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Detail of a drawing by Ilia Reyes made while working under Rafael Beneytez Duran at Z4Z4 Office for Acontecimientos Atmosféricos Arquitectónicos in Lubbock. The project that it figures, Casa Tabogan in Madrid, Spain, is now completed. See the full drawing in the Digital/Analog Drawing feature on page 64.
2019 Studio Awards
Call for Entries

These awards recognize unbuilt projects demonstrating innovation and excellence in design. Real or theoretical projects that go beyond the boundaries of architecture by addressing current critical issues are encouraged.

Entry Deadline
6 June 2019

studioawards.texasarchitects.org
The 2019 TxA Design Conference took us to Tulsa. Entitled “Unexpected,” it laid out the proposition that, as the tag line said, “good design can happen anywhere … even Oklahoma.” While this slight might have stung the Okies who were our gracious hosts (they served up plenty good-humored regional rivalry of their own), the conference organizers also meant for it to hold a mirror up to Texas, which is similarly situated outside the usual centers of high-cultural production, such as New York and Los Angeles.

It is, of course, undeniable that good design can happen almost anywhere, just as it is a foregone conclusion that the nation’s cultural capitals are home to its highest concentrations. But the conference theme did provoke a deeper consideration of how good design happens at all, wherever it may happen — a theme that was teased out and developed during the panel that I moderated with keynote speakers Hans Butzer, AIA; Wendy Evansjoseph, FAIA; and Sebastian Schmaling, AIA.

Architecture is, for the most part, a service industry. We like to think of architects these days not as individual geniuses, but as collaborators in a group effort. This has actually always been the case, as buildings have always required collaboration to pull off. And while the architect is but one player in this collective, they are also the main coordinator, the one responsible for making sure all the other parts come together harmoniously, or at least in the way intended by the design. Being adept at that role requires intelligence, skill, experience, and wisdom — in short, genius. We might, perhaps, stop being afraid of that word.

Clients often need to be convinced, contrary to their inclinations, to make the right decision in the design of a project. It is the architect’s responsibility to know what that decision should be and how to make the client agree — whether by the aristocratic intimidation we associate with the Bauhaus, or a subtler salesmanship that seems to play better in a culture that asserts “the customer is always right” — a sort of salesmanship at which Bruce Goff must have been expert.

While the conference’s theme, “Unexpected,” was tuned as a dart to be fired at our northern neighbor, it is also a reference to Goff, whose buildings one would not expect to see anywhere, except maybe on the set of a mid-century sci-fi movie in which the ray guns have fins and interstellar travelers smoke cigarettes in their spacecraft. Goff, who directed the architecture school at the University of Oklahoma between 1947 and 1955, did preach a client-centered approach to design. But even a cursory survey of his work makes it clear that some other force was at play.

If genius does in fact exist, Goff undoubtedly possessed it. He got his first architectural apprenticeship at the age of 12, designed his first house that was built a year later, and designed a cathedral — the Boston Avenue Methodist Church in Tulsa, considered to be one of the finest specimens of Art Deco liturgical architecture — in his early 20s.

Goff was a talented guy. He was also a homosexual. And here we come to another facet of the “Unexpected” theme: Our cultural capitals are what they are in part because of their comparatively open cultures. This is important for the creative industries because, as John Ruskin observed, “accurate and methodical habits in daily life are seldom characteristic of those who either quickly perceive, or richly possess, the creative powers of art.” Creatives, in short, need plenty of wiggle room to flourish. Oklahoma in the mid-20th century — not to mention Texas — was not a society that readily accepted sexual practices not condoned by the Bible. (New York and LA, to be fair, were not much better, though they did harbor large populations of people who led alternative lifestyles in relative freedom.) To this day the Boston Avenue Methodist Church does not recognize Goff as the designer of its building and instead gives credit to his high-school art teacher. Similarly, he allegedly was asked to leave his post at OU due to a relationship with a male student, this in an era in which male professors were having affairs with female students with impunity. And yet, Goff kept practicing in Oklahoma, a place he clearly loved and found inspiration in. One wonders what more he might have done if his environment had been more inclusive. Perhaps good design in places like Oklahoma would not be so unexpected after all.
**Contributors**

Ibai Rigby is editor at urbanNext.net, a digital platform focused on rethinking architecture through the city that seeks to redefine the task of disseminating and generating content by harnessing the capacities of the digital medium. He was previously coordinator of the Aga Khan Award for Architecture and is currently based in Austin. See his review of architecture at SXSW on page 10.

Jessie Temple is an architect, writer, and aspiring chair maker based in Austin. Her areas of focus include residential and retail projects, furniture and lighting, art shows, and community workshops. For this issue, she tours Holy Cross Hall on the campus of St. Edward's University to explore the role of design in higher education (p. 74).

Sophie Aliece Hollis is an architecture student at The University of Texas at Austin. She is also minoring in journalism and pursuing a certificate in real estate. Hollis is originally from San Antonio, where she resided until attending The Lawrenceville School in Princeton, New Jersey. In this issue, she writes about UT Austin's Cockrell School of Engineering (p. 78).

Jessie Temple

Riley Triggs, AIA is a professor of architectural history and an architect-urbanist revitalizing Texas downtowns. His research explores the emotional territory between humans and places, and the role historical spaces have in creating modern environments as found in his essay about NASA's historic Mission Operations Control Room and the new Human Health and Performance Laboratory (p. 33).

Riley Triggs, AIA

The following email was sent to the editor in response to the March/April issue.

Awesome issue! Thank you, Aaron! I especially loved the piece on Paul Hester and appreciated your highly deft treatment of Ruby City. The Fear series was brilliant, important, and timely. It was particularly interesting to read in conjunction with the article on television set design that opens with Fox News.

Kathryn E. O'Rourke
Associate Professor
Department of Art and Art History
Trinity University

The following comment was left on txamagazine.org in response to the essay “T.V. Eyes” from the March/April issue.

Max, I agree. We now use unusual forms to catch the eye. Building for photography rather than for permanency. Maybe one of the reasons is the speed and economy of current construction. Previously, undertaking a building was a great task, one that would have to last. I wish we still built buildings. Today we assemble them.

Alex Quintanilla, AIA
Hoque Global
Dallas

The following comment was left on txamagazine.org in response to the essay “Active-Shooter Code?” from the March/April issue.

Interesting article with some actual facts. The last paragraph tells me that the author of the article is not the so-called expert that is asserted with her statement of the “unabated access to automatic weapons” leaving me with questions as to the validity of her other assessments. If you knew anything about gun control you would know that automatic weapons are not available to the general public and definitely not available over the counter as is seems that she believes.

Albert Moffitt, AIA
Moffitt Architectural Group
Lubbock

The following comment was left on txamagazine.org in response to the feature “Active-Shooter Code?” from the March/April issue.

Very well written and informative. This guy is a star.

J.R. Ferguson
Plano

**Letters**

This photo of Galveston was taken by Paul Hester on a grant from the National Endowment for the Arts in 1973.
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by D. Michael Hellinghausen, AIA

By 2050, demographers tell us that Texas will have experienced a radical transformation in its population, in almost every important characteristic. For starters, there will likely be twice as many of us as there were in 2010. If that isn’t mind-boggling enough, consider that, as a whole, we will be far more ethnically diverse and quite a bit older, and that three-fourths of our soaring population will live in our cities.

So, the Texas we think we know is quickly disappearing. This isn’t my opinion; it’s what the data tell us is going to happen — it is, in fact, already happening. It’s not a question of whether we want this or not, or of whether it’s going to be good or bad for our state. It just is.

My question is not, “Who will Texans be?” — we already know: We will be so numerous that we may have surpassed California in total population. According to the 2014 book, “Changing Texas,” we will be predominantly Hispanic: The 2050 breakdown is expected to be 55 percent Hispanic, 22 percent white, 9 percent black, and 14 percent other (at 2000 – 2010 net migration levels). We will be mostly urban, as I’ve said. We will be considerably older, with as many as one-fourth over 65 years of age, compared to about 12 percent today. And finally, based on the studies available, it is likely that we will be poorer and less educated than we are today.

My question to all of you is, “Who will we be as architects?” The opportunity is coming our way to be a visible, creative, irrepressible force for good, provided we have looked up from the pressing duties of our project work to see that this new world is arriving.

Will we be relevant?

The coming demand for planning and design expertise will be unprecedented. The critical needs within our growing communities will also be unprecedented. Those most affected by these growing needs will be the least able to access or pay for this expertise.

This radically increased population will strain our aged and inadequate infrastructure, our municipal services, and our housing. It is time now to plan and advocate for more efficient energy and transportation systems. Towns and cities must begin to prepare for exploding demand on city utilities and services. We must begin to envision and develop more creative, robust, and resilient solutions to a woefully insufficient housing supply in the face of this inevitable density. We must energize our community design efforts with a genuine sense of urgency. As architects, we are able to imagine, and so we can design for, an even more wonderful and vibrant Texas than we have today, but we must get about that work now.

Our state is changing, undeniably. The demographic studies have been done and continue to be updated. It is clear these changes are coming, and that daunting challenges are coming with them. Whether, and how, we respond to these imminent challenges will define who we are as a profession, whom we serve, and — in the end — whether we matter.

D. Michael Hellinghausen, AIA, is a principal and COO of OMNIPLAN in Dallas, and the 2019 TxA president.
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The DFab House is a demonstration of six novel automated building processes assembled by a collaboration of eight ETH Zürich professors. This view of the fourth floor, designed by the team of Fabio Gramazio and Matthias Köhler, shows 15 bespoke, digitally fabricated concrete mullions lining the facade and the freeform "Mesh Mould" wall, which supports the load of the "Smart Slab."

Review

Voyage to Nexialism

Finding Architecture at the 2019 SXSW Interactive Festival

The SXSW Interactive Festival (formerly the Film & Multimedia Festival), is already as old as the PlayStation or the Segway — that lumbering early version of the electric scooter that invaded Austin for the event in years past. Although it’s announced as a conference “where creative minds come together to discuss and engage in creative problem-solving around technology, entertainment, and culture,” it still fails to fully engage with architecture professionals. While few would deny that architecture is culture, that architects form part of the creative economy, and that quite a lot of technology goes into the design and production of buildings, for most SXSW Interactive participants architecture still refers to systems engineering. On the other hand, for most brick-and-mortar architects, the festival is just another tech gathering crowded by information technology professionals who wander around like sick swine wearing cumbersome VR headsets while playing videogames. But take, for instance, Wikipedia’s job description of an immersive director, which is “to design intact worlds that are coherent; have an interior logic; contain history, geography, surface, metaphor; respond to and drive narrative; and allow an audience to be fully immersed in both environment and story,” and you might begin to think that there’s much more in common than one would imagine at first. And let’s not forget the expanding role that virtual reality is already playing in architectural visualization or augmented reality in architectural heritage sites.

Nevertheless, the technologies presented at SXSW Interactive go far beyond VR/AR, and every investor knows that the construction industry is ripe for disruption. Last year’s winner of the SXSW Pitch (formerly Accelerator) event went to ICON, an Austin-based start-up that claims to have built the first 3-D-printed house in the United States without a single bricklayer on site and without a single architect on staff. Following up this year were Matthias Kohler from the Department of Architecture at ETH Zürich, and Chris Lubekman from Arup. While the Texas company focuses its efforts on reducing the cost and time of construction through digital fabrication, the Swiss team of architects and engineers explores how robotization can bring craftsmanship precision and complexity back into building manufacturing. The DFab house presented at the conference is definitely worth a visit, but there’s no need to mention that the architects'
The Health Learning Building at Dell Medical School at the University of Texas at Arlington

This 85,000-square-foot, 5-story building is on track for LEED Gold certification. The building includes office space for the Dean of Medicine, classrooms, teaching labs, gross anatomy labs, medical simulation labs and outdoor study terraces.

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Texas Society of Architects
dream to become Digital Master Builders didn’t get any start-up award at SXSW.

One of the hot topics at the 2019 SXSW Interactive festival was the so-called autonomous car — even if Malcolm Gladwell would argue that since self-driving cars need to be deeply integrated into large and complex systems, the real autonomous car is the one you can drive yourself. Apart from that, the New Yorker contributor’s fear of a cybernetic attack resulting in multiple crashes at a global scale is well-founded, but at the same time reminiscent of Paul Virilio’s integral accidents. More interestingly, Ryan Powell, Waymo’s head of UX design, went to great lengths to explain the importance of design throughout the process of creating the most experienced driver ever. For Waymo, the color palette of the map in the app is as important as how the autonomous car communicates to the passenger what it sees on the road. Their research has even concluded that E major chords are the best to build trust in their users, and they are therefore used for notification sounds and welcoming musical themes. Surprisingly, it may be no accident that the chimes at Westminster’s Big Ben are also tuned to E major. However, little was mentioned on how the self-driving car is going to change the cities we live in or how they should be designed. If the autonomous vehicle makes long commutes bearable, will this result in urban areas expanding beyond their suburban limits?

This possibility was not shared by a group of young Californian entrepreneurs united to design homes for a more sustainable urban future. Their proposition is that creative professionals want to live downtown, and their solution to combat the ever-increasing price of real estate in attractive locations is making smaller apartments or co-living tolerable through technology. From shared concierge services to beds that hide in the ceiling at the touch of an app, they are proposing a whole set of new ideas they think will make building relationships and taking care of each other easier. And while older generations of Americans might see in some of these projects the seeds of Millennial socialism, the Silicon Valley versions of Existenzzminunum lack the radicalism of Moisei Ginzburg’s 1928 Narkomfin communal house in Moscow or the elegance of Ettore Sottsass or Joe Colombo’s Total Furnishing Units of the ’70s. Yesterday’s future did look sexier, by all means.

Another somewhat disappointing session was the Place by Design finalist presentation. Place by Design is, according to SXSW’s website, “SXSW’s international public space design competition, celebrating transformative work at the intersection of art, technology, and design that rethinks how we use and interact with the places around us.” Two out of the five finalist projects were located in Austin, and only one of them was situated outside of the United States, in English-speaking Australia — which already indicates how little impact the competition announcement had outside of hard-core SXSW followers. The ideas presented were somewhat interesting,* but were more related to public programming than actually designing public space. Thankfully, Eric Klinenberg reminded everyone during a keynote on his latest book, “Palaces for the People,” that real public spaces are those that don’t ask anything from us. Moreover, the quality of place design is so important that even those same big tech companies that strive to brand social media as a replacement for public space make great efforts to provide the best architectural design to their employees to retain them.

One of the stellar architects involved in designing Silicon Valley headquarters, Bjarke

*Bumblebee Spaces is a smart storage system attached to the ceiling that is marketed as a space-saving solution for microapartments. Robots monitor items held in the containers and deliver them upon demand.

*The projects included: “Harm to Table,” a traveling restaurant that offered food made out of locally sourced ingredients in danger of extinction; “Play Pod,” a traveling life-sized Rubik’s Cube of outdoor activation for all ages to enjoy; “Micro,” a fleet of six-foot-tall museums that can be displayed anywhere in the world; “Pocket Patios,” a tactical urbanism project that replaces parking lots with green space and outdoor seating; and “Creek Show,” an annual event featuring nine nights of light-based art installations in a forgotten space. Both “Creek Show” and “Pocket Patios” are located next to the Austin Convention Center.
2019 Honor Awards
Call for Nominations

The Honor Awards recognize exceptional members, firms, individuals, and organizations for outstanding achievements in support of the profession of architecture, the built environment, and the quality of life in Texas.

Submission Deadline
18 June 2019

texasarchitects.org/honor-awards
Ingels, was actually in town for a featured keynote on **furnishing**, the Danish word for design. The optimistic lecture followed the typical hedonistic sustainability tropes with which the Lego builder keeps his fans entertained: ski slopes atop zero-emission power stations; a new flood barrier for Manhattan baptized as the “Dryline” that will compete with the High Line; floating oceanic cities resilient to sea level rise; and even a plan to colonize Mars if we fail to save human life on planet Earth. There’s no challenge big enough for the heroic architect — as long as some real estate operation is involved. Architects too often forget that an increasing rise; and even a plan to colonize Mars if we fail to save human life on planet Earth. There’s no challenge big enough for the heroic architect — as long as some real estate operation is involved. Architects too often forget that an increasing part of their success is communicating ideas, and this, we have to accept, is something at which Bjarke Ingels excels.

For those who don’t believe in the power of design to deal with every possible catastrophic challenge, speculative design can nonetheless still be employed in making a better image of the future and spark a responsible reaction, as suggested by Mick Champagne and by Casey Hudetz from marketing agency Digitas. Following the fearful themes of almost every chapter of the TV series “Black Mirror,” they presented a long list of design projects and “provotypes” (provocative prototypes) to trigger debate and make the future more tangible. In a similar line of thought, but following the chapters of his own book of conversations about contemporary art, Hans Ulrich Obrist delivered a speech made out of quotes on how “Art does not reproduce the visible but makes visible” (Paul Klee); the notion of “art as radar” (Marshall McLuhan); that art, like the Internet, “is for everyone” (Sir Tim Berners-Lee); that, faced with new technology, “We need to create new rituals” (Andrei Tarkovsky); and, finally, that “we all have to do something to save handwriting” (Umberto Eco). According to Obrist, “Every company should have an artist in residence.”

The best insights about the real nature of SXSW came from Bruce Sterling’s closing remarks. The cyberpunk writer observed how the presence of art curators like Obrist indicated the noticeable smell of entrepreneurship and deep pockets attending SXSW. He also commented on how every member of the middle class is being forced to become an involuntary bohemian, obliged to live a precarious lifestyle like those historically led by artists. In this context, it makes sense that a conference that started as a music festival, where young bands play to get noticed by the recording industry, would become a model for the new gig economy that applies to every professional today. Automation will keep destroying jobs, even those in the creative industries. It is no surprise that deep pockets meet every professional today. Automation will keep destroying jobs, even those in the creative industries. It is no surprise that deep pockets meet

**Rice Is Transforming a Midcentury Sears Into an “Innovation Hub” for Houston**

For nearly the past 100 years, Houston has been proud to be a world leader in the oil and gas industry. However, despite the recent fracking boom, there seems to be a growing sense among its entrepreneurial and political elite that this economic model is going to fail at some point, or at the very least drastically contract, just as the manufacturing economy did in the Rust Belt. FOMO is writ large in their minds. The fear is Houston will be left behind. That Houston was the largest city not to be included in the top 20 choices for Amazon’s new headquarters, for example, stung badly. A concerted attempt to reorient the city is evident in such initiatives as the ambitious push to enhance its major parks and bayou green spaces and the expansion of public transportation, both of which were seemingly inconceivable a generation ago, when the only thought by those in power was how to get more cars on the freeways.

Prestige institutions that can’t just up and move want their physical and intellectual investments in the city to remain viable as well. The president of Rice University, David Leebron has made it a centerpiece of his administration to increase both the stature of the school and its influence beyond the hedges surrounding the campus. To this effect, he has initiated a nonstop building campaign and increased student body. In 2009, there was serious discussion of acquiring the Baylor College of Medicine to get a foothold in the
Texas Medical Center. Several interdisciplinary institutes have appeared. The latest effort to move beyond the campus includes Rice’s plan to reclaim the old South End as a hub for tech workers.

Rice was endowed with $4.6 million in 1904. In 115 years, that endowment has grown to $6.3 billion by means of Rice’s varied investments, a little more than 10 percent of which are real estate holdings. One highly visible property is the tract at South Main Street and Wheeler Avenue a couple miles south of downtown that houses a New Deal-era Sears department store building much in the local news due to its recent closure. In January of this year, Rice publicly re-christened this building “The Ion.” It will be repurposed as the centerpiece of what Rice is variously calling an “innovation hub” or “innovation district.” The stated intention is “to support businesses at all stages of the innovation lifecycle and provide resources for Houstonians seeking to participate in the innovation economy.” Outside institutional project partners include the University of Houston, UH-Downtown, the University of St. Thomas, Houston Community College, Texas Southern University, Houston Baptist University, San Jacinto College, and the South Texas College of Law.

Originally the site of the expansive gardens around the Walter B. Sharp House (1895), a rambling Queen Anne building in what was then the almost rural outskirts of Houston, this tract, along with two adjacent city blocks, was later acquired by Rice. In 1938, the house was demolished to make way for a new suburban Sears, Roebuck and Company store (1939), designed by Chicago architects Nimmons, Carr & Wright. This store was one of five locations across the country designed by the firm that was profiled in Architectural Record in September 1940 as being “planned for the motor age.” The $1 million retail complex, which opened in November 1939, encompassed four city blocks. It included the 195,000-sf, four-level store, parking for 700 cars, a super-service station with 16 gas pumps (demolished), and a freestanding building selling farm supplies (still standing). The upper floors of the store were windowless and fully air-conditioned; the escalators connecting the floors were the first of their kind in Houston. Local reports at the time of its opening also remarked on the extensive interior art program of murals depicting scenes from Texas history, painted by Texas native Eugene Montgomery. In 1945, Sears, then highly profitable, entered into a 99-year lease with Rice. Fast-forward to 1962, when the building’s street-side windows were bricked-over and the upper parts of the building were clad in a slipcover of corrugated metal panels. (Ironically, this preserved the building, and today it is one of only a handful of relatively intact prewar, early suburban Sears stores left in the country. Houston’s first auto-oriented Sears building (1929) on Allen Parkway, also designed by Nimmons, Carr & Wright, was demolished in 2006 to make way for an Ismaili Muslim cultural center, for which the architect was selected only this year.) In January 2018, Sears, in the throes of severe economic distress, closed the store.

In October 2017, Rice University bought out the remaining 28 years of the lease at favorable terms after several years of on-and-off negations. In the process, Rice acquired the city block directly north containing a precisely detailed, steel-framed Miesian tire
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center (1960), designed by Houston architect Hugo V. Neuhaus. This created 9.4 acres of contiguous property. By October 2018, Swamplot reported that Rice had several additional properties, increasing their foothold to 14 acres. At press time, according to the university, the area is up to 16 contiguous acres. No maps of the property holdings have been officially released.

Rice commissioned New York real estate and economic development planning guru John Alschuler to assemble a team to redesign the Sears site. Alschuler's firm, HR&A, is perhaps best known for preparing the impact studies that showed the economic rationale for transforming the High Line into a public park. The final selections include an impressive roster of well-known design professionals. There are New York architects SHoP for the design and Houston's Gensler office as architect of record. New York lighting designer James Carpenter was commissioned to help bring natural light into the deep, windowless floorplates. New York landscape architect James Corner Field Operations is designing the public plaza and garden that will occupy a portion of the surface parking lots. The Houston office of Hines will manage the project. Interior demolition is currently underway with new construction expected to begin later this year. Completion is scheduled for late next year.

Initial renderings of the redesign were released in January, and they depict one exterior view and one interior view. Though details remain scant, on top of the building there will be a two-story addition clad with a glass curtain wall. Large windows will be cut into the sides of the building. Inside, the major design move will be to cut a 100-ft-long atrium through the center of the 50,000-sf floors. Although the project borrows the language of preservation, "the long-awaited renovation of the historic Sears building on Houston's Main Street," the design as presented in the two public images appears to overwhelm the building and erase much of its historic character. The architects were vague when asked if there were plans to uncover or restore the interior murals, historic color images of which were discovered by Preservation Houston. Rice says the murals have not been found, and confirmed there are no plans to landmark the building. (There are no landmarked buildings on the Rice campus.) One cannot help but wonder why, with all the open space around the building, a new structure was not designed so that the historic Sears building could be rehabilitated in a more sympathetic manner.

Preservation culture in Houston remains stuck in a stubborn infancy. An invasive remodeling project of New York's post-modern AT&T Building (1984, designed by Philip Johnson and John Burgee) caused such a public outcry that the developers were compelled to submit a more respectful design. So far, the Ion project has been met with nearly one hundred percent public approval in Houston. This project, in its design and reception, suggests that Houston, while clearly making strides in improving its urban environment, is still grappling with how to create world-class architecture without sacrificing its scant historic fabric to progress.

Ben Koush, AIA, is an architect in Houston.

Gensler Designs Texas' First Full Mass Timber Building in Fredericksburg

The first full mass timber structure in the nation to use southern yellow pine cross-laminated timber (CLT) panels is set for completion in September 2019. Designed by Gensler's Dallas office, the First United Bank in Fredericksburg has the distinction of being the first full mass timber construction project to be completed in Texas as well as the first retail mass timber structure in the state. Designed to achieve net-zero energy usage, the project also opens up the possibility of utilizing this locally sourced structural material in future projects.

First United Bank, a community banking organization founded in Durant, Oklahoma, in 1900, has 38 locations across Texas. The bank encourages staff to volunteer for local civic and charitable organizations and projects. "They do a lot of after-hours programs, where
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the bank is opened up and used by groups to teach educational classes or to rent out the community space for meetings and events,” says Gensler project architect Taylor Coleman, AIA. The community emphasis is evident in the building’s design: Warm building materials, ample natural light, and an indoor-outdoor connection to the native vegetation surrounding the structure all attest to the building’s aesthetic as a town gathering place, rather than just a financial institution.

“They have such a strong community presence, and they wanted it to feel like a building for the community as well. We wanted to make it a very approachable project,” Coleman adds.

After several years of working on renovation projects for branch locations in Texas and Oklahoma, First United and the firm went in the direction of ground-up construction. Coleman says the client had two primary goals for the Fredericksburg location: to create a distinct structure that would stand out from other bank branches in the area, and to create a highly sustainable building. “During the design phase, First Texas asked for sustainability, and we proposed net-zero energy,” Coleman says. “But they asked us, ‘Well, is there anything more that we can do?’ And that’s how we got to CLT, not only as a design tool, but as a sustainable solution.”

The 8,500-sf project incorporates a range of sustainability measures. Gensler implemented a high-efficiency VRF HVAC system, expansive floor-to-ceiling windows to harvest natural daylight, and large cantilevered overhangs to shade the structure and reduce cooling costs. Coleman says the shape of the sloping roof and large overhangs lend themselves naturally to CLT. In addition, the sloping roof also facilitates rain collection. It’s estimated that the building will direct as much as 250 million gallons of water annually to an adjacent storage system.

Initially, the building was designed to use Douglas fir CLT panels; however, the fabricators — International Beams in Alabama — had a surplus of southern yellow pine, which Gensler elected to move forward with for both time and cost savings. This choice to use regionally sourced materials that require less energy to transport helped to lessen the environmental impact of the building before occupancy even begins. Coleman says that First United was very receptive to this choice and supported the expression of the structural
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elements, and the warm, rustic appearance the southern yellow pine lends to the fully exposed ceiling beams.

Coleman says First United has “fully embraced” mass timber and will continue to use the material in future bank buildings. An additional 12,500-sf location under construction in Shawnee, Oklahoma, will be the first full mass timber project in that state, and a 37,000-sf project in Sherman, Texas, is expected to be completed in 2020 and will serve as the bank’s North Texas hub office.

While Texas has no CLT fabricator as yet, this project may open the door for such businesses to come to the state and for regional and local mass timber materials to be utilized in future projects. The enthusiasm with which First United has embraced this sustainable design trend bodes well for its acceptance in other project types.

Mackie Kellen is a rhetoric student at The University of Texas at Austin and an editorial intern at TA.

The University of Texas at Austin recently announced a $5 million donation from Professor Emeritus Sinclair Black, FAIA, to support the field of urban design at the School of Architecture (UTSOA). After giving $1 million upon his retirement in 2017 to establish the Sinclair Black Endowed Chair in Architecture of Urbanism, Black recently committed an additional $4 million to the program to establish an urban design endowment, making his the largest cash gift the school has ever received. Considered an Austin visionary for his work in architecture and urban design, Black taught at UTSOA for 50 years, while also leading grassroots efforts that shaped the urban environment he calls home.

Black hopes the endowment will foster community engagement and contribute to urban design efforts by leveraging UTSOA’s legitimacy and the skills found in the classroom to help guide local efforts. “It is a citizen initiative through organizations like Congress for New Urbanism, local AIA, the endowment, the chair, and the School of Architecture. Pull that all together, and you’ve got a force,” Black says.

Michelle Addington, dean at UTSOA, pointed to the school’s community and regional planning program and its already established partnership with the City of Austin. “This endowment will support the school in its endeavor to become a more active participant in urban design initiatives that will have a lasting impact on Austin’s future and quality of life for all,” she says. “We hope this will serve as a model that will extend far beyond our city and state.”

An endowed chair in architecture of urbanism signifies a meaningful investment in the study of design at the metropolitan and regional scale, a field growing in importance as the world becomes increasingly urbanized. UTSOA is positioning itself to take on a leadership role in the study of urban design by squarely placing the program in the School of Architecture. A decades-old schism, born of the social movements of the 1960s over questions of architecture’s role in urban renewal, meant that many urban design and planning programs absconded to schools of policy, only returning as meek versions when the schools of architecture rediscovered an interest in urban studies. Addington envisions the endowment bridging the disciplines at UTSOA by means of workshops and symposiums that add critical mass to support the school’s relationship with the City of Austin.

The endowment will fund and support research in the design fields, which will engage with Austin as a living laboratory — a place to move academic research into implementation. “We will be able to bridge not only across multiple disciplines but from academic concept to practice in the public realm,” Addington says. “We believe in the agency of design — not just what ideas represent, but the impact of their implementation on the built environment.”

The ambitions for the endowment extend beyond providing seed funding for projects, which few other schools are able to attain. Since it funds a program rather than an institute that would be faced with fixed costs, more resources will go toward student financial support, building broader undergraduate educational initiatives in urban studies, increasing faculty, and convening discussions that should be taking place, not just in the City of Austin, but throughout the profession.

Erin Augustine is the web editor of TA.
Houston finds itself at a historic crossroads after Hurricane Harvey, with broad consensus that the city must change the way it plans and builds for the future. Houston 2020 Visions is a year-long, open call for visions seeking creative and innovative ideas for how to rebuild a better city, one that protects the health and well being of people, grows sustainably, and supports a strong economy.

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Book Review

The Experimentalist

Victor Lundy: Artist Architect
Edited by Donna Kacmar, FAIA
Princeton Architectural Press, $55

Most architects today are not familiar with the work of Victor Lundy. His name rarely appears among the most noted architects of the mid-20th century. Lundy was an American architect who studied architecture in the 1940s at New York University and then later at Harvard. Consequently, his education straddled the opposing ideologies of the Beaux-Arts and the Bauhaus. Lundy left the northeast upon graduation from Harvard and followed some of his peers to Sarasota, Florida. There, he became an early contributor to the postwar Sarasota School movement. After making his mark in Florida, Lundy moved back to New York to practice for many years before ending his career in Houston. Throughout the course of his peregrinations, Lundy cultivated an extraordinary life and left a legacy of noteworthy projects.

The recent book “Victor Lundy: Artist Architect” attempts to explore and accentuate the works of this often-overlooked architect of the modern period. In a sense, Lundy is not a true modernist, in that he did not follow entirely in the footsteps of his professors at Harvard — Walter Gropius and Marcel Breuer. Rather, Lundy took the concepts of Bauhaus modernism and blended them with the artistic nature of the Beaux-Arts methodology, creating his own interpretations for the built environment. This may be one of the chief reasons for his lack of notoriety: Throughout his career, he was not stylistically bound to any one ideology — he’s a bit difficult to classify, neither fish nor fowl.

Although the issue is not directly addressed in this book, Lundy’s work suggests that he was an experimentalist at heart. This can be seen in the wide aesthetic and material variety of his built work. Lundy did have some consistency in his projects, however, such as in his use of natural light to enhance the architecture and the expression of structural materials while pushing against their limitations. He should be recognized for this aspect of his work alone.

Lundy was also an exceptional artist. With a mere stick of charcoal, he could not only manifest three-dimensional spaces, but could capture a quality of space that seems almost unimaginable — one of his strongest qualities as a designer. One gets the sense that the imagery within the book, while stunning in this format, does not manage to do justice to the actual work. Many of Lundy’s drawings are very large, and one can imagine how the character, beauty, and sheer immensity of these images would affect a client during a presentation. Among these hand-drawn images, Lundy also displays his comprehension of how light influences space and materiality. Many of the drawings from his early career are hard to distinguish from an actual photograph — especially those depicting his religious projects in Florida.

The book is a collection of written works by various historians, preservationists, and educators who have an affinity for his work or

Bee Ridge Presbyterian Church, Sarasota, Florida, sanctuary before completion, 1956. Glue-laminated timbers form a woven system of pointed arches.
The book presents a series of chapters about assorted aspects of Lundy’s life and work. Here is the most perceptible, though minor, shortcoming of this volume: It seems to meander about Lundy’s career, and each essay has little relation to those that precede or follow it. For instance, a chapter on Lundy’s personal life is followed by a chapter on his early career in Sarasota, followed by a chapter on all of his religious work. Though the task of condensing a life’s work into a single compendium may be an arduous venture, in the end the book’s texts fall short of communicating the grandeur and inspiration conjured by the accompanying imagery. The organization of the chapters — each by independent authors, each about a different topic — divides the book into small vignettes rather than developing a fluid narrative. While this practice may allow for easier digestion, it produces a sense of inconsistency. In this reader, it left a desire for additional and more profound content and context about Lundy and his work.

According to the book, Lundy’s career culminates in the U.S. Tax Court building in Washington, D.C. Completed in 1975, this judicial project is more aligned with his Bauhaus roots in its formal composition, yet the attention to the materiality in Lundy’s building is stronger than in the cases for many of the glass boxes that are most typically associated with the style. The Tax Court building is already on the National Historic Register, despite not meeting the 50-year age requirement. While the project is touted as his crowning achievement, it seems disconnected from his larger life of architectural experimentation. His church work, along with many of the interior projects, seems imbued with more life and soul than this federal project.

While the Tax Court building is an outstanding example of Lundy’s skill and certainly one of his most prominent commissions, it lacks the ethereal quality and plurality of his other work. The Tax Court and Lundy’s U.S. Embassy in Sri Lanka are each given a full chapter examining their history and process to completion.

While the book has minor weaknesses, it still manages to bring to light the life and practice of an underappreciated architect whose contributions to the practice of design in the modern era are worth greater consideration. It represents a survey of Lundy’s work and artistry that compels further study. We hope that the omission of Lundy from the list of prominent mid-20th century architects will begin to be remedied with this publication.

Andrew Hawkins, AIA, is an architect in College Station.
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CALENDAR

MAY

SATURDAY 4
EXHIBITION CLOSING
Works on Paper | Texas Drawings: Woodrow Blagg
Artspace 111
111 Hampton St.
Fort Worth
artspace111.com

FRIDAY 10
EVENT
2019 Design Awards Panel
Texas Society of Architects
500 Chicon St.
Austin
txamagazine.org

SATURDAY 11
EXHIBITION OPENING
Sheila Hicks
Nasher Sculpture Center
2001 Flora St.
Dallas
nashersculpturecenter.org

SUNDAY 12
EXHIBITIONS CLOSING
Spaces and Places: Works from the Collection
Modern Art Museum of Fort Worth
3200 Darnell St.
Fort Worth
themodern.org

THURSDAY 6
EVENT
AIA – Conference on Architecture
Las Vegas, NV
aia.org

MONDAY 27
EXHIBITIONS CLOSING
Sally Mann: A Thousand Crossings
Museum of Fine Arts, Houston
1001 Bissonnet
Houston
mfah.org

ODESSY: Jack Whitten
Sculpture, 1963-2017
Museum of Fine Arts, Houston
1001 Bissonnet
Houston
mfah.org

JUNE

SATURDAY 1
EXHIBITION CLOSING
Inguna Gremzde
Louise Hopkins Underwood Center for the Arts
511 Avenue K
Lubbock
lhuca.org

SUNDAY 2
EXHIBITIONS CLOSING
Gabriel Dawe: Plexus no. 34
Amon Carter Museum of American Art
3501 Camp Bowie Blvd.
Fort Worth
cartermuseum.org

Brad Tucker: Standard Tan
Galveston Arts Center
2127 Strand
Galveston
galvestonartscenter.org

THURSDAY 6
EVENT
AIA – Conference on Architecture
Las Vegas, NV
aia.org

SATURDAY 8
EXHIBITION OPENING
Bale Creek Allen: My America
The Old Jail Art Center
201 S. 2nd St.
Albany
theojac.org

SUNDAY 9
EXHIBITIONS CLOSING
Frank Lloyd Wright: Architecture of the Interior
Museum of the Southwest
1705 W. Missouri Ave.
Midland
museumsw.org

Truth in Architecture:
Works by Paul Stevenson
Oles FAIA
Museum of the Southwest
1705 W. Missouri Ave.
Midland
museumsw.org

TUESDAY 11
EVENT
AIA Austin Design Talks:
Zoe Ryan
11:30 AM
710 W. Cesar Chavez St.
Austin
aiaaustin.org

Lauretta Vinciarelli
Judd Foundation, New York City
THROUGH June 29
The Judd Foundation is showing the drawings of Lauretta Vinciarelli at 101 Spring Street in New York City. Vinciarelli’s work explores historical typologies, a method she called “drawing as research.” On view are architectural renderings done in colored pencil and watercolor from the 1970s and 1980s. The exhibition includes 23 drawings for gardens and structures in West Texas and Puglia, Italy, many of which were collaborative efforts between herself and her professional and romantic partner, Donald Judd.

Evolution of a Museum: In Building and Purpose
Museum of Texas Tech University, Lubbock
THROUGH July 2019
This exhibition celebrates the 90th anniversary of the Museum of Texas Tech University by tracing the history and development of the institution from its inception in 1929 to the present day. It shows how the museum has preserved and displayed the history and culture of the plains region (there are currently more than eight million objects in its collection) while occupying several structures on the Texas Tech campus. The exhibit concludes with a look ahead at what the future may hold for the museum.
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Kaza Concrete's new tile design is a contemporary take on the architectural motifs of fluting and reeding, the concave and convex ribbed surfaces that were usually applied to columns, pilasters, and walls. New York City-based designers GRT Architects created a collection of cast concrete triangular tiles overlaid with a subtle triangular matrix. The tile family consists of four individual designs in a 7.9-in. x 6.9-in. size that can be rotated individually to create a range of patterns.

This new series of customizable, laser-cut, decorative metalwork for wall panels, room dividers, sliding doors, and grilles pays tribute to Josef Hoffman and Koloman Moser's Wiener Werkstätte, a community of artists in fin de siècle Vienna. Suited for residential, workplace, hospitality, or public spaces, the series is available in three patterns in a choice of five laser-cut metals, seven finishes, and a range of colors. The patterns were inspired by various motifs from the Austrian artist community, including Hoffman's textiles.

EchoLine, Kirei's newest EchoPanel product series, curbs acoustic imbalances and features a simple, linear pattern that adds subtle dimension. Straightforward to install on flat or curved surfaces, EchoLine is also tackable, for a multipurpose solution in office spaces or educational facilities. Made from recycled plastic bottles, EchoLine comes in four different linear patterns in all 20 EchoPanel colors. The panels may be wall-, ceiling-, or surface-mounted using construction adhesive or mechanical fasteners.

Cork Wall Coverings
Wolf-Gordon
wolfgordon.com

Wolf-Gordon has expanded their offering of natural materials with eight new cork designs for wall coverings and upholstery. The collection uses all parts of the cork bark, including residual elements, to form intricate designs including a patchwork of cork bands, a mix of cork shavings and pieces reminiscent of terrazzo flooring, organic vertical stripes, and a dense midnight blue colorway. The wall coverings feature a Class-A fire rating, provide mildew and rot resistance, and act as a natural insulator with acoustical properties.

3form has added new patterns to the company’s Full Circle program, which pursues social, environmental, and economic initiatives that impact artisan communities across the globe. The newest addition to the collection was launched with a home textile company based in Magelang, Indonesia that specializes in the manufacturing and export of interior products such as wall coverings, sunshades, and rugs made from natural fibers. The artisans used string in four new patterns — Gild, Glint, Savu, and Nilo — available in a range of 3form products including Varia Ecoresin.
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Future Places

Two current projects at NASA’s Johnson Space Center — the preservation of Mission Operations Control Room #2 and the new Human Health and Performance Laboratory by HDR — show the institution caring for its past as it pushes on into the next horizon of space exploration: a manned mission to Mars.

by Riley Triggs, AIA

The past is but the beginning of a beginning, and all that is and has been is but the twilight of the dawn.
— H.G. Wells, “The Discovery of the Future,” 1901

Founded six decades ago, the National Aeronautics and Space Administration (NASA) is at a notable moment in its evolution. The nonmilitary government agency created as a nationalistic response to the dystopian reality of the Cold War’s space race became a rallying point of international optimism “devoted to peaceful purposes for the benefit of all mankind.” The nation’s interest in exploring neighboring planetary bodies waned for several decades after the world-enthralling moon landings, but NASA is once again embarking on a monumental manned mission — this time to Mars.

Against this backdrop of renewed focus and purpose, the agency finds itself simultaneously embracing the significance of its history while...
ramping up its ongoing pursuit of scientific excellence in human space exploration. Two architectural projects embody this cultural cusp moment at NASA: the restoration of the historic Mission Operations Control Room #2 (MOCR-2, completed in 1965) and the state-of-the-art Human Health and Performance Laboratory (Building 21, completed in 2017).

MOCR-2 Restoration
With President Kennedy’s challenge to put Americans on the moon, manned space flight became NASA’s number one mission. This led to the establishment of the Manned Spacecraft Center in 1961, 25 miles southeast of Houston in Clear Lake, Texas on 1,620 acres of land donated by Rice University. Renamed the Lyndon B. Johnson Space Center (JSC) in 1973, it is the foremost research and development facility for manned spacecraft in the world and the focal point for all manned space activity in the United States. As such, it holds an exceptional place in history.

The history of human space flight is inextricably linked to the Christopher C. Kraft, Jr. Mission Control Center Building 30. Inside is MOCR-2, where U.S. manned missions since Gemini 4 have been directed, including Apollo 11 and the first moon landing 50 years ago this July. The slow journey to preserve this history by restoring the control room to its Apollo-era configuration began in the 1980s.

In 1985, the National Park Service granted MOCR-2 and several other sites on the Brutalist campus status as a National Historic Landmark. This designation came about thanks to the efforts of many, including then Deputy State Historic Preservation Officer Stan Graves, FAIA. The entire JSC, which boasts the largest collection of midcentury buildings in the United States, is considered a Historic District and, in 2016, was listed on the National Register of Historic Places. However, as with many preservation projects that seem straightforward at the outset, the process of restoring MOCR-2 to the historic moment of the moon landing wound up being far from easy.

Since the control room is part of a working facility, tensions around its restoration began soon after the historic designation was conferred: NASA’s Flight Operations group needed to modernize MOCR-2 for its role directing newly commissioned space shuttle flights, but the Texas Historical Commission wanted to retain its historic configuration. NASA officials declared the proposed restoration incompatible with the shuttle operation upgrade, and so a struggle ensued over the future of the control room.

Everyone agreed that MOCR-2 was of great significance, as it was ingrained in the memories of millions of people worldwide — everyone, that is, but NASA officials. They seemed to be focused exclusively on their mission of scientific exploration, unable to link MOCR-2’s past relevance with its future roles. Stan Graves remarked at the time, “This is our one opportunity to preserve something like this.” Some progress was being made with JSC, but then Washington stepped in and tried to de-register the entire historic district in order to proceed with modernization. From there, it got ugly.

In fact, some NASA personnel sought to preserve this unique piece of human history, and their involvement proved contentious: Retired Apollo-era flight controllers voiced their concern, headed by famed flight director Eugene “Gene” Kranz, who had led the room during both Apollo 11’s Tranquility Base moon landing and Apollo 13’s “Houston, we have a problem” flight. Kranz, along with assistant flight director Ed Fendell, spoke out publicly, ultimately creating enormous public pressure with a scathing “nuclear letter” that called out shortsighted NASA officials. The letter was a turning point in the project and garnered Kranz and Fendell a lifetime ban from NASA facilities (which has since been rescinded).

A tour of Mission Control Center and MOCR-2 during the National Trust for Historic Preservation’s conference in Houston in 2016 prompted an editorial in the Houston Chronicle entitled “Save Mission Control” that called for...
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preservation of the former NASA nerve center that "put Houston on the map." This galvanized public opinion and kicked off serious fundraising and restoration plans. However, the project had really begun years earlier with the stoic individual efforts of JSC Real Property and Historic Preservation Officer Sandra Tetley.

Tetley, who had restored her own historic home on Galveston Island, followed directions spelled out in the original 1985 designation and in subsequent dealings with the Texas Historical Commission requiring Mission Control Room artifacts to be retained and stored. She also took it upon herself to gather up additional items throughout JSC that otherwise would have been thrown away. Even this part of the project was difficult in an environment of forward-looking technicians and engineers who discarded anything not immediately useful. So Tetley and one other employee on the 15,000-person campus are the only holders of keys to a fenced-in corner of an anonymous "Raiders of the Lost Arc"-style warehouse that holds the 1960s treasures they scrounged from across the campus.

"If it weren't for the THC putting its foot down," Tetley says, "none of these items would be here and the project would not be possible." The six-year project moved past NASA roadblocks and began in earnest in 2014 with the development of a Rough Order of Magnitude estimate by Houston-based Stern and Bucek Architects. The majority of the $5 million project funding has come from a Kickstarter campaign, donations from The City of Webster, and NASA.

David Bucek, FAIA, notes that restoring MOCR-2 has taken longer than did planning and executing the Apollo 11 mission. He adds that, as is too often the case with preservation, educating all the participating groups can be a real challenge. Gaps in funding, the many starts and stops, and at times the owner's resistance prolonged the project. However, he has managed to stay out of the political fray, and his team has used the frequent interruptions to research and source period items, improving the result by going above and beyond to do the right thing. This extra effort has included countless hours scouring photos to find matches for coffee cups, ashtrays, and telephones on eBay, as well as re-creating finish materials long out of production.

Though hidden behind various renovations over the years, several original materials were discovered during the initial room investigations. The original wallpaper was found under a wall
Building 21 is carefully sited to connect the past and future of NASA at the juncture between the historical midcentury modern campus and future campus buildings. The transparent lobby frames the view of the historic Mission Control Center on one side and future campus expansion on the other. The massing optimizes sun orientation and provides connections to nature in this deliberate departure from the existing grid. The courtyard is a symbolic and literal place of respite featuring circular gathering areas and space-inspired artwork.

Bracket, electrical panel, and thermostat cover, and the original carpet, under a pneumatic tube console that was hard piped and proved too difficult to remove in a previous renovation. Fifty-year-old replacement materials, however, cannot simply be bought off the shelf.

Bucek and his team were able to locate the rollers — worn from many years of use — that made the original wallpaper. Though the re-created wallpaper is a little less finely textured, the rollers still yield an excitingly accurate detail. Similarly, the original carpet was made with a two-direction weave, which is no longer used, so many iterations of a tufted version of the pattern were created to choose from. Also a challenge to reproduce were the chairs in the viewing room. The team worked with a local Steelcase rep and the original archive in Michigan to find the original specifications and swatches. The search took more than a year, and ultimately, a match for the fabric was handmade by Texas Weaving Guild member Mary Welch, wife of a local architect. Another example of “above and beyond”: the effort made to capture the hole pattern of the acoustic ceiling panels, which had to be mapped using pushpins, then pressed onto new panels and each hole hand-drilled.

Tetley says all this amazing effort has not gone unnoticed by the NASA administrators who once opposed the project. “The bandwagon is starting to get crowded,” she says. More and more officials are beginning to embrace MOCR-2’s immense significance, as the quality of restoration work from project managers, architects, engineers, and craftspeople begins to be celebrated outside JSC.

In the end, though, Tetley wants the focus to remain on “the stories of the people who worked as flight controllers in the room.” The project is set to be completed by July 20 this year for the 50th anniversary celebration of the first lunar moon landing. The plan is for MOCR-2 to be open after that to the public as part of Space Center Houston’s regular tours.
While the history of NASA is being secured and celebrated in the Mission Control Center, the future of humans in space is being carefully considered by scientists just across the street in the newest building at JSC — the Human Health and Performance (HHP) Laboratory in Building 21, which represents the latest thinking in building technology and office organization and is an indicator of NASA’s commitment to providing model working environments for its employees.

The new facility takes a people-at-center approach; it is designed to attract top scientists and support their efforts to keep astronauts healthy while exploring space. As JSC’s 10th LEED-certified building, the 118,000-sf LEED Gold-certified Laboratory conveys an abundance of natural lighting to the greatest number of people. Care was taken to reveal as much of the interior and exterior of the building as possible so people can see each other working, relaxing, and gathering throughout their workday.

The overarching concept of Building 21 is to enhance interdisciplinary integration. Providing flexible, centralized, and co-located work environments encourages collaboration among different disciplines, combining programs from seven separate aging, substandard, or obsolete buildings and bringing together their scientists under one roof. “Cross-pollination” — through mixed office arrangements and outdoor gathering spaces — leads to mutual respect: The idea is to foster joint solutions to NASA’s exploration challenges, going forward.

This strategy, shepherded by HDR architect Dennis Patrick, AIA, and his team, came about as the result of their being embedded with NASA researchers and administrators for two years of the more-than-six-year project. Spending multiple week-long sessions during the programming and design phase allowed...
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Patrick and his team to fully understand not only how the scientists worked, but also how their systems and equipment supported them. The outcome was an open lab bench design for research space that meant that, where possible, large lab space was allotted to be shared across disciplines instead of maintaining a collection of smaller, isolated spaces.

Convinced by visits to new facilities at Arizona State University, Georgia Tech, and the Centers for Disease Control and Prevention labs in Atlanta, NASA administrators and scientists became invested in the cross-collaborative concept and worked closely with Patrick’s team throughout the process. Representatives of each discipline negotiated space and equipment needs and the particulars of sharing resources across 17 labs and 300 people. This led to the design of two wings, one for biomedical and environmental sciences, and the other for health and performance — each with labs, offices, and shared amenities.

The biomedical and environmental sciences wing features a unique interior lab support spine of utilities, shared storage, and service equipment flanked by the open bench labs. This decision allowed the labs to face outward with views of the outdoors and its updates on the weather and time of day. In the health and performance wing, a large high-bay performance lab has flexible room dividers, strengthened floor slabs, and overhead structure for supporting heavy testing equipment for humans in motion. A grid of floor ducts for electrical power, grounding, and data cabling allows researchers to shift the setup for testing purposes, for mock-ups, and for yet-to-be-invented equipment that will become part of the continuous advance of research methods. The administration took the additional step of distributing scientists from different disciplines throughout the offices and cubicles to make possible daily informal interactions.

The interdisciplinary theme is reflected in the site orientation where the buildings are positioned to link the historic and future sides of campus. Space and earth come together in the echoing of circular forms and in the siting of the exterior courtyard. The courtyard itself connects to nature and takes advantage of views of the extremely flexible high bay wing allows for constantly-changing testing environments, such as the Aerobic Lab and Isokinetics/Muscle Lab shown here. Floor outlets and a hanging structural grid are designed to accommodate future equipment and arrangements that have yet to be envisioned.
a test site for a new program called Sustainable Landscapes developed by the Lady Bird Johnson Wildflower Center in Austin and the American Association of Landscape Architects. Its stated purpose is “to support the culture and values of the local community, improve and restore desired wildlife habitat, and contribute to the overall health of the local ecosystem.”

The efforts of HDR and the NASA project team to create a new culture by designing shared space already paid dividends in its first year of operation, when researchers from different disciplines discovered a relationship between cardiovascular health and vision problems that might not have been established had they been working in separate buildings, as before. Moreover, the idea of creating shared physical and mental space is spreading to other parts of NASA: A new initiative stemming from the Building 21 collaborative work environment brings NASA researchers and external leaders from public and private organizations together to discuss specific topics or problems. NASA is actively seeking ways to foster healthy discussion and fresh perspectives based on interdisciplinary insights.

Future Places
These seemingly disparate contemporaneous architectural projects at the Johnson Space Center — the MOCR-2 preservation project and Building 21 — point to an interesting moment in which NASA is being forced to consider the past at the same time it gears up to push into the future.

In the case of MOCR-2, the painstaking architectural re-crafting of a site that is of significance to all humankind preserves for future generations a monumental moment in time that, as technical project manager Dr. Adam Graves put it, “divides everything that came before from everything that comes after.” At the same moment, a thoughtful and thorough design process for a new Building 21 is birthing a fresh culture of collaboration that directly revitalizes the continuing mission of healthy human exploration of space.

This juxtaposition of preservation and innovation shows us the essential connection between the practice of architecture and the manifestation of culture. It also, perhaps, reminds us to maintain a considered balance of past and present in our architectural places as we discover, explore, and build our own future.

Fiiley Triggs, AIA, is an architect for the Texas Historical Commission. He lives in Austin.
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Gable Rectangle

Side Angle Side's house design for architectural photographer Casey Dunn combines Marfa minimalism with Austin vernacular. Simple, but thoughtfully planned and well detailed, the project is another example of a Texas modernism that critically expresses its roots.

**Project** Casa Casey, Austin  
**Client** Casey Dunn and Sarah Weinstein Dunn  
**Architect** Side Angle Side  
**Photographer** Casey Dunn

by Mackie Kellen

In 2014, Casey Dunn was shown a vacant corner lot in East Austin. He immediately made an offer. The lot — 100 feet wide, 120 feet deep, and empty save for a metal shed in the far northeastern corner — had no easements, no trees, and no topography to speak of. The flexibility and opportunity attracted the photographer, who was looking to build his first home. After the purchase went through, Dunn called his friend, the architect Arthur Furman, AIA, who at the time was employed at his father's firm, Furman + Keil. One day, the two sat in Dunn's truck and looked at the site, talking about possibilities for nearly an hour. Furman made some sketches. Dunn liked what he saw. And so began a collaborative process between them that soon included Furman's wife and practice partner, Annie-Laurie Grabiel and Dunn's wife, Sarah Weinstein Dunn.

Construction on the house would not begin for nearly two years. The design phase went on for months, with Dunn coming over to Furman and Grabiel's house in the evenings, sketching and exploring ideas over wine. Dunn was in no rush to build. He wanted to arrive at superb ideas. “We were having a good time,” Furman says. The lack of site constraints presented a bounty of options. The sun became the biggest driver for the orientation. Furman and Grabiel situated the long side of
Facing The fenestration on the street face guides visitors to the entrance, which is on the side of the house.

Left To create a covered entry without compromising the parity of the building's form, the architects recessed the front door.
the building to face north-south, minimizing exposure on the east and west facades. They also situated the house on the southern edge of the property, leaving the majority of the site as one contiguous open space.

Dunn had one requirement for the house itself: a rectangular plan with a gable roof. After years of exposure to a legion of architectural styles, he wanted simplicity in his own abode. The directive challenged Furman and Grabiel to make purposeful design moves that would add character to the otherwise-rudimentary form. The home’s scale, for example, was not achieved easily — the simple shape belies the different exercises the designers undertook to achieve the right proportions. There were concerns about the building standing out too much compared to neighboring homes, so the final structure is not quite one-and-a-half stories tall.

The 60-ft-long by 27-ft-wide house is clad in smooth, black-grey burnished stucco — a finish inspired by Dunn’s time in Marfa (during the design process he was working with Hellen Thompson on the book “Marfa Modern” and regularly commuted between Austin and West Texas). The celebration of the inevitable cracking and aging of the stucco is continued in the choice of Douglas fir windows. While costly in the long run, as they will weather in the Texas heat and have to be re-stained, their warmth lessens the starkness of the exterior, creating a home that, as Grabiel says, “feels like it wasn’t born yesterday.” In the house’s only instance of sun-shading (there are no roof overhangs), Furman placed painted sheet metal ledges above the windows. These, coupled with the lamp fixture at the center of the street elevation, produce geometric shadows on the otherwise-unembellished facade.

The designers located the bedrooms near the street, allowing the main living space to occupy the rear of the house, where it opens onto the large outdoor space. A cast-in-place concrete wall acts as a wayfinding device to the front door. It defines the boundary of an entry courtyard and separates the approach from the rest of the compound. The wall with entry recess is one of two places where the designers pierced the rectangular box form — the other is an upstairs balcony off the master suite. The concrete wall is surrounded by high windows to emphasize it as an aesthetic focal point. It also drove the orientation of the kitchen and determined which appliances were chosen: Using the wall as the stove’s backsplash led to the choice of a down-draft rather than a vent hood.

The kitchen opens up to an airy, double-height living and dining room. The designers
were concerned about the potentially cavernous feeling of the main living area, so they incorporated two spatial devices in order to get the ceiling plane lower: salvaged longleaf pine beams and a field of hanging warehouse lamps. The floors are of the same material as the beams, sourced from Delta Millworks in Austin. Sarah

The lack of site constraints presented a bounty of options.

Weinstein Dunn directed this material choice. Initially, the main space was to have polished concrete floors, but Weinstein Dunn’s childhood home influenced the choice of wooden floors. “I had grown up with warm and cozy homes, and I was concerned with having concrete floors in this big space and having it feel uninviting,” Weinstein Dunn says. Dunn says that this one decision informed the rest of the style choices in a big way.

The kitchen has matte black soapstone countertops and stained white oak cabinetry. White walls reflect light from the picture window on the eastern face — which looks out into a grove of Mexican plum trees — and the ample openings on the northern side. The furniture is a mix of vintage and designer pieces. The ground floor bathroom uses leftover soapstone from the kitchen as its countertop. There is one bedroom downstairs on the southern side with an office across the hall to the north. A staircase off the kitchen leads up to the second floor, which is entirely devoted to the master suite. A balcony on the northern side cuts into the gable roof and is accessed by a sliding glass door. Although the master bedroom floorplan is narrower than the footprint of the structure (mechanicals are housed in the triangular space where the gable meets the floor), the balcony feels like an extension of the room and lends a more generous spatial quality to the upstairs. When they realized that the regulated code height of the balcony’s guardrail was going to make it stick out above the slope of the roof, the designers angled the railing inward so it would conform to the gable shape.

The upstairs furnishings maintain the home’s salvage aesthetic. Dunn found the sliding door leading to the bathroom on the side of the highway during a drive home from a photoshoot. Dark nail holes are streaked along all sides, filled in by woodworker Eric Culver; these black knots

Above Weinstein Dunn, pictured here, directed the choice to have a north-facing window above the kitchen sink and wooden floors.

Facing Douglas fir windows and salvaged wood floors add warmth to the white-walled, double height living space.
Open House

SITE AND FLOOR PLANS
1. ENTRY
2. KITCHEN
3. DINING
4. LIVING
5. BATHROOM
6. BEDROOM
7. STORAGE
8. UTILITY
9. OFFICE
10. PORCH
11. EXISTING GARAGE
12. BALCONY
13. OPEN TO BELOW

SECOND FLOOR

SITE + FIRST FLOOR
The roof's gabled shape is registered on the interior of the second-floor master suite. The sliding bathroom door, made of lumber found on a roadside, was once a table in Dunn's studio.

The home's juxtaposition of modern lines and worn accents is seen here in the master bathroom fixtures.

are also seen in the wood floors. Open wooden shelving in the bathroom was salvaged from a furniture warehouse a few blocks away from Dunn's studio. The bathtub was taken from his father's friend's place — an old frame house where Townes Van Zandt and other Austin musicians once lived.

What started out as a side project for the designers slowly turned into a full-time occupation as the design gained momentum. When construction began in the summer of 2016, Furman realized it was time to leave his father's firm and start his own practice. He and Grabiel founded Side Angle Side that summer, which gave them time to be on site during construction and allowed them to make many on-the-fly design decisions. The couple recognizes that this spur-of-the-moment design process is different from most, but also that this project is different from most. "This is a first for us, because we were thinking about how to design on something that you can design anything on," Grabiel says. "At the same time, it was important for this house to feel grounded and have soul." Dunn's confidence in the duo helped facilitate both the synergistic design process and the impetus to establish a name for themselves as a team. This confidence was inspired, in part, by the success of famous collaborative efforts throughout history. Dunn referenced the work of Julius Shulman, Richard Neutra, and Raphael Soriano when describing relationships that "have grown up together," much like Dunn, Weinstein Dunn, Furman, and Grabiel did during the process. Their desire to have a peer-to-peer working relationship — rather than designer-to-client — influenced Dunn to work with Furman from the beginning.

As a project of firsts — first house for Dunn and Weinstein Dunn; first project for Furman and Grabiel, both as a couple and as Side Angle Side — there were external pressures to be felt. However, drawing inspiration from different backgrounds, regions, and genres did not convolute the structure but instead produced simplicity and restraint. Thoroughly unique in its ability to appear both timeless and modern, Dunn's house along with the story behind it is an example of the possibilities that can come of partnerships between friends and couples.

Mackie Kellen is a rhetoric student at The University of Texas at Austin and an editorial intern at 7A.
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A dream (to call it a dream) in which
I can believe, in face of the object,

A dream no longer a dream, a thing,
Of things as they are, as the blue guitar

After long strumming on certain nights
Gives the touch of the senses, not of the hand,

But the very senses as they touch
The wind-gloss. Or as daylight comes,

Like light in a mirroring of cliffs,
Rising upward from a sea of ex.

— From “The Man with the Blue Guitar” by Wallace Stevens

Drawing has been the primary domain of architecture since the Renaissance. While architectural drawing is most commonly understood as a model for engineers and builders to construct a building, it can also be treated as an end in itself — an art that engages its creator as such, and whose product can be traded on the open market. Whether ideal form that prefigures messy built reality, or device that expresses its creator’s perspective and abilities, the drawing is an object that fixes a version of reality.

For this issue of Texas Architect, we asked 10 currently practicing architects and architectural designers from across the state to send us drawings that figure their conception of Texas. We also queried them about how they work. Some of the images presented here were produced by analog means; some digitally; and some by hybrid digital/analog processes. Seen together, in succession, they convey some of the diversity of architectural production as it’s being done today in Texas.

Drawing: Digital/Analog

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60 Dustin Wheat
62 Marcus Martinez
64 Ilia Reyes
66 Alex Warr
68 Daisy Limón and Xiuyin Hu
70 Gabe Esquivel
Bradley Wilson
@_bw_tx

Wilson graduated from Texas Tech and is now a design lead at Clayton & Little. He participated in the Land Arts of the American West studio and spent several years in Central America, where he ran an off-the-grid camp in Panama and worked as a designer at Vida Landscape Architects + Planners in Costa Rica. Wilson also participated in the Immersion Workshop in Vermont with Rick Joy, Frida Escobedo, and John Pawson.

Drawing

There's no undo or delete with the type of work I do: Any little slip-up only warrants a redo.

I slow down and find my focus, forget those other distractions: No double-tasking, surfing the web on fancy devices or contraptions.

The clank of my ruler, the scratch of my pen: A rhythm that I enjoy again and again.

Those computers — so fancy! Boy, they're just neat! They've got little worlds in them. People think they're a treat.

But I don't trust tools that make work so speedy: With three people on them, computers, they're so needy!

So I stay put at my desk, with my ruler, straight edge, and pen. I draw my slow lines one at a time, measure twice, then again.

I can't help but wonder who's smarter than who: That fancy program that's beeping, or that person on YouTube.

No YouTube over here; I'm the jack of my trade. I'm in charge of what's drawn, or what's rendered, or made.

The joke may be on me, as I'm buried in trace. I can't find my pen; things are all over the place!

But I don't want to be neat, tidy, put-together; This mess is my creation, my druthers, my splendor!

No way in the world would I change what I do; I love drawing and sketching and thinking things through.

I wish more people would join me, in this old analog art; They might just learn something to set them apart!

They might learn a little bit more — you know the ins and the outs, A new way of thinking, to alleviate their doubts —

Doubts of how things work, what direction to steer, How things stack, and align, what goes here, what goes there.

’Til then I’ll make sure to leave them some space, To join in my craft, one I hope they’ll embrace.

It might be fun to draw things out, to give that mouse a break, Set a rhythm, make your pen scratch, give your ruler a shake.

Who knows? You may find your freedom, hiding in these simple tools, Free from programs, free from procedures, and all those silly rules.

And the next time you’ve got an idea, you’ll go ahead and draw it out, Leaving others wonderin’, “Dang! How’d they figure that out?”
John Redington
@lowplainsdrifter

Redington works at Side Angle Side in Austin and holds degrees in architecture from Texas Tech and Pratt Institute. He completed the Ghost Lab Design-Build internship, worked for Robert A.M. Stern Architects, and spent a year knocking around Tasmania and Australia, where he attended the Glenn Murcutt International Master Class. Redington is behind the folk architecture website Low Plains.

The style in which I illustrate architecture is a reference to how buildings are commonly depicted in folk art — flattened, simplified, and done by hand. Architecture with a capital “A” is commonly nurtured by the pedigree of universities and publications that together can obscure the public’s perception of architecture. The illustrations pay homage to the other side: to the many hands involved in the process of building, as well as to the common folk who look upon it. This aesthetic is accomplished by reducing the representation of the building’s materials to dots (concrete or earth) and lines (wood and steel), and then repeating these elements until a figure or pattern emerges. I use pen, pencil, and straight edge to produce the drawings, and then make them into prints by the silk screen method to add color for easy reproduction and to retain the handcrafted quality. Depending on the size of the drawing and the complexity of the structure, this can be a very laborious process, giving me time to reflect on the many people and stories it took to make that building possible.
Alejandro Borges

Borges holds degrees in architecture from the Central University of Venezuela and Cornell University. Currently, he is an assistant professor in the Department of Architecture at Texas A&M. Borges is the recipient of several national and international awards in architecture and art and has participated in solo and collective exhibitions and fine arts biennials.

The work shown (photographed by Marcel Erminy) corresponds to my current investigation, which is based on two particular notions. First, it is an attempt to explore the integration of art and architecture as a symbiosis. Drawing, painting, collage, and assemblage become mechanisms of mediation between architectural notions of space and their representation. They constitute different elements of interpreting the duality of object and space. The second notion is framed by an exploration of how architectural concepts such as light, shadow, projection, sublimation, transformation, etc., can also be interpreted from a psychological perspective, in which both coexist in a series of dichotomies such as: order/chaos; individual/collective; subject/object; rational/irrational; conscious/unconscious. These hand drawings express how Texas acts as a frame of reference for my perceptions of reality and how Texas landscapes and urban and suburban spaces are merged through a series of superimpositions, collisions, and juxtapositions with my Venezuelan essence. These are made with pencil and black ink on paper or museum board. Some of my drawings combine pencil, ink, acrylic, charcoal, and wrinkled paper and cloth as well as sand paper to create different textures.
Maksim Koloskov
@maksimvkoloskov

Koloskov is an architectural illustrator who is currently working as a designer and illustrator at Rottet Studio. Maksim got his Master's degree in architecture from Moscow Architectural Institute, a school with a strong emphasis in Beaux-Arts. His illustrations have been featured across several platforms and won many awards, including the American Society of Architectural Illustrators juried exhibitions, Architectural Record’s “Cocktail Napkin Sketch” contest, and hyperlapse inspiration videos for Elle Decor.

While working with leading architecture and design firms such as Gensler and Rottet Studio, hand sketching and quick renderings were always my tools of choice for presenting ideas and conveying design intent. I find that hand renderings are especially beneficial at the beginning of the project, when the ideas of design are just starting to formulate. There is a sense of what the space should feel like, but not much detail developed yet in order to do a CG rendering. Watercolor is my primary medium, and I’ve also worked extensively with markers and mixed media. For my watercolor renderings, I typically develop a basic model in SketchUp; then, after reviewing it with the design team and selecting the best storytelling views, I create a pencil line drawing. Many times, I scan the line drawing first and later combine it with watercolor in Photoshop. This process allows me to experiment with different color variations without affecting the line drawing, or to edit the line drawing without changing the color portion of the rendering. Utilizing methods such as this allows me to create detailed and visually compelling work in a short amount of time.
Dustin Wheat  
@wheaties_dr

Wheat is a project architect and designer at Brown Reynolds Watford Architects in Dallas, as well as a full-blown lecturer in the School of Architecture at UT Arlington. Over the last 10 years, he has taught all levels of design, with an emphasis on graduate studio. In 2011, he became coordinator of first-year drawing, where he explores the speculative nature of sketching in the digital age.

Drawing holds a formative place in architecture, in academia as well as in practice. Although the conventions in drawing are broad, it’s fundamentally a way of seeing. It’s a process that reflects how we internalize our environment, particularly through spatial and structural organization. My process begins with observation. When sketching in situ, I attempt to be still and internalize the moment, similar to meditation. I absorb the sun, the sounds, the wind, the stones — everything — from a phenomenological perspective. I try not to romanticize this reception, but maybe that’s the right word for it. For me, drawing is a curiosity, and I’m attracted to its uncertainty and speculative nature. Of course, I make use of such strategies as compositional hierarchy, juxtaposition, narrative, palimpsest, contrast, line weights, etc.; however, I let the composition reveal itself and rarely do I have a preconceived image in mind. Once I put down the first line, the next line is a reaction to the previous one. It’s an organic/intuitive process that allows the drawing to breathe and take on a life of its own. I don’t have a default drawing mode either; I let the narrative tell me what mode to think in — for example, perspective, axonometric, orthographic, or diagram. Once I have enough critical mass on the paper, my process oscillates between intuition and analysis until my curiosity is satisfied. I still find a pencil to be the most versatile medium. It’s hard to replace the feeling of graphite on my hands and the drag of a pencil across paper. Digital drawing, however, offers the ability to speculate in layers and in various opacities. I use a Wacom Cintiq drawing tablet with Painter X3 and Photoshop.
Marcus Martinez
@marmarkers

Martinez is a San Antonio native who studied at MIT as a fellowship recipient and currently works at Page. He has worked as a designer in Spain, Texas, and Boston, specializing in urban core projects. He has been on faculty at the Boston Architectural College and Texas Tech, and is currently at the University of Houston. His work has been featured in exhibitions in Rome, at Lincoln Center, and in TED Talks. His conceptual designs and outreach for the Pierce Skypark, an elevated highway turned park, are making waves at the City of Houston.

Nobody Talks About the 'F'-ups. Representation has historically made a declaration to the imaginative and provoking edges of architecture — it tells a story. The process of producing that drawing can greatly clarify an idea if it is drawn for feedback. Pen to paper or stylus to screen, the necessary physical drawing of the line is less about a precise image and more about exploring how concepts and ideas are expressed, and what else it brings attention to. In my early days, I interned at EMBT, an office that took an analog approach to both drawing and models, at the time. There, I learned there was opportunity in error: a chance to study how our work could be interpreted, or even, in some cases, productively misread. My work involves many false starts. The process is nearly cinematic storyboarding, where it involves expanding or compressing the frame — managing depth of field by moving vanishing points or even adding points for distortion. It's also sometimes appropriate to exaggerate the scale of elements. Ultimately, in representation, failure is necessary to evolve. So, there is no stack of trace so thick or digital layers so dense that I wouldn't embrace starting over until the drawings are maximized for visual narrative. Early sketches are a broad marker (Sharpie and sign pen) on white trace paper. Once the basic composition is set, I begin refining an element at a time. This gives me the opportunity to iterate on a particular detail or develop common elements like background buildings or foreground trees and also helps to reposition or rescale. This results in patches of trace and masking tape, which can become parts of the composition. The final linework is micropen on vellum. If the decision is to add color, I might do the final on trace and use "Prisma" and "Chartpak" markers. Using trace versus an opaque paper gives me the opportunity to color on both sides of the paper. The more hybrid drawings have a similar start that gets scanned for color. Sometimes I'll jump right into Photoshop, starting from a blank screen. Using a Wacom Cintiq (a digital pen display screen), I'll simulate the same analog process as digital layers. When the goal is to tell a panelized story (like a comic book), I'll complete the layout in InDesign.
Ilia Reyes
@r.ilia.reyes

Reyes works for Rhotenberry Weilen Architects in Midland and has a degree in architecture from Texas Tech. She also attended San Antonio College and Southwest School of Art, studied abroad in Italy, and was mentored by Spanish architect Rafael Beneytez Duran. She is interested in light and time and how architecture can show the visible passing of both.

The first freehand drawing class I took back in 2010 at San Antonio College was more sensibly dubbed “Seeing 101” by its participants; what materializes on paper is a result of what is seen. Since then, almost all my digital work begins with a simple sketch in my sketchbook, a “first look.” My sketchbook and a point-and-shoot camera are two things never not on my person. Drawing has become the single most important tool I have been gifted, though many others have been received since my start at San Antonio College. Drawing is the medium I use most to articulate the world; however, my digital drawings and sketchbook drawings offer strikingly different views. On the computer, I can draw more quickly, while my drawings in the sketchbook are minimal and slow. At the computer, it starts with a base model using Rhino 3D. The 3-D model itself is not very detailed or complex as most of the linework is added once the 3-D model has been flattened to a 2-D image. Once flattened, and still using Rhino 3D, layers upon layers are created to add details, very similar to how one would use Photoshop. When the drawing is about 90 percent done, it is exported to Adobe Illustrator, where all the fun happens: line weights, colors, fills, backgrounds, etc. There is a quirkiness in each drawing format, something that is intentionally imbued. I believe this comes from my current situation. I currently live in West Texas, a place with deep history and even deeper narrations. It is a land of fantastic madness, where pumpjacks bow over and over to the land, grain elevators tower like cathedrals, cotton blankets the land, and everywhere the horizon looms. Drawing is an attempt at producing adequate images that transcend the factual mundane.
Alex Warr
@alex_warr

Warr is a freelance designer and visualizer in Houston. He graduated from The University of Texas at Austin School of Architecture and has worked for Rogers Partners, Peterson Rich Office, Murray Legge Architecture, and REACH Architects, and has collaborated with many other firms. His work has received many awards, including three AIA Fort Worth Honor Awards, an AIA Austin Honor Award, and three UTSA Design Excellence awards.

There has always been, and always will be, a discussion within the discipline of architecture that questions the style in which we render, but now more than ever we have to ask ourselves this question before committing to a drawing. With an ever-increasing range of technologies, tutorials, and programs available to us, how will we ever decide? For me, it has come down to two things: honesty and atmosphere. If an image is meant to speak about the future of the built environment, photorealism is clearly the most appropriate style to aspire to, due to its honest nature. Without flat, scaleless textures and overblown Photoshop lens flares to hide behind, what are we left with? We would hope that an image that makes the unbuilt environment and atmosphere become more immediate also allows greater conversations about the built environment to take place. My process begins with creating a highly detailed holistic 3-D model and environment for each project and site (primarily using Rhino, Grasshopper, V-Ray, and minimal Photoshop), followed by exploring the project to find real moments and compositions that tell the story of place by capturing atmosphere (e.g. light, texture, place — all real things that we will encounter in the finished project).
Historically, large portions of West Texas' towns and cities have been organized by the Jeffersonian grid. Further west, however, complex topographies require more narrow arrangements that often resemble veins and arteries spreading across the mountainous landscape. This stark contrast created an opportunity to question the regulated grid by superimposing it onto an irregular settlement. Avoiding hyper-realistic and technical forms of documentation, these compositions were rendered with an emphasis on geometry and color. In this way, the drawings begin to occupy a liminal space. This was crucial for engaging with the program of a cemetery, which usually involves a somber reflection in both the architecture and its visual representation. To challenge this notion, the drawings display an alternative idea of the experience and program, but also alter the notion of solemnity. Through Rhino modeling, playful geometries are rendered in bright colors, then edited in Photoshop. These renderings not only occlude the usual associations of death, but instill the architecture with a sense of life and vibrancy. Overall, the hyperbolic imagery challenges the realities of the built world and emphasizes the contrast between the organic and perfect geometries—all the while offering a chance to ameliorate, and make lighter, the heavy burden of its content.
The process of producing the image begins with the question of what the subject of that image is. This is then rendered using its base 3-D geometry. The subject maintains its depth through the use of shadows and interlacing of 2-D accompanying elements that complementarily exaggerate the subject. The accompanying elements then take on notions of flatness, being executed through line work, singular color, or patterning. In order to achieve hierarchy through the accompanying elements, contrast is utilized between colors; presence is utilized in line, weight, and regularity; irregularity is utilized for patterning. Conventions of architecture are still used when producing these drawings. The project is represented in section, plan, interiority, and axonometric. Interactions of poché can be seen through the interfacing between figure and ground, as well as in architectural moments.
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The institutions which the Middle Age has bequeathed to us are of greater and more imperishable value even than its cathedrals.


Otter: Point of parliamentary procedure!
Hoober: Don’t screw around, they’re serious this time!
Otter: Take it easy, I’m pre-law.
Boon: I thought you were pre-med.
Otter: What’s the difference?

— National Lampoon’s Animal House

At first glance, the university — the buildings and people that make the institution — comes to us as a thoroughly modern phenomenon. However, universities have developed over hundreds of years with roots reaching back into the Middle Ages. The fact that we continue to establish new universities and expand those we have is proof the model is not yet outdated — even in our growing digital world.

The word “university” is derived from the Latin phrase universitas magistrorum et scholarium, which roughly translates to “community of teachers and scholars.” The sense of collegiate community and educational collaboration found on a university campus is arguably one of the reasons the model has strengthened over time. Moreover, it is through architecture that this realized community is fostered and nourished. Some of the first buildings to make up university campuses were the assets of dissolved monasteries and religious institutions — places centered on community.

In this issue of Texas Architect, we examine four architectural projects designed to foster community and collaboration on university campuses across the state: a modern renovation inspiring “creative collision” at St. Edward’s University in Austin; UT Austin Cockrell School of Engineering’s new Engineering Education and Research Center, “a machine for the creation of community”; a fabrication building at Prairie View A&M arranged with parallel bars for equipment and collaboration; and the Alumni Center at UT Dallas, which aspires to bring the past and present together.
St. Ed-ification

The latest piece in St. Edward’s University’s ambitious building program is a modern renovation of Holy Cross Hall, which has transformed a once-dark warren of rooms into a natural-light-filled place for creative collision.

Architect Baldridge Architects
Historic Architects (exterior) Architexas, Inc.
General Contractor Bartlett Cocke
Structural Engineer Leap Structures
MEP/Civil Engineer Big Red Dog

by Jessie Temple

Since 1999, St. Edward’s University in Austin has embarked on an ambitious plan to make good design a foundational part of the educational experience. Working with Massachusetts-based architecture and planning firm Sasaki, the school’s leadership established a plan for the 160-acre hilltop campus — home to some 4,400 students and 1,000 faculty and staff — that calls for enhancing “the image and identity of the campus through excellence in design and sustainability.” Today, a campus tour includes not only the red-roofed Victorian-era buildings designed by Galveston architect Nicholas Clayton, but also work by Austin architects including Andersson-Wise, Mell Lawrence, Pollen, and Specht Harpman; buildings by Sasaki and Moore Ruble Yudell; and a geode-like dormitory building designed by Pritzker Prize winner Alejandro Aravena.

This design-forward strategy was a bold response to what might be perceived as a dark
Faafing Galveston architect Nicholas Clayton, who designed Holy Cross Hall and Main Building at the turn of the last century, continues to be the silent partner in campus design work. A stonemason before he was an architect, Clayton worked in the high Victorian style, and his buildings are full of exuberant details.

Below Baldridge’s reinterpretation of the main entry hallway preserves the original stained glass and exposes Austin Common brick at the side walls. The graceful sweep of the ceiling belies the structural headache beneath.

Age of campus architecture. Melba Whatley, until recently the chair of the St. Edward’s Facilities Committee, describes the moment when then-incoming president George Martin asked her to serve. “I remember asking him, ‘What kind of buildings do you want to build?’ Someone answered that they wanted workaday buildings. Dr. Martin said, ‘No; we want beautiful buildings!’ So I said, ‘Well in that case I’m your woman.’ And he has held to that standard.” From big picture questions like traffic flow and energy efficiency to design details, the goals of the campus plan are both practical and refreshingly lofty: to provide an orderly plan for growth (undergraduate enrollment has doubled since 1999) and to inspire students to be responsible citizens of the world.

The most recent testing ground for this educational strategy is Baldridge Architects’ transformation of Holy Cross Hall into a new home for the School of Arts and Humanities and hub for tech-related faculty guidance. While the firm now works on a wide variety of projects, Baldridge’s roots are in residential design, and it shows. The baseboard trim that lines the long hallways is walnut, and with the simple white walls and the longleaf pine of the floors, it helps to create an impression of thoughtful domesticity.

As with the floors, the trim looks as though it could have been in place since 1903, when Holy Cross was constructed as a companion for the slightly showier Main Building. In fact, however, by 2015, most of Holy Cross Hall’s original details had been removed or burned. The building was in serious disrepair after a century of wear. With historic preservation firm Architexas primarily responsible for repairing the building exterior, Baldridge focused on the interior and exterior interventions, striving to balance the historic context with modern demands of program and energy efficiency on a tight budget. “St. Ed’s liked our idea of a modern intervention within the historical context,” Baldridge says, “not drastically altering the building, so much as tailoring a new suit for it.”

Tailor they did; but first, the building had to be stripped of a century’s worth of temporary solutions to the logistical and mechanical challenges of an evolving campus. At the basement level, structural brick arches along the axially loaded hallway had been infilled, creating a dark warren of offices for the campus police department. An exploratory excavation of the ground floor concrete revealed the lack of a vapor barrier, which contributed to what Tim Toney, who oversees construction for
Baldridge's roots in residential design are evident in the study areas that cap the ends of the long hallways. Longleaf pine subfloors, carefully refinished by Liberty Flooring, help set a tone of elevated domesticity.

Above right With an aluminum lip providing a sharp edge to the light, an off-the-shelf skylight creates what Baldridge calls a "Turrell moment" over the stairs. The stair mullion work was done by Thomas Koitzsch of Arcon. Austin artisans Boone Chilton built the fire doors (not pictured) to meet historic preservation standards.

Below The windows are an example of a negotiation between historic preservation standards, energy-efficiency, and budget; preserving the look of the existing windows while upping energy-efficiency proved to be a challenge. The wide window openings are a clue to the added steel and insulation inside the building envelope.
St. Ed’s, drily refers to as “the funk.” Upper floors were an incoherent jumble of partition walls and dropped ceilings. Single-paned windows, a lack of insulation, and sagging floors made for comically uncomfortable offices.

Baldridge’s solution was to largely gut the building down to the structure, then build an endoskeleton of steel to support new and existing floors and mechanical systems. The basement concrete was removed, a vapor barrier installed, and insulation added inside the steel frame. This process revealed some happy surprises: The structural Austin Common brick, hidden under drywall, was in good enough shape to leave exposed. Subfloors in the upper hallway were found to be of longleaf pine. Painstakingly removed, refinished, and reinstalled, they give the building the warm feel of an old house. The big move, however, was to bring in light. Once-dark hallways are illuminated by interior transom windows, while an open central stair shares light from a skylight and from windows, creating a dramatic focal point for the building.

The domestic tone of the interior is enhanced by another programmatic requirement: spaces for “creative collision.” Sofas and tables sheltered in the arches or in the bend of the stairwell provide space for students and faculty to study and meet, and walnut enclosures at each end of the hallway frame a view of the trees and sky.

As for how the renovation has been received, Baldridge jokes that the campus police now have a new problem: They have to sweep the building every night to make sure the students have left. Whatley describes a more emotional reaction: At a ceremony for the Edwin Waller award, she says, “a young man jumped up and threw his arms around me and said, ‘Thank you for making my school beautiful!’ That was one of the highlights of my life. It really struck me then that these things enter into students’ consciousness. That’s called a sense of place, I think.”

Jessie Temple is an architect and writer in Austin.
Beating Heart

The Cockrell School of Engineering’s new Engineering Education and Research Center provides more than state-of-the-art laboratory and classroom space. It is a machine for the creation of community.

Architect Ennead Architects; Jacobs
G.C. Helsel Phelps
Structural Engineer Datum Engineers, Inc.
MEP Engineer Affiliated Engineers
Landscape Coleman & Associates

by Sophie Aliece Hollis

The Cockrell School of Engineering at the University of Texas at Austin is one of the leading engineering programs in the country. In order to maintain its competitiveness, the school needed a facility that would support its high educational standards while simultaneously addressing the complex needs of its students and faculty. Ennead Architects and Jacobs achieved just that in their design of the Engineering Education and Research Center (EERC) — the new, $310M beating heart of the program opened to students in the fall of 2017. The 433,000-sf, LEED Silver building launched the Cockrell School into the 21st century, and has become a destination for students across the UT campus.

The EERC is composed of two limestone-clad, nine-story towers connected by an enclosed, three-floor, public atrium. The atrium negotiates a 35-ft drop in the site grade through a variety of unique staircases.
Facing The EERC is recognized instantly by its unique punched windows and glazed core. It lies at the heart of the UT Engineering precinct.

Left Open-air ridges, supported by a diamond truss system, connect the two towers at each level.
The south tower is home to the Electrical and Computer Engineering Department, while the north tower houses the National Instruments Student Project Center, as well as rooms for interdisciplinary studies and research. The facility also includes the Mulva Auditorium and Conference Center and connects directly to the neighboring Civil, Architectural, and Environmental Engineering building. This connection is one of many forged by the axial design of the facility, which, in cardiovascular fashion, reaches beyond its walls to assert its position as a center and transfer point for the campus. The west entrance is set along a north-south walkway that links the school’s primary engineering blocks. The formal but inviting front lawn extends across a number of science and engineering buildings, while the east entrance of the EERC opens onto Waller Creek, which is spanned by a footbridge. These exterior pathways and connections flow through the atrium, which functions as an extension of the campus itself as opposed to an isolated, hermetic environment.

The multidisciplinary nature of the EERC prompted the architects to make use of transparency to achieve meaningful relationships among all departments. Each floor connects physically and visually to the central atrium to create one cohesive home for the many disciplines who share the building.

The first three levels house the atrium, a sprawling interior social space that cascades down the site grade and is flanked by glazed meeting rooms, libraries, and a 23,000-sf fabrication lab. The lab provides undergraduate students with state-of-the-art technology while also showcasing building engineering strategies through exposed mechanical ductwork, sprinklers, and electrical conduits. Structural engineering is also on display throughout the atrium in such features as a staircase that
The atrium serves as a social highway for all UT students, including those not in engineering, who pass through on their way across campus and often stay for a time. Areas for collaboration, socialization, and study are placed strategically throughout the space.

Below: The Malea Auditorium is the Cockrell School’s largest event space. It is housed in a separate volume clad in basalt to distinguish it from the main facility, and is used for classes, conferences, and guest lectures.
spirals around a custom plasma-cut steel tube column, a bow-truss-supported skybridge, a “flying stair” supported by a V-shaped column structure, and a heroic, free-span roof, whose folded structure alternates between glass and acoustic plaster panels. The glass maintains visual connectivity between the atrium and the research levels in the towers above, while the opaque sections are calibrated to mitigate low-angle sunlight.

The atrium transitions from indoor to outdoor on the fourth level. Here, the two research towers are connected by exterior planted terraces. Interior and exterior walkways, which put structural elements such as trusses and cantilevers on display, connect each subsequent floor. The tops of the towers are spanned by a perforated steel sunshade. Over 7,000 scenarios were run in order to arrive at the design, which provides optimal shading and comfort for the building throughout the year. It allowed the floor-to-ceiling glass walls that clad the research spaces, labs, offices, and conference rooms facing this central space to be minimally treated with low-emissivity coatings, making them more transparent. Views into neighboring departments as well as into the social space within the atrium below are all available through this strategic glazing strategy and inward orientation of the building.

Each design decision within the EERC was made to achieve the central goal of the project, which was laid out more than a decade ago: to foster a sense of community for the Cockrell School. As noted by Ennead’s Emily Kirkland, “The architecture really becomes the armature to support this idea of community.”

Sophie Aliece Hollis is a student at The University of Texas at Austin School of Architecture.
Little Sibling

The new fabrication building at Prairie View A&M University is the envy of architecture schools across the nation, and yet it meekly defers to its older relative, the neighboring architecture school.

Architect Kirksey Architecture
G.C. SpawGlass
Structural Engineer Walter P. Moore
Civil Engineer Walter P. Moore
MEP Engineer E&C Engineers
Landscape Clark Condon Associates
A.V. DataCom Design Group

by Jesse Hager, AIA

Should a fabrication space be expressive? Should it showcase the possibilities of current technologies? Certainly, there are many such shops located inside generic warehouses whose primary function is to allocate adequate space for all sizes of equipment, equipment typically delineated by yellow safety tape. In the case of the new Prairie View A&M University (PVAMU) Fabrication Center, however, Houston firm Kirksey Architecture offers a formal language for this emerging typology.

“The Fabrication Center is arranged as, essentially two parallel bars, one housing traditional shops and the other digital shops, with the main assembly and collaboration area between,” says senior project designer Gary Machiceck, AIA, of Kirksey. The facility is reserved for students at the School of Architecture, which is right next door. It has been, in the words of Dean Ikhlas Sabouni, a “dream come true.” The impetus for the building was driven in part by the former shop supervisor for the school, Sam Smith, who informed the dean
that the school had outgrown the original shop and that he was concerned about student safety. These issues were addressed by a design studio led by professor Bill Price, who challenged his students to think about the future of fabrication; they then presented their ideas to the school and PVAMU administration.

After an initial programming exercise, PVAMU released a Request for Proposals and selected Kirksey for the design. At 25,000 sf, the fabrication building is the most capacious and well-equipped facility of its kind at any school in Texas — with robotic arms, 5-axis CNC, multiple laser cutters, 3-D printers, and waterjet for nearly any conceivable material. The icing on the cake is that access and materials are unlimited to the students. Visiting during midterms, I expected the building to be abuzz, and yet it was strangely quiet; suggesting the equipment is being utilized tentatively.

The fabrication building is conceived as a “prairie,” in contrast to RoTo Architects’ design of the neighboring architecture school, which conceptually is a “canyon.” That building is hollowed to expose the elements of its composition — a compelling and convenient teaching device for a school of architecture. The fabrication building echoes many of the earlier building’s material selections, most notably the use of brick and steel. Where the brick at the architecture school is fluid and eroding, in the fabrication building construction it is stacked and pulled, foregrounding another more tempered potential of the material. The parabolic metal mesh at the school is picked up in a tessellated standing-seam roof at the fabrication building, lifted from the ground plane to mimic the movement of the prairie.

Placed to the east of the architecture school so as not to obstruct the view as one approaches via University Drive, the fabrication building opens with a porch on its northwest side — a large overhang and the apotheosis of the design. Kirksey did a number of solar studies
Lower left A glazed training room has views of the neighboring architecture school by RoTo Architects.

Lower right The assembly area off of the shop space provides room to bring the fabricated pieces together.

Facing The collaboration areas provide access to computers and teaming space.

FLOOR PLAN
1 Porch
2 Photo
3 Office
4 IT
5 Storage
6 Model Archive
7 Utility
8 Multi-Purpose
9 Help
10 Wood Shop
11 Metal Shop
12 Outdoor Assembly
13 Shop Assembly
14 Digital Assembly
15 Restroom
16 Print Making
17 Digital Media
18 3D Printer/Laser Cutter
19 CNC
20 Thermal Lab
on the form of the roof to optimize it for the summer months, ensuring that the building would be shady and comfortable in the Texas heat; however, the visual effect is to nearly obscure the front entry, which gets lost in the shade of this overhang.

While the fabrication center’s “front” addresses the architecture school, its “rear” faces southeast and includes a generous loading dock. Here, the notion was that entire wall sections — or even full (albeit small) homes, such as those assembled by students working with the innovative Shelly Pottorf — could be deployed from the fabrication building itself, yet another enviable attribute of the program. Regrettably, due to safety concerns, this back face is fenced off from the rest of the campus in a rather banal and inconsiderate manner. To compound the issue, most visitors and students at the school arriving by car are likely to park in this lot and will be forced to move around the loading area and the two most uninviting walls of the building, which are mostly solid brick with small clerestory windows.

Having an older sibling can be a lot to live up to. In the aforementioned material choices, siting and even in conceptual positioning, the fabrication building defers to the architecture school. This direct response to so many design cues inevitably invites comparison. An easily referenced model has been set with the expectation of at least meeting similar standards, while distinguishing a unique path. Kirksey has done an exemplary job of designing a support facility that is rightly the envy of architecture schools across the nation. By all current standards of comparison, the fabrication building at PVAMU surpasses expectations, and it took home an AIA Houston Design Award, last cycle. Nevertheless, at present, PVAMU’s Fabrication Center remains one full of potential that has yet to grow out of the shadow of its neighbor.

Jesse Hager, AIA, is principal of CONTENT Architecture in Houston and chair of the TxA Publication Committee.
The new Alumni Center occupies a plot on the UTD campus that was once used as a shortcut between the parking garage and the main mall. In response, the architects designed a porous ground floor plan that maintains the site's circulatory function while creating a nice place to linger.

**There There**

The Davidson-Gundy Alumni Center gives UT Dallas a comfortable place on campus where students past and present can gather for events and celebrations.

*Architect* Overland Partners  
*G.C.* JE Dunn Construction  
*Structural/Civil Engineering* Datum Gojer Engineers  
*Mechanical/Plumbing* Cleary Zimmerman  
*Electrical Engineering* 3P Engineering  
*Landscape* Studio Outside  
*A.V.* DataCom Design Group  

by Eurico R. Francisco, AIA

The University of Texas at Dallas (UTD) is celebrating its 50th anniversary as a public university this year. If you haven’t visited it lately, you’re in for a surprise — and a good one.

UTD’s first mission was to supply the qualified workforce that fueled the growth of Texas Instruments. Today, this research university counts four Nobel Prize winners and is active in engineering, business management, the arts, and the behavioral and brain sciences.

UTD’s campus and original buildings, largely conceived in the 1970s, reflect the mindset of that time: less American collegiate and more hardscape esplanade; less red brick and more cast-in-place concrete; less gentility and more bravado. In 2008, recognizing that times had changed and that UTD's mission had evolved, the university engaged PWP Landscape Architecture to address issues related to landscape, pedestrian movement, future campus growth, and overall campus character. Largely completed in 2013, PWP's work transformed UTD, adding 6,800 trees and a vision for a campus of this time — welcoming, connected, sustainable, and no longer lacking a sense of place.
Although PWP’s holistic approach was a success, UTD still needed a place for formal and informal gatherings, an event center, and a place that visiting alumni could call their own. Overland’s new Davidson-Gundy Alumni Center skillfully fits in with PWP’s vision and has become the campus “living room” for both alumni and current students. The Alumni Center was “built to celebrate the accomplishments of the university … inviting alumni and students to a lifelong engagement with the school and each other.”

The Alumni Center occupies a parcel one block east of the campus’ mall, between the Arts and Technology building and a new parking garage and across the street from the Jindal School of Management. The site previously held abandoned tennis courts and was used as a convenient shortcut between the garage, its neighbors, and the mall. With this in mind, Overland crafted a porous ground-floor plan that invites people in and through the building.

The L-shaped floor plan is logical and legible. The dominant east-west bar contains the building’s primary spaces, which are the flexible ballroom for up to 400 seated people in banquet layout, and the grand yet welcoming lobby, an airy space that invites you to linger awhile or host a reception. The shorter, north-south bar has conference rooms on the ground floor and administrative space upstairs. Vertical circulation happens at the pivot point between the two volumes.

The Alumni Center is not just enclosed and air-conditioned space, though. Building proper and the green courtyard to the south are interdependent, and both benefit from this symbiosis. The courtyard — somewhat equivalent to a minor quad on a traditional academic campus — extends the domain of the Alumni Center and becomes a pause, a respite in the campus network. Mature live oaks delineate the courtyard, a single row at the southern edge and an allée on the eastern edge. The conference and administrative wing of the Alumni Center creates the courtyard’s western edge, and the long and transparent lobby establishes its northern edge, mediated by a generous porch furnished with outdoor tables and chairs. Building and
trees are the same height and couldn't be better matched in proportion and scale. The courtyard has so far proved its worth, welcoming formal university events and the occasional group of students, exactly as conceived.

Wrapping it all up, a perforated metal scrim, at once shading device and grand-scale art, shields the upper administrative volume from western, southern, and eastern Texas sun. From there, it whimsically finds its way into the upper half of the lobby, where it delights us with a graphic and dynamic narrative reflecting the campus' unique identity. Overland describes it best in the concept statement: "The scrim uses a perforated pattern to depict our solar system, animated by light and color. This celebrates the story of UT Dallas students who each depart on their own paths, but return to the heart of the Davidson-Gundy Alumni Center as alumni." The metaphor resonates perfectly with students, professors, and administrators, as it captures in one shrewd move the art and science that drive UTD today.

Driven initially by practical efficiency, UTD has since matured. The Davidson-Gundy Alumni Center is exactly the type of building that UTD needs to help cement its identity in physical and symbolic ways. It adds a layer of sociability — and even a touch of graciousness — to the campus vocabulary.

Eurico R. Francisco, AIA, is a design principal at HDR Architecture in Dallas.
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Look up. Above your head in the dark, a glowing whirl dangles, emanating blue-white light. Maybe it’s a tethered alien spaceship or the tempting lure of a gargantuan deep-sea fish! The thing appears frozen in motion, spinning like a great loading sign in the sky. Its openings spiral as they rotate, varying in size between each module. When you look closely, you see that there are actually three sets of these openings, rather than the expected two-sided surface that twists around on itself. This specimen is a rare three-apertured Möbius strip, an organism that landed in Houston for one night only last year.

This particular Möbius is the work of Paul Kweton, Ami Patel, and Hidekazu Takahashi, and was realized during the trio’s completion of the Design-Make Residency, a program developed by the Young Architects Forum of AIA Houston. The award provides workshop space, access to tools, and mentorship for designers who want to bridge the gap between design and fabrication. In their proposal, the team imagined their looping idea at different scales, but they chose to work through the details of the concept as a lighting fixture, 36 inches in diameter and fashioned from CNC-cut folded aluminum sheets that were bolted together.

As the group tested what worked in fabrication and what didn’t, they rewrote their Grasshopper scripts and tweaked their Rhino models, moving fluently between design tools. Their process allowed for speedy prototyping, with parametric iterations that led to new and unexpected qualities of space. Kweton said: “I’m interested in things I haven’t seen, or stuff I cannot dream up. I can have the algorithm produce it for me and I can evaluate it. It expands my horizon and my thinking.” This method relates to a directive from the deck of Brian Eno’s Oblique Strategies: “Gardening, not architecture.” Möbius emerged from the expert cultivation of a formal crop by skilled hands, a reliably fruitful operation that expands the realm of the possible, one experiment at a time.

Jack Murphy, Assoc. AIA, is a master of architecture candidate at Rice.