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# Seed

Arthur Ashe Stadium at USTA's Billie Jean King National Tennis Center is one of sport's most beloved venues. But its roofless design meant rain often stopped play. To keep tournaments on schedule, the stadium's original designers, architect Rossetti and engineer WSP Parsons Brinckerhoff, proposed the tennis world's largest long-span retractable roof. With a 7-minute opening time and a design that keeps sightlines unobstructed, the new lightweight fabric and steel canopy is favored to win over athletes and fans alike. Read more about it in Metals in Construction online.



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#### Atlanta Architect John Portman Dies at 93

Architect and developer John Portman, FAIA, died on Dec. 29 at age 93. Born in Walhalla, S.C., in 1924, he founded his firm, today known as John Portman & Associates, in 1953. In the years that followed, Portman's commercial projects, with their dramatic atria, brought a new, inward-looking urbanism to cities across the globe, most notably Atlanta, where he lived since early childhood. "No single architect shaped Atlanta's skyline like Portman, who gave the city the Hyatt Regency, Peachtree Center, AmericasMart, and the Westin Peachtree Plaza hotel," J. Scott Trubey wrote in *The Atlanta Journal-Constitution*. —SARA JOHNSON



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#### Gasholder Bases, Repurposed

The Royal Institute of British Architects' (RIBA) Gasholder Bases National Competition, launched last summer, called for ideas to reuse former gasholder sites across the U.K. The winning entry, by London-based firm Outpost, aims to address the nation's affordable housing shortage. The scheme's mixed-use structures feature open-plan residential units that circle a communal courtyard. Although the project is conceptual, National Grid, the electricity and gas utility company that commissioned RIBA to organize the competition, expects it to set an example for repurposing the sites in the future. —AYDA AYOUBI

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#### **Pit Stops of Safety**

In 1936, Harlem postal worker Victor Hugo Green published the first in a series that became known as the "Bible of Black Travel," a guide to hotels, restaurants, and other businesses willing to serve to black travelers during Jim Crow, when entire towns often excluded blacks after sunset. Inspired by Green's *The Negro Motorist Green Book*, New York artist Derrick Adams (shown in his studio) has produced an exhibition of 50 pieces—including sculpture, collage, and assemblage—interpreting these destinations. "Derrick Adams: Sanctuary" runs through Aug. 12 at the Museum of Arts and Design in New York. —SARA JOHNSON



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#### Binge-Watch at the Building Museum

The multi-city Architecture & Design Film Festival debuts its Washington, D.C., edition from Feb. 22 through 25 at the National Building Museum. Presented by the nonprofit Revada Foundation, the festival will feature more than two dozen films, including mainstream titles such as *Columbus* (2017), South Korean filmmaker Kogonada's ode to the Modernist mecca in Indiana, starring John Cho and Haley Lu Richardson. The lineup also includes *Glenn Murcutt: Spirit of Place* (2017), a biographic documentary featuring the Australian architect's 2016 mosque for Melbourne's growing Muslim community (shown). —AYDA AYOUBI



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#### Save the Concrete Monsters

That's the unofficial rallying cry of SOS Brutalism, an online database featuring more than 1,000 exemplars of *béton brut*. Now, the platform's founders have bolstered the effort with *SOS Brutalism: A Global Survey* (Park Books, 2018). "This book calls for a rediscovery of Brutalism: as a regionally embedded, oppositional, heroically artistic architecture," writes Oliver Elser, a historian and curator. The staggering inventory, over the course of 750-plus pages, spotlights obscure projects around the world. The goal: to bring attention to threatened buildings like Birmingham, England's central library (shown), demolished in 2016. —ERIC WILLS

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## Best Practices: How to Prepare for Speaking Engagements

#### TEXT BY JEFF LINK

A captivating presentation often requires weeks of behind-the-scenes coaching, rehearsals, and finessing of decks and talking points. Here are some tips from conference organizers and fellow architects to make your next talk a hit.

#### Know Your Subject, Edit, and Practice

Drawing on 50-plus years of professional experience, Moshe Safdie, FAIA, says he always begins his speeches "with at least 10 minutes of talk without images." Knowing that architects are notorious for windy lectures, Safdie recommends editing "what you're delivering brutally so it is compact and essential." Jargon and repetition, he says, can detract from the core message.

In the dozen or so lectures Safdie gives each year, he often returns to key ideas that have shaped his career housing as a typology, urbanism in the public realm, and the symbolism of cultural and religious projects—allowing for oratorical confidence and fluency. However, he rarely repeats a lecture: His talking points evolve as projects and audiences change, but he maintains a consistent voice by prioritizing his concise delivery. "I have an obsession for clear and simple language," Safdie says. "Clear ideas are universally understood."

For less seasoned speakers, rehearsing a speech aloud before a talk is key. "The big thing is practice practice repeatedly," says Wayne Conners, the AIA's senior director of member education services, who helped review presentation proposals for the 2018 AIA Conference on Architecture, which will be held in New York in June. "You should be able to do a talk even if projector breaks down and you don't have notes, or if your co-presenter gets stuck at the airport," he says.

#### Master the Technical Details

Accompanying a talk with images is standard practice, but a poorly organized or dense slide deck can spoil a presentation. Grace Kim, AIA, co-founding principal of Seattle-based Schemata Workshop and the presenter of a now-viral TED Talk on co-housing, recommends using large images as reimbursement for travel and lodging can be negotiated, speakers generally should not expect more than modest compensation. If the goal of speaking is to increase one's firm exposure or to promote a certain cause, a fee may not be the best recompense. Instead, you might choose to forfeit your fee for a call-out in printed conference materials or online social media promotion.

#### **Connect to the Audience**

Kim began her April 2017 TED Talk with a single word—"loneliness"—followed by an image of a suburban house. Her strategy was to grab the audience's attention by evoking a timely subject

#### "Clear ideas are universally understood."

-Moshe Safdie, FAIA

visual cues, with limited bullet points in at least 30-point font. "Any more than that and it is not a presentation, it is a paper," Kim says. "Nobody likes watching someone read."

Nearly all speaking engagements require a professional headshot and bio for promotional materials, and Kim says the importance of these should not be ignored. "People want to know why they should come to your presentation. If the title is interesting or compelling, or [your] bio has unique experiences and expertise, they're more likely to come."

Often conference organizers will waive registration costs for speakers, Kim says, and while speaking fees and that would strike a cultural nerve, but she knew a scholarly overview was likely to fall on deaf ears. "It's important to understand who is in the audience and to connect your talk to a problem they are trying to solve," she says.

Kim's rigorous preparation included video and in-person rehearsals, editing sessions, and body language training. Walking calmly and comfortably across the stage, standing poised at the podium, making large, intentional gestures, she spoke in a resonant tone "with the tongue sticking out to create a chamber in the mouth and nose." She concluded with a firm call to action, ensuring she had the audience's attention from start to finish.



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## Detail: Oslo Skatehall Timber Bowl

TEXT BY TIMOTHY A. SCHULER



The architectural *pièce de résistance* of the Oslo Skatehall is the wooden bowl, elevated to the mezzanine level to preserve the flow of the 24,750-squarefoot building's main floor, designed by Oslo, Norway-based Dark Arkitekter and Copenhagen, Denmark-based skatepark specialists Glifberg-Lykke.

Nearly 50 feet long, 7 feet deep, and 27 feet at its widest, the bean-shaped bowl is supported by two tree-like columns whose curvilinear branches encapsulate its base. Each column comprises a radial array of CNC-milled spruce-and-birch plywood ribs, 2 inches thick and up to 10 inches deep. The ribs emerge from the concrete floor as tree trunks that stand nearly 9 feet tall and then branch out more than 27 feet to encapsulate the bowl. Circular steel plates both anchor the tree trunks to the floor and cap the opening of the hollow trunks inside the bowl. Interstitial lumber cross-members nailed between the rib branches complete the lattice wireframe. The ribs tie into glulam wood beams, which are supported by the steel columns at the building perimeter.

For the bowl's skating surface, workers cut two layers of 0.35-inch-thick birch plywood panel on site and screwed them to the lattice. At the lip of the bowl, they adhered a granite edge to the wood with polyurethane glue. All told, the bowl took a three-person crew from Fürstenzell, Germany-based IOU Ramps five weeks to assemble its approximately 1,100 structural components, which total 6,200 lineal feet of wood.

Since its January 2017 opening, the skatehall has been embraced by the community. "The most fun part," says Dark Arkitekter partner and managing director Arne Reisegg Myklestad, "is that the kids ... who are using it are happy."





- 1. 2"-thick spruce-and-birch plywood
- 2. Dimensional lumber cross-members
- 3. Nails (typ.)
- 4. Circular steel plate (typ. 2)
- 0.35"-thick birch plywood (two-ply) surface (not shown)

## WOOD: U.S. SOURCED AND PREFABRICATED CLT



Albina Yard - a 16,000 sf office building with ground floor retail located in North Portland. The building utilizes mass timber construction with a glue-laminated timber frame and CLT panels manufactured and prefabricated in Riddle, Oregon.

It's fitting that a center of a fast-growing locavore movement is home to the first U.S. mass timber structure using domestically-produced cross-laminated timber (CLT). Some say Portland's **Albina Yard** stands as an inflection point for U.S. CLT design and manufacturing.

Albina Yard has attracted hundreds of inquisitive visitors to its Portland, Ore. address since its delivery in September 2016.

The 16,000 square foot, four-story office and retail center is an attractive, daylight-friendly addition to North Portland. What has drawn the interest of the curious isn't the façade's distinctive four-foot cantilever extensions. Albina Yard is America's first building assembled with domestically fabricated cross-laminated timber (CLT) as the primary structural element.

#### Made in U.S.A.

Underscore the word 'domestic.' U.S. architects, developers, and builders were once dependent on European or Canadian sources for CLT panels and beams. No more. The Douglas fir that forms the structural heart of Albina Yard was grown and prefabricated to ANSI/APA standards just down the road in Riddle, Ore.

"There's an understandable hesitation to specify a major building component from outside the country," says project architect Thomas Robinson, principal of LEVER Architecture of Portland, Ore. "If you want to prepare a great meal you use what is local or what is in season. It's not just about what you want to create. It's about what's actually available to you and how you turn that into a transformative experience."

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Each of the 4,000 square foot CLT floor decks was installed in about four hours. The carefully orchestrated, speedy assembly also resulted in a quiet work zone. Just-in-time material delivery eliminated the need for on-site storage and staging, often a key consideration for dense urban projects. The relative lightness of CLT panels and beams permitted a smaller foundation, which can preclude the need for expensive piles or allow a taller structure, according to Albina Yard project engineer Eric McDonnell of KPFF Consulting Engineers.



The project owner, Aaron Blake, says Albina Yard shows how CLT construction " $\ldots$  allows us to build faster, stronger, and less expensively with fewer environmental costs."

#### Forest-to-Frame

This forest-to-frame model plays well to a burgeoning local-first marketplace. So much so, the speculative project was fully-leased prior to delivery. "Building more sustainably and the idea of carbon sequestration is a big part of the culture here. There has been a lot of talk about building with domestic CLT. People come to Albina Yard and say, 'Hey, it's real' and can kick the tires, so to speak. It helps people confidently move forward with domestic CLT," explains Robinson.

#### **Five Times Faster**

What do people find when they visit Albina Yard? An elegantly simple yet modern structure that's a showcase for an "economy of means" in Robinson's words. Wood was always planned as the primary structural material. The LEVER team priced two approaches: standard tongueand-groove wood decking and CLT. Working closely with engineers and fabricators, the design team optimized CLT costs by simplifying details and leveraging CLT's two-way spanning capacity to minimize beams. Wood columns and beams were prefabricated offsite to 1/8-inch tolerances. Prefabrication allowed components to be assembled on site five times faster than a conventional wood decking system.

#### **Code Compliant**

Code compliance wasn't an issue. "We weren't going higher than 75 feet and the building has a sprinkler system. Type III-B heavy timber construction is fully code compliant. Life safety was permitted through the state and land use through the city. The state has ultimate jurisdictional control. They were very rigorous, thorough, and professional," observes Robinson.

#### 12-Story Encore

The Albina Yard experience served as a test bed for an even more ambitious CLT project. Not far away in Portland's Pearl District, work on a 12-story mixed-use CLT tower is slated to begin early this year. It will be America's first wooden high-rise, a design that earned the project team the U.S. Department of Agriculture's Tall Wood Prize. "We're really excited to see it start," Robinson says.

Owner: Albina Yard LLC Architect: LEVER Architecture General Contractor: REWORKS Structural Engineer: KPFF Consulting Engineers CLT Supplier: D.R. Johnson Lumber Co. CNC Routing: CutMyTimber Inc. Lighting Designer: O-LLC

# WOOD,

**Innovative Detail** is a monthly presentation in ARCHITECT profiling distinct building design and modern architecture. It is sponsored by Think Wood. Innovative technologies and building systems enable longer wood spans, taller walls, and higher buildings, and continue to expand the possibilities for use in construction.

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## Next Progressives: Cúre & Penabad

EDITED BY KATHARINE KEANE

Location:

Miami

Year founded:

**Firm leadership:** Adib Cúre, Carie Penabad, Assoc. AIA

#### Education:

*Cúre:* B.Arch., University of Miami (U Miami); M.Arch., Harvard Graduate School of Design (GSD); *Penabad:* B.Arch., U Miami; M.Arch., Harvard GSD

#### Adib Cúre and Carie Penabad



#### Experience:

Prior to establishing our own firm, we worked at Machado Silvetti in Boston. Adib is a professor of practice at U Miami, and Carie is an associate dean of the School of Architecture.

Firm size:

8

#### Mission:

We aspire to create an architecture of place, with projects that are created using building techniques that are both culturally relevant and performative. We try to capitalize on the intelligence sedimented in evolving building morphologies to tackle the challenges of the environment with the ultimate goal of creating new, sustainable buildings and places of identity and wholeness.

#### Favorite project:

The Magdalena Tierra Dulce corporate headquarters called for the design of an administrative center for a sugar mill business in southern Guatemala. We were inspired by the surrounding landscape and the ways in which the building could respond to the natural and cultural contexts. Our client challenged us to think about how design could facilitate change in the culture of a company, thus highlighting architecture's ability to transform people's lives.

#### Second favorite project:

The Escuelita Buganvilia is a classroom building prototype in southern Guatemala. The school serves a growing rural community that, up until recently, had limited access to formal education. The project provoked us to consider what is fundamental in architecture and highlights our belief that good design should serve all sectors of society.

**Modern-day architecture heroes:** The countless anonymous builders of vernacular settlements throughout the world. The architectural and urban forms of these sites are the result of fundamental responses to local culture and climate. As such, these builders carry with them the timeless lessons of how to build cities.

#### Memorable learning experience:

Vincent Scully's lectures at U Miami were influential during our formative years. He spoke passionately of the work of the great modern masters among them Louis Kahn and Robert Venturi, FAIA, the latter preferring the "black and white" to the "black or white." This all-inclusive sensibility continues to inspire our open-minded attitude toward the study and development of architecture and the making of buildings and cities.

#### Design tool of choice:

HB pencil and yellow trace paper—we still believe in drawing.

#### Morning people or night owls?

We are both larks and like to rise with the sun.

#### Skills to master:

The art of delegation.

### Biggest challenge in running a successful practice:

Purging ourselves of the common belief that designers are not good business people. This is simply not true. If you lack a certain skill, acquire it.



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Photo features Delegate  $\ddot{}$  Black 1 x 1 3D mosaic on the wall. ©2018 Daltile Next Progressives: Cúre & Penabad




















1. Cúre & Penabad restored a historic 1920s house in Cape Dutch Village in Coral Gables, Fla., that was originally built to evoke Dutch farmhouses in Cape Town, South Africa. 2. The firm both prioritized the utilitarian needs of a school campus and embraced the institution's natural surroundings for its Colegio Interamericano expansion project in Guatemala City, Guatemala. 3. In this dog park proposal for Miami's Design District, a pink metal structure mimics the traditional dogtrot house, with a large, covered entry that leads into an expansive interior space. Amenities, including a café, bathrooms, seating, and landscaping, surround the central interior park. 4. For Escuelita Buganvilia, the firm opted to contrast the local vernacular of the rural Guatemalan surroundings by using concrete and steel rather than traditional stone and wood for its construction. Completed in 2015, the 3,200-square-foot structure features five classrooms, a metal gable roof with generous eaves to protect students from inclement weather, and outdoor concrete seating that offers an informal meeting area. 5. Inspired by vernacular and industrial typologies, the duo designed the corporate headquarters for the sugar mill company Magdalena Tierra Dulce as a single structure, with a large open room that accommodates all employees of the facility in Guatemala to promote collaboration and break down the barriers of corporate hierarchy.

## Products: Indoor Wood Paneling

#### TEXT BY SELIN ASHABOGLU



Kebony Half Gator, Delta Millworks Part of Delta Millworks' Shou Sugi Ban collection, these 10'-, 12'-, 14'-, and 16'-long wood panels use the Japanese charring method to create a subtle reptile-like surface that is suitable for outdoor spaces. *deltamillworks.com* 



#### Crossfuse Wood Panels, Architectural Systems

These 8'-by-4' veneer panels create dynamic surfaces through the overlapping of 3D shapes. Available in reclaimed wood species, including tea, ironwood, and ipe. *archsystems.com* 





#### Lakota, Woodwöl

Fort Collins, Colo.-based Woodwöl (formerly Everitt & Schilling) handcrafts Lakota from reclaimed yellow pine. A single 18"-by-14" module comprises a dozen 2"-by-6" wood pieces in a herringbone pattern. *woodwol.com* 

### Geometric Plank, Plexwood

The mathematically inspired planks are made of a wood substrate with tongueand-groove joints, and layered with an end-grain veneer treated with an oiland-wax finish. Each measures 94" long, 6.3" wide, and o.69" thick. *plexwood.com* 



**The Living Hinge Collection, Plyboo** This bamboo panel system features a ribbed surface, achieved through CNC-milling, that allows for a 2"-radius bend and a noise reduction coefficient of o.7. Each panel measures 95.75" long by 47.75" wide. *plyboo.com* 

## WHAT LIES BEYOND LUXURY. \_\_\_\_\_

3

Karen Shell, www.shell-photo.cor

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## Architectural Lighting: New Technologies for Designers

#### TEXT BY ELIZABETH DONOFF

Technology has redefined the process of lighting design. The change is palpable on two fronts: the actual light sources themselves, and the tools with which designers create and develop their work. Every aspect of a lighting designer's toolkit has been affected by the shift to digital technologies and digital light. While the advances offer new opportunities in design workflow and project execution, they also present their own challenges, such as added costs, increased client expectations, and the potential for inaccuracies to slip into computer models.

Building on a conversation that ARCHITECT's sister publication ARCHITECTURAL LIGHTING began last year ("Promising Innovations for the Lighting Profession," March/April 2017), here are accounts by leading designers from academia and practice on the impact that the digital revolution has had on their work.

#### **Visualizing Light**

### James R. Perry, principal, Lam Partners Architectural Lighting Design, Cambridge, Mass.

Parametric modeling is not new to the design industry, especially in architecture. However, the rapid rise in our designers' modeling skills and in the compatibility among modeling programs has drastically changed our internal workflow over the past three to four years. High-end renderings are no longer reserved for special projects; rather they have become part of our



normal design process. In turn, we have found that as these capabilities grow, so do our clients' expectations.

For a recent sports stadium and entertainment project, we found that the complexity of the building geometry along with the client's demand for superhigh-resolution renderings necessitated the expansion of our firm's rendering platform. Lam's Advanced Computing Team built and implemented a second high-density, high-memory graphics processing unit (GPU) array—a render farm—to run Nvidia's Iray software. This system, which can process more data more quickly than our existing platform, uses multiple 16GB water-cooled, professional Nvidia GPUs and can deliver photometrically accurate renderings of entire scenes virtually in real time. With this new iterative rendering process, our designers can evaluate the initial effects of a lighting scheme without waiting for the entire model to run to completion, allowing them to change course as

needed. Design is not a linear process, and the more avenues we can quickly explore and pursue with detail and accuracy, the greater the value we can bring to our clients.

#### Keith Bradshaw, principal, Speirs + Major, London and Edinburgh

We live in the "Age of the Image." Since reading takes time and focus, presentation images are doing most of the work for designers. These real-life images of aspirational environments are often judged in isolation rather than evaluated for the ideas they intend to represent or the conversations they aim to inspire. How does one communicate ideas in a compelling manner?

We have found some success in engaging people at two extremes of visual communication: hand-drawn sketches and immersive, interactive visualizations. Hand drawings are human, imperfect, impressionistic representations of an open-ended idea.

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#### Architectural Lighting: New Technologies for Designers

teams must now align earlier on the big-picture design vision, which affects key materials and opportunities for visual connections. The ability to see realistic renderings and do virtual reality (VR) walk-throughs enables us to make design decisions much earlier in the process. An owner can react to a light fixture during design instead of after installation.

The ability to create avatar lights is another opportunity. Lighting systems previously depicted as 2D dots, dashes, circles, and rectangles have been replaced by 3D avatars of actual lighting fixtures. However, designers must verify that the lighting vendors' Revit files are accurate. From a process

Interactive digital images allow us to deliver "live lighting design" where, within fixed parameters, we can fine-tune ideas with the client's input setting intensities in



much the same way as we would do at the end of the real project, when we fine-tune light levels in a dialogue with the client.

After all, light is experienced through the eye of the beholder. The more we can develop the dialogue, the more we can embed the ideas of light into every stakeholder's vocabulary, and the stronger the ideas become.

## Tom Kaczkowski, director of lighting design, HOK, St. Louis

Transitioning our practice from Autodesk AutoCAD to Revit has presented challenges and opportunities. Project or fee standpoint, building a lighting Revit family or file from scratch is not desirable. If reliable Revit files are not available, designers may move on to the next lighting vendor.

Additionally, because so much content lives in these models ("It's in the Revit model" is an unhelpful response among design team members), to ensure effective coordination a verbal or graphic breadcrumb trail is always desirable—and well before the model is created. A simple hand sketch of plenum zones for lights, sprinklers, and ductwork is still relevant to conveying the upcoming floor-to-floor heights and clearances.

#### Mark Major, principal, Speirs + Major

While lighting designers must be able to visualize in 3D to do their job effectively, being able to experience the environment you are illuminating in 3D and then emulate the lit effect can greatly help to explain the space, form, and materiality of projects you are working on to clients-especially in a world with increasingly complex building forms. While there is no replacement for visualizing things in your mind, new lighting tools are helping support that process. The one caveat is that designers and their clients must not lose sight of the fact that what you see on a screen or in a VR headset is not going to be exactly the way things look in reality. Light just has too many subtleties, nuances, and surprises for that to ever be the case, however sophisticated the emulation technology becomes.

#### Automating Light

Kevin Van Den Wymelenberg, director, Energy Studies in Buildings Laboratory (ESBL); co-director, Biology & the Built Environment Center; associate professor of architecture, University of Oregon

Over the past few years, our research and consulting practice at the University of Oregon ESBL has been grappling with questions of automation in lighting and daylighting control. We have the technology to dim, manipulate the color temperature, and in some cases spectrally tune electric lighting. We can also dim skylights and windows, deploy operable roller shades or louver blinds, and manipulate person-centric lighting, such as tasklights and computer displays, in an automated fashion.

The availability of these technologies requires that we ask ourselves the following questions during the design process: Do we want to design and install environmental control systems that predict our human visual

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Ifillumination.com

Architectural Lighting: New Technologies for Designers

preferences? If so, how do we balance visual preference with energy efficiency, and around which preferences do we optimize control parameters? Do we err on the side of low-tech, manual electric lighting and window controls, potentially sacrificing some human satisfaction or energy savings? Do we design hybrid systems that balance human visual or thermal comfort priorities while managing energy consumption?

The answers to these questions implicate a range of factors such as capital, operating and maintenance costs, user satisfaction and wellness, and energy code compliance. The increased availability and capability of these technologies have put more pressure on designers to articulate the benefits of their proposed solutions. In our work, we approach these questions with one eye toward practical applications and the other toward technology development to see if we can offer a targeted innovation that helps make the suite of visual control options more robust.

#### **Executing Design**

#### Ardra Zinkon, president and director of lighting design, Tec Studio, Columbus, Ohio

In general, the paper trail has gotten smaller as everything can be done online and saved to the cloud for access anywhere, anytime. In design meetings, we sketch directly on large touchscreens or tablets and save versions of the marked-up PDF as we "The use of BIM and other modelina software also brings about the belief that it is possible for designers to work in parallel with each other at all times with the view to compressing project programs. There is also the expectation that, because it is easy and quick to change things, the design can continuously remain fluid until the last responsible moment, often in reaction to cost-driven decision-making, such as value engineering."

-Mark Major principal, Speirs + Major work through design discussions; it feels much more organic and collaborative. Cloud applications have made the largest difference during construction administration (CA); design team members can share work more fluidly.

Our firm has now been involved in several projects that have incorporated Bluebeam Revu during the CA phase. We can now track all comments and see all revisions of drawings in one place. Drawings can be pulled up on a tablet during an on-site punch list and marked up during a walk-through. It is one of the software programs I use daily.

#### **Managing Expectations**

#### Rich Fisher, designer, Randy Burkett Lighting Design, St. Louis

As the most advanced visualization technologies quickly reach—or even begin at—a consumer level, their results become more greatly accepted. In a short period, we have advanced from providing more detailed and realistic lighting renderings to the ability to change VR demonstrations on the fly to reflect different material choices and lighting conditions.

However, with the increased availability of the technologies, there is also a greater expectation that they are put to use regardless of project scope or scale. Client expectations are often elevated and sometimes complicated with technology-based tools. It is important to understand how to manage those expectations to the benefit of the project. As lighting designers, we may feel like the strengths and weakness of a given technology are understood by all involved, but it's imperative that the client clearly understands the issues related to the various choices before moving ahead. Discussing and then fitting the right technology to the specific design challenges on a given project helps to alleviate potential confusion. While having many tools available to communicate a lighting design is always a benefit, we must be cognizant of selecting the most appropriate tools for a given task.



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Luminaires, light sources, and lighting products that have been released after June 2017 qualify for editorial consideration. We welcome submissions from lighting companies worldwide, though your product should be commercially available in the United States. Note: ARCHITECTURAL LIGHTING and ARCHITECT will not publish products that they have already covered.

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## Residential: Taller Héctor Barroso

TEXT BY EDWARD KEEGAN, AIA

Two hours southwest of Mexico City, a complex of five sculptural dwellings stands in the town of Valle de Bravo. The architect, Héctor Barroso, principal of the Mexico City–based firm Taller Héctor Barroso, knows the area well; he's been going there since he was a child. "It's a very particular place," he says, as the area features a variety of microclimates—mountains, forests, and a desert—and the town borders a prominent lake. He dubbed the residential project Entrepinos, or "between the pines," after its forested and gently sloping site.

Entrepinos' five 340-square-meter (3,660-square-foot) weekend houses are identical, save for a two-bedroom annex to the easternmost house. An additional small house on the site accommodates the groundskeeper.

The duplicated house scheme was conceived as a series of paths between and through volumes of varying heights. A ground-floor kitchen near the entrance is topped by a second-floor utility room. On each unit's south side, a ground-floor dining room and office share a staircase to two bedroom suites on the upper level. To the west, another volume contains two stacked bedrooms, and two more volumes contain a half bathroom and a living room, respectively, on the ground floor. For sculptural effect, Barroso cantilevered the staircases outside of the structureone of the more memorable details.

The houses are oriented toward outdoor living areas along the site's



Two-bedroom annex (at left) to easternmost house

#### **Project Credits**

Project: Entrepinos, Valle de Bravo, Mexico *Client:* Withheld *Architect:* Taller Héctor Barroso, Mexico City · Héctor Barroso Riba (principal); Vianney Watine, Thalia Bolio, Diego Ramirez (design team) *Structural:* Ricardo Camacho *Engineering:* Tomas Rodriguez *Landscape:* Taller de Paisaje Entorno *Size:* 1,700 square meters (18,299 square feet) (total); 340 square meters (3,660 square feet) (each house) *Cost:* Withheld



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south side, which allows for complete natural ventilation in the mild climate. Each house has two fireplaces as its sole source of heat, and openings arranged to take advantage of local breezes give ample cooling. Floor-to-ceiling glazing on the south side brings sunlight into each room that provides warmth, both literal and metaphoric.

The structure is simple: Exposed pine floors and ceiling joists are supported on masonry bearing walls, with supplemental concrete for reinforcement and the cantilevers. The houses are laid out on a 30-centimeter (approximately 12-inch) module, based on the thickness of the masonry walls.

Barroso also brought the outside in with materials culled from the site. A light texture was applied to the interior and exterior faces of the brick walls, the product of long conversations between the architect and the builders about how to create the desired finish using the soil from the foundation excavation. "We experimented with more red, less red, we tried different amounts of cement," Barroso says. The mixture was eventually hand-rubbed onto the walls from buckets.

Although Barroso says that they "built around the existing trees whenever possible," several trees were removed for the project. The wood from those trees, as well as from fallen trees on the site, became tables, benches, and built-ins. Of a piece with Luis Barragán and Louis Kahn, the poetic approach to the composition of space and materials produces a five-house complex deeply rooted in this "particular place."



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Residential: Taller Héctor Barroso







1. Patio on the south side of a typical house in the complex 2. Kitchen on the ground floor 3. Ground-floor living area 4. One of four bedrooms







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# AIAArchitect

## **AIA**Voices



## Being Creative is Complicated

### "Backwards thinking" and forward progress.

Doreen Gehry Nelson, HON. AIA, has spent over 40 years as an educator preaching the gospel of "design-based learning," a teaching methodology she created to bring open-ended, hands-on projects to students of all ages. As the younger sister of Frank Gehry, FAIA, she had long been exposed to the idea of design thinking. But it wasn't until she felt stifled as a public school teacher that she developed her methodology, which puts creative thinking into all subjects, rather than making it a separate subject. "What I wanted to do," she says, "was to systematically define a set of specific tools and techniques for having creative thinking be part of all the required curriculum."

As told to Steve Cimino

If you ignite creative thinking, what your students produce doesn't look like what's already been created. If you want to teach them about bridge-building, and you ask them to build a bridge, you'd typically show them a picture and teach them how to structurally make a bridge.

Is what they then produce a replication? I'm not interested in that. I'm interested in giving students a design problem with multiple solutions, not an answer. I want them to ask, "What is this bridge an answer to?" And then to say, "Here is my solution."

The goal is to put the learner in an almostpretend position, as if they're the first people on the planet and they think, "It's raining outside. I have to get dry." In that case, I use the word "shelter" instead of "housing," because if you ask students to design a house, you know what you're going to get. It's paramount that the prompt is broader and addresses more essential topics than the answer. The answer is a house, the answer is a bridge, the answer is a city [or another typology]. But, what were the dilemmas that caused human beings to ask those questions in the first place?

There are programs in design-based learning—developed to train designers—that are now applied in K-12 education. These use a seven-step design process that I consider a frontward process: You define a problem and then do research before you start designing.

In my methodology, I turned everything around. Instead of going to the library first when faced with a design problem, or looking at how bridges and houses are made, I aim for what I call "backwards thinking." The students are given a design challenge, but that design challenge has criteria with it that relate to basic requirements. They build their idea, then do research to learn about the criteria.

It's as if they are facing a client who wants a shelter with a way to get in, a way to get out, protection from this and that, and a unique design. The client also wants you to build a model of it very quickly. Each design challenge is set in the context of building a miniature city-of-the-future based on each student's own sense of community. AIA

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FEBRUARY 2018

### AIA Architect

## AIANow

By Cathy Lang Ho Art Direction by Jelena Schulz

## Jane Jacobs' Greenwich Village

## An A'18 tour led by Roberta Brandes Gratz uncovers what's been hidden in plain sight.

In 1934, a young Jane Jacobs arrived in New York City from Scranton, Pa., to pursue a career as a journalist. She made Greenwich Village her home, and soon became its most famous defender. The tour will review the area's history and focus on Jacobs' epic battles with city bureaucracy and the powerful Robert Moses to preserve her beloved neighborhood. A special AIA Conference on Architecture 2018 tour led by Jacobs' friend, journalist Roberta Brandes Gratz, will start at Jacobs' home on Hudson Street, where she observed the daily "intricate sidewalk ballet" that inspired her acclaimed book, *The Death and Life of Great American Cities*. The tour will wind through Washington Square Park and other sites that owe their preservation to her grassroots activism. Interested? Sign up for this tour at conferenceonarchitecture.com.



Jane's Home 555 Hudson St.

Grotta Azzurra

Little Italy

Washington Square





ILLUSTRATION: LAUREN NASSEF

LLUSTRATION: MICHAEL

## **AIA**Feature

## Why Architecture?

Recent statistics show that the number of young people choosing architecture school is declining. What can be done?

Mimi Kirk



While the profession of architecture has rebounded since the 2008 recession, with plentiful postings on job boards, the number of young people pursuing the vocation is lagging. The Association of Collegiate Schools of Architecture (ACSA) reported that enrollment in architecture degree programs has dropped about 10 percent in the last five years.

The main culprit: Other majors are beating out architecture—particularly those that lead directly to jobs, such as engineering, the hard sciences, and those related to health. The trend is due to a variety of factors, including students' lack of knowledge of architecture, the long and expensive road to becoming an architect, and recent changes to U.S. public schools' curricula. The problem may worsen, as education experts are predicting that the country will produce fewer high school graduates in the coming years.

How can architecture attract more interest from the K-12 set? Organizations, degreegranting institutions, and individual architects and teachers are working to make architecture more appealing to young people through communications campaigns and outreach programs. Yet more fundamental structural changes are also required, and some are addressing this need by making the profession easier to join and more welcoming to largely untapped populations: women, people of color, and those from low-income families.

#### Setting a Baseline

In 2013, the ACSA hired a research firm to suss out what high school students know about the profession. It turned out that the student respondents had limited understanding of what an architect does, though they often noted that they knew it takes a long time to become one.

The feedback spurred the ACSA to launch a communications campaign, dubbed "Study Architecture," with the goal of increasing applications to and enrollment in its more than 200 member schools. The campaign has an Instagram hashtag—#imadethat—that shows prospective students what architects do and create. "We want young people to understand that architects design the world at different levels, from the city to buildings to interiors to furniture," says Michael Monti, HON. AIA, ACSA's executive director.

It's even better to work such information into K-12 classes, but recent national changes

in public schools' curriculum and areas of focus present challenges. President Barack Obama's STEM initiatives, for instance, incentivized a concentration on science, technology, engineering, and mathematics. Under his leadership, millions of dollars from both private and federal sources were marked for STEM education.

Architecture, though related to the STEM fields, is clearly not part of the acronym. As Monti noted, "Architecture is a 'between' discipline. It's a great synthesizer of science and technology, art, and the humanities." This liminal position has meant that architecture has not received the kind of rhetorical or financial support that traditional STEM disciplines have received, likely making it less attractive to prospective students—a situation that the ACSA wants to remedy.

Monti says that his organization is attending STEM student fairs and student association meetings—primarily those geared toward middle and high schoolers—to show students that a college major and career in architecture is well-suited for those who want to apply STEM in a real-world context.

The ACSA is also encouraging its members to classify their architecture degrees under STEM categories, because the Department of Homeland Security allows international students completing STEM degrees to work in the United States two additional years—making STEM majors that much more appealing to prospective applicants. "It's a specific case," says Monti, "but for tuitiondriven schools with a high proportion of international students, it's important."

#### Grounding STEAM in Projects

At the Rhode Island School of Design (RISD), an initiative called "STEM to STEAM" is also working to fold the arts, including architecture, into STEM. One of its main goals is to encourage the integration of art and design into K-12 education. Carl Lostritto, director of RISD's M.Arch. program, says that a dwindling engagement with the arts in K-12—due to budget cuts and a focus on STEM and other "core" subjects—is hindering students' path to architecture.

Engagement with art and design, Lostritto says, helps prepare young people for the profession more than math—despite the fact that guidance counselors often look at students' math grades to determine whether they would make good architects. "Math is part of practicing architecture, but the kind of math that deals with numeric equations is minor in terms of design," Lostritto says. "I would love to see K–12 classes that have an artistic component and inspire creativity, whatever the subject."

Lostritto noted that in pursuit of such learning STEM to STEAM urges project-based, rather than knowledge-based, models of education. "These models get at knowledge through creativity, rather than by disseminating it through lectures or reading," he says.

Doreen Gehry Nelson, HON. AIA-sister of Frank Gehry, FAIA-(and our AIA Voices subject this month) was instrumental in developing this type of learning in the late 1960s and early '70s. The methodology, originally called "City Building Education" and now dubbed "Design-Based Learning," asks young people to come up with creative scenarios for a miniature city that they build, after which the students learn about the subject in question. Nelson recounted an example in which high schoolers in a biology class were asked to design a never-beforeseen creature to live in the city; the teacher required that each beast have a lineage and traits that it would pass on to its offspring. After fashioning the creatures, the teacher taught the students about DNA. "The kids were riveted," Nelson says.

The method reverses the usual order of teaching, causing the "imagination to go wild," says Nelson, who added that though her method involves buildings, it doesn't teach architecture. "I'm not teaching kids to

FEBRUARY 2018



be designers; I'm teaching them to think," she says. "But architecture needs creative thinking, and if people learn how to think creatively, they might be interested in studying architecture."

Thousands of teachers have been trained in Nelson's methodology (Nelson heads the Design-Based Learning master's program at California State Polytechnic University, Pomona), and a few elementary and high schools have made it their official pedagogy.

The AIA is encouraging similar learning techniques through outreach to elementary and middle school students. Del Ruff, AIA director of K-12 initiatives, supports the work of 18 AIA chapters across the country that encourage youth to generate ideas about how the built environment can address their communities' needs. In one such program in Raleigh, N.C., called "The SCALE UP Project," eighth-graders conceived, designed, and built mock-ups of affordable housing units and other buildings vital to a low-income area in the city.

The kids engage with local architects and nonprofit employees, and even present their work at a community event. "They work with a mentor who helps them understand what it's like to be a professional in the field," Ruff says.

Ruff also works to incorporate material on the built environment and architecture into K-12 classes. This is particularly important given that 42 states and the District of Columbia have adopted the Common Core State Standards, a set of benchmarks in math and English on which students are tested. The standards necessarily consume classroom time and teachers' and students' attention, sometimes leaving less time for electives like art. But since the standards do not dictate curriculum, teachers still convey the material by their own design.

"This means you have to have a teacher who is familiar with architecture to get it into the curriculum," says Ruff. As such, Ruff works with AIA members to serve as a resource to teachers and bring them knowledge of how architecture can meet the Common Core standards (as well as state standards). In math, for example, this can mean using buildings to learn about volume, area, and surface area.

Ruff also strives to incorporate architecture into subjects other than math and English, such as history, science, and civics. He cited the benefit, for instance, of studying the differences between a district court building and the Supreme Court building in Washington, D.C. "The architecture is different based on what happens inside," he says. "This provides an opportunity to learn about the built environment, political systems, and civic structures at the same time."

The AIA's K–8 outreach programs target low-income communities: Of the 10,000 students served, 80 percent receive free or reduced lunch. The RISD's Department of Architecture also reaches out to public high school students in Providence who normally would not be exposed to architecture, bringing them to the department to meet with undergraduate and graduate students. "It opens doors for them to see that architecture is a way to use some of their skills and interests," Lostritto says. "It dispels some of the elitism that comes with RISD."

Such programs are needed, as architecture like other professional disciplines that require years of expensive schooling—remains out of reach for many young people by virtue of cost as well as class-based unfamiliarity. "For instance, if you come from an affluent family, it's more likely that your family has engaged an architect," says Lostritto. "And being exposed to an architect is a motivation for choosing to study the discipline."

#### Moving the Goal Line Closer

To address the long and costly route to becoming an architect, the National Council of Architectural Registration Boards (NCARB) has established the Integrated Path to Architectural Licensure (IPAL) initiative, which gives students the opportunity to gain licensure before graduating with a B.Arch. or an M.Arch.; currently 26 programs at 21 schools participate. Without such a streamlined process, becoming an architect can take as long as 12 years.

Further, issues of class and cost intersect with architecture's longstanding "diversity" issue in terms of gender and race. Kathryn H. Anthony, a professor of architecture at the University of Illinois at Urbana-Champaign who wrote Designing for Diversity: Gender, Race and Ethnicity in the Architectural Profession (University of Illinois Press, 2007), said that since the book was published, in 2001, the number of women in architecture has grown, and awareness of diversity issues in the profession has increased. "But many of the troubling findings I uncovered then are still true," she says-findings that discourage young people of color and women from pursuing a career in the discipline.

The National Association of Minority Architects (NOMA), for instance, reports that only 2 percent of licensed architects are African-American, and National Architectural Accrediting Board (NAAB) statistics show that

"Architecture is a 'between' discipline. It's a great synthesizer of science and technology, art, and the humanities." —Michael Monti, ном. AIA

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## **AIA**Practice

only 3 percent of faculty members teaching in accredited programs are black and 8 percent are Hispanic. And though NCARB reported that in 2016, 36 percent of licensed architects were women—up 2 percent from 2015—women are more likely to leave the profession or be prevented from rising to senior positions, a phenomenon often due to outdated policies and attitudes about childcare, as women still devote more time to caring for children than men. At architecture schools, the ACSA found that fewer than one in five deans are women, and a study conducted by the women in the architecture collective SHarE showed that only one in four scheduled lectures are given by women.

The RISD Department of Architecture's partnership with a girl's high school in Providence, in which RISD graduate students teach the young women architecture at the high school level, is helping to address this issue. "It's very appealing to us because of the gender imbalance in the profession," Lostritto says. Cornell University has launched an award for minority high school students; winners come to Ithaca, N.Y., for the summer to study architecture. Ruff added that he strives to match women and architects of color with the students who participate in his AIA programs. "We're intentional about it," he says. "It really is consciously getting women architects in front of girls so they say to themselves, 'This is something I can do.""

Anthony, whose new book Defined by Design (Prometheus Books, 2017) examines the need for greater diversity among designers, cited a number of other strategies. "Architecture students in colleges and universities, such as those in organizations like Women in Architecture and the National Organization of Minority Architecture Students, can be very effective in connecting with younger students," she says. She also touted the Mike Ford, ASSOC. AIA, hip-hop architecture camps, which host middle school students in one-week camps and a semester-long after-school curriculum, along with initiatives such as NOMA's Project Pipeline in Chicago, which invites local high school students to meet with guest designers.

Monti says that these initiatives help to move the profession in the right direction: toward long-term, fundamental changes in the culture of architecture schools and architecture more broadly. "You have to move from a diversity perspective to one of inclusivity," he says. "It's not just about getting students to campus, it's about creating a culture that includes many different experiences and perspectives." AIA



## Reimagining Learning Spaces

How a new AIA Contract Document can help architects become strategic partners in school planning and management.

Traditionally, architects designing in the education sector have followed age-old practices, representing school systems while providing solutions that serve students and teachers. But what if architects could not only envision a new school but create new learning spaces without building additional facilities? What if an architect could reinvent existing spaces, allowing students and educators to use them more effectively and creatively while saving valuable resources, time, and money?

The AIA's new B210-2017 document— Standard Form of Architect's Services: Facility Support—provides architects and owners with the ability to speak a new language of nontraditional architecture. No longer are schools beginning with a traditional "project" in mind. The first step is to evaluate the existing environment, understanding what works and what prevents students and teachers from performing to their highest potential. Then architects can make strategic decisions to repurpose spaces or create new ones, with the occupants' needs in mind.

The following are some of the key concepts included in the B210-2017 document, which architects can use to provide enhanced value to their clients:

**Occupancy planning.** Change is constant; change is progress. Occupancy planning is

about preparing for future scenarios that may or may not happen. What would you do if a major change in the surrounding community impacted your enrollment significantly? If the economy went south and your workforce was decreased? Anticipating change allows one to act quickly and confidently in response to any future challenge.

**Portfolio vs. building.** Very rarely does a building stand on its own; it is usually a part of a real estate portfolio. When a portfolio is adequately studied, more strategic issues may be resolved. For example, can a central cafeteria encourage collaboration, or an underutilized floor become touchdown space for teachers and students? Occupancy challenges, evaluated over an entire portfolio of buildings, can lead to creative solutions.

**Sustainability and wellness.** Over the last century, architects have increasingly incorporated sustainability into our built environment. The next step is our journey into healthy facilities. Whether or not one believes in rating systems, we must make it a priority to increase the health of our facilities and their occupants.

AIA's B210-2017 document provides increased communication between architect and owner, allowing supporting services beyond those listed above—to be scoped, scheduled, and priced. As architects, we need to stop thinking in terms of "projects" and start thinking about how we can be strategic partners to clients in the management of their facility portfolios. AIA

Susan Hensey, FAIA

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Other 2018 tours include Portugal and Southern Spain, Eastern Europe, Rome, Vienna, Cambodia, Southwest England, Japan, Portugal and Northern Spain and a cruise along the Rhine River. All tours include an architectural expert to ensure enjoyment for architecture enthusiasts and intellectually curious travelers alike.



## **AIA**Design

## Pipeline Diversity and Graduation Rates

### Data from the ACSA show that there's room for improvement in on-time graduation rates among minority students.

Since 2009, data assessing diversity and architectural education have shown improvements in terms of gender and ethnicity. In 2016, the National Architectural Accrediting Board (NAAB) reported that there is a 54/46 percent male/female split across all accredited professional programs, a 1 percent increase in female students from the previous academic year and a 5 percent increase since 2009. However, the longitudinal data on ethnicity over the same time period show little to no growth of African-American and Latino populations, who are historically underrepresented in the profession. On the other hand, the percentage of international students has skyrocketed, often creating a multicultural environment.

While today's classrooms look drastically different than those of the 1960s and '70s, room for improvement still exists. For this reason, the 2017-18 Association of Collegiate Schools of Architecture (ACSA) Education Committee has been tasked with the Diversity and Equity Initiative, which aims to increase diversity of both faculty and student bodies. This diversity is directly connected to the diversity found in the profession. Both inside and outside the committee, faculty members recognize that bringing a diverse student population to architectural education is not sustainable unless students are supported, particularly at the undergraduate level.

The accompanying graphics highlight students entering the architecture pipeline from primary and secondary schools. It calls attention to future growth by regionally identifying the percentage of minority students and highlighting the relationship to the average percentage of bachelor of architecture (B.Arch.) candidates who graduate on time. "On-time graduation" is a commonly used measure of student academic success, indicating that students are able to complete the prescribed curriculum. For college students, this metric implies not only academic but emotional and physical support as students begin to solidify their societal identities.

Schools in the Gulf States and West regions reported the lowest average on-time



Percent of architecture students of color in each U.S. region. Sources: NAAB and KFF.org



Average on-time graduation rates for B.Arch. students, by region. One of the hidden aspects of these rates, beyond the numbers of individuals who complete their courses of study, is the emotional and physical support required to get them to the graduation threshold.

graduation rates, and the highest percentage of minority students: 52 percent and 59 percent, respectively. Conversely, schools in the East Central region had the lowest percentage of minority students (33 percent) but one of the most promising average on-time graduation rates.

If the profession is expected to change in ways that are increasingly equitable and diverse, it is imperative that both the profession and the academy investigate ways to support a diverse student body. One of the most successful forms of support is mentorship. The "2016 Equity in Architecture Survey" by AIA San Francisco's Equity by Design committee shows the significance of mentorship and sponsorship in the profession. The percentage of minority children in the six regions illustrated above, and the disparity of the on-time graduation rates, illuminate the opportunities for intervention. AIA

## **AIA**Future

## Invisible Sustainability

Using integrated passive design and advanced energy modeling, this small firm strives for simple methods and design freedom while meeting the 2030 Commitment.

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I like to call this "invisible sustainability."

From the extreme cold climate of northern Minnesota, my architecture and research firm Coulson has been refining this approach since 2008, meeting the highest levels of sustainability using simple, invisible methods, without impacting the aesthetic creativity and elegant simplicity we strive for. We began with the groundbreaking design of the University of Minnesota Bagley Classroom, a LEED Platinum and AIA COTE Top Ten Award recipient, and have gradually advanced to achieve greater design freedom, transparency, cost control, and minimalist details in our recent residential, office, educational, and cultural projects.

As an AIA 2030 signatory firm we are committed to meeting 2030 targets for all our work; we have a portfolio average of 89 percent pEUI overall and 100 percent for 2016. For comparison, the 2016 target for firms was 70 percent. Our passion for the environment is not only technical but extends to the experience of nature, which is an essential element in our designs. We insinuate our buildings into the landscape to live seamlessly and lightly with its magnificent beauty, while using passive and natural methods to achieve resiliency and energy freedom. AIA

#### Carly Coulson, AIA

Coulson is the design principal and founder of COULSON.

## **AIA**Perspective



## Designing for Disruption

In 2017, the United States experienced an alarming series of natural disasters. In less than a month, hurricanes wreaked havoc in Texas, Louisiana, Florida, South Carolina, Georgia, Puerto Rico, and the U.S. Virgin Islands. Throughout the fall, California suffered nearly perpetual wildfires. Significant social, economic, and environmental consequences will be felt into 2018 and far beyond.

Hundreds died. Thousands of homes and other structures were destroyed. In late September, Moody's Analytics estimated that Hurricanes Irma and Harvey caused more than \$150 billion in damage, and estimated damage from Hurricane Maria in Puerto Rico, could run as high as \$95 billion. In October, CoreLogic, a leading provider of consumer, financial and property information to business and government, released a hazard risk analysis explaining the total number of homes at risk for damages due to the California wildfires, along with the combined reconstruction cost value estimates, could be as high as \$65 billion.

American Red Cross and National Oceanic and Atmospheric Administration (NOAA) data used in the map shown above highlight that nearly the entire United States is subject to one or more risks. Although specific occurrences are largely unpredictable, exposure to these risks is predictable. And we must be better prepared!

Architects and the AIA have many reasons

to take pride in our response to the events of 2017. The AIA released its 3rd edition of its Disaster Assistance Handbook, and the Institute has served as catalyst to mobilize and train hundreds of architects responding to affected communities. But, we cannot allow our laudable disaster response and recovery efforts to blind us to the critical need for disaster preparedness and resiliency. We do not have the luxury of suffering "disaster amnesia" when addressing the health and wellness of our communities. While each occurrence exposed different vulnerabilities, their cumulative lesson is that widely accepted planning, design, and building practices are not up to the challenge. It is time to re-evaluate where and how we build on the lessons learned from previous disasters.

2017 made it clear that current codes, infrastructure, and planning fail to adequately account for predictable natural forces that, in the blink of an eye, can sweep away entire communities. In 2018, the AIA is committed to resiliency training and advocacy, and further expanding its state disaster coordinator network to better prepare communities large and small for future disasters and helping to strengthen our nation's resilience. Our efforts designing new solutions must be disruptive and evolve steadily as we learn even more.

In the coming months, I will be speaking to the role of the 21st-century architect, designing with climate change in mind and other topical matters related to the architecture profession. AIA

Carl Elefante, FAIA, 2018 AIA President

The full version of this article can be read at www.aia.org/energy.

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Emblematic of increasingly contentious concepts of nationhood, embassies are a paradoxical and intensely niche building type. As enclaves of legally protected terrain implanted into their host countries, they are defined most emphatically by physical boundaries and tempered by protocol and reciprocity. The new United States embassy in London, designed by Philadelphiabased KieranTimberlake, opened in mid-January in Nine Elms on the south bank of the River Thames. At 518,050 square feet, this latest "Little America" replaces Eero Saarinen's elegant exercise in midcentury Modernism, for decades the urbane face of the U.S. in London.

Completed in 1960, Saarinen's building dominates Grosvenor Square in Mayfair, located on the site of the Georgian town house originally occupied by John Adams, the first U.S. ambassador, who would go on to be the country's second president. Though the Grosvenor Square location maintains a historical connection dating back more than two centuries, times have changed, as have the nature of embassy buildings and their relationship with the public realm.

"I remember bounding up the stairs of Saarinen's building in 1976, passport in hand, and walking straight into the lobby without anyone checking my credentials," says James Timberlake, FAIA. "Now it's moved from unlimited access to being much more security-focused."

Following a series of terrorist attacks on U.S. embassies in Kenya and Tanzania in 1998, Congress decreed that all embassy buildings should be set behind a 100-foot "seclusion zone." Conceived in more open and optimistic times, Saarinen's building proved difficult to retro-fortify. A security upgrade introduced blast walls, guard shacks, and traffic-blocking structures, creating the impression of a building—and a country—under siege. It was also unpopular with local residents. Ultimately, the growing tension between security and public accessibility, coupled with a need for more space, impelled the State Department to commission a new building in a more malleable milieu.

#### **Finessing Fortress America**

More than 40 sites were considered before officials settled on the industrial boondocks of Nine Elms in south London, a trajectory comparable with moving from Park Avenue to Hoboken. President Donald Trump referred to it as an "off location" in a recent barbed tweet, but he clearly is unaware that Nine Elms is now being ambitiously terraformed as one of Europe's largest regeneration projects, with a \$20 billion capital investment. In this, the new embassy has been a crucial catalyst and anchor project, the eye in a hurricane of urban transformation. Despite being south of the Thames, the Nine Elms locale is reasonably proximate to central London and its landmarks, with Battersea Power Station as an upstream neighbor and the Tate Britain and the Houses of Parliament nearby on the other side of the river.

Following the American example, there is speculation that the Chinese and Dutch may also relocate their embassies here. But at present the area has the feel of a half-formed frontier settlement, steroidal towers fitfully emerging from site hoardings,







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Finessing the current imperative for Fortress America with more nebulous notions of transparency and openness, the architects conceived of the building as a free-floating object in landscape, apparently unencumbered by physical barriers or security apparatus. In reality, the manicured Arcadia bristles with deterrents.



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landscape still to take root. Whether Nine Elms will coalesce into a fully functioning neighborhood remains to be seen, as its housing element seems primarily aimed at overseas investors, suggesting it may be another inner London ghost town.

Prevailing in a quartet of finalists that included Morphosis, Richard Meier & Partners, and Pei Cobb Freed & Partners, KieranTimberlake won a design competition in 2010 with its proposal for a 12-storyhigh Euclidean cube set in a modern Arcadian idyll with a park and pond. Finessing the current imperative for Fortress America with more nebulous notions of transparency and openness, the architects conceived of the building as a free-floating object in landscape, apparently unencumbered by physical barriers or security apparatus.

In reality, the manicured Arcadia bristles with deterrents. The crescent-shaped pond is essentially a moat (though the architects dislike this term) and the cube a modern castle keep, its walls not stone, but three layers of high-performance glass calculated to withstand most kinds of assault, including rocket propelled grenades. On the north street frontage, steel and concrete bollards capable of stopping an 8-ton truck driven at 40 miles per hour are concealed behind a bucolic yew hedge. A version of an English ha-ha, traditionally a ditch employed to keep animals off country house lawns, secures the south side, along with concrete benches arranged to form a low-rise barrier. The building itself is elevated on a plinth, its defensive wall disguised by a cascade of water that disgorges into the moat/pond.

Oriented according to cardinal compass points, and soaring above its booby-trapped Arcadia, the embassy has a powerful object quality. "As pure geometry, the cube is an ancient signifier of solidity and strength," says Timberlake. "This building has to be about dignity. It can't be a goofy form."

Three sides of the Euclidean volume are shaded from glare and heat gain by an external layer of translucent ETFE membranes held in place by tubular outriggers, as if giant kites or origami frogs had become impaled on its façade. This is the building's most consciously elaborate formal gesture, the hectic array of meringue-peaked brise-soleil playing off the epigrammatic nature of the glass cube. It also forms part of an elaborate strategy of holistic environmental control, which includes initiatives such as photovoltaic and geothermal energy generation, rainwater capture, and responsibly sourced materials, all intended to secure a LEED Platinum rating.

Much has been made of the idea of the building as a "crystalline radiant beacon," as Timberlake calls it—


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an obvious metaphor for physical and organizational transparency. Yet under London's leaden skies, the gray-green hue of the glass is more medicinal than ethereal. On the north side, unprotected by the membrane carapace, the bald skin of the glazing is fritted with a pattern of stars to avert bird strikes, so from the inside, London is filtered through an appropriately patriotic veil.

At its most basic, the embassy is essentially an office block, with stacked floors of efficient, open-plan workspaces for its 800 staff. Experiential variety is

Much has been made of the idea of the building as a "crystalline radiant beacon." Yet under London's leaden skies, the gray-green hue of the glass is more medicinal than ethereal.

provided by a series of double-height sky gardens cut into the sides of the cube. Intended as meeting spaces, each is set-dressed to conjure a different American ecology, from the arid Southwest to the rainy Pacific Northwest. While the fracturing of the cube might alleviate spatial monotony, these topographic tableaux have the stilted feel of midrange hotel lobbies.

Office interiors were conceived by Gensler, in corporate neutrals of white and gray, with metal acoustic ceilings. In elevator lobbies, there are occasional tantalizing reminders of Grosvenor Square, with artful Saarinen-themed wallpaper featuring close-ups of the old embassy with its famous gildedaluminum bald eagle by sculptor Theodore Roszak. The eagle is, in fact, due to move to Nine Elms.

For those visiting the embassy for a visa or passport, the first point of contact will be the chaste and voluminous public concourse on the building's west side, dominated by a monumental "flat pack" cast of a typical American suburban house by British artist Rachel Whiteread. Art punctuates the interior and additional works by Sean Scully, Mark Bradford, and Jenny Holzer will follow. After security screening, visitors proceed to Consular Services on the third floor, a bright, hygienic enclave lined with white booths and furniture, like a futuristic dentist's waiting room. VIPs are received at the ceremonial entrance concourse on the east side with its mammoth bas relief of a United States seal and the historic roll call of ambassadors chiseled in limestone, from John Adams onwards.

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#### Not a "Bad Deal" At All

Presenting his credentials to King George III in 1785, Adams expressed a desire to help with the restoration of "the old good nature and the old good humor between our peoples." Of late, this "good nature and good humor" has been sorely tested by the current incumbent of the White House. In a classically bewildering salvo, Donald Trump tweeted that the new embassy was a "bad deal" and that he no intention of coming to London for its dedication. "Wanted me to cut ribbon—NO!"

Trump's petulant outburst distracts from what is undoubtedly a major project charged with the nuanced task of communicating a sense of modern American identity in conflicted times. It has had a 10-year gestation, a proscriptive brief that ran to 1,000 pages, and a tabula rasa site with no real context

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to play off. Yet the shadow Trump has cast over the project has been toxically pervasive. At the press viewing for the new embassy last December, no one wanted to discuss the architecture. Instead, the line of questioning focused on whether the president would be in London to open the building and how he would be received if he did.

At the time, Woody Johnson, scion of Johnson & Johnson, owner of the New York Jets, and Trump's pick to represent American diplomatic interests at the Court of St. James's, seemed sanguine. "We hope he will come," Johnson said. "It depends on his schedule; he's a busy president." Of possible public protests he commented blandly: "The great thing about being in London and in the U.S. is the ability to express your point of view. So that's something we live with every day, and it's an important part of who we are."

Now that Trump has made his feelings clear on the ribbon-cutting, everyone on the British side seems palpably relieved. Though public protests would be nothing new. Over time, the U.S. diplomatic presence

### William Moser confirms that the new building "was entirely funded from the proceeds of real estate sales." So much for Trump's "bad deal."

in London has been a focus for dissent, from anti-Vietnam War protests in the 1960s to more recent umbrage from local residents, disgruntled by the disruption caused by security measures.

Happily, their pearl-clutching prayers have been answered, as the Saarinen building has been sold to developers Qatari Diar Real Estate Co. for conversion into a luxury hotel, to be facilitated by David Chipperfield, HON. FAIA. The \$1 billion raised by the sale effectively paid for the new embassy, so U.S. taxpayers did not have to stump up, thanks to Mayfair's stratospheric property prices. William Moser, acting director of the Bureau of Overseas Buildings Operations, confirms that the new building "was entirely funded from the proceeds of real estate sales." So much for Trump's "bad deal." He won't be missed at the dedication.

Catherine Slessor, a London-based critic, is the former editor of The Architectural Review.







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"What compelled me to visit was that it's the one extant solo project by Tyng, who could have been a major midcentury figure, who arguably should have been one, except that she was a woman."



The Trenton Bath House, one of the world's most unassuming architectural monuments, is generally regarded as the birthplace of the aesthetic approach for which Louis Kahn is renowned, in which the dividing line between the ancient and the modern is willfully blurred. Kahn himself acknowledged the significance of the project when, in 1970, he told a *New York Times* reporter, "If the world discovered me after I designed the Richards [Medical Research] towers building, I discovered myself after designing that little concrete block bathhouse in Trenton."

I first visited the Bath House, along with a very reverent busload of architectural journalists, after it had been newly renovated in 2010. I spent much of my time that day trying to make my iPhone camera capture the way the sunlight looked as it poured through the open skylight in the center of each of the rudimentary wooden roofs. I described the experience in a blog post: "There are moments when I at least grasp the concept of God. And they always involve a simple building, like Kahn's Bath House, designed by an architect who understands the ethereal nature of sunlight."

Two years later, upon reading the obituary for Anne Tyng, who'd worked in Kahn's office, I discovered that she was in fact the driving force behind my cosmic moment. According to the 1997 book, *Louis Kahn to Anne Tyng: The Rome Letters 1953–54* (Rizzoli), Kahn and another architect were working on a "roofless rectangular scheme" for the Bath House but she "almost immediately" came up with a plan involving "four symmetrically arranged squares with hipped roofs." She wrote that the design was inspired by bathhouses she remembered from her childhood in China, where her parents were missionaries. William Whitaker, the curator and collections manager of the Architectural Archives of the University of Pennsylvania School of Design, who became friends with Tyng later in her life, confirmed that the Bath House was largely Tyng's work. "That's Anne's plan," he told me.

Which is how Tyng, belatedly, posthumously, found her way into my personal architectural pantheon. So I was excited to learn a few months ago that the Philadelphia row house she'd once owned and renovated was on the market. It's one of those narrow 18th-century houses that lend portions of Philadelphia, like the Fitler Square neighborhood where the house is located, a sweetness that's rare in American cities. Photos from the real estate listing showed exposed rafters, cunning built-ins, and an impossibly minimalistic staircase: an architect's house for sure. But the thing that compelled me to visitthat made me fantasize about buying the house, listed for \$675,000-was that it's the one extant solo project by Tyng, who could have been a major midcentury figure, who arguably should have been one, except that she was a woman.

#### A Reluctant Muse

Gender aside, Tyng was well positioned to succeed. She got her undergraduate degree at Radcliffe College in 1942 and went on to study architecture at the Harvard Graduate School of Design, as part of the school's first class to admit women. Her teachers included Walter Gropius, Marcel Breuer, and Catherine Bauer Wurster, an important advocate for modern affordable housing. After graduating and working for a couple of New York firms, she moved to Philadelphia (where her parents had relocated) and, in 1945, paid a lunchtime visit to a friend who was about to leave her position at Louis Kahn's first firm, Stonorov & Kahn. Tyng was hired on the spot as her friend's replacement, and in 1949 she became a licensed architect, the only women accredited by the state of Pennsylvania that year.



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Interior of the Bath House



Tyng's drawing of City Tower (left) and a model of the building, shown at the 2011 Graham Foundation exhibit "Anne Tyng: Inhabiting Geometry"

Tyng developed an intense partnership with Kahn; she was able to investigate the ideas that interested her—often having to do with the metaphysics of geometry—and nudge them into his projects. She was fascinated with Platonic solids, three-dimensional, multi-sided objects like tetrahedrons and octahedrons, and how we might inhabit such geometric forms. As her daughter, the artist Alexandra Tyng, told me: "She believed that the five Platonic solids were the most basic archetypes upon which all organic structures, micro- and macrocosmic, were formed."

In the early 1950s, Tyng designed an elementary school for Bucks County, Pa., in which the roof was a space frame with a portion of angular superstructure, an assemblage of triangles, dipping down into the building's interior. The school was never built, but its central gesture found its way into Kahn's first major building, the Yale University Art Gallery.

Perhaps the most extreme example of Tyng's interest in Platonic solids is the Philadelphia City Tower, an outrageously zigzaggy high-rise, a very tall pile of acute angles. "I made the first crude model with triangles in plan on my own time, hoping to interest Lou in developing the idea further," Tyng wrote in *The Rome Letters*. Kahn was indeed interested. Though never built, the tower was exhibited in a 1960 Museum of Modern Art show on visionary architecture, and a rendering of it remains in the museum's collection, credited solely to Kahn. Today, the City Tower looks like an exceptionally prescient take on the future; it could be an early iteration of Norman Foster, HON. FAIA's Hearst Headquarters in New York. As Whitaker puts it, she was doing "parametric design by hand."

The fact that Tyng became pregnant by Kahn who had been married to his wife, Esther, since 1930, and remained so until his death—and that she'd moved to Rome in 1954 to give birth to Alexandra, and that Kahn later fathered another child, by landscape architect Harriet Pattison: none of this is news. The story was laid out with disarming candor by Harriet's son, Nathaniel, in the 2003 documentary *My Architect*. Wendy Lesser's Kahn biography, *You Say To Brick* (Farrar, Straus and Giroux, 2017) does add one shocking detail. Upon Tyng's return from Rome with Alexandra, she found out that Kahn was having an affair with another young female architect on his staff, Marie Kuo.

Nonetheless, Tyng continued working in Kahn's office for nearly a decade, often designing singlefamily houses while Kahn was engaged with major projects like the Salk Institute. Tyng has written that she ended their romantic relationship in 1960, and what was left of their professional one came undone

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a few years later. "Although Lou had plenty of work in the office," Tyng wrote in *The Rome Letters*, "he 'let me go' by simply not giving me work." The end came in 1964, during the design of Bryn Mawr college's Erdman Hall. As Lesser put it, "perhaps the fraying of their personal relationship lay behind some of the problems. ... Tyng, with her usual penchant for precise geometry, wanted the bedrooms to be octagonal in shape, nestled together in a kind of molecular design. ... Kahn preferred a pattern of interlocking Ts and rectangles." They'd travel to client meetings with their competing designs and, as Whitaker told me, "One day her model got left in the cab."

Moshe Safdie, FAIA, was 22 and newly graduated from McGill University when he arrived in Kahn's office in 1962. He recalls that Tyng's relationship with Kahn was by then already "getting shaky." (Given that this was around the time that Harriet Pattison gave birth to Nathaniel Kahn, that is likely an understatement.) Safdie recalls that after a "flare-up," Tyng disappeared from the office, but he remained friends with her. Together with another architect in the studio, David Rinehart, they worked on an urban design competition for Tel Aviv. Safdie says that Tyng introduced him to Carl Jung's Man and His Symbols and, more crucially, to D'Arcy Wentworth Thompson's On Growth and Form, a groundbreaking treatise on the shape of natural objects. "It was a big deal," Safdie says about his exposure to Thompson. "It's part of my foundation for thinking about design."

"I thought the world of her," Safdie adds. "I think she was major inspiration for Lou. She was certainly a major force."

And yet Tyng, after leaving Kahn's office, never really thrived on her own. Soon after her departure she mounted an ambitious exhibition at the University of Pennsylvania titled "The Divine Proportion in the Platonic Solids." She also taught at the university, but she never became a tenured professor. And she never managed to find another opportunity to build. *Left:* Tyng's house in Philadelphia

*Right:* An engineering drawing for the third-floor addition

Bottom: The third floor





Alexandra notes that she was reluctant to dive into the mundane chores of being an architect: "She was always trying to get commissions by entering competitions. ... But she did not want the hassle of setting up her own office with employees and running a business herself."

Perhaps, as Safdie now speculates, she wasn't anchored enough and was too obsessed with Platonic solids. Yet the drawings and models of Tyng's unbuilt work reveal a skillful, canny architect. A 1950 submission to a National Association of Home Builders competition cleverly conceals an unconventional hexagonal house behind a disarmingly normal, rectilinear carport.

In the 1970s, she sketched out a detailed concept for Manhattan Landing, an 88-acre development in New York that then-Mayor John Lindsay hoped to see erected on platforms over the East River. Tyng's drawings, perhaps intended as a rebuke to the corporate Modernism of the official design, depict dense cubist clusters of housing arrayed on a beautifully thought out site plan. Arguably, it is no

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EXPO: NOVEMBER 14-15 | CONFERENCE: NOVEMBER 14-16 McCormick Place | Chicago, IL less anchored than Safdie's unbuilt Habitat project for the same stretch of river.

Tyng's misfortune was to come of age at a time when there was very little room for women particularly sole practitioners—in the architectural profession. Kahn's office may have been a minefield for the women who worked there, but it was also a place where their design skills were taken seriously. Given that Tyng is remembered primarily for her creative influence on Kahn, it's not surprising that she developed an aversion to the word "muse." In *The Rome Letters* she wrote, "The muse is a shadow figure, an empty vessel only existing to gestate and bring forth visible form identified as the man's creation."

In a 1988 essay called "From Muse to Heroine: Toward a Visible Creative Identity," she struck a more optimistic note, which also serves as a kind of appraisal of her own career. "In the future more women architects will make the difficult leap from [the] conditioned introverted role," she wrote, "to the challenge of being articulate and visible."

#### "Like the Bath House but for Sleeping"

Today, the most powerful expression of Tyng's architectural vision remains her own house, which she renovated and added to over the course of the 1960s. Tyng's papers in the architectural archives at the University of Pennsylvania include brochures for all the small-scale gadgets with which she equipped her kitchen: a little electric broiler and a fold-down electric cooktop (designed, according to Whitaker, for Levittown). The house was just 1,320 square feet, and the idea was to limit the space taken up by kitchen appliances. (Curator Ingrid Schaffner, who bought the property in 2005 and owned it for a decade, installed a normal-sized Viking range and added counter space.) The archives also contain astonishing engineering drawings for Tyng's third-floor addition, a wooden space frame (much like one she designed for her parents' country house in the early 1950s) resembling a diagram for some advanced form of origami.

When I visited, I walked from 30th Street Station and arrived early. I bumped into a woman, one of the



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Above: Anne Tyng and her Tyng Toy, a modular building set she designed for children in 1950

Right: The '50s addition that Tyng designed for her parents' country house, later destroyed by fire in the 'gos



# Α

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current owners, who was leaving the house with her German shepherd puppy. She told me that living in the house felt like "walking in music."

After the real estate agent arrived and let me in, I explored the kitchen with its gigantic round, shallow sink inset with smaller basins, and noted how Tyng had shoehorned wee closets into every available nook. But it was the third-floor addition that astonished me.

#### The new owner, Dyani Halpern, initially knew nothing about Tyng. All she knew was how the house made her feel: "I walked in and I started to cry."

"Like the Trenton Bath House but for sleeping," is what I wrote in my notebook. From the outside it looks like a clunky mansard roof, but inside, the addition is a work of sculpture, obsessively crafted, with views and living spaces framed by acute angles. Like the Bath House, it was all about naked rafters and sunlight.

Later that day, I visited Philadelphia's Fabric Workshop and Museum, which was hosting an exhibition, "Louis Kahn: The Power of Architecture." It was a dense, meticulous survey of the architect's work, with the occasional cameo appearance by Tyng. On one gallery wall, the curators illustrate how her early space-frame renderings for her theoretical Bucks County elementary school migrated to Kahn's sketches of the Yale University Art Gallery ceiling. On a different wall, the exhibition copy asserted that the art gallery has "a triangular reinforced concrete ceiling inspired by Richard Buckminster Fuller's space frames." Mysteriously, from one side of the gallery to the other, Tyng had simply vanished from the equation.

Soon after my visit, Tyng's house also vanished, at least from (semi-)public view. It sold in December for \$625,000. The new owner, Dyani Halpern, a 31-yearold cosmetics executive from Pasadena, Calif., initially knew nothing about Tyng. All she knew was how the house made her feel: "I walked in and I started to cry." Halpern had no idea that this represented one woman's vision of how we might "inhabit geometry," or that it has a lifetime of radical architectural thinking tightly packed into its 1,300 square feet. She was simply responding to what she sensed: a "powerful woman energy." But she's since done her homework. "I feel like I've taken on this responsibility to maintain it and preserve it." Which is a very good thing, because Tyng's house is irreplaceable. For an architect who never had the opportunity to create one on a grander scale, it is her magnum opus.



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# p/a

THE 65<sup>th</sup>

### ANNUAL

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### AWARDS

EDITED BY KATIE GERFEN PROJECT DESCRIPTIONS BY IAN VOLNER

There is a thrilling moment in every creative endeavor, when an idea has been wholly fleshed out and developed, but not yet realized in physical form. That particular moment of anticipation, of innovation on the cusp, is what the Progressive Architecture Awards celebrate. For 65 years and counting, the P/A Awards has served as a crystal ball for the built environment, revealing the influences, typologies, forms, and techniques of tomorrow. So it is fitting that this year's winners—selected by jurors Reto Geiser, Florian Idenburg, INTL. ASSOC. AIA, and Ingalill Wahlroos-Ritter, AIA—encompass a profound range of progressive ideas. These 10 projects, from firms both well-established and new to the scene, rethink the order of the single-family house, push the conventions of speculative commercial spaces, offer new ways of learning at home and away, and even change how people relate to nature. They are wondrous in their disparity, demonstrating architecture's undiminished capacity to both improve society and reinvent itself.

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Pioneertown House Pioneertown, Calif. Jon Lott / Para Project

23

Pioneertown is one of California's stranger open secrets. Dating to the 1940s, it was built in the image of an Old West community, with the intention that actors could live there year-round and take part in the filming of cowboy pictures on site. Given the unique locale, it was only fitting that Brooklyn, N.Y.– and Cambridge, Mass.–based architects Para Project should come up with a unique solution: Charged with retrofitting one 1950s pseudo-rustic cabin as a 21st-century weekend getaway, the designers elected to embed the original structure within a wholly new one, while still preserving some of the Pioneertown spirit.

The team effectively gutted the existing "homestead" house, a modest 400-square-foot structure, leaving only its ghostly walls standing in the new interior. Below that, they placed a sparely appointed living room—a subterranean den mercifully shielded from the harsh desert sun. Around the square block of the homestead there clusters a complex spatial sequence including a horseshoe-shaped open-air arrival court, a skylit spiral staircase, new kitchen and dining spaces, and a master bedroom of identical proportions to the original house. (Indeed, it's built on the earth excavated to create the underground lounge.) A separate new structure—clad in all-black glass, with a keyhole-shaped plan—will serve as a studio for the art-dealer clients.

The complexity of this arrangement unfolds as a sequence of revelations, alternating between light and dark, confined and open. But for the architects, the driving force of the design was its plan, conceived as independent formal fragments coming together to make something more than the sum of their parts. The spiral, the curve, the square, each is thought of as a sort of "actor" in the drama of the house, all assembling around the footprint of the homestead to form an oddball community within the already oddball community of Pioneertown.

"It is formally very interesting: a collage of almost found spaces assembled into a whole. There is also something really elegant about how the interior and exterior blend together."

-Florian Idenburg



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-Florian Idenburg

"I like its brutal, rough stack, but it is very systematic at the same time. It is intelligent and gives it a very

Batay-Csorba Architects' latest project for its hometown of Toronto is actuated by a deep-felt connection with the city's history and a novel conception of its prospective future. The four-story [Misfit]Fit is a new commercial building in Liberty Village, a character-crammed former manufacturing enclave a short ride from downtown that's lately been heavily colonized by major developers.

Unlike the glassy towers that have followed the influx of new residents, Batay-Csorba's solution carries with it an architectural echo both of the area's industrial past and Toronto's broader architectural heritage: A poured-in-place concrete frame faced in prefabricated concrete cladding, the structure's rough-hewn aesthetic gestures simultaneously to Liberty Village's hardscrabble origins and to the 1960s and '70s Brutalist buildings that dot the city's landscape—and which have only lately come in for reconsideration by Canadian architecture lovers. The latter is evident especially in [Misfit]Fit's precast panels, which protrude and recede in a blocky pattern like the rusticated front of some futurist castle. But unlike the often highly rationalized fortresses of the 1960s, this heterodox revival animates the façade by alternating the pattern from panel to panel, preserving the robustness of Brutalism without its heavy-handed stasis.

The building packs both its burly aesthetic and its program into a tight site, with 32,000 square feet of offices, street-front retail, and a modest ground-floor lobby all on a lot with a width of less than 70 feet—future developments are expected to eventually sandwich it on both sides. Until they arrive, however, the structure—as well as visitors to its rooftop garden—occupy a privileged perched indeed, surrounded by a sea of open lots, old warehouses, and new condo towers, a stirringly muscular statement standing alone in the street.





#### HONORABLE MENTION

Float Lab Philadelphia Höweler + Yoon Architecture

Somewhere between the earthy grandeur of Robert Smithson's Spiral Jetty and the eerie acoustic landscapes of Susan Philipsz there is Float Lab, a new educational initiative in Philadelphia from Bostonbased Höweler + Yoon Architecture.

On a still largely industrial stretch of the city's Schuylkill River, a long slender pier extends from the shoreline near idyllic Bartram's Garden—the country's oldest surviving botanical garden. At the pier's furthest end, the supports to the riverbed stop, but the experience does not: a circular curlicue of walkway extends about a third of the way to the opposite shore. From the level of the pier, the path slopes down and, at its eastern end, actually goes below the water level by some 4 feet—a semi-submerged stretch of floating walkway that puts the river's surface at about chest height. The water is held back by a steel wall that lines the walkway, and the flotation is achieved by a ballast that keeps the steel structure at the river's surface.

As guests proceed into this uncannily amphibious condition, they are treated to a symphony in the key of Schuylkill, with microphones anchored in the riverbed transmitting the gurgle of the current, the splash of a jumping frog, and other subaqueous noises to speakers inside the promenade structure. Intensifying this encounter with the river and its inhabitants, the aural component is augmented with lights within the loop that track and attract passing fish, drawing them closer to the location of Float Lab visitors.

The objective of this unique exercise in exhibition design is to confront the public in as immediate a manner possible with the ecological reality of the river in their midst: For over two centuries, Philadelphia's working waterway has been the repository of much of the city's pollution; in more recent times, it has been the site of intense restoration efforts by local conservation groups. Evidence of both is evident in the area around Float Lab, which brings the river's complex legacy up close and personal as never before.

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"I think it's very topical, and I think it's interesting how it addresses the issue of rising tides. I imagine being there with your head just above the water is a powerful experience."

-Reto Geiser

#### Section









"For schools in America which need a lot of attention, it deals with many issues quite well, especially the relationship of interior and exterior spaces and the layout, which is quite interesting."

-Reto Geiser

Crystal Bridges Museum of American Art, the spectacular artistic storehouse designed by Moshe Safdie, FAIA, for Walmart heiress Alice Walton, will soon be joined by a second outstanding work of architecture driven by the same forward-thinking vision. The Helen R. Walton Children's Enrichment Center + Early Childhood Initiatives Center from New York's LTL Architects is a monument no less ambitious than the museum that sits directly across from it, although its mission is of a very different sort: Located in the town of Bentonville, Ark., the Waltons' longtime home base, the center is in a far corner of one of the poorest states in the union, an area that lags behind particularly in the areas of education and healthcare.

The nearly 50,000-square-foot facility is positioned to tackle these problems, housing a programmatic array that includes classrooms, landscaped playgrounds, a "teaching garden," libraries, training rooms, and additional support spaces to provide a comprehensive battery of development services for the local and statewide community. Formally, the building is expressive of a playful practicality-almost a pinwheel in plan, with four irregular spokes protruding from a central hub. It greets its verdant 8-acre site with a kind of forest of its own-vertical stakes that mark the separate outdoor areas and establish a steady rhythmic pattern around the perimeter. These are complemented by a lattice-like rainscreen of composite material that wraps around the building's concrete frame, softening the exterior and adding a sequence of interstitial porches between the main envelope and the disengaged cladding.

The interior spaces themselves are configured as individual "houses," each with a faintly gabled ceiling and a "chimney" aperture that functions as a skylight. At the building's heart, three classrooms devoted to gross motor skills are shaped by complex warping walls, the building's spokes colliding in the middle to intricate spatial effect.








Second-Floor Plan







–Florian Idenburg

At a scant 1,650 square feet, Brooklyn, N.Y.-based Young Projects' Glitch House is a modestly sized vacation home whose circumstances are anything but modest. Located near the Dominican Republic's Playa Grande, a beach often ranked among the most exquisite in the world, the house is set back into a secluded site, away from its neighbors and ensconced in a lush quasi-rainforest whose canopy hangs close above a rooftop garden.

Structurally, the housing type is a fairly conventional one for the tropics, composed of stacked concrete masonry blocks. Once again, however, the manner of their deployment is distinctly novel. Façades are rotated 45 degrees so as to create a series of irregular volumes; the blocks are staggered to create a 3D stepped pattern on those angled façades. More arresting than all this perhaps is the cladding. Handmade encaustic cement tiles adhered to the blocks—each with a quarter-arc of bright color against a dark background—are arranged in vaguely vegetal patterns, covering the house with a dazzling mosaic in blue, green, and orange, and making it seem to almost shimmer in the patchy jungle shadows.

Drawing inspiration from the vivid colors and organic shapes of the jungle itself, the cladding is neither uniformly nor arbitrarily applied to the exterior, but assumes distinct formations around doors, windows, and other features, weaving itself deftly into the designers' functional and formal scheme.

Inside, that scheme flows with surprising spatial fluidity from room to room through the artfully misaligned boxes of the envelope, each of the spaces differentiated in plan by the intrusion of the canted walls with their stepped blocks. Hoisted up from the forest floor on the house's upper story, the main living quarters make it feel as though one were living in a treehouse, while terraces on the main living level open the house to the natural world surrounding it.





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"I love that it is so compelling in plan, with the floating volumes, and in section, with the tectonics of the masonry. It creates some really beautiful spaces that I want to inhabit."

-Ingalill Wahlroos-Ritter

Second-Floor Plan



Second-Floor Reflected Ceiling Plan



Ground-Floor Plan



Ground-Floor Reflected Ceiling Plan





It takes no small amount of daring to throw 1960s glam, 1990s grit, and today's eco-friendly sensibility together into a single architectural medley. Yet that's what the Los Angeles Design Group (the LADG) have done in their scheme for a Restaurant in Los Angeles.

An unusual speculative venture by a local developer intended for an anonymous restaurant client, the building's primary structural system is a sequence of barrel vaults that intersect to form a miniature cavern, savoring slightly of the Italian Baroque. This is no coincidence, as the LADG has researched the Baroque before, but here that period appears through the filter of another: the brand of midcentury design, especially popular in Southern California, that often deployed similar historical motifs to spice up Modernism with a hint of romance.

Programmed as the main dining space, the vaulted volume sits atop a ground floor of a remarkably different character. There, a street front of metal fencing and flat walls alternates with sculptural "loaves," or richly textured stone curves which cut into the façade-a collision of geometries and materialities that calls to mind the work of local heroes like Eric Owen Moss, FAIA, and Frank Gehry, FAIA. And yet all this formal gamesmanship does not come at the expense of functional rigor, nor does nostalgia get the better of the designers' innovative instincts. The loaves actually contain the service areas for the kitchen above, and the insulating concrete vaults of the dining room allow for heating and cooling that's largely passive. There's a glass screen that encloses the space, but it can be folded aside to allow air to circulate on warmer days. Which, of course, is most of the year in Venice Beach.

### Section Through Dining Area







"I think it's super elegant. It has some intimate moves on the façade, which are a big challenge in a project of this size."

-Ingalill Wahlroos-Ritter

NADAAA and Perkins+Will's proposal for A Cambridge Gateway is in fact much more than a residential project: Intended as full-service urban oasis, the design seeks to link the community of Kendall Square with one of its largest institutional neighbors, the Massachusetts Institute of Technology (MIT).

The area and the school are familiar territory to NADAAA (the firm is located across the Charles River in Boston, and founding principal Nader Tehrani served as head of MIT's architecture program for four years), and the building attempts to serve both communities with an array of functions, including a retail concourse on the block's northwest corner, a commodious "forum" for public events, a university admissions office, day care facilities, and graduate student housing that is located in the high-rise component.

In a maneuver that has become fairly de rigueur for Tehrani's office, all of this is composed so as to multiply and densify the patterns of use: At groundlevel, a through-block circulatory route carries visitors into and across the site; above, terraces dot the upper reaches of the volume. Almost every detail of the plan appears aimed at accelerating the complex's functional dynamism, with even a slight deflection in the wall of the auditorium helping to draw foot traffic from Main Street towards the landscaped corridor to the south. And given the Gateway's proximity to major thoroughfares and public transit, there should be plenty of foot traffic to draw, day and night.



Malawi Library and Master Plan Lilongwe, Malawi Steven Holl Architects



"I was super impressed with how much architecture could be derived out of fairly simple means. We need more buildings like this."

-Ingalill Wahlroos-Ritter

CITATION

Over the course of more than a century, the ancient Javanese textile-dyeing method of batik has become a de facto native art form in southern and eastern Africa, and the technique's brilliant colors and lively patterns find a formal echo in Steven Holl Architects' design for the Malawi Library and Master Plan in the capital city of Lilongwe. A needed piece of social infrastructure for the critically underdeveloped nation, the project will be a welcome presence whether or not its indebtedness to the local batik tradition is immediately evident.

Housing 70,000 square feet of book storage, offices, and study and meeting spaces, the library is composed of a series of wing-like concrete rooftop canopies, fabricated off-site and held aloft by a forest of forked diagonal piers. Though the swirling patina on the translucent glass curtainwall is faintly reminiscent of folk art, the chief impression is simply that of a spacious, ultra-modern, functional facility. The objective of the novel roofing system is to diffuse light and collect solar energy via photovoltaic panels, features that work together with passive ventilation systems and rainwater collection (including a dramatic indoor cistern next to the circulation desk) to reduce the building's net energy consumption to zero.

Viewed in plan, the firm's overall campus scheme is a crazy quilt of discrete landscaped zones surrounding buildings for physical education, orientation, and individual academic programs. Each building, in turn, is distinguished by a striking geometrical footprint, from U shapes to circles to blocks—no two alike but responding and corresponding to one another with a compelling compositional logic. Especially as seen in Holl's famously elegant watercolors, the master plan does indeed recall the kaleidoscopic batik of Malawi, conjuring the look and feel of the country known as "the Warm Heart of Africa." Site Model Showing Library at Right



Watercolor Master Plan Study



HONORABLE ΜΕΝΤΙΟΝ

Motherhouse Denver **Independent Architecture** 

conventional American idea of home, with the porch and garage in a suburban setting. It's a very American house."

-Florian Idenburg



### Floor Plan Precedents



Villa Foscari



#### Villa Stein



Ungers House



Motherhouse



From Denver's Independent Architecture comes the deceptively simple Motherhouse: Named for its intended occupant, firm director Paul Andersen, AIA's mother, the project takes its place in a long line of architects' early commissions for close family (such as those from Robert Venturi, FAIA, Richard Meier, FAIA, and the late Charles Gwathmey, to name but a few). And, like those precedents, Motherhouse takes the sort of liberties that a less trusting client would rarely afford a young designer.

The parti begins with a single townhouse-like module, composed of double doors, an upper-story window, and a gable, repeated four times across both the front and rear elevations. But the simplicity ends there, as the designer skews the alignment of each bay such that no two are directly in line with one another across the length of the space.

As a result, what one finds in the ground-floor interior is a vast, unpartitioned room—a combined kitchen, living, and dining area—surrounded by a regular but unevenly spaced perimeter of doors to the outside, which are separated from one another by a thickened wall depth containing storage space. Upstairs, the four bedrooms are likewise just slightly off-kilter, their respective plans intersecting with the roof gables to make each room's vaulted ceiling a little different from the next—varying from one gable, to one and a half gables, to two full gables in the master suite.

The house promises to be something like a highly livable fun house, a swarm of familiar domestic elements repeated en masse to playfully disorienting effect. At the same time, thanks to the domestic symbolism of the forms and the almost childlike manner of their repetition, the elements conjure an appropriately familiar—if not familial—atmosphere, hearkening back to the innocence and whimsy that filled the architect's early years under the watchful eye of Motherhouse's namesake.

I like how it splits into individual elements that come together very well, but also break down the scale. The way it's established on existing foundations that were extrapolated into something radically different is really powerful."

Reto Geiser



#### Section A-A1





When is a house more than just a house? This year's award-winning House of Horns in Los Altos, Calif., attempts to push the domestic envelope in more ways than one. Its creator is WOJR, an office that bills itself as more than just a design firm: founding principal William O'Brien Jr.'s self-described "organization for architecture" in Cambridge, Mass., is a collaborative venture spanning the creative spectrum, from urbanism to art, and the breadth of their approach is evident in the complexity of their latest residential project.

On one level, the House of Horns is a reasonably straightforward (if rather grand) private home: an 8,500-square-foot, two-story manse on a prominent hillside site intended for a non-nuclear family and replete with indoor spa and multiple bedrooms. In the design's first break with convention, the lower level is embedded in the hillside, its concrete frame thrusting outwards from the primary envelope above; beside it, a curious pendant structure-a circle of concrete marking the upper walls of the spa-peeks above the ground like the lip of a strangely oversized well. These subtle formal swerves are taken up more forcefully in the building's most immediately recognizable feature, its roofline-a sequence of parabolic peaks that give the building both its compellingly unfamiliar silhouette and its vaguely cultish-sounding name.

The horns are expressed in the interior as wildly curving ceilings, sloping up into windows that capture the light at different times of day and encourage the occupants to shift their activities around the house—a sort of free-range domesticity that's further facilitated by an open plan dotted with floating partition walls, some with similarly curved profiles. Literally built on the existing foundations of an ordinary mission-style house, the House of Horns is a calculated attack on both the physical and programmatic norms of the suburban residential typology.





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# Editorial: Pick a Winner

#### TEXT BY NED CRAMER

The AIA launched its annual Twenty-Five Year Award back in 1969. The winner, Rockefeller Center in New York, was an august choice, the first in a long line of individual buildings that, in the opinions of successive juries (composed largely of architects), have stood the test of time. Last month, however, the AIA announced that the 2018 jury had chosen not to name a recipient an unprecedented occurrence in the history of the program. Not surprisingly, eyebrows were raised.

As explanation, the AIA provided the following: "The jury felt that there were submissions that appeal to architects and there were those that appeal to the public. The consensus was that the Twenty-Five Year Award should appeal to both. Unfortunately, this year the jury did not find a submission that it felt achieved twenty-five years of exceptional aesthetic and cultural relevance while also representing the timelessness and positive impact the profession aspires to achieve."

Reactions on social media were characteristically direct: "No project deserves an AIA 25 year award this year," an incredulous Keelan Kaiser, AIA, wrote on Twitter. "I call that a jury fail. You had one job ..." Some called the decision a slight against Postmodernism, which was putatively the dominant style during the window of eligibility for the award.



The rules for the award aren't complicated. There's one winner per year; the project must be 25 to 35 years old, have been designed by a licensed U.S. architect, and be in substantially unchanged condition. The nominator must be an AIA member, chapter, or knowledge community. The AIA does not release the nominee's names, and the jurors have to chose from that pool, so second-guessing the deliberations is largely a matter of speculation.

The editors at the website *Curbed* compiled a fun list of eight projects that they consider worthy: W.G. Clark and Charles Menefee, AIA's Inn at Middleton Place in Charleston, S.C.; Michael Graves' Humana Building in Louisville, Ky.; The Jerde Partnership and Sussman/Prejza's infrastructure and identity for the 1984 Olympics in Los Angeles; Philip Johnson and John Burgee, FAIA's AT&T Building in New York; Charles Moore and Arthur Andersson, FAIA's Moore/Andersson Compound in Austin, Texas; and Richard Rogers, HON. FAIA's PA Technology Center near Princeton, N.J. (Rogers is British, making his work ineligible, but his website does list Douglas Kelbaugh, FAIA's now-shuttered firm Kelbaugh and Lee as "co-architect" on the job.)

To the *Curbed* list, I might add Peter Eisenman, FAIA'S Wexner Center for the Visual Arts in Columbus, Ohio; Helmut Jahn, FAIA'S endangered James R. Thompson Center in Chicago; Richard Meier, FAIA'S High Museum of Art in Atlanta; or Mack Scogin, FAIA, and Merrill Elam, FAIA'S underappreciated Clayton County Headquarters Library in Jonesboro, Ga. And I'm just scratching the surface.

It's frustrating that there aren't more buildings by women and people of color to chose from—that's an artifact of the period under consideration, even more than it is today. Still, as design awards go, the Twenty-Five Year is pretty democratic. Any AIA member can nominate a project. So if you're bothered by this year's lack of a winner, the best response may be simply to submit your own favorite in 2019.

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