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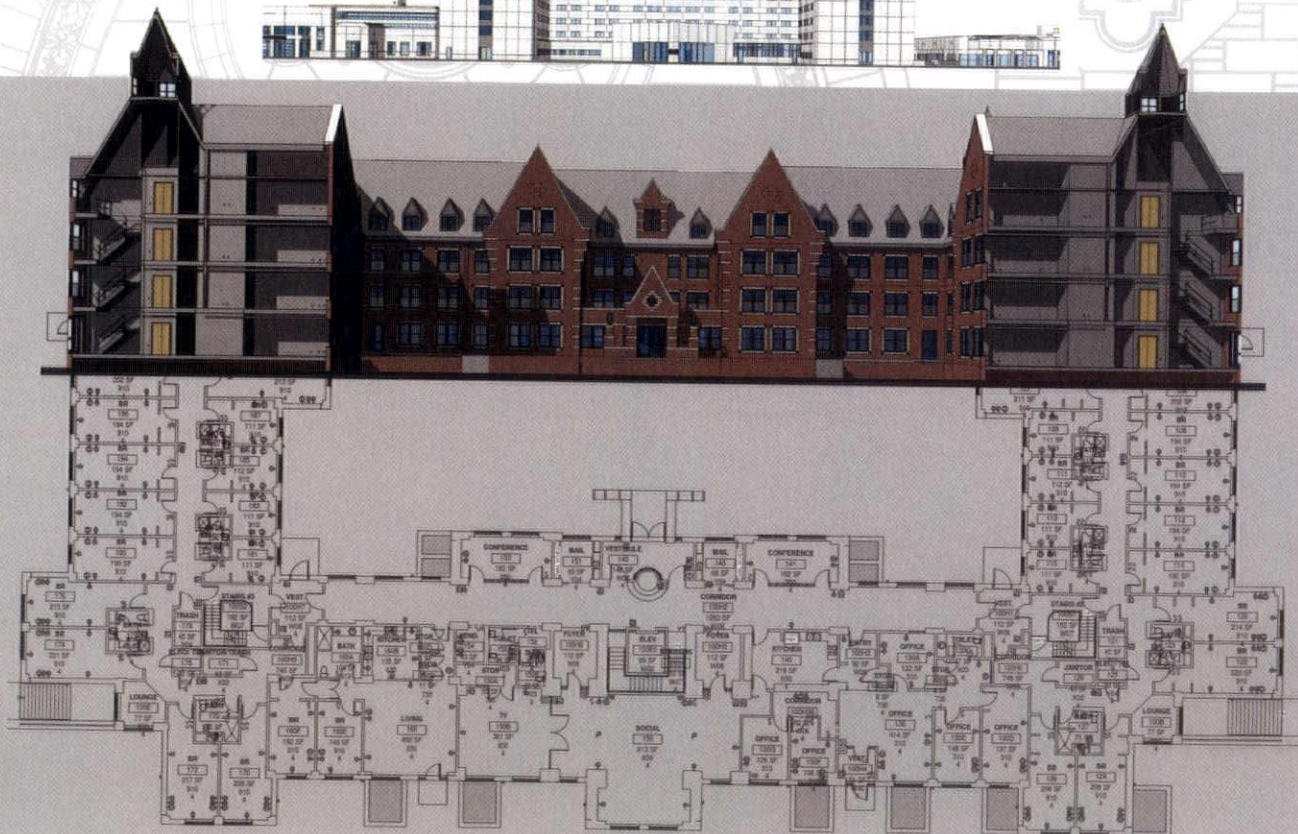
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Hypo Noir Petri Installation, Klari Reis, 2014. 150 petri dish paintings, 60" round. Reis is a San Francisco-based painter.

COVER

Star, Jun Ong, 2015. An installation built from steel cables and LED light in the Butterworth suburb of mainland Penang, Malaysia, curated by the art center Hin Bus Depot for the street art festival Urban Xchange. Photo: Ronaldas Buozis/Studio Vieta



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SPRING AHEAD

Let's face it. The things many in the design community care about—equity, diversity, sustainability, expertise—are endangered by a new administration in Washington that is hostile to all of those values. The comfortable, rational order has been upended: programs threatened, critics silenced, frankly unqualified neophytes installed in critical agencies; I needn't go on.

Rather than wallow in the winter of our discontent, this issue of *ArchitectureBoston* imagines a Design Spring. Architects are natural-born problem solvers, and in the current era, those skills will be called upon as never before. This is exactly the time to promote social betterment through design: to renew commitments to affordable housing, to public and civic spaces, to sustainable landscapes and structures. "Design brings form to ideas," writes Cooper Hewitt curator Cynthia E. Smith in the lead article, "Tonics and Provocations" (page 20). "Right now it is more critical than ever that what we value as a society is expressed in what we create."

The articles in this issue celebrate moments of discovery, innovation, and progress across centuries. They are an inspiration and a model, even as official Washington threatens progress on a host of issues, from climate change to public education. Nothing is achieved by paralysis and despair. John Peterson, curator of the Loeb fellowship at Harvard's Graduate School of Design, echoed this sentiment just after the election when he said it is possible, even amid sadness and anxiety, "to find solace in doing."

This magazine is full of things that can be done: Designers can work locally in their own communities

to reclaim abandoned properties, make rain gardens or parklets, build housing for refugees or homeless families, be more strategic with pro bono work, experiment on a small scale. They can work to dignify a public realm that has long been demeaned: creating uplifted civic and cultural spaces that bring society together across divides.

Designers can double down on solutions to climate change. It may be harder to achieve the carbon-neutral goals of the profession's 2030 Challenge without the prod of government regulations, but architects hardly know their own power when it comes to moving the needle on sustainability. On page 30, Russell Perry FAIA shows the influence the design community already is having on the development of safe alternatives to hazardous building materials; the same can be said for energy systems and resilient landscapes.

Architecture's focus on evidence-based design is a bulwark against another troubling trend—the disdain for verifiable facts. The popular culture today devalues professional expertise as "elitist," yet independent, accountable research is a hallmark of excellent design, and its importance goes far beyond the construction of healthcare facilities, where the principle has its roots.

An action need not be explicitly focused on public policy to have a public impact. In an interview, Peterson described the power of choice: "It requires a little ambitious thinking, but every project can have an implied social agenda," he said. Even designing a fancy new kitchen can be done mindfully by eschewing toxic materials, using natural light, and thinking hard about the cultural meaning of the kitchen as the locus of connection, nourishment, and care.

Among the many protest signs at the women's march in January was one with a particularly inspiring message. "Trying times are times for trying," it read. These times call upon the talents of architects to think not just outside boxes but around corners: to imagine, sketch, and then build the society we want to see. This is the joy of creation. No power can overcome it. ■

Renée Loth
Editor



Photo: Ben Gebro



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ON “DOMICILE” (WINTER 2016)

It was a walk down memory lane reading the article by Michael Pyatok FAIA (“Unpacking the problem”). I shared much of this struggle of finding ways to fit 100 pounds of affordable housing programs in a 50-pound bag, initially working as a licensed architect and later at MassHousing (a quasi-public affordable housing finance agency from which I have only recently retired after a 30-year career). I concur with his observations about the economic intractability of providing sufficient housing, and I’m alarmed that the majority party seems hell-bent on undoing any safety net promulgated by FDR’s New Deal through Obama’s Affordable Care Act.

As we whittle away at public education and healthcare, it is a pipe dream to think that the federal government will advance a consistent commitment to safe and sanitary housing as a right. I am profoundly worried about how we will address the housing demand of seniors with no source of income, of the physically and mentally disabled, of the unemployed and unemployable. How can we be optimistic given the size of the problem? I remember a New York City housing advocate who counseled in the 1970s, in a comparably drastic economy, that we should be advocating for everything because there is no possibility of getting anything. “If it isn’t impossible,” he said, “don’t try to do it.”

I remember when, in dire circumstances, deals have been struck between strange bedfellows, where adversaries became partners: We’ve seen the federal government directly finance construction that was federally managed; substitution of construction dollars for voucher programs that promoted leasing of privately owned housing; federal block grant program funds used by local community development corporations to sponsor mission-driven initiatives; and, lately, corporations and high-net-worth individuals investing in the production of some of the most beautiful and green housing developments

using the low-income-housing tax-credit program.

There is always a way to innovate, and we should look to the future and imagine how this can be done. If there is a disruptive technology that can be introduced to smash the incredibly high costs of construction in markets like Boston, we should experiment with it. Our attitude toward struggle is what will make the difference.

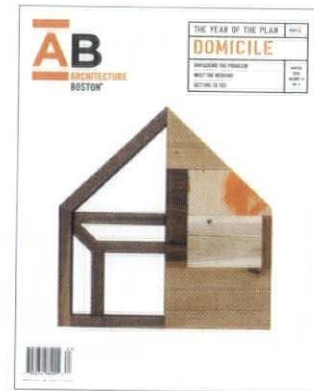
I know how hard it is to get something designed and built to reflect the shared values of diverse groups of residents and stakeholders. Pyatok’s projects are evidence of how a particularly skilled architect and his process uniquely engages the community of users, producing developments that celebrate the people who live there. Don’t you wish you could, too?

DIANE GEORGOPULOS FAIA
Cambridge, Massachusetts

Being a kid nurtured by the 1960s, I am sympathetic to Michael Pyatok’s analysis of the housing struggles in our country. However, with a Red State Congress chomping at the bit to slash domestic spending, I fear things will soon get worse.

I hope it is not heresy to say that architecture cannot nearly solve our housing problems. Perhaps we can agree that when coupled with activism and purpose, the profession gets results. After all, Pyatok’s story line and career choice were essentially about activism: Mission-driven organizing for and with the communities gave cause to the beautiful forms he created. Therein lies solutions—architecture and involvement (with no small dose of money) can be synergistic partners. Pyatok’s striking constructions help rational people wash away disparaging stereotypes and lead the way to more funding.

This new era will test us all. Funds may shrink, but principles like Pyatok’s



coupled with the determination, tenacity, and imagination of people in neighborhoods and communities will continue to motivate and inspire architecture and politics—and funding—for the challenging times ahead.

PHILIP GIFFEE
Executive director, Neighborhood of
Affordable Housing
East Boston

“Domicile” presented a layered array of ideas related to housing that goes beyond simply constructing 53,000 new units by 2030. Fine-grained ideas (in the “Getting to yes” essays) like subdividing existing buildings, embracing the flexibility of accessory dwelling units, or better connecting to Gateway Cities will surely contribute to a comprehensive system of housing for the region—but for those without homes, simply providing more affordable housing options might not be enough. This discussion failed to specifically address that oft-forgotten population: the homeless.

In “Welcome, home,” Jamila Bradley beautifully describes how some of us, faced with adversity, must build a home within ourselves. No population represents this concept as clearly as the homeless; lacking a physical home, they must carry their homes with them. Their “homes” must be mobile, mentally fortified, adaptable—and a source of hope in spite of jarring circumstances.

I think about this population often. Surprisingly, 60 percent of the homeless in the Boston area are families with at least one child; less than 15 percent suffer

from severe mental illness or a substance abuse problem. What we can't forget is that 100 percent are members of our community, carrying their homes into the places we create. How can we, as design professionals, support them?

Even as we turn to more robust large-scale solutions to solve these problems of housing, let's remember the voiceless stakeholders who occupy the spaces we create whether we intend them to or not. For those who carry their homes with them, let's make the buildings we design more welcoming, make our public spaces more kind, make our landscapes more serene. Let's not forget to design for this population, too.

GRETCHEN KEILLOR

Planner and design strategist, Sasaki Associates
Watertown, Massachusetts

I read with interest both "Getting to yes" and "Unpacking the problem." In 1988, the BSA Housing Committee, chaired by Lee Cott FAIA, sponsored a book I proposed, titled *The Affordable Housing Challenge*. Supported by a grant from the Department of Housing and Community Development, the book identified a range of urban infill housing models, selected by the committee for their good design to encourage successful models, save cost, and pass on lessons learned. The 16 case studies—with floor plans, costs, and commentaries—included the Bricklayers Union townhouses at the Back of the [Mission] Hill as well as examples of stick-built, panelized, and modular construction.

The book provided a springboard for me. I became a nonprofit developer with the Women's Institute for Housing and Economic Development for 24 years, where I developed about 15 affordable housing projects, including in Boston, Newton, New Bedford, and Lawrence. It was a challenging career, but an exhilarating, rewarding one. Affordable housing development, expensive and at times mind-numbingly complex, is crucial in preserving and mending mixed-income neighborhoods.

ANNE GELBSPAN

Jamaica Plain, Massachusetts

Thank you for sharing an honest yet optimistic view on the Boston housing market. While the challenges are great, so, too, are the opportunities.

Whether we embrace the promise of Accessory Dwelling Units, as Matthew Littell AIA suggests, realize the potential of underused public lands as Tamara Roy AIA suggests, or convert large existing units that Daniel Bluestone points out into many smaller units, there is no single solution to our housing shortage. The beauty of this is that there is something for everyone. Housing does not, and should not, fall in the "one size fits all" category. Every household is unique. Every home should be, too.

Last fall, our temporary, public exhibition on the Greenway daylighted five thought-provoking ideas for sustainable and affordable housing in Boston. By sharing even just this handful of ideas, we found that the city and its people were genuinely excited about new approaches to urban housing and design. Complete with comment cards and community discussions, Housing the Hub offered visitors the opportunity to learn about and provide feedback on ways we can build both character and capacity. Not surprisingly, different visitors felt that different design ideas were right for them, their families, and their neighborhoods. Some were comfortable with strategically adding height and density; others liked the idea of exploring smaller units, new construction methodologies, or nontraditional building sites.

We will have to do it all—in the right places and in the right ways. We can start by taking the great conversations started in "Domicile" and through the BSA's other programs and publications, and initiatives such as Housing the Hub, out into every corner of our city.

By listening, talking, and working together, we can all be a part of what John McAslan describes as the "basket of solutions."

DAVID NAGAIRO AIA

Principal, CBT
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IN THIS ISSUE



Photo: © Smithsonian Institution

Cynthia E. Smith ("Tonics and provocations," page 20) serves as the Cooper Hewitt, Smithsonian Design Museum's curator of socially responsible design. After training as an industrial designer, she joined Cooper Hewitt in 2005, where she integrates her work experience with her advocacy on human rights and social justice issues.



Photo: Courtesy of the BSA

Justin Crane AIA ("Toward an ideal," page 26) is an associate at Cambridge Seven Associates. He is a founding co-chair of Common Boston, president of Learning By Design in Massachusetts, and a member of the BSA Foundation's Public Programs committee.

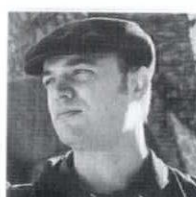


Photo: Courtesy of the BSA

Carl Solander AIA ("When walls get in the way," page 27) is the founding principal of Reverse Architecture, a full-service architecture and design practice specializing in contemporary sustainable design. He is a Certified Passive House Consultant.



Photo: Glenn Clevenger/livestart.net

Rose Florian and Kordae Henry ("Open a new window," page 29). Florian, an architecture and urban design student, and Henry, a design associate at MASS Design Group, are the creative directors of the digital catalog *Just Not The Same*.



Photo: Courtesy of SmithGroupJJR

Russell Perry FAIA ("We can move markets," page 30) was from 2005 to 2016 director of Sustainable Design for SmithGroupJJR, an architecture, engineering, and planning firm with offices in nine US cities and Shanghai.



Photo: Courtesy of the BSA

Coco Raynes ("What the heart sees," page 32) is president of Coco Raynes Associates, a multidisciplinary design firm with a background in environmental graphics, industrial design, universal design, wayfinding, place-making, branding, visual identity, and exhibit design.



Photo: Julianne Schier

Matthew Urbanski ASLA ("A plan takes root," page 34) is principal of Michael Van Valkenburgh Associates, the landscape architecture firm whose projects include Monk's Garden at the Isabella Stewart Gardner Museum, the restoration of Harvard Yard, and Brooklyn Bridge Park.



Photo: Boston's 50 on Fire

Deborah Fennick AIA ("Home for good," page 37) is design principal of Fennick McCredie Architecture. A resident of Somerville, she is chair of the city's Design Review Committee and a member of the Zoning Advisory Committee.



Photo: Courtesy of the BSA

Sam Batchelor AIA ("A measure of impact," page 38), a partner at designLAB architects, founded and directs the MassArt Community/Build Studio and is a board member and former president of the Community Design Resource Center of Boston.



Photo: Gigi de Manio

Kaki Martin ASLA ("Time to heal," page 39), a founding principal at Klopfer Martin Design Group, is an adjunct faculty member at the Rhode Island School of Design, where she is a member of Health+, a multidisciplinary faculty group engaged in healthcare.

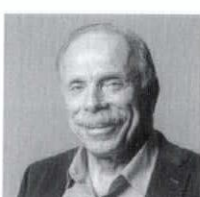


Photo: Courtesy of Stantec

David Dixon FAIA ("The road ahead," page 41) heads the Urban Places Group at Stantec, an interdisciplinary planning and urban design practice with offices in the US and Canada. He is coauthor of *Urban Design for an Urban Century* (Wiley, 2014).



Photo: 128 Business Council

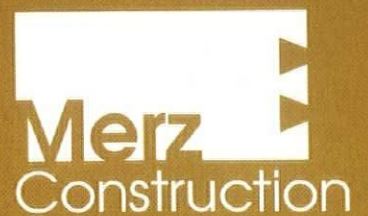
Monica G. Tibbits-Nutt ("A road to somewhere," page 56) is a transportation planner and executive director of the 128 Business Council. She serves on the Massachusetts Department of Transportation board and is a member of the Fiscal Management Control Board that oversees the MBTA.

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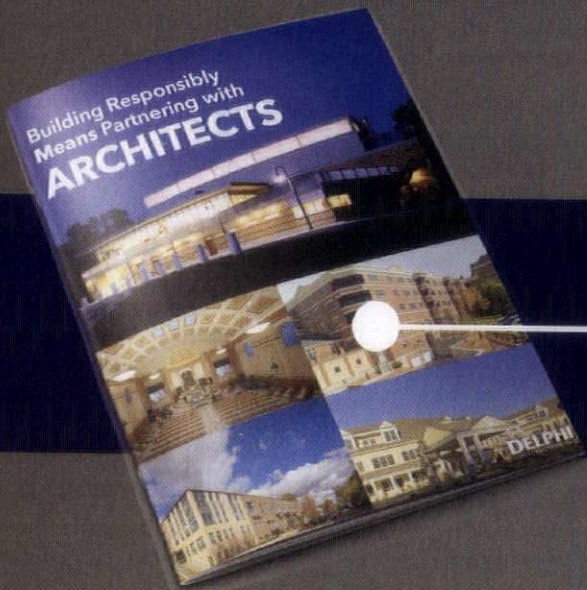
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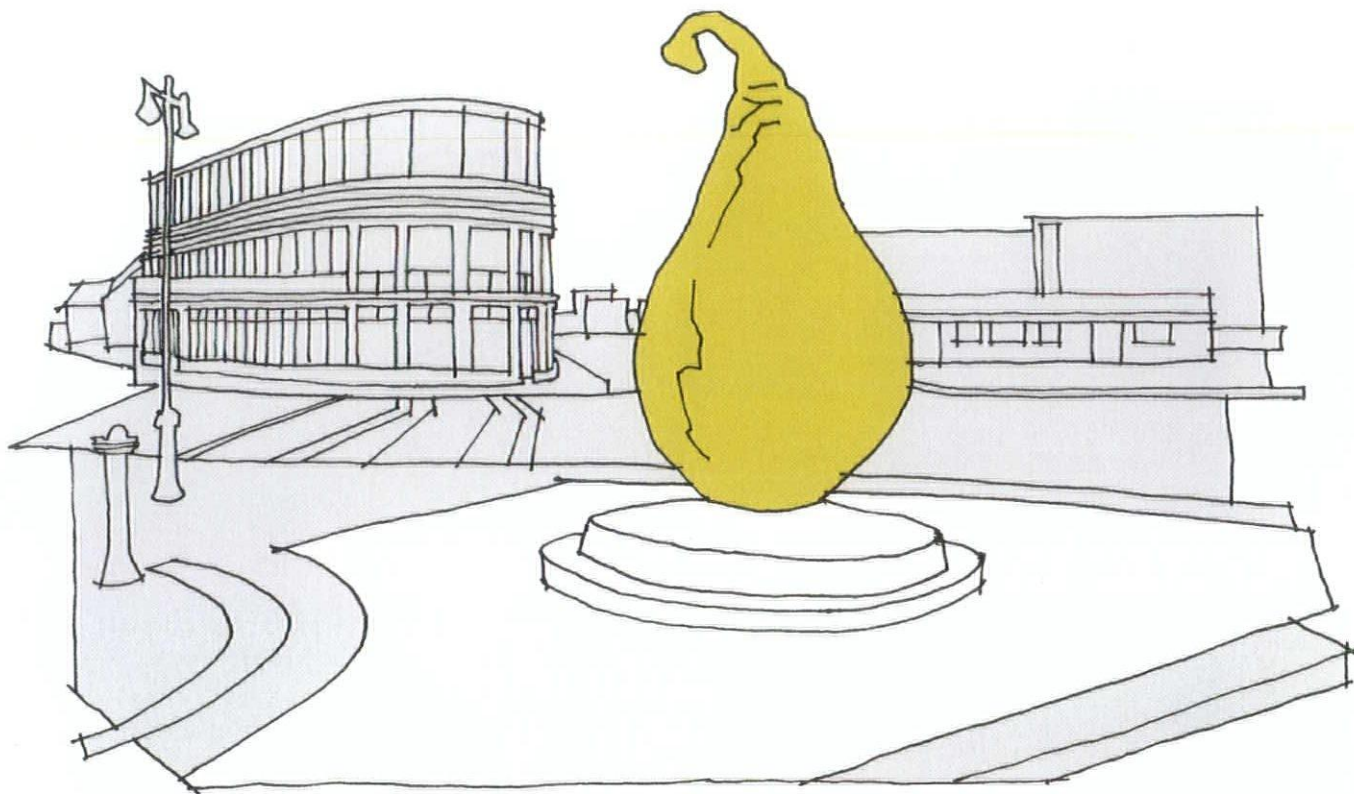
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Opinions and Observations



GENIUS LOCI

Mass Ave: A love affair

It started with a general loss of orientation. Not an unusual occurrence, but as a transplant from the Midwest in the 1970s, I was completely perplexed navigating Boston. Raised a child of the great suburban grid and five-digit house addresses, I was bewildered by the number of streets that didn't continue more than a few blocks and, if they did, couldn't seem to keep the same name. Stories of Boston's wandering cow paths seemed to satisfy locals, but we had cows galore back home, with none of the resultant street chaos.

Then, suddenly, Massachusetts Avenue found me. I started work at Cambridge Seven Associates, where our loft studio space overlooked the street, just outside Harvard Square. Although the title "Avenue" seemed pretentious to me, I soon learned to call it by its less formal diminutive "Mass Ave," and a friendship grew. That first summer in Cambridge, my wife, Elaine, and I were shanghaied into the crew putting on the Second Annual Cambridge River Festival. We were picked up at 4:00 in the morning one Saturday in our partner Paul Dietrich's old Volkswagen van, filled with tanks of helium. Over the next few hours, we attached 1,000 bright red balloons to every post and pole we could reach along Mass Ave, from one end of Cambridge to the other. We met dawn touching nearly every inch from Arlington to Boston.

My first job at C7A was the MBTA Red Line Extension from

Harvard to Alewife. I was a project architect for the Porter Square subway station and got to know Mass Ave literally from the underside. The T excavated Mass Ave to renovate the shallow buried station in Harvard Square, and then a little north of the Cambridge Commons the tracks turn to tunnels and begin the rapid dive to Porter Square. There, the deepest station in the system is 11 stories below grade, below the same bedrock that supports Mass Ave.

Since then we've continued to engage our avenue. During the blizzard of 1978, we had staff skiing down Mass Ave to the Pru to rescue artifacts from our "Where's Boston?" visitor center. In 1980 we created a rainbow of balloons across Mass Ave, from Putnam to Trowbridge, for the 350th anniversary of Cambridge's founding.

Eventually, I found my way outside Cambridge and began to understand how Mass Ave ties together so many communities and interests. It moves from historic town centers to vibrant squares as it links Lexington and Arlington; Porter, Harvard, and Central squares; and then heads into Boston. It crosses Back Bay, somewhat rudely cutting off the alphabetical orderliness (ending it after Hereford Street), and cruises on. It connects cultural institutions, the Church of Christ Scientist headquarters, the Boston Symphony, Boston Medical Center. You can take a college-visit trip from Harvard to Lesley to MIT to the Boston Architectural College to Berklee and

to Northeastern in a single bus ride—and what could be more appropriate—it's the No. 1 bus that travels Mass Ave!

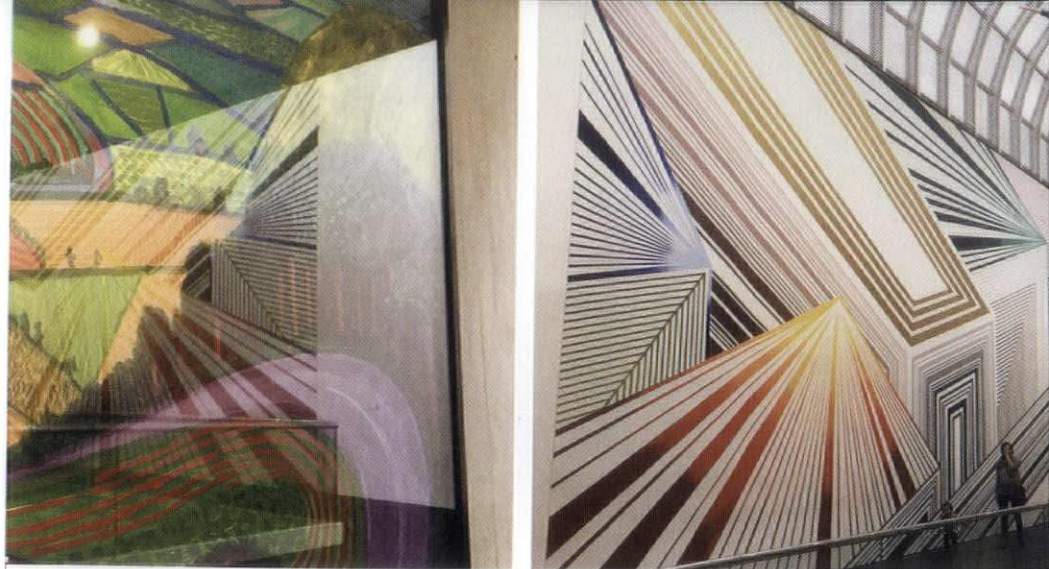
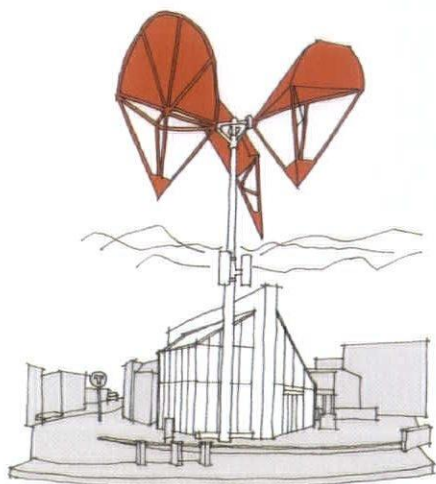
The street seems to have a modest birth in Dorchester at Edward Everett Square and appears from mixed parentage, with Boston Street, East Cottage Street, and Norfolk Avenue crossing Columbia Road and somehow becoming Mass Ave. Today my landmark for the origin is Laura Baring-Gould's sculpture *Clapp Pear*. Then Mass Ave makes it more than 20 miles to the northwest, where the anchor at the other end is the Minuteman National Historic Park. The street has its place in history: In April 1775, Paul Revere and William Dawes Jr. both used parts of the future Mass Ave (then known as the "Great Road") for the ride to Lexington to warn of the approaching British march.

Today we live in Cambridge, just off Mass Ave. When our eldest son was living here, the road connected us with his family in Dorchester, and now it links us to our younger son in the South End. I've been looking over it from C7A for nearly 40 years of hustle and bustle, fire trucks and ambulances, subways and buses, and plenty of people. It is, indeed, a "Great Road."

PETER KUTTNER FAIA, a principal at Cambridge Seven Associates, is the bursar of the AIA College of Fellows.

IMAGES

Public art in Everett Square (*Clapp Pear*, Laura Baring-Gould, 2007) and Porter Square (*Gift of the Wind*, Susumu Shingu, 1985). Sketches: Peter Kuttner FAIA



Landscape Abstracted

Museum of Fine Arts, Boston

Through July 30, 2017

Reflection and transparency are repeating themes throughout this exhibition.

The artists featured here expand the definition of landscape by highlighting the experiential features of the natural world as it is filtered through and reflected against an architectural geometry. To complement acquisitions from its collection, the museum commissioned several site-specific pieces for the show. Anne Lindber's *pivot green blue* and Jason Middlebrook's colossal mural, *Tread Lightly*, respond directly to the airy, voluminous space of the museum's West Wing, designed by I.M. Pei. Lindber's delicately hued strings stretched between walls hover just below the skylights like atmospheric mist, while Middlebrook's bold lines accentuate the grand scale of the corridor.

Many artists use transparent materials to suggest the ephemeral qualities of landscape. Nicole Chesney paints layers of lavender, blue, and gray on mirrored glass, while Sarah Braman creates a human-scaled container with purple tinted glass. Justen Ladda, Teresita Fernández, and Spencer Finch conspicuously employ light, pigment, and mirrors to express the transient shifts of environmental elements.

The one landscape painting—David Hockney's *Garrowby Hill* from 1998—acts as a historic cornerstone to the show. Although it has been widely reproduced, the thick impasto surface can be experienced only in person. A vibrant and bold depiction of Californian topography, it's also now covered in glass, giving it yet another layer of surface appearance—one that is glossy, slick, protective, and reflective. As a painter, I can't help but notice these surficial qualities. I also notice that, at a certain angle, Middlebrook's mural is inadvertently superimposed on Hockney's painting, offering a fresh look at the two works as they overlap. Both concerned with the color, spatial geometry, and perspective of California's landscape, these two painted images seem to collapse time and space into one transparent and reflective point of view—like looking out a window at a landscape as it simultaneously reflects the architectural interior of the space we inhabit.

SANDY LITCHFIELD ASSOC. AIA is an assistant professor in the architecture department at the University of Massachusetts Amherst.

ABOVE

David Hockney's *Garrowby Hill* (1998), left, and Jason Middlebrook's mural *Tread Lightly* (2014), right. Photos: Sandy Litchfield ASSOC. AIA



Thomas Schütte: *Crystal*

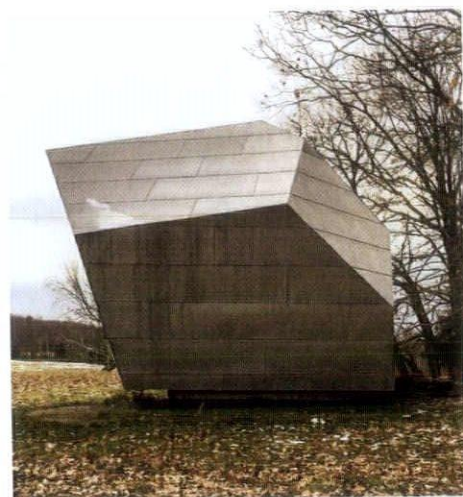
The Clark Art Institute, Williamstown, Massachusetts
Through October 9, 2017

The name of this installation is an immediate explanation of its form and a clear reference to the crystalline nature of quartz found in abundance on the site. A shelterlike destination among the paths of the gently rolling Berkshire Hills, *Crystal* comes into view after crossing a cow pasture. Approaching from below, it appears like the gabled end of a chapel. This dramatic point of view is also the least provocative in its referencing of traditional architectural language. Although the asymmetry of the sculpture is somewhat unusual, the viewer feels within the realm of the familiar.

Circling around this interesting object seems to make it shift, like a graceful animal, from one gestural stance into another. It poses on the edge of the wood. It perches along a short stone wall. It mimics a massive boulder that has been

pushed forward by geological forces.

Architectural language is rooted in the geometry of perception/projection and has the power to define a place (and a role) for the observer. Where do any two facets intersect? Typically, that point would be about 10 to 20 feet away, and from that point of view, *Crystal* appears both in its truest form and also as painfully incomplete. Unlike the rocks scattered in the woods and fields around the sculpture, this object is a vessel, an empty shell. Inside, the structure is treated with pine planks, the facets of which form a dynamic frame for the surrounding landscape in one single aperture. Perception is torqued, shaped by the interior walls. This unpredictable volume inscribes the planes of reference from within itself into the surrounding landscape,



transforming the perception of the observer and imbuing it with a sense of instability. *Crystal*'s subtle angst permeates our reality, throwing into question the stability of the natural and manmade structures that surround us.

In winter, the landscape envelops and complements *Crystal*, allowing its metallic gray skin to blend with the rocks below, the dark tree trunks behind, and the bare hills and muted sky beyond. On a cold December day, looking at the undulating horizon line from within *Crystal*, the paintings of Thomas Cole or Caspar Friedrich come to mind. Like the work of his predecessors, Thomas Schütte's sculpture has the power to tweak one's view of the landscape ever so slightly, making it both more dangerous and more sublime.

GRIGORI FATEYEV, principal and owner of AF architecture in the Berkshires, is working on Turn Park Art Space, a contemporary sculpture park in West Stockbridge, Massachusetts, which is scheduled to open in May.

PHOTOS

Interior and exterior views of *Crystal*, Thomas Schütte, 2015, at the Clark Art Institute. Photos: Grigori Fateyev

CONSIDERED

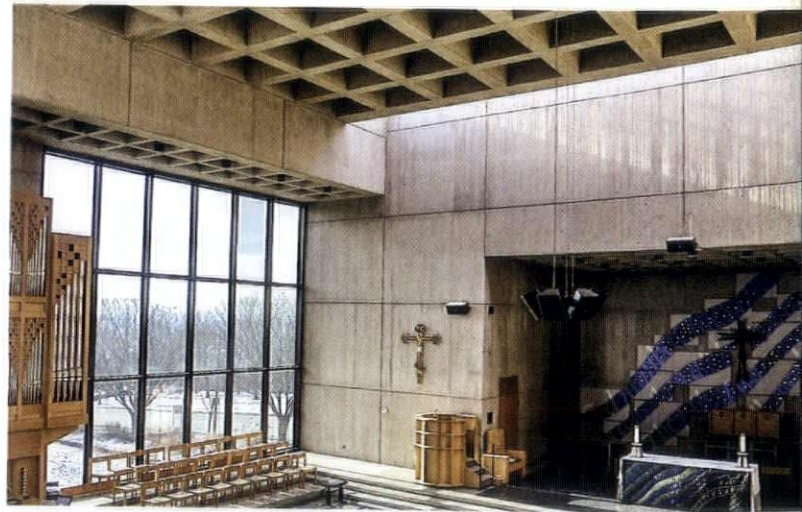
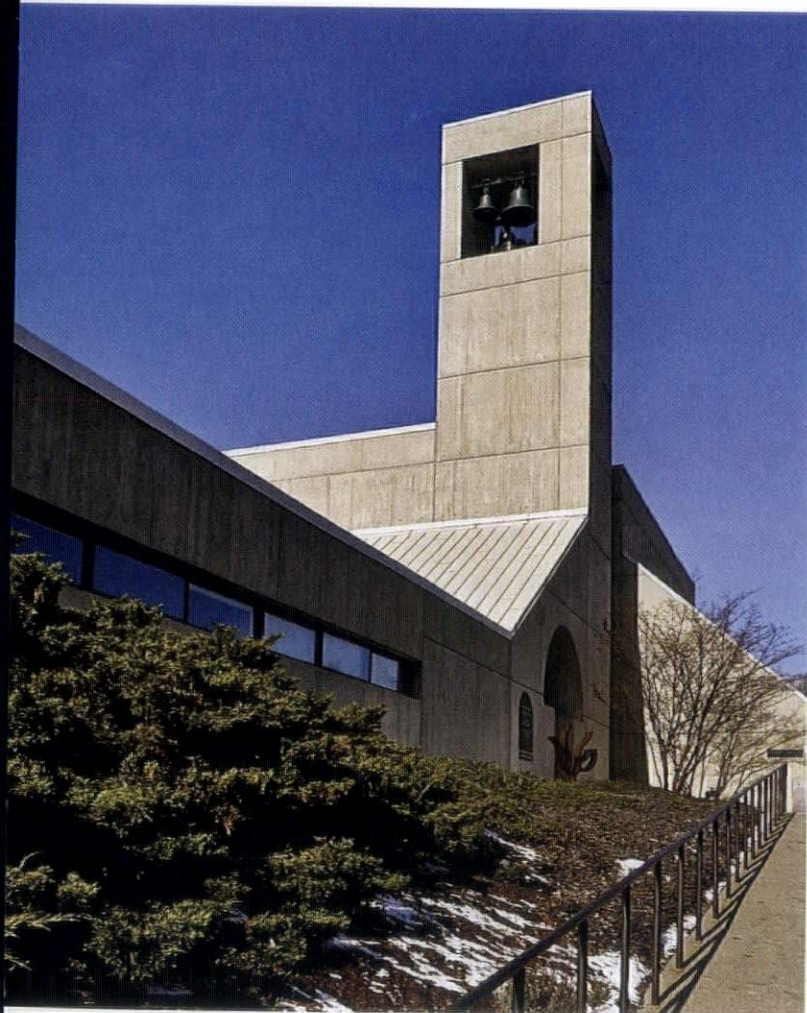
St. Paul's, Burlington, Vermont

The Cathedral Church of St. Paul is an unsung landmark. Overlooking Lake Champlain, this restrained and handsome example of Brutalism serves Vermont Episcopalians and is the seat of their bishop.

Burlington architects Thomas Cullins and William Henderson won an international competition in 1971 to replace the original 1832 church, an early Gothic Revival work by Ammi B. Young of Boston Customs House fame. The campanile and elegantly crafted concrete of the new St. Paul's echo ecclesiastical works by Marcel Breuer and Alvar Aalto. Yet inspiration for the cathedral arguably was Louis Kahn's First Unitarian Church in Rochester, New York, a decade earlier.

A square plan and movable chairs accommodate flexible worship as well as concerts. White oak furniture, ceiling coffers, and slate floors provide understated presence, while nails salvaged from the burned predecessor form the altar cross. The solid chancel wall blocks out the picture-window view, allowing only oblique glimpses of the lake and mountains. But it is light—admitted through skylights and clerestories—that graces the vessel of spirituality.

WILLIAM MORGAN, a Providence-based architectural writer and photographer, is the author of *American Country Churches*.

**PHOTOS**

Exterior and interior views of the Cathedral Church of St. Paul in Burlington, Vermont, by Burlington Associates, 1973. Photos: William Morgan

5 QUESTIONS

Michael Creasey

As general superintendent of the National Parks of Boston, Michael Creasey oversees the collaborative that includes Boston National Historical Park (all the sites along the Freedom Trail), Boston African American National Historic Site (north slope of Beacon Hill onwards), and the Boston Harbor Islands National Recreation Area. He led the creation of the Urban Agenda, a strategy to make the National Park Service relevant to all Americans, and sees himself not as a land manager but as an arbiter of ideas and ideals.



How can parks in Boston, with its constellation of properties, remain relevant to the lives of residents—that is, how are you staking claim to the city of Boston?

The National Park Service brand is strong as it relates to what people imagine to be national parks. They think of Yosemite, Grand Canyon, Yellowstone—scenic wonders of the West. But more than 30 percent of national parks are in urban areas. Changing the perception of the NPS is the opportunity for us in Boston—to recognize that it's the way to talk about national heritage. It's tied to the theme of revolution; what took place along the Freedom Trail was the momentum that led us to Philadelphia. And the African Meeting House story line is the story of social revolution. This was the foundation of the civil rights movement like no other place. Then, the harbor islands: one of the most polluted harbors in America became clean and worthy of being a national park because of an environmental revolution. I look at it under the banner of revolution and our ability to bring people to these places to talk about revolution from a historical perspective. We have platforms to present larger concepts within these landscapes, both historically and contemporarily.

How do we deal with historic properties in relation to issues we're grappling with today, such as sea-level rise and climate change?

When the Historic Preservation Act was created in 1966, it was a movement that put the National Register together and an overarching recognition that these architectural spaces were important; no longer were we going to demolish

neighborhoods without being thoughtful. We need to broaden our perspective on how we look at properties and how things like acid rain, sea-level rise, and alternative energy affect our structures. Many preservationists are already engaging in thoughtful debate about how we can balance historic preservation with climate change. It's not an easy answer: There are places you wouldn't want to see with solar panels or wind turbines.

In terms of equity, there are stories to be told about our past; how would you make those stories inform our future?

To the new immigrant coming from Syria or from Africa or Asia, what relevance do some of our historic neighborhoods and the Freedom Trail have to them? We have to make sure we are meaningful to all people and provide a way for them to see themselves in these stories. The Park Service's challenge is that constituents are primarily white and have the income to support national parks. Part of the Urban Agenda is how we make these sites relevant to everyone and find a new way of doing business.

Rather than just serve as wardens of landmarks that fifth graders visit once and then forget about, how does the Parks Service integrate historic sites into the everyday conversation of citizens?

The future of these places depends on becoming relevant to coming generations. Look at the demographics of our country: 80 percent of the population lives in urban areas. How do we make the parks pertinent within the cities people live in and make sure that we have stewards who are prepared to take care of these urban constituents and willing to tell

their new stories? One of the things that I feel has great promise is we have started the National Parks of Boston education collaborative to reach deep into the public school system to bring young people to the parks. We are working with the educators from all the historic sites to codesign curriculum that is place-based, a dynamic curriculum to engage students. To build a robust education program, we are working to bring voice to places that are significant and presenting these stories through the arts—from showcasing the Old State House for the story of the early makings of the revolution to bringing forth untold stories like how African Americans played a role in the Boston Massacre and were very much a part of the American Revolution. We need to make sure the audiences we are trying to reach are more diverse than what we gain through our standard marketing approach.

What do you love about Boston?

To be able to take the pulpit at the African Meeting House and speak at the same place where Frederick Douglass spoke is a moving feeling. To stand at Faneuil Hall—cradle of liberty—and speak at the Middle Passage ceremony, which is all about reconciliation for what this country received [from the enslaved people transported to the Americas and their descendants, who helped shape the city]. Being one of the few white people to speak was a tremendous opportunity. I live a splendid life because I work for an agency that is the holder of the American narrative.

Interviewed by **FIONA LUIS**.

The Well-Tempered City

What Modern Science, Ancient Civilizations, and Human Nature Teach Us About the Future of Urban Life

Harvard T.H. Chan School of Public Health
December 5, 2016

How do you describe the soul of a city?

For Jonathan Rose, author of *The Well-Tempered City*, the musical analogy that stirs his reading of great cities through the arc of civilization is Bach's *Well-Tempered Clavier*, which allows harmony between keys, not just within them. This complexity holds space for the essential soul, or principle, of the composition.

At a discussion moderated by Jack Spengler, a Harvard Department of Environmental Health professor, Rose was joined by Rebecca Henderson of Harvard Business School and NPR's *Living on Earth* host Steve Curwood. Rose laid out the qualities of a well-tempered city but posited that we lack the will to make equitable cities. Such a city has qualities we want for our inner selves: cognition, cooperation, culture, calories, connectivity, commerce, control, complexity, and concentration. If these operate in harmony, society achieves its highest purpose of taking care of its people. The ancient city of Uruk, in Mesopotamia, exemplified the integration of the "nine C's" and created a precedent that allowed art, culture, music, and literature to flourish. When these elements are out of balance—in the case of extreme income inequality, resource consumption, greed, or lack of purpose—the needs of citizens are no longer amply met.

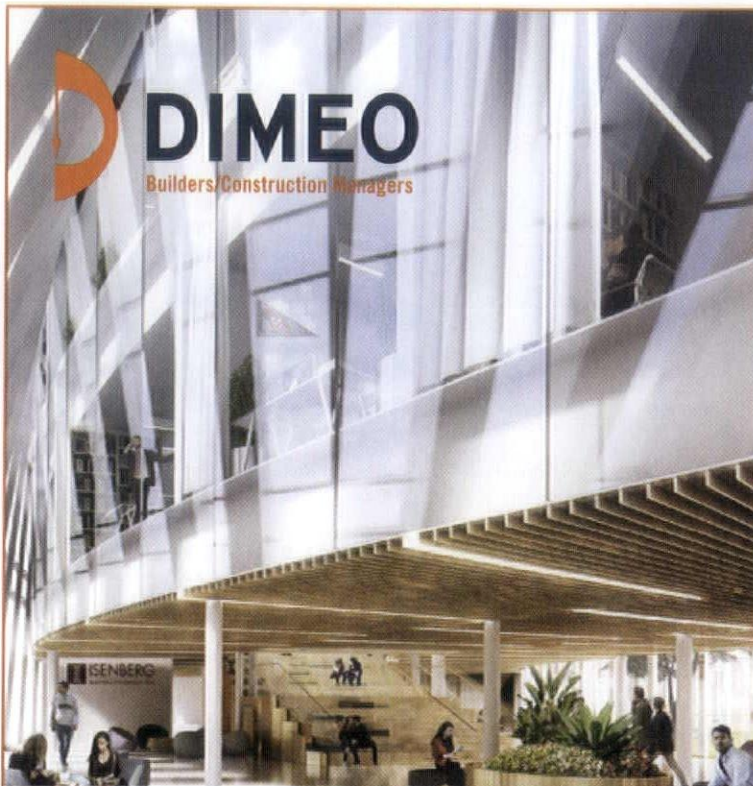
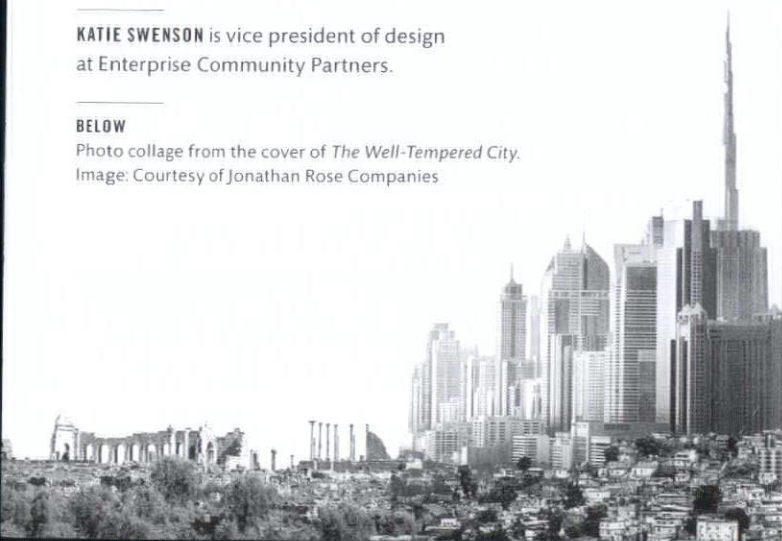
Curwood suggested that our problem is "not technological or financial" but agreed that we lack the will. If we assume there is enough money to house everyone, enough schools to educate everyone, and enough food to feed everyone, why are we excluding some from being housed, educated, and nourished?

Where do our cities fall—or rise—in the scheme of the nation's future? Can our cities be the kind of places where we aspire to create well-being for all citizens? Rose suggested that yes, we have the means to make this vision a reality, but what we lack is trust. Investing in a shared sense of purpose—"we-ness," in his words—will allow us to develop the types of compassionate cities we crave.

KATIE SWENSON is vice president of design at Enterprise Community Partners.

BELOW


Photo collage from the cover of *The Well-Tempered City*.
Image: Courtesy of Jonathan Rose Companies



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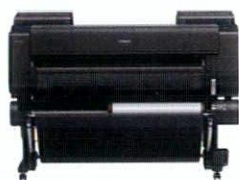


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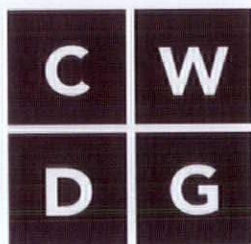
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EUREKA!

SPRING 2017

A sense of discovery—that moment when everything clicks—is one of the great satisfactions of the design process. In the following pages we survey the serendipity of design: the unexpected solutions, turning points in practice, and new ways of thinking that are always just around the next corner.

Apparatus, Caleb Charland, 2014. From *Fathom and Fray*, a photo series that explores the laws of physics. Image: Courtesy of the artist

→ 1. Improve Yourself.

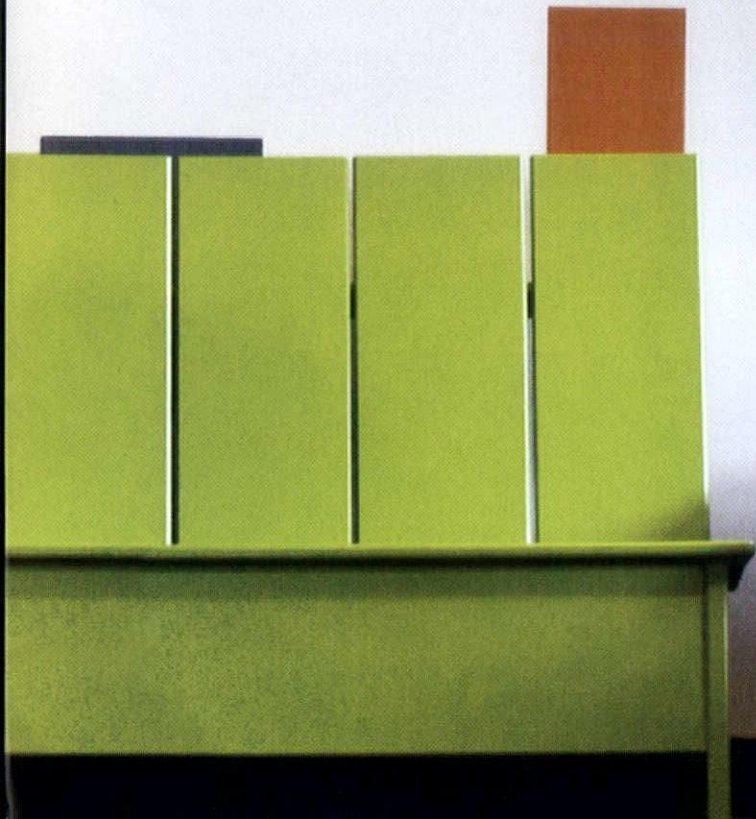
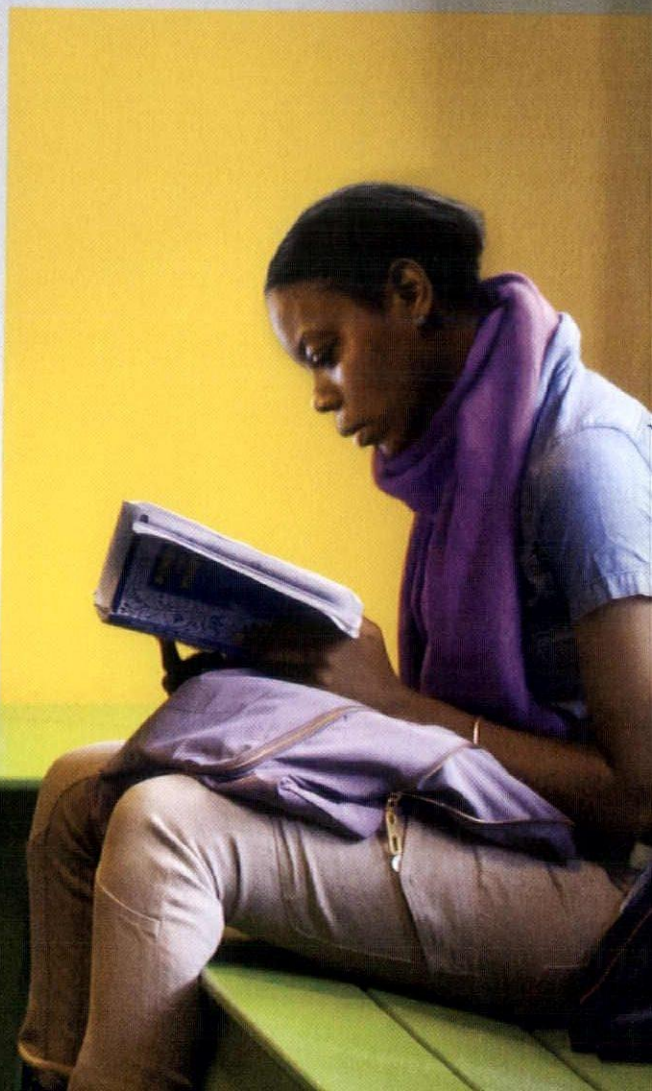
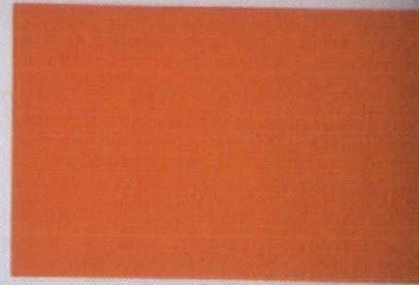
2. change the world.

Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness that most frightens us. We ask ourselves, Who am I to be brilliant, gorgeous, talented, fabulous? Actually, who are you not to be? ... Fear playing small does not serve the world. There is nothing enlightened about shrinking so that other people won't feel insecure around you. We were all meant to shine, as children do. It's not just in some of us; it's in everyone. And as we let our own light shine, we unconsciously give other people permission to do the same. As we're liberated from our own fear, our presence automatically liberates others.

Nuestro miedo más profundo no es el de ser inadecuados. Nuestro miedo más profundo es el de ser poderosos más allá de toda medida. Lo que más nos asusta es nuestra luz, no nuestra oscuridad. Nos preguntamos: ¿Quién soy yo para ser una persona brillante, hermosa, talentosa, extraordinaria? En realidad, ¿quién eres tú para no serlo?... Tu pequeñez no le sirve al mundo. No es inteligente ser menos para que otra gente no se sienta insegura a tu alrededor. Nacimos para brillar, como lo hacen los niños. No solo algunos pueden brillar; todos podemos. A medida que encontramos nuestra luz, inconscientemente les permitimos a los demás brillar. Cuando nos liberamos de nuestros propios miedos, nuestra presencia automáticamente libera a los demás.

Start HERE.

Start small



TONICS AND PROVOCATIONS

Over the past several years, Cooper Hewitt, Smithsonian Design Museum curator Cynthia E. Smith canvassed the country, logging more than 50,000 miles in a search for design solutions to society's most intractable ills. The result was *By the People: Designing a Better America*, the third in a series of exhibitions at the Cooper Hewitt that celebrate the problem-solving capacity of design.

by Cynthia E. Smith

When I begin my research for an exhibition, I start with a thesis. For *By the People* I was exploring the intersection of poverty, prosperity, innovation, and design. That necessarily kept the inquiry open, which is appropriate because the challenges the American people face are often complex and systemic, and many require reckoning with a history of injustice. At its best, design improves people's lives and benefits

→ the communities where they live and work, but it was unclear as I began my research how many innovative and responsive designs I would find.

In fact, I returned with close to 300 different possible collaborative design projects, products, and proposals. Some are simple and elegant in their design response, embodying the spirit of the citizen designer, while others are multilayered strategies formed over time by many stakeholders. What they have in common is a drive to create more inclusive, healthy, and just places.

Designers provide vision, often combining disparate ideas, gleaming new possibilities for seemingly intractable challenges.

Whether the concern is persistent poverty, homelessness, mounting climate challenges, unequal education, or a fraying civic life, design can act as a catalyst for change. Experimental human-powered vehicles that challenge the US transportation system, an innovative permanent housing approach that converts one community's attitude toward its homeless population, or a landscape architect's urban design for a shrinking postindustrial city that catalyzes economic, social, and environmental transformation—these are designs that challenge the status quo and ignite hope.

Architects, designers, and planners are well positioned to engage complex systemic problems and can often help expose underlying inequalities. Because social problems grow from an interlocking web of conditions, working across disciplines—an ethic established early on in design school—is important in helping break through silos in pursuit of alternative approaches.

Often the responses are multidimensional, bringing together different disciplines to rethink entire systems. One example from *By the People* is a complete redesign for the delivery of post-natural disaster housing. In Texas' Lower Rio Grande Valley, typical federal disaster relief has left hundreds of low-income families living in substandard conditions for years after hurricanes devastate their neighborhoods. Determined to foster the social, physical, and economic resilience of the communities while restoring their homes, a team of architects, policymakers, housing advocates, community developers, and organizers collaborated with residents to develop the RAPIDO Rapid Recovery Housing program. The new model helps vulnerable families navigate the disaster-relief process, delivering higher-quality housing while avoiding displacement and keeping social ties intact.

Designers provide vision, often combining disparate ideas, gleaming new possibilities for seemingly intractable →

PREVIOUS SPREAD

New York City Department of Probation Waiting Room, with colorful wall patterns and "faux real" inspirational posters. Architect: Biber Architects. Photo: © David Sundberg/Esto

RIGHT

Orbit, an electric vehicle designed by THE FUTURE PEOPLE, Michigan, 2012. Made of aluminum, steel, electric motor and controller, battery, and bicycle parts. Photo: © THE FUTURE PEOPLE

FAR RIGHT

SuperUse Pavilion, a public-event structure made from a fueling-station canopy, with a green roof that absorbs carbon dioxide and filters rainwater, designed by Hans Herrmann and Cory Gallo, with architecture and landscape architecture students, for the Oktibbeha County Heritage Museum in Starkville, Mississippi. Photo: Megan Bean/© Mississippi State University







→ challenges. They are directly engaging communities, listening, valuing, and incorporating local expertise. Many call for emphasizing process over outcome as a way to build local capacity, from hiring area youth as part of the design team to creating neighborhood design residencies.

Too many American communities—in former industrial cities, on native lands, in older first-ring suburbs, and in small rural towns—have been abandoned by a culture of disinvestment. Designers, architects, landscape architects, students,

artists, historians, and entire communities are describing new ways to navigate the legacy of neglect that public and private policies have wrought. Communities are learning to recognize and value existing assets in both the natural and built environments that have long been overlooked. This might mean recycling or retrofitting blighted properties and abandoned infrastructure to stitch neighborhoods back together. In Mississippi, for example, an abandoned service station canopy was converted into a public-event structure with reclaimed materials that support a vibrant green roof, teaching architecture students, residents, and area tradespeople alike to see opportunity in what is discarded or undervalued.

The notion of design addressing critical social issues is not new. The current movement has its roots in the 1960s and '70s, such as when the International Council of Industrial Designers joined with UNESCO in 1963 to use design on several international development projects for the “betterment of the human condition.” In 1964, C. Richard Hatch founded the Architects’ Renewal Committee of Harlem (ARCH), one of the nation’s first community design centers, which helped low-income residents influence planning in their own neighborhoods. More broadly, in 1973, the British economist E.F. Schumacher wrote *Small Is Beautiful: Economics as if People Mattered*, the influential text that introduced “appropriate technology,” an approach to manufacturing locally using area resources. These and other developments wove

ABOVE

Cross-Border Community Station rendering, demonstrating environmental, social, and cultural dynamics, by Estudio Teddy Cruz + Forman and UCSD Cross-Border Initiative, 2015. Photo: Estudio Teddy Cruz + Forman (Rene Jaime Torrero)

BELOW

Crest Apartments, a sustainable 64-apartment complex for formerly homeless veterans, by Michael Maltzan Architecture with landscape by SWA Group, in Van Nuys, California, for Skid Row Housing Trust, 2016. Image: © Michael Maltzan Architecture, Inc.



their way into a range of socially responsible design strategies over the decades.

Today the field of socially engaged design continues to expand, perhaps due to increased global connections. In 2000, the United Nations' Millennium Development Goals focused the world's efforts on ending poverty, combined with improved communications and new technologies, to spark innovative approaches addressing vexing issues both locally and internationally. Global environmental challenges and increasing income inequality have added a new sense of urgency. Communities are exploring alternative social and economic systems, often not waiting for outside help but

creating local infrastructure that support more inclusive, equitable, and sustainable places. Design gives form to ideas. Right now, it is more critical than ever that what we value as a society is expressed in what we create.

Despite—or perhaps because of—looming new challenges, I remain cautiously optimistic about the future. The next generation of designers and architects is focusing on social justice as never before. The collaboration of today's young designers with communities and the solutions they imagine together are a tonic for uncertain times. Not deterred by barriers, they understand the urgency for advocating, designing, and building a more just and equitable world. ■



IMAGES

RAPIDO Rapid Recovery Housing, a Texas program that enables faster replacement housing for victims of natural disasters, designed by bcWorkshop's Omar Hakeem AIA, Elaine Morales-Diaz, Lisa Neergaard, Jesse Miller, Brent Brown AIA. It deploys a 400-square-foot core unit after a disaster, then architects and contractors customize the structures to meet each family's needs in as few as 90 days, at half the typical cost. Images: Courtesy of bcWorkshop

RESEARCH

TOWARD AN IDEAL

by Justin Crane AIA

The divide between architecture school and practice is well known. Coursework typically focuses on original thinking and creatively presented concept designs; the real world rewards a well-functioning building delivered on time and under budget. Unlike high-tech or the life sciences, our country's notoriously conservative building industry rarely allows for implementation of exciting research. Yet as Karsten Harries writes in *The Ethical Function of Architecture*, "Architecture has an ethical function in that it calls us out of the everyday It beckons us toward a better life, a bit closer to the ideal." Creating that better life feels slow going when we can't easily incorporate new research into what we build.

The most diligent studies in the construction industry, including invaluable experimentation on energy-efficient systems and assemblies, have been at engineering societies and Department of Energy national labs. But how can we seamlessly integrate this into the profession as opposed to simply responding to its results? Ultimately, all the research carried out within schools or labs is advantageous only if it is understandable to those in practice and beneficial to a broad audience. This requires our rigorous research to be available to those architects with access to clients and builders.

In response to this divide, firms are exploring ways to make research part of their office practice. For example, Katherine Darnstadt AIA of Latent Design spends an atypical amount of time analyzing clients' needs. This allows her to better understand relevant socioeconomic issues and expand the value of architectural practice by providing services that range from grant writing and developing STEM (science, technology, engineering, and math) curricula to programming and, finally, building design. Payette has a paid research director who spends half of her billable time on formal research, allowing the firm to confirm manufacturers' claims and make more knowledgeable choices of materials and systems. An instance of this is its comparative study of triple glazing and double glazing with room-side low-e coatings in order to build a "glazing and winter comfort tool." Gensler, a giant in the profession, has a staff of five researchers and a firm-wide RFP process through which approximately 30 employee-led teams complete studies every year.

Is the profession as a whole benefiting from the firms that have committed to research? These offices often share results on their websites or, in select cases, via annual publications. Yet it remains difficult for practitioners to sort through information coming from multiple sources and completed to varying levels of rigor.

Two recent initiatives are catalysts for the weaving of exacting research into practice. The first is a partnership between the AIA and the National Institute of Building Sciences to create the Building Research Information Knowledgebase, aka BRIK. This clearinghouse of architectural research, launched in 2013, harbors publications created through partners with rigorous review processes, ranging from private practices such as Perkins + Will to nonprofits like the International Academy for Design & Health. The goal of BRIK is to make research transparent and accessible; it also focuses on research that can be directly applied to professional work—from techniques for creating resilient architecture to best practices for coatings on historic buildings—with topics organized broadly into design, economics, and practice.

The second initiative is the design profession finally taking advantage of techniques pioneered in other industries. In 2016, MIT's School of Architecture and Planning started an accelerator, called DesignX, that will speed the growth of start-ups—strengthening the connection between academic research and viable design businesses or nonprofits. DesignX selected its first class in December, supporting proposals ranging from

DRY TOWNS

Perhaps you've heard of gun buyback programs, whereby local police departments pay for surrendered firearms, no questions asked? Now drought-stricken California towns are offering **lawn buybacks** to encourage water conservation. Residents can get \$2 for each square foot of water-wasting lawn they surrender—and discover the beauty of native drought-tolerant plants.



WHEN WALLS GET IN THE WAY

by Carl Solander AIA

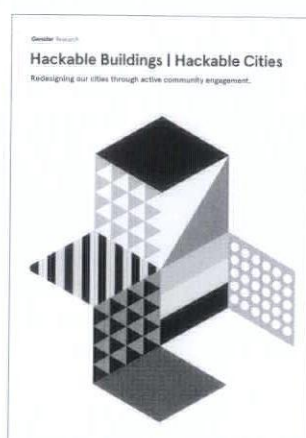
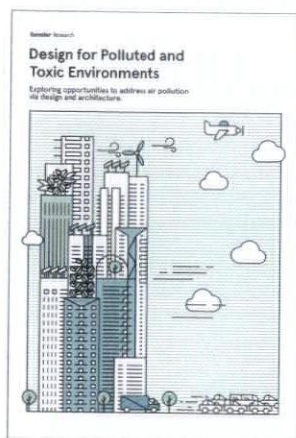
By the time I arrived at MIT to study architecture, Building 20 was already a much-eulogized place of legend. It was often referenced in studios as a place where the occupants could reshape space according to their needs, a place of innovation where the building served as a catalyst for collaboration and experimentation. This was considered desirable, even radical,

The reality of Building 20 is that it was poorly constructed, a generic space built quickly in 1943 to house research facilities for weapons and defense systems.

for budding architects: a place where the walls are not fixed, a place that breathes with dynamism, a building conceived not as composition but as infrastructure for events and interactions. The reality of Building 20 is that it was poorly constructed, a generic space built quickly in 1943 to house research facilities for weapons and defense systems—essentially a warren of rooms off of corridors with exposed piping and conduit. It lacked the preciousness that would cause one to hesitate before bashing holes through the walls. When my structures class toured the site during the construction of Frank Gehry FAIA's Stata Center, which replaced Building 20, we marveled at the massive concrete transfer beams, hanging columns, and other structural acrobatics. This had been designed as a highly specific space where the needs of the occupants had been studied, categorized, and then fit into a master scheme; where the spectacle of architecture would be the organizing principle; and where the occupants would be part of the spectacle. Visiting the occupied building a few years later, I found it hard to imagine the architecture adapting easily to needs that may not have been considered.

Is contemporary institutional architecture, which often revels in spectacle and refinement, able to provide the catalytic influence so celebrated at Building 20? Or were the scientific breakthroughs achieved at Building 20 simply a result of a time of particular innovation?

I recently visited the Novartis buildings in Cambridge with a scientist friend who conducts research there. Walking the halls of the newest additions to the campus, designed by Toshiko Mori FAIA and Maya Lin, I could see ideas that had bounced about in my MIT architecture studios finding →



virtual reality technology that enhances communication between project teams to sensors that monitor human behavior and may assist firms with postoccupancy studies. The curriculum of the accelerator program includes several criteria, two of which are typical for start-ups: user-friendliness and the ability to handle the complexity inherent in the design process. A third criteria stands out, however, for its idealism: a commitment to social justice and mindfulness of the diverse society in which we work.

The original thinking that comes from academia and rigorous research is necessary to create “a better life, a bit closer to the ideal”—and one that is not circumscribed by the constraints of time and profit. Yet this research will be effective only if it is implemented in the real world multiple times and at a large scale. Architectural practitioners and researchers need one another. The more opportunities there are for sharing ideas, the more likely we are to influence not only the lives of well-heeled clients but also the lives of all those who inhabit the world we build. ■

JUSTIN CRANE AIA is an associate at Cambridge Seven Associates.

LEFT

A sphere from folded circles, by Learning Beautiful, an education start-up chosen for the first class of DesignX, a new MIT accelerator. Image: Courtesy of Learning Beautiful

ABOVE

Covers from Gensler's research reports

→ expression. Hallways are wide and populated by niches and nooks; intimate glassed-in rooms allow for private phone calls or small conferences; tables and kitchens provide space for coffee breaks, chance meetings, or larger informal gatherings. The monumental stair that projects from the façade of the Mori building connects many of these informal spaces and provides balconies for contemplation with a view of the courtyard designed by Michael Van Valkenburgh FASLA. An elegant and dramatic atrium off of the main entrance offers a private agora for the Novartis polis.

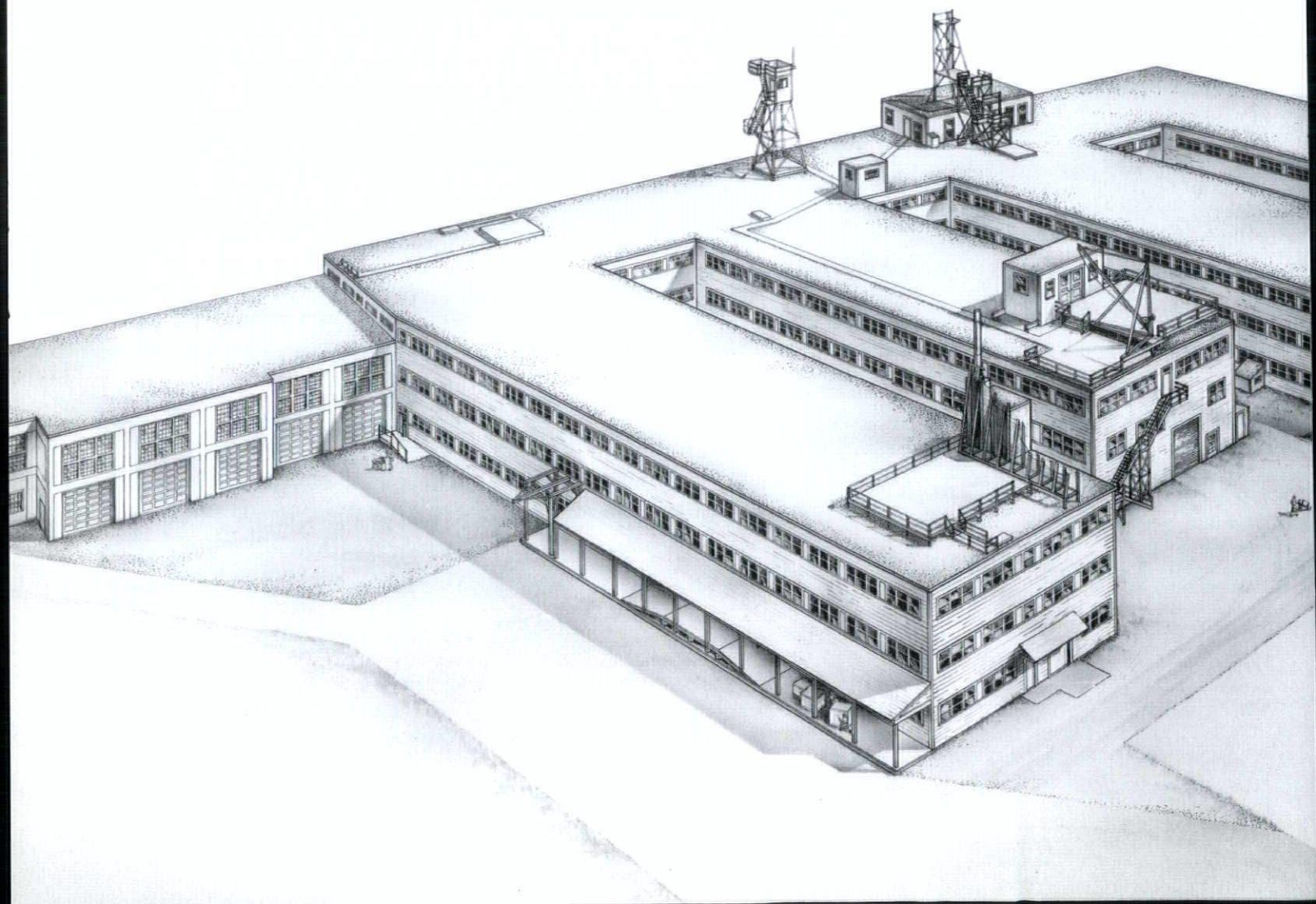
The design seems to have developed from a notion of urban space, with public ways for chance encounters flanked by more intimate spaces with varying levels of privacy. Yet my scientist friend emphasizes the importance of the lab space. His desk, like most, is 4 feet long and sits in a big open work space with dozens of other desks organized in neat rows. Lab benches and standing desks that are shared within this space are the places where experimentation and collaboration occurs for him.

Would this utilitarian setup—modular, secure, and circumscribed—in another building generate the same discoveries as the scientists at Novartis hope for? Is it the responsibility of architecture to project a sense of creative inquiry? Whether the spaces provided for spontaneous

meetings function as intended may be immaterial, as long as they embody the institution's desire to foster innovation. Maybe ideas hatched in these corridors would not have taken shape in a more constrained and uncomfortable space, ideas that then inform discoveries made in the lab.

My friend talked about his collaboration with a scientist at Harvard Medical School, exploring ways to use a technology developed by one to research the biological systems studied by the other. This collaboration, sanctioned by both organizations, is something that hatched through a chance meeting at a local conference and was incubated in local pubs. Perhaps more so than the buildings that provide a place for research, the dense community of scientists in Cambridge and Boston is crucial to collaborations that can lead to scientific discovery. In that light, the interiorized urbanity of the Novartis buildings is appropriate. A privatized extension of the city, where invited collaborators can come to be among peers, they provide semiprivate spaces for casual interaction and private spaces for serious work. Knocking down walls is probably not necessary; multimillion-dollar pieces of equipment are. The funny thing about Building 20 is that the architecture was actually in the way. ■

CARL SOLANDER AIA is a principal at Reverse Architecture.



BELOW

Drawing of Building 20
from the MIT Museum
collection. Image:
Courtesy MIT Museum

DIVERSITY

OPEN A NEW WINDOW



by Kordae Henry and Rose Florian

Think back to a moment in time that changed the way you perceived the world. A single moment may not come to mind. Instead, a combination of elements is what more likely makes up that moment.

Henry: I remember leaving the studio at 3:00 AM after preparing for a design review. Riding my bike across the South Street bridge, I was met with red and blue flashing lights, hit by a police officer in his issued truck, and viciously laid out onto the ground. Next thing I knew there was a pistol pointed in my direction.

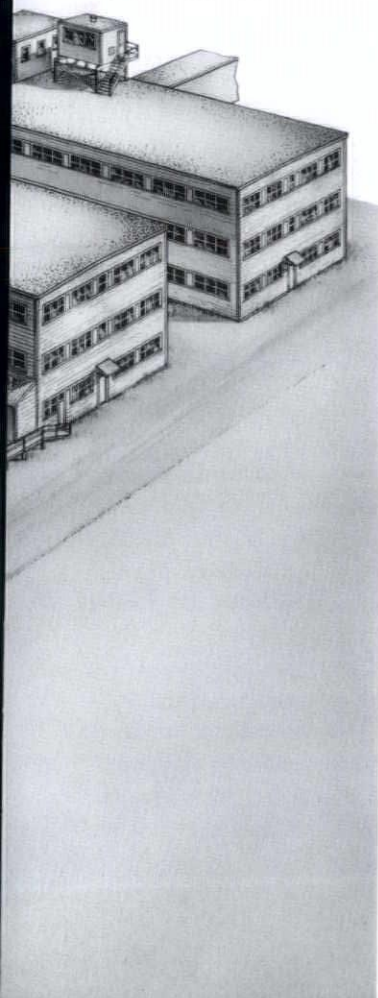
Florian: Growing up in a Dominican household, I was told to act a certain way, do my hair a certain way, and speak a certain way. It was all to hide our blackness while embracing white culture. At some point during graduate school, I realized I was imitating the idea of someone. I didn't even know what being me meant.

For us, the experiences that led to those moments laid the groundwork for the digital exhibition *Just Not The Same*. We created a series of architecture cutouts—an entourage for renderings—specifically highlighting people of color, human beings with skin complexions between that of the night and a shimmering

penny. The exhibition is science, psychology, architecture, and art all wrapped into a digital conversation.

Our purpose is to increase our sensory reach, break down social structures through art, and allow for a window into new worlds—to help us all see things differently. When architects take on projects, each one requires a sensitivity to space and narrative. We should always want to broaden our definition of the practice.

Traditions restrict innovation in our profession. We believe we are now at a tipping point, where architecture not only seeks an aesthetic value but also strives for equity. With *Just Not The Same*, Latinos and African Americans can have a place in architectural history. We made these cutouts as an effort to focus on the role of architects as narrators. How do we imagine the future, and who occupies its domain? When we speak of equality, what factors are in play? We strive to dissolve the constructs of the 18th-century Three-Fifths Compromise, which is still prevalent today and in too many cases continues to affect the thinking of architects. With *Just Not The Same*—free digital cutouts of people of color that students and architectural firms can place in their imagery—we →



→ see new opportunities for the profession to become more inclusive and sensitive toward a collective design process.

Designing a building requires the study of the practice and ourselves. We can give new meaning to our intentions by understanding that what we create and how it is executed has an impact. A digital exhibition and catalog invites us to approach architecture in an intrinsic way to achieve better ways to tell stories.

Just Not The Same is not just a response to the underrepresented ethnicities displayed on architectural cutout websites; it is also a way to empower individuals. When giving designers a new architectural tool, we open opportunities for change. By using the cutouts, we invite participation in a written and visual narrative that we hope will evoke systemic change in the way we speak to the world, where we no longer use the word "them" but change the narrative to "us." ■

KORDAE HENRY, a design associate at MASS Design Group, and **ROSE FLORIAN**, an architecture and urban design student, are the creative directors of *Just Not The Same*.

IMAGES

Figures from *Just Not The Same*, a database featuring scale figures of color, provided as a way for the design world to acknowledge underrepresented communities. Images: Courtesy *Just Not The Same*

TRANSPARENCY

WE CAN MOVE MARKETS

by Russell Perry FAIA

The more you probe the design process, the more you discover that, though architects and designers have access to a lot of information on the building products they select, they generally know little about the constituent chemistry of these materials. With food or personal care products, by contrast, detailed ingredient disclosure is common, likely influencing consumers' purchasing decisions. These disclosures over the past several decades have changed buying patterns and created major market segments. While some shoppers blissfully load their cart with peanut butter containing 25 ingredients, others make the informed choice of a product made from just two: peanuts and salt. Both products are perfectly legal, but consumers can at least make a choice based on useful information.

Happily, we have been steadily moving into a building-product economy where designers will have this kind of information and will be able to add it into the complex calculus that is product selection. We can see examples in the industry where shining a bright light on problematic, even hazardous, substances has led the market to change in favor of greener chemistry.

Look at the now-historic example of formaldehyde in insulation. In June 2001, the newly published LEED version 2 flagged urea-formaldehyde in composite wood and Agrifiber products as a substance of concern. Interestingly, this was the first substance specifically identified within LEED for a phaseout related to installer and occupant health. It led to designers and specifiers paying more attention to formaldehyde in its many uses in building products. In 2003, the Green Guide for Health Care introduced a credit for the use of formaldehyde-free insulation products. By 2007, when the Living Building Challenge Red List targeted added formaldehyde in all building products, many designers and specifiers were already searching for alternative products free of this known human toxicant. By 2013, the early drafts of LEED version 4 began to address a wider range of formaldehyde avoidance, specifically related to insulation.

The response from the market was swift. In 2015, when the Healthy Building Network surveyed formaldehyde releases from domestic residential insulation factories, they saw a precipitous decline in releases by 90 percent between 2005 and 2014. In the absence of state or federal regulation, the correspondence of toxicants being designed out of building products with designers taking interest in avoiding specific hazardous substances represents a virtuous cycle that can be accelerated through material ingredient disclosure.

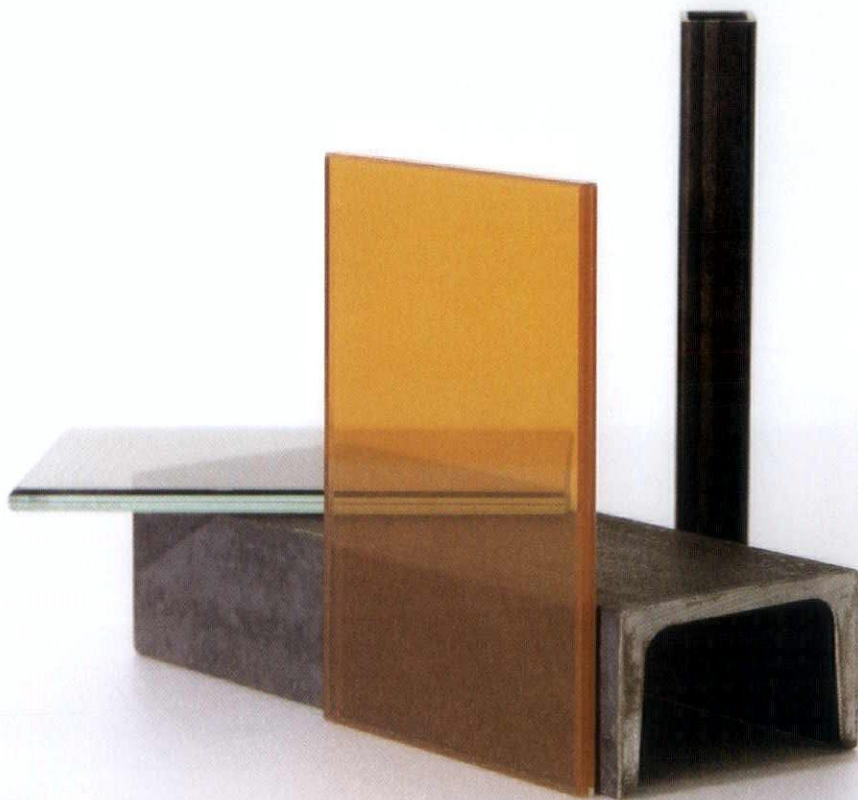
The cycle of product chemistry improvement runs through several specific steps: inventory (what's in it?), screening (what hazards are associated with those ingredients?), assessment (where are the greatest opportunities for improvement?), and optimization (how do we develop better products for the market?). Of these steps, designers are most interested in information associated with inventory and screening. This is where the Health Product Declaration (HPD) comes in. Developed in 2011 as an open standard, HPD provides a format for manufacturers to communicate a product's chemical constituents and associated hazards. While designers can use this information to shun certain hazards—such as formaldehyde—these disclosures, more important, provide an impetus for manufacturers to reformulate their products in light of public disclosure by competitors using cleaner chemistry.

All of us can remember specific health hazards being designed out of our lives through consumer action—individual shoppers making choices one at a time: nitrites in processed

meats, trans fat in prepared foods, volatile organic compounds in paint, phthalates in children's toys, or bisphenol A (BPA) in water bottles. Informed designers armed with disclosure documentation can provoke the same kinds of reforms to building products, leading to the day when we can easily design a building free of phthalates, halogenated flame retardants, BPA, or formaldehyde, to name a few of the most notorious. That day will come when the power of transparency definitively alters the building materials market.

A fundamental difference between this transition and those under way in other parts of the economy is one of our leverage as designers and specifiers. In a \$10 million project, we may be specifying \$6 million worth of building materials, perhaps more. Our reach is significant. By insisting on the universal use of HPDs and other disclosure tools, we can change the industry where we have the most impact. ■

RUSSELL PERRY FAIA was director of sustainable design for SmithGroupJJR from 2005 to 2016.



ABOVE
An Investigation in Materials from *Perpetual Motion*, an installation by Studio Dessuant Bone for the Biennale Interieur 2016, Kortrijk, Belgium. Photo: Courtesy of Studio Dessuant Bone



FOR THE BIRDS

According to the American Bird Conservancy, 980 million birds are killed every year in collisions with tall glass buildings. New York-based Ennead Architects is working with conservation groups to research what glass treatments and lighting conditions birds will avoid. Now they've joined with the US Green Building Council to develop a LEED credit for incorporating "bird collision deterrence" into building design. It's something to sing about.

EMOTION

WHAT THE HEART SEES

by Coco Raynes

As designers, we have all experienced the delicious moment when nothing can be added nor deleted, when the design has reached its final form—the “I’ve got it!” feeling. It can be the perfect spacing in typography, the utmost simplicity of a logo, or the harmony of an architectural space. It is done, there is no return, it is looking at you. And we are delighted.

The attempt to reach perfection is what designers would like to do daily, if not for the mundane but necessary administration attached to each project. And when we come close to achieving it, we feel exhilarated because we strive to excel, regardless of the project scale. Perfection, when encountered, can trigger very strong emotions.

I still remember entering the Cathedral of Chartres, France, for the first time. Following the tradition of the annual Catholic student pilgrimage, which goes back to ancient times, I had walked the nearly 50 miles from Paris. As I am from another faith, I had primarily gone for the promenade with my pals from the ENSAD—the École Nationale Supérieure des Arts Décoratifs. Quite a promenade, indeed! A walk of two and a half days, with the spring heat and the accompanying blisters.

As I entered the majestic Gothic nave, my eyes raised along the ribbed vaults to the 120-foot arcs, I discovered the soft light coming through the intricate stained-glass windows, warming the chiseled stone work. I was in awe, covered with goose bumps.



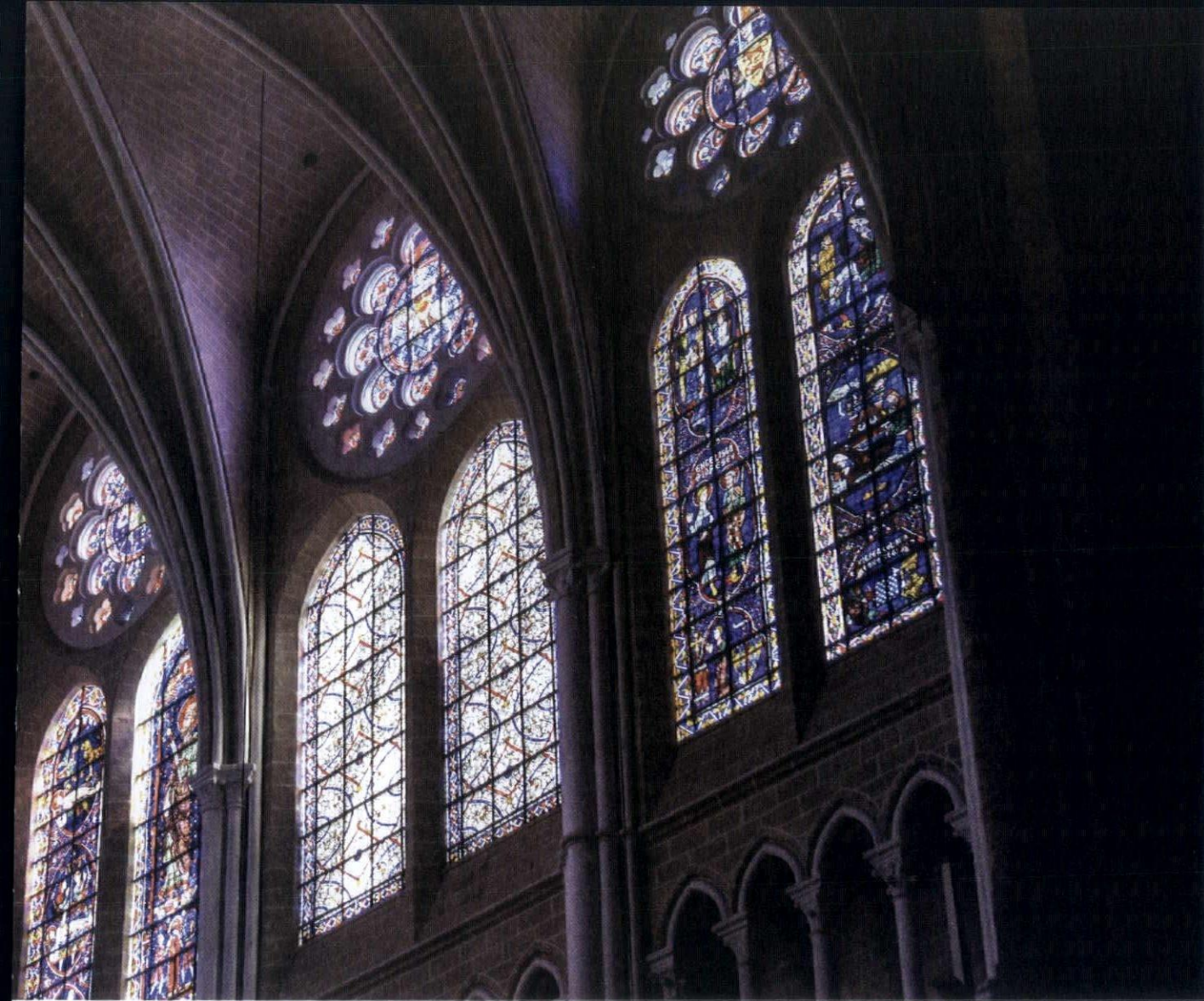
I had been touched and overwhelmed by the harmony and architectural beauty of the cathedral. I was witnessing perfection.

I was surprised by my intense physical reaction: The nature of my shivering was nonreligious; the cool temperature of the nave was certainly welcomed after the march in the afternoon heat but not cold enough for shivering. I had been touched and overwhelmed by the harmony and architectural beauty of the cathedral. I was witnessing perfection.

The confrontation with this architectural tour de force was heightened by the underlining of its legends and secrets: the esoteric beliefs from a sacred druidical temple on which the present cathedral rests, the sacred geometry, the legend of the Templars, the luminescent enigma of the stained glass, which has been lost and never duplicated.

This colossal work had been accomplished in a mere 26 years (1194–1220) with the rudimentary construction equipment of the time, to glorify eternity and the power of the Church. I had experienced exactly the purpose of this cathedral: to intimidate by making you feel insignificant!

Yes, architectural spaces around us trigger different emotions. It can be feeling claustrophobic in the dark subway of New York City or almost nostalgic in a grand hotel lobby—the Plaza maybe—



where the decor and armchairs look so comforting that you want to sit down for tea and conversation, the old-fashioned way. A well-designed hospital lobby can make you feel secure: It conveys efficiency. Bank lobbies are stern and expected to be: Your money—or no money—is a serious matter.

Or you might feel protected in the interior patios of Spanish Colonial houses, where very thick walls isolate you from the outdoor heat and commotion. The labyrinthine streets of Venice prompt curiosity: You want to get immersed, discover, and maybe resurface tomorrow.

The architect cannot predict nor control people's reactions: Once public, buildings and spaces take on lives of their own. The public may not be that interested in the academic architecture

diagram, but people do respond to the emotional experience. Unfortunately, architecture is losing its distinct identity around the world, starting with airports. Everything will soon look the same, and our emotional encounters will also be diminished. ■

COCO RAYNES is president of the environmental graphics and universal design firm Coco Raynes Associates.

ABOVE

Stained-glass windows, Chartres Cathedral, France.
Photo: Fredrik Rubensson/Creative Commons

LEFT

South transept façade, Chartres Cathedral, France.
Photo: TTaylor/Creative Commons



LET THE SUN SHINE IN

Doubling as roof shingles, **Tesla's solar panel tiles** are made from textured glass to mimic shingles. They're efficient but also potentially cost prohibitive—there's the added price of the battery (or batteries) to store electricity. Still, if practical issues such as production and construction fees are resolved to be more competitive, the tiles could be an off-the-grid game changer.

A PLAN TAKES ROOT

by Matthew Urbanski ASLA

Brooklyn Bridge Park has been an experimental, paradigm-shifting project because the vision for the park was audacious at its very roots. The Brooklyn Bridge Park Development Corporation, created through a joint agreement between the City and State of New York, gave our team the responsibility to address a broad variety of issues that aren't typically directed by landscape architects. These included revenue planning, development guidelines, urban infrastructure, homeland security, environmental sustainability, and sea-level rise. We were given unusual tools to create a new urban context in which the park would thrive—a city-making project as much as a park-making project.

We saw a complex, resilient, dynamic water's edge as the core park experience. So, through planning and design, the idea was to vary the things that happen along the 1.3-mile waterfront: bringing people down to meet the water's edge and also creating opportunities for raised prospects. Other features—such as a

remnant pile field, a spiral tide pool, and a salt marsh—called attention to the unique ecological context of an urban tidal estuary.

At the time, we were also working on another waterfront park where tidal surge was a concern, and we had been contending with tight constraints that limited our ability to manipulate the grade, which had been a source of frustration. We were in the schematic design level, with an already developed grading plan for Brooklyn Bridge Park, when—clichéd but true—I was in the shower when I realized that although we were constrained in the other park, at Brooklyn Bridge Park we actually *could* raise the overall elevation.

By starting with a higher base elevation, the bottoms of the root balls of the trees we were planting—or at least the vast majority of them—would be above the 100-year flood line, which at that point was set at 1 foot higher than any flood ever recorded on the site. Even though the surge from Superstorm Sandy came in higher than our extreme flood benchmark, my shower epiphany turned out to be fortuitous because when the storm came, the only trees that suffered were the ones planted at the park entrances, which were low points because the park needed to meet the grade of the city streets.

Raising the park was an intentional strategy for protecting it against sea-level rise, but other more intuitive aspects of the design were also helpful when it came to the park's performance in an extreme-weather event. For instance, we replaced long extents of relieving platforms and retaining walls along the water's edge with riprap, which is a wall system of large irregular stones stacked on one another. Whether built of wood, metal, or concrete, a system of waterfront-relieving platforms and retaining walls relies on tension coming from the land side and compression from the

water side to stand. Riprap, by contrast, works with gravity and is fundamentally self-stabilizing.

Although there is a logical urge to worry about the destructive force of flood-water coming in, it is actually the force of the water on its way out that is typically the cause of a wall being blown out. When the flood recedes, the ground is saturated, and hydrostatic pressure can build up behind a solid wall, causing failure. The generous gaps between individual stones in a riprap wall create a porous edge that offers abundant opportunities for the water to flow out. Even if there is some movement of individual boulders, that's fine because although the riprap system is robust, it is also fundamentally mutable. It will be there until the next ice age.

There was a fair amount of complexity in how this played out, but the way that our team made Brooklyn Bridge Park climate-ready is almost ridiculously simple: We raised the site, especially the trees, and we made our water's edge a porous gravity wall that doesn't try to hold the water back. We relied on time-tested and technologically simple solutions. Now that more than six years have passed since the first sections were open, and four years since Sandy, the plants have begun to grow in, and it is amazing even to us the degree to which urban nature has become the image of this highly urban park. This fundamental rebalancing of “natural” and “human made” was part of our strategy for resiliency but also essential to making a welcoming park on this site. ■

MATTHEW URBANSKI ASLA is principal of Michael Van Valkenburgh Associates, designers of Brooklyn Bridge Park.

RIGHT

Brooklyn Bridge Park, New York City, by Michael Van Valkenburgh Associates, landscape architect. Photo: © Elizabeth Felicella/Esto

KNOW YOUR HONEY LOCUST

The New York City parks department has mapped the location of **every single street tree** in all five boroughs—nearly 700,000 of them—with the named variety, trunk diameter, and environmental benefits of each (including storm water diverted, air pollutants removed, and carbon absorbed). Just in case you need another reason to love the urban canopy.





RIGHT
Somerville Rooftops,
by James Weinberg.
Image: Courtesy
of the artist



HOME FOR GOOD

by Deborah Fennick AIA

With systemic change on Somerville's horizon, can the city preserve its soul?

A densely inhabited 4 square miles just minutes from downtown Boston, Somerville is already a highly sought after place to live. With the Green Line extension promising to fill in gaps in MBTA service, it will become only a hotter place for development.

As Somerville marches forward, however, many current and long-term residents are left reckoning with an uncertain future. The city struggles with how to avoid a fate that is affecting similar urban communities across the nation: the displacement of the very residents who have helped shape their communities into the desirable places they are today. Somerville hopes to buck this trend, looking at ways to leverage large- and small-scale growth to achieve the community's goals. But can it hold on to the socioeconomic, cultural, and ethnic mosaic of the people who live there? Is it possible to provide affordable housing options targeted at a range of income levels?

The city's political leadership and a smart, engaged citizenry have become partners in envisioning the Somerville of 2030, with a focus on housing affordability as a particularly urgent challenge. The City's Office of Strategic Planning and Community Development is recrafting its zoning ordinances around the 100 or so comprehensive goals and priorities articulated by the community itself during its three-year-long "SomerVision" process. The values and personality of Somerville permeate the new code, which is designed to address the quality of urban life, in part through several ambitious provisions that will support the construction of inclusionary housing.

Although the zoning overhaul will primarily expand the city's robust housing affordability efforts for new construction, much of Somerville is already built out. Consequently, a brain trust of community groups, led by the Somerville Community Corporation (scc), has looked to existing housing stock in established neighborhoods as a source of affordable units. Most of this stock is two- and three-family dwellings, and much of it is being lost to speculation.

Enter Somerville's 100 Homes Initiative. This entrepreneurial strategy captures existing properties available on the open market, competing for them like a serious buyer, which in this market means acting nimbly and paying with cash. Once acquired, these units are modestly rehabbed and become permanently deed-restricted at various affordability

rates. With an initial goal to create 100 new affordable units, the initiative was launched two years ago with enthusiastic backing from the mayor's office.

The 100 Homes program—funded primarily through subsidies provided under the Community Preservation Act, adopted by Somerville voters in 2012—preserves not only individual buildings but also a community's character. With a credit line from the Massachusetts Housing Investment Corporation (an affordable housing lender), the scc can make an offer on a property like a cash buyer.

Can Somerville hold on to the socioeconomic, cultural, and ethnic mosaic of the people who live there?

The program is working. After a two-year pilot phase, five properties have been acquired and a sixth is under agreement, with a yield of 14 new affordable units scattered around the city.

As a result, many current tenants can stay put after the sale of their building rather than face eviction as the property is renovated to capture higher rents or be resold. A model scenario for the program is for scc to buy a property occupied by tenants who qualify for affordable rent. No one would be displaced. An ideal scenario is to purchase an owner-occupied three-family with income-eligible tenants in two units and maintain the owner's unit at market rate. The result would be a property with a financially sustainable mix of affordable and market-rate units.

With progress to date, the program is now being evaluated and tweaked. 100 Homes delivers units quickly, in contrast to the slow-moving process that encumbers state-funded and federally funded housing initiatives, though the group is still working out how to efficiently and fairly place tenants in the new units. Eventually, scc hopes to transition some units to homeownership as affordable condos.

What is the future of 100 Homes? Given the urgency, the scc is contemplating how to scale up the program. Could a 500 Homes initiative be sustainable? As Somerville continues its building boom and home prices skyrocket, it will become increasingly difficult to acquire and create affordable units for the program. Let's see what Somerville leadership comes up with next. ■

DEBORAH FENNICK AIA is design principal at Fennick McCredie Architecture.



NURTURE WITH NATURE

The sad truth these days is that "bad behavior" in students can often be a consequence of traumatic circumstances. To address the social and emotional needs of stressed-out students who have difficulty learning, architects MDs/Miller Dyer Spears created the **trauma-informed design** at Codman Academy Charter School in Dorchester, Massachusetts. Gently curving hallways, different-colored floor tiles scattered like fallen leaves, and glass-walled rooms with grasses and twigs sandwiched between panes embody the theme "A Walk in the Woods."

A MEASURE OF IMPACT

by Sam Batchelor AIA

"It's not about your greatness as an architect, but your compassion." —SAM MOCKBEE

The Rural Studio was born out of the design/build movement that was part of an architectural counterculture in the 1970s. Steve Badanes, a former teacher of mine who runs the University of Washington Neighborhood Design/Build Studio, is often referred to as the "godfather of design/build." He and a group of colleagues from Princeton University, who called themselves the Jersey Devil, were looking for an authentic process that connected the designer and the maker more closely when they did their first project together in 1972. They built single-family homes and lived on site in a nomadic existence that was emblematic of the time.

When Sam Mockbee founded the Rural Studio in 1993, he cited the Jersey Devil as a significant influence on his thinking. But where Jersey Devil was a nomadic practice, the Rural Studio is intensely place-based and is now inseparable from Alabama's Hale County. The focus is much more outward, in terms of the undergraduate studio's intention to be a change-driver in its community.

When Andrew Freear took over the Rural Studio after Mockbee's death in 2001, he elevated the charge to a broader goal. Where Mockbee was focused

on creating dignity through design with individual houses and community building projects, Freear is trying to address it systematically with projects such as the 20k house—a multiyear endeavor to create a locally built rural home for less than \$20,000 in materials. Badanes, no stranger to activism himself, takes a similar approach with the Neighborhood Design/Build Studio. Founded in 1990, it takes on projects with community clients working toward improving Seattle's neighborhoods.

As a student of Badanes' in the early 2000s, I was inspired by these two studios; they formed the nucleus of what would become the Community/Build Studio at Massachusetts College of Art (MassArt). Founded in 2009, it follows Mockbee's model of architectural activism and incorporates it with Badanes' emphases on communication and consensus building. We seek out projects in Greater Boston in which we can design and build a new piece of infrastructure for the public or underserved. We make a conscious decision to work locally because there is no shortage of groups that could benefit from the creative energy and enthusiasm inherent in architecture students, particularly those who are embedded within an arts school.

We also keep our projects small enough to ensure that our group of eight to 12 students can work on them, from concept to completion, in the 11-week summer session. This shields us from engaging in the design/build "arms race" that has taken over many schools competing to design larger, more complex projects by stretching the effort out over multiple semesters and student groups. More important, it allows us to illustrate to students the power and impact their projects can have. Coming to the site when it is blank, they experience the "before" condition as the status quo for our clients. By the end, having transformed the space, students understand that they have created something permanent—something that will become the new normal for the client group that they have engaged with every day.

At the Dennis C. Haley school in Boston's Roslindale neighborhood, the studio transformed an overgrown corner of the yard into an outdoor classroom to support an urban agriculture program. At summer's end, our students were proud of the beautiful structure that occupied a once-neglected

A CLASS ACT

Create the next generation of designers? Check. Build critical infrastructure and sustainable systems? Check. Change lives of millions of Africans? Check. The MASS Design Group's **African Design Center** aims to train graduates of a two-year program, match them with international experts, and unleash human-centered design onto a continent whose population growth is projected at 1 billion over the next 20 years.



WELLNESS

TIME TO HEAL

by Kaki Martin ASLA

Remember the last time you navigated through a hospital for a test? Did your blood pressure rise as you tried to figure out which line to get in, which elevator to take? Have you felt anxious in a waiting room? The link between a connection to nature and improved healing has been considered for centuries but has been substantiated in contemporary culture only since the mid-1980s. Surgical patients with a view to nature rather than a brick wall require less pain medication and recovery time. Nature-focused art and photography offer similar support.

For healthcare facilities to evolve into a synthesized ecosystem of wellness, we need to turn our attention to the

Patients with a view to nature require less pain medication and recovery time.

interstitial spaces to support the well-being of patients, families, and medical teams.

To create a landscape masterplan, Brigham and Women's Hospital assembled an interdisciplinary team of landscape architects, wayfinding specialists, and architects, but a eureka moment came later, when Rosalyn Cama joined the group. The president and founding partner of CAMA Inc, a Connecticut-based design lab and studio, suggested a fresh way to package the landscape masterplan that the group developed. The team viewed every square foot of the campus as an opportunity, regardless of how small the spaces were; the idea was that the →

corner of the property, but the most powerful moment came a month later when school was back in session and we celebrated the ribbon cutting. Seeing children run up the ramp they had built, play in and around the bridge, and dig in the raised planting beds showed the students the full impact their work could have.

This understanding of impact is the real legacy of the Rural Studio. Born out of its DNA, the name "design/build studio" doesn't fully capture its most important lesson. By creating even a small thing in a place that otherwise might not have that kind of thoughtfulness, students are given a window into the potential of what architecture can do. There's both a power and a humility embedded in that. ■

SAM BATCHELOR AIA, a partner at designLAB architects, founded and directs the MassArt Community/Build Studio.

PHOTOS
Trellis (left) and garden shed (above) for the outdoor learning center at the Dennis C. Haley school in Roslindale, designed and constructed by the Community/Build Studio at MassArt in summer 2011. Photos: Peter Vanderwarker





→ aggregation of moments would create impact for visitors to the hospital. She aptly observed that the team was focusing on the “times between”—between parking the car and reaching the doctor’s office, between having a medical test and waiting for the results, between watching loved ones be wheeled into surgery and seeing them in the recovery room.

Hospital settings have their share of “times between.” The interstitial spaces where they occur are as important as the spaces specifically designed for

direct patient care; if healthcare facilities accept this as a basic tenet, they can make the transition from being a series of isolated places to an integrated healing network. CAMA Inc worked with Smilow Cancer Hospital at Yale-New Haven on a curated show of revolving nature images, shown on various media in hallways and waiting areas. One woman was so comforted by having a painting of a salt marsh to look at that she tracked down the artist so she could share how getting lost in the beauty of the image decreased her

anxiety over her husband’s surgery.

At the Brigham, the largest place for a “time between” experience is its cafeteria. Like a dystopian aboveground submarine, its few windows were too high and too small. The menu was not particularly supportive of good health, featuring fried foods and limited choices. The surroundings were grim; it was not a place to feel nourished in any sense of the word.

Options from all points of view—landscape, architecture, engineering, interiors, and wayfinding—were pulled together. To access views to gardens, the team constructed new grounds and worked out a plan that maximized the connection for cafeteria patrons. The garden was split into two parts, with the cafeteria expansion piece pushed between the two green spaces, resulting in two sides of each garden having a glazed connection to the interior space. Low two-top tables now line the edges for close-up views of the small-scale quilt of ground covers in the verdant shade gardens; further away, high-top banquette seating allows for views to the taller, ever-changing seasonal displays of woody plants.

Open only last year, the project continues to receive praise from the Brigham community and people associated with neighboring hospitals who also frequent the space. Going to the cafeteria is now the new healthy way to spend “time between.” ■

KAKI MARTIN ASLA is a founding principal at Klopfer Martin Design Group.

ABOVE

The Garden Café at Brigham and Women’s Hospital, a renovation and addition by Bruner/Cott & Associates and Klopfer Martin Design Group. Portions of exterior walls were removed, allowing light in and providing views to the outdoors. Photo: Kaki Martin ASLA/Klopfer Martin Design Group

THE ROAD AHEAD

by David Dixon FAIA

A new and disruptive technology is close enough to touch. Autonomous vehicles will be mass produced in two years and in widespread use within five. While this will surely mean more self-driving Teslas, for at least the first decade the real disruption will come in the form of shared autonomous vehicles (SAVs)—five- to 10-passenger electric vehicles that can run on schedule or be called on demand via smartphones. Thanks to not having to pay a driver, SAVs will cost half of what shared services cost today.

Autonomous transit will not be an equal-opportunity disruptor. These vehicles won't be built to speed along highways but instead to travel through dense urban environments (cities but also compact "urban villages" in the suburbs) where a concentration of people and a diversity of activity generate lots of trips. Here, SAVs will outcompete private cars on the basis of cost, convenience, flexibility, sustainability—and never having to park. "Urban" will increasingly signify places where vehicles are shared, not owned. In most suburbs, this process will take longer.

New mobility technologies have always had a transformational impact. The rise of universal car ownership drained vitality from cities for four decades. The rise of autonomous transit can have the opposite effect, unlocking opportunities for urban places to grow simultaneously denser, more livable, and greener. As one of my Stantec colleagues who is managing a test program for these vehicles in California has put it, the SAV is "the ultimate mobile device."

We could begin to see benefits early on, but we have to start planning now. Today cities host up to eight times as many parking spaces as they do cars. But SAVs drop people off. All these parking spaces take up scarce urban land and push up costs—adding \$50,000–\$100,000 or more to the development

cost of a condominium or 1,000 square feet of office space in Boston. Replacing a significant number of owned vehicles with shared ones will ultimately support new development. Think market-rate and affordable housing, research and innovation space, and other welcome investments.

Autonomous transit will bring density another boost. Public transit authorities are already looking at SAV services to provide critical "last mile" access, connecting people who live more than a 10-minute walk to the nearest transit station. These services will make transit more convenient and enable more distant sites to command the value premiums that transit-oriented development brings.

Planned poorly, this density could mean crowding. Planned well, it will enhance livability and economic opportunity. More households and workers will bring Main Streets to life and jobs to neighborhoods. More investment will produce fiscal benefits to support education, parks, and health. Downtown, improved mobility will attract knowledge workers and the companies that follow them. Citywide, newly obsolescent surface parking lots will become sites for affordable housing, schools, health centers, and other building blocks of livability.

Within a decade, SAVs will unlock unimagined opportunities to green our cities. Redeveloping acres of impermeable parking lots will reduce groundwater pollution. Shared trips will mean reduced emissions. Automated vehicles—shared or not—can travel within inches of one another, requiring far less pavement for vehicles. The resulting opportunity to repurpose one-third to one-half of our existing street pavement will offer a historic opportunity to redefine the fit between urban and nature. Instead of a car in every garage, every street can host a rain garden. Major boulevards will become continuous ribbons of urban trees coursing through the city.

Before we finish painting this picture of urban renaissance, we need to hit pause. Are we planning a next generation of urban development that will be outmoded from day one? Will SAVs exacerbate gentrification, reinforcing trends that have led to an increase in suburban poverty of more than 60 percent since 2000, according to the Brookings Institution? Should SAV services be operated by private companies or as extensions of public transit, with corresponding public accountability? These are only some of the most obvious questions. The first step should be an in-depth conversation that draws together people from every neighborhood and livelihood.

We need to start planning now to anticipate the revolution that's just around the corner. ■

DAVID DIXON FAIA leads Stantec's Urban Places Group.

LEFT

Olli, a 3-D printed 12-passenger self-driving vehicle, analyzes and learns transportation data, integrating IBM Watson's computing capabilities. Image: Courtesy Local Motors





All photo works
by Daniel Everett

ABOVE
*Untitled (from
Marker), 2016*

RIGHT
Untitled, 2016

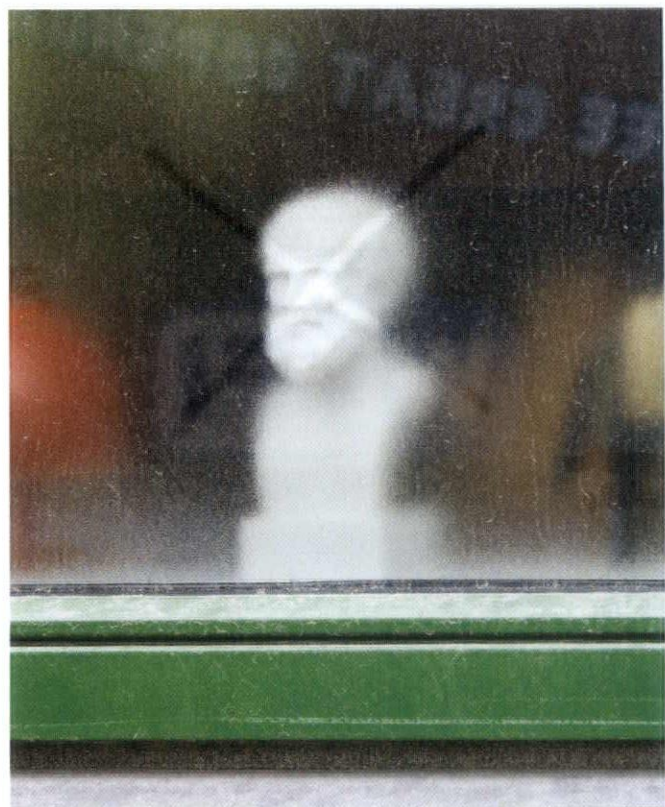
EVIDENCE AND DETRITUS

Daniel Everett has a complicated relationship with progress. Though he is drawn to the utopian promises of Modernism, he's also acutely aware of how empty perfection can be. His work both celebrates and negates order and harmony.

Trained as a photographer but equally fluent in sculpture and video, Everett uses the architecture of cities—including new construction and buildings under renovation—as raw material. The drywall markings or shards of brightly colored cement that once indicated excavation sites are evidence of repair, which is itself a drive for perfection. “It’s about the aesthetics of progress against the mundanity of objects left in the wake of progress,” he says.

His process of discovery is that of the old-fashioned flâneur: he has walked thousands of miles along the perimeter of cities or limned its subway tracks, “going around without a plan and just reacting to the space.” As he rambles, he finds a city’s organizational grid alluring and oppressive in equal measure.

—Renée Loth





ABOVE
Untitled (from
*Throughout
 the Universe in
 Perpetuity*), 2015

TOP RIGHT
Michele, 2012

OPPOSITE
Untitled (from
*Throughout
 the Universe in
 Perpetuity*), 2013





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OPPOSITE
*Untitled (from
 Throughout
 the Universe in
 Perpetuity), 2016*

ABOVE
Marker III, 2016

RIGHT
*Redaction from
 Personal Journal,
 2009*





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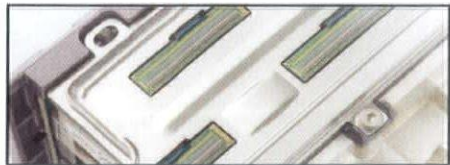
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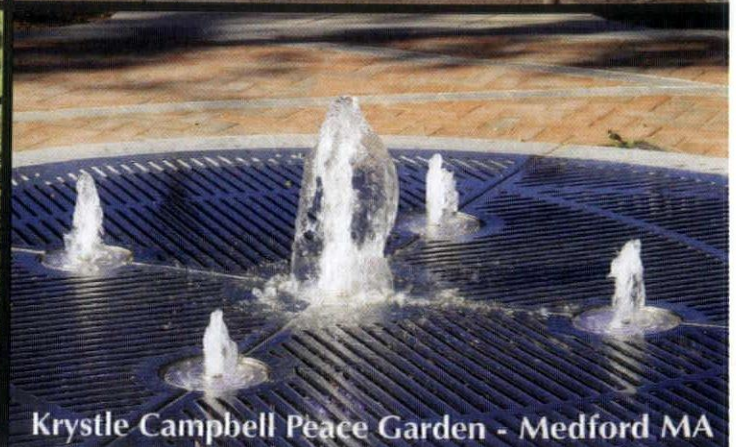
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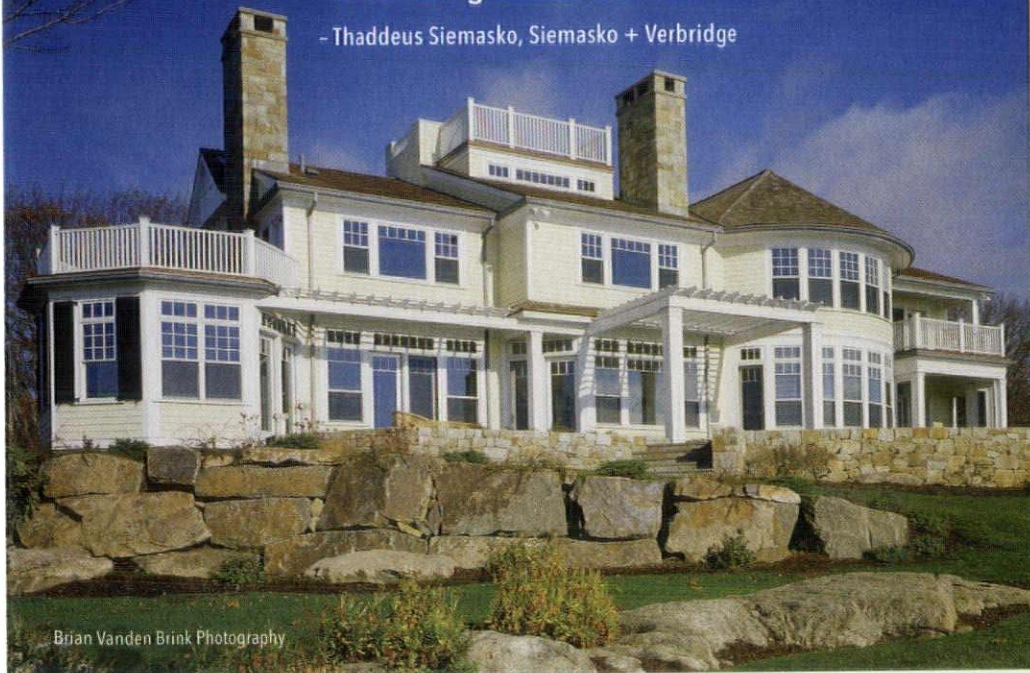


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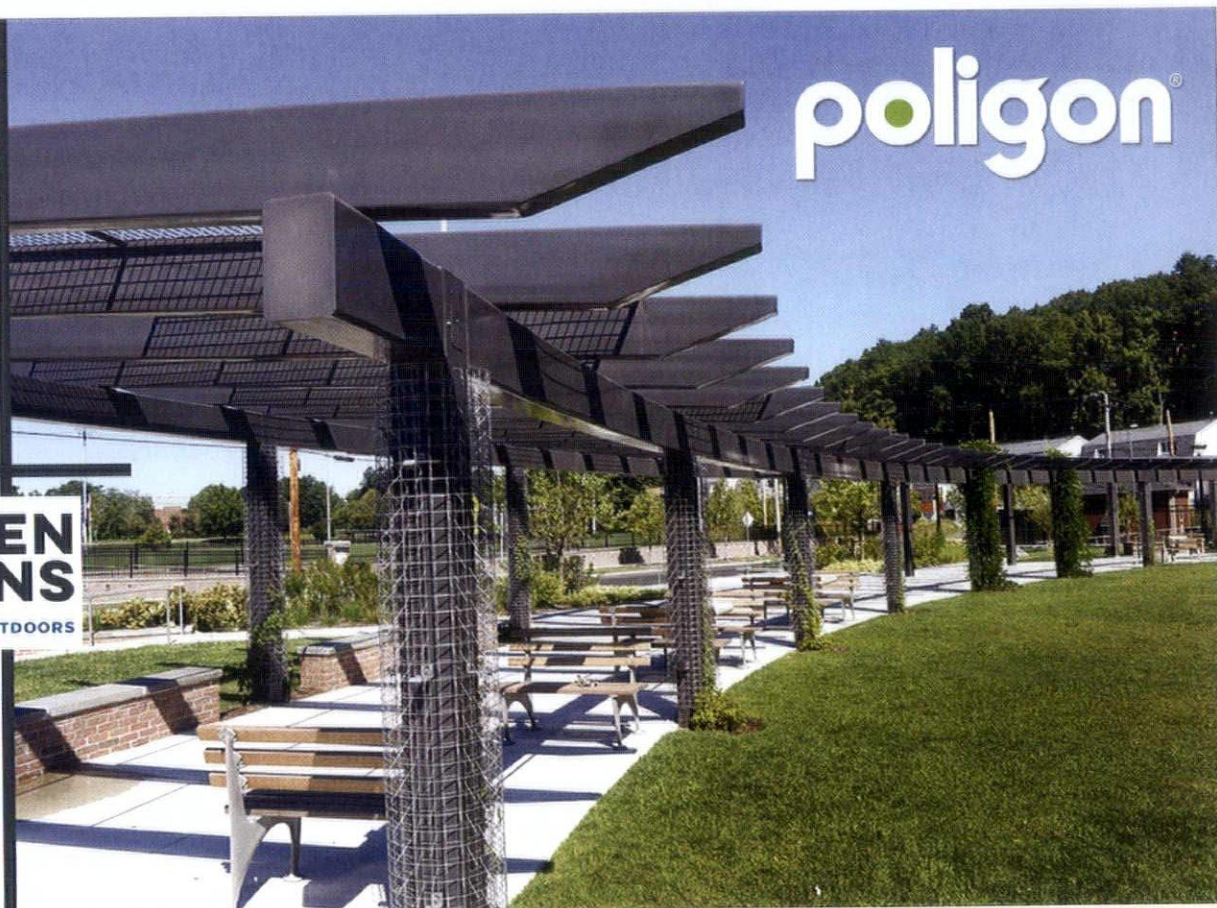
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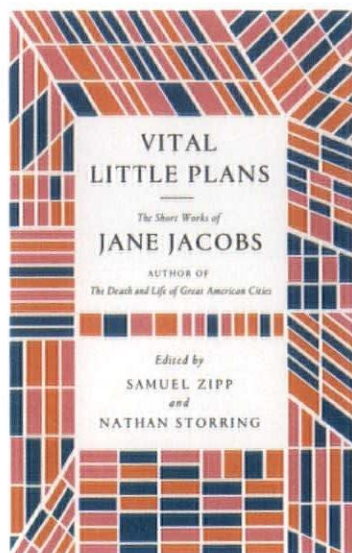
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BOOKS

**Vital Little Plans:****The Short Works of Jane Jacobs**

Samuel Zipp and Nathan Storrington, editors

Random House, 2016

Reviewed by Ian Baldwin

In 1864, George Perkins Marsh, a Vermonter serving as the ambassador to Italy, published *Man and Nature*. Its novel thesis was that human activity was inherently destructive to the environment. Marsh argued for active safeguarding of resources for future generations; a century later, *Silent Spring*, the Clean Air Act, and Earth Day marked the mainstreaming of environmentalism.

Urbanism's equivalent to Marsh must date from Jane Jacobs' landmark study *The Death and Life of Great American Cities* in 1961. If so, we're a bit over the halfway mark between her landmark study and the hopeful day when society at large acknowledges the necessity of an urban future. No better time, then, for *Vital Little Plans*, fresh and compelling reportage from Jacobs' life and work outside that famous book.

Death and Life was a self-described "attack on current city planning and rebuilding" (and a brave declaration for an author whose day job was editing *Architectural Forum*). Its keen record of life in Greenwich Village showed how streets, stoops, shops, and sidewalks,

imagined as a site of immigrant and bohemian otherness, were instead well-oiled parts of a machine spinning normalcy and economic vitality out of a crowd of strangers.

After its publication, Jacobs and many other activists continued to fight the city's plans to drive new roadways through the Village, a complicated dance reduced in retrospect to a Jacobs-versus-Moses title bout. But she left New York City in 1969 for Toronto, when her draft-age sons announced their intent to go to jail rather than join the fight in Vietnam.

Well before her 2006 death, a Jacobs cult formed around the ever-relevant *Death and Life*, trapped beneath the amber coating laid down by hundreds of articles, exhibitions, and books. (Two new biographies this year finally pushed the number of books about Jane Jacobs past those by her.) Her post-*Death and Life* writing evolved well beyond micropolitan study; in seven books she trained her intellect on the political, moral, and economic systems that had always underlaid her urban explorations. *Vital Little Plans* is the first anthology of Jacobs' short works and a most useful tour of her thinking throughout her career.

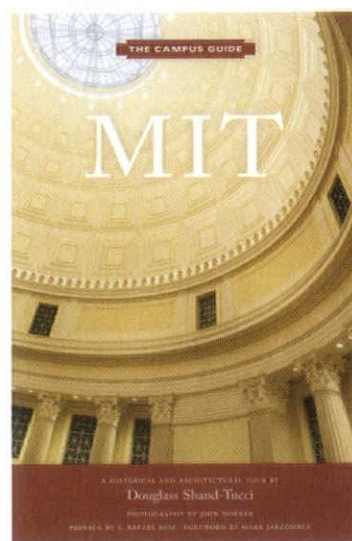
Its contents range from 1930s pieces for *Vogue*, which see Jacobs pounding the pavement of Manhattan's floral and jewelry districts, to a 2004 speech positing the end of a "Plantation Age." From arriving in Depression-era New York at age 18 to work odd jobs and catch the odd byline to an endowed lecture at the city's leading public university, was a run of remarkable success and length, but as *Vital Little Plans* reveals, it was always powered by the same hard-charging, unconventional intellect. Jacobs didn't want to impose her ideas on others. She wanted to find the answers to some very basic questions about how and why cities and economies work.

Editors Samuel Zipp and Nathan Storrington could not be better suited. Zipp's *Manhattan Projects* delved into the midcentury urban renewal that forged Jacobs, and Storrington's hometown

knowledge of Toronto fleshes out battles against expressways and amalgamation in the city where Jacobs spent half her life. Their textual interventions are frequent but erudite.

Again and again, the book shows Jacobs' fearlessness, her ability to wield a prose shotgun of counterintuition to cut down conventional absurdity. She was never a radical yet gives no quarter. This might be the problem Jacobs poses to contemporary urban design, whose studios always feature Jacobs on the reading list but never on the boards. Her view of the city as a gradual and granular process is compelling, but hard to realize in the face of regulatory regimes and real-estate economics. Reading *Vital Little Plans*, we can at least nod our heads and cast our minds to 2061, thinking, "What would Jane do?"

IAN BALDWIN is a partner at DUAL, an architecture practice based in Providence, Rhode Island.

**MIT: The Campus Guide**

Douglass Shand-Tucci

Princeton Architectural Press, 2016

Reviewed by David Fixler FAIA

The reader who expects short descriptions and scripted walks in this architectural guide is in for a surprise: What Douglass Shand-Tucci has done is frame the

history and architecture of the Massachusetts Institute of Technology as an apotheosis—and an affirmation, to his way of thinking—of the Boston Brahmin culture that undergirds its beginnings and persists in subtle ways to this day.

The guide is structured first as a series of “portals” themed to Boston’s artistic and intellectual life, followed by a number of walks. Almost half is devoted to the history and atmosphere that surrounded MIT founder William Barton Rogers, who set about building an institution that would “overtop all the universities of the land” with its unique mix of hands-on technical learning coupled with a grounding in the liberal arts. The author describes the culture and early history of MIT as part of an ensemble of institutions birthed in the crucible of the newly reclaimed land around Copley Square. This “Acropolis of the New World,” as it was dubbed by Bostonians in the late-19th century, is to Shand-Tucci both the font and the physical and intellectual heart of American modernity: institutions envisioned and built by a culture that represented a progressive, intellectually entrepreneurial view of America in the world.

The story of MIT’s move to Cambridge in the early-20th century is well told. William Welles Bosworth’s Main Group, a Neoclassical “Great White City on the Charles,” is also themed as extending a Brahmin ethos manifested in the austere simplicity of the Boston Granite Style, which becomes more overtly Greek in the architecture of Harvard Medical School and the Museum of Fine Arts—both institutions that originally shared Copley Square with MIT. The planning work of John Ripley Freeman—an engineer who adhered to the latest models of workplace efficiency advanced by Frederick Winslow Taylor—was then turned by Bosworth into a sublime work of architecture.

The Main Group anchors an ensemble that, indeed, is unlike that at any other university on the planet, and though the natural references are made to Thomas Jefferson’s University of Virginia,

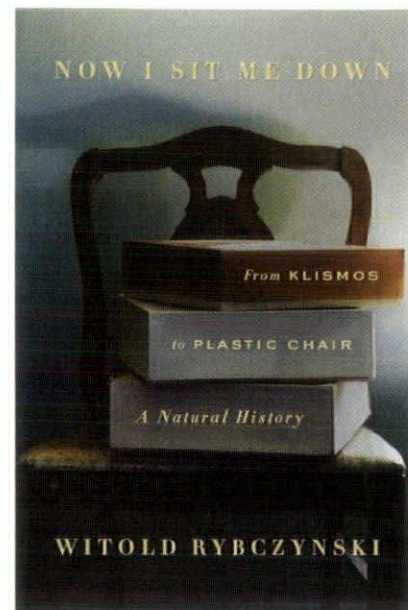
to me there is an almost humbling power in Bosworth’s design that is most analogous to the visionary, severe—and explicitly sublime—projects of Étienne Louis Boullée; had he wished it, this might have been Boullée’s university.

MIT’s embrace of innovation extended to an enlightened patronage of Modern architecture in the immediate postwar era, when the West Campus was developed as a locus of student life and cultural activity. This began in 1946 with the hiring of Alvar Aalto to design Baker House and was followed closely by Eero Saarinen’s Kresge Auditorium and the MIT Chapel, creating, as Shand-Tucci rightly notes, an ensemble of three of the premier works of Modernism in America.

The importance of MIT’s architectural patronage becomes a major theme of the last walks of the guide, with an extended discourse on the legacy of I.M. Pei (four buildings), MIT’s “Grand Projets” undertaken between 1998 and 2004 that produced works by Charles Correa, Steven Holl, Frank Gehry, and Fumihiko Maki, and the extensive network of public art placed throughout the campus.

Shand-Tucci relentlessly returns to the Brahmin theme, which he posits in recent years extends to the likes of Pei and author Jhumpa Lahiri (who has featured MIT in her books), and to the outsized role that MIT, Harvard, and the research community largely spawned by these institutions have had in the arc of the history of Modern architecture and of the Modern world. There are some notable omissions—such as the works of Skidmore, Owings & Merrill—but he is a lively and engaging author, and if one is willing to accept his thesis and to allow for some minor errors of fact (or perhaps stretching of truths), it makes for an informative and entertaining read.

DAVID FIXLER FAIA is a principal at EYP Architecture & Engineering. He has worked on projects rehabilitating the architectural heritage of MIT for more than 20 years.



Now I Sit Me Down: From Klismos to Plastic Chair: A Natural History

Witold Rybczynski

Farrar, Straus and Giroux, 2016

Reviewed by Galen Cranz

Now I Sit Me Down is for connoisseurs—those who like to know things rather than think critically about them. Witold Rybczynski shares his knowledge of the history of chairs, organized thematically rather than chronologically, in an amiable and inviting way. He has convincingly demonstrated in the case of the chair—as in his other books on design—how material objects manifest a web of practical, social, artistic, and business activities. But if you are interested in the idea that “sitting is the new smoking,” this is not your book.

Rybczynski takes a natural history approach, usually saved for topics in which no theory yet exists. He downplays theses that chairs historically served primarily to differentiate social status and that the human body is harmed by prolonged chair sitting, even though he acknowledges that “status and sitting furniture are never far apart” and an epidemiological study linking chair sitting with premature mortality.

His approach leads readers to believe that no controversies exist regarding the material culture of chairs. On the

contrary. His social history of the chair overlooks one detail about the *triclinium*: the three-sided banquet couch was for men only initially, but later its use changed to include women. Further, in his chapter on side chairs, Rybczynski misses the genius of the choir stall, about which he discusses only its boxy shape. The seat of those stalls is on a hinge; when flipped up, its specially carved underside serves as a perch, halfway between sitting and standing, identical to what NASA calls “neutral body posture.” Most important, several behavior researchers have demonstrated that long hours of sitting increases the risk of back pain, heart attack, stroke, and cancer.

Rybczynski does not embrace the idea that physiological well-being could be the basis for chair analysis and evaluation, even though in earlier writing he points out that comfort is a value missing from architectural

education. His definition shifts, but, like most contemporaries, he assumes comfort means something like yielding ease rather than structural alignment or strengthening. He also assumes that a stool must be uncomfortable to use for any length of time because it has no back. (My own research, outlined in *The Chair*, demonstrates that using chair backs is precisely what has weakened our core muscles to the point that we need back support.) When one does not want to rethink the effects on the body of what the scholar Wayne Constantineau described as the impotence of the seated posture—neither standing and ready for action nor reclined for restoration—then one incorrectly assumes that earlier peoples who walked, rode horses, and squatted shared our culturally induced weaknesses.

Rybczynski acknowledges the intrinsic difficulties of postures midway

between standing up and lying down—a subtle, implicit argument that the chair is not to blame; rather, it's the interplay between gravity and the human body. Gravity is the field within which humans evolved, and astronauts in outer space suffer without it, so gravity is not the problem; how we design—or fail to design—with it remains a test of our collective/cultural design intelligence.

Aside from these points regarding historical details and body consciousness, Rybczynski's general themes and attitudes are well founded: Chairs are as much about behavior as about artifacts; the chair is not natural; and it is both a practical tool and a work of art.

GALEN CRANZ, a professor of architecture at the University of California at Berkeley, is the author of *The Chair: Rethinking Culture, Body, and Design*.

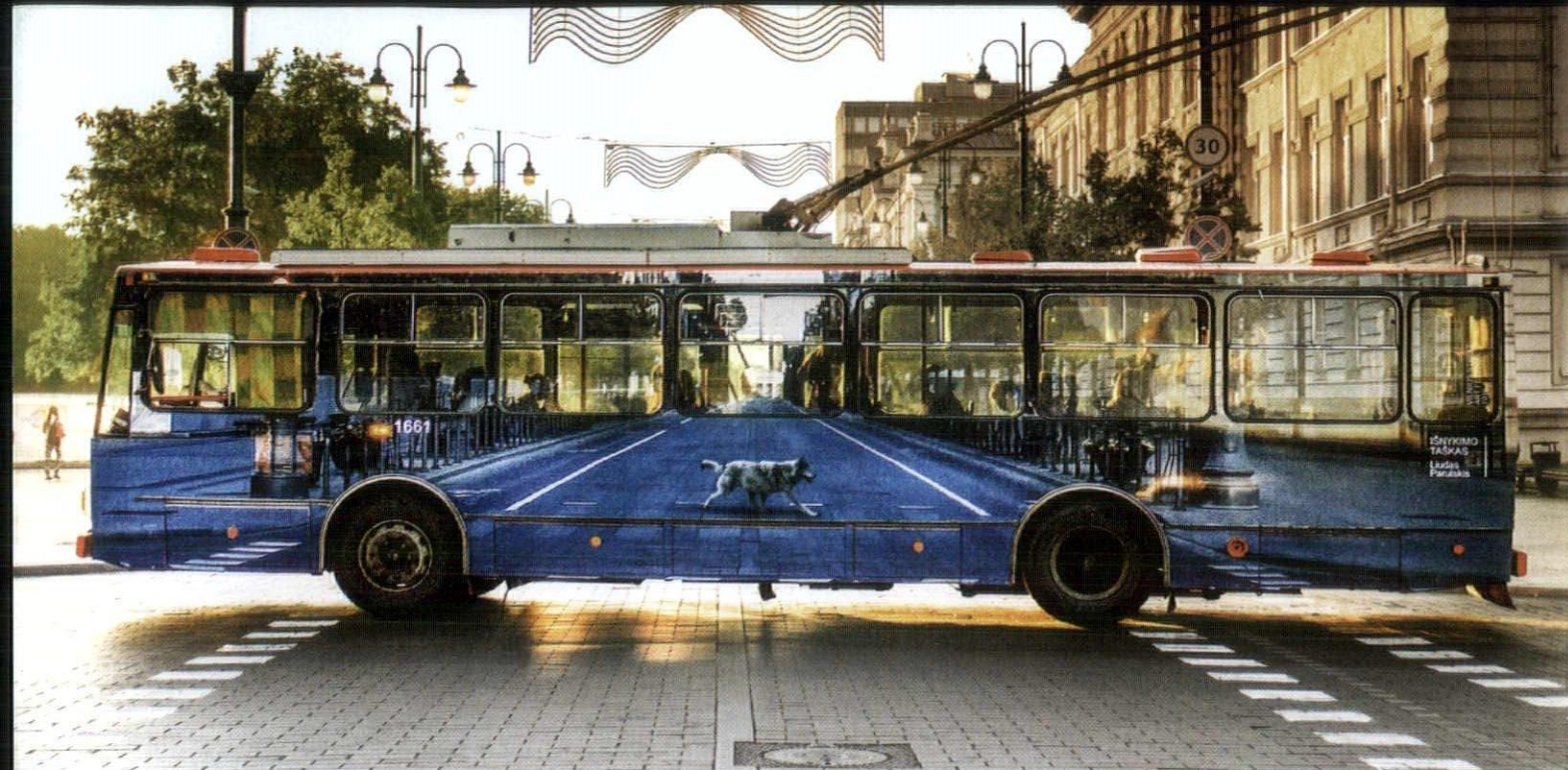


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A ROAD TO SOMEWHERE

by Monica G. Tibbits-Nutt

In the course of my career, I have been asked many times why I became a transportation planner. And I've given all sorts of answers. I love SimCity. I want to transform my built environment. But, until this past election season, I have never really pushed myself to answer honestly.

I'm from an extremely rural community in the Midwest. Where I come from, most people don't go to college. Some finish high school. (My father did not.) Most people work in factories (including my mom and my dad). To say that it's not a very diverse place would be an understatement.

It was profoundly important to my mom that I get a good education. I could have traveled just 15 minutes to the local school but would have walked through metal detectors to get to class. Instead, my mom put me on a bus for more than an hour every morning to reach a beautiful campus with all the books I could read and teachers who really wanted to teach—and who were given the resources they needed to do so.

Not everything about this choice was idyllic, though. I got on the bus before the sun came up and was bullied as the wheels went round and round for having the wrong hair and the wrong clothes. (You can't buy the "right" clothes at Goodwill.) When I got off the bus my very first day, one kid met me with a hateful racial slur. I didn't know what it meant, beyond the fact that I was different. On the ride home, I would sometimes see the Ku Klux Klan handing out fliers to passing motorists. Despite everything, my mom kept putting me on that bus.

I rode the bus to school for 10 years. Now I know that someone planned its route very intentionally. Some transportation planner designed that bus route, hoping to reach kids who otherwise left school after eighth grade to work on farms or in factories. Some transportation planner hoped to change a few kids' lives.

Of course a bus can't fix everything. It can't keep kids from hearing things they shouldn't have to hear. (My chemistry teacher at parent-teacher conferences: "She's the dumbest student I've taught in 40 years of teaching." My advanced English teacher, while discussing *Fantastic Voyage*: "Guys, how do you know that the nurse is black? Because she's picking cotton out of the patient's ear.")

But that bus did change my life. It gave me access to resources, books, and lectures otherwise reserved for much wealthier students. It put me on the road—literally—to becoming the first in my family to attend college and then graduate school. That bus gave me a route out.

Good transportation design is about access—to better educational and employment opportunities, to a better life. As transportation planners, we have the power to open up whole new worlds to our communities, even if we can't make those worlds as kind or just as our communities deserve.

We can argue about different cost-savings approaches, competing definitions of innovation, or our various politicized projects, but we cannot forget that we are in the business of access. Now, more than ever, we have to hold ourselves accountable to the lofty goal of fighting for equity of access. The communities on whose behalf we work need to hold us accountable. I hope it's why we do this. It's definitely why I do. ■

MONICA G. TIBBITS-NUTT is a transportation planner and urban designer.

ABOVE

Vanishing Trolley, Liudas Parulskis, 2016. Vilnius Street Art Festival, Vilnius, Lithuania. Photo: Ronaldas Buožis/Studio Vieta



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