACTUALIZE
IMPLEMENT

allianceglazing.com

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For the winning proposal of a public library in Washington, D.C., Adjaye Associates designed a building that is equal parts transparent and reflective. The strategy draws a connection between the interior and the surrounding woods of Fort Davis Park. A low-E, double insulated, two-story curtain wall combines clear, uncoated glass panels and panels with an 80 percent mirrored finish on the number two surface. The angle of a large, canopied roof that cantilevers over the south side of the building was refined to harvest solar heat gain in winter, while shading the south facing-facade in summer. The diaphragm of the roof is also tied into the glass box to absorb torsion and reduce the need for additional structural steel.

The geometric diamond pattern of the exterior translates to the interior with deep-set wooden window niches that directly correspond to the facade apertures. “The whole approach to the building was to feel like one was still sitting in the park,” said Russell Crader, a project director with Adjaye Associates. “Because the apertures capture the park like settings around the building, seeing people reading in those niches is really quite beautiful.”

A combination of solar management strategies facilitated by the facade, energy efficient heating and cooling systems, and the use of regional materials won the project LEED Silver certification.

**Architect:** Adjaye Associates  
**Engineers:** Restl Designers, Inc. (structural); Setty & Associates (mechanical)  
**Facade supplier:** Guardian Industries

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**FRANCIS GREGORY NEIGHBORHOOD LIBRARY, WASHINGTON, D.C.**
Facades

Double skin facades are a burgeoning building envelope solution utilized primarily in colder regions. So Ingenhoven's winning proposal from a 2006 design competition for 1 Blight Street in Sydney, Australia, was a surprising solution for the warmer climate down under. Both of the facade's curved interior and exterior walls are constructed from glass with 62 percent visible light transmittance, and between the two skins are 1,780 specialty Venetian blinds, controlled by 897 individually programmed controllers. Each of the building's 64 rentable spaces feature louver angles programmed with unique information that combines the sun’s angle of incidence, absolute positioning within the building, and the space’s relative position to adjacent buildings to determine the degree to which the blinds will open. Due to the elliptical curvature of the plan, each of the 30 stories receives sunlight throughout the day, whereas if the building had flat walls and four corners, the blinds would need to remain closed. The gap between the two skins also keeps the building cool, thanks to operable louvers at the end of each floor slab. Air enters through the base of the building and circulates through the cavity, exiting at the top. This enables natural ventilation of corridors and the reduction of HVAC equipment for an additional 10 percent area for leasing.

Architect: Ingenhoven Architects
Engineers: Enstruct Corp. (structural); Arup (MEP)
Facade suppliers: Horiso (blinds); G.James Glass & Aluminum; Viracon

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**MANUFACTURERS**

**METALS/MESH/TENSILE FABRIC**

**Alcoa**
This manufacturer of aluminum composite material and painted aluminum sheets has recently developed a new process in which EcoClean, a titanium dioxide coating, is applied to the pre-painted aluminum surface of Reynobond. Making it the world’s first coil-coated aluminum architectural panel that actively works to clean itself and the air around it.
alcoa.com

**Cambridge**
Cambridge specializes in the production of woven metal mesh, a durable and sustainable architectural component that is customized to suit an architect’s vision for any type of project.
cambridgearchitectural.com

**Doralco**
This custom architectural metal solutions company specializes in innovative aluminum fabrication and architectural stainless steel components for projects seeking LEED certification.
doralco.com

**GKD**
One of the nation’s leading metal fabrication companies, with its headquarters located in Cambridge, Maryland, GKD specializes in advanced metal weaving technology. It offers an extensive selection of weave patterns that will satisfy any project’s needs. gkdmetalfabrics.com

**Kalzip**
Kalzip offers a top-quality standing-seam cladding system. It can be used to finish roofs or facades, or the entire building envelope.
kalzip.com

**Rigidized Metals Corp**
Rigidized Metals combines functionality and durability with beautiful finishes and rich textures to create three-dimensional metal panels perfect for architectural, industrial, and transportation applications.
rigidized.com

**Shaffner Heaney Associates**
This manufacturer specializes in custom-designed wall and building panel systems. The company produces architectural cladding systems, curtain walls, windows, entrances, and skylights.
shaffnerheaney.com

**Spectrum Metal Finishing**
This Youngstown, Ohio–based metal coating company specializes in the electroplating and electrodeposition of many precious and semi-precious metals using a liquid and powder coating system.
spectrummetal.com

**Technical Fibre Products**
Using a wet laid process, TFP manufactures high-performance nonwoven mats and veils composed of specialist fibers, including glass, metal-coated carbon, polyester, and aramid.
tfpglobal.com

**United Architectural Metals**
This engineered wall and facade manufacturer makes preassembled glass structures for large commercial buildings.
unitedarchitectural.com

**COMPOSITES**

**3-Form**
3-Form’s global team of artisans produces a line of high-performance Koda XT materials that are made with 40 percent recycled content, are lightweight, designed to resist intense weather conditions and UV exposure, and ideal for exterior use.
3-form.com

**Birdair**
Birdair specializes in tensile architecture, which incorporates the uses of recycled metals, and translucent fabric membrane roofs that are durable and allow natural daylight to filter through.
birdair.com

**Construction Specialties**
This global leader of architectural and engineering products has introduced its new C/S Bold Line Louvres. High-performance, hurricane-resistant, drainable, acoustical or blast-resistant, the louvers come in a variety of textures, colors, and shadow lines.
c-sgroup.com

**Eternit**
Eternit produces a wide range of functional and sustainable fiber cement facade panels that come in a variety of formats, forms, and colors and can be customized to the vision and needs of the architect.
eternit.ch

**FORMICA VIVIX**
This company produces solid phenolic, engineered exterior facade panels that are blast-resistant, weather and UV-resistant, easily maintained, modifiable, and come in a variety of solid colors, patterns, and wood grains.
formica.com

**Goetz Composites**
Known for building some of the fastest race boats and carbon fiber yachts in the world, Goetz has collaborated with energy generation companies and industrial businesses to produce architectural components and large structures, decks, and wind and hydro energy generation components.
goetzboats.com

**Grace Construction Products**
Grace offers innovative solutions to construction challenges through concrete admixtures and fibers, liquid pigments, processing additives, concrete masonry products, air and vapor barriers, structural waterproofing systems, residential building materials, and fire protection products.
graceconstruction.com

**Kreyser & Associates**
This California-based digital fabrication company specializes in making custom composites for historic preservation, new construction, sculpture, and industrial applications.
kreyser.com

**Luminore**
Luminore has a proprietary cold-spray application process that applies a protective layer of metal over a variety of exterior facade surfaces, including concrete, fiberglass, and foam.
luminore.com

**mouldCAM**
This manufacturer of composite structures uses five-axis CNC machines to create complex 3D molds for the architecture, marine, industrial, and renewable energy markets.
mouldcam.com

**TRESPA**
Trespa’s premier product line, Meteor, is a decorative high-pressure compact laminate panel ideal for use in innovative and functional ventilated rain-screen cladding systems, on its own, or in combination with other materials.
trespa.com

**CERAMICS/CONCRETE**

**Casalgrandepadanaco**
This company produces cutting-edge cladding systems made from ceramic materials with superior functional characteristics that enhance the thermal performance of walls.
casalgrandepadana.com

**Cercasaceramica**
Spanish company Cercasa manufactures and distributes ceramic and porcelain tile.
valuefloorsonline.com

**Cooperativa Ceramica d’Imola**
This Italian company produces glazed porcelain stoneware and porcelain stoneware for ventilated facades. The material comes in a wide range of sizes, colors, and finishes.
cimolaproject.com
Daltile

Daltile's SlimLite Panels are ideal for interior or exterior wall applications. Made from 100 percent natural products, the thin panel design uses less energy during production, reduces carbon emissions by lowering shipping weight, and reduces costs while maintaining quality performance standards.
dproducts.daltile.com

EQUITONE

This Etex Group company produces thin, light-weight, and non-combustible sheets of fiber cement, a natural composite material used for facade construction.
equitone.com

Florim Solutions

This Italian manufacturer of ceramic tiles, slabs, and porcelain stoneware specializes in ventilated facades for the construction and restoration of large-scale architectural projects. The porcelain stoneware sheets come in three different shades of gray: Ecdark, Ecogrey, Ecolight.
florimsolutions.com

Grespania Ceramica

Grespania offers ventilated facades and cladding systems for both commercial and residential applications.
grespania.com

Interceramic

This producer of ceramic, porcelain, and natural stone tiles used in floor and wall applications features a green line of durable products manufactured with natural clays and minerals, helping architects obtain LEED certification credits.
interceramicusa.com

Lea Ceramiche

Lea’s Slimtech series is an ideal solution for external cladding. The ultra-thin, large-format porcelain stoneware slabs can be installed on facades with a variety of fastening systems.
ceramichelea.it

Marazzi

Marazzi produces a variety porcelain stoneware cladding solutions for energy efficient buildings.
marazzarchitectural.com

NBK Ceramic

This leading terracotta facade company produces high-quality, durable, eco-friendly products. Its TERRAURT product line provides architects with a suspended facade system that incorporates ventilation and pressure-equalizing elements in order to extend the life of the building skin.
nbk.com

Palagio Engineering USA

Palagio specializes in turn-key rain screen wall cladding facades. The company’s terracotta rainscreen is a dry, multi-layered construction system that hangs on the structural wall with an aluminum frame.
palagiousa.com

Shildan

Shildan produces terracotta rain screen and sunscreen products for energy efficient building facades. Its Alphon panel is made from extruded double-leaf terracotta strengthened by a chain of internal i-beam supports.
shildan.com

TAKTL

TAKTL employs a new ultra high performance concrete formulation, which has four times the strength of traditional concrete, allowing for the low-cost and environmentally friendly production of structures that require 70 percent less material.
taktl-llc.com

Tek Homes

Tek Homes provides high-quality, low-cost services for basement waterproofing, decks and patios, and concrete work.
tekhomes.com

YKK AP America

YKK AP assists architects and engineers in achieving LEED certification with products like the recently launched energOfacade series, featuring ThermalShade sunshades, the industry’s only sunshade system with a thermal barrier.
ykkap.com

GLASS

Cricursa

This Barcelona-based company produces curved and flat interior and exterior glass as well as decorative, safety, and energy efficient glass.
cricursa.com

ES Windows

This South American company manufactures, distributes, and installs aluminum and glass windows, doors, and curtain walls to national and international locations.
eswindows.com

Guardian Industries

Guardian manufactures float glass and fabricated glass products such as EcoGuard Pattern, a low iron annealed tempered pattern glass that provides optimal energy and light transmission for photovoltaic energy systems.
guardian.com

Hiti

These producers of cutting-edge technology manufacture innovative products like the HDA Undercut Anchor, which sets a higher standard for reliability, performance, and ease of use in the global construction industry.
hiti.com

J.E Berkowitz

J.E Berkowitz fabricates architectural glass products, including insulating, heat-treated, silkscreeen, and spandrel glass, laminated glass, all-glass doors and entrances, and point-supported glass systems and canopies.
jeberkowitz.com

MechoSystems

MechoSystems is a pioneer developer of energy efficient solar shading systems that provide solutions to brightness, glare, and solar control problems.
mechosystems.com

Oldcastle Building Envelope

This company designs, engineers, tests, and manufactures all products necessary in the delivery of the building envelope: curtain wall, windows, storefronts, doors, skylights, and architectural glass.
oldcastle.com

PPG Industries

This leading coatings and specialty products company produces STARPHIRE Ultra-Clear Glass which transmits 91 percent of light, providing the highest level of transparency in the industry.
ppg.com

SageGlass

The company makes switchable glazing that goes from clear to dark with the flip of a switch, letting natural light fill a building or blocking out unwanted heat gain depending on the needs of the user.
sageglass.com

Skyline Windows

When the Empire State Building needed to replicate the windows of its 62nd floor they commissioned Skyline Windows, a premier designer and manufacturer of custom designed energy efficient window systems, to complete the project.
skylinewindows.com

Technoform Bauteck

This company specializes in structural thermal insulation in aluminum windows, doors, and facade systems.
technoform-bauteck.us

Viracon

This architectural glass maker recently launched a new product, VUE-30, a high-performance glass coating that allows for enhanced visible light transmittance and enables architects to maximize window-to-wall ratios while meeting and exceeding domestic energy code requirements.
viracon.com

W&W Glass

This New York-based metal and glass company provides solutions for the most demanding architectural projects through the Pilkington Planar System, which provides a complete glass envelope for curtain walls, storefronts, skylights, and other building structures.
wwglass.com
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Wells Street Bridge Rehabilitation Landmarks Illinois 53 West Jackson Blvd. Chicago landmarks.org

FRIDAY 21 EXHIBITION OPENING Phyllida Barlow: Surf Des Moines Art Center 4700 Grand Ave. Des Moines, IA desmoinesartcenter.org

FILM Hors Satan 7:00 p.m. Weine Center for the Arts 1871 North High St. Columbus, OH wexarts.org

SATURDAY 22 GALLERY TALKS EDGE 2:00 p.m. Detroit Artists Market 4719 Woodward Ave. Detroit, MI droatistalksmarket.org

Gaylen Gerber 3:00 p.m. Museum of Contemporary Art Chicago 200 East Chicago Ave. Chicago mcachicago.org

WEDNESDAY 26 EXHIBITION OPENING Zarina: Paper Like Skin Art Institute of Chicago 111 South Michigan Ave. Chicago artic.org

LECTURE Art Bites: Sean Ulmer on Bertha Jaques: Eye on the World 12:15 p.m. Cedar Rapids Museum of Art 410 Third Ave. SE Cedar Rapids, IA crma.org

SATURDAY 6 EXHIBITION OPENING Nahyun Hwang + David Eugin Moon University of Michigan Museum of Art 525 South State St. Ann Arbor, MI umma.umich.edu

THURSDAY 11 EVENT Wright Around Chicago: Community Enrichment Series 12:00 p.m. The Graat Center 126 East Chestnut, Chicago gowright.org

SATURDAY 13 WORKSHOP Exploring the Landscape: Drawing and Painting En Plain Air University of Michigan Museum of Art 526 South State St. Ann Arbor, MI umma.umich.edu

EVENT Ai Weiwei: According to What? 1:00 p.m. Indianapolis Museum of Art 400 Indiana Rd. Indianapolis, IN imamuseum.org

design-ROLLS Architectural Bike Tour 1:00 p.m. The Center for Architecture and Design 50 West Town St., Suite 110 Columbus, OH columbuscfaed.org

EVENT At Home: Relax and Retreat to the Beach! Jett Residence, with John De Salvo Design 10:00 a.m. AIA Chicago 224 South Michigan Ave. aiachicago.org

THURSDAY 18 EVENT Play Me, I’m Yours 11:00 a.m. Museum of Contemporary Art Cleveland 11400 Euclid Ave. Cleveland, OH mcacleveland.org


THURSDAY 25 LECTURE Good Houses and Good Books: The English Arts & Crafts Movement in America 6:00 p.m. Pr fit Auditorium 104 South Michigan Ave. Chicago goverland.org

AUGUST FRIDAY 2 EXHIBITION OPENING Landscape Re-framed: Sculptures by Celene Hawkins The Taft Museum of Art 316 Pio St. Cincinnati, OH taftmuseum.org

SATURDAY 3 WITH THE KIDS Grassroots 10:00 a.m. Walker Art Center 1750 Hennepin Ave. Minneapolis, MN walkerart.org

MONDAY 5 WORKSHOP WAM Architecture Workshop Weisman Art Museum 33 East River Rd. Minneapolis, MN weisman.umn.edu

WEDNESDAY 7 EVENT August Cocktails & Conversations 5:30 p.m. AIA Kansas City 1801 McGee, Suite 100 Kansas City, MO aiakc.org

MICHIGAN MODERN Cranbrook Art Museum 39321 Woodward Avenue Bloomfield Hills, MI June 14 to October 13, 2013

Michigan Modern: Design that Shaped America, an exhibition at the Cranbrook Art Museum curated by MPAL Studio, narrates the stories of the Michigan designers, architects, and manufacturers whose work in the 20th century left lasting marks on the American cultural scene and laid the groundwork for modern American design. The exhibition will showcase the works of the Detroit automakers, which created iconic automobiles that have become tantamount to the American dream. It will illustrate the stories of the state’s furniture manufacturers, such as Herman Miller, which transformed the modern home and workplace with such illustrous Mid-Century Modern design pieces as the Eames Lounge Chair. The lives of Michigan architects Minoru Yamasaki, Albert Kahn, and Eero Saarinen, whose buildings defined an era, will also be told. These celebrated designers and institutions, which called Michigan home, characterized the 20th century and cemented the state’s place at the forefront of American design culture. In conjunction with the opening, Cranbrook will hold a symposium from June 13 to June 16.
Perhaps no structure better embodies the pivot point, historically and culturally, between the colonial eastern states and the expansive plains and mountain states spilling westward than the St. Louis Arch. Rising dispassionately above the banks of the Mississippi River, the 630-foot-tall stainless steel Gateway Arch stands at the threshold of a city that embraces this vaunted emblem of the pioneering spirit and the American idea of a national and personal manifest destiny.

Residents of the city, and the millions of tourists who visit the grounds annually, willfully accept the monument’s well-known mythology. Featured on museum displays and video loops (and repeated by an army of enthusiastic docents) is the story of a vibrant riverfront decayed into a ramshackle slum, corroding the nearby heart of the city by sheer proximity. For the good of the city and the nation, political leaders banded together with the common goal of constructing a reverent monument to honor Thomas Jefferson and the vast national expansion he helped shepherd.

In The Gateway Arch: A Biography, Tracy Campbell methodically, efficiently and thoroughly dismantles this highly polished rhetoric. Over the course of nine densely packed chapters, Campbell, who teaches history and is co-director of the Wendell Ford Public Policy Research Center at the University of Kentucky, systematically undermines the boosterism and folklore that obscures some rather unsavory events in modern St. Louis history. Campbell revisits the original motives, political machinations and architectural and urban planning missteps that ultimately gave the country one of its most enduring and endearing symbols.

In the first quarter of the last century, the St. Louis riverfront was a lively commercial and residential district. Its 37 blocks housed as many as 200 homes and almost 300 light industrial businesses employing around 5,000 workers. The buildings were a unique collection of historic cast-iron structures. Sigfried Gideon wrote in 1939 that the architecture serves “as a connecting link between the humble and the preconceptions, to broaden your knowledge of what exactly a solar house is and how it came to be a part of the American domestic landscape.

Denzer, an architectural engineering professor at the University of Wyoming, is also the author of Sun Structures. This book defines his research to encompass a previously established canon. From the beginning, Denzer wants you to expand your understanding of what a solar house is and how it came to be a part of the American domestic landscape.

Denzer’s latest effort, The Solar House, represents a major shift in historical writing. No longer are architectural historians confined to reviewing the big names or buildings of a previously established canon. Denzer is part of an emerging movement looking to more broadly and deeply describe a profound and interwoven material history of architecture, a history with main and secondary architects, as well as off-the-map buildings. And never is this history more important than when looking at environmental issues in architecture.

So just what is a solar house? From the beginning, Denzer defines his research to encompass “a building that uses solar energy for space heating that is deliberate and creative.” This definition excludes the earlier notions of solar as a system of maintaining health. The Solar House’s view of solar as only energy-related begins to weave together engineering and design problems in the domestic space. The book works as both a glossy illustrated anthology and as a rich historical narrative. At the same time, it covers both the motivational ethics of solar homes and the
GATEWAY REOPENED continued from page 30
Edward Durell Stone (who would go on to design and construct a new St. Louis baseball stadium) partnered with Isamu Noguchi and together they produced a scheme reminiscent of an abstracted lunar surface with something akin to an antenna or mayday pole at its center. Additional submissions were sent by Walter Gropius, Harry Weese, Charles Eames, and Minoru Yamasaki.

None of these schemes made the initial cut from 172 down to five. The jury unanimously selected Eero Saarinen’s austere design, featuring a single monolithic extrusion reaching simultaneously toward sky and earth. Campbell dedicates a significant portion of the book to an examination of Saarinen and the creation of the winning entry. He equally weights the personal and professional obsessions that informed the young architect’s proposal and the ensuing direction of his storied career.

Campbell’s research reveals that not even the winning design was free of controversy. Multiple citizens and planners suggested triumphal arches for the site before the competition. Most alarming, though, is the uncanny similarity Saarinen’s entry shared with a monument proposed in Italy to celebrate the Fascist government. Saarinen was apparently as surprised as everyone else, and attempted to defuse the situation by noting the likeness between Egyptian obelisks and the Washington Monument.

The book takes a detailed look at the serpentine design process following Saarinen’s selection and the challenges associated with the construction of such a complex structure. “Remarkably,” writes Campbell, “not a single worker died during the arch’s construction.”

When completed, the Jefferson National Expansion Memorial was like no other American monument. “For sheer, soaring triumph of form,” wrote a visiting journalist immediately following the opening, “nothing approaching it has come out of the century... So many monuments are dull, spiritless, cookie-cutter nothings that the Gateway Arch must seem a miraculous accident thrust up on the levee.”

“There is no document of civilization,” wrote critic and philosopher Walter Benjamin, “that is not at the same time a document of barbarism.” Campbell’s enthralling text deftly illustrates the municipal barbarism that turned a robust urban neighborhood to rubble, as well as the lofty civility that produced the sweeping form of the Gateway Arch. Both exist on the St. Louis riverfront, yet somehow, quite miraculously, the great monument still elicits unmitigated awe as it stretches forever upward.

The book is not always pragmatic engineering necessary to achieve innovation. For evidence, The Solar House follows a mostly chronological progression of solar design, starting with architect George Fred Keck’s House of Tomorrow (1933), Frank Lloyd Wright’s Solar Hemicycle (1943), and MIT’s Solar Housing Experiments (beginning in 1939), and follows through to the contemporary Solar Decathlon, a national competition encouraging students to design innovative solar houses.

All of Denzer’s examples highlight the primary nature of solar design—from passive solar energy to solar storage—in the inception of the homes. Refreshingly, Denzer does not shy away from reporting engineering mistakes and setbacks along the way. Solar House is a refreshing honest account, warts and all. Take, for example, the unique solar heat storage and cooling house Dover Sun House, a collaborative effort by engineer Maria Telkes and architect Eleanor Raymond in Dover, Massachusetts, in 1948. Viewed a success when it was built, and praised by such publications as Architectural Record and Newsweek, the Dover Sun House was retrofitted with a conventional furnace just five short years after it was completed. But as Denzer points out, failures are part of the research problem, and solar innovation is not a passing trend—it is part of a continuous narrative in engineering and design.

But the book is not always even in its treatment of solar history. If The Solar House has a fault, it’s that it too heavily places chronological weight in the mid-century period, with examples from the 1970s to the present appearing far less detailed and nuanced than those covered in earlier chapters.

Earth Day 2013 helped us all to recall the 1970 landmark celebration and reminded us of the significance of the environmental movement. The Solar House is not simply a gesture to those roots; it is a wake-up call to remind us that those roots go deeper and further back, past the visions of the 1960s.

Hopefully this book will be one of many future investigations that approach the problems of environmentally focused design with serious historical research, attention to innovation, and analysis of the profound impact that environmental history and architectural history both deserve.

JESSICA VARNER IS THE FOUNDER OF THE RESEARCH STUDIO SMALLERLARGE AND A CURRENT YALE UNIVERSITY, SCHOOL OF ARCHITECTURE MFA CANDIDATE.

SUN STRUCTURES continued from page 30 pragmatic engineering necessary to achieve innovation. For evidence, The Solar House follows a mostly chronological progression of solar design, starting with architect George Fred Keck’s House of Tomorrow (1933), Frank Lloyd Wright’s Solar Hemicycle (1943), and MIT’s Solar Housing Experiments (beginning in 1939), and follows through to the contemporary Solar Decathlon, a national competition encouraging students to design innovative solar houses.

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One of the things that set all incorporated into your work? A Moshe Safdie-inspired title, glass sculptures resemble French architect Jean-Louis Chanarchitecture\textquotesingle s module designs, and USM shelving units act as de facto pedistals. The artist-whose recent show, \textit{Stray Light}, opened at the Museum of Contemporary Art, and is now running at Studio Museum in Harlem-uses research and photography to mine the built environment. Hart talked to AN about design and identity-including, in an effacing prologue, about design and AN...It's a demonstration of how the real Brazilians; with joie de vivre, they're nice and innocent. He becomes completely enraptured. It's typical European bullshit. How real the essence is found in poverty, and his hosts are wannabes. So your work looks back at the new world. Bringing his European ideas to themselves, but the prologue actually contains the lectures and teachings of the Brazilian masters. He was given a lot of incredible people from the Ulm School to develop a national industrial design program. Then Pinochet came in and the rule of the military junta followed. Currently, Chile is one of the shining stars of the South American economy in terms of a neo-liberal state. I'm really interested in how it tracks across this huge ideological spectrum, and I'm interested in how that's a factor of the built environment. My idea is to really engage in those histories.

Before you work on these research projects do you know what form the art will take? What are you working on now? Right now the plan is to go to Chile to shoot a film and a group of photographs, and generate some sculptures as well. As a country, Chile is incredibly interesting and unique. During the '70s, under Allende, it attempted a socialist state, but it's typical European bullshit. How do you feel architecture is manifested in "for everyone a garden?" Is your connection to its personal or distant? Both. I was born in 1967. That was a time of incredible upheaval. It was a time for Canada to come out as a modern state, throw off the mantle of colonialism. Prior to 1967, the Canadian flag had the British flag on the left hand corner. The maple leaf as we know it was revealed that year. Prior to that, Montreal was a provincial colonial city...I didn't live through the upheaval, but I lived through the results—this modern city with the new-car smell still on it. It was really powerful in terms of creating an image in my mind. The potential of the built environment—it had been prioritized, and I grew up with that. Did this stay with you, or is it something you circled back to later in your career? I came back to it later on. The research I was doing was complicated by my lived experience. That plays out in the way I understand space. I'm interested in space as a container for a specific ideology. Space is definitely a container for ideology in your exhibition \textit{Stray Light}, which uses photographs and video to capture the fiercely modern Johnson Publishing building as well as employees working inside it. What got you interested in that subject? Race was something I hadn't dealt with in my work previously. And I was trying to find an example transplanted into some of the things I wanted to explore in terms of understanding, specifically, an African-American experience. You couldn't find a better example of that than the Johnson Publishing headquarters in terms of a clear archive of so many things that are important to the community. It also represented this beautifully parallel strand of modernism, so it also allowed me to talk about these other concerns I had, and show they could be represented in a lot of different ways. This happened to be one expression.

What other subjects have you photographed? Native American reservations in Montana; a farm that started out as a commune in Southern Tennessee; a think tank in Michigan that develops policy tools, most famously the Overton Window; a skate park in Seattle. The idea was to try to paint a picture of ideological differentiated sites looking at all the possibilities—far right, far left—and find out what's in between. Johnson Publishing became one point, one note within that expression. I started photographing this work in 2005/2006. You also worked with a glassmaker to create some of the work in \textit{for everyone a garden}. Tell me about that process. With the glass form, I designed the original form on the computer and did pretty detailed drawings. It's based on a composite form derived from the work of Jean-Louis Chanarchitecture and others. I'm not a glass artist, and I don't want to be—because I don't want to be married to that form of expression. I stop short at saying its collaboration, because I'm the author. But it's about working with people whose talents you respect and whose opinions you trust, and you think they can really enrich the final experience.
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Operating Energy is what buildings consume for heating, cooling, ventilation and lighting. Regardless of building type, most are sealed and insulated for comparable performance.

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WOOD HELPS ENERGY PERFORMANCE

Embodied Energy

Operating Energy

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Steel

Concrete

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