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Dean/Wolf
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Carole Wedge: "Speak Up!"
The Case for More Lighting Research
Post-Traumatic Stress Architecture
Kitchen Fixtures and Finishes

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66th Progressive Architecture Awards

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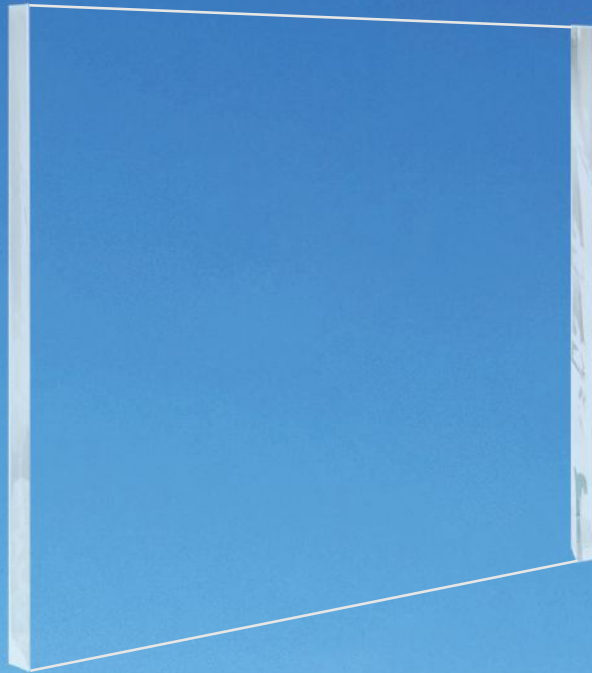
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Instant Replay

With four consecutive Stanley Cup victories in its history, the **Nassau Veterans Memorial Coliseum** is a beloved fixture of Long Island life. When the owner of the 1972 arena decided to reward fans with a renovation worthy of its storied past, it reimagined the venue with an overcladding that would bring new life to the facility. With a design by **SHoP Architects** and **Thornton Tomasetti**, the new folded-ribbon facade of composite aluminum fins connects to the original structure with a minimum of intervention, ensuring thoughtful reuse of a venue that still has a lot of wins in its future.

Read more about it in **Metals in Construction** online.

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 Architect of Record: Davis Brody Bond LLP
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 Photograph: Frank Oudeman



Shaking Bad

In New York, passing subways can shake entire buildings, but that wasn't an option for Columbia University's new **Jerome L. Greene Science Center**. Home to sensitive laboratory and imaging equipment requiring exceptional stability, the design by **Renzo Piano Building Workshop** relies on a steel structure to reduce floor vibrations to a miniscule 2,000 mips. Even as the elevated No. 1 train roars past, this helps ensure that nothing distracts from the scientific advances being made within the center's unshakable walls. Read more about it in **Metals in Construction** online.



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Twenty-Five Years to London

This year, the AIA Twenty-Five Year Award goes to Venturi, Scott Brown and Associates' 1991 Sainsbury Wing at London's National Gallery, for which the firm won the second of two design competitions. It is "only now really being seriously reappraised for its generous relationship to Trafalgar Square," Charles Holland, of Charles Holland Architects and formerly of Ordinary Architecture and FAT, told ARCHITECT for our coverage of Venturi and Scott Brown, HON. FAIA's 2016 AIA Gold Medal win. "I see it as a love letter to London, with its nods to Lutyens and Soane and the clubland classicism of Pall Mall." —KATIE GERFEN

> Read more about the Sainsbury Wing's win and see more images and video at bit.ly/Sainsbury25YearAward.



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A New Vision in Venice

Lebanese architect Hashim Sarkis, founding principal of Beirut- and Cambridge, Mass.-based Hashim Sarkis Studios and the dean of the School of Architecture and Planning at the Massachusetts Institute of Technology, has been selected as the curator of the 2020 Venice Architecture Biennale. "With Hashim Sarkis, La Biennale has provided itself with a curator who is particularly aware of the topics and criticalities which the various contrasting realities of today's society pose for our living space," said Biennale president Paolo Baratta in the announcement. The next Biennale is slated to take place from May 23 to Nov. 29, 2020. —KATHARINE KEANE

> *Read more about the selection of Hashim Sarkis to curate the 2020 Venice Architecture Biennale at bit.ly/HashimSarkisBiennale.*



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A Simple Fix

After the collapse of the Morandi overpass in Genoa, Italy, last August, hometown architect Renzo Piano, HON. FAIA, began developing a design for its replacement. In December, the city announced Piano's involvement and the architect revealed his design for "a very Genoese bridge" made of steel that will be "simple but not trivial." Renderings of the €202 million (\$230 million) structure show a slender bridge that is "safe," Piano says in the statement, "because bridges do not have to collapse." The overpass is slated for completion by the end of the year. —MIABELLE SALZANO

> To read Renzo Piano's full statement, visit bit.ly/NewPianoBridge.

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Best Practices: Supporting an Aging Workforce

TEXT BY JEFF LINK

As employees stay in their professions past the average retirement age of 66, firms are taking measures to support their more seasoned employees' well-being and performance. Here, design practitioners, a human resources director, and a research psychologist offer advice for empowering this generation of workers.

Create Ergonomic, Active Workplaces

For Richard Marietta, AIA, senior principal at Baltimore-based Design Collective, his firm's competitiveness in the Mid-Atlantic region along with its commitment to sustainability initiatives have motivated him to stay on. (The 71-year-old plans to retire this year.) But passion isn't the only thing that has kept him engaged. Ergonomic chairs and adjustable-height desks that accommodate sitting or standing have made his office a comfortable place to spend eight—or more—hours a day.

When he feels stressed or has a headache, a low-lit, private wellness room offers refuge. "If you have an issue that would [otherwise] prevent the continuation of the workday, there's a space where you can go and still get your work done," Marietta says.

SmithGroup recently transitioned its Chicago, Los Angeles, and Madison, Wis., offices to agile work environments, says principal and corporate communications director Dave Whitman. With no assigned seats, multigenerational teams can choose to sit together depending on the task.

"It makes it more natural to collaborate when you don't have to get up and walk down the hall," Whitman says.

Offer Flexibility and Competitive Benefits

As workers age, flexible scheduling can be integral to employee retention and performance. "A lot of older adults are part of the 'sandwich generation,' responsible for caring for family members, both younger and older," says Jennifer Rineer, a research psychologist at the Research Triangle Park, N.C.-based nonprofit RTI International. "Flexible [schedules] can help older workers stay in the workforce longer, remain productive, and balance their work and non-work demands—taking care of family members, dealing with chronic illness, and handling other obligations."

Whitman says SmithGroup's alternative work schedule—8.5-hour workdays offset by 15 days off per year, typically Fridays—gives employees opportunities to see the doctor, chaperone school trips, and attend to personal needs. The firm also offers an option to shift to a part-time schedule without losing benefits, which appeals not only to aging workers looking to ramp down, but also to new parents returning to work.

Bridge the Generational Gap

A 2018 survey from Canada Life Group Insurance shows around one-third of younger employees are concerned that

"Flexible [schedules] can help older workers stay in the workforce longer, remain productive, and balance their work and non-work demands."

—Jennifer Rineer, research psychologist, RTI International

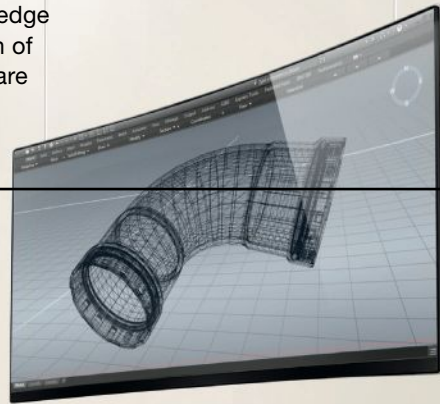
the continued employment of older workers makes it more difficult for them to earn promotions, and that these more senior designers might require training to remain competitive in the 21st century workplace. "I wouldn't absolve us of that as an architecture firm," says Ed Dodge, director of human resources at SmithGroup. "I think where tension exists with Millennials and Baby Boomers is a pay-your-dues mentality versus an immediate gratification mentality."

To mitigate resentment and encourage knowledge sharing, Design Collective pairs junior- and senior-level architects in a monthly mentor-protégé program. Marietta says the face-to-face meetings with junior architects have boosted his understanding of Puerto Rican and Chinese cultures due to the staff's increasing diversity, and allowed him to share lessons from his 30-plus years of experience. This kind of two-way learning helps older employees feel valued and ultimately promotes retention: "The mentor-protégé program is successful because it helps us grow, promote, and transfer knowledge from within," Dodge says.

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Pictured: Delta Drop[®] 2x4 at Lincoln Center Galleria Lobby, Houston, Texas, a collaboration with Entos Design

Detail: Museum of Fine Arts, Houston DLT Roof

TEXT BY TIMOTHY A. SCHULER

Designed by Lake|Flato Architects, the two-story, 38,000-square-foot Sarah Campbell Blaffer Foundation Center for Conservation at the Museum of Fine Arts, Houston (MFAH), is organized around four cantilevered, zinc-clad bays that house conservation studios. Their bent-shed-style roofs bounce high-quality daylight through clerestory windows into the center's double-height studios. A subtle whitewash on the exposed underside of the dowel-laminated timber (DLT) roof deck increases the ceiling's reflectivity and also prevents the wood from reddening the light's hue.

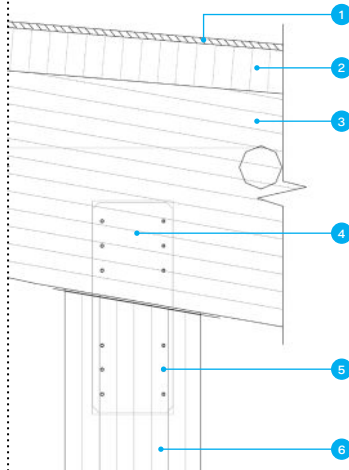
The studio bays feature an exposed timber superstructure comprising spruce-glulam columns and rafters,

which taper in depth. Topping the rafters is a nearly 4-inch-thick, 33-foot-long DLT roof deck. Austin, Texas-based firm co-founder and partner David Lake, FAIA, says the system was chosen for its speed of erection and reduction of roof components, such as insulation: "The wood deck immediately became the cost-effective solution." DLT consists of softwood lumber panels laminated together and held in place via friction-fit hardwood dowels run through pre-drilled holes. This project used spruce-pine-fir lumber with beech dowels.

The conservation center is the first building in North America to use DLT panels, according to Abbotsford, British Columbia-based timber contractor StructureCraft, which,



1. Standing-seam galvanized steel roof, painted
2. Approximately 4" DLT roof deck (spruce-pine-fir panels and beech dowels) with kerf cuts (1.5" o.c.)
3. 24"- to 5"-deep tapered glulam rafter
4. 0.1875" x 6.5" x 17.125" steel knife plate
5. Ø7mm x 193mm self-tapping fasteners (typ. 12)
6. 11" x 8.6" glulam column (10'11" o.c.)



not coincidentally, is the continent's first DLT producer. "The panels for the MFAH were the first panels off of their DLT line," says Lake|Flato associate and project architect Graham Beach, AIA. The roof deck features kerf cuts spaced 1.5 inches on center, creating the appearance of individual wood slats. "We wanted the rhythm of the gap," Lake says. "And since we were whitewashing it, we thought it would add a little bit of texture and shadow to the ceiling." Houston-based Kendall/Heaton Associates served as the project's architect-of-record.

Lake|Flato has several mass timber projects in the works, including a hotel and a seven-story spec office building. "It's getting more and more cost-effective, especially in the Northwest," Lake says. "We're in a renaissance."

Next Progressives: CODA

CURATED BY SARAH RAFSON



Caroline
O'Donnell

Location:

Ithaca, N.Y., and New York City

Year founded:

2008

Education:

B.Arch., Manchester School of Architecture; M.Arch., Princeton University School of Architecture

Experience:

Nettleton Willoughby and Williams, Kees Christiaanse Architects and Planners, Eisenman Architects

Firm size:

Three to six

Origin of firm name:

On one hand, CODA is very straightforward—it stands for Caroline O'Donnell Architecture. However, we like to play with words. "Coda" relates to a

code to be deciphered and to the Latin word "*cauda*," meaning tail; much of our work references the organism as a model for architecture. Coda is also, of course, a conclusion, a closing remark, but one with its own interest, which perhaps hints at the future.

Mission:

We think about architecture as a dialogue with the environment. As a result, the responsive forms that emerge in our design process can be unusual.

We often use unconventional materials to help tell this story, such as grilling wood, skateboard waste, plastic chairs, decomposable materials, charred wood, and mirrors. And our projects often react dynamically in real time to changing seasons, users, or programs.

Favorite project:

Bloodline, a self-consuming grilling pavilion, in Stuttgart, Germany. Through the analysis of the lineage of two existing castles, we proposed a third structure, transforming between a geometrically perfect form, implied by the first castle, and a more asymmetrical and functional "fire-space," implied by the second. The literal transformation of the pavilion over the summer is enabled by the *grillholz* (local barbecue wood) façade that is burned as the pavilion is used.

Second favorite project:

Urchin is a small, open-air theater made entirely from 500 white plastic chairs as part of the Cornell Council for the

Arts Biennial in Ithaca. The project is a perceptual play between the expectation of architectural exuberance and the reality of the everyday object.

Connected by thin rods, the chairs' features are no longer understood in terms of their use—legs, arms, seat—but in terms of their form and material—spikes, curves, voids.

Favorite place to get inspired:

Kinnagoe Beach in county Donegal on the north coast of Ireland. I am lucky to have grown up with this and other Irish landscapes around me that are so much more sublime than any architecture.

Now I live in Ithaca for much of the year, and the lakes and waterfalls do a good job in keeping up with my high expectations of nature that were established early on.

Design aggravation:

Buildings that are alleged to be sustainable, when clearly aesthetics are more important to their designers.

Advice for your younger self:

Don't plan: Just do what's interesting and challenging to you.

Favorite rule to break:

That architecture has one state of being. Our upcoming book (in collaboration with designer José Ibarra) looks to the werewolf as a new model for architecture—one that is transformative, formally and materially, in response to exterior and interior stimuli.

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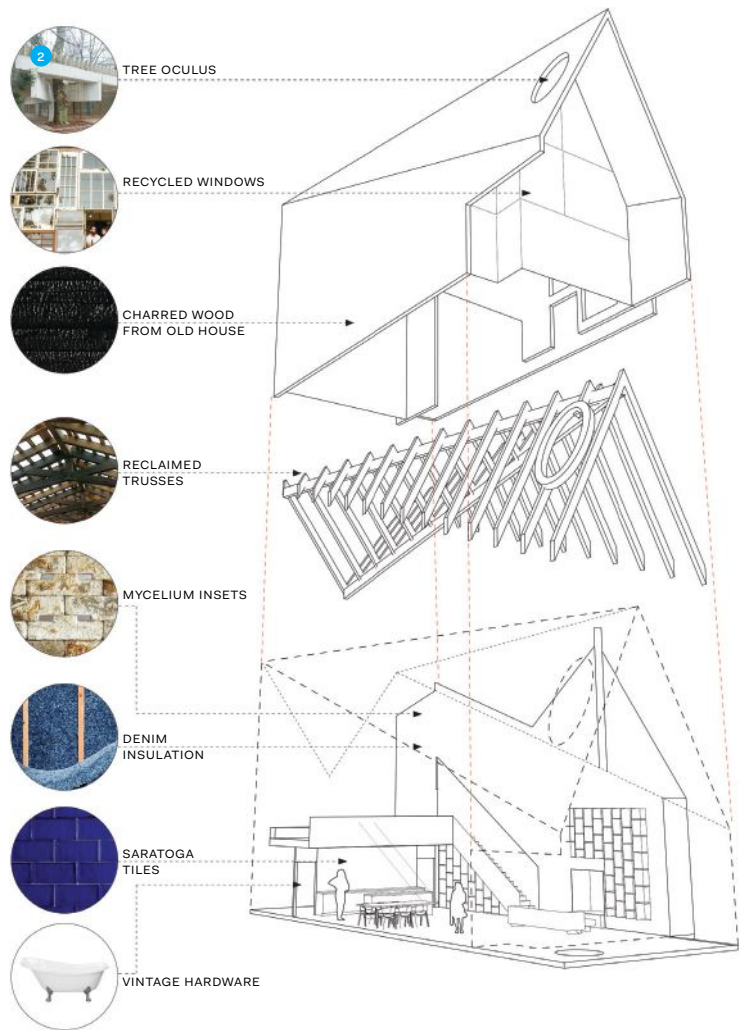
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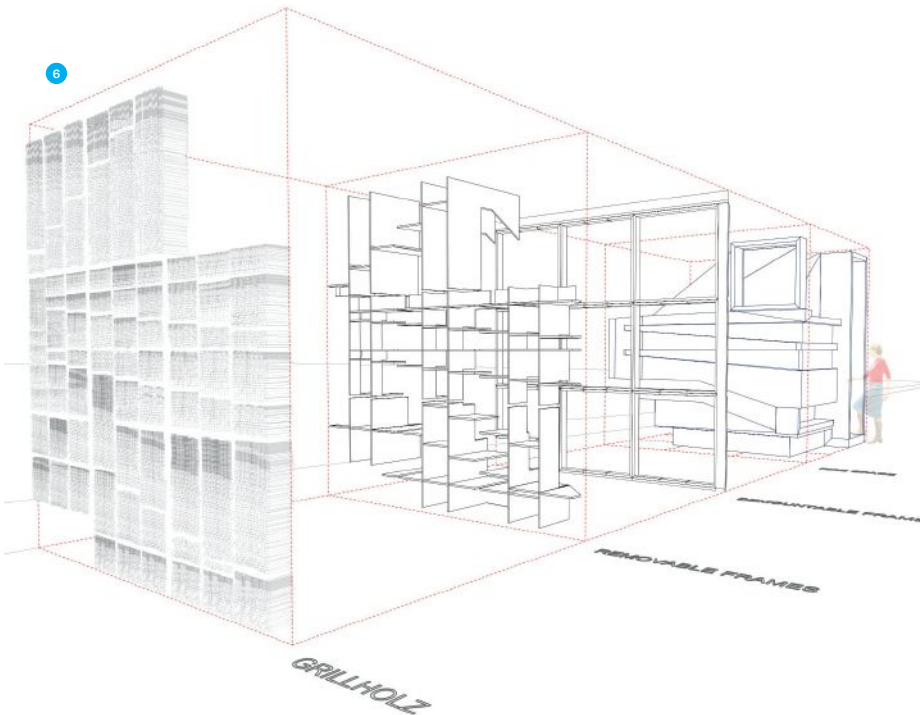
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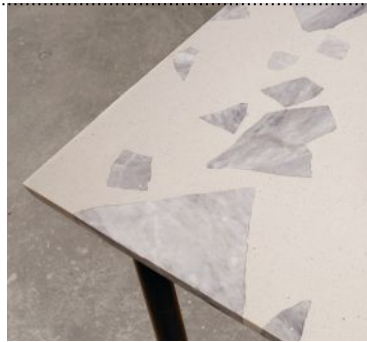
1. Created in collaboration with designer Martin Miller, Primitive Hut (in foreground) in Ghent, N.Y., is made, in part, of a lattice of bio-resin, hemp, and sawdust that will eventually decompose. Evitim (in background) was constructed adjacent to Primitive Hut, using leftover CNC-milled plywood sheets from the construction of Primitive Hut. 2. After a fire destroyed all but the timber frame of a Spencer, N.Y., log cabin, CODA proposed recycling the leftover materials for a new structure. 3. The Urchin pavilion is assembled from 500 plastic chairs. Once the structure was disassembled, CODA cleaned the chairs and donated them to a school in the Gambia. 4. Charged with creating a space to display artwork, housing an artist-in-residence, and providing collective cooking and dining areas, CODA conceived a *shou sugi ban* cedar-clad addition with a series of interior rotating walls for the Constance Saltonstall Foundation for the Arts building in Ithaca. 5. The winner of the 2017 Buffalo Architecture Foundation Little Free Library Design Competition, Tripe repurposes leftover wood used to make 36 reading stools into a porous screen where books can be housed. 6. Assembled in a forest outside Stuttgart, the Bloodline grilling pavilion "is consumed as the grill is used, gradually revealing the asymmetric fire-space inside," O'Donnell says.

Products: Kitchen Fixtures and Finishes

TEXT BY AYDA AYOUBI

Hunter Green 2041-10, Benjamin Moore

"Bold" and "saturated" is how Benjamin Moore describes this classic green. In kitchens, this rich shade could be used on cabinetry paired with a light-hued countertop surface, creamy white backsplash tiles, and black, gold, or brass metallic accents. benjaminmoore.com



Altrack, Robin Grasby

Handmade partly from reclaimed and recycled marble flour, chips, and broken slabs, Altrack surfaces are durable, waterproof, and stain-resistant. For use in a variety of applications, including countertops. altracksurfaces.com



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Chef Center, Franke

Handcrafted from 18-gauge stainless steel, this multifunctional, single-bowl kitchen sink comes with an integrated ledge system and a set of custom-fitted accessories. Available for 30"- and 36"-wide cabinets. franke.com



Veer, Belwith-Keeler

"A nod to chevron" is what Belwith-Keeler's trend manager Knikki Grantham says inspired this minimalist hardware collection. Made from zinc, Veer comprises six pull handles and three knobs, in five finishes. belwith-keeler.com



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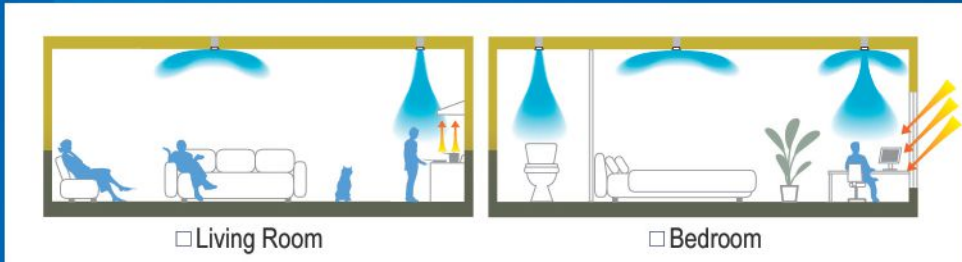


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Opinion: Speak Up!

TEXT BY CAROLE WEDGE, FAIA



At some point in your career, people will start asking how you got there. Though I started 33 years ago in the mail room at the firm of which I'm now the CEO, my response is simple: I put one foot in front of the other and kept showing up, sharing ideas and pushing for the good ones.

But serendipity played a role. Where I worked, women of my generation were treated as architects, not "women architects." We were encouraged to get registered and grow into leadership roles. My generation had grown up with Title IX and were told we could do anything as career women. It never occurred to us that this was not true everywhere.

That said, the generation of women before me did face biases. They noticed when their ideas were ignored or ascribed to a man in the meeting. But in our office, people didn't just notice things—they also made an effort to change them.

When someone challenges your values, intellect, creativity, academic qualifications, inclusion on a team, gender, race, sexual orientation—the list goes on—it often indicates ignorance, an unchecked bias, an inflated ego, or an insecurity. And yes, you can address it.

I recall on a flight when a slightly older man sitting next to me asked about my work. I told him I was an architect. "Oh," he said. "They let women be architects?" Keep in mind, this was around 2010, I was about 50 years old and the president of my firm.

"Are you kidding?" I replied. "Yes, we do encourage women to become architects—and African-Americans, Latinx, Asians, Native Americans," et cetera. Not only did he quickly apologize for the bias that slipped from his mouth, but he also thanked me for correcting him.

These are important interventions—the idiotic comments that you have to be prepared for and willing to address when your values won't let you stay silent, no matter how scary it might seem. You may need to rehearse a prepared response, which can be as simple as "Wow, that comment made me uncomfortable."

And there will be times when it feels difficult to respond in the moment, and you miss the momentary chance to speak up. But if the opportunity remains, prepare your thoughts, write them down, muster your courage, go back to that person, and say, "I regret that I didn't say this when it happened, but that was not OK with me. I do not

want that type of thing to happen again." Make sure they understand you. Ask them to repeat what they heard from you so it's in their own words and so you know you were heard. Make a plan for moving forward.

Of course, the more power you have, the more people will listen. However, you might be surprised to know that many firms do listen closely to their new hires and emerging designers—they represent the future after all. If you are worried about being fired for speaking up, then you are in the wrong place. (And if you are fired for defending equality and fairness, you can explore legal channels.)

It is never too early to develop your vision for how you want to inhabit your career. I recall reading in *The Art of Possibility* (Penguin Random House, 2002) about the idea of "servant leaders," the people who help when there is an accident or a problem, and authorize themselves to help fix it. I want to work with servant leaders. Not only do they take a project from good to great and create lasting relationships that help generate repeat work, but they also speak up when someone makes a racist, sexist, or misguided comment. They stand up for their values.

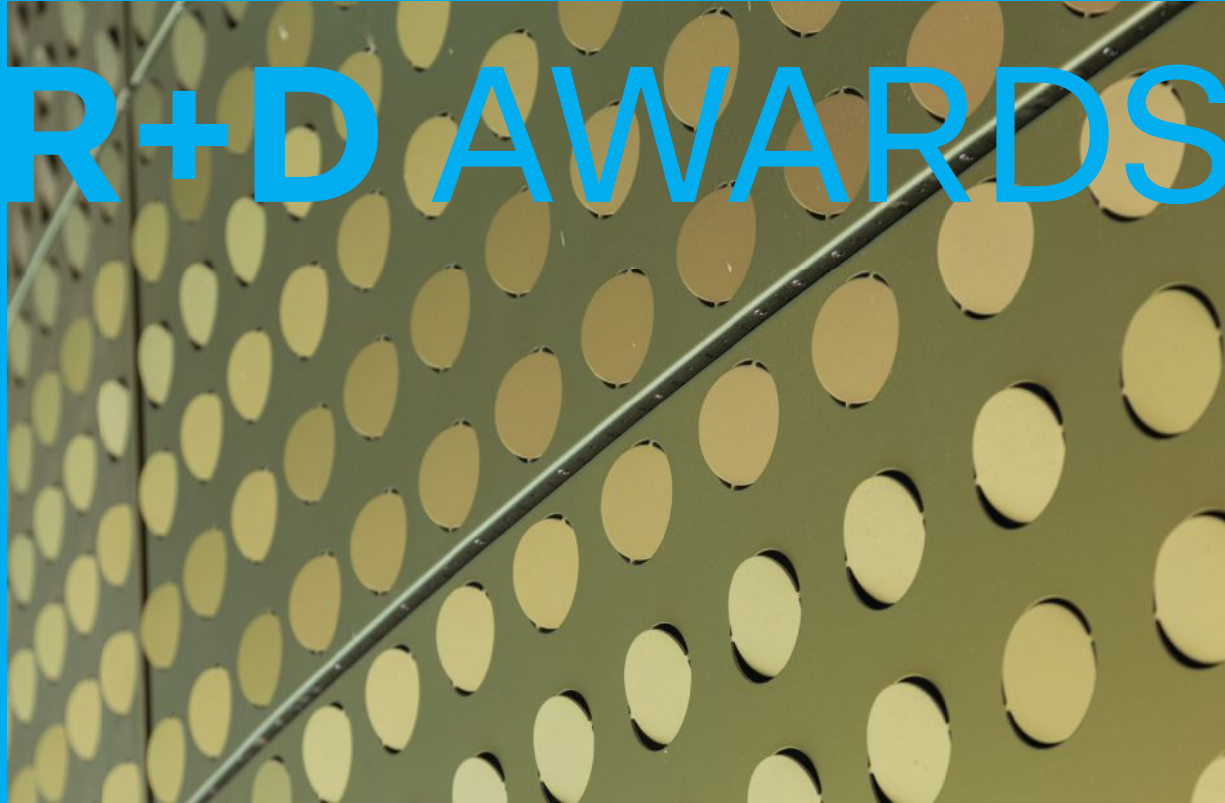
The ability to articulate values and vision is a leadership trait, and one that is improved with practice. Only you can stand up for your values. Don't be a bystander in your life.

Carole Wedge, FAIA, is the CEO of Shepley Bulfinch, in Boston.

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Architectural Lighting: The Case for More Research

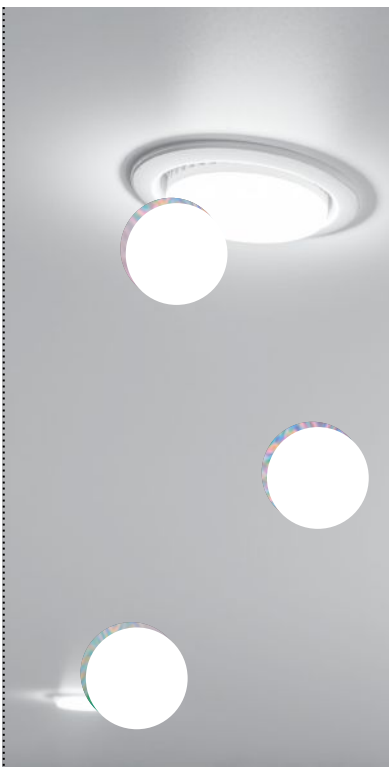
TEXT BY ELIZABETH DONOFF

When one talks about architectural lighting, it's more often than not about the design aspect of the profession or the projects of leading firms. What often goes overlooked is the driver behind lighting advancements: research.

Research generally falls into one of two paths: fundamental and applied. In the field of lighting, fundamental research focuses on the science of light; much of the significant lighting advancements of the early 19th century were made in electricity, photometry, and the development of new lamp sources. Meanwhile, applied research covers practical matters such as performance, daylighting, and sustainability.

Large and Larger Challenges

The introduction of LEDs and advancements in solid-state lighting (SSL) over the past 15 years have led to the re-examination of fundamental technological issues—color, flicker, dimming, brightness, glare, optics, and controls—as well as to challenges related to applications, such as lighting metrics and new performance criteria to consider in the illumination of spaces. “Everybody’s a bit concerned about having only one light source to choose from,” says Mariana Figueiro, director of the Lighting Research Center (LRC) and architecture professor at Rensselaer Polytechnic Institute in Troy, N.Y. “There is no R&D on any other light source. Everything is LEDs. Yes, it is energy efficient, but will people accept and



like it? There are many human factors associated with the use of LEDs that we still do not know.”

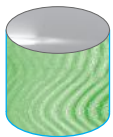
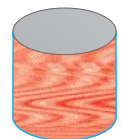
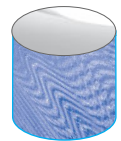
Other lighting experts share Figueiro’s concerns. Robert Davis, senior staff lighting engineer at the Pacific Northwest National Laboratory (PNNL) in Portland, Ore., cautions that researchers have to make room for both new and established areas of investigation. He points to the “explosion of interest in the so-called ‘nonvisual’

aspects of lighting, precipitated in large part by the discovery of the ipRGC photoreceptors at the turn of the century.” (ipRGC photoreceptors are critical to synchronizing our circadian rhythm to light; the other photoreceptors are rods and cones.) But by focusing on the “sexy new thing,” Davis continues, “we forget about long-standing needs for lighting research like better color metrics, better glare metrics, better quality metrics, and a better understanding about how light affects people cognitively and emotionally, through both visual and nonvisual means.”

Even with newfound research areas attracting more interest, the lighting design profession remains small—and the research constituency within even smaller. It is “a community of thousands,” says Kevin Houser, professor of architectural engineering at Pennsylvania State University and editor-in-chief of *Leukos*, the journal of the New York-based nonprofit Illuminating Engineering Society (IES).

In the United States, the network that focuses on lighting-specific research comprises a core group of academic institutions, professional associations, and government entities: the IES, the LRC, the U.S. Department of Energy’s (DOE’s) Solid-State Lighting Program, and other DOE laboratories, such as the PNNL and the Lawrence Berkeley National Laboratory in Berkeley, Calif.

Globally, a number of academic institutions and research organizations—



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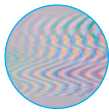
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Architectural Lighting: The Case for More Research

including the Commission Internationale de l'Éclairage (CIE) in Vienna, the École Polytechnique Fédérale de Lausanne in Switzerland, and the National Research Council of Canada in Ottawa—provide thought leadership and contribute significantly to the broad lighting research agenda.



CIE Priority Research Topics

- Recommendations for healthful lighting and nonvisual effects of light
- Color quality of light sources related to perception and preference
- Integrated glare metric for various lighting applications
- New calibration sources and illuminants for photometry, colorimetry, and radiometry
- Adaptive, intelligent, and dynamic lighting
- Application of new CIE 2006 colorimetry
- Visual appearance: perception, measurement, and metrics
- Support for tailored lighting recommendations
- Metrology for advanced photometric and radiometric devices
- Reproduction and measurement of 3D objects

Advancing the Agenda

In 2015, the IES established a Strategic Research Advisory Panel and outlined four research priorities that tie back to the society's core tenet of discovery:

to refine knowledge about lighting and visual processes; understand the impact of light exposure on human health; foster the integration of lighting into the holistic built environment; and demonstrate the value of quality lighting.

Similarly, in 2016, the CIE established a strategic research plan that named 10 topics ripe for investigation. These topics include glare, color quality, calibration sources and illuminants, and health-related and nonvisual effects of light (see "CIE Priority Research Topics," at left). Combined with the IES Strategic Research Advisory Panel's aforementioned priorities, these 14 topics cover a swath of both fundamental and applied research areas. They also indirectly highlight another of major challenge facing the research community: funding.

Funding Matters

Perhaps surprisingly, the lighting industry, which includes product manufacturers, has not been a significant source of funding for research. "Industry is very interested and willing to provide support in many important ways," Davis says, "but the reality of the costs for conducting high quality research today, combined with the reality of a low-profit-margin—some would say commodity—industry, means that funding must come from deeper pockets."

In the United States, those deeper pockets belong mainly to the DOE. Specifically, the DOE Office of Science provides hundreds of grants across its 12 research and development program offices. The DOE's SSL program, for example, awards SSL research and technology grants to fund upwards of 10 SSL and OLED (organic LED) research projects annually.

Figueiro and her team at the LRC have also found success in reaching out to the medical and scientific communities for funding, particularly in research areas that are generating a lot of interest: light and health, and the circadian cycle. "We're always looking outward and looking at the user of light,"

she says. Working with organizations such as the National Institutes of Health, the National Institute on Aging, and the National Science Foundation, the LRC has been able to advance a number of studies that examine "the impact of light on human health and well-being," she notes.

Resources and Collaboration

One long-standing vehicle for disseminating the latest in lighting research is lighting journals, such as *Lighting Research & Technology*, in the United Kingdom, and the aforementioned *Leukos*. Lighting research discussions can "really explode," Houser says, when one considers content from other peer-reviewed journals, such as *Building and Environment*, *Energy and Buildings*, *Journal of Environmental Psychology*, *Optics Express*, and *Journal of Modern Optics*. When conversation expands "into the physics and chemistry of light generation and the material science aspects of lighting," Houser continues, "then, it's much, much bigger."

Since 2012, *Leukos* has experienced an increase in article submissions. Factors contributing to its growth include its partnership with global publisher Taylor & Francis and its expanding online presence, where both IES members and the public can access content. Making the journal available to the entire lighting community and beyond has been a priority for Houser. This year, *Leukos* will publish a special issue on lighting research methods that will be made available online for free thanks to a collaborative initiative between the IES and the CIE.

Although architects, and even some lighting designers, might not recognize how fundamental and applied research directly affects their everyday work, it remains as critical as ever. A research agenda open to new avenues of exploration and to areas that span multiple disciplines can serve as a strong backbone to generate both funding and widespread, sustained interest.



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Residential: Dean/Wolf Architects

TEXT BY EDWARD KEEGAN, AIA

Perhaps the only thing more difficult than describing something inspired by transience is building it. That's the challenge New York-based Dean/Wolf Architects set for itself for its 2012 Progressive Architecture Award-winning house, Ephemeral Edge. Now complete, the house captures a great deal of fleeting poetry in its realized form.

The 2,000-square-foot single-story structure sits on the north edge of a manmade pond in a forest clearing near the hamlet of Austerlitz, about 110 miles north of New York City. The clearing was created by a developer about a decade ago, and its artificial origin was not lost on principal Kathryn Dean, AIA: "It is beautiful, but in kind of a strange way," she says. "The trees have really tall trunks but all the leaves are at the top." Dean abstracted the ever-changing and particular light and shadow that the trees create to infuse the house with the ephemerality that gives it its name.

The plan is configured as a simple arcing form that follows the curve of the pond's edge. The torqued shed roof rises and falls to vary the interior spaces. The north wall of the house is mostly solid, save for glazing to indicate the entry and a sculptural aperture that creates a sightline between the kitchen and driveway. The south wall facing the pond is floor-to-ceiling glass.

The entry is near the middle of the floor plan's arc, and the slope of the roof plane tilts to open the house toward the public spaces (kitchen and living areas) to the east and to tighten the



Ephemeral Edge sits on the north side of a manmade pond near Austerlitz, N.Y.

Project Credits

Project: Ephemeral Edge, Austerlitz, N.Y.

Client: Withheld

Architect: Dean/Wolf Architects, New York · Kathryn Dean, AIA, (principal-in-charge); Chris Kroner (associate partner); Charles Wolf, Zachary Rousou (project team)

Structural Engineer: Hage Engineering

Geotechnical Engineer: Crawford and Associates

Size: 2,000 square feet

Cost: Withheld

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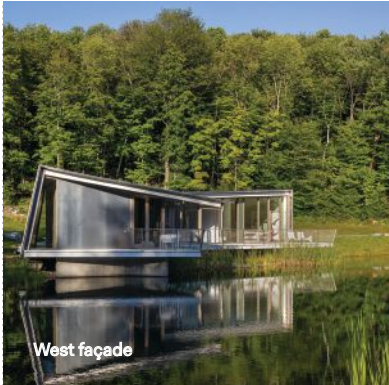
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Residential:
Dean/Wolf Architects



perspective toward the bedroom at the west. "There aren't any doors, but there is privacy between four different areas," Dean says. "You basically weave around planes in space."

The dining room sets the tone for the house upon entering. A custom-designed table's horizontal wood surface echoes the still surface of the pond beyond and cantilevers from an irregularly patterned series of 1-inch-wide steel legs that penetrate the tabletop and emerge to become candleholders. Similar steel bars—rebar, in fact—to the east of the table sit in front of a sandblasted, warm-gray acrylic partition that separates dining room from kitchen. Light filters in from a skylight above.

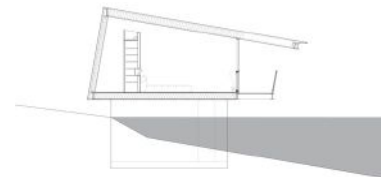
The rebar is part of the house's unconventional structural system, inspired by the site's tall, thin trees. Three sets of steel rebar separate the main spaces within the house and provide the primary vertical structural support; the floor and ceiling planes cantilevered from these ghost piers. "It's like using a concrete wall without the concrete," is how the structural engineering team from Hage Engineering describes it. The piers were designed by Dean and precisely laser cut and fit together by the contractor. Each is capped with a skylight that allows light to permeate interior spaces. Dean notes that the house's radial layout leads to a sundial effect over the course of the day, with each room being illuminated

at different times: the master bath gets light in the morning, the kitchen at midday, and the living room in the afternoon.

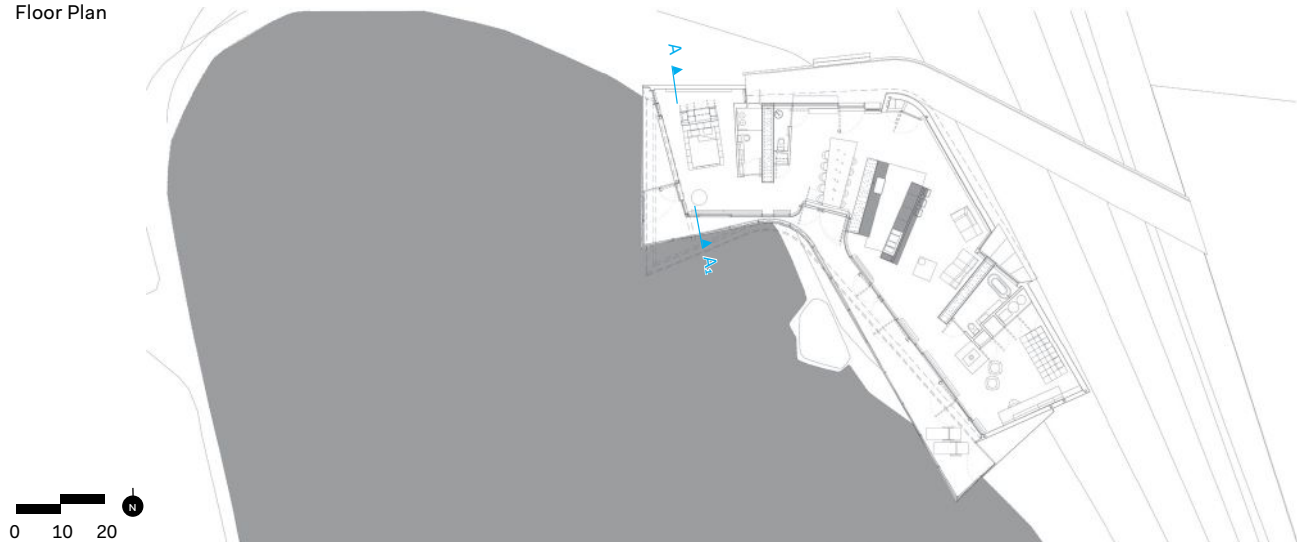
The exterior is primarily sheathed in corrugated Galvalume siding, with flat aluminum panels used for the soffits and the sculpted window surround; the same panels are used on the dining room ceiling. The color palette is light, and includes white marble countertops in the kitchen, white stone flooring in the dining room, and white oak floors with a light gray stain. Most of the interior walls and ceilings are polished plaster. "All the materials have a sheen of one kind or another," Dean says. "Because the house faces south, you get light bouncing off the pond and dancing on the ceiling all the time."

That play of light as it moves through the rooms makes Ephemeral Edge an ever-changing space that evokes the impermanence of its name.

Section A-A₁



Floor Plan



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Residential:
Dean/Wolf Architects



1. Ephemeral Edge is clad in corrugated Galvalume siding. **2.** The dining area opens onto a pond-side deck with a custom railing made of stainless steel and cable by Malove Laser. **3.** The seating area off the kitchen is furnished with pieces from B&B Italia. **4.** The open kitchen features a La Canache stove with a hood from Zephyr and cabinets by Tim Cook. Venetian plaster on the walls throughout the house was applied by Ron Decavalcanti.

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THE RISE OF GABLED MODERN ARCHITECTURE

FROM ORIGINS TO FUTURE DIRECTIONS

Presented by:



The Gabled Modern House as we commonly see it today—primarily in spec homes and custom builds.

INTRODUCTION

Residential architecture is always changing. The news headlines and social trends that represent a period of time also influence how homes are built. From available materials and consumer wealth to how people consume information, the effect on residential architecture can be seen in home design and construction.

Most single-family homes in the U.S. today are designed by staff architects and designers working for developers. Further, many homes that are being designed incorporate some blend of traditional gabled roofs, and the traditional use of the gabled style has given way to architectural sameness. As a result, most award-winning home designs do not use gabled roofs but instead incorporate a flat roof design. There exists an opportunity for

forward-thinking builders to shift their design from traditional to modern using a familiar style with a modern twist. An architect's ability to identify and incorporate these design trends into client projects is important; they're expected to recommend designs that not only reflect today's style but also tomorrow's needs.

What works for one project may not work for another, depending on the region, location—urban or rural—or market. Up until recently, designers had to choose different styles to suit different project needs. With the rise of the internet, there are more architectural styles playing out across larger regions. This is compared to the unique regional influences that used to exist, such as the contemporary white farm house, for example. The Gabled Modern home can be seen in rural and urban communities and in luxury and middle markets

LEARNING OBJECTIVES

Upon completion of this course the student will be able to:

1. Discuss the core differences between gabled modern styles by geographic setting and market type.
2. Demonstrate the relationship between various cultural, economic, and consumer trends and the rise of this architectural style.
3. Identify the key features, characteristics, and trending variations of this contemporary look.
4. Explain why the gabled modern style is influencing trends and treatment of roofs.
5. List the various design elements impacting the look of roofs moving forward.

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alike with their wide range of applicability and design options. The Gabled Modern style may have its origins in post-Depression era Minimal Traditional homes, but there are several other influencing factors helping to propel Gabled Moderns to the forefront of modern architectural design.

This article will help architects understand this trend through its origins and influences. Readers will learn how they can help builders and homeowners design a Gabled Modern home using the latest in color and material options. Finally, an exploration of how existing design styles and accents are being incorporated into Gabled Moderns will enable designers to apply a wide range of stylistic accents to any project. This knowledge will set readers apart as they will be able to incorporate a unique design trend and know how to apply it in different scenarios.

First, a look back in time to see the origins of Gabled Moderns.

THE GABLED MODERN STYLE: A RISING TREND

An individual can drive through any neighborhood in the United States, urban or rural, and deduce when the houses were built and what the major economic influences were at the time, based on the design characteristics of the homes. Each decade tends to have its identifiable style: a trend that represents a generation and reflects the culture of the time. One can look at a Minimal Traditional-style home and know that it was the hallmark style of the 1930s, for example.

GLOSSARY

1. Gabled Modern

Recently named home style featuring the stylistic elements of the gabled roof combined with modern design accents and clean lines so the entire home is seen as a single silhouette

2. Minimal Traditional

Popular home design style in the Depression-era featuring low ornamentation, simplistic designs, local materials, and small footprints

3. Historical Vernacular

Referring to America's residential architectural history and characterized by homes built without skilled architectural guidance

4. Tiny Homes

Homes on a small footprint of less than 800 square feet and representing minimalistic living

5. Rural-Urban

A cultural shift not only in where people live, but in how urbanites want to incorporate elements of rural living into city dwellings

6. Sensorial Ease

A minimalistic approach to design that relies on simplicity and fewer visual distractions to help consumers reconnect with their environment

7. Digital Overload

Over-exposure to social media and digital life that causes numerous negative side effects

8. Monochromatic

A single-color approach to residential building design where the roof color and/or material is the same or closely matches the rest of the home's exterior

9. Subtraction/Duplication

Variations on the Gabled Modern style utilizing architectural "cuts" that remove a section of the original shape and/or use the basic shape in layered repeats

10. Traditional Mash-Up

Another variation on the Gabled Modern style that uses traditional building layouts and materials with contemporary design accents

Gabled Modern homes are a new construction style and exhibit parallels between minimalist, Depression-era homes of the 1930s. A close relative to barn homes, Gabled Moderns give the builder industry unique options to experiment with construction details, stylistic accents, and the freedom to work with small or large residential footprints. What sets this type of home apart is similar to modern design trends but applied differently and for different reasons. Distinguishing these differences is crucial to properly apply the Modern Gabled style to new construction.

A full understanding of the new Gabled Modern styles requires reaching back several decades—referencing both vernacular architecture and post-depression homes of the 1940s to the variety of present-day applications in residential architecture. Following that will be a discussion on the contributing economic, cultural, and consumer factors influencing why this home style is trending. Lastly, new and evolving trends for the Gabled Modern house and beyond will be analyzed, with special attention paid to roofing systems.



The gabled moderns of today are a contemporary take on the simple barn homes of the past and of vernacular architecture.

Vernacular History

Any discussion on the Gabled Modern home must include a reference to America's residential architectural history.

1930s and 1940s

Architectural similarities can be traced back to the 1930s and 1940s, where function was the primary focus and simplicity was key due to the harsh economic climate. Like the Gabled Moderns, Minimal Traditional homes of the '30s and '40s were and characterized by a few key points. Stylistic cornerstones consisted of the following features:

- simplistic silhouettes
- basic box shapes with open gable roof,
- little to no overhang of eaves,
- highly austere, low ornamentation,
- basic building materials—primarily wood or stone,
- single level or one and-a-half levels common, and
- small footprint—low square footage.

Compared to the Minimal Traditional homes of the Great Depression and World War II era, Gabled Moderns share a few characteristics, namely simplistic silhouettes, basic box shapes with open gable roofs, and little to no overhang of eaves. From there, the gabled moderns of today take this simplistic architectural style further, which will be discussed later.

Post-World War II, the trend of affordable, simplistic homes gave rise to suburban sprawl as entire housing communities sprang up. These homes were sometimes pre-fabricated, allowing for mass production. Architects and builders had more design choices and building materials to choose from, since consumers started to demand more ways to express individual preferences in the look and style of their homes. Most homes were still built on a relatively small footprint and featured little ornamentation, like Gabled Moderns. Stylistic preferences favoring simple, practical designs with little ornamentation were about to fall by the wayside as the nation's confidence grew.

1950s and 1960s

In the decades following World War II, residential articular styles reflected the America's growing wealth and economic strength. Cape Cods rose in popularity in 1950s suburban living and allowed homeowners to express their individuality

through modern siding and roofing choices. Like the Gabled Moderns of today, Cape Cods feature little ornamentation, one and a half levels, and traditionally small footprints.

The 1960s gave rise to Usonian homes, inspired by the designs of renowned architect Frank Lloyd Wright.¹ These homes were considered practical and modern, characteristics shared by Gabled Moderns.

Mid-Century Modernism in the 1960s was reflected by the ideal that ‘bigger is better.’ One-story ranch homes became two stories, and homes started to occupy larger footprints. Yet, the focus was still on suburban living; there was not yet an architectural style that could adapt to urban dwellings the same as suburban or rural homes.

Gabled Moderns draw features and characteristics like Minimal Traditional, Cape Cods, Usonians, and Ranch-style homes. Features like simplistic, practical design, basic building design and materials, single-story, and low square footage could be seen in different variations from the 1930s to the 1960s. Today’s Gabled Moderns share the above features and are also characterized by:

- highly austere, low ornamentation,
- single level or one and-a-half levels common, with two-story versions popular with families and urban dwellers, and
- small and large footprints.

Unlike the pre-fabricated, mass-produced homes of the Mid-Century Modernism movement, Gabled Moderns commonly seen today are primarily in spec homes and custom builds. These stylistic differences are explored next.

STYLISTIC DIFFERENCES OF THE GABLED MODERN HOME

This style has been growing in popularity over the last decade, but it didn’t have a name until recently. Gabled Moderns have borrowed different construction and design elements from other styles over the years, but they don’t “look” like anything seen before. This growing interest in applying and adapting the style in ways not typical to its historical origins reflects current influences and consumer trends. The Gabled Moderns of today are a contemporary take on the simple barn homes of the past—homes that were erected not by an established architect but rather by local contractors or home owners with available (and usually locally sourced) materials.

In this regard, vernacular styles were the architecture of common people, built without guidance from a formally educated professional. Function was the most important requirement, and any aesthetic ornamentations without purpose were usually omitted. Gabled Moderns, on the other hand, are intentional designs. Skilled architects consciously borrow design elements from vernacular history and apply them to functional, practical, and beautiful home builds. Examples of this can be seen across the world.

Global Appeal

This evolution of early vernacular barn house styles into Gabled Modern ones began popping up in various regions throughout Europe in the wake of the great recession of 2008. These regions have a strong focus on repurposed architecture as well as an aesthetic austerity that is often built into the DNA of the culture. From there, the trend expanded and is now popular among custom architectural projects in the United Kingdom, Australia, Canada, the United States, and beyond.

Today’s builds amplify the simplicity of country living, marked with a new “less is more” sense of contemporary elegance. These dwellings range from large, luxury homes to casual family residences, to simple, one-room escapes.

Rural regions aren’t the only ones noticing the influence of this architectural style. Urban areas—often in redevelopment and infill projects—are also showing a rise in attention to this style.

STYLE VARIATIONS IN LUXURY, MIDDLE, AND ENTRY MARKETS

Gabled Moderns in cities are typically longer rectangular forms and two- or three-story heights—ideal for the narrow lots typical in urban areas where space is limited, and upward builds are encouraged. For neighborhoods with larger plots, L- and C-shape formations are popular. The beauty of Gabled Moderns is their adaptability to these variety of dwellings and lot sizes. Design flexibility is a hallmark of this style, as it can be used in custom architecture for the middle market as easily as luxury dwellings.

The luxury market is not limited to variations based solely on land sizes. Today, the



Larger footprints and greater use of windows and skylights are common among luxury designs seen with the Gabled Modern home.



consumer's expanded ideas of luxury include simplicity and austerity—paving the way for upscale adaptations of the Gabled Modern style. Larger footprints and greater use of windows and skylights are common among luxury designs.

Of course, mid-level and entry price points are two areas where the Gabled home can be well-applied. Fewer and/or smaller windows and more modest materials are more typical here. Mid-level looks are growing in popularity in up-and-coming urban neighborhoods, and even for some tract home developments where younger buyers and new families may be looking for a new, contemporary style of home at an affordable price.

Entry-level styles tend to sacrifice square footage before anything else. As single stories, the pitched roof allows for a greater sense of space by way of cathedral ceilings. The tiny-home trend (under 800 square feet) appeals here. Some homes blend various vernacular styles, such as barn with cape cod, shotgun shack, or even salt-box styles.

Tiny homes reflect a modern trend toward minimalism and simplicity, details that work well with Gabled Moderns. Unlike the 'bigger is better' culture, consumers favoring this philosophy desire that space be used smarter and with greater emphasis on the environment. They also desire more financial freedom and less materialism than what traditional homes often entail.

Gabled Moderns also focus on minimalism and simplicity, and designs that blend in with the surrounding environment. The Gabled roof style is designed to improve energy efficiency and sustainability. Their longevity also saves money and their design flexibility allows for a wide range of creative influence, no matter the square footage. In few other architectural design styles can the needs of luxury also intersect with the needs of living smaller.

With all these variations at hand, the notion of an evolution from any sort of vernacular simplicity starts to feel less relevant. In fact, while the idea of a barn house or the simplistic designs of Depression-era homes as stylistic parallels re relatable, they don't entirely explain the catalysts to this design trend. What continues to move Gabled Moderns forward is the impact of societal changes and consumer influences on building choices. To get a better

QUIZ

- Gabled Moderns draw the most influence from _____ homes of the _____.
 - Cape Cod/1930s and 1940s
 - Barn/1930s and 1940s
 - Barn/1940s and 1950s
 - Usonian/1950s and 1960s
- Minimal Traditional homes had many characteristics, such as _____.
 - Simplistic silhouettes
 - Basic box shapes with open gable roof
 - Basic building materials, usually locally sourced
 - All of the above
- Early vernacular barn-style homes gained popularity in what regions first?
 - Rural Europe, Scandinavia, and Japan
 - Rural Europe
 - Scandinavia and Japan
 - Japan and Australia
- Entry-level and middle-market Modern Gabled houses blend various vernacular styles, such as shotgun shack, salt-box, or _____ styles.
 - Cape cod
 - Ranch
 - Barn with cape cod
 - Barn
- There are approximately ____ percent of people living in urban areas today.
 - 55
 - 60
 - 65
 - 75
- Sensorial Relief design examples include all the following EXCEPT:
 - Multi-purpose spaces
 - Single color for the roof and walls
 - Reduced ornamentation
 - Austere design
- The idea that 'bigger is better' was reflected by which time period of history?
 - Mid-Century Modernism/1960s
 - Early 1900s
 - World War I era
 - None of the above
- _____ as an all-over color is seeing the strongest uptrend growth of all popular colors.
 - White
 - Tan
 - Black
 - Gray
- In Traditional Mash-up architectural designs, _____ can be combined with familiar building materials like wood, brick, and stone.
 - Double-hung windows
 - Double-hung windows, eaves
 - Single-pane windows, eaves
 - Single-pane windows
- Modern roofs provide which of the following benefits:
 - Save and produce energy
 - Stormwater capture
 - Material use (instead of waste)
 - All of the above

understanding, one must review some of the cultural and economic shifts that have impacted consumers over the past decade and thus have paved the way for an interest in Gabled Moderns to rise.



This article continues on
<http://go.hw.net/AR022019-2>.
 Go online to read the rest of the article and complete the corresponding quiz for credit.

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CONCRETE



CLAY



COMPOSITE

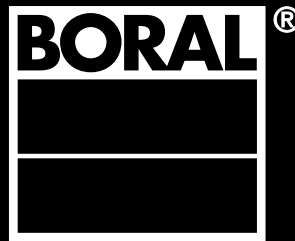


STEEL



3 STYLES





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TRADITIONAL

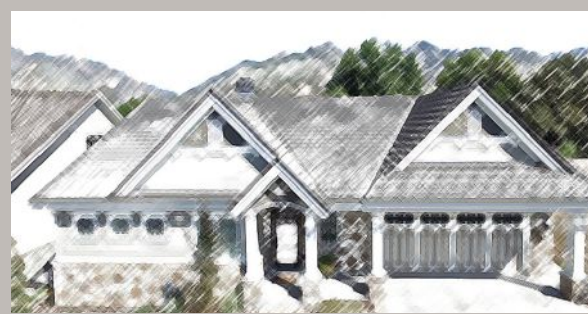
American adaptations of regional home styles from other time periods or areas of the world. Often mixed references.



- COTTAGE
- CRAFTSMAN
- SPANISH COLONIAL
- FOURSQUARE
- NEW TRADITIONAL
- FRENCH CHATEAU

TRANSITIONAL

Prefers the clean lines of contemporary architecture, but draws heavily on details and styles from traditional architecture.



- RANCH
- MISSION REVIVAL
- CONTEMPORARY FARMHOUSE
- PRAIRIE

CONTEMPORARY

Characterized by a preference for clean lines, open concepts, decoration, ample light sources, large windows, and lack of round forms.



- MODERN
- NEW BARNHOUSE
- CONTEMPORARY
- MID CENTURY MODERN

MANUFACTURED STONE VENEER

BEST PRACTICE INSTALLATION PREVENTS WATER INTRUSION IN NON-MASONRY APPLICATIONS

Presented by:



Figure 1. The New American Home of 2016, featuring Bianca Bugnato with Savvia Accento bands.

LEARNING OBJECTIVES

Upon completion of this course the student will be able to:

1. Review the composition and manufacturing of manufactured stone veneer, its performance attributes, and The American Society for Testing and Materials (ASTM) standards related to the building material.
2. Recognize the ways in which manufactured stone veneer is sustainably and responsibly manufactured.
3. Identify common installation practices and mistakes in water intrusion prevention that can lead to failure.
4. Understand how to specify and install a manufactured stone veneer wall system to ensure a successful project.

CONTINUING EDUCATION

AIA CREDIT: 1 LU

AIA COURSE NUMBER: AR022019-1



Use the learning objectives above to focus your study as you read this article. To earn credit and obtain a certificate of completion, visit <http://go.hw.net/AR022019-1> and complete the quiz for free as you read this article. If you are new to Hanley Wood University, create a free learner account; returning users log in as usual.

INTRODUCTION TO MANUFACTURED STONE VENEER: COMPOSITION, MANUFACTURING, AND PERFORMANCE ATTRIBUTES

Consider the “visual impact, beauty, and distinctiveness of stone. Stone offers depth, increases richness and solidity, [as well as] a deep connection to the environment.”¹ Manufactured stone veneer (MSV) offers all of the qualities of natural stone, however, without the weight or cost. Even upon close examination, MSV has the appearance and feel of natural stone.

Manufactured stone veneer ranks as the second highest return on investment of home remodeling products, returning 97.1% of its cost. The year 2018 marks the fourth year in a row that MSV has been one of the top three products offering return on investment.²

Additionally, there is one manufacturer that has adopted a start-to-finish philosophy in regard to MSV. The manufacturer offers design, manufacture, installation, and warranty, consolidating the supply chain and simplifying the sourcing process. The manufacturer makes and installs their products by the company’s trained artisans to meet or exceed ASTM standards and IBC codes. This business model, unique in the MSV industry, saves time and money, as well as provides responsible, sustainable production of manufactured stone veneer.³

Composition, Performance Attributes, and Manufacturing



Figure 2. Manufacturing and applying color to molds in the Denver, CO manufacturing facility.

Manufactured stone veneer is made from Portland cement, aggregates, and iron oxide pigments: the cementitious materials, such as Portland cement and fly ash, provide stability and are the binding paste for the concrete matrix; the aggregates help to lessen weight, which helps in handling, ensuring a bond with the mortar setting bed, and minimizing the load on the structural substrate; and the iron oxide pigments provide coloration. Chemical additives, such as integral water repellents, are added to the mix to alter one or more of the features or properties of the finished product and to provide resistance to weathering.

MSV is non-load bearing and can be used to create visual interest, as part of biophilic, modern prairie, and contemporary farmhouse design, or simply as an accent on the interior or exterior of a space. Some builders use stone veneer as trim on concrete, masonry, wood stud, and light gauge stud walls, as well as on metal buildings. Proper installation insures your beautiful application lasts.

MSV is available in a wide array of colors, textures, and patterns. Options are nearly limitless, as MSV products are cast from thousands of individual molds taken from carefully selected natural stone. To eliminate the potential for repetition, no stones are produced with the exact same coloring, allowing MSV to appear more like the natural stone from which it was inspired. Furthermore, choice is not limited by geography, as a vast number of colors, textures, and patterns can be created rather than quarried, shaped, and shipped. Homeowners, architects, and builders are given the freedom of selection without the associated costs.

The manufacturing process also allows for a product that is shaped to fit efficiently into spaces and applications, reducing waste and speeding installation. In addition to the larger units created for interior and exterior walls, accessories are also available to further streamline the installation process. For instance, drip ledge Water Table Sills, electrical outlets and light stones, hearthstones, keystones and trim stones, brick corners and rowlocks, column post caps, mantle and brackets, shutter blocks, and wall caps are the accessories some manufacturers offer. These products are IAMPO certified and conform to the latest AC-51 specifications.⁴

One manufacturer offers the following insights into its manufactured stone and brick properties:

- Stone Thickness: 1 1/8" to 2 1/2"
 - Thin Brick Thickness: 1/8" to 1" (2 1/2" wide x 8" length)
- Weight: maximum of 15 lbs./sq.ft.
- Density to be determined under ASTM C 567
- Compressive Strength: Minimum of 1,800 PSI when tested in accordance with ATSM C 192
- Water absorption: less than 18% when tested in accordance with ASTM C 140 or UBC standard 15-5
- Freeze-thaw: less than 3% mass loss when tested in accordance with ASTM C 67

- Shear Bond Strength: minimum of 50 PSI when conducted in accordance with ASTM C 482
- Thermal Resistance: $R \geq .865$ when tested at a thickness of 1.0" (25.4 mm) in accordance with ASTM C 518
- Smoke and fuel contribution: UL listed 0/0
- Flexural strength: tested in accordance with ASTM C 348, Section 4.4
- Tensile strength: tested in accordance with ASTM C 190, Section 4.5
- Weather resistance: Mix design proven by test results to be resistant to degradation by weather.⁵

Colors, sizes, textures, and accessories can all be selected by the specifier. It can be beneficial for specifiers to work with manufacturers who are involved with the Masonry Veneer Manufacturers Association (MVMA), National Association of Home Builders (NAHB), American Institute of Architects (AIA), Built Green, and/or other industry associations to ensure the quality, sustainability, and accountability of both the product and the manufacturer. Builders can also earn LEED credits by working with certain manufacturers.

Responsible Manufacturing

Responsible manufacturers will strive to reduce greenhouse gas emissions by utilizing materials that are extracted, processed, and manufactured locally. This reduces the impact of transportation on the environment. They should also strive to use natural gas, where possible, in production processes, as well as utilize clean fuel consumption and reduce the consumption of electrical energy from coal burning and oil burning, which damage human health and the environment.

Products from some manufacturers can also inherently optimize a building's energy performance. For example, the mortar base used to install products, as well as the product itself, protects the shell of a structure from external weather elements. Materials with more insulation usually result in less energy required to heat or cool a building.

By reducing, recycling, and reusing, manufacturers can further make a positive impact on the environment. For instance, reducing can include the following:

- the contamination of air, soil, and water by reducing the use of hazardous products

- the consumption of energy through manufacturing efficiencies and the consumption of electrical energy through the use of natural gas
- the consumption of fuel through the use of local materials and efficient planning of product deliveries
- the consumption of resources by offering products with proven strength and durability
- the amount of waste going to landfills from production facilities and at jobsites by recycling and reusing byproducts of operations, manufacturing, and installation wherever possible
- the amount of aggregate/cement-based wastes going to landfills by diverting to licensed inert landfills that provide reclamation

In addition to reducing consumption, sustainable manufacturing practices also include recycling materials such as paper, cardboard, glass, metal, and plastic at facilities, and using recycled materials whenever possible. This includes lightweight aggregates that are diverted from a landfill and used in the manufacturing process. Products can be recycled at end of life, and wastewater in the manufacturing process can also be recycled. Scrap can be crushed and reused in new products.

Products from other production processes should be reused whenever possible, and excess wet concrete from the manufacturing process pallets from product delivery can likewise be reused.

THE DANGERS OF MOISTURE INTRUSION: INSTALLATION PRACTICES AND MISTAKES⁷

In addition to sustainability considerations and MSV performance attributes, it is imperative to deliberate the dangers of moisture intrusion. When MSV is not installed correctly, the dangers of moisture or water damage include



Figure 3. Mesa Verde Southern LedgeStone at Gateway 12 IMAX Theater in AZ.

condensation within the walls, moist wall interiors, wet insulation, rot in sheathing and framing, and efflorescence.

Moisture issues can arise from rain or rain that is driven by wind into a wall assembly and by inward vapor drive. Bulk water intrusion and vapor drive can lead to damage and rot in sheathing and structural members in both wood- and steel-framed structures. Inward vapor drive can occur because WRBs are vapor-permeable, and moisture stored within the MSV or mortars can be driven by the sun and heated through the WRBs directly into the sheathing and stud bays. If the cladding is in contact with the barrier, water can linger in those locations, causing them to remain wet for extended periods of time. This can happen in hot and cold climates.

In MSV installations, a two-layer WRB system provides a drainage plane to protect against capillary draw; however, including a rainscreen system between the WRB and stone veneer will create a drainage space that better prevents water intrusion. As noted in *Construction Specifier*, “a ventilated air space allows bulk water to drain out, but also serves as the needed capillary break, meaning water penetrating behind the cladding is intercepted.”⁸

Architect Jeff Diqui, writing for *Construction Specifier*, notes that “the use of fundamentally sound design details—such as rough opening protection and sill flashing beneath windows and doors” is particularly effective against water intrusion.⁹ For instance, including diverter flashing at the roof/wall intersections, saddle flashing at low-to-high walls, flashing at floor lines, and deck flashing can all help to prevent moisture-related issues.

To avoid the negative effects caused by humidity, rain, and wind, it is crucial that trained professionals install MSV products. The importance of expert MSV installation is detailed in an article in *Forbes* magazine. The article notes that Cliff Kapson, an exterior siding consultant from Chicago who has a nationwide network of stone veneer siding inspectors, “does about 250 stone veneer siding inspections every month, and more than 90% of them are not installed in accordance with the industry standard from the National Concrete Masonry Association.” Improper installation—most often stemming from transitions around windows, penetrations, and exterior light fixtures—coupled with the fact that improper installation is not immediately evident, can lead to severe damage and increased costs.

Defective installations cause more damage in wetter climates; however, in areas with less rainfall, “moisture stays hidden for years, and by the time it has manifested on the interior ten years or so later,” the wall can fall apart in one’s hand. Ben Hendricks, owner of ABI Inspection Services in Kentucky, maintains, “There is a ten-step process to installing” manufactured stone veneer, and when installed incorrectly, “there’s no way to fix it without tearing it off and starting all over.” For example, one of the key points Hendricks notes is that MSV siding should ideally be installed six inches above the ground. Any moisture that might get past the siding can then drain out. Installing siding down to the soil impedes drainage and permits moisture to wick up the wall, leading to rot and mold.

In general, to avoid the negative effects of water intrusion, the following top six building practices should be done correctly:

- Flashing around windows and doors.
- Step flashing and roof diverters.
- Detail flashing.
- Flashing at all penetrations.
- Water resistant barriers.
- Weep screed.

When any of the above are not installed correctly, water has the potential to cause damage. The remainder of this section describes common installation mistakes and their solutions.¹⁰

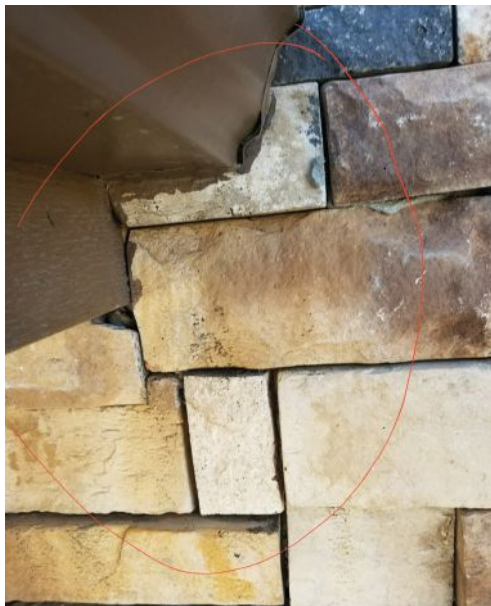


Figure 4. Example of a short kick out with no diverter.

Flashing Failures around Windows and Doors

Mistake: Mortar around windows and doors comes all the way down to the window frame. It will crack over time as the window expands and contracts.

Solution:

- Self-adhesive flashing (SAF), drip cap flashing, weep screed.
- Both layers of WRB must overlap the weep screed.
- Weep screed over the drip cap flashing at all windows and doors.
- Drip cap flashing must extend over and past the side casing bead.

Mistake: Window sill stones are not sloped correctly, allowing moisture into the corners of both the sill and eventually, the wall.

Solution:

- Windows in the stone field that have an Integrated J Channel for siding must have the filler strip inserted prior to the stone installation.

Roof Failures

Mistake: Rot occurs due to missing kick-out or diverter flashing.

The solution includes the order of installation and who installs the product:

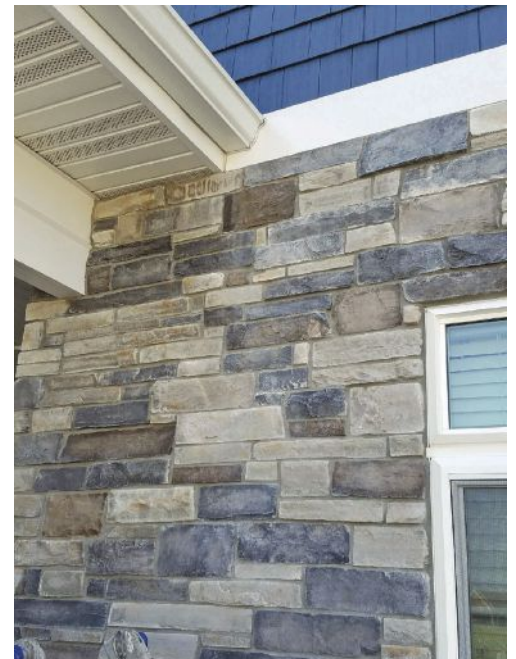


Figure 5. Example of a roof failure with no roof flashing.



Figure 6. Example of a roof failure with no roof flashing... the rot underneath from improper horizontal transitions.

- Ice and Water Shield/self-adhesive flashing—installed by framer.
- Roof diverter—installed by roofer
- Step flashing/Angled Leg flashing—installed by roofer.
- Stop bead/Weep Screed—installed by stone mason ½" to 2' above roofing material.
- Self-adhesive flashing—installed over weep screed.
- WRB installed to the lip of stop bead—installed by stone mason.

Mistake: Mortar has been laid next to the roof.

Solution:

- The roofer installs step flashing and diverters where a roof intersects a wall. The diverter is installed first, then the step flashing over it.
- The step flashing must be a minimum 6" tall. This allows the stop bead to be installed completely over the step flashing ½" to 2" from roofing material.

Horizontal Transitions

Mistake: Horizontal transitions with differing materials above the stone do not have the proper flashing.

Solution:

- Drip edge flashing should be installed prior to the manufactured stone.
- WRB laps over the vertical leg of flashing for positive drainage.
- A ¾" space should be left open and not filled with cement.



This article continues on <http://go.hw.net/AR022019-1>.
Go online to read the rest of the article and complete the corresponding quiz for credit.

QUIZ

1. Manufactured stone veneer ranks as the second highest return on investment of home remodeling products, returning _____ of its cost.
 - a. 50.6%
 - b. 83.4%
 - c. 97.1%
 - d. 25.8%
2. Manufactured stone veneer is cast from _____ of molds of natural stone.
 - a. millions
 - b. thousands
 - c. hundreds
 - d. billions
3. By reducing, _____, and recycling, MSV manufacturers can make a positive impact on the environment.
 - a. revising
 - b. reusing
 - c. replenishing
 - d. reinventing
4. Water damage can occur in?
 - a. Both hot and cold climates
 - b. Only hot climates
 - c. Only cold climates
 - d. Neither hot nor cold climates
5. If mortar around a window or door comes all the way down to the window frame, it will crack over time as the window expands and contracts. Solutions to this include which of the following?
 - a. Self-adhesive flashing (SAF), drip cap flashing, weep screed
 - b. Both layers of WRB must overlap the weep screed
 - c. Weep screed over the drip cap flashing at all windows and doors
 - d. Drip cap flashing must extend over and past the side casing bead
 - e. All of the above
6. A minimum of how many layers should be used for the WRB when installing MSV?
 - a. Zero
 - b. One
 - c. Two
 - d. Three
7. The WRB should be installed starting from
 - a. the top of the wall.
 - b. the bottom of the wall.
 - c. from left to right.
 - d. from right to left.
8. MSV accessories include which of the following?
 - a. Drip ledge stretchers
 - b. Brick corners and rowlocks
 - c. Column post caps
 - d. All of the above
9. If the manufactured stone veneer is inadvertently moved after initial set has begun, what should be done?
 - a. Be removed
 - b. Mortar scraped off the back
 - c. Reinstalled following the application process
 - d. All of the above
10. If there is no weep screed when installing MSV, or if the weep screed is improperly installed, the solution includes which of the following?
 - a. Weep screed must be installed at bottom of stone when the stone is over or tied into framed walls
 - b. Not required when stone is installed on masonry walls but can be used for clear termination point
 - c. Both layers of WRB must overlap weep screed flange
 - d. All of the above

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Founded in 1978, Environmental StoneWorks is the only national manufacturer and installer of stone veneer. Product design, manufacturing, installation, and warranty support are under one roof, creating a "start to finish" structure that sets Environmental StoneWorks apart, and allows a deeper understanding of builder needs. For more information, visit www.estoneworks.com.



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AIA Architect

AIA Voices



PHOTOGRAPHY: JOHN DURANT

Balancing Data and Intuition

As data evolves to information and then knowledge, so will architecture.

Charlie Williams, AIA, is associate principal and project delivery director with the California-based integrated design firm LPA and 2019 chair of AIA's Technology in Architectural Practice (TAP) Knowledge Community. Williams is also responsible for Inspire Design, the LPA technology team dedicated to "inspiring the design process through technology." He is passionate about helping LPA leverage its informed process through data-driven design.

As told to Steve Cimino

I've come to learn that successful technology implementation has a lot to do with change management. When I first stepped into this role, I thought it would be mostly about getting the right tools installed and explaining why they're valuable. But I realized that's only 10 percent of the job; the other 90 percent is understanding people and how they respond to change. As a result, I try to incorporate any excitement around new technologies while focusing most of my energy on the "people" side of things.

As an integrated design firm, LPA aims to incorporate input from each discipline at the earliest stages of a project, and then refine our insights to arrive at a solution that is highly informed by research and data. This new process is moving us away from the idea of intuition leading our design efforts. This doesn't mean you change gears entirely; architects and engineers have been operating on intuition and professional experience for quite a while. But it's time to meld intuition, experience, and data-driven design thinking.

Data, in conjunction with new technologies, will change how we design our buildings and how we interact with our clients. The greatest advancements in this area can come from anywhere; they won't be constrained to academia or larger firms. TAP's Building Connections Congress, which I am chairing in 2019, will also focus on this idea by bringing speakers together to discuss how the evolution of "data to information to knowledge" will advance practice.

If you look at the people who've worked passionately with data and found success in transforming sports or business, many were not initially industry leaders. Consider Michael Lewis' book *Moneyball*. The Oakland A's were the least likely team to transform baseball—or all of sports for that matter—at the turn of the century, but they did just that in 2002 through data-driven decision-making. I don't think the next big thing necessarily comes from a large firm with copious resources; it'll come from people who have passion, see a need, and marry those two together to make something special. **AIA**

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By Michele Russo

Seventy-one percent of all architecture firm billings come from repeat clients.

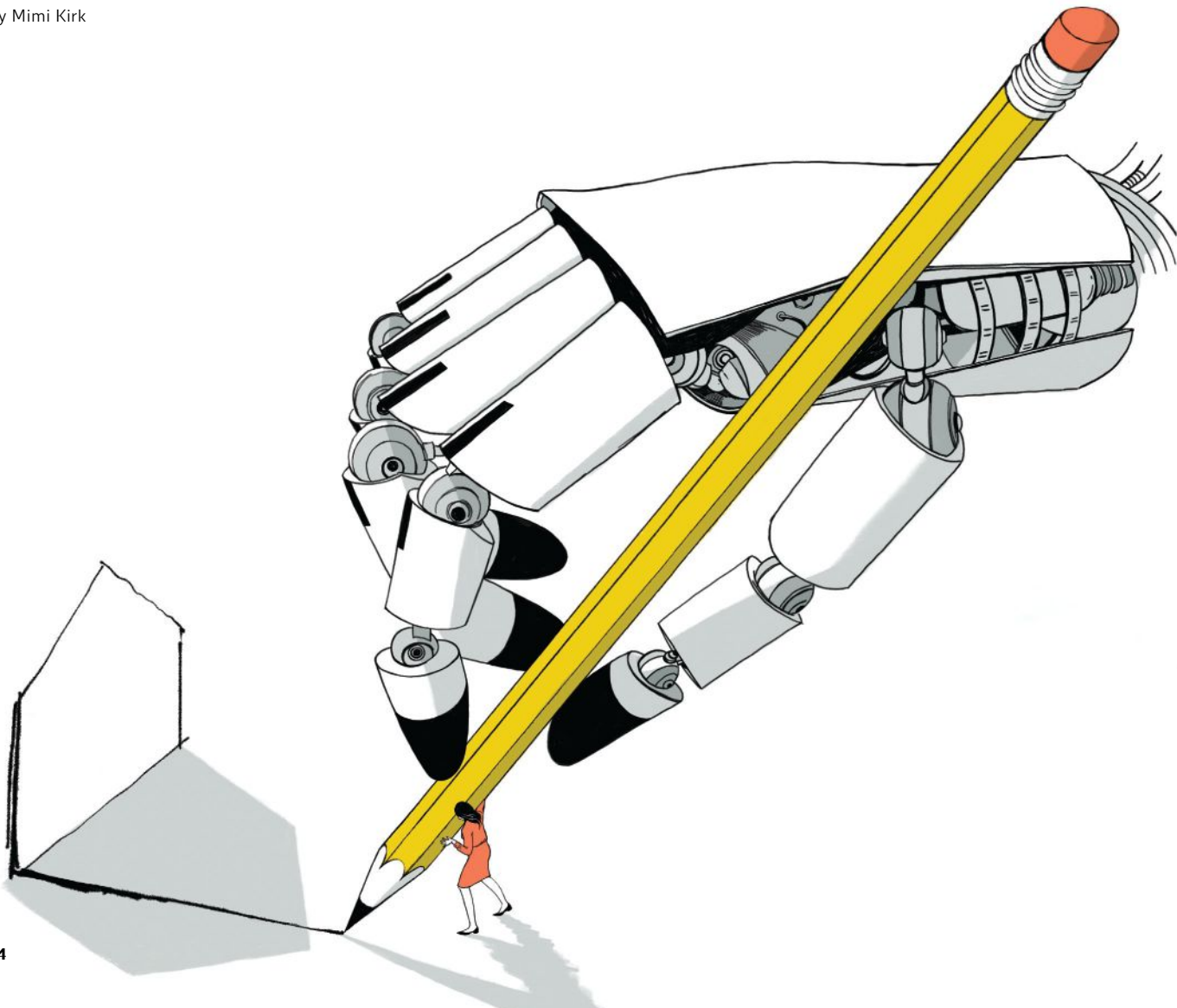
The architecture profession, much like the design and construction industry at large, is one built on strong relationships and professional connections. According to the 2018 AIA Firm Survey Report, included in the 71 percent of billings that come from repeat clients are 43 percent that come from clients without a competitive selection. The affinity between client and architect is even stronger in firms doing commercial work, where 56 percent of billings come from clients under noncompetitive selection, and three-quarters from repeat clients.

AIAFeature

Will the Advent of Artificial Intelligence Affect Small Firms?

It's not a matter of if the architecture profession will feel the impacts of artificial intelligence—it's a matter of when.

By Mimi Kirk



“Self-driving cars can identify objects as they drive,” a video from the company Smartvid.io proclaims. “What if we could bring this ability to the industrial world?” The Cambridge, Mass.–based outfit has developed technology to do just that: It offers software that analyzes huge amounts of data—in the form of photos and videos from construction sites—to identify safety risks that might not be evident to a human observer. It tags, for example, workers who are missing hard hats and types of ladders considered risky, promising to help “reinforce safety culture.”

“The risks might not be obvious right away, but when you look at the total data, it emerges,” says Imdat As, an expert in the rise of artificial intelligence in the field of architecture and founder of Arcbazar, a competition platform for architectural design projects. As notes that this type of artificial intelligence used by Smartvid.io—called deep learning—is an early application of what we’ll see from AI in architecture more broadly, such as computer tools that will offer alternative design solutions.

Many architects are excited about these opportunities, and some large firms are exploring the latest technology. But what about smaller firms? According to the AIA’s 2018 Firm Survey Report, 75.8 percent of firms have one to nine employees. How will these smaller outfits, with smaller budgets, confront the rise of AI? Though smaller firms may face resource challenges, as artificial intelligence tools become more widespread and less expensive, they perhaps stand to benefit the most.

From Automation to Artificial Intelligence

Already, architects are increasingly using technology to automate the quantifiable aspects of architecture, such as apps that give a designer almost instant access to zoning rules or building codes in a certain area. But this isn’t AI, explains As, noting that the way we think about AI today stems from work that began accelerating in 2011 because of better and cheaper computers, as well as increasing

amounts of available data. “Ninety percent of all data available in the world has been produced in the last two years,” he says.

Artificial intelligence thus doesn’t merely automate a task by serving as an efficient clearinghouse of data; rather, it analyzes data and generates new ideas or solutions, similar to how a human mind would approach a problem. Hence, there is a need for more and better data from which machines can learn.

While most of the currently popular AI applications involve the processing of text, audio, and images—such as what self-driving cars and Smartvid.io’s construction software does—As says new forms of AI tools that can learn from different data sources, such as drawings, are on their way for architects. (Other forms of AI research that are not data-driven, such as evolutionary algorithms, also might someday provide alternative solutions to architectural issues.)

In the future, for instance, architects will likely be able to tell a program that they want a house for a family with two children and a dog that must also be handicapped-accessible. Though the system can theoretically generate millions of examples, it will narrow them down to the dozens that it “thinks” are best, and the designer can further develop one or more of those.

As says that in the long term, these systems might be further developed into consumer products that can automate design tailored to the taste of clients directly. And Ron Beqiri, an architect and spatial planner with expertise in

technology who hails from Prishtina, Kosovo, speaks of the possibility of industrial-size, autonomous 3D printers that could then build structures without the need for anyone to manage them—technology he says is currently being studied in the Mars Science City in Dubai, which simulates building on the Red Planet.

What Will AI Mean for Architects?

It’s unclear when exactly such tools will become available. Because deep learning systems demand data that is machine-readable, text, audio, and images lend themselves more easily to current AI applications than do graphics that represent three-dimensional architectural spaces. But scientists like As are at work creating alternative representative models of architecture—such as via graphs—that can fill this role. So while it may be years, or even decades, before machines can design buildings—especially good ones—the technology will sooner or later be upon us.

Though there is much anticipation about such change, many people also fear it, particularly due to its potential for replacing human labor and eliminating jobs. Moreover, while early 20th-century theorists such as economist John Maynard Keynes predicted that by the end of the last century automation would allow people to toil only 15 hours per week, such a vision never came to pass. Instead, in spite of automation, we’re working even more—following an increase in corporate paper-pusher roles—in jobs that anthropologist

AIA Feature

CONTINUED

David Graeber has termed “bullshit jobs.” Hence, some suspect that AI will simply prompt another round of job loss and replacement with perhaps even more dystopian results of poverty and inequality.

But there are many architects who are more optimistic. After all, architecture—a creative endeavor that actually makes things—doesn’t qualify as a “bullshit job” and is one profession that will thus be harder to automate. As a result, the design tools that As describes might be more helpful than harmful to the profession in the short to medium terms. (Lower-level work at architecture firms, such as jobs that involve billing or other administrative tasks, will likely be more vulnerable.)

“The computer and the program will never be a replacement of good judgment, extraordinary design, and creativity,” says R. Denise Everson, an architect with the firm Cure Architects outside Washington, D.C. “Technology should not think for architects; architects should always be the thought leaders.”

Small Firms: Opportunities and Challenges

Everson’s firm currently employs two architects. As says that automation and AI can ultimately make a firm the size of Cure more competitive because it will have access to the same technologies as larger outfits. Natasha Luthra, AIA, director of the innovation program at Jacobs and the 2018 chair of AIA’s Technology in Architectural Practice Knowledge Community (TAP), concurs. “Small firms have real advantages in certain ways because technology can democratize,” she says, “and small firms can be nimble in their adoption of it, such as by renting software on a monthly basis to see if it works for them before looking to make a big investment.”

At the same time, such democratization won’t occur overnight, and the technology will have to become cheaper. Phillip Bernstein, associate dean and senior lecturer at the Yale School of Architecture and former vice president at Autodesk, says that automation and AI—like every other type of technology we’ve seen—will have to become more established before it becomes available to the wider market. “Software companies or large firms will use the technology first, and it will then filter down to small firms, whose resources won’t allow them to use it until it moves into the middle market,” he says.

Another challenge for small firms: data. Good quality and a large amount of data,

As noted, is key for deep learning systems to work well, and small firms may simply not have access to vast quantities of data. As hopes that firms and architects will move toward sharing their data so that the profession as a whole will benefit. “There are some shared project platforms out there already,” he says, “but they’re not big enough or formatted the right way.”

Everson says that she and her partner are already meeting with data scientists who focus on automation and AI so they can determine how to fit them into their practice. “We don’t want to add these technologies just because they’re cool,” she says. “We want to add them because they will improve our work and our lives.”

Everson says she’s looking at how automated billing and AI-enabled risk assessment on construction sites can help her and her partner do their work faster and better. She’s also interested in how AI can help with data after a project is completed, such as with post-occupancy evaluations. “AI could help us collect and analyze data regarding previous projects, even when we’re on to the next one,” she says. “It’ll allow us to stay engaged.”

David Bell of Washington, D.C.’s Bell Architects, which employs seven architects, specializes in historic preservation and sustainable design. As a result, Bell is interested in tools that can help design net-zero or net-positive energy buildings. “You have to optimize the building design for elements like orientation to the sun and wind and window-to-wall area ratio,” he notes. “AI could serve as a tool that creates a high-performing building in this regard, perhaps generating previously unrecognized forms that are optimized for passive strategies.”

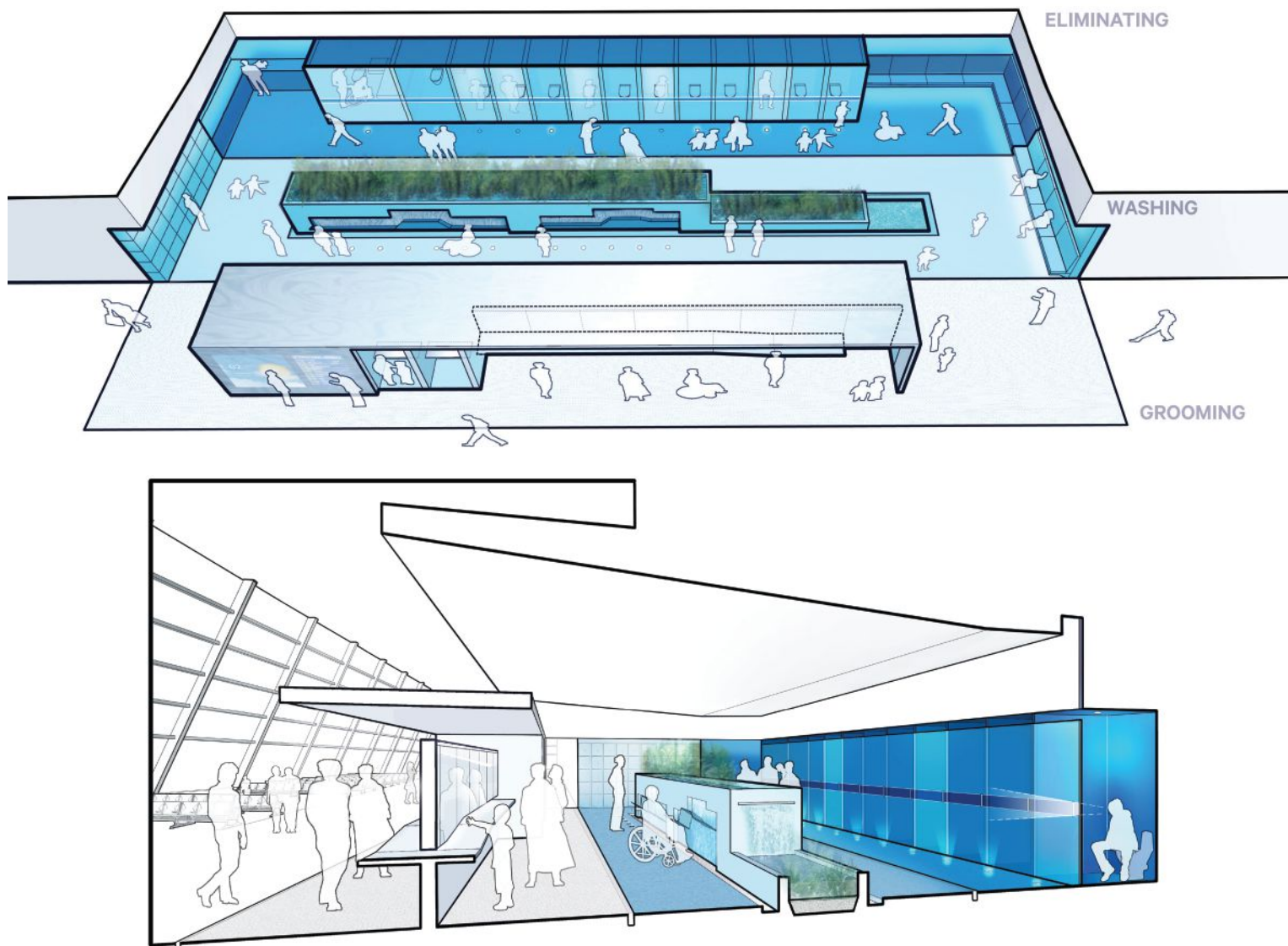
Bell says that while his firm doesn’t have a lot of research and development dollars to spend on such technology, it does have clients who might be willing to invest. “Hence we’d be using it more on a project-by-project basis,” he says.

Bernstein urges solo practitioners and small firms to keep abreast of developments. “I would keep an eye on this very carefully and try to understand the slope of the curve so you can think about what it means for your business before it catches you,” he says. “Ignoring this as another piece of technology that you don’t understand or care about is a dangerous proposition.”

Luthra has a similar take: “People tend to approach AI from fear, but being afraid doesn’t get us anywhere,” she says. “The future is coming, no matter what.” **AIA**

“People tend to approach AI from fear, but being afraid doesn’t get us anywhere. The future is coming, no matter what.”
—Natasha Luthra, AIA

AIA Practice



RENDERINGS: STALLED!

Stalled!'s airport prototype emphasizes three "activity zones," differentiated by tile, rubber, and diamond plate, for grooming, washing, and eliminating. The prototype also utilizes a "multi-sensory gradient" that brings users from public to private, open to closed, and acoustically reverberant to sound absorptive.

Restrooms of the Future

BY KATHERINE FLYNN

Cross-disciplinary project Stalled!, the winner of a 2018 AIA Innovation Award, envisions the non-gendered bathrooms of the future.

Galvanized by the national debate around granting transgender individuals access to sex-segregated public toilets, architect Joel Sanders, AIA, teamed up with transgender historian Susan Stryker and legal scholar Terry Kogan on a new project, Stalled!: Social Equity and Public Restrooms. The project aims to explore ways to create a more equitable public restroom experience for everyone.

According to Sanders, Stalled! treats restrooms as a means to generate a conversation about the relationship between environmental design, the human body, and social equity, seeking to create restrooms that serve people "irrespective of age, gender, religion, or disability." Together with Stryker

and Kogan, Sanders drew up prototypes that depict what inclusive all-gender restrooms might look like at an airport and in a university field house. Transforming stalls into completely enclosed areas and designating separate areas for grooming, washing, and eliminating are just some of the ways in which Stalled! seeks to improve on the standard public-restroom model.

Stalled! was selected by AIA's Technology in Architectural Practice Knowledge Community for a 2018 AIA Innovation Award. The project also won a 2019 New York State Council on the Arts Independent Projects Award, a grant that will facilitate its further development. **AIA**

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AIA Design



PHOTOGRAPHY: GABRIEL JORBY

Deere & Company Administrative Center Exemplifies a “Quiet Revolution”

Eero Saarinen’s modernist headquarters for renowned tractor manufacturer John Deere won AIA’s Twenty-Five Year Award in 1993. Here, writer William Morgan reflects on its legacy.

A quiet revolution in the design of corporate headquarter buildings happened in the late 1950s and early 1960s. The Deere & Company Administrative Center, which opened in 1964, was one of the works of architecture that changed the face of American buildings as corporate identity symbols. Its architect, Eero Saarinen, emigrated to the Midwest from Finland when his father, architect Eliel Saarinen, finished second in the Chicago Tribune Tower competition in 1923. The standard-bearer of this new strain of Modernism appeared not in Berlin or New York, but in Moline, Ill.

The river and railroad town of Moline lies between the farmland of Illinois and the

The Deere & Company Administrative Center in Moline embodies the idea that Modernism doesn’t have to be sparse and plain. The exposed, self-rusting steel exterior was meant to evoke the color of brownstone.

prairies of Iowa, Nebraska, the Dakotas, and beyond. It was here that John Deere, another transplant (from the rocky soil of Vermont) created a blade that could pummel the West’s heavy sod. Deere’s plows broke the plains and made possible the development of the greatest agricultural powerhouse ever.

Farm and construction equipment is on display in a grand hall at the heart of Saarinen’s Deere complex. Like a temple to Yankee ingenuity, the shiny tractors, combines, and bulldozers remind us that Americans were long the pre-eminent manufacturers of agricultural machinery. The yellow-trimmed green harrows and hay balers echo John Deere’s muscular yet elegant exterior and setting. Shaped by Sasaki, Walker and Associates, the landscape opens up like a Japanese scroll painting as one approaches the building set amidst almost 700 acres planted 60 years ago with more than a thousand new trees. Spanning a ravine and facing a lake, the John Deere headquarters imparts a monumentality not seen since Beaux-Arts classicism from the turn of the 20th century.

Contextual Modernism?

Saarinen’s other best-known corporate work, the General Motors Technical Center in Warren, Mich., was indebted to Ludwig Mies van der Rohe, yet the aeronautical look of

aluminum skins that so characterized work like Skidmore, Owings & Merrill’s Lever House or Air Force Academy campus was going out of fashion by the early 1960s. Mies’ iconic 1958 Seagram Building, for example, employed dark steel and smoky glazing. Saarinen took that a step further in his 1965 headquarters for CBS in New York, a black granite steel unlike any previous skyscraper, the apotheosis of Louis Sullivan’s “tall office building artistically considered.”

Deere, like so many of Saarinen’s projects, was completed after the architect’s death, so one has to wonder in what direction the ever-experimenting designer would have taken American architecture. In his all-too-short career, Saarinen challenged the prevailing morphology, whether he was creating new ways of forming churches, airports, college campuses, or museums.

That revolutionary aspect was demonstrated at Deere by the development and first use of exposed and intentionally self-rusting steel. The critic Walter McQuade, writing in *Architectural Forum*, described Cor-Ten steel as a “dense protective coating, which has the richness in finish of an old Etruscan coin.” The color is also reminiscent of Henry Hobson Richardson’s use of Connecticut Valley brownstone in his muscular designs. At Deere, Cor-Ten was used for structural members, as

AIA Design

CONTINUED



PHOTOGRAPHY: KEVIN SCHMIDT

well as sunscreens—a sort of scrim that shields the building’s glass walls. Saarinen’s tectonic statement at Deere, with its exposed rivets and its I-beams employed like a wooden balloon frame, recalls the anti-International Style advocated by Peter and Alison Smithson.

Echoes of the Smithsons’ “Mies made gutsy” ethos seems entirely appropriate, as Deere’s chairman William Hewitt reminded his architect that Deere had been built by “men of strength—rugged, honest, close to the soil.” Hewitt further declared that Deere’s headquarters would be “thoroughly modern,” but also “down to earth.” In response, Saarinen promised “a building which is bold and direct,” and furthermore, it should “not be a slick, precise, glittering glass and spindly metal building.”

Countering any temptation to fall back on the Miesian aesthetic present in his work for IBM and Bell Laboratories was Saarinen’s strong sense of his ancestral Finnish sensibility. The Nordic Arts & Crafts tradition of which his father was a leader reveals itself in the building’s metal cladding, which is handled as if it were timber. The earthy spirit of Deere proffers the same mix of the timeless and the radical as the work of Saarinen’s compatriot, Alvar Aalto.

But unlike Aalto, Saarinen’s reputation went into a multi-decade eclipse in the years following his death. Saarinen biographer Jayne Merkel called Deere, “One of the greatest works of architecture,” but the architectural community only reluctantly came to realize that Deere was arguably Saarinen’s masterpiece, and thus belonged in the pantheon of American culture. When Deere was recognized by AIA’s Twenty-Five Year Award, that accolade came just three years after the organization bestowed the same honor on Saarinen’s St Louis Arch, another heartland monument, just a few hundred miles down the Mississippi. **AIA**

William Morgan

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AIA Perspective



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Today, that has never been truer. Modern technology—including virtual reality, augmented reality, 3D printing, artificial intelligence, and the internet of things—consists of essential tools that will help architects do what we do best: Drive positive change through the power of design.

Embracing game-changing technology is critical to our long-term ability to grow our practice, and to improve how we create and design for our clients and successfully steward the environment.

Ultimately, today’s technological tools, when tempered with a focus on the common good, can amplify and augment the art,

understanding, and compassion we bring to creating a better-built world. While it is true that we, as a global society, have unprecedented challenges ahead, we also have powerfully disruptive technological tools to meet them.

Bottom line, we will only be able to achieve our shared goals of stopping or mitigating climate change and ensuring social justice and economic opportunity for all by making the most of leading-edge technologies.

Our focus—as a profession, as Americans, and as global citizens—should be to use our unique skill set, augmented by technology, to serve our society and ultimately, to leave a world that is better for our time and our talent. Our collective ability to successfully address today’s challenges will determine how future generations will live, and how this generation will be remembered.

The connection between technology and architecture is enduring and essential to architecture’s ability to express society’s highest ideals. And while technology often makes our jobs easier and more efficient, it can never replace the art, passion, and soul architects bring to design.

Our contribution, the spark of creativity, love of innovative design, and focus on the common good is what creates solutions that heal, protect, and elevate the human experience. Ultimately, technology allows us to be better partners and listeners for our clients and better leaders in our communities. **AIA**

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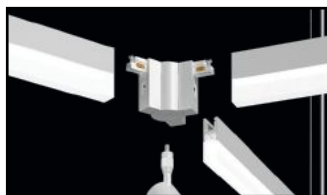
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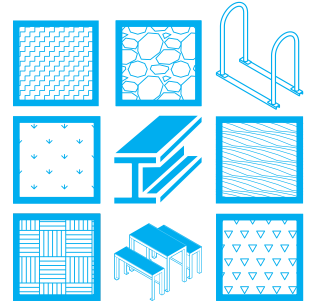
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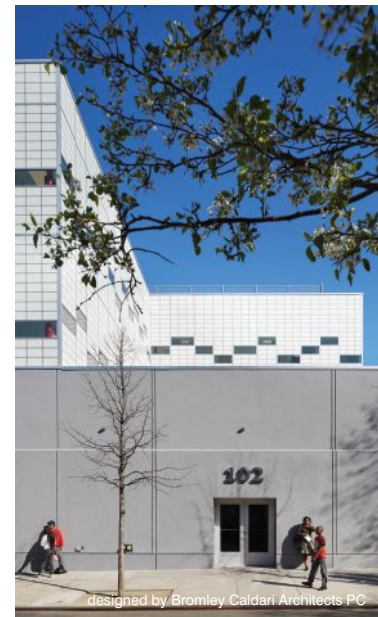
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“The author assumes malevolence on the part of Gropius, Le Corbusier, et al., but what if the International Style was instead the result of a sort of postwar architectural PTSD?”

The buildings in my neighborhood, Logan Square in downtown Philadelphia, fall roughly into two categories. There are those that offer visual pleasure, whether they are modest run-of-the-mill brick row houses or the rather grand Board of Education Building, an Art Deco-ish pile topped by busts of Sir Isaac Newton, Ben Franklin, and Alexander Graham Bell. “How nice that someone actually took the trouble,” I think as I walk by. And then there is the second category: utilitarian apartment slabs with



The Board of Education Building in Philadelphia

unrelieved gridded façades, infill condo housing that looks as if it had been trucked in from the suburbs, a grim precast concrete retirement home that takes up a whole block. “I wish they hadn’t built that,” is my all too common reaction. The Board of Education Building dates from 1932. That’s the approximate cut-off date. Before the 1930s, the buildings are pretty good; after that, not so much. What happened?

The answer to that question is the subject of James Stevens Curl’s controversial new book, *Making Dystopia: The Strange Rise and Survival of Architectural Barbarism* (Oxford University Press, 2018). Curl is a British architectural historian, professor emeritus at De Montfort University in Leicester, and the author of more than 40 books, including the well-regarded *The Victorian Celebration of Death* (most recently updated in 2004) and *The Oxford Dictionary of Architecture* (1999). According to Curl, what happened was “architectural barbarism,” which is how he characterizes modern architecture. He does not mince words. Describing the emergence of the International Style in the 1920s, he writes: “It became apparent that something very strange had occurred: an aberration, something alien to the history of humanity, something destructive aesthetically and spiritually, something

ugly and unpleasant, something that was inhumane and abnormal, yet something that was almost universally accepted in architectural circles, like some fundamentalist quasi-religious cult that demanded total allegiance, obedience, and subservience.”

Curl’s language may be immoderate, but he is not wrong. In its banning of ornament, which had characterized every epoch since the Egyptian pharaohs, the International Style *was* an aberration. Without ornament to provide meaning, buildings *did* appear inhumane. The result of enthusiastically embracing industrialization and mass production, and especially using exposed concrete, *was* often ugly and unpleasant. (The ancient Romans built in concrete, but they clad it in marble.) And there *was* something fundamentalist about the Modern Movement’s intolerance, its rejection of the past, and its narrow-minded—not to say puritanical—insistence on adherence to a narrow set of aesthetic norms.

A Bomb-Throwing Jeremiad

Making Dystopia, which weighs in at a hefty 551 pages, is really two books. One is an encyclopedic study of how the Modern Movement, which began as a minor bohemian diversion in the 1920s, came to dominate contemporary architecture; the other is an impassioned bomb-throwing jeremiad, the work of an 81-year-old traditionalist who has seen his world overturned by what he perceives to be a malevolent force. The two genres are an awkward fit; I was never sure, turning the page, whether I would encounter a reasonable David McCullough or a raving Hunter S. Thompson. It’s a shame, too, that the author devotes so much space to the British scene. Britain was a sideshow in the early days of Modernism, and British postwar architecture was distinctly mediocre—it was not until James Stirling, who came of age in the 1960s, that the country produced an architect of international caliber. But Stirling is barely mentioned; neither are Alvar Aalto or Louis Kahn, though all three represent serious attempts—not always successful—to humanize modern architecture. But nuance has no place in a jeremiad.

Curl is on firmer ground when he argues that the early history of Modernism is more complex than simply “Walter Gropius founded the Bauhaus.” The most successful avant-garde architects in Germany, for example, were not Bauhausers but people like Hans Poelzig (who did use decoration), the prolific Erich Mendelsohn (whose curvy façades had little to do with the International Style), and the less-well-known Thilo Schoder. Or architects such as Gunnar Asplund and Sigurd Lewerentz in Stockholm, and Josef Hoffmann and Jože Plečnik in Vienna, whose



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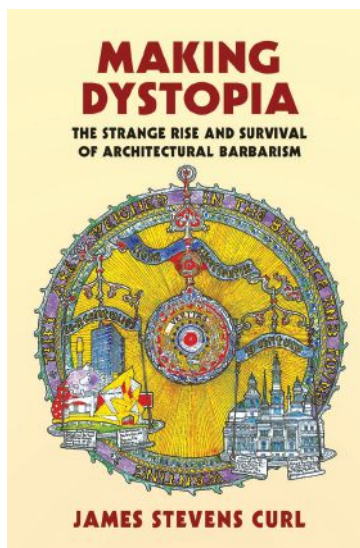


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Making Dystopia is really two books: an encyclopedic study of how the Modern Movement came to dominate contemporary architecture and an impassioned bomb-throwing jeremiad.

brand of Modernism was likewise out of step with the mainstream. Curl does not mention Asplund or Lewerentz, nor American architects such as Bertram Goodhue, Paul Philippe Cret, and Raymond Hood, whose stripped classical and Streamline Moderne designs—Los Angeles Central Library, the Folger Shakespeare Library in Washington, D.C., Rockefeller Center in New York—likewise represent an overlooked strain of what could arguably be called early Modernism. So does the work of Frank Lloyd Wright, but he too is inexplicably ignored.

Curl seems to have a soft spot for Ludwig Mies van der Rohe, or Miës, as he insists on calling him. (Mies added the umlaut in 1921 when he attached van der Rohe to his name; he dropped the umlaut when he came to America in 1937.) Curl describes Mies' architectural *volte-face* in the 1920s: "It is strange, therefore, that an architect who had acquired his education from a craft background, who had worked in one of the most progressive and competent architectural offices in Berlin, and who had produced several well-designed and beautifully-made private houses both before and after the 1914–18 war, should so radically have changed direction."

Curl sees Mies' switch to Modernism as simple opportunism, but I am not so sure. Mies served in the First World War—so did Mendelsohn and Gropius—and the impact of that horrendous slaughter on Europeans cannot be overstated. After the war it seemed to many that life simply could not go on as before. This was especially true for artists, painters, writers, and poets—and architects. The American architect George Howe was Mies' exact contemporary, and likewise served in the war. Like Mies, Howe subsequently abandoned a traditional craft-based practice (Mellor, Meigs & Howe was one of the top residential firms in the country) "to become a priest of





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the Modern Faith,” in his own words. That included designing the first International Style skyscraper in the United States, the PSFS Building in Philadelphia, with William Lescaze in 1932.

Buildings like PSFS were not the result of the First World War, of course, but it was the war that opened the door to radical change—whether it was political (Nazism), economic (the New Deal), or architectural (Modernism). This, rather than Curl’s theory of a quasi-religious cult, is a more convincing explanation for the “strange rise” of modern architecture. As the title of his book suggests, the author assumes malevolence on the part of Gropius, Le Corbusier, et al., but what if the International Style was instead the result of a sort of postwar architectural PTSD?

If the emergence of the Modern Movement in the 1920s was facilitated by postwar conditions, what explains its survival and global proliferation? Curl spends an entire chapter debunking what he calls the “makers of mythologies,” historians such as Nikolaus Pevsner, whose *Pioneers of Modern Design* (1936) was a fanciful prequel to the Modern Movement—written over the protests of “pioneers” such as the British Arts & Crafts architect C. F. A. Voysey who, as Curl acidly observes, told Pevsner that he actually disliked modern architecture. Or Swiss historian Sigfried Giedion, whose writing often amounted to little more than scholarly sounding propaganda in support of his friends. Curl also devotes space to the 1932 International Style exhibition at the Museum of Modern Art, organized by Henry-Russell Hitchcock and Philip Johnson with the support of MoMA director Alfred H. Barr Jr. Curl sees the exhibition’s highly selective message as an important milestone in the popularization of a particular brand of architectural Modernism.

Setting the historical record straight is important, but can museum exhibitions and history books really account for the proliferation of modern architecture in postwar Europe and America—and its apparent appeal to governments, corporations, universities, museums, and symphony orchestras alike? The truth, which Curl never quite acknowledges, is that in the immediate postwar era the public was attracted to anything modern—modern transportation, modern media, modern consumerism, and modern buildings. Unadorned buildings with flat roofs and large expanses of glass were as much a part of the brave new postwar world as television, fast food, tail fins, and capri pants.

What Curl Gets Right

Making Dystopia is seriously flawed; it’s too long and, despite its copious footnotes, it comes across

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as gossipy. Yet it contains underlying truths. For example, the author observes of early modern architecture: “What soon became apparent was that it required serious money to make it all smart and respectable (as at Miés’s Barcelona pavilion and Tugendhat house); done on the cheap, with poor workmanship, which happened in the Soviet Union and elsewhere, it looked shoddy and performed badly, and that has been the case ever since.” There have always been more and less expensive buildings, but in the past, less expensive meant fewer decorative elements and simpler ornamentation. The problem with minimalism is that it does not leave much to work with; a modernist building that is less beautifully detailed and finished simply looks cheap.

The ultimate failure of modern architecture is not that it was incapable of producing beautiful works of individual art. There have been plenty of those, *pace* Professor Curl. The real drawback is that while the Modern Movement effectively suppressed an architectural language that had taken hundreds of years to evolve, it proved incapable of developing a successful substitute, the weak-kneed antics of Postmodernism notwithstanding. The strength of pre-modern architecture was that it provided a rich variety of modes of expression. It permitted complicated things to be said in complicated ways, and simpler things in simpler ways, analogous to the spoken language, which can be used to write drama and poetry or instruction booklets.

Moreover, the pre-modern architectural language could be easily learned—it didn’t require immense talent or an inordinate amount of training. Irwin T. Catharine, who designed the Board of Education Building in Logan Square, did not go to the École des Beaux-Arts like George Howe and Raymond Hood (Catharine attended a night school), or win the AIA Gold Medal like Bertram Goodhue. He spent his entire career at the Board of Education, where he started as a draftsman and rose to be chief architect. On his watch—1918–37—Philadelphia built more than a hundred new public schools; Catharine designed them all. He worked in a variety of accepted styles—simplified Collegiate Gothic, Stripped Classical, Moderne—using traditional materials, brick, and limestone, and traditional details. There was usually some ornament, not a lot but enough to please the eye. Nothing earth-shaking, yet almost all of these modest buildings have found their way onto the National Register of Historic Places. This is not so much a mark of architectural prowess as a recognition that such buildings represent something precious that has been lost.

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JURY:

PAUL ANDERSEN, AIA,
INDEPENDENT
ARCHITECTURE, DENVER

J. FRANO VIOLICH, FAIA,
KENNEDY & VIOLICH
ARCHITECTURE, BOSTON

CLAIRE WEISZ, FAIA,
WXY ARCHITECTURE +
URBAN DESIGN, NEW YORK

the 66th annual progressive architecture awards

TEXT BY IAN VOLNER AND KATIE GERFEN

Out of nearly 200 unbuilt submissions, this year's jury—comprised of Paul Andersen, J. Frano Violich, and Claire Weisz—selected 10 winners that showcase innovative design from established heavyweights and fresh new perspectives. Though they hail from different regions and explore varied typologies and scales, to a one, these winning projects demonstrate how architects taking thoughtful design risks can yield progressive and unexpected environments.

C I T A T I O N

chapel of sound chengde, china open architecture



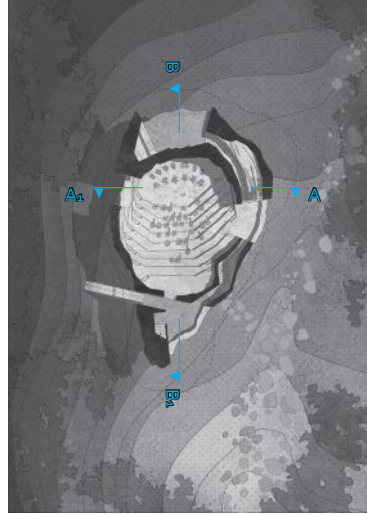
"The risk that it's taking is to say we can reinterpret the purpose of building types in a day where a lot of these typologies don't make sense anymore. It's a different paradigm than a new opera house—it is looking at an open-air site being an opportunity for a sound experience that anyone can take part in."

—CLAIRE WEISZ, FAIA

Ground-Floor Plan



Second-Floor Plan



Roof Plan

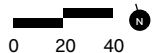


The brief is almost too good to be true: Build a small, semi-enclosed concert hall into a forested mountainside, situated high above a scenic valley less than 200 yards from the Great Wall of China. This was the happy problem confronting Beijing's Open Architecture, and the firm responded with a design that seems at once a celebration of the site's manifold possibilities and a mature exercise in architectural restraint.

Located near the city of Chengde, the Chapel of Sound is less than 7,000 square feet in size—most of its seating is outdoor on a grassy lawn and the building proper doubles as a band shell. The structure itself is a sort of inverted ziggurat, with one side nearly flush with a nearby hill; in plan, it resembles the body of a guitar, complete with a sound hole in the form of a rooftop aperture that enhances the sonic quality while allowing all performances to take place under the open sky.

The form invites still other allusions: Seen in section, the ringed slopes of the tiered seating recall the contours of the human ear (a comparison expressly made by the architects), while from the outside the rough surface of the building and its irregular shape make it appear like some giant mountain boulder that's rolled down from the distant ridge. This particular effect was made possible through the use of concrete blended with local aggregate—a nod to the natural context that also simplified the tricky construction logistics and allowed the shell to be poured on-site despite the remote locale.

More than just a tourist draw, the project is intended to act as an asset to the community. Even when not in active use as a music venue, its cavernous interior will make it a place of quiet contemplation for the citizens of Chengde. —I.V.

Section A-A₁Section B-B₁



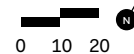
C I T A T I O N

little berkeley
santa monica, calif.
kevin daly architects

First-Floor Plan



Second-Floor Plan



"From the standpoint of program and site it is serious architecture, but it is also playful. It looks peaceful—which it should be, given the users—and the presentation reflects what the architecture is about."

—J. FRANO VIOLICH, FAIA



Affordable housing takes a new, distinctly Californian turn with Little Berkeley, an ingenious bit of civic-minded design from inveterate Angeleno firm Kevin Daly Architects. With an eye toward the improvisatory urbanism of the region's beachfront cities, the team has created a neighborhood in miniature comprising eight units, each in a discrete volume, and all spread out on a single block wedged between a commercial corridor and a residential zone.

Staggered through the site, the buildings meet each other at odd angles, with open space weaving between; though sitting at street level, each features an elevated terrace, creating a complex topography that is made more engaging by the shifting layout of the planters and hedges in the semi-public landscaping between them. While ensuring individual privacy and security (both identified as high priorities by prospective end users) the whole complex features a number of shared facilities, including living rooms and

kitchens. These communal elements are imperative given the social objective of the brief: to provide housing for former foster children making the tough transition to living on their own.

In a city suffering a painful housing crunch, the design realized economies by using prefabricated construction and off-the-shelf materials, without becoming reductive or unaesthetic. Indeed, the garden trellises, wide windows, and village-like arrangement of the units give the complex the feeling of a gracious oceanside community with scarcely a trace of institutionalism. This is good news for both the occupants and their Santa Monica neighbors, sapping NIMBY-ish sentiment while providing a supportive atmosphere that will feel like home the instant residents arrive. Unusual for social housing, the project can even claim a high-end pedigree: Its casual cool and informal formalism recall the early work of local heavy hitters like Frank Gehry, FAIA, and Eric Owen Moss, FAIA. —I.V.

C I T A T I O N

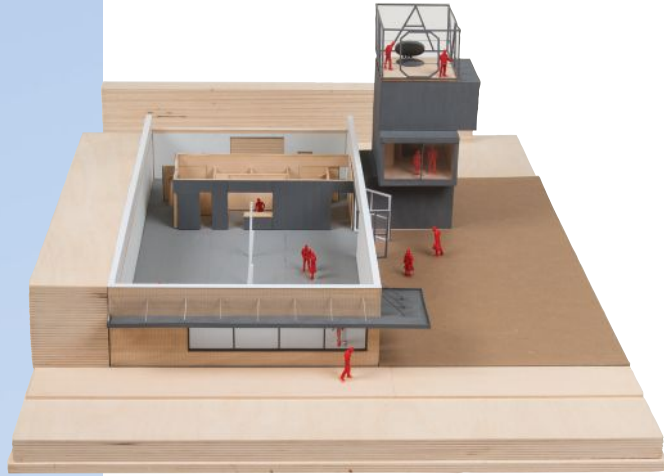
the grocery rushville, neb. actual architecture +

"This project's drawings are simple and clean, like the building itself. The use of plain forms and materials gives it a rough, minimalist feel."

-PAUL ANDERSEN, AIA



fact



Art and agriculture may seem like strange bedfellows, but in the ranching community of Rushville, Neb.—population 873—the nonprofit Sandhills Institute believes that forging connections between the two can help to preserve the area’s cultural fabric. Its new hub will be the Grocery, a hybrid arts and community center that will host everything from exhibitions to community meetings, and house artists in residence.

The new center comes by its name honestly: Omaha, Neb.-based Actual Architecture’s design brings new life to a defunct midcentury grocery store, stripping back the structure to its essentials to make way for gallery, gathering, and workshop spaces, plus an office and a café. A collaboration with FACT—the University of Nebraska–Lincoln College of Architecture design lab led by Actual principal Jeffrey Day, AIA—the scheme draws inspiration from the precisionist photos and paintings by artists such as Charles Sheeler. Existing brick, tile ceilings, and ground concrete floors will be restored and supplemented with new interior finishes like drywall over plywood backing, and exterior finishes like aluminum panels and galvanized steel siding. A new wood-and-steel tower at the building’s north end will serve as both a minimalist billboard and as the location for apartments to house two to three artists in residence. Outside, local agriculture students are collaborating with Actual on a community garden.

Following in the tradition of Nebraska cultural institutions such as the Bemis Center for Contemporary Arts and Kaneko in Omaha, the Sandhills Institute hopes that by bringing artists to Rushville, it can facilitate programs that combine community-based research and artistic expression—its specific end goal is to explore how to sustain America’s rural farming communities. No outsider, the Grocery will engage the citizens of Rushville in every way possible, even during the construction process, which prioritizes using local crafts and tradespeople. —K.G.





H O N O R A B L E M E N T I O N

house of the woodland the berkshires, mass. wojr

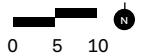
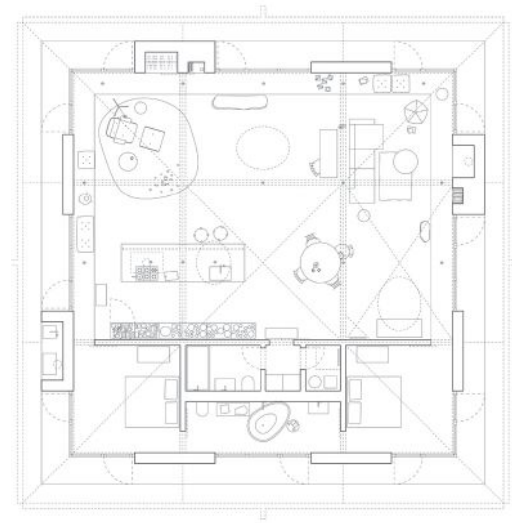
A project brief is rarely so succinct, yet so remarkably open-ended, as the one for Cambridge, Mass.-based WOJR's House of the Woodland in the Berkshires. "A building," it read. "One that can act as a house. One that is extraordinary." What the designers came up with is a suitably simple, adaptable, yet distinguished solution that mediates between the generic and the singular, the natural and the domestic.

Set on a 25-acre site, the 2,300-square-foot house has a material palette restricted to cinder blocks, concrete, and plywood laminate. A modest budget made economy essential, and a straightforward parti ensured that the structure could be delivered with relative ease: The primary floor is divided into a nine-square grid, with symmetrical fenestration and only a few enclosed rooms.

There are second-level annex spaces, but these are ancillary to the plan, comprising a lofted bedroom over the first-floor bathrooms and a netted rumpus space strewn with pillows (presumably for the use of the client's small children) strung over the lounge area. The most striking feature of the scheme is the ceiling: fashioned of plywood, it expresses the grid in a series of deep rectilinear coffers, pitched at the sides under the angle of the gabled roof and pierced from place to place by skylights that cast pools of sunshine on the floor below.

Referencing multiple architectural traditions—the one-room cabins of the American frontier, the rational grids of mainstream Modernism, the makeshift materiality of DIY—the design of the House of the Woodland is a testament to WOJR's sophistication as well as its resourcefulness. Warm, cozy, but without a trace of preciousness, the project manages a delicate balancing act, in tune both with the beauty of the remote forested site and with the brief's frank, no-nonsense attitude. —I.V.

Floor Plan



"This project is really thought out—especially cracking open the symmetrical gesture of the pyramid roof with the highly specific skylights. I think it hits a gestalt—for why architects today are focused on the roof and the power of it in design today."

—CLAIRE WEISZ, FAIA

H O N O R A B L E M E N T I O N

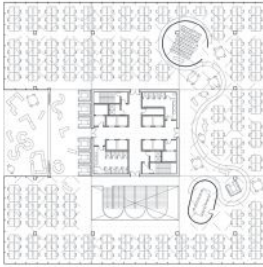
**office stack
huntsville, ala.
mall**



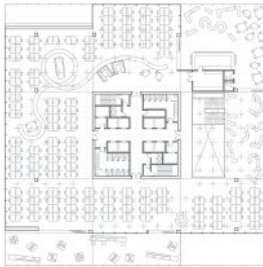
20th-Floor Plan



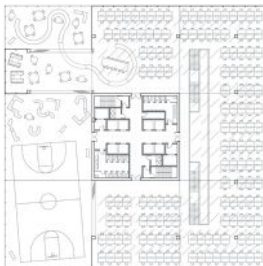
15th-Floor Plan



13th-Floor Plan



Sixth-Floor Plan



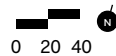
"This project optimistically makes a very American office tower. It's a promiscuous collection of parts inelegantly arranged, and the mismatch of different pieces seems deliberately organized so that each can have its own identity. Within a non-hierarchical composition, the chunks are all exceptional."

—PAUL ANDERSEN, AIA

A pie in the face of all things reductive and reflexive in architecture, MALL's provocative Office Stack project takes up themes that have been working their way through the Cambridge, Mass.-based practice for several years. The firm's 2016 exhibition "Best Sandwiches" at Boston's Pinkcomma Gallery was an investigation of extrusion in tall buildings—or rather a calculated demolition of the idea, presenting formal concepts that layered assorted typologies atop one other to create recombinant Frankenstein structures.

Now that premise is set to be realized in the real world: at 329,000 square feet, Office Stack will be a unique presence on the skyline of Huntsville, Ala. Or rather, it will be several presences—its elevation incorporates no fewer than five different façades, each with its own roofline, making it almost a skyline unto itself. All the discrete demi-buildings receive different surface treatments, from diagrid to standard Miesian reticulation to PoMo-ish punch windows, all articulated in different materials.

But this is more than just an experiment in creative façadism. Each four-story vertical is home to its own tenant, making the design a crystal-clear expression of its interior operations as well as the broader trend towards shared office space. The same sensitivity to the changing nature of work is evident in the office interiors, with furniture, lounges, and meeting rooms winding their way between desk areas to create corridors of social space that flow across each floor. The individual stacks also feature central atria pierced by winding stairs, each different from the next, to further reinforce the distinct identities of the various zones. Even the lighting in the drop ceilings varies from stack to stack, appearing as giant x's in the diagrid floors to mimic the surface treatment. Harkening back to the work of John Portman, MALL's design is a daring attempt to reinvent commercial development from the inside out. —I.V.



A W A R D

ucla margo leavin g^{ra}
culver city, calif.
johnston marklee

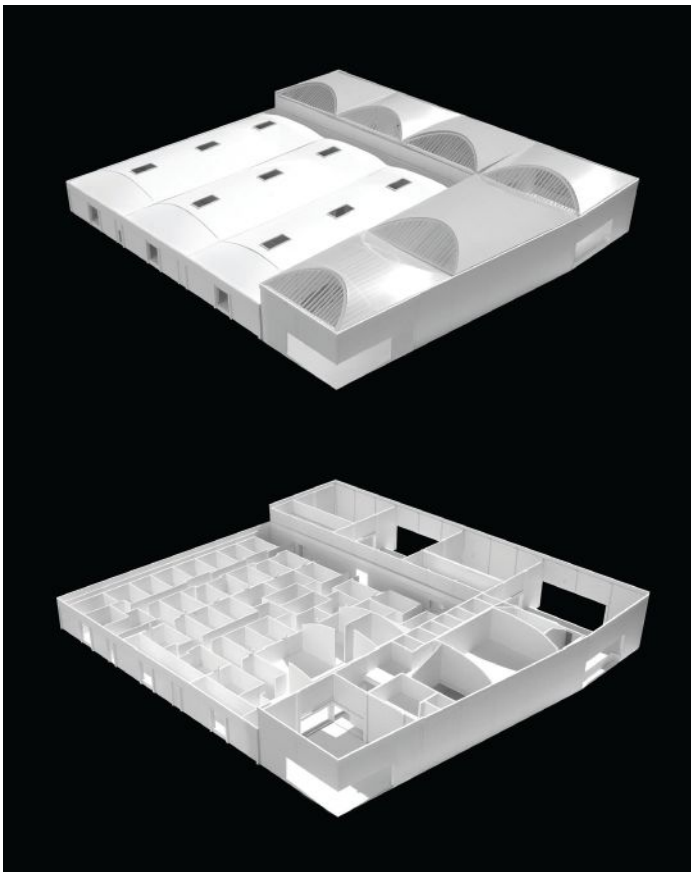


duate art studios

"This project opens up new possibilities for a typical warehouse. It shows how a thoughtful approach can make something that is banal and extraordinary. It doesn't stray too far from the type, but subtle changes—like opening alternating roofs and facades—really redefine its organization and sensibility."

—PAUL ANDERSEN, AIA





Look around, and it is clear that tilt-up is having a moment, and with the design for the new Margo Leavin Graduate Art Studios at the University of California, Los Angeles, Johnston Marklee is proving that the humble material is anything but staid. The design calls for the renovation of the Graduate Art Studios' existing home in a 21,200-square-foot former wallpaper warehouse, and supplements it with a 26,800-square-foot, L-shaped addition—which itself will replace several nondescript annexes that have cropped up since the program took up residence.

Made from site-cast, pillowed, tilt-up concrete façade panels that nod to warehouse construction but elevate it with a lush, almost textile-like finish, the addition houses classrooms and lab space for everything from woodworking to ceramics. It is topped by a grid of vaults—lined with curved glulam beams and covered in either roofing membrane or curved polycarbonate—that recall the bow-truss roof on the old warehouse; some

will feature the beams only, to allow for plein-air studios.

The complex is sited in the middle of Culver City, Calif.'s Hayden Tract, the former industrial area that Eric Owen Moss, FAIA, and his clients Laurie and Frederick Samitaur-Smith have turned into a large-scale architectural assemblage with such constructions as *Stealth* and *Pterodactyl*. So it seems fitting that the team at Johnston Marklee would approach the organization of its new complex with an eye toward innovative urban design at building scale.

Studios are clustered in small blocks in the renovated warehouse, and, throughout the complex, circulation mimics a neighborhood map writ small: entries and infrastructure on cul-de-sacs and plaza-like spaces for larger gatherings, all connected by criss-crossing pathways akin to streets. This new city within a city rendered from deftly elevated industrial materials is a fitting space to inspire future artists, and an apposite addition to the neighborhood. —K.G.



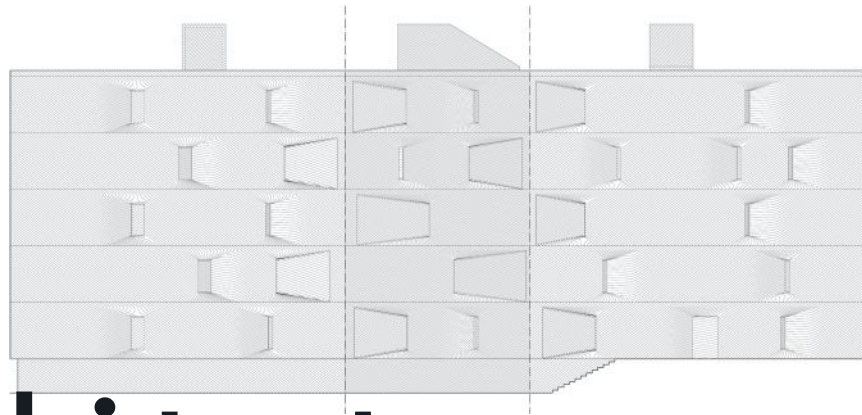
A W A R D

d1 1310 apartments mexico city

young & ayata with mi



Unrolled Elevation Showing Apertures



chan architecture

Typical Apartment Floor Plan



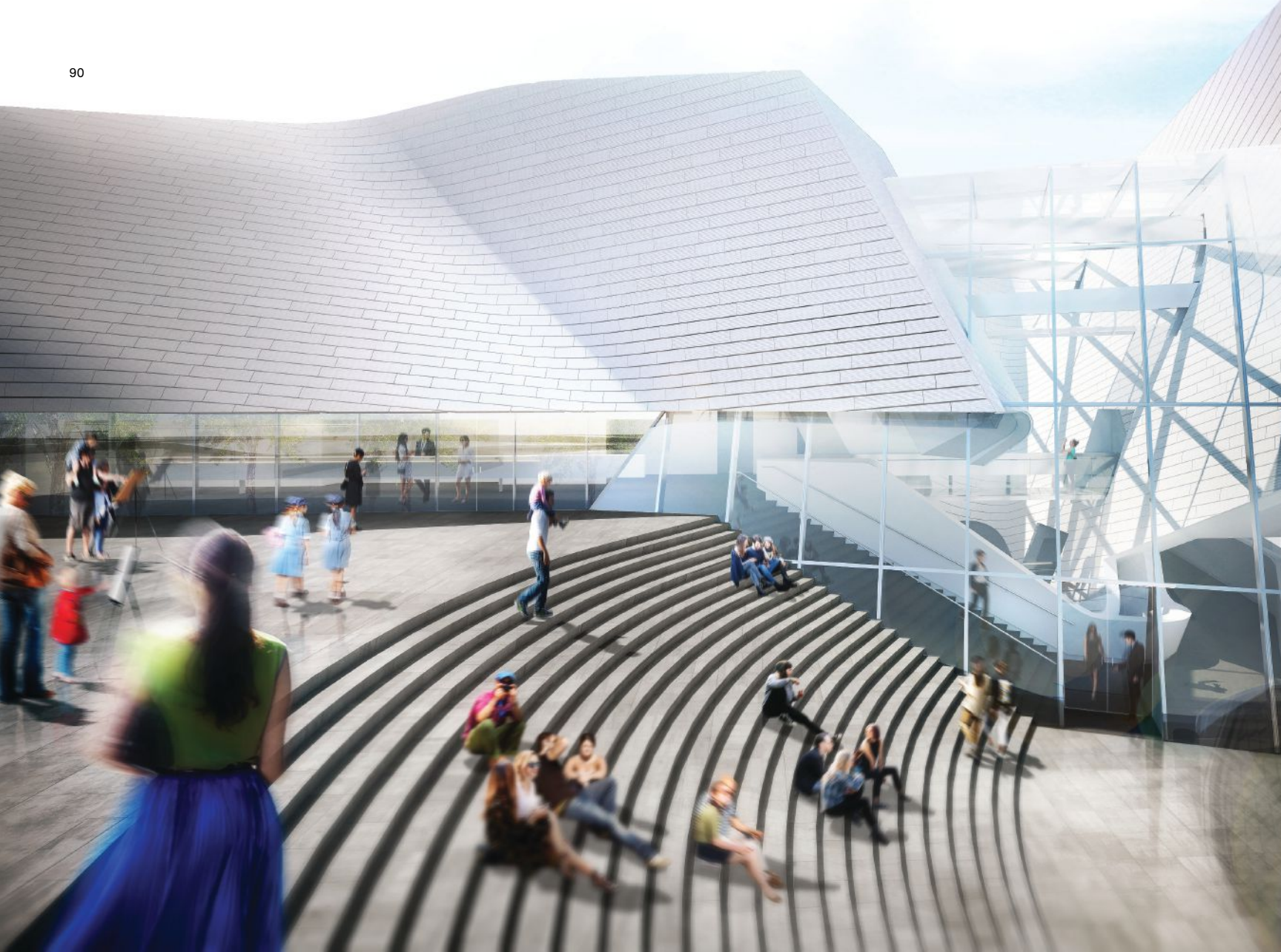
Concrete seems as much a native Mexican material as the rough volcanic stone of the country's pre-Columbian temples. It seems only natural, then, that Brooklyn, N.Y.-based designers Young & Ayata should turn to the hard stuff for their first major project in Mexico's bustling capital. But they have brought something new to the city as well. Designed with local firm Michan Architecture, the DL 1310 apartment building is the product of extensive research into the technical capabilities of and local traditions in concrete design, redeploying the geometric fancies of Félix Candela and Miguel Fisac to solve the issues of a challenging site.

Forced to push the building back into the lot in order to be permitted to increase the structure's height, and to hew strictly to a simple four-square floor plan, the architects decided to discard conventional fenestration, fearing it would provide suboptimal light and views while rendering the façade all but lifeless. Instead, the team pressed apertures into the envelope at a sharp angle, resulting in a dynamic pattern of trapezoidal windows that make each apartment different from the next. Even within a single unit, the slanted glazing makes for dramatic shifts in perspective, creating a domestic space that's anything but static.

On closer inspection, the exterior reveals still greater subtleties: the recessions in the skin aren't cuts but rotations, ones that have left elegantly curved traces under the lintels. This air of understatement is rare for all-concrete construction, and a key asset given the context—a residential neighborhood of mostly one- and two-story single-family houses, where the mid-rise structure might otherwise have come as an unwelcome intruder. As it is, its subdued presence combines with its bold materiality to make DL 1310 doubly at home in Mexico City, proving Young & Ayata and Michan Architecture's commitment to creating original statements that are more than just novelties. —I.V.

"While design trends toward translucency and lightness, with a built aesthetic to match, I like that this project resists that. It provides a sense of thickness and depth that is very skillful and super effective."

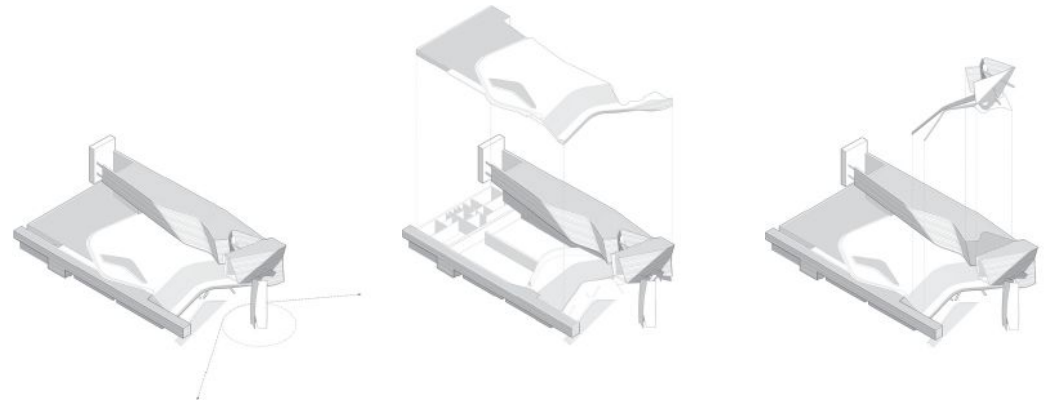
—J. FRANO VIOLICH, FAIA



H O N O R A B L E M E N T I O N

**orange county museum of
costa mesa, calif.
morphosis architects**

Axonometrics Showing Massing, Floor Plans, and Atrium Liner



Morphosis Architects' design for the new Orange County Museum of Art marks a significant moment both for Southern California and for one of the region's most celebrated firms. The town of Costa Mesa has effectively promoted itself as the de facto cultural capital of Los Angeles' sprawling southern suburbs, thanks chiefly to the Segerstrom Center for the Arts, a massive campus of performance venues and public spaces (including those designed by Charles Lawrence and Cesar Pelli, FAIA) which will play host to the new museum.

Complementing and responding to the existing facilities on-site, Morphosis' scheme is a robustly urban ensemble with a large block topped by a flowing, irregular mass. Approaching by way of an at-grade plaza punctuated by a towering sculpture by Richard Serra, visitors enter to find a wide variety of different exhibition environments—intimate smaller galleries, larger spaces that can be reconfigured as curators require, and a vast rooftop terrace playing host to large-scale sculptural works. At the far end of the terrace is a sweeping staircase looking over the entryway (shown at left and above); intended as a lounging and meeting place, it promises to become a focal point for the whole complex. Additional space for offices, educational programming, a museum shop, and a cafeteria are located in the slender volume that snakes around the terrace, with a glassed-in atrium that looms grandly over the outdoor stairway connecting it to the main exhibition space below.

Bristling with functionality and emphatic in expression, the building is one component of a much larger plan to reinvent Costa Mesa as a regional destination, a new kind of suburban city with increased density and a stronger sense of civic identity. For Morphosis, long the exponents of a brash brand of L.A. futurism, the project is a chance to shape the identity of the Californian megalopolis in the 21st century, while also showing their singular knack for shaping the encounter with art. —I.V.

"This Museum zooms in on the impact of art and architecture acting together. The design shows an evolution of the box, and it deflects to an important piece of artwork and to public space, rather than placing the art after the fact."

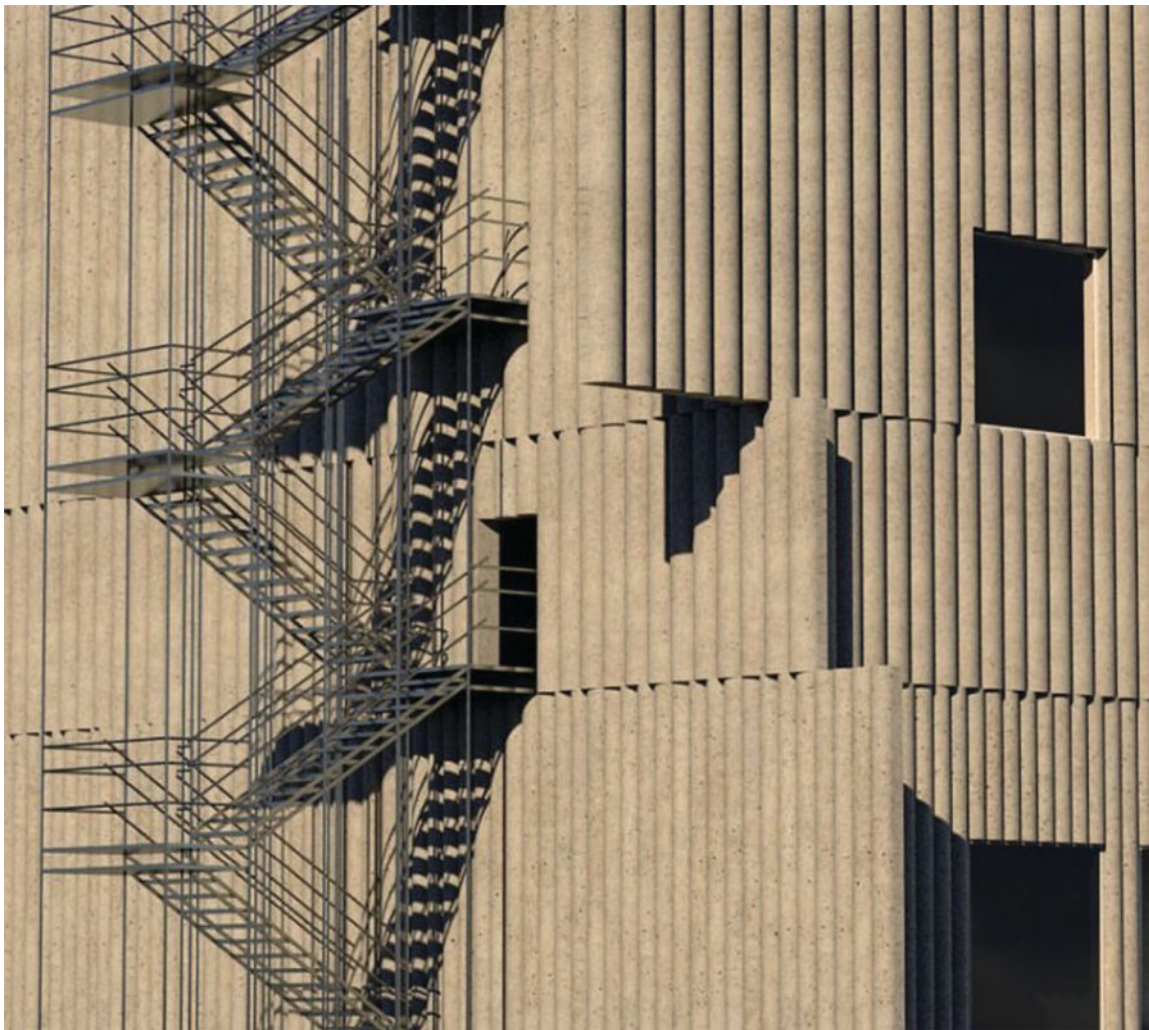
—CLAIRE WEISZ, FAIA

art



H O N O R A B L E M E N T I O N

ring of hope chicago paul preisser arch



"I've always liked the rawness of a material architecture, and this one fits into that category. There's an art-making aspect to this project, and I think that has to do with the limited materials."

-J. FRANO VIOLICH, FAIA

itects

Paul Preissner Architects' Ring of Hope in the firm's hometown of Chicago is a multiuse public facility with a forthright, boldly stated civic character. A robust exterior of corrugated concrete panels combines with slightly irregular massing and upper-level terraces to create a stirring urban statement that recalls the best of the Brutalist tradition.

But this is no late-modernist rehash. Ridged and speckled, looking almost more like stacks of wooden logs, the surface has a rare kind of haptic allure: The panels shift past and over each other, promising a sense of tectonic movement and a beguiling interplay of light and shadow. More importantly, the interior scheme manifests a complexity and a dynamism that's unquestionably contemporary—as it needs to be to accommodate the unusually diverse program of the non-for-profit client. Food services, seminar rooms, a boxing gym, a basketball court, office spaces and refuge spaces, are all found within—all much-needed assets for the disadvantaged minority neighborhood of Greater Grand Crossing on the city's South Side.

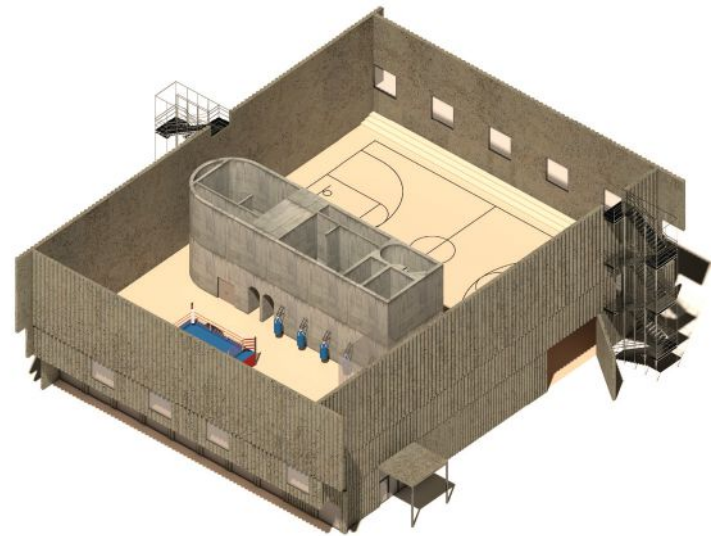
Accordingly, the designers have opted for a rich mixture of discrete and free-flowing spaces, the two floors of the building's steel-and-concrete core allowing it to remain free of vertical supports and packed to the brim with functionality. In perhaps its most ingenious moment, the lively inner life of the building can be exposed for all to see courtesy of openable panels, located to the north and south, that can be pulled aside to let activity spill into the streets or to invite the neighbors in.

Pairing an innovative 21st-century design approach with an intrepid, optimistic spirit that seems to belong to a bygone era in the country's political life, Preissner's Ring of Hope represents a real attempt (to recall Lyndon Johnson) to find an American solution for an American problem. —I.V.

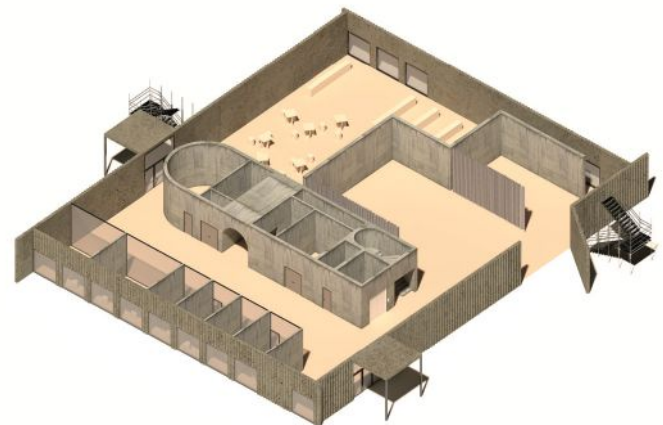
Roof



Second Floor



Ground Floor



H O N O R A B L E M E N T I O N

stump house
ben lomond, calif.
jon lott / para project



"I like the tension that this seemingly simple encampment brings toward architecture's contested place in nature. There's a special conversation between the two that is both lyrical and pragmatic."

—J. FRANO VIOLICH, FAIA



When is a house more than just a house? For Stump House, Brooklyn, N.Y.–based Para Project's latest commission, in the Santa Cruz Mountains of California, the firm was faced with a series of unique constraints—as well as some unique possibilities—that obliged principal Jon Lott and team to work beyond the typical remit of the residential designer. On the one hand, the architects had to contend with local building ordinances that limited construction on the 10-acre parcel to a single 1,200-square-foot domicile, no taller than 40 feet, with an additional 1,000 square feet permitted for an adjoining “uninhabitable” structure. In a sly move, the team responded by stacking one structure atop the other, designating the lower level as an art studio (ergo, uninhabited) and embedding it halfway into the sloping terrain. The result is a combined live-work space under a single roof that still accords with both the building height and usage regulations.

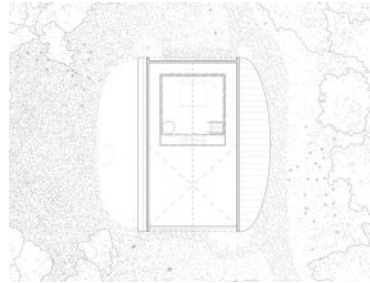
Yet turning half of a house into a not-house was only one part of the designers' canny gamesmanship. Sitting in a clearing, perched on a series of composite stone stumps and topped by a gabled roof, the design gestures toward the most primal ideation of the human dwelling place. It then carries out a calculated assault on that ideation, cutting a glazed skylight in the roof, warping the eave on one side till it almost touches the ground, and sticking services inside the stone stumps, transforming them from existential markers of “place-ness” into a doorway, a closet, a shower and even a gutter. In its conceptual and practical aspects alike, Para's solution represents an aptly para-architectural coup, an investigation of the *a priori* conditions of the brief that throws in a few playful curveballs without sacrificing any of the elegance or comfort of this rustic backwoods retreat. —I.V.



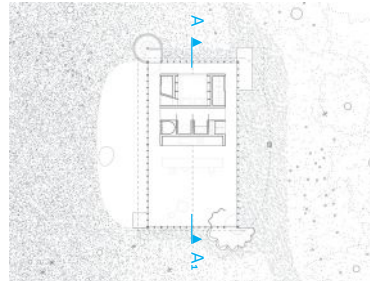
Section A-A₁



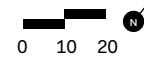
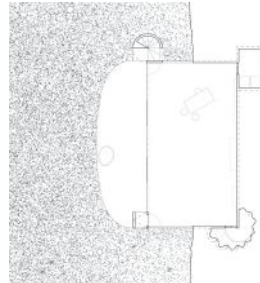
Second-Floor Plan



First-Floor Plan



Lower-Level Studio Plan





PROJECT CREDITS

CHAPEL OF SOUND, PAGE 74

Project: Chapel of Sound, Chengde, China
Client: Municipality of Aranya, China
Architect: Open Architecture, Beijing · Li Hu, Huang Wenjing, AIA (principals-in-charge); Zhou Tingting, Fang Kuanyin, Lin Bihong, Kuo Chunchen, Hu Boji, Yang Ling, Li Li, Chen Yang
Interior Designer: Open Architecture
Structural/M/E/P/Civil Engineer: Arup
Landscape Architect: Guangzhou Turenscape
Lighting Designer: Beijing NingZhiJing Lighting Design
Theater Consultant: JH Theatre Architecture Design Consulting
Size: 6,641 square feet
Cost: Withheld

LITTLE BERKELEY, PAGE 76

Project: Little Berkeley, Santa Monica, Calif.
Client: Community Corporation of Santa Monica
Architect: Kevin Daly Architects, Los Angeles · Kevin Daly, FAIA (principal-in-charge); Jared Ward (project manager); Ciro Dimson, Evan Hursley, Lindsey McLaughlin, Luke Smith, AIA (project team)
Structural Engineer: Workpoint Engineering
M/E/P Engineer: Novus Design Studio
Civil Engineer: Obando and Associates
Landscape: Tina Chee Landscape Studio
Green Building: Verdical Group
Acoustics: Newson Brown Acoustics
Size: 5,000 square feet
Cost: Withheld

THE GROCERY, PAGE 78

Project: The Grocery (Rushville Arts and Cultural Center), Rushville, Neb.
Client: The Sandhills Institute · Mel Ziegler
Architect: Actual Architecture, Omaha and FACT, Omaha · Jeffrey L. Day, AIA (Actual Architecture principal and FACT director); Dennis Krymuza, Andrew Goldsmith, Brett Lehr (Actual Architecture project team); Magdalena Vazquez, Joseph Croghan, Scott Kenny, Megan Michalski, Brooke Saylor, Hasan Shurrab, ASSOC. AIA (FACT project team, University of Nebraska–Lincoln College of Architecture students)
Interior/Lighting Designer: Actual Architecture + FACT
Structural Engineer (Conceptual Design Phase): Thompson, Dreessen & Dorner
Landscape Designer: Kayla Meyer
Size: 4,900 square feet
Cost: Withheld

HOUSE OF THE WOODLAND, PAGE 80

Project: House of the Woodland, the Berkshires, Mass.
Client: Withheld
Design Architect: WOJR, Cambridge, Mass. · William O'Brien Jr., John David Todd, James Murray
Visualization: D-Render
Size: 2,300 square feet
Cost: Withheld

OFFICE STACK, PAGE 82

Project: Office Stack, Huntsville, Ala.
Client: McLain Development
Development Team: This X That
Design Architect: MALL, Cambridge, Mass. · Jennifer Bonner (director); Bradley Silling, Frankie Perone, McKayla Tyrrell, Glen Marquardt (design team); Justin Jiang, John Going, Dohyun Lee (concept team)
Structural Engineer: AKT II, Hanif Kara
Renderings: Glen Marquardt
Photography: Adam DeTour
Size: 329,000 square feet
Cost: Withheld

UCLA MARGO LEAVIN GRADUATE ART STUDIOS, PAGE 84

Project: UCLA Margo Leavin Graduate Art Studios, Culver City, Calif.
Client: UCLA (School of the Arts and Architecture)
Architect: Johnston Marklee, Los Angeles · Sharon Johnston, FAIA (partner-in-charge); Mark Lee (design partner); Nicholas Hofstede, ASSOC. AIA (project director); Lindsay Erickson (project lead); David Gray, Tori McKenna, Justin Kim (project design team)
Structural Engineer: Simpson Gumpertz & Heger
M/E/P Engineer/IT/Telecom/Security: ME Engineers
Civil Engineer/As-Built Surveying: KPFF Consulting Engineers
Geotechnical Engineer: Geocon
Construction Manager: UCLA Capital Programs
General Contractor: Abbott Construction
Landscape Architect: Pamela Burton & Co.
Lighting/Daylighting Designer: Horton Lees Brogden Lighting Design
Cost Estimating: The Capital Projects Group
Specifications: C Plus C Consulting
Code/Accessibility: Jensen Hughes
Building Enclosure: Simpson Gumpertz & Heger
Vertical Transportation: Van Deusen & Associates
Environmental Graphics: MG&Co.
LEED & Energy Modeling: Gaia Development

Acoustical/AV: Veneklasen Associates
Site Survey: Iacobellis & Associates
Visualization: Igor Brozyna
Size: 48,000 square feet (21,200-square-foot renovation, 26,800-square-foot addition)
Cost: \$20.3 million

DL 1310 APARTMENTS, PAGE 88

Project: DL 1310 Apartments, Mexico City
Client: M2 Grupo Inmobiliario
Architect: Young & Ayata, Brooklyn, N.Y., in collaboration with Michan Architecture, Mexico City · Kutan Ayata, Michael Young (Young & Ayata principals); Sina Ozbudun (Young & Ayata project team); Isaac Michan (Michan Architecture principal); Narciso Martinez, Jorge Sanchez (Michan Architecture project team)
Interior/Lighting Designer/Landscape Architect: Young & Ayata in collaboration with Michan Architecture
Structural Engineer: Montes de Oca Ingenieros Consultores
M/E/P/Civil Engineer: Inversa
Geotechnical Engineer: Izquierdo Ingenieros y Asociados
Construction Manager/General Contractor: M2 Grupo Inmobiliario
Size: 16,500 square feet
Cost: 14.4 million Mexican peso (approx. \$756,000 USD)

ORANGE COUNTY MUSEUM OF ART, PAGE 90

Project: Orange County Museum of Art, Costa Mesa, Calif.
Client: Orange County Museum of Art
Architect: Morphosis Architects, Culver City, Calif. · Thom Mayne, FAIA (design director); Brandon Welling (project principal); Aaron Ragan, Crystal Wang (project architects); Tom Day, Daniel Pruske (project designers); Ilaria Campi, Salvador Hidalgo, Zach Pauls, Stan Su, AIA, Natalia Traverso Caruana (project team); Cory Brugger, ASSOC. AIA, Joseph D'Oria, Kerenza Harris, Atsushi Sugiuchi (advanced technology); Lily Bakhshi Sheppard, Stanley Cho, AIA, Val Fan, Colleen Fellows, Fredy Gomez, Mauricio Gomez, Marie Goodstein, Austin Griffis, Maria Herrero, Ibrahim Ibrahim, Eric Meyer, Nicole Meyer, Elizabeth Miller, Samuel Naylor, Rory Noble-Turner, Liana Nourafshan, ASSOC. AIA, Colton Stevenson, Patrick Witthaus, ASSOC. AIA (project assistants); Carolyn Ng, Jasmine Park (visualization)
Structural Engineer: John A. Martin & Associates
M/E/P Engineer: BuroHappold Engineering
Civil Engineer: KPFF Consulting Engineers

Landscape Architect: OJB Landscape Architecture
Lighting Designer: Horton Lees Brogden Lighting Design
Signage/Graphics: Follis Design
Acoustics: Newson Brown Acoustics
Audiovisual/IT: Waveguide
Façade: Walter P. Moore
Code/Life Safety: Simpson Gumpertz & Heger
Specifications: Construction Specifications
Cost Estimator: Dharam Consulting
Size: 52,000 square feet
Cost: \$55 million

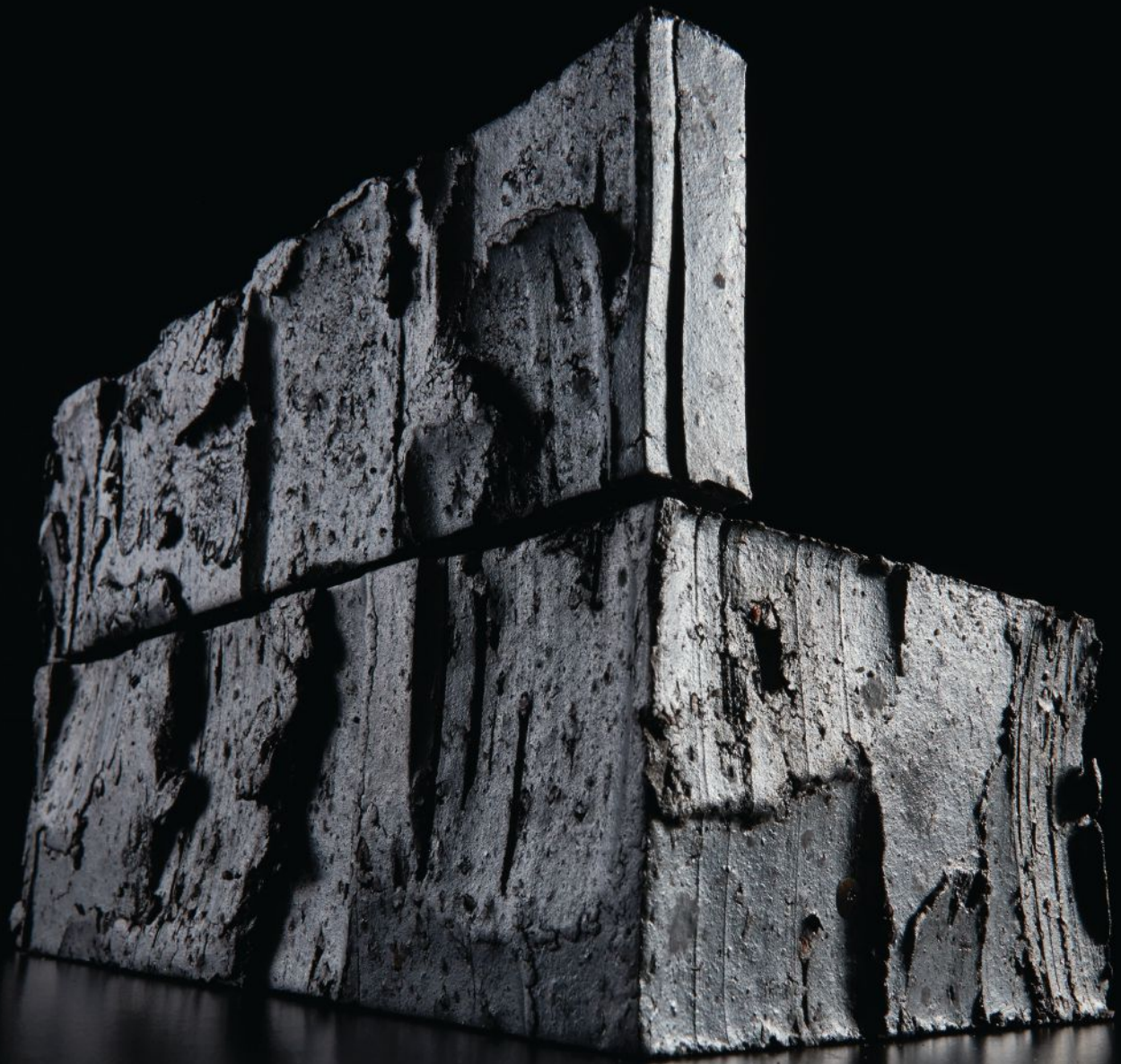
RING OF HOPE, PAGE 92

Project: Ring of Hope, Chicago
Client: Ring of Hope · Anthony Wright
Architect: Paul Preissner Architects, Oak Park, Ill. · Paul Preissner, AIA, David Ramis
Structural Engineer: Goodfriend Magruder Structure
Size: 24,000 square feet
Cost: \$6 million

STUMP HOUSE, PAGE 94

Project: Stump House, Ben Lomond, Calif.
Client: Withheld
Architect: Jon Lott / PARA Project, Brooklyn, N.Y. · Jon Lott, AIA, Justin Gallagher, Kenneth Hasegawa, Lauren McClellan, Josephine Roubert (design team)
Contractor: MG Custom
Size: 2,200 square feet
Cost: Withheld





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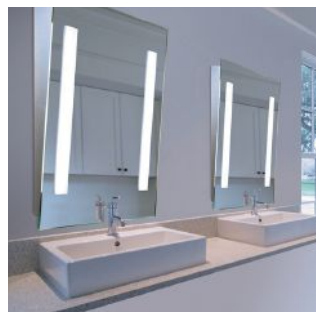
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Editorial: The New Company Town

One of my great-great-grandfathers was a minor St. Louis robber baron whose investments included the dance hall where Johnny did Frankie wrong back in 1899, a German-language newspaper and telephone company felled by World War I anti-Hun sentiment, and a bank that, ironically, his own son held up. He also owned a quarry in Southern Illinois. Before the Civil War, when the railroad stopped at the Mississippi, westbound settlers would mine rock at the quarry in exchange for room and board in wood-frame barracks and a bit of company scrip, which they'd save up to buy equipment for the remainder of the journey. The operation wasn't nearly as big as company towns like Pullman and Fordlândia, but the underlying impulse was the same: to profit from employees, in the name of serving them.

Today, we're seeing a revival of the company town concept, on a scale unimaginable to a George Pullman or Henry Ford. Of course, everybody knows those Silicon Valley corporate campuses, with their dry cleaners, foosball tables, and free meals intended to keep staff at the office. But why stop at the property line? On Jan. 16, Microsoft announced a \$500 million plan for middle- and low-income housing in Seattle. Five percent of the money will go to charity. The rest is allocated to for-profit development. So this isn't altruism, exactly.

The tabula rasa creation of entire corporate communities, housing and all, has become a rare phenomenon outside of authoritarian countries. (Think of Foxconn City in Shenzhen, China, with its notorious suicide-prevention nets.) Instead, at least in the United States, companies with the will and the requisite means prefer political influence instead of direct ownership of a neighborhood or town. Who needs all that responsibility anyway, when you can just dominate an existing city? The old paternalistic pretense has given way to the overt exercise of coercive power, putting local governments in thrall to private business interests.

All too often, corporations use strong-arm tactics to wrest preferential legislation, tax breaks, and other perquisites from governments desperate to gain or retain jobs. Professional sports franchises have a particularly bad track record, using relocation threats to get public money for new stadiums and often unabashedly decamping for more lucrative markets. My hometown, St. Louis, has had terrible luck with the NFL in this regard, losing the Cardinals to Arizona in 1988 and the Rams back to Los Angeles in 2016.

Amazon's become the poster child for the new-model company town, having used last year's search for a second headquarters location to pit some 200 municipalities against one another in a race to the bottom. Around the same time, back in its hometown of Seattle, Amazon stopped working on a new office tower—an unsubtle threat to leave town altogether—unless the city council agreed to drop a business tax that supported low-income housing. The city acquiesced. (A few months later CEO Jeff Bezos made a \$97.5 million pledge to 24 nonprofits to help fight homelessness, which hardly makes up for it.) This is a dangerous game. That the current political climate allows corporations to treat cities like wholly owned subsidiaries may be great for shareholder value, but it's a lousy deal for the rest of us.





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