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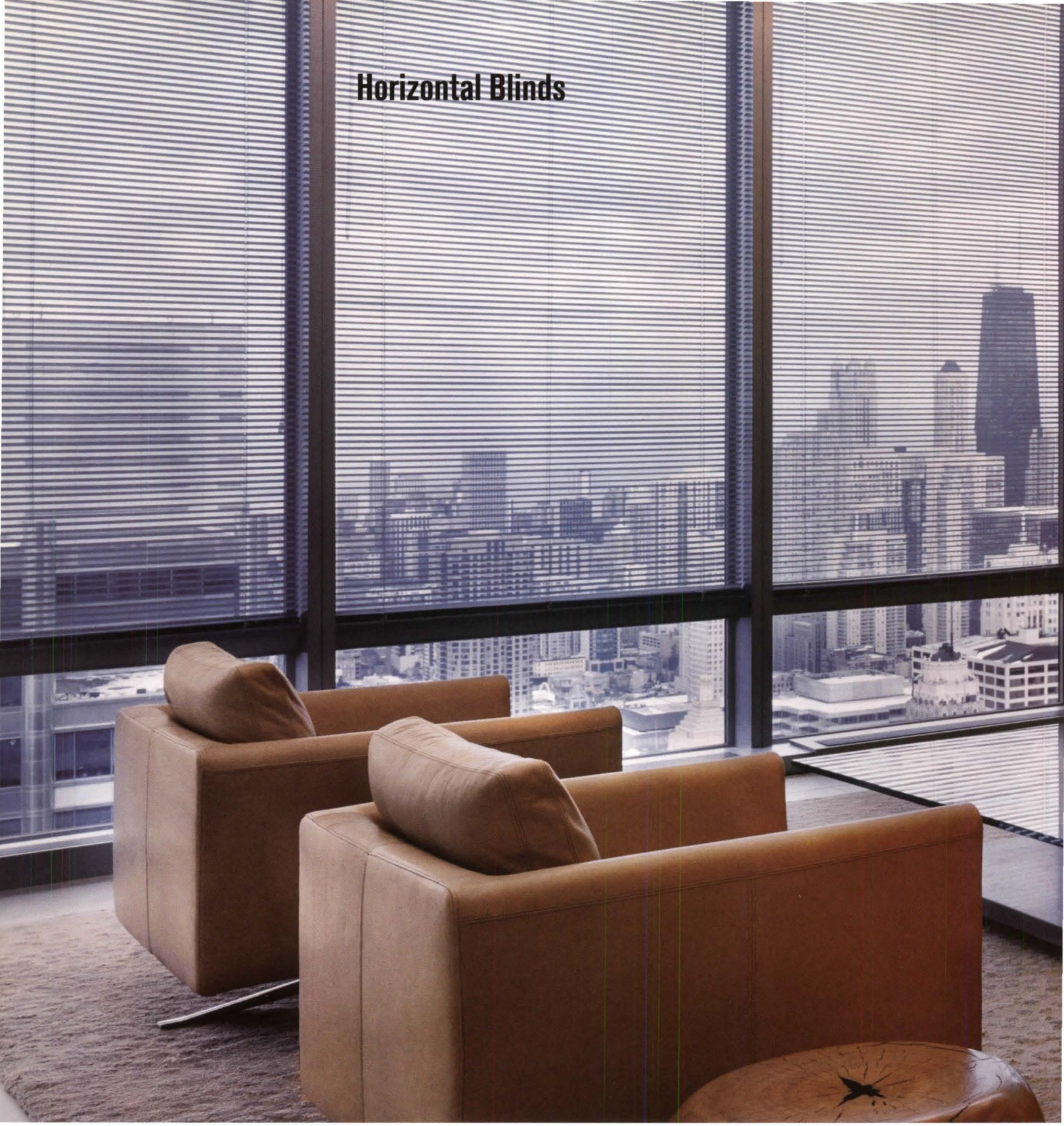

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COVER AND ABOVE: Camouflage View *at the Reford Gardens' International Garden Festival in Grand-Métis, Québec, by Aranda/Lasch. Photographs by Louise Tanguay.*

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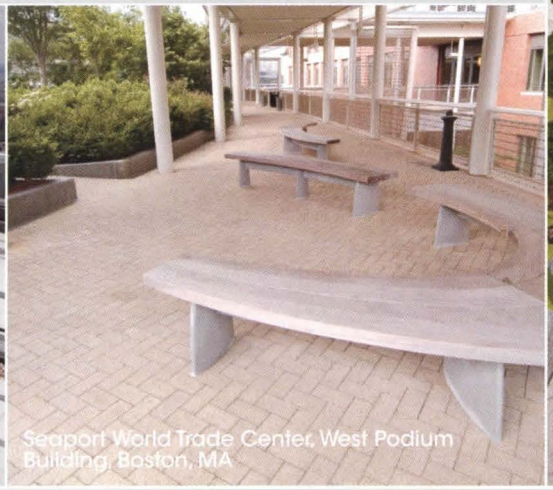
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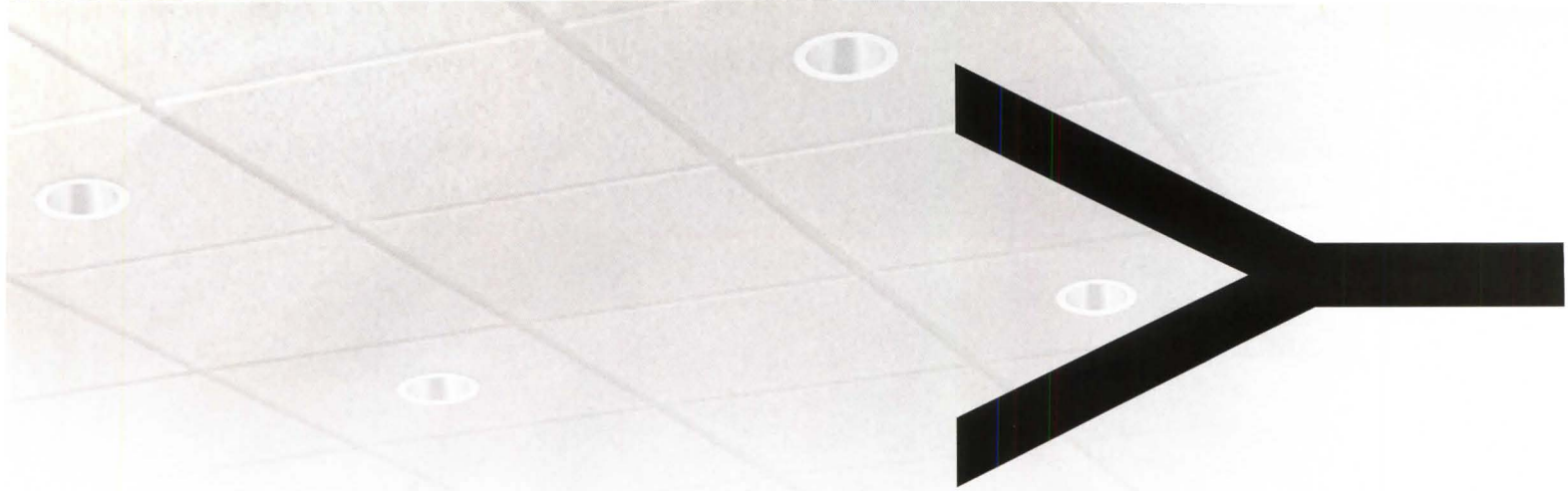

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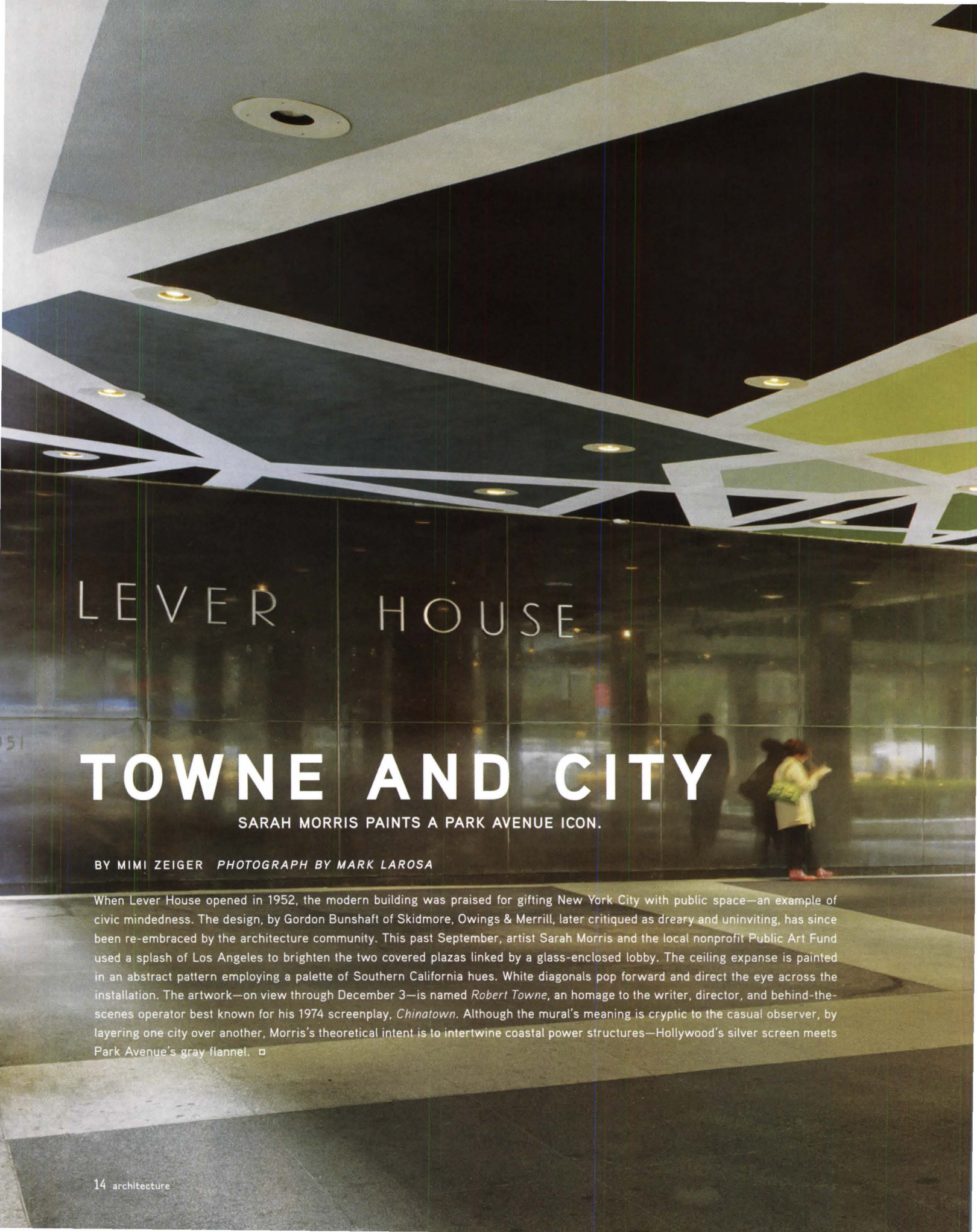
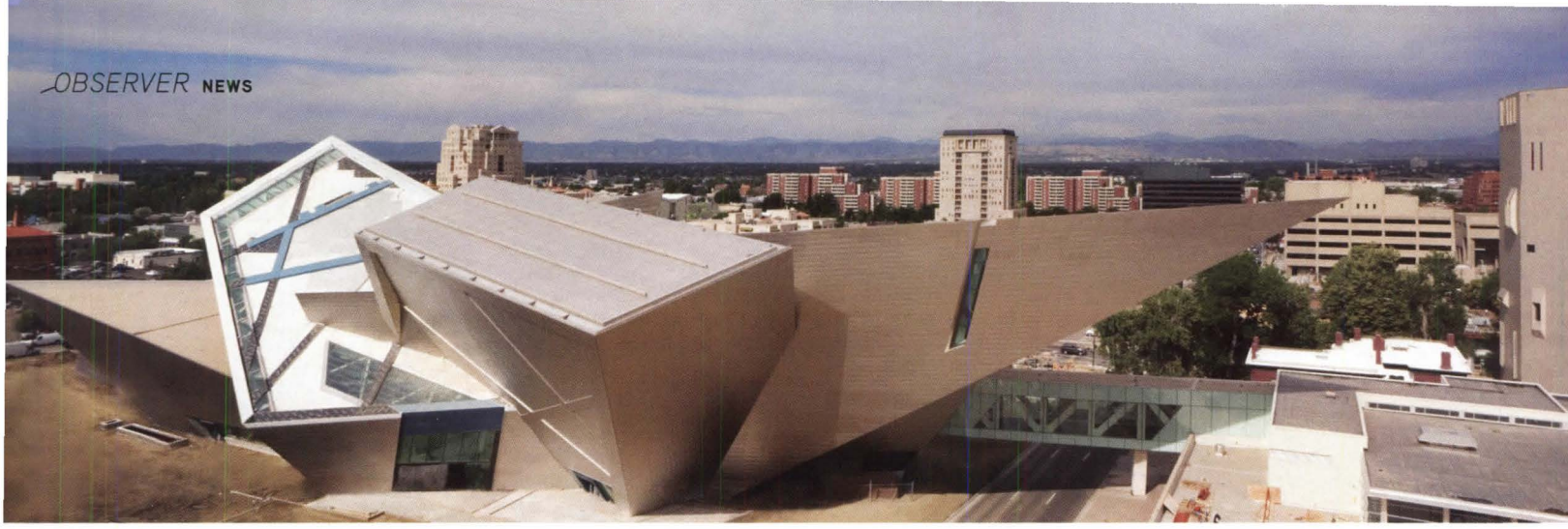


TOWNE AND CITY

SARAH MORRIS PAINTS A PARK AVENUE ICON.

BY MIMI ZEIGER *PHOTOGRAPH BY MARK LAROSA*

When Lever House opened in 1952, the modern building was praised for gifting New York City with public space—an example of civic mindedness. The design, by Gordon Bunshaft of Skidmore, Owings & Merrill, later critiqued as dreary and uninviting, has since been re-embraced by the architecture community. This past September, artist Sarah Morris and the local nonprofit Public Art Fund used a splash of Los Angeles to brighten the two covered plazas linked by a glass-enclosed lobby. The ceiling expanse is painted in an abstract pattern employing a palette of Southern California hues. White diagonals pop forward and direct the eye across the installation. The artwork—on view through December 3—is named *Robert Towne*, an homage to the writer, director, and behind-the-scenes operator best known for his 1974 screenplay, *Chinatown*. Although the mural's meaning is cryptic to the casual observer, by layering one city over another, Morris's theoretical intent is to intertwine coastal power structures—Hollywood's silver screen meets Park Avenue's gray flannel. ▫

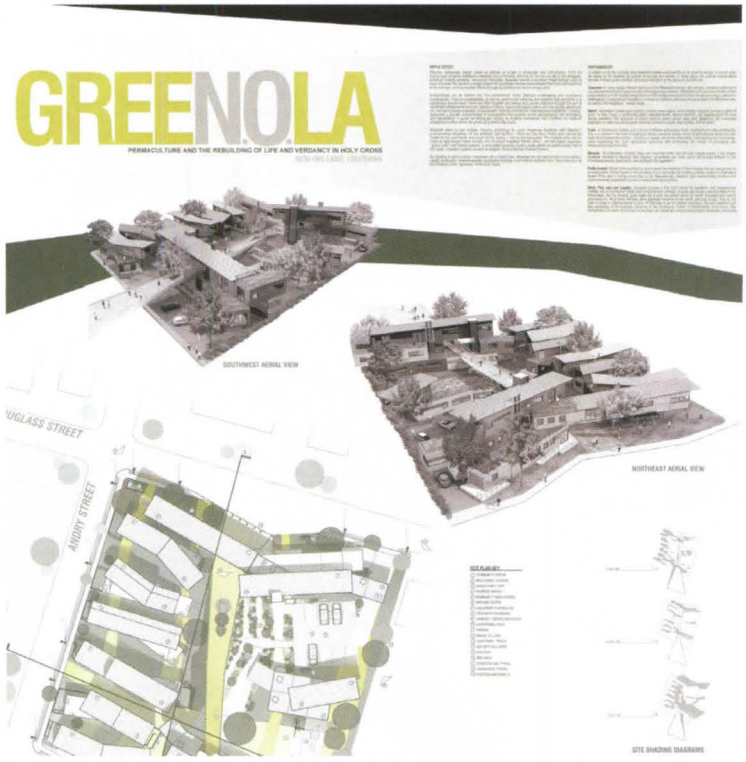


LIBESKIND'S DENVER ART MUSEUM OPENS

Faceted, folded, and jagged, Daniel Libeskind's 18,000-square-foot, titanium-clad expansion of the Denver Art Museum augments the institution's 1971 Gio Ponti building. Yet limiting the description to formal characteristics is to miss the extraordinary spatial experience offered by the contrapuntal relationship between the architecture, visitor, and art—a meeting that renders a justifiable beauty to the awkward residual spaces generated by Libeskind's complex geometry.

The museum is organized around a 120-foot-tall atrium, where a winding staircase encircles *ENGI* (2006), an installation by Tatsuo Miyajima, and leads to the permanent collection and temporary exhibitions. A succession of canted wall and ceiling planes interacts with the diverging path of the steps.

In the galleries, display partitions—designed by Daniel Kohl, the museum's director of design—skillfully juxtapose Libeskind's articulated surfaces, guiding one through and around the exhibition spaces. Davis Partnership, of Denver, functioned as the associate architect for the addition. **BY MARTHA HUTCHINSON**



RICHARD BLINDER, 1935–2006

Richard L. Blinder, a founding partner of New York City-based Beyer Blinder Belle, died on September 7 in Shanghai, China, at the age of 71, where he was working on a performing arts project.

Blinder established the firm in 1968 with John H. Beyer and John Belle, who he had worked with in Victor Gruen's office in 1961. Long known for its historic preservation work, the practice's portfolio includes the Ellis Island Immigration Museum (1990), with Notter, Finegold & Alexander, the restoration of Grand Central Terminal (1998) in midtown Manhattan, and the Ford Center for the Performing Arts in Times Square (1998).

A member of civic and cultural institutions, Blinder founded the James Marston Fitch Charitable Trust in 1989, with the mission to provide mid-career research grants in historic preservation and rehabilitation. **BY MICHELLE KANG**

GREENING NEW ORLEANS

Matthew Berman and Andrew Kotchen of the New York City-based workshop/apd have won the Sustainable Design Competition of New Orleans, cosponsored by Global Green USA, a Santa Monica-based environmental organization, and actor/activist Brad Pitt. The competition called for schemes to redevelop a 1.5-acre site in the Katrina-damaged Lower Ninth Ward with a 12-unit housing complex, six single-family homes, and a community center.

The winning scheme—GreeN.O.LA: Permaculture and the Rebuilding of Life and Verdancy in Holy Cross—was selected by a two-jury system (a technical group that included members of the U.S. Green Building Council and the AIA, and a design jury) and calls for modular components, allowing for quick construction, efficient recycling of building materials, and easy replication.

According to Global Green president Matt Petersen, fundraising is already underway in the form of financing and private donations, and the project is slated to break ground in January 2007. **BY KATIE GERFEN**

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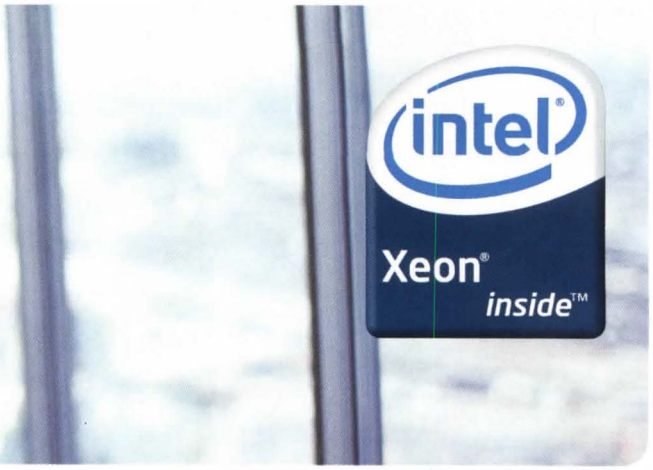

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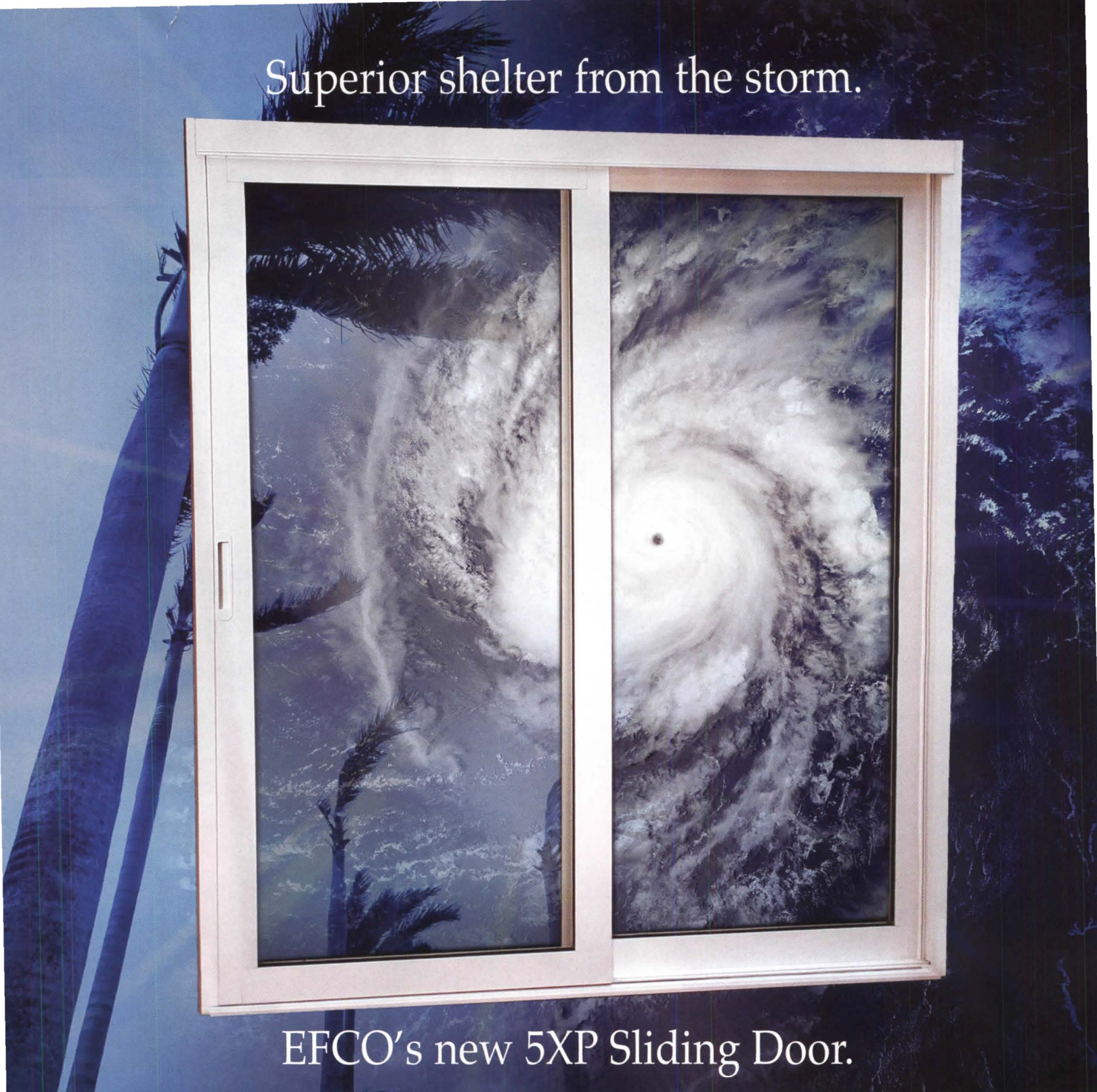

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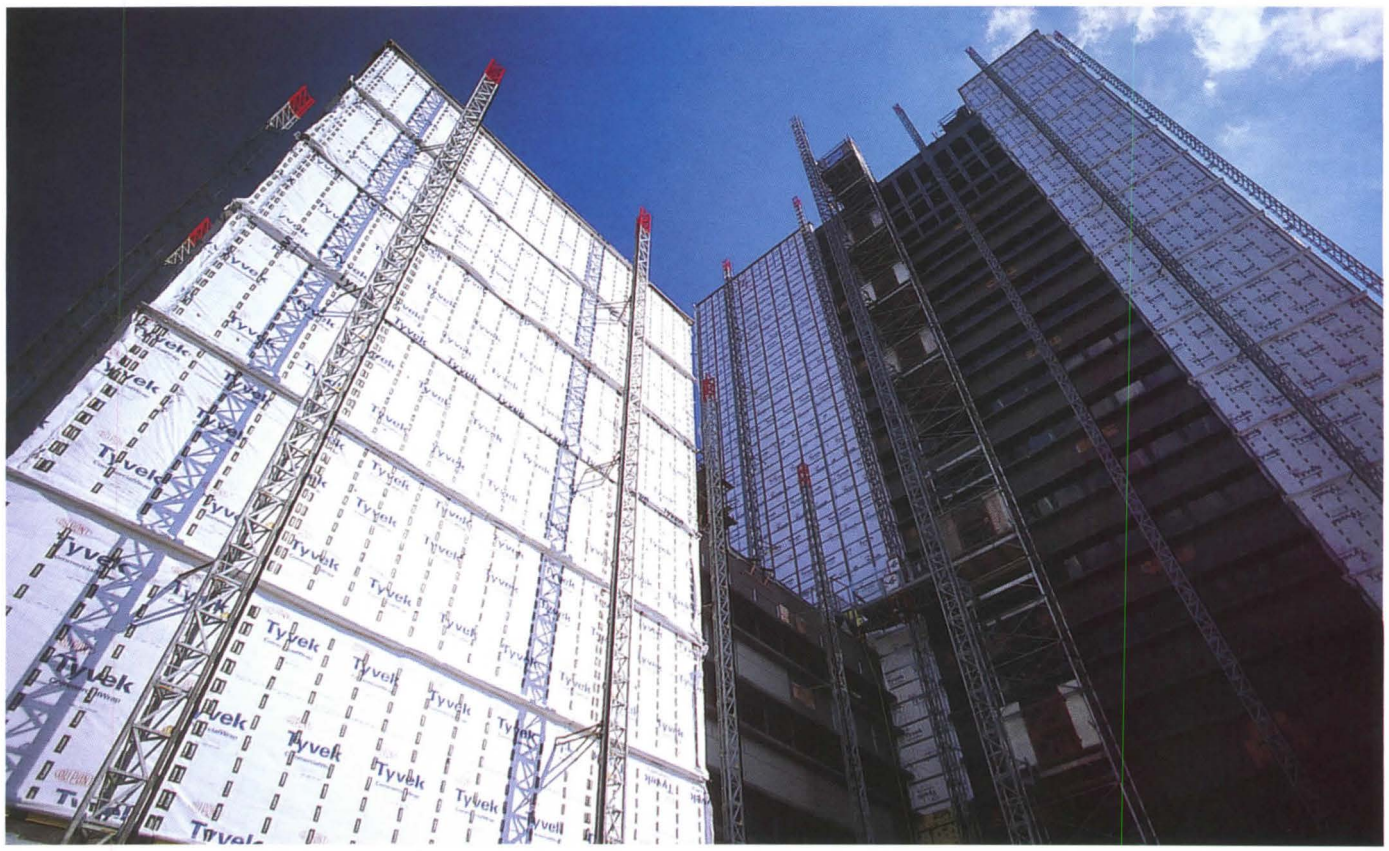

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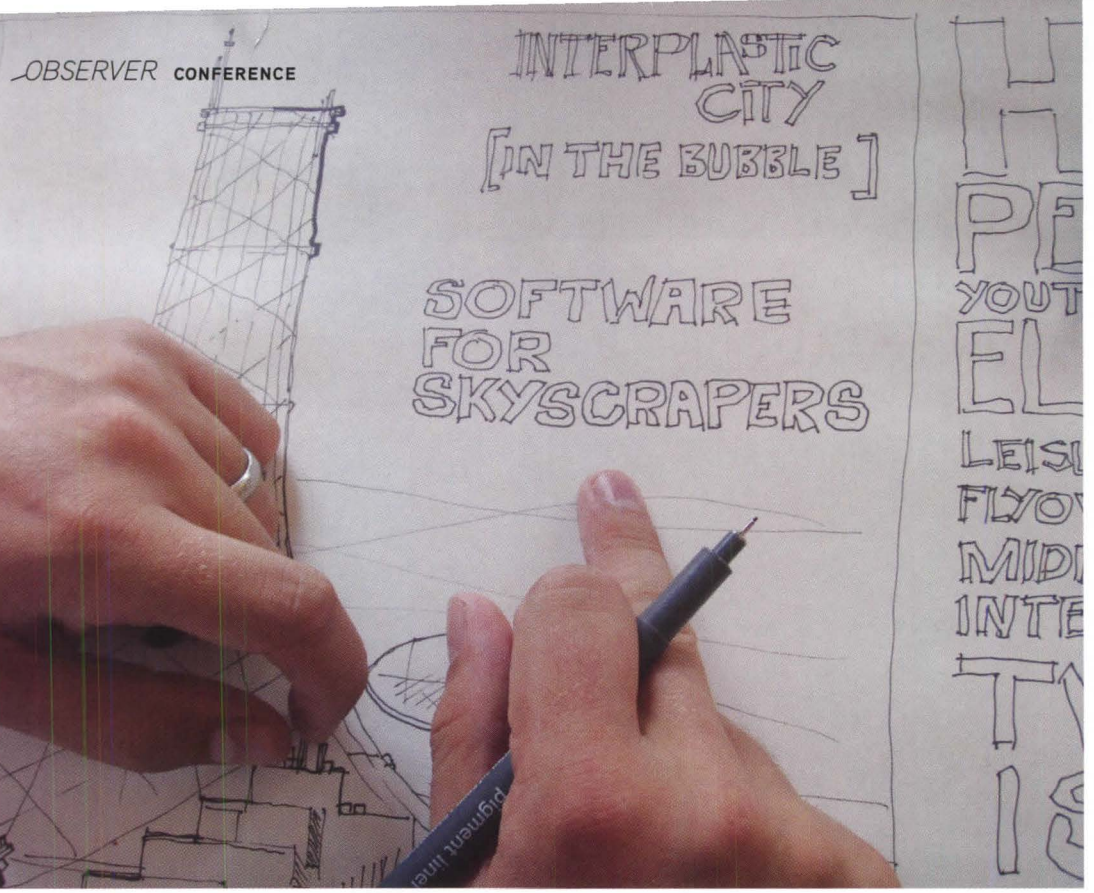

CELL CITY

A SAN FRANCISCO CONFERENCE LINKS ART, URBANISM, AND TECHNOLOGY.

TEXT AND PHOTOGRAPH BY JUDITH ZISSMAN

"Ok, everyone, turn *on* your cell phones. Dial the number on the screen and it will register your presence in the room." With that announcement—and a knowing smile—conference co-organizer Eric Paulos opened the Interactive City Summit in San Francisco this past August, deliberately encouraging disruption as one way to explore how people interact with technology in public landscapes.

Questions tackling access, use, and subversion of embedded and ambient technologies in urban spaces were at the heart of this two-day gathering, held in conjunction with ZeroOne San Jose: A Global Festival of Art on the Edge and the International Symposium of Electronic Art. Probing the intersections of urban studies, physical computing, game play, and political discourse, presenters and attendees shared their experiences as creators, observers, and consumers of interactive cities.

University of Michigan associate professor Malcolm McCullough asked provocative questions to help frame the debate: "How useful is the term 'urban' anymore, now that more of the world's population lives in cities than not?" and "How do we decide which inputs matter in a world full of flashing screens?" The subsequent presentations and audience discussion continued these queries, raising issues concerning privacy and data pollution among others.

Matt Jones, a London-based creative director for Nokia Design and noted user-experience consultant, explored how technology takes inspiration from the brain's ability to learn patterns through spatial interaction. "The world is not a computer," Jones quipped, "We don't want a dumbed-down, robot-readable city of bar codes. But there are other ways we can map." Citing websites such as biomapping.net and mysociety.org, projects that use psychogeography and cartography to tell personal and political stories, Jones opened a discussion of how the rise of network technologies broadens the possibilities of Situationist-inspired interactions.

Art collectives Rebar, based in the Bay Area, and London's Troika expanded on the themes of subversive and playful use of urban spaces, in what the former calls "reprogramming the street." Rebar founders Matthew Passmore and John Bela presented their ongoing *PARK(ing)* project, a clever temporal intervention that turns the rented area of a parking spot into a public green space for the two-hour duration of the meter. Troika artists Eva Rucki and Sebastien Noel presented their *Tool for Armchair Activists*. Essentially a speaker mounted to a lamppost, the piece broadcasts verbal translations of the phone-based text (SMS) messages sent to the *Armchair* device, enabling global audiences to participate in local protests.

The more practical functions of these interactive technologies were also highlighted. Nancy Frishberg, senior user experience strategist at San Jose software developer Vinq, presented dataplace.org, a compelling and powerful visualization tool that enables affordable housing and community development professionals to utilize census and other public information sets to create meaningful graphics and analyses of trends and patterns in urban life.

The conference documented the ubiquity of handheld devices, large-scale public displays of real-time information, surveillance, and geopositioning tools, and in doing so proved to participants that the interactive city—a network of data and communication—is a present reality, not a futurist utopia/dystopia. ◻

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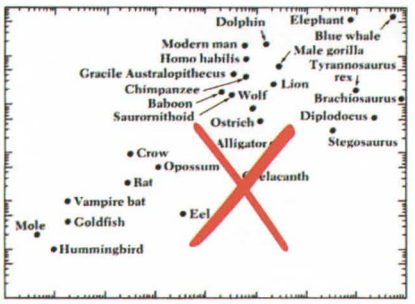

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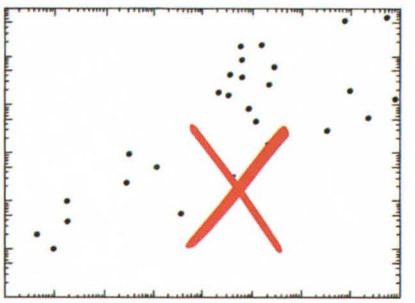

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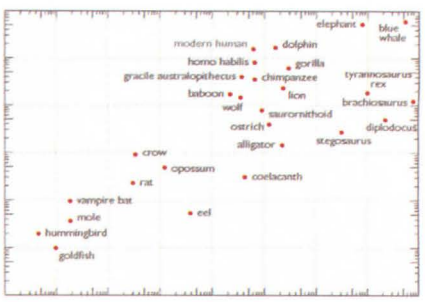
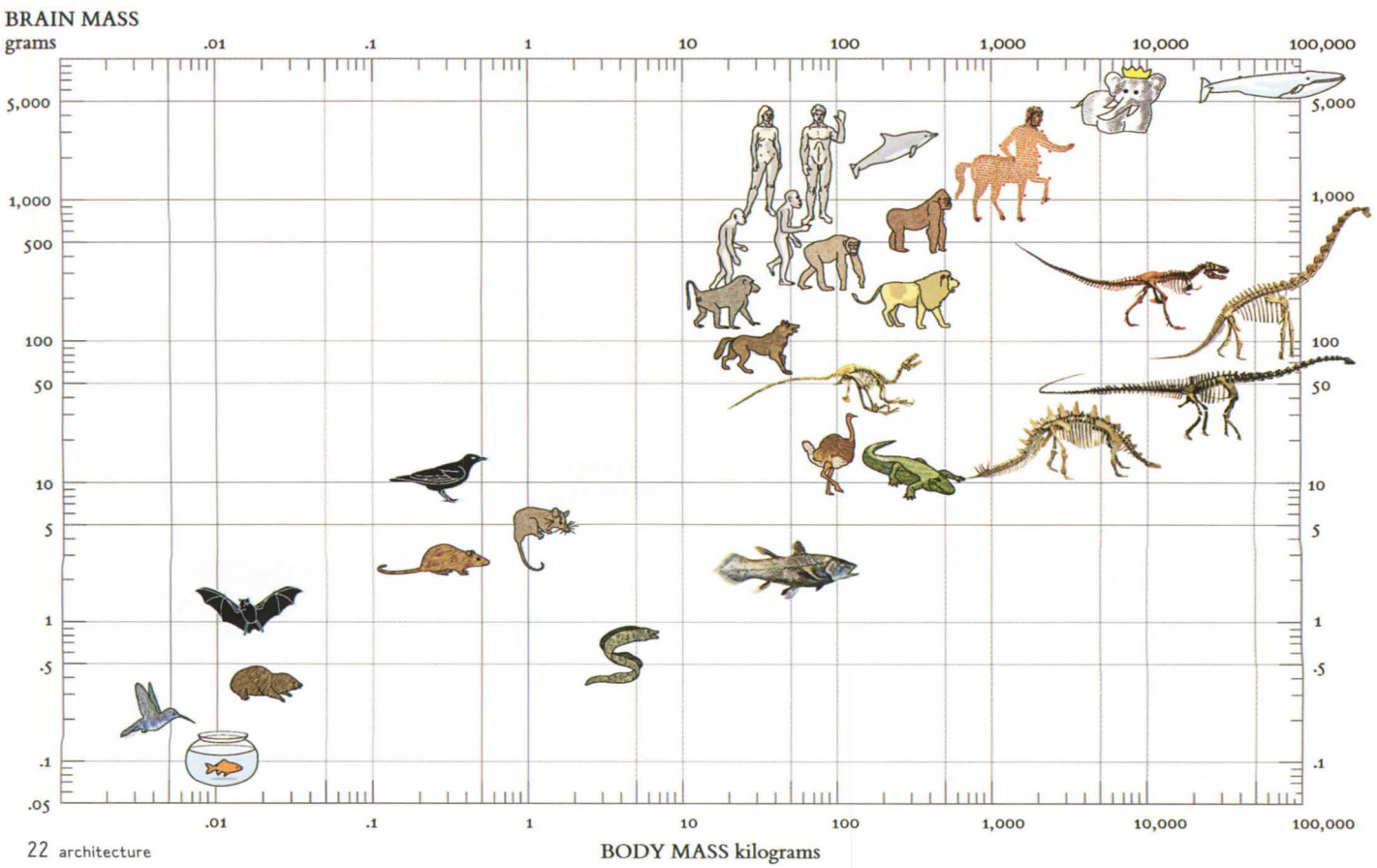


The redesign sequence reflects these fundamental principles: 1. Clutter is a failure of design, not an attribute of information. 2. Visual problems should not be fixed by reducing content-resolution (such as, for example, discarding words that label data). 3. Instead, fix the design.

Words and data-dots are abstracted representations of actual animals and body/brain masses. In a spirit of seeking visual solutions for visual problems, let each animal represent *itself* at its two-space location in the scatterplot below. Image sizes are proportional only to space available—except for the big brachiosaurus and tiny humans, shown together here at right, whose amazing relative sizes are approximately correct. Other details below repay study.



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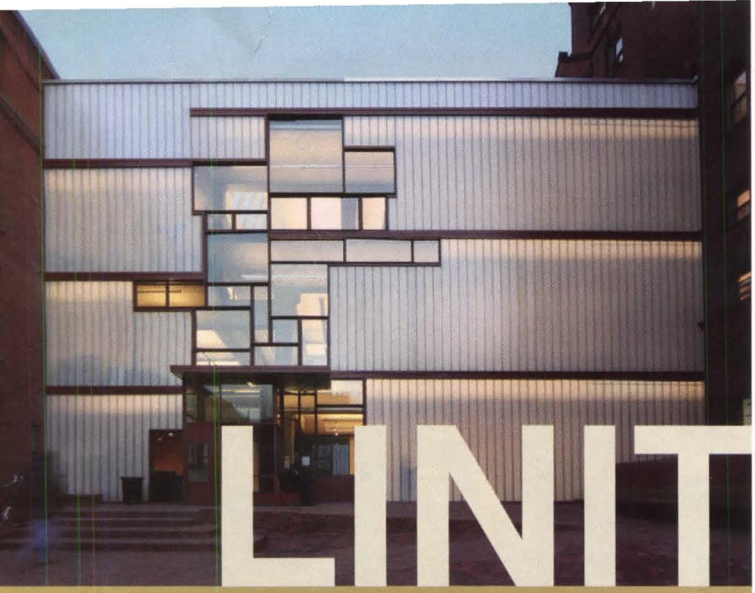

channel glass

PROJECT: Pratt Institute School of Architecture, Brooklyn, NY

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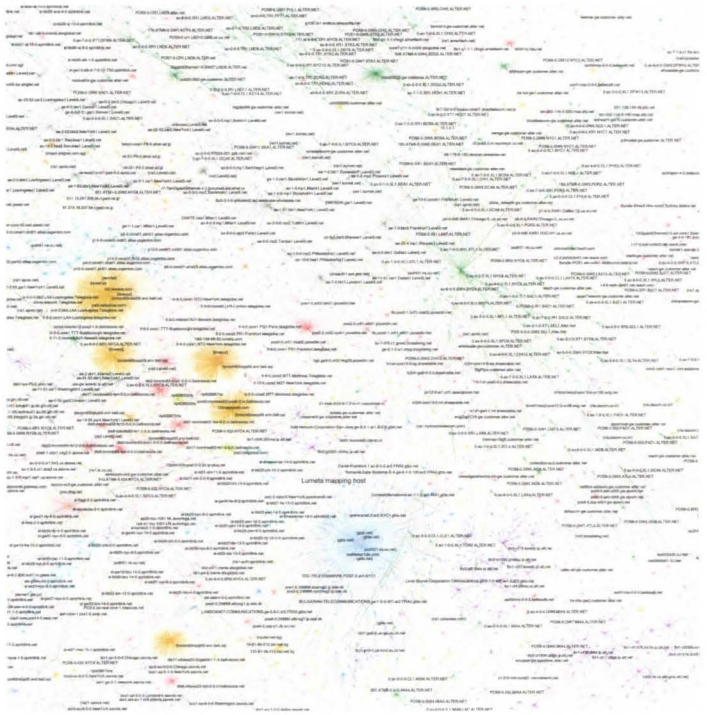

MAP OF THE INTERNET BY BILL CHESWICK AND HAL BURCH, FROM *ELSE/WHERE: MAPPING: NEW CARTOGRAPHIES OF NETWORKS AND TERRITORIES*

ELSE/WHERE:
MAPPING: NEW CARTOGRAPHIES OF NETWORKS AND TERRITORIES
Edited by Janet Abrams and Peter Hall
University of Minnesota Design Institute; 320 pages; $49.95

Beginning with the Internet and ending with a dress made of parachute silk by a World War II widow, the book covers projects that document networks, conversations, territories, and maps. The tie that binds the investigations together is that they often draw from the same group of canonical authors and practitioners: Fredric Jameson, Kevin Lynch, Harry Beck, and James Corner, to name a few. Whether it is a historical account of the discovery of the New World, an essay on GPS navigation technology, or a story about London-based artist Jeremy Wood, whose cross-country movements were tracked via satellite to inscribe messages on the earth, mapping is clearly an active interpretation of reality.

Once a necessity for oceanic navigation, today mapping is a tool for exploring and uncovering nearly every aspect of knowledge. Skipping through eras and genres somewhat haphazardly, this extensive collection offers insight into how mapping has developed as an exercise and pushes one's imagination toward future possibilities. Cartographers of the twenty-first century no longer simply chart the visible world and have moved beyond static vellum sheets to dynamic parametric computer modeling. Accounts of media artists like Ben Fry, who together with the Broad Institute of the Massachusetts Institute of Technology and Harvard University, created interactive software that visualizes the human genome, prove that mapping is rapidly developing to assist innovation.

His and the work of others in this volume reveal that maps can depict nonterrestrial space, creating new planes of comprehension and awareness. The accounts of artists, essayists, and interviewees conclude that what was once the domain of global explorers is now the medium of intellectual investigators. **BY NATHALIE WESTERVELT**

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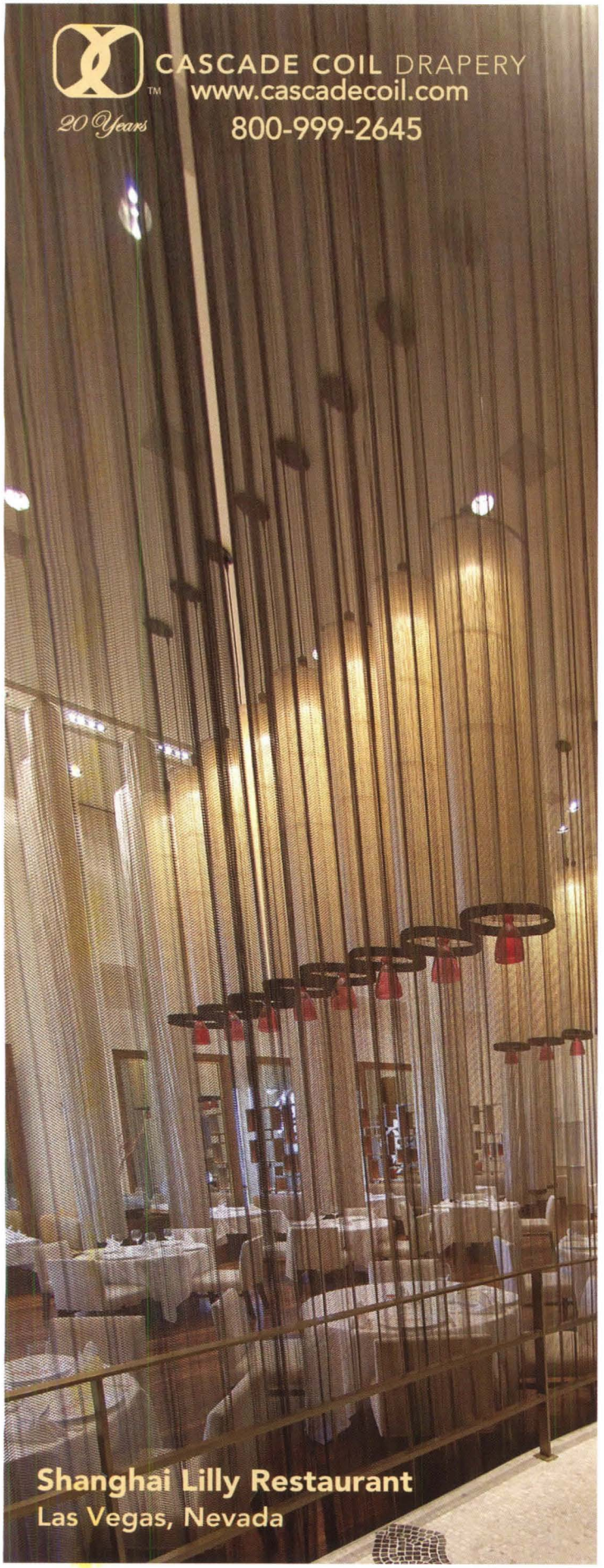

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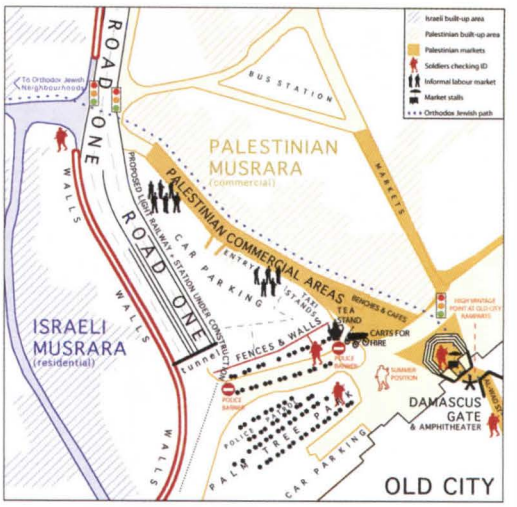

DAMASCUS GATE TRIANGLE MAPPED, FROM *DID SOMEONE SAY PARTICIPATE? AN ATLAS OF SPATIAL PRACTICE*.

ARBORETUM
By David Byrne
McSweeney's Books; 190 pages; $24
Excerpts from Byrne's idiosyncratic journals are presented primarily in treelike pencil diagrams.

CARTOGRAPHIES OF TRAVEL AND NAVIGATION
Edited by James R. Akerman
University of Chicago Press; 344 pages; $55
Historical accounts of how transportation has been mapped.

DID SOMEONE SAY PARTICIPATE? AN ATLAS OF SPATIAL PRACTICE
Edited by Markus Miessen and Shumon Basar
MIT Press; 300 pages; $25
Looking at architecture beyond a definition of built substance into one of knowledge that is constructed by those eschewing conventional practice as well as nonarchitects.

TRANSIT SPACES: FRANKFURT/ODER-POZNAN//WARSAW//BREST//MINSK//SMOLENSK//MOSCOW
Edited by Regina Bittner, Wilifried Hackenbroich, and Kai Vöckler
Jovis; 480 pages; $35
A three-year study on the transit corridor between Berlin and Moscow examines the string of cities en route in terms of their socialist-bloc heritage and shifts to global capitalism.

WEBSITES:
arch.columbia.edu/index.php?pageData=46947
Source for the Columbia University advanced studio that resulted in the exhibition *Architecture and Justice* (see page 52).

nationalmap.gov/gio/viewonline.html
Online listing of the United States Geological Survey's maps and aerial images.

worldchanging.com/archives/004875.html
The impacts of globalization identified through a digital compilation of maps, narratives, and data analysis.

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OUT AND ABOUT

EXHIBITIONS

LEON, SPAIN

JULIE MEHRETU | BLACK CITY

Twenty canvases by the New York City-based, Ethiopian-born artist map political and social tensions caused by architecture and urban planning. MUSEO DE ARTE CONTEMPORÁNEO DE CASTILLA Y LEÓN musac.org.es THROUGH JANUARY 7, 2007

LOS ANGELES

SKIN + BONES: PARALLEL PRACTICES IN FASHION AND ARCHITECTURE

Investigates surfaces and frameworks from curtain walls to corsets. MUSEUM OF CONTEMPORARY ART moca.org NOVEMBER 19–MARCH 5, 2007

PHILADELPHIA

MOTHER'S HOUSE: ROBERT VENTURI'S BIG LITTLE HOUSE FOR VANNA VENTURI

The iconic home as featured in drawings, furniture, models, and photos. WOODMERE ART MUSEUM woodmereartmuseum.org THROUGH JANUARY 17, 2007

EVENTS

BALTIMORE

BALTIMORE ARCHITECTURE WEEK

Seminars and open houses exploring historic and modern architecture around the coastal city. VARIOUS LOCATIONS aiabalt.com OCTOBER 14–24

LJUBLJANA, SLOVENIA

BIO 20

The 20th Biennial of Industrial Design, known as Bio 20, includes an awards program and 17 exhibitors from Europe, Slovenia, and the United States. ARCHITECTURE MUSEUM OF LJUBLJANA bio.si THROUGH NOVEMBER 5

SAN FRANCISCO

WILLIAM MASSIE

The architect-in-residence and head of Cranbrook Academy of Art's architecture program discusses his inventive approach to digitally generated building technologies. CALIFORNIA COLLEGE OF THE ARTS cca.edu NOVEMBER 13

TIJUANA, MEXICO

HABITANDO LA FRONTERA/INHABITING THE BORDER

The third symposium hosted by Otra/Another investigates the effects of economic, social, and political change on housing in Mexico and the United States. INSTITUTO DE CULTURA DE BAJA CALIFORNIA otranother.blogspot.com NOVEMBER 10–30

COMPETITIONS

07 SKYSCRAPER COMPETITION

An ideas competition to redefine the term skyscraper, taking into consideration a host of environmental and formal issues. evolo-arch.com REGISTRATION DEADLINE: JANUARY 8, 2007

AHSRAE 2007 STUDENT DESIGN COMPETITION

A student design competition to transform a package delivery distribution center into a biotechnology research complex—with labs, office space, equipment, and a mechanical penthouse space—using HVAC and refrigeration systems. ashrae.com ENTRY DEADLINE: MAY 4, 2007

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MEASURE FOR MEASURE

LASER DEVICES STRAIGHTEN SURVEY AND LAYOUT TASKS.

BY MIMI ZEIGER

There is something reassuring about the traditional handyman's tape measure—the seemingly indestructible design, the satisfying snap as the ribbon of numbers recoils into its case. Yet last year, when I was conducting a field survey, I broke mine. The tape was stretched out between two lampposts and I ran back and forth between the ends, trying to jot down an accurate distance. My method was crude and, sadly, the site visit concluded with a tangle and the rule in two halves.

Leica Geosystems' sixth generation of laser distance meters would have added a bit of grace to my slapstick survey. By projecting a beam, the handheld, bright-red Leica Distro A6 can measure anywhere from two inches to 650 feet. A digital screen displays data accurate within .08 inches. The company also provides software that works in conjunction with a built-in Bluetooth device to transfer values to a computer.

Distance meters are useful to collect measurements, but a second set of instruments is required to lay-out new construction. Levels, such as the PLS2E Palm Laser and Detector by Pacific Laser Systems, or the AccuLine Pro series from Johnson Level & Tool, can be used indoors or outdoors and replace old-fashioned bubble vials and plumb bobs to set straight reference points. Trimble offers a suite of alignment tools: Robotic and Servo Total Stations, resembling surveyors' theodolites, are packed with high-tech improvements including laser levels and meters. They can also be programmed with blueprint dimensions via the company's Layout Manager.

For all their gadgetry, these tools don't correct human error and haven't exactly been embraced by builders and architects for small- to medium-sized projects. "The laser levels only work if you have your topos right to start with," cautions Los Angeles designer John Southern, of Urban Operations Studio. "We still use stakes, batter boards, and a tape measure."

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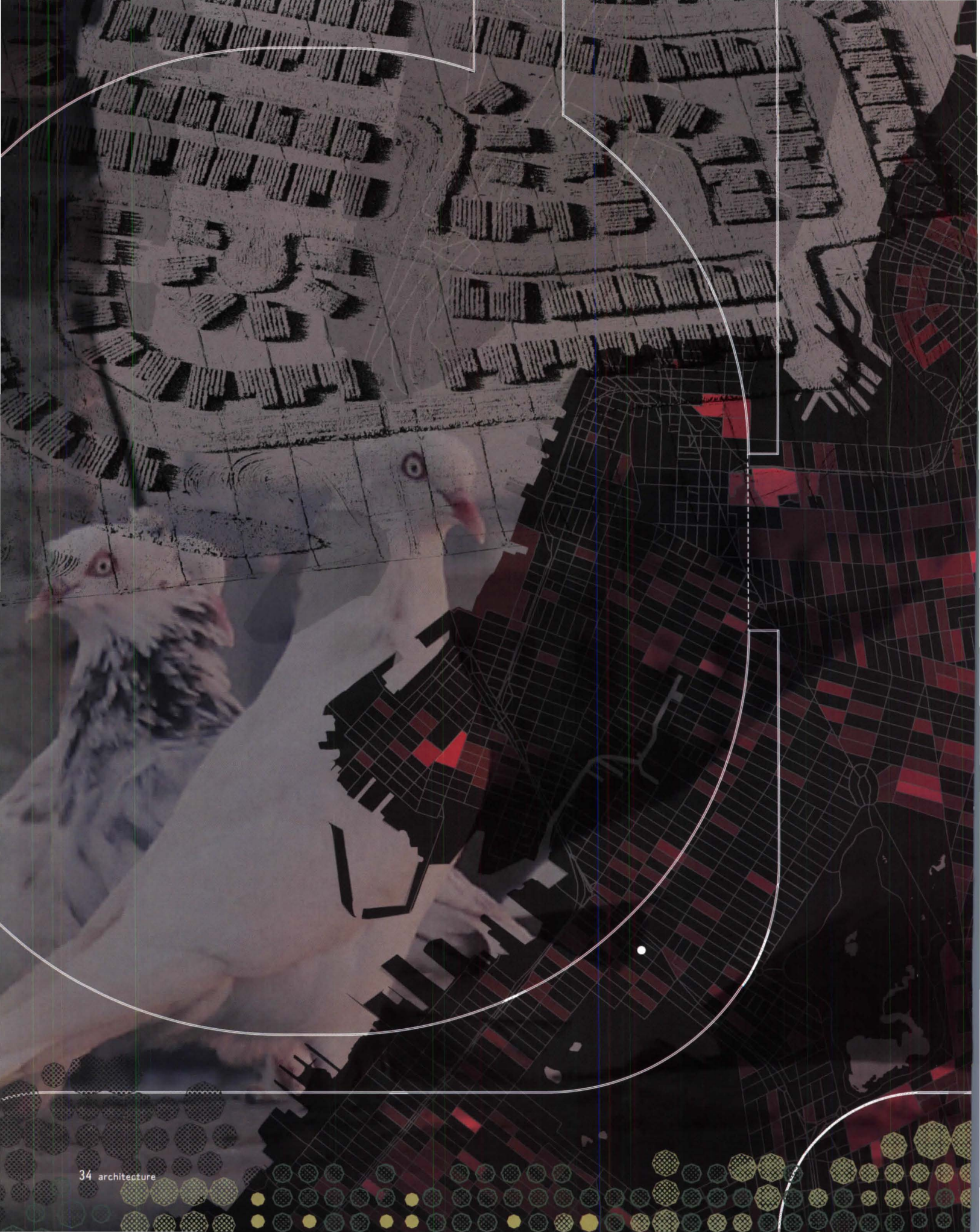
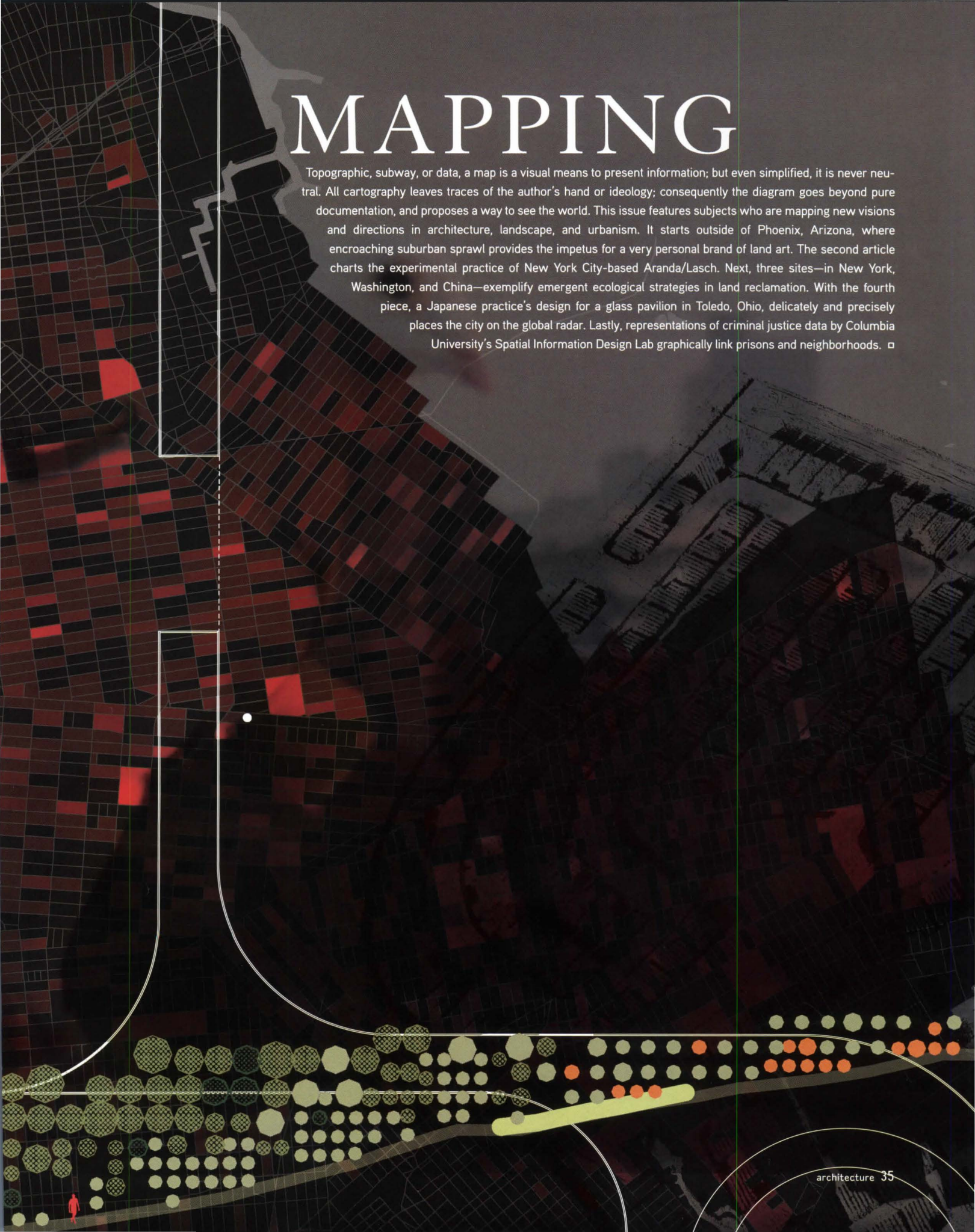




MAPPING

Topographic, subway, or data, a map is a visual means to present information; but even simplified, it is never neutral. All cartography leaves traces of the author's hand or ideology; consequently the diagram goes beyond pure documentation, and proposes a way to see the world. This issue features subjects who are mapping new visions and directions in architecture, landscape, and urbanism. It starts outside of Phoenix, Arizona, where encroaching suburban sprawl provides the impetus for a very personal brand of land art. The second article charts the experimental practice of New York City-based Aranda/Lasch. Next, three sites—in New York, Washington, and China—exemplify emergent ecological strategies in land reclamation. With the fourth piece, a Japanese practice's design for a glass pavilion in Toledo, Ohio, delicately and precisely places the city on the global radar. Lastly, representations of criminal justice data by Columbia University's Spatial Information Design Lab graphically link prisons and neighborhoods. ▫

from seed to suburb

Artist/farmer Matthew Moore plants a critique of sprawling Phoenix.

by Mimi Zeiger *photograph by Tim Lanterman*

From the air it looks like a Photoshop mirage—a pattern of emerald rooftops and tan cul-du-sacs rising out of a field. Agricultural squares flank the verdant subdivision, measuring out a one-mile-by-one-mile grid. Adjacent to it a new development is taking shape; roads and lots carved into the Arizona desert. On the horizon looms the future—the asphalt and swimming pools of suburban Phoenix.

An artwork by Matthew Moore, *Rotations: Moore Estates*, recreated the map of the housing engulfing the fields. Streets and homes are formed out of black bearded wheat and sorghum. The layout, drawn from plans filed with the city, is based on the actual, imminent development of an adjacent parcel. Moore's family sold off 140 acres of its ever-shrinking farm to a developer, and for the artist, the piece is a way to comprehend that loss. "*Rotations: Moore Estates* is about how am I going to feel when development is here; when the crops are replaced by floor plans," mulled Moore. "The project tells a story of the American dream."

It is tempting to categorize Moore's work as clever land art. Taking up 30 acres of a 42-acre field, the scale of *Rotations* is as bold as earthworks like Michael Heizer's *Double Negative* or Robert Smithson's *Spiral Jetty*. Those two 1970 pieces explored temporality, but were also conceived as challenges to the commercial gallery system. Although time-based (the crops matured and were ploughed back into the land), Moore's artwork has a different mis-

sion than the older works. It is a cultural critique and a means to convey a family's complex relationship to their property, Sycamore Farms.

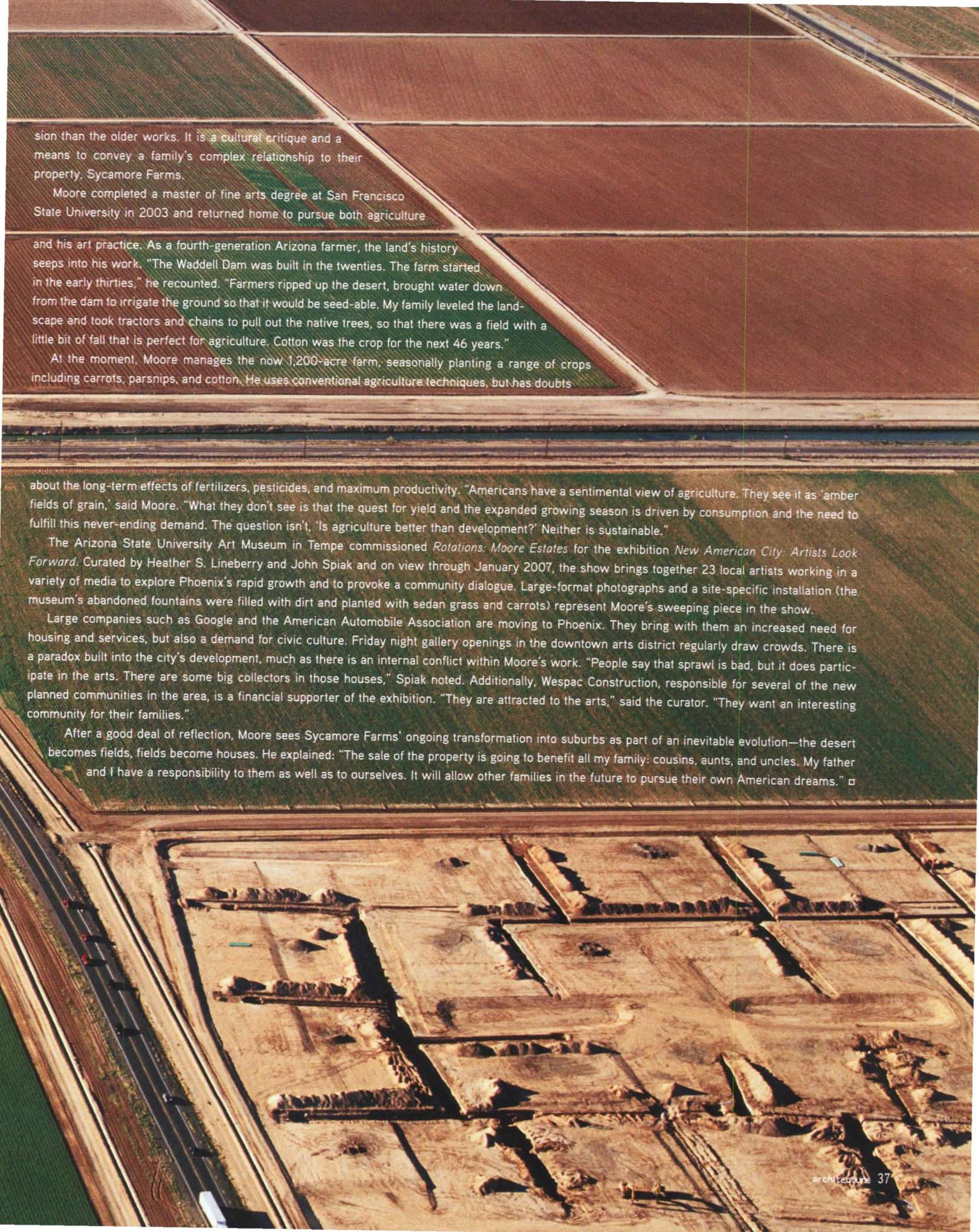
Moore completed a master of fine arts degree at San Francisco State University in 2003 and returned home to pursue both agriculture and his art practice. As a fourth-generation Arizona farmer, the land's history seeps into his work. "The Waddell Dam was built in the twenties. The farm started in the early thirties," he recounted. "Farmers ripped up the desert, brought water down from the dam to irrigate the ground so that it would be seed-able. My family leveled the landscape and took tractors and chains to pull out the native trees, so that there was a field with a little bit of fall that is perfect for agriculture. Cotton was the crop for the next 46 years."

At the moment, Moore manages the now 1,200-acre farm, seasonally planting a range of crops including carrots, parsnips, and cotton. He uses conventional agriculture techniques, but has doubts about the long-term effects of fertilizers, pesticides, and maximum productivity. "Americans have a sentimental view of agriculture. They see it as 'amber fields of grain,' said Moore. "What they don't see is that the quest for yield and the expanded growing season is driven by consumption and the need to fulfill this never-ending demand. The question isn't, 'Is agriculture better than development?' Neither is sustainable."

The Arizona State University Art Museum in Tempe commissioned *Rotations: Moore Estates* for the exhibition *New American City: Artists Look Forward*. Curated by Heather S. Lineberry and John Spiak and on view through January 2007, the show brings together 23 local artists working in a variety of media to explore Phoenix's rapid growth and to provoke a community dialogue. Large-format photographs and a site-specific installation (the museum's abandoned fountains were filled with dirt and planted with sedan grass and carrots) represent Moore's sweeping piece in the show.

Large companies such as Google and the American Automobile Association are moving to Phoenix. They bring with them an increased need for housing and services, but also a demand for civic culture. Friday night gallery openings in the downtown arts district regularly draw crowds. There is a paradox built into the city's development, much as there is an internal conflict within Moore's work. "People say that sprawl is bad, but it does participate in the arts. There are some big collectors in those houses," Spiak noted. Additionally, Wespac Construction, responsible for several of the new planned communities in the area, is a financial supporter of the exhibition. "They are attracted to the arts," said the curator. "They want an interesting community for their families."

After a good deal of reflection, Moore sees Sycamore Farms' ongoing transformation into suburbs as part of an inevitable evolution—the desert becomes fields, fields become houses. He explained: "The sale of the property is going to benefit all my family: cousins, aunts, and uncles. My father and I have a responsibility to them as well as to ourselves. It will allow other families in the future to pursue their own American dreams." ▫



unnatural phenomena

Charting a new form of practice, Benjamin Aranda and Chris Lasch follow orders.

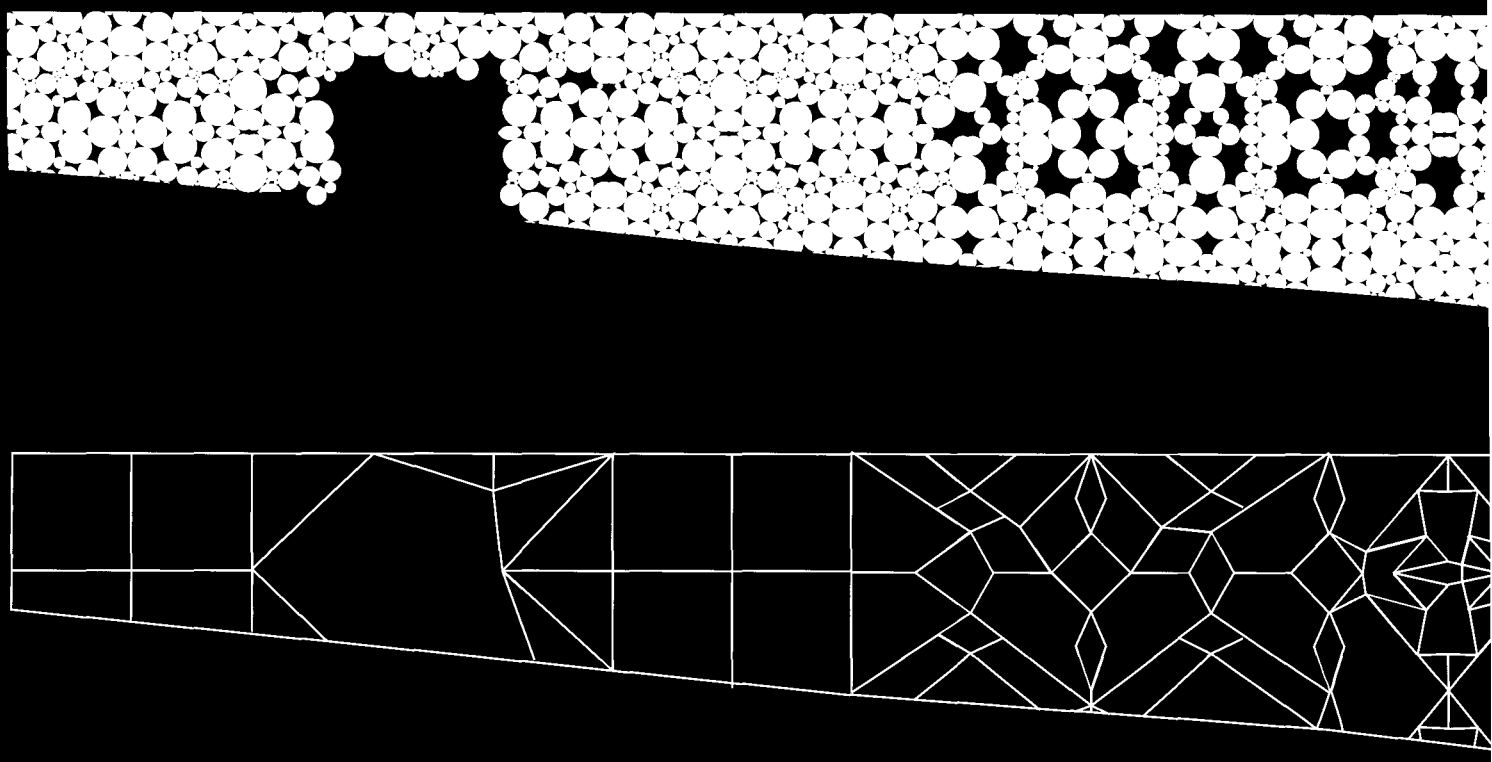
by Julie Sinclair Eakin

"We talk a lot about communication," says Benjamin Aranda, of Aranda/Lasch. "We're not sure what it is." I had complimented the architects on the clarity of their writing in *Tooling*, the latest book published in Princeton Architectural Press's Pamphlet Architecture series. It's typical of the young partners to question the foundation of everything they study, including their own approach; the distillation process is in fact at the core of their uncanny work.

Tooling documents Aranda/Lasch's methodology as they build code, or algorithms, to approximate patterns they've identified in nature in order to discover design concepts. Key to this vision is an insistence on the verb, on the act of becoming: Spiraling, Packing, Weaving, Blending, Cracking, Flocking, and Tiling; these acts detail a series of transformative processes called out as chapter headings in the small-format paperback. Straightforward definitions such as "Packing produces stability through adjacency" and "Blending is a fundamental technique in the act of negotiation" are followed by examples of natural phenomena that embody those characteristics: flower petals signify Spiraling, while the enclosure system of bubbles evidences Tiling. Simple recipes for producing these patterns are included in an effort to share knowledge and honor those from whom they've learned. (The Blending exercise that yielded the mirrored construct on this issue's cover, for instance, is described using step-by-step instructions titled "How to Hide a Lovely View.") "We take a lot of this stuff from others," admits Chris Lasch. "So we're also giving it back."

Our conversation in Aranda/Lasch's downtown Manhattan office had already touched on edible birdhouses they created for an exhibition, buildings with the characteristics of mazes—the requirement for students in their summer studio at London's Architectural Association—and Lasch's latest algorithmic obsession, crystallography. Not content to merely theorize, the partners' musings are designed to suggest definitive architectural practices, and ultimately spatial propositions. The subtext underlying it, refreshing among architects, was the necessity for precise language, in words as well as forms and networks. "Procedural design work

The firm's Flocking investigations employed pigeons to record images of Brooklyn on high.



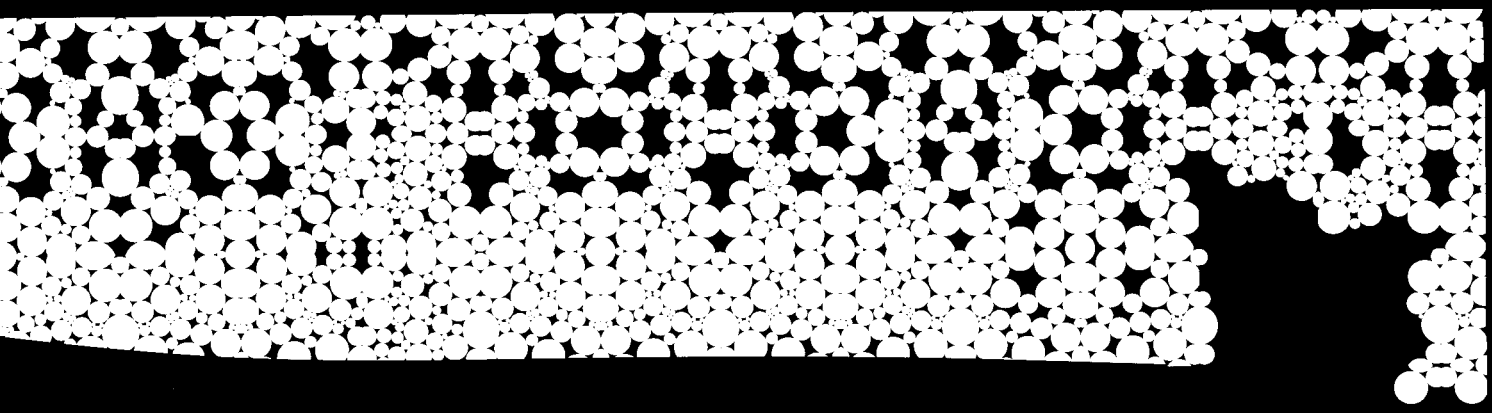
rewards clear communication,"
says Aranda. "It's a fundamental way of sharing
energy," he adds, trying on as good a definition for the elusive concept as I've heard.

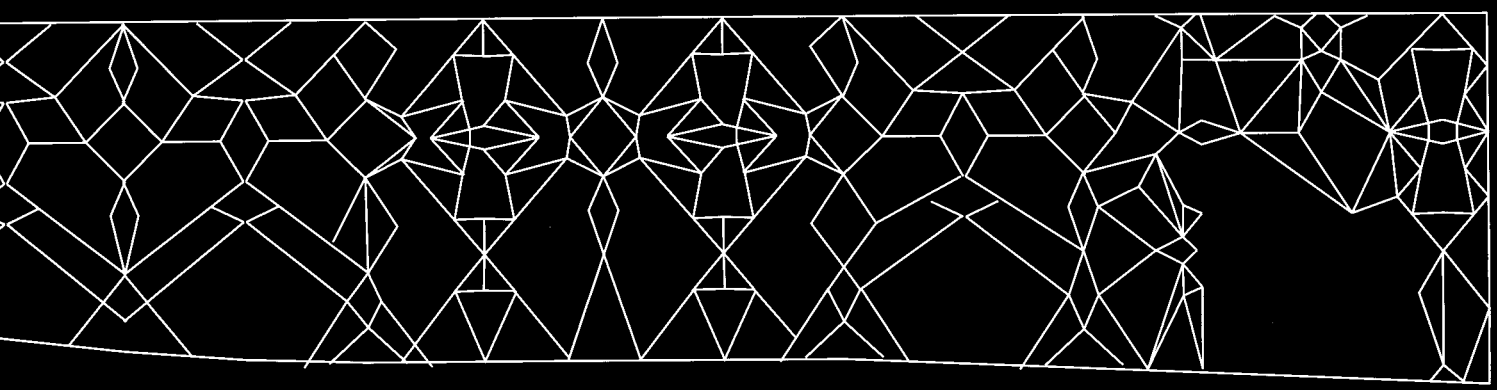
The two partners met in a third-year studio at Columbia University's Graduate School of Architecture, Planning and Preservation in 1998, and it became clear their eventual practice would focus on identifying a new role for architects. "We were interested in not just a professional approach to building, but in how to inform the design process," explains Aranda. Encouraged by their competition entries predicated on algorithmic procedures—*10 Mile Spiral* won the Welcome to Las Vegas Sign Design Competition in 2004—the architects have operated much like mapmakers ever since, tracing their ideas and layering visual data. It's significant that their method also requires un-learning, intentionally dismantling preconceptions by breaking down systems into basic components and reassembling the parts. They seek intrinsic structures to manipulate, but always with a mind to anchoring the research in cultural resonances. "What is it that makes a thing what it is?" asks Lasch.

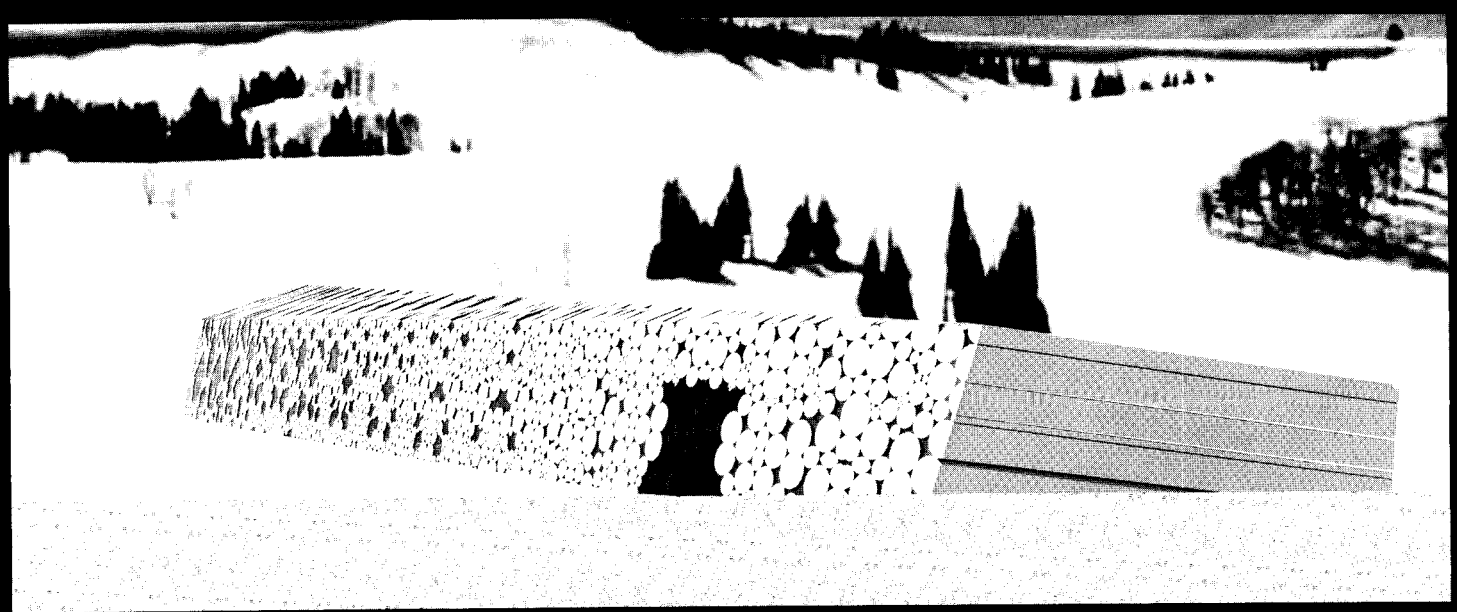
Emblematic of Aranda/Lasch's attempts to answer that question is a mapping project employing pigeons. Reacting to generic imaging programs, and with the help of a Brooklyn bird keeper, they equipped trained homing pigeons with wireless video cameras and microphones to develop a satellite that records the city as encountered by a flock of birds. "This project attempts to confront the limits of the grid by creating an equally rich disclosure of the city," reads the entry about the experiment in the Flocking section of *Tooling*. "From the pigeons we learned that a simple observation—what's out there—is an important way to order your thoughts about what you see," says Aranda. "We can repurpose that information for something else later." The footage captured by the pigeons is eerie: Buildings converge as if in German Expressionist paintings and the viewer's proximity to the slightly blurred structures unnerves. The "known" city has shifted.

While mapping generally denotes orientation, Aranda is quick to caution that all maps are artificial constructs. Similarly, he acknowledges that *Tooling* is provisional: "It's how we understand what we're looking at now." Lasch emphasizes an ongoing attribute of their exercises: "Getting lost is really important," he says. "Entering into a process of defamiliarization and ultimately giving yourself over to a choreography . . . that's how you get to the 'twist'," he adds.

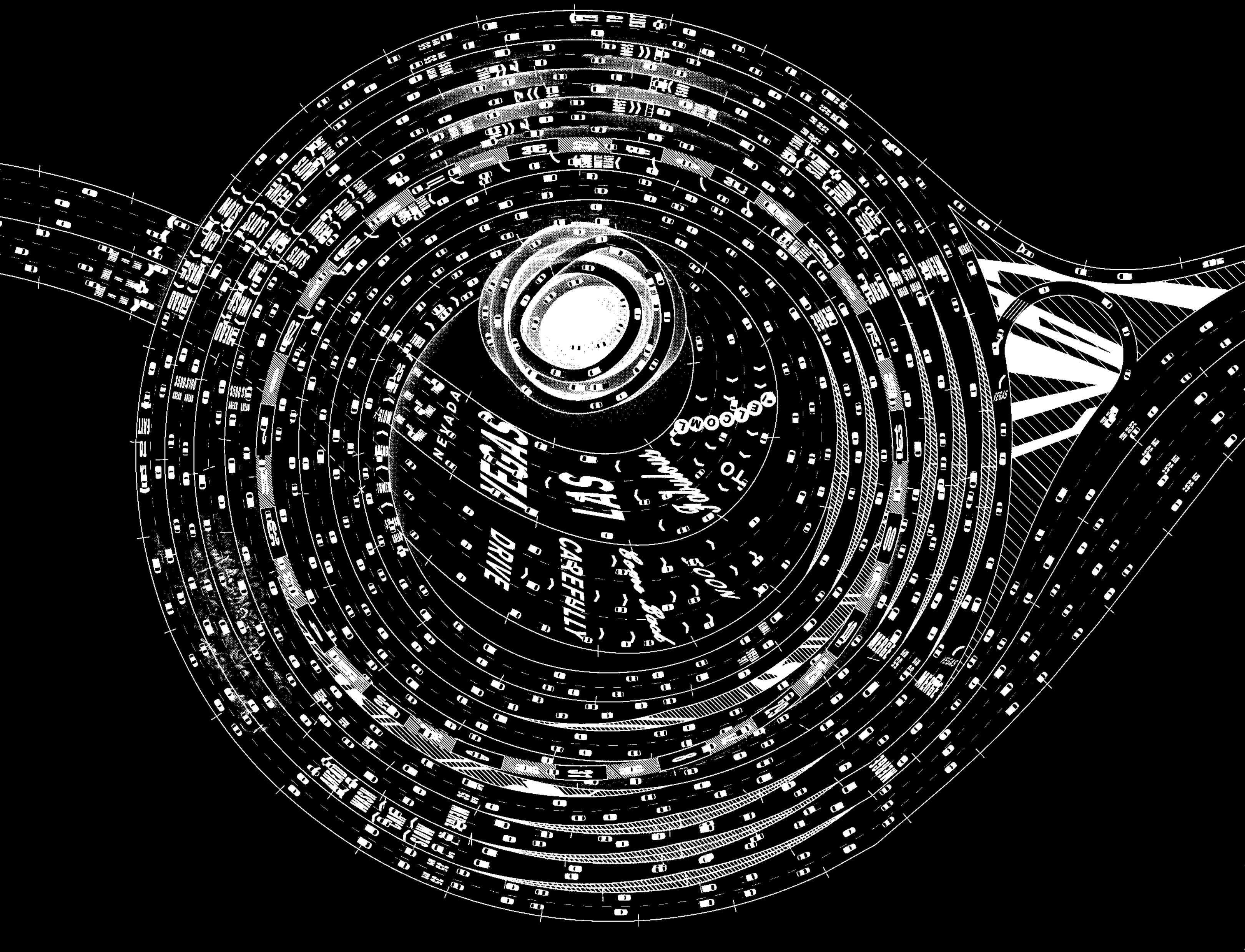
They credit this cryptic term to theorist Sanford Kwinter, who wrote the afterward to *Tooling*; referring to the introduction of something unknown into a quantifiable system, it can be a slight misalignment of code, or the integration of another's process, or both, as in their collaboration







Log cabin façade studies (above) were produced from a Tiling investigation.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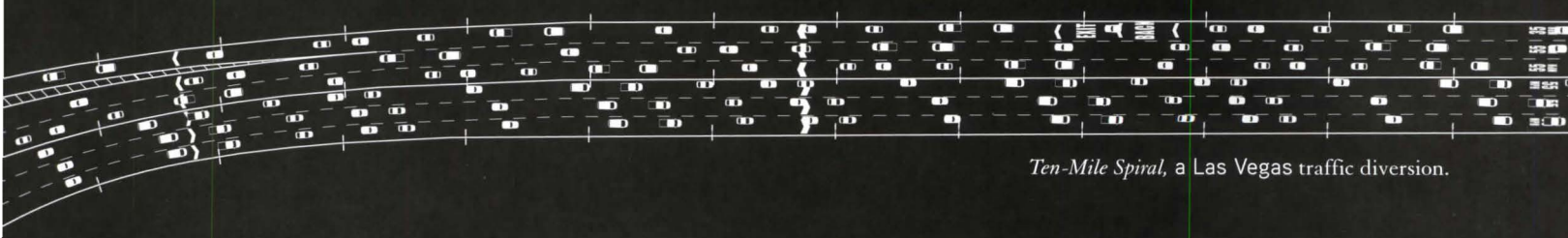


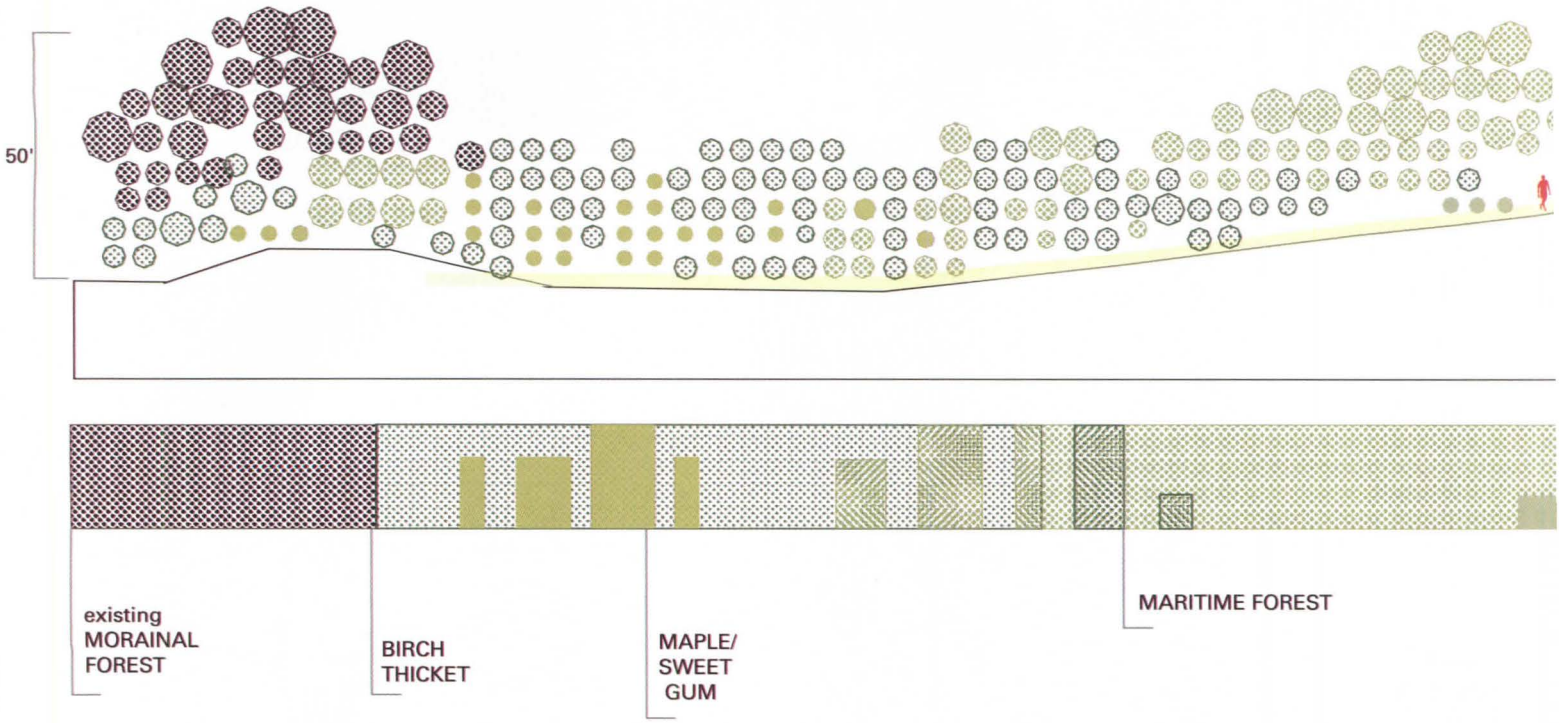
Ten-Mile Spiral, a Las Vegas traffic diversion.

with Native-American basket weaver Terrol Dew Johnson. For a collection of woven vessels exhibited at New York City's Artists Space last spring, warp and weft were interpreted as binary states, with myriad options for a continuous weave, providing the algorithm took into account its most recent decision before proceeding. For one piece, Johnson was mailed a few steel armatures produced using this method with instructions on bolting them together plus the encouragement to place whatever material he wanted in a series of punched holes. The result is a sculptural mesh of twigs bound with the traditional triangular stitch of Johnson's Arizona-based tribe; it looks like a miasmic crown of thorns. "Until recently, advanced technologies tended to omit craft," says Aranda. "We're not interested in an overhaul." He stresses the ideal of grounding their procedural design work in historical precedents whenever possible. "Because otherwise, let's face it, our open systems could be anything."

Their increasingly numerous adherents are clear about the fact that what the partners offer is unique. "Aranda/Lasch seems to have grasped something that has eluded many others," writes Kwinter, "that one needs cranes not only to create edifices, but also to build the larger cranes without which one cannot create the greater and most demanding edifices." In kind, the two men share Kwinter's belief in the inherent freedoms to be found in design. "It's too easy to become doomsday when you're dealing with science and math," says Lasch. "Referencing nature, for instance, allows tapping into something bigger than yourself."

Talking with the partners is like being on a road trip through somewhat familiar territory that's undergoing significant change. It's not an alteration of architectural culture, exactly; for all their idiosyncratic content and wit, they're still unsentimental, and wear, like many, their professional training as armor against not being taken seriously. Instead, I am reminded of something they learned from the pigeons, that it's in the nature of flocking for individual birds to peel away from one another to chart their own trajectories. The action itself sets a pattern into motion that resonates with other individuals. Aranda/Lasch's attentive work manages to communicate the value of that instinct to the rest of us. ◘

Binary computer models (left and middle) gave rise to a series of collaborations with a Native-American basket weaver.



salvaged terrain

Ecological and environmental practitioners bring life to derelict landscapes.

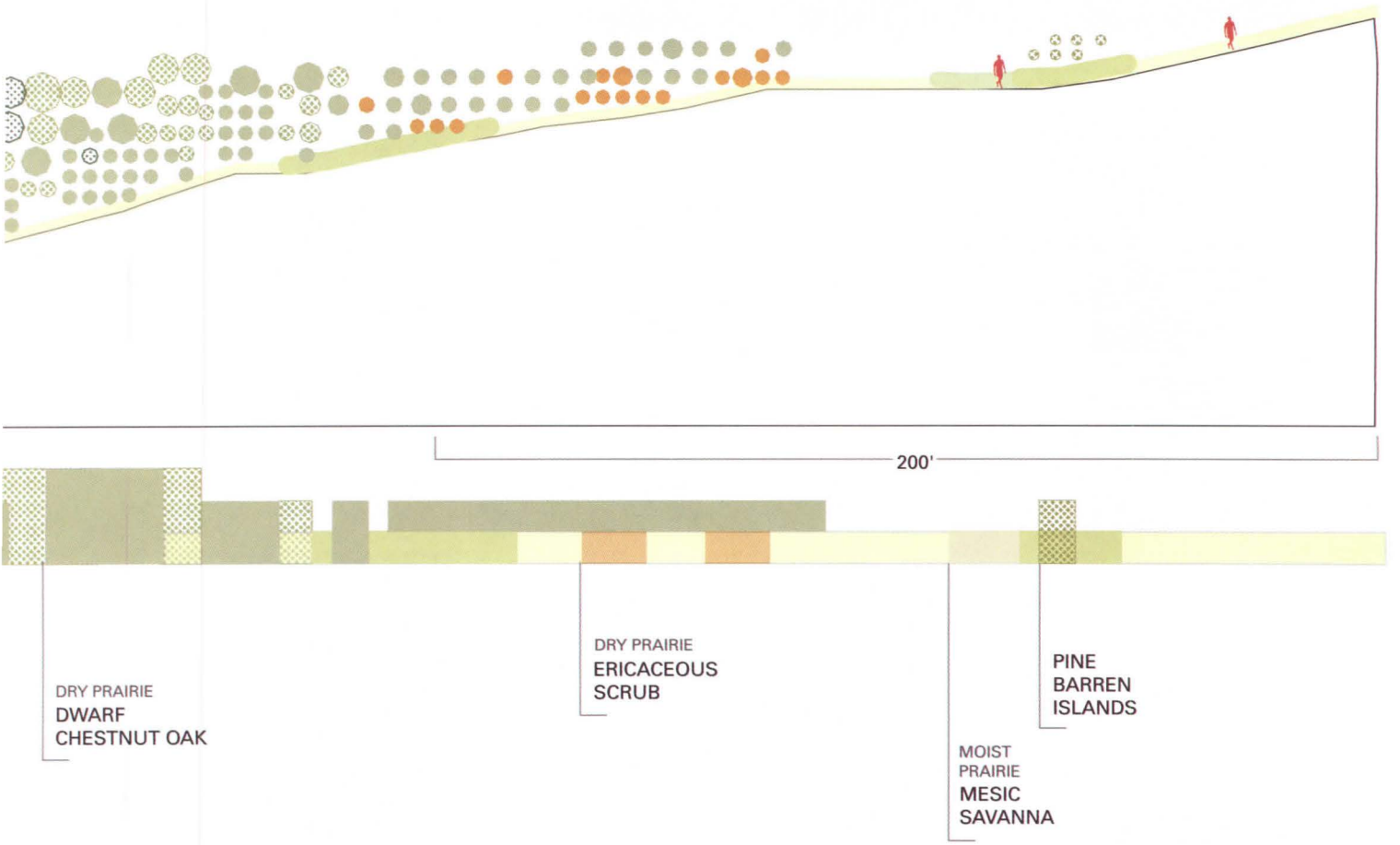
by Sarah Cowles Gerhan

Burlap-clad earth berms and undulating straw curbs are visible through a chain-link fence. Oily rainwater settles in sculpted pools punctuated by willow bundles. In the distance, a steel shed hums. Revealing the foundations of its artifice, this is a landscape in transition, designed for rapid colonization by species adapted to stress factors such as development and disturbance, soil compaction, and contamination. In time, a self-regulating ecosystem will arise from the burlap and straw. This terrain is a map of the energy flows—essentially the food chain, from solar rays to plants to animals and humans—through the site. Its designers do not know, nor worry about, what it will look like in 10 years, but its performance will be carefully analyzed.

Urban ecology—the study of life, materials, energy, and their systematic relationships and performance in metropolitan areas—is a growing field of research informing current interdisciplinary approaches to site work. In contrast to ecologists who analyze remote, pristine areas, urban ecologists stalk vacant lots and wade through the stormwater detention basins behind big-box stores in order to document species that thrive and fail in our built environments. Concurrently, landscape architects and ecological engineers are devising earthwork and soil strategies—substrates of life—that organize the matter and energy specific to urbanization. These interdisciplinary teams apply this research to experimental projects that improve habitats and reveal the systems that support our cities.

According to Patrick Kangas, president of the American Ecological Engineering Society, his field's principles are energy signature, pre-adaptation, and self-organization. A signature is the local source of energies that organize the ecosystem. For example, plants and creatures that inhabit shady, fast-moving streams differ from those that populate a tidal salt marsh. Pre-adaptation is the ability of an organism to thrive in a new environment, often displacing native species that cannot compete. Designing for self-organization means "setting the stage" for ecosystems to adapt and networks to evolve based on the local energy signature. Kangas's theories diverge from those of orthodox restoration ecologists who attempt to rebuild historical local environments using native species that are not adapted to contemporary urban energy signatures. "Self-organization is inevitable," believes Kangas. "We must embrace it; we cannot treat restoration like gardening. It is illogical to use geography as a reference, as opposed to the energy signature."

Waves of crimson clover, purple lupine, and yellow canola will soon alternate with ribbons of barley, buckwheat, and oats on the clay-capped trash mounds of Fresh Kills Park: Lifespace Project, located on Staten Island, New York. Designed by Philadelphia-based Field Operations, the proposed regime of "strip cropping" grasses and legumes to build up the ground's fertility is a technique borrowed from agro-ecological practices. Project manager Michael Flynn, a landscape and urban designer at the firm, describes the approach as an "inexpensive, industrial-scale technique that raises the organic content of poor soils, reduces plant uptake of metals, increases depth, and controls weeds over a large area." This *in situ* method of remediation is tuned to the local energy signature and replaces the need for imported top soil. Flynn adds that this tactic is consistent with the goal of "designing and staging the implementation of eco-

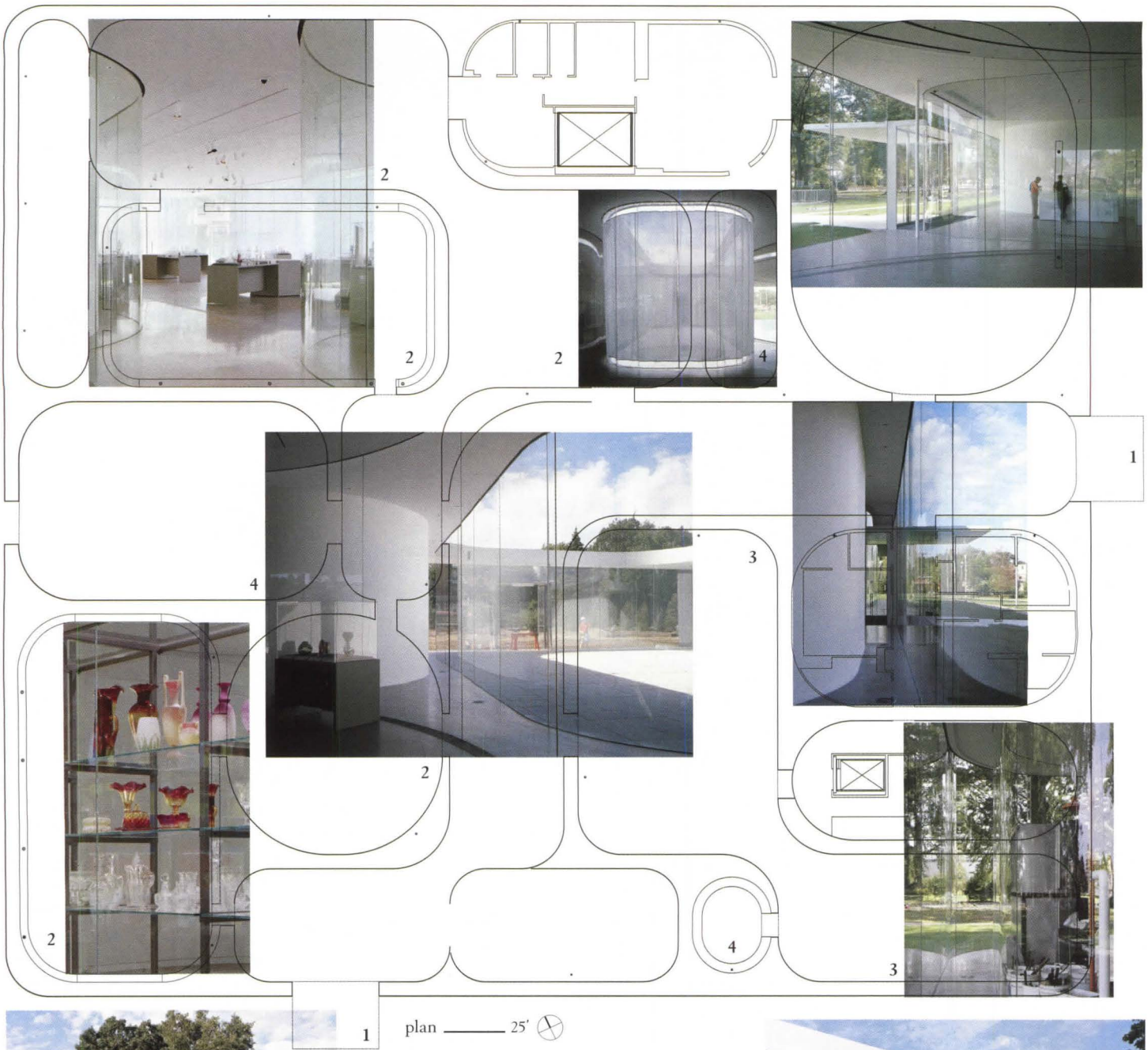


logical plans so the parkland is inhabited, understood, and enjoyed in each stage of its transformation as a legible landscape-in-process." Given that these long-term practices are more economical than furnishing sites with mature specimens, it is surprising that funding for such remediation is often limited. The savings are achieved by relying on the work of self-organizing ecosystems to evolve into sustainable systems. Because cost-effective tactics are fundamental to ecological engineering, there is a potential for resource-constrained communities to benefit from these technologies.

In 2002, ecological designer John Todd, of Ocean Arks International, began working with the mayor of Fuzhou, China, to transform the open-air Baima sewage canal—an inefficient and dangerous piece of the city's infrastructure—into a productive urban resource. The canal was retrofitted with what Todd dubs a "linear restorer:" a constructed wetland that uses principles of stream and marsh hydrology to treat raw sewage. Locals harvest the flowers produced by this eco-machine. By opting for an ecological engineering solution, Fuzhou was spared the expense of a conventional sewer system and avoided displacing residents to acquire a utility right-of-way. Retrofits of existing infrastructures like the Baima canal with ecological overlays offer new opportunities for designers.

Of all urbanization patterns, sprawl harbors the greatest potential for such adaptations. Over the next six years, just over the northern border of King County and in southern Snohomish County, Washington, a series of auto salvage yards and industrial properties will become the site of Brightwater Wastewater Treatment Facility, a plant and park for the growing city of Seattle and the greater Puget Sound region. Working together to exceed the local best management practices (BMPs), landscape architects Hargreaves Associates with Mithun Architects and engineers at CH2M Hill designed an inhabitable "wetscape" that treats all on-site stormwater run-off from the facility and helps to mitigate development impact. Careful manipulation of 300,000 cubic yards of fill displaced in construction creates new habitat by increasing the land-water interface and slowing down the flow of stormwater across the site. James Smith of Hargreaves Associates reports that finding an engineer that is willing to trade proven BMPs for more complex, ecologically rich landscapes can be tricky: "There is a bit of coaxing—you need to have the client and the public saying the engineer's cookie-cutter ponds are not sufficient. In the case of Brightwater, CH2M Hill was open to our new ideas. They said, 'We'll make sure it works.'"

Communities affected by degraded landscapes will benefit from the innovations in reclamation technology as ecological engineers and designers and planners shepherd prototypes to site-scale deployment. An entirely new industry of ecological engineering is emerging, comprising education, research, design, construction, and maintenance services. Todd sees a surge of interest in these kinds of technological developments, but *he issues a caveat:* "Our business can only grow organically in terms of skill level—people who know what they're doing, because you only get one chance. We're not an appliance company. We're a little like landscape architecture, where things evolve a bit and they need tending." ▫



plan ——— 25'

1 *entrance*
2 *gallery*
3 *hot shop*
4 *courtyard*

CLEARING THE WAY

SANAA reflects Toledo's image.

by Julie Sinclair Eakin *photographs by Elizabeth Felicella*

Architect Toshihiro Oki has been asked a lot lately how he likes working in Spain. As project manager for Tokyo-based SANAA's glass pavilion at the Toledo Museum of Art, he has endeavored to clarify the misunderstanding. Until recently, Oki's job regularly took the designer from his New York City office to 50 miles south of Detroit's airport, into Ohio, and the site of his cult-status firm's first building in the United States. The immaculate, transparent structure that opened in late August is already creating its own architectural pilgrimage route and putting that Toledo, once the glass manufacturing capital of the world and still a prominent industry force, on the cultural map.

Marrying industry and art, making and displaying, hot and cold, the 76,000-square-foot pavilion is a working glass studio and a museum. Its dual program, located on one level each above and below ground, satisfies multiple agendas that translate into eloquent adjacencies with specific, conflicting requirements: Furnaces in two hot shops, where artists display glass-blowing techniques, run constantly at 2,300 degrees, while in nearby galleries, vessels from ancient Egypt and Rome are preserved in a cool environment. Contributing further complexity are the structure's walls, comprised of two 3/8-inch-thick laminated curved glass panels, each measuring 8 by 13-1/2 feet.

"There's a nice rhythm to the design in that the rooms themselves are like the glass containers holding the artifacts," says Don Bacigalupi, the museum's director. Oki credits the outcome to a collaborative effort: "The design was a process with the client, not a competition winner without any back and forth. Over time, it became more efficient and compact as a result of our dialog." In 2001, the museum selected SANAA, headed by Kazuyo Sejima and Ryue Nishizawa, not for a specific design concept but because it wanted to work with the firm. The choice of Frank Gehry for an annex in the early 1990s helped its board make the case a decade later for employing a then unknown architect for the $30-million project. (A satellite building for the Louvre and New York City's New Museum of Contemporary Art are currently claiming SANAA's attention.)

The glass pavilion's site is also significant to its extraordinary character. Measuring 187 by 203 feet and centered on a town squarelike grass plot, the building replaces a derelict parking lot in an historic enclave of houses that includes the neighboring shingled mansion of Edward Drummond Libbey, who founded the museum in 1901 for his factory workers' educational benefit. These homes inform the visitor's viewing experience, connecting it to a larger physical and civic context. Over much of the last century, Americans have relied on the city for their light bulbs, glass bottles, windshields, and windows. Today, Toledo-based Owens-Illinois and the Libbey Glass Company are still major contributors of glass containers and tableware worldwide.

Local homeowners rejected the idea of mechanical equipment on the pavilion's roof, which, at 15 feet from the ground, appears flat. "The building intentionally lives beneath the canopy line of old-growth trees," says Oki, explaining that a nearby structure was converted to house cooling towers, pumps, and an emergency generator—the bulk of three HVAC systems separately serving galleries, hot shops, and cavity spaces. The glass pavilion's main entrance is on axis with that of the art museum's Greek revival building, from 1912, across a small boulevard. This intentional engagement with the community is evident in the museum's no-charge policy as well. (I can remember seeing art 20 years ago in the cafeteria at Denmark's Louisiana Museum of Modern Art, another low building that embraces its tree-filled site; the pavilion in Toledo exhibits a similar lack of pretension.)

An attendant aesthetic understatement establishes the pavilion's elegance. There's nothing extraneous about the design—even the curvilinear grooves on the ceiling and concrete aggregate floor, where the glass walls fit into tracks at each room's perimeter, look as if they were drawn there by a careful hand. The overall nested composition is perfectly proportioned; consequently your body feels accommodated in its spaces. And because your eyes are invited to rest on these quiet details, the pavilion heightens one's awareness and encourages a more intimate experience than a building that clamors for attention. At the same time, the place notices the day's changes in the slightest alteration of light outside its walls; this dynamic of being challenged to simultaneously reflect inward and gaze out recalls how it feels to contemplate great art.

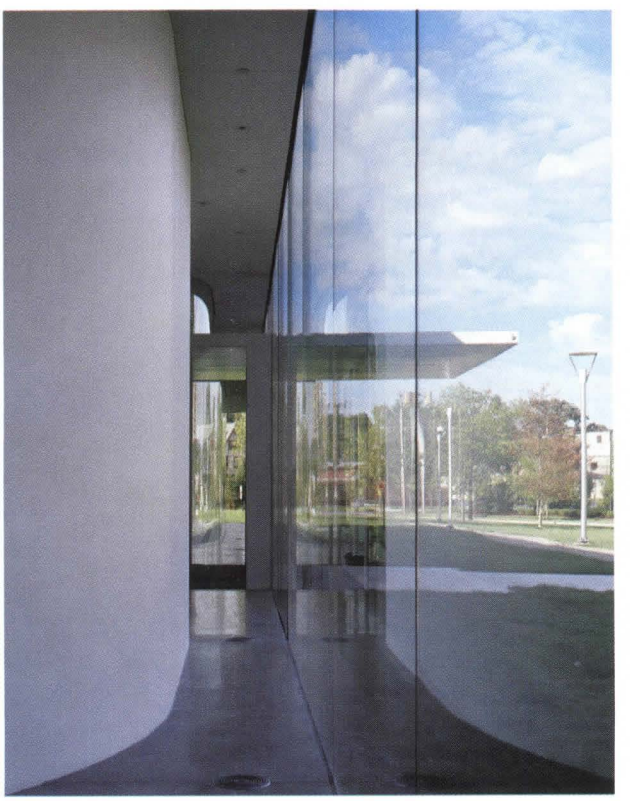
Think of the pavilion's ground-floor plan as a compositional study in positive and negative spaces that don't strictly behave. There are five opaque forms within the building, one of which is a 3/4-inch-thick rolled steel wall surrounding a studio room near the east façade. It provides a major structural component for the building, and is supplemented throughout by 35 steel columns 3-1/2 to 6 inches each in diameter, plus diagonal bracing hidden within other opaque walls.

Three courtyards even out the overall illumination by correcting the contrast of dark and light spaces occasioned by a solid roof over clear walls. Gauzy curtains surround two outdoor spaces, providing an extra filter through which to view other barely concealed visitors and adjacent rooms. One features an oculus in its floor measuring about nine feet in diameter that allows daylight to enter the conservators' room below. The third courtyard, with an opaque wall, is accessible only to glass blowers, a reprieve from the intense heat in their realm and a taste of the weather from above. The

rounded door accessing this spherical area is a segment of the thick wall that simply opens outward, more like the entrance to a cave. It ideally complements the translucent curtains and exemplifies the type of unerring detail that ensures this building's comparison with other contemporary masterpieces.

An oblong space in the northwest quadrant, unusual by western standards, was designed for collecting one's thoughts and energy and is attributed by Bacigalupi to its creators' cultural influence. In the open storage, or study room, in the southwest corner, tall brushed-steel-and-glass cases contain many of the 8,000 artifacts not on view in the five galleries. The mélange of eras and styles offers the sense of discovery one might feel stumbling onto an attic full of misplaced treasures.

The efficient and compact design of which Oki spoke extends to the pavilion's strangest, and most impressive, spaces: the long cavities created between the enclosures and the continuous exterior glass wall. Inaccessible to the public, these channellike, floor-to-ceiling spaces are just 2 feet 8 inches wide in their most typical dimension—the room required for a worker to shuffle a standard issue ladder through. The cavities expand near the hallways and contract against more robust and swollen interior forms, amplifying both the building's avenues for perception and its function; heat collected there is redistributed through radiant means into

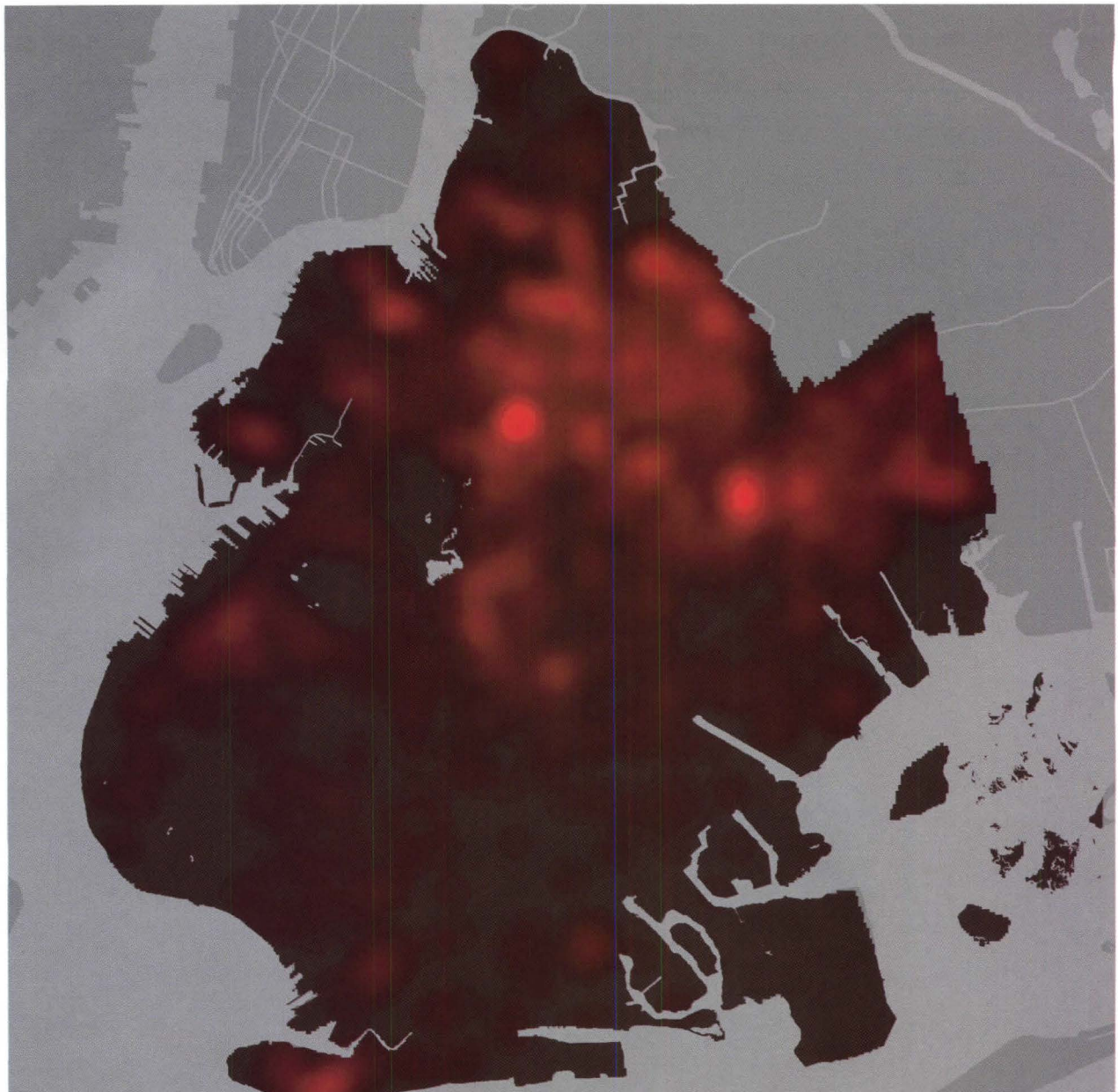


slender freestanding ventilation towers that also house fire extinguishers. Below ground, exposed wires are gathered in flat racks suspended from the ceiling, an economy appropriate to the working area. There's a sick bay for decaying artifacts and classrooms for glassmaking techniques—including sandblasting, etching, and grinding. Bacigalupi describes the basement circulation as a precise jigsaw puzzle: Custom doorways accommodate critical adjacencies such as the movement indoors of art from the loading dock after its acclimation period. (The generous artery is tucked partially beneath the building's east façade in deference to its residential neighbors.) Ten thousand square feet of nearby empty space awaits expansion needs.

The pavilion's few sour design notes are happily provisional: The beveled bases of the ubiquitous display cases, designed with New York City-based firm Imrey Culbert, are an inelegant choice reminiscent of the Memphis movement's cartoonlike creations, but without the requisite irony; the way-finding marks applied to the floors are also overkill in this place that relies so heavily on subtlety; an enormous glass chandelier in the entrance by (who else?) Dale Chihuly, unfortunately looks like a Guinness World Records attraction—one imagines posing friends and family near it for a souvenir photo.

It would have been more poetic, and just, if Toledo had produced the 365 curved glass panels enclosing the pavilion, but although local workers installed them, the demanding fabrication and lamination processes occurred in Germany and China, respectively. The building is nonetheless already a source of local pride. "I never thought I'd end up somewhere like this," says Dan Burke, who maintains the hot shop's ovens. "It's got enough complexity to be interesting." Le Corbusier said it differently: "The history of architecture is the history of the struggle for the window." In the glass pavilion, SANAA has successfully crystallized the needs of its diverse constituents. ◻

PROJECT: Toledo Museum of Art Glass Pavilion, Toledo, Ohio CLIENT: Toledo Museum of Art DESIGN ARCHITECT: SANAA, Tokyo—Kazuyo Sejima, Ryue Nishizawa (principals); Takayuki Hasegawa, Florian Idenburg, Mizuki Imamura, Toshihiro Oki (project architects); Junya Ishigami, Hiroshi Kikuchi, Tetsuo Kondo, Keiko Uchiyama (staff) ARCHITECT OF RECORD: Kendall Heaton Associates, Houston ENGINEERS: Guy Nordenson and Associates, Sasaki and Partners (structural); Cosentini Associates (M/E/P); The Mannik & Smith Group (civil); Bowser-Morner (geotechnical) CONSULTANTS: Front (glass curtain wall); Arup Lighting, Kilt Planning Group (lighting); Harvey Marshall Berling Associates (acoustical and audiovisual); C.H. Guernsey & Company/Layne Consultants International (security); Persohn/Hahn Associates (elevator); Gladieux (food service); Neville Tree & Landscape (landscape); Spiral Arts (glassmaking facility); Glasscraft (lampworking); Imrey Culbert (casework); 2x4 (graphics); Stuart-Lynn Company (cost); PROJECT MANAGER: Paratus Group GENERAL CONTRACTOR: Rudolph/Libbe SUBCONTRACTORS: Lakeside Interior Contracting (interior finishes); OCP Contractors (painter); VM Systems (sheet metal); Dunbar (mechanical); Romanoff Electric (electrical) AREA: 76,000 square feet COST: $30 million



CRIME DENSITY MAP, BROOKLYN, NEW YORK, 1998/COURTESY SPATIAL INFORMATION DESIGN LAB

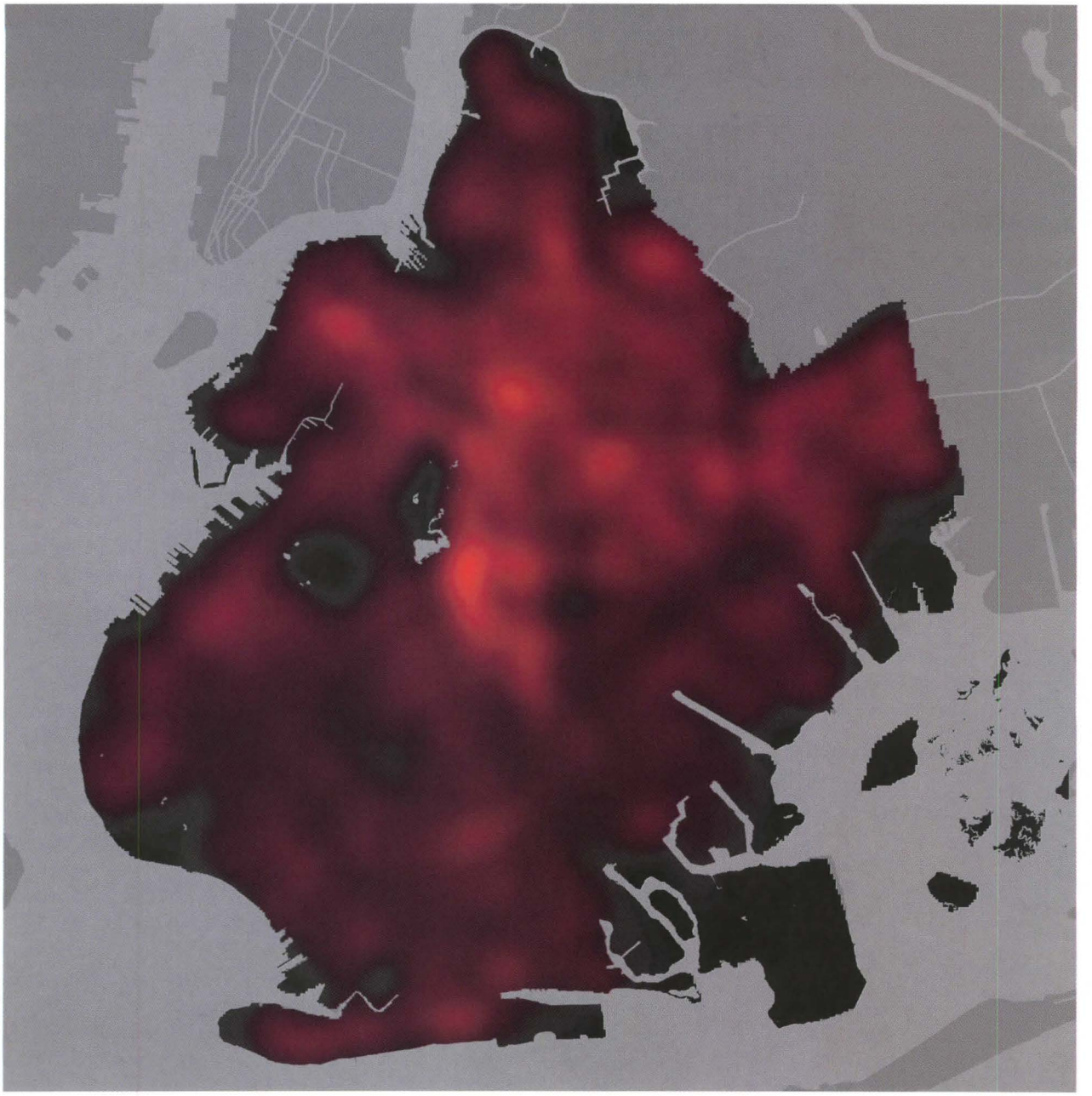
THE CRIME IN CRIMINAL DATA

Columbia University's Spatial Information Design Lab visualizes justice. **by Eric Cadora and Laura Kurgan**

There is no such thing as raw data. Data sets are created and designed even before they are visualized.

A criminal data set is most commonly maintained and presented as a list. It is designed to track people as individual cases. As individuals make their way through the system, information is entered into a database and accumulates: name, crime, length of sentence, home address, and so on. Individually, the information forms a portrait of a case; aggregated, the cases create a statistical portrait of a society.

Six-hundred thousand people return from prison each year in the United States, and millions more come home from jails. About 240,000 of the released prisoners—roughly 40 percent—will return to prison within three years. In and out, they come and go, all too often simply cycling back and forth between the same places.



PRISON ADMISSIONS DENSITY MAP, BROOKLYN, NEW YORK, 2003/COURTESY SPATIAL INFORMATION DESIGN LAB

New maps can help us grasp this extraordinary phenomenon: prison migration and with it high-resettlement communities. When crime maps are replaced by incarceration maps, we can finally visualize the geography of a massive migration, the flow of people in and out of the city. We can ask whether this quiet but pervasive migration crisis isn't creating a growing class of noncitizens, concentrated in very few places in all of our major cities. The new visualizations reveal what was previously difficult to see—the mass disappearance and reappearance of people in the city. They focus on the systematic phenomenon of ex-prisoners' reentry and examine new institutions that respond to this structural feature of urban life. What happens to these people when they come home? We often know where they are going and what will happen. What is our responsibility to effectively resettle them, given all that we know? ◻

This text is excerpted from Architecture and Justice, *an exhibition on view at the Architectural League of New York through October 28.*

PROJECT: Graphical Innovations in Justice Mapping, Spatial Information Design Lab, Graduate School of Architecture, Planning and Preservation, Columbia University, New York City PROJECT TEAM: Eric Cadora, Laura Kurgan (project directors); David Reinfurt, Sarah Williams (research associates); Leah Meisterlin (research assistant)

PUBLIC REALM

SPRAWLED OUT. **BY MAX PAGE**

Over the past decade, it seemed as if the steady march of houses and highways, Wal-Marts and Jiffy Lubes across rich farmland had met its match in a nationwide call for "smart growth" and "sustainable development." New Urbanists and old urbanists alike called for denser development, mixed-use cities, the preservation of rural landscapes, and a renewed emphasis on public transportation. Virtually every state passed new laws or created funds to help purchase open space and development rights, while communities across the nation amended their zoning rules to encourage denser development and walkable town centers. And Al Gore "won" the presidential election in 2000 in part by aligning himself with the smart growth movement as essential to saving the earth from global climate change.

But despite all that, like those newly powerful hurricanes, sprawl seems more inevitable than ever.

This has been a bad couple of years for anti-sprawlers.

First came Measure 37 in Oregon. That referendum, which was upheld by the state's Supreme Court in 2006, essentially gutted Oregon's enlightened land-use policies by forcing its government to pay property owners whenever those rules reduce the value of their holdings. Rather than pay hundreds of millions of dollars in claims, the government decided to simply waive some restrictions. The state that was once a model for the rest of the nation—Portland's urban-growth boundary has long been the crown jewel of the movement—could now become a case study of land-use nightmares.

Then the United States Supreme Court handed down its decision in *Kelo v. City of New London*. On the face of it the ruling by the court to allow the Connecticut city to take property by eminent domain and hand it over to a private, for-profit developer (ostensibly because it was for community "economic development") seems to have little to do with sprawl. But watch the backlash: Most states are entertaining laws that would radically limit the use of any form of eminent domain. Creating denser development, obtaining rights of way for public transportation and bike paths, or reclaiming vacant industrial buildings requires at the very least the threat of eminent domain. The backlash to Kelo threatens to take away that crucial tool of smart growth.

Finally, in the past year the anti-sprawl movement has come up against some worthy intellectual adversaries. The most effective has been Robert Bruegmann, whose book *Sprawl: A Compact History*, offers some effective challenges to basic tenets of the movement. Sprawl, Bruegmann argues, has been a central feature of cities since the dawn of urban life. And what about the oft-told story that we are becoming more and more decentralized? Bruegmann shows that trend has slowed and metropolitan regions are becoming more crowded, not less. Indeed, he says that Los Angeles has become, overall, the most densely settled urban area in the United States. Europe, he adds, is not far behind: This continent of mythically tight-knit villages and untouched countryside is, in fact, filling in at a nice, American clip. Bruegmann's findings, echoed by others in a series of reports and books have, at the very least, made some take a second look at the rhetoric of anti-sprawlers.

But Bruegmann does himself and his cause no good by offering by way of conclusion a recitation of the Libertarian rosary: Suburbs were the natural product of Americans wanting their piece of paradise, a single family home on a plot of Kentucky bluegrass. Let the market work its magic and everyone can take part in the glory of the sprawling suburbs.

This polemic has the unfortunate problem of being wrong. North American suburbs were inventions, built with the vast material support of the federal government, through highway construction, mortgage interest relief, and a host of other incentives that guaranteed that investment would happen beyond city limits, where only whites would be allowed to buy. If the federal government, the silent segregationist, could not succeed, there was the backup plan of restrictive covenants and, far more often than people realize, the violent acts of middle-class mobs.

This is why smart growth is something far more politically meaningful than protecting some farmland from a Toll Brothers development. A rejuvenated anti-sprawl campaign has the potential to be an important branch of the Civil Rights Movement. By challenging not the aesthetics of the suburbs, but the political and legal structures on which it is based—exclusionary zoning, limited transportation access, lack of affordable housing, persistent racial discrimination in home sales—smart growth advocates can help, slowly but surely, to upend the landscape of inequality. ◻

JEREMY TRAUM

TECHNOLOGY

PERFORMANCE ART. **BY JEANNE GANG**

The architect's identity as a master builder is long gone. Consultants are used for everything from structure to lighting. One big difference between specialists and architects is that most consultants employ science to design while many designers today merely dabble with science to create form. As architects become increasingly separated from the technical knowledge needed to conceive buildings and their systems we loose both credibility and authority. It's great to have a specialist on a project team, but it's ideal if the architects share a level of technical knowledge.

Science is a function of hypotheses supported by theories, which are tested through experiments with protocols, a process known as the scientific method. Unfortunately in architecture, the word "theory" has been typically used to refer solely to philosophy. Clearly, there is much more to architecture than pure science, but architectural theory has become a substitute for knowledge in other areas. Perhaps the contemporary symptom of "science envy" among architects is a result of this lack.

Structural engineers separated from architects long ago, while mechanical engineers appeared when pipes and ducts were brought into buildings in the late 1880s. And another significant branching off process is happening right now: Whereas most consultants weigh in before the design is built, commissioning agents—the newest addition to the team—enter after the fact, testing and measuring the finished building's performance just like scientists would. To them, the structure is one giant experiment chock full of information, and the data obtained has the potential to justify design intent or reveal its insufficiency. It is curious that architects would abdicate the testing of their own buildings to others and forfeit the obvious benefits of improvement that come with the experience.

Nevertheless, there are still several ways to under- CONTINUED ON 56

COURTESY INFRATEC

URBANISM

SUSTAINABLE CITIES. **BY DAVID GRAHAME SHANE**

How to make cities sustainable as the global urban population grows over the next 15 years was the central question at UN Habitat's third World Urban Forum (WUF III) in Vancouver last June. The meeting, on the 30th anniversary of the conference that gave birth to the agency, was attended by 10,000 international delegates from 100 countries, and promised much. But in the end, our survival as a species through the urbanization process remained a mystery, as few participants looked toward the big picture.

At Habitat I, in 1976, two strands of research emerged, one focusing on government action, the other on nongovernmental organizations (NGOs) who criticized repressive regimes like that in the Philippines. The second meeting, held in Istanbul in 1996, drew attention to the rapid, global urbanization in shantytowns.

NGOs came to the forefront, as they eventually played a much greater role in assisting those populations. Today, 50 percent of the 6 billion global population now live in cities, with 1 billion located in slums (twice the figure for 1976).

WUF III's organizers tried to synthesize the two tracks: the top-down state approach and bottom-up strategies. The position paper, *Our Future, Sustainable Cities—Turning Ideas into Action*, by Patricia McCarney, director of the Global Cities Program at the University of Toronto, advocated the same "smart growth" principles introduced in Vancouver's CityPlan 1996 and its Livable City Region Strategic Plan, of the same year; directives included walkable and sustainable neighborhoods and the densification of downtown. WUF III also borrowed ideas from its own online 2005 event, "Habitat Jam," to set three sub-themes: urban growth management, partnerships and finance, and social inclusion and cohesion.

On the traditional, state-oriented side, Sweden, Germany, and Japan sought democratic partners, good governance, and sustainability through top-down design. In terms of the NGO contribution, David Satterthwaite, senior fellow at the International Institute of Environment and Development's Human Settlements program in London, pointed out that "urban" is different from country to country: London and New York have hardly grown at all, while the expected CONTINUED ON 56

TECHNOLOGY CONTINUED FROM 55

stand building performance firsthand. Independent companies have sprouted up that can test newly completed or existing buildings to see where they leak, for example. Architects can observe these tests and begin to understand where problems in the design, specifications, or installation lie. In Chicago, a firm called the Energy Detectives has built up substantial knowledge from climbing around attics and blowing air through buildings. A photo from its infrared camera can make a tenth of a degree Celsius temperature differential visible to the human eye. The company is typically called in by architects during construction while walls are still open, or to test buildings for Energy Star certification.

Newly available inexpensive instruments can help practitioners measure their own buildings as well. Studio Gang scratched the surface of the power data gathered directly from our work when we used our first light meter. Measuring the impact of owner-proposed cubicles on naturally daylit work surfaces corroborated our perceptions: A decrease in lux from 300 to 50 helped us veto the partitions. Alison Kwok, associate professor of architecture at the University of Oregon, identified a set of affordable tools for her students to use in a program she developed called "Agents of Change." She and her colleagues train students how to investigate real buildings, and check their performance through measurements and post-occupancy surveys. Students apply the scientific method and add to an ever-growing pool of case studies on building performance. Through "loaner toolkits" and seminars the group has also generously trained many future architects from various institutions how to measure buildings against accepted criteria for humidity levels, lighting levels, and air temperatures. At $200 apiece, tools like Onset Computer's Hobo Temperature/Relative Humidity/Light/External Logger, Testo's Velocity Stick, and Ex-Tech's Light Meter are within the reach of even the smallest practices.

While resources like digital energy modeling can help architects design "performative" buildings in theory, there remains a lack of evidence concerning the final product. (In schools, performative can refer to anything from sustainability issues such as climate responsiveness to aspects of the design that respond to the user—i.e., digital displays. In the profession, the term is mainly used to talk about achieving performance, such as reduced energy use.) Convincing clients to invest in sustainable design would be much simpler with documented efficiency results. Architects who don't examine their own buildings are missing out on one of the most instructive forms of self-criticism and validation. It might be too late to better construct or ventilate our creations, but it's not too late to learn how to test them. ◻

URBANISM CONTINUED FROM 55

population explosion in mega-cities like Mexico City hasn't materialized. Many smaller cities worldwide have unexpectedly passed the one-million mark. There were even stories from shantytowns where democratic and good government advocates had experienced major achievements, sometimes working with sympathetic government officials. He cited one of the stars of the conference, the Slum/Shack Dwellers International (SDI), in Cape Town, South Africa, who specialize in self-organizational systems and strategies such as generating micro-banking organizations headed by women to improve their neighborhoods.

At WUF III both the state-based and NGO strands squarely faced the massive urbanization forecasts. Satterthwaite and Anna Tibaijuka, UN Habitat's executive director, spoke of sustainability in terms of water, food, shelter, security of tenure, personal safety, and good governance. But there remains a major problem that neither mentioned: Some of the fastest growing cities of Asia, Africa, and India lie in the low-lying great delta regions, just like New Orleans. As Bill McKibben, author and sustainability advocate, has remarked about the Indonesian Tsunami that made half a million people homeless in a half an hour, imagine if the sea level really does rise with global climate change: There could be 30 million refugees in Bangladesh at the mouth of the Ganges Delta alone. Habitat's myopia places its focus on addressing slum growth, but it needs also to return to its roots to recognize the need to prepare emergency provisions for future urban eco-refugees as well as encouraging the relocation of new city growth in safe, sustainable locations. ◻

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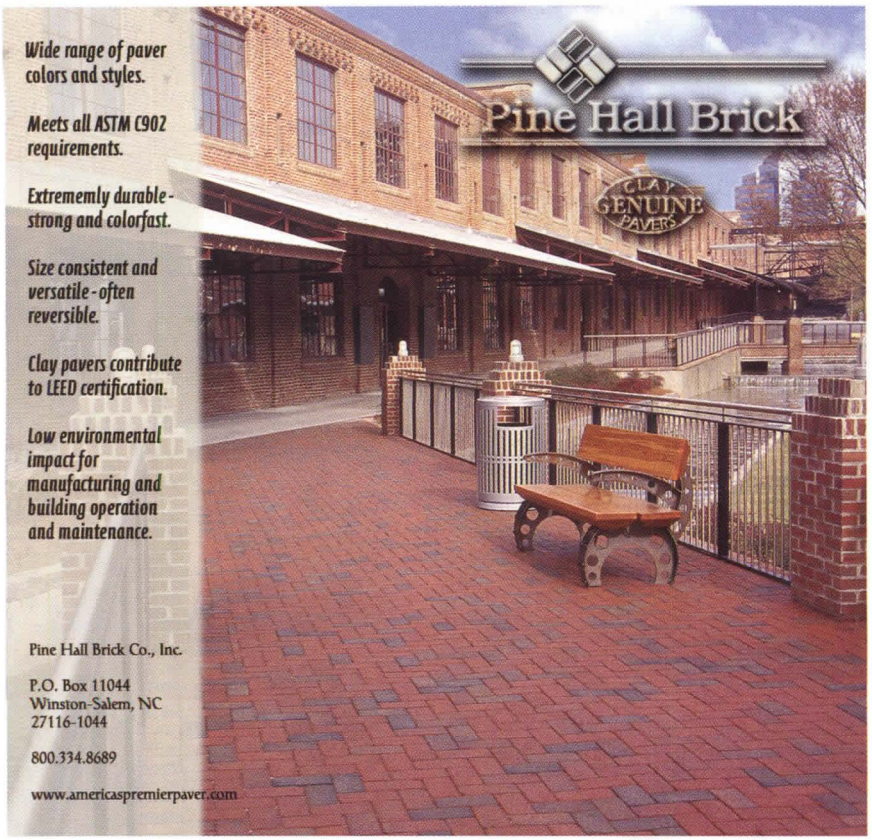

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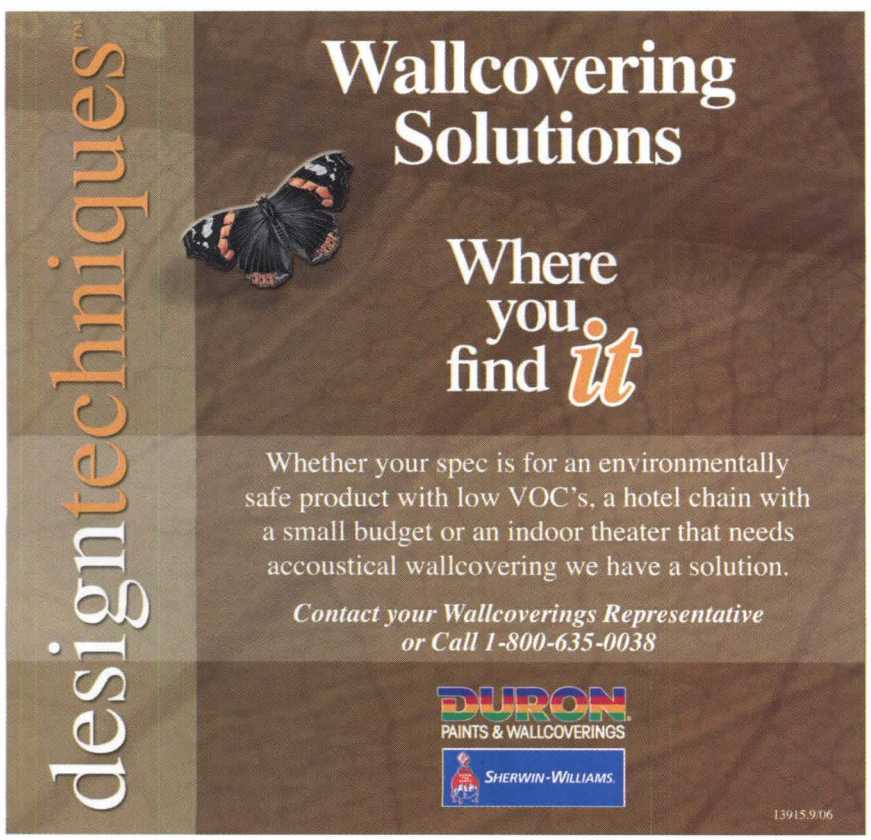
SPECIFICATIONS

FREDERIC C. HAMILTON BUILDING, DENVER ART MUSEUM, DENVER (PAGE 16)

structural system: steel frame **foundation:** concrete **curtain wall:** Efco; Viracon **cladding:** Timet (titanium, exterior); black granite (interior) **roofing:** Timet (titanium); FiberTite**glass:** Viracon **doors:** hollow metal **door hardware:** CHMI (pulls); Rixson, LCN (closers) **exit devices** Von Duprin **ceiling system:** Hunter Douglas **paint:** Sherwin-Williams **flooring:** Douglas fir; stone **lighting:** LiteLab **elevators:** Kone; Elevators Unlimited

TOLEDO MUSEUM OF ART GLASS PAVILION, TOLEDO (PAGE 46)

low-iron raw glass: Pilkington; SanXin Glass Technology (fabricators) **glass door pivots/floor closers:** Rixson **glass door exit devices/pulls:** C.R. Laurence Company **glass door devices:** Dorma; Saino **glass sealant:** Dow Corning **sheetrock:** USG **ceiling system:** Hunter Douglas (metal pan); Baswa Acoustic (acoustic plaster) **door locksets:** FSB **concrete pavers:** Hydrotech **lighting:** LiteLab; Lucifer Lighting **zinc flashing:** VM Zinc **glass tiles:** Bisazza **elevators:** Otis **electrical devices:** Hubbell **plumbing fixtures:** Toto USA (toilets); Vola (faucets) **air supply grilles:** Titus; Seiho International



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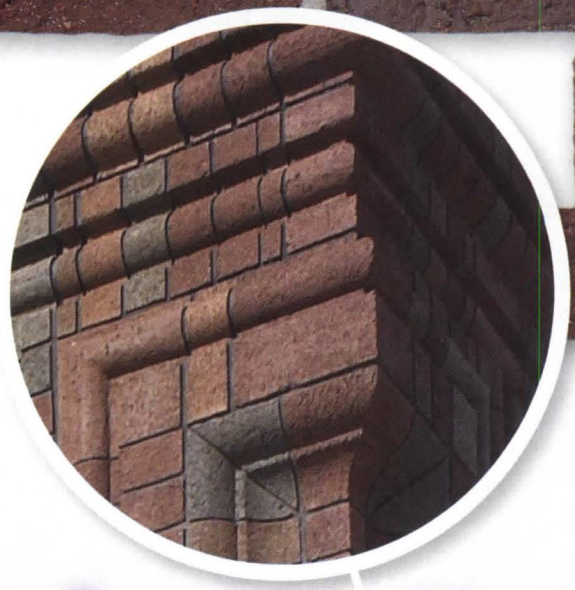

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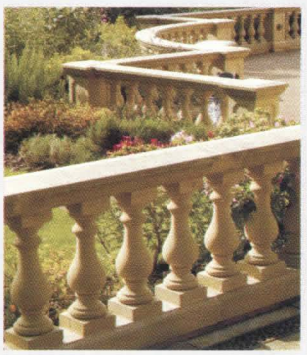

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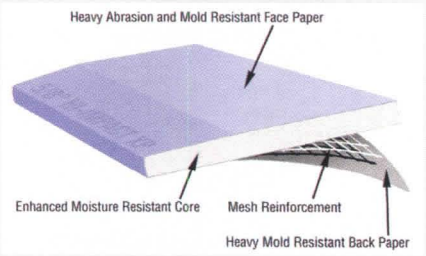

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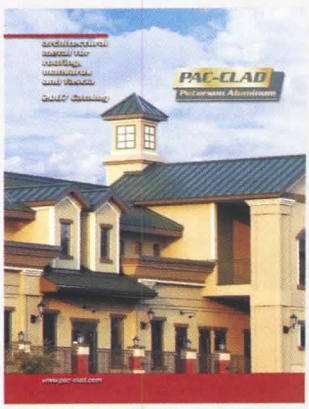

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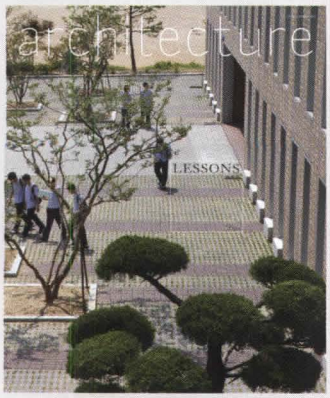

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LETTERS

CONSIDERING KATSURA

John Morris Dixon's article on the Katsura Villa [August 2006, page 38] moves architectural discourse in the right direction. Understanding more fully the concepts of our profession's iconic figures and landmarks can lead us all, young and old, toward architecture that addresses the total human condition, is long lasting, and treats the earth kindly.

LAURENCE O. BOOTH
CHICAGO

ON MEMORIALS

Although I have never done so before, after reading "Shifting the Memorial Paradigm" in *Architecture* [August 2006, page 53], I am absolutely compelled to write and thank you for forthright and well-composed thoughts. What a breath of fresh air! I am intrigued enough to check out Max Page's book *Giving Preservation a History: Essays on the History of Historic Preservation in the United States* (Routledge, 2003). Please continue to (hopefully) open the minds of others.

ELISE BATES RUSSELL
PLYMOUTH, MICHIGAN

Max Page's column in the August issue of *Architecture* was very thought provoking. I can't agree more with his ideas about how we can better use our resources to fund the future rather than the past in a more meaningful way. Memorials shouldn't just be a place you go to remember; they should be integral parts of communities. They should serve needs of humanity rather than the pocketbooks of the parties involved. A billion dollars [original cost estimate of the World Trade Center memorial] sunk into the ground; imagine the possibilities of what those funds could achieve if we were to rethink our idea of memorials.

ANDREA MUELLER
SALT LAKE CITY

PLEASE SEND YOUR LETTERS TO KATIE GERFEN, ASSOCIATE EDITOR, ARCHITECTURE, *770 BROADWAY, NEW YORK, NY 10003. OR, E-MAIL US AT KGERFEN@ARCHITECTUREMAG.COM. LETTERS MAY BE EDITED FOR CLARITY AND LENGTH.*

CLARIFICATION: LAUSTEN & COSSUTTA DESIGN WAS THE GRAPHIC DESIGN FIRM FOR THE LIVINGKIT [SEPTEMBER 2006, PAGE 66].

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DEAR SIR OR MADAM

Jane Jacobs confessed to having imaginary conversations with, among other long-dead luminaries, Thomas Jefferson, asking his opinion on various issues from time to time. For her, as for the former president and self-taught designer, the political arena and the built world were inextricably linked.

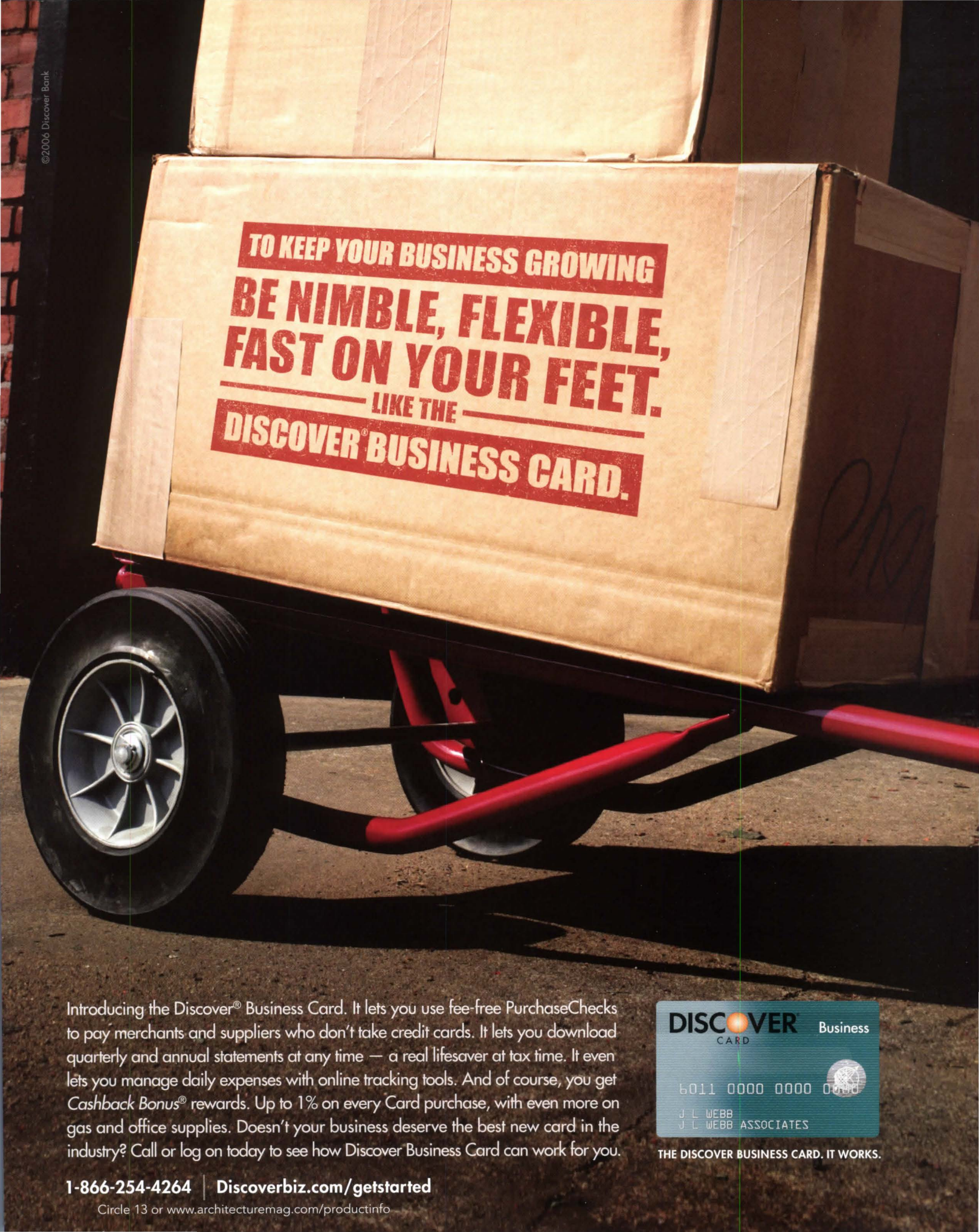
Whenever our magazine wades into the political realm we inevitably receive a letter or two from readers who argue that politics has no place in *Architecture*, let alone architecture. Theirs is a lamentable stance—one might even say an abdication of responsibility or a head-in-the-sand repose—given design's employment as a sign and symbol of power since before the first column was carved out of marble. Be it the naming of a new design head at the U.S. General Services Administration (GSA) or the rebuilding of New Orleans, political agendas are part and parcel of the design process.

According to a recent report in the *Wall Street Journal*, a card-carrying classicist, Thomas Gordon Smith, has been tapped as the chief architect of the GSA's Public Buildings Service. Although the agency would not confirm the newspaper's scoop as we went to press, the implications of such a selection are deeply political and warrant discussion. We've experienced a sustained period of progressive design in our public buildings, thanks to the efforts of the previous chief, Edward Feiner, who held the position for 9 of his 35 years in public service. How will Smith's traditionalist design philosophy shape our public buildings in the future?

While pediments and caryatids may soon cloak our courthouses and federal buildings in egalitarian symbolism, the spiky edifice of the World Trade Center's Freedom Tower is the site of another political pursuit. Last month, officials from the federal government and the state of New York announced plans to take one million square feet of space in the tower—and at a cut-rate rent of $59 a square foot, taxpayers will be charged a premium far above the current average in Lower Manhattan. In a *New York Times* article on the subject, some government employees who may have to relocate to the skyscraper when it is completed five years from now fear the 1,776-foot-tall building will be a terrorist target; others find the emotional resonance of even the thought of working there too much to bear.

In each case, and others like them, the shape of the built environment is at issue. And political agendas, good, bad, and ugly, have influenced the process—and always will. Where are architects in all this? Many of them have been on the ground: In the post-Katrina South, for example, volunteers—new urbanists and dyed-in-the-wool modernists alike—offered their assessment services and held charettes; design schools quickly and agilely initiated design-build studios and other interventions from New Orleans to DeLisle, Mississippi; and in Lower Manhattan, groups like New York New Visions offered their expertise to the development agency established to oversee the site's re-conception.

Architects, like editors, must sometimes leave their political views at the door, but they need not cede their citizenship, ever. **ABBY BUSSEL**



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