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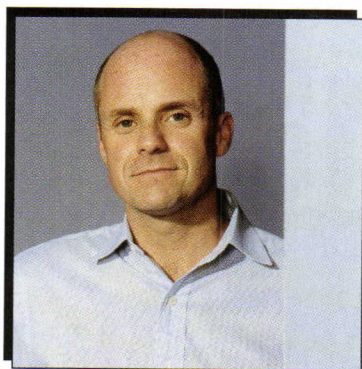
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A WINDOW ON AFFORDABLE HOUSING

BY C.C. SULLIVAN

It could just be election-year posturing, but politicians from both sides of the aisle are making noise about an unusual new law for affordable housing. The legislation would push states to earmark low-income housing tax credits for developers who provide a special amenity in their affordable-housing projects: Internet access. (The bill's congressional sponsors are Utah's Orrin Hatch and presidential aspirant John Kerry; senate leaders Bill Frist of Tennessee and Tom Daschle of South Dakota are involved in a similar but separate public-private effort (see our news story on page 21). A dozen states have already amended their housing-finance policies, and more are considering such a practice; a few cities, like Chicago, have similar initiatives underway. It was Kentucky that made history, however, when it passed a law earlier this year requiring high-speed Internet service for all housing that relies primarily on state funds.

The idea raises concerns in some circles. Longstanding housing advocates are worried that Internet cable hookups will boost per-unit costs, meaning fewer apartments overall for needy families. A few architects also have complained that the cost of computer infrastructure will inevitably detract from basic architectural amenities. Some critics wonder who will pay the monthly service fees, and harsher detractors see broadband as an extravagance, not a necessity in the sense of electricity, heat, and hot water. While you're at it, they ask, why not install satellite television?

When I think about Internet access in public housing, I don't think TV. I think windows. The physical and psychological benefits of windows are indisputable—light, fresh air, and connection to one's surroundings. Windows seem like a requisite for humane accommodation, but are they vital to U.S. housing policy?

At a recent meeting held by the Des Plaines, Illinois-based Window and Door Manufacturers Association, I chatted with one executive about the power of windows to transform everyday life. Paraphrasing the historian Sandy Isestadt, he said that windows have become a signal of both social and technological progress: After two centuries of American building, glazing connotes wealth, civility, industrial prowess, and glamour. (I agreed:

Even today's search for architectural transparency is more about its social benefits than its formal innovations.) He also reminded me of the metaphorical power of the word itself. The arrival of television in the 1940s, for example, was optimistically hailed as a new "window on the world" and an instrument of democracy and education. The Microsoft computer interface is now a household homonym in part due to its accessible yet evocative moniker.

But TV became a receiving experience, the electronic equivalent of the portholes on an airplane, while the computer, with the Internet's global open network, became more interactive—and more like dwelling fenestration: We open and close these apertures; we use them for communication and civic participation; and we consider them as allies, albeit limited, in our sustenance and protection. And today, with the Internet's singular access to our public resources and libraries (and its de facto dominance of a few basic social and commercial functions) we find the medium taking on an essential role in our lives as citizens.

The rationale for Internet access in public housing hinges on this point. And as Department of Commerce statistics show, the Internet may be the great equalizer that television never really became. For some tasks, households with incomes of less than \$15,000 per year tend to rely more heavily on the Web than those making \$75,000-plus: about a third more for doing homework, and about 50 percent more for job searches. Even without these statistics, it's hard to argue against Internet access when we're openly contemplating online voting, and when some governmental functions are already effectively unavailable to those who can't dial up the agencies' Web sites.

The case for Internet-enabled housing is strong, and the new initiatives for access have momentum. The question for states to address is how to balance their overall goals for affordable housing with the competing need to offer fundamental services to tenants, including broadband. While architects should endorse government efforts to empower its most needy citizens, we should also encourage a measured approach to housing that takes care of all its tenants' needs—and that benefits as many deserving citizens as possible.

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Vitruvian ideal

Because of the media's "raised-profile" treatment of architecture, Damon Rich encourages architects in "Learning to Teach" [February 2004, page 96] to reach out to schools because "architecture has a crucial contribution to make to a reinvigorated civics program." Is he really talking about the value of learning architecture as a child, or is he exploiting architecture's enhanced image to teach social studies? Children love to make architecture—the real stuff, not fake cities made of toilet-paper rolls and milk cartons—and in so doing they learn to be good citizens. Rich's advocacy for better cities is not questioned; what is raised here is the creative core of learning architecture.

Eugene Kupper

Los Angeles

The power of P/A

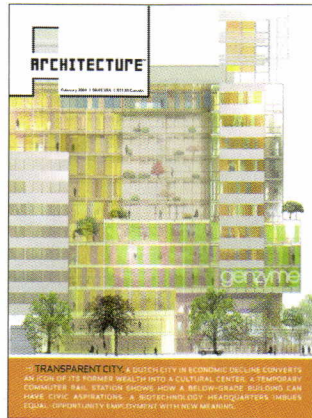
Our team was very gratified to receive a P/A Award citation for our urban-design study [January 2004, page 56]. In our case, your continuing commitment to the P/A Awards' long tradition of recognizing the importance of "unbuilt" projects will be instrumental in realizing one, or more, of the projects identified in our study.

Ralph Lerner

Princeton, New Jersey

Urbanist agendas

Regarding your editorial on architects and urban design [January 2004, page 9]: In 2000, I founded a sister company to RoTo Architects, the stewardship-consulting firm New West Land Company, to address the growth of rural places and the accompanying fragmentation of habitats and communities—forms of growth that are generally vilified and ignored by designers and planners. I'm not sure what to call the designing of landscapes and habitations as large as 100 square miles (think four Manhattans) and the creating of new forms of land ownership and use. ("Urbanism" would leave my rancher clients staring blankly.) We use strategic, place-appropriate development to fund the ecological, cultural, and financial preservation and restoration of critical working and natural landscapes. The effort looks to regions like the greater Yellowstone ecosystem, where there yet



02 | 2004 ↑

exists an indigenous understanding of place—not in the blood or racial sense, but rather in the sense of engagement and intimacy. The re-engagement of community with land is the most critical design problem I can hope to address in my lifetime.

Clark Stevens

Livingston, Montana

My firm's beginnings were rooted in the civil rights movement, when huge chunks of American citizenry—blacks, women, old folks, gays—were disenfranchised while the federal bulldozer knocked their neighborhoods down. "Blight" referred to buildings (many that would now be on the National Register of Historic Places had they survived) but overlooked local cultures. These were the neighborhoods of the jazz greats, of gospel, of painters like Romare Bearden and Jacob Lawrence. I'm over eighty now. It's great to know that urban design is arriving—or at least that *Architecture* is embracing it.

David Lewis

West Homestead, Pennsylvania

CORRECTIONS

Credits for Genzyme Center (February 2004, page 58) omitted M/E/P consultant Laszlo Bodak. Also, Anshen + Allen Los Angeles, not their San Francisco affiliate, won the commission at Kendall Square.

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PHILADELPHIA'S PRESERVATION CONSTERNATION



⇒ Rodolfo Machado has been named the next chair of the department of urban planning and design at the Harvard Design School. A partner at P/A Award-winning Machado and Silvetti Associates in Boston and a professor at the school, Machado will assume his new position in July.

⇒ The Uffizi Gallery in Florence, Italy, has announced a \$69 million plan to double its exhibition size. A team of Italian architects will begin work on the 1560 structure this summer, with construction scheduled to finish in 2006.

⇒ The AIA has chosen 81 new members for the organization's College of Fellows for 2004. The association also awarded honorary memberships, its highest accolade for nonarchitects, to seven individuals, including photographer Robert C. Lautman.

⇒ April is National Landscape Architecture Month, according to the American Society of Landscape Architects (ASLA). The thrust of

Causing an uproar over the future of Philadelphia's monuments and early-American streetscapes, a bill has come before the city council there that critics say could ostensibly strip the entire city of historic-preservation protections.

Introduced by councilwoman Jannie L. Blackwell, the bill would have the council, rather than the city's historical commission, decide the preservation status of neighborhoods and buildings, and allow the council to strip buildings and areas of historic designation. The bill would also exempt newer portions of the city from ever receiving landmark protection.

Blackwell proposed the bill because of her concern over the exclusionary nature of the current process, citing meetings where decisions about areas' historic statuses have been held without neighborhood representatives in attendance. She asserts that efforts to turn transitional neighborhoods into historic areas are in fact meant to halt the conversion of buildings into apartments for students or lower-income residents.

Critics, however, contend that the bill will effectively halt the preservation process in the city. "To put half the city permanently off the rolls, to have it be possible for a political body like the city council to make or rescind historic status, that could be devastating," said Adrian Fine, director of the Northeast field office of the nonprofit National Trust for Historic Preservation, in an article in the *Washington Post*. Advocates worry that, without protections, Philadelphia's famous rowhouses could be replaced by lesser high-rises.

Blackwell protests that she is in no way antipreservation, but that she wants to give city council a role in the process so that the needs of residents can be taken into account. "We have to be inclusive. City council has to have a role," Blackwell told the *Post*. "Believe me, I want to get every state and federal preservation dollar I can for my district, so I want to work with preservationists and developers alike." **Julia Mandell**

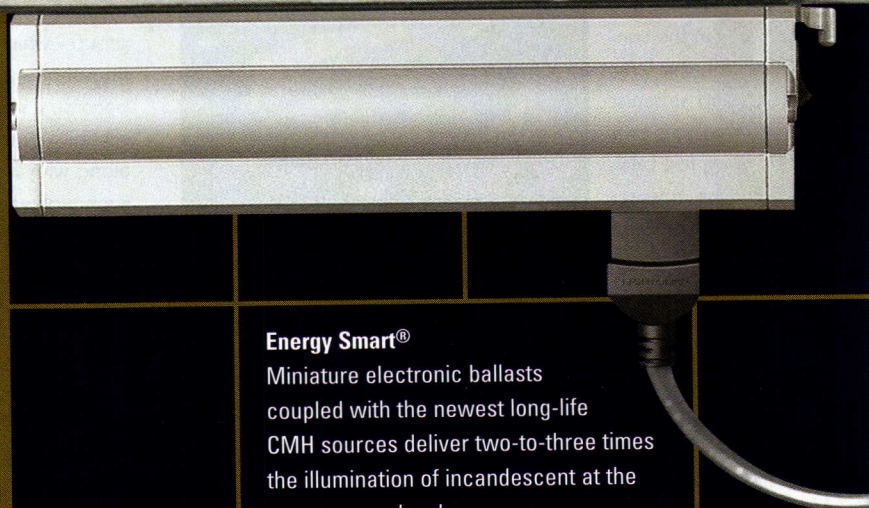
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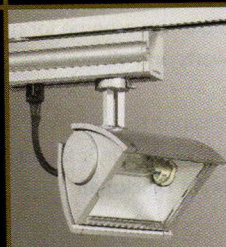
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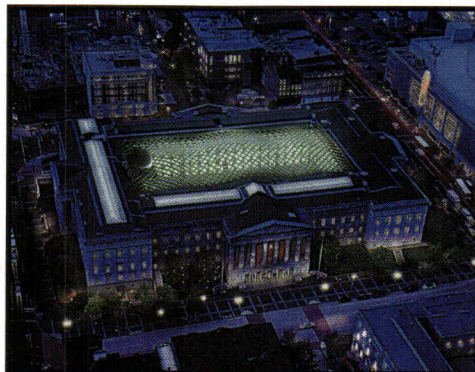
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SMITHSONIAN GLASS CANOPY GETS GREEN LIGHT



After years of uncertainty, Norman Foster's design for a glass canopy has been chosen to cover the courtyard of the Old Patent Office Building, the Washington, D.C., edifice that houses the Smithsonian Institution's American Museum of Art and National Portrait Gallery. The weblike cover, similar to Foster's canopy for the Great Court at the British Museum in London, will be the final gesture on a three-year renovation to what is one of the capital area's most significant historic buildings.



The \$212 million renovation of the 1867 building has always allowed for a covering to the 28,000-square-foot central courtyard, but it wasn't until Congress approved the project and fundraising prospects improved that the Smithsonian was given the go-ahead. Foster beat out seven finalists in a competition for the design.

The Pritzker Prize-winning architect's scheme is meant to return the Greek Revival building to its former public prominence. Designed by Robert Mill and Thomas U. Walter, it was the third federal building in Washington—only the White House and the Capitol have stood longer. The new covered courtyard will be a venue for parties, concerts, and art displays.

Foster's other high-profile projects include the Millennium Bridge in London and the renovation of the Reichstag in Berlin. **Jamie Reynolds**

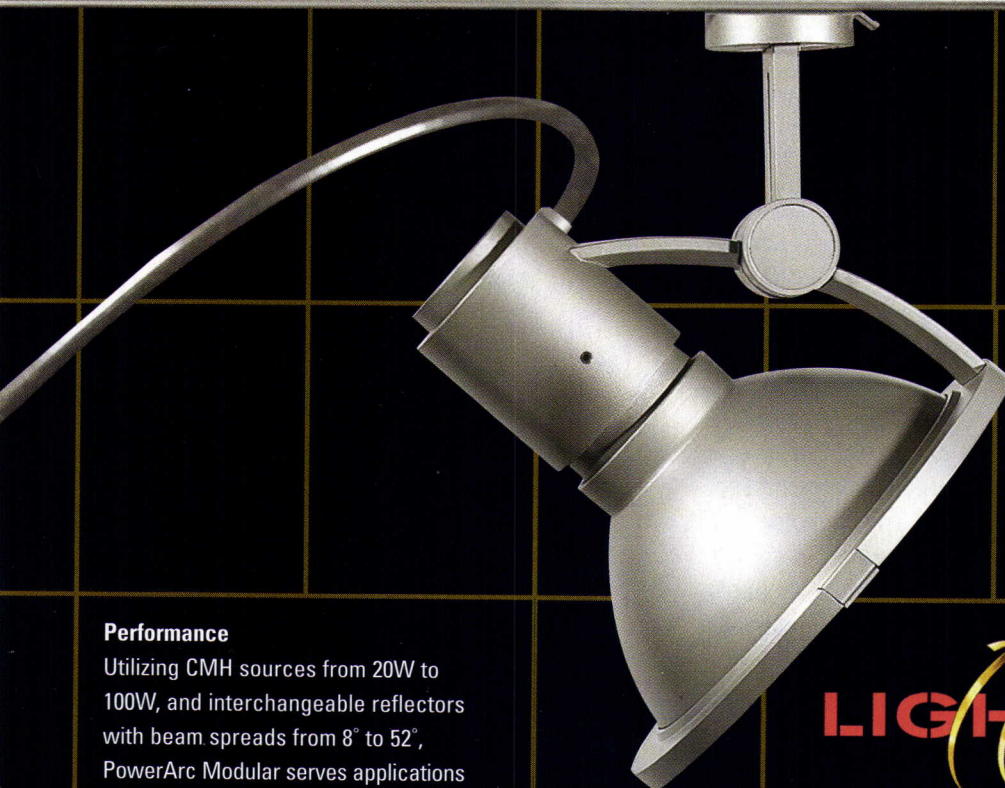
the group's campaign is to educate citizens about the health benefits of public landscape design.

⇒ Aiming to accelerate brownfield development in Canada, the Canadian Urban Institute and the website aboutremediation.com have launched The Canadian Brownfields Network (CBN), a networking service.

⇒ Chicago architect Dirk Lohan is leaving Lohan Caprile Goettsch, the successor firm to the practice founded by his grandfather, Mies van der Rohe. The firm has worked on such high-profile projects as Chicago's UBS Tower and collaborated on the controversial Soldier Field renovation.

⇒ Bates Lowry, an architectural historian and the founding director of the National Building Museum, died last month at age 80. Catherine Cooke, a British authority on Soviet avant-garde architecture and art, died in February. The former U.K. Docomomo chairman was 61.

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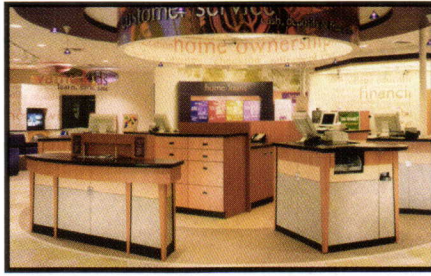
The First 100 Years

AS THE BANK BRANCH GOES, SO GOES RETAILING



Is a clue to the next retail revolution inside your local bank branch? While same-store sales have happily surprised retailers across the board—and encouraged developers, such as Australian mall-builder Westfield America, to announce construction plans totaling billions of dollars—their 2004 expansion plans pale in comparison to the aggressive strategies of banks big and small. From credit unions to national chains, banks are upending traditional ideas about retailing and even mixed-use development as they experience record growth.

"The bank branch was declared dead about 10 years ago," recalls John A. Kreishman, a senior architect with NewGround, a Manchester, Missouri, design firm specializing in retail banking. But while ATMs and online services are increasingly popular, banks get about a third of their revenues from branch transactions. Liberated by recent deregulation and buoyed by refinanc-



ing income, virtually all national banks have huge building programs, creating thousands of new sites. Even faster growing in certain markets are credit unions and community banks, says Eduardo J. Alvarez, an executive with Rochester, New Hampshire-based Willey Brothers, another bank specialist.

But the settings for much financial retail are almost unrecognizable. They're smaller and more spare. Gone are the marble pillars and mahogany trim; in their place are video tellers, self-serve "towers," Internet access, and interactive signage. (To highlight their

novelty, Seattle's Washington Mutual calls its 780 new, highly interactive 3,500-square-foot branches "Occasios.") And the design firms taking the lion's share of the work are niche players offering everything from architecture and construction to merchandising and multimedia design—some even train the tellers—although mainstream architects like Gensler have also entered the fray.

In the 1980s, banks built to defend their turf, notes Paul R. Barrath, a principal with St. Louis design-builder HBE. "Now we see them taking an offensive posture and even leading on site selection." While a recent report in *Commercial Property News* suggested that the financial industry might be "cannibalizing" itself, banks are determined to find more customers and serve them better, especially among the high-net-worth set.

"It's because people like personal service and convenience," says Barrath. "They'd park in the lobby if they could." **C.C. Sullivan**

COURTESY WASHINGTON MUTUAL



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ARCHITECTURE IN THE PUBLIC INTEREST

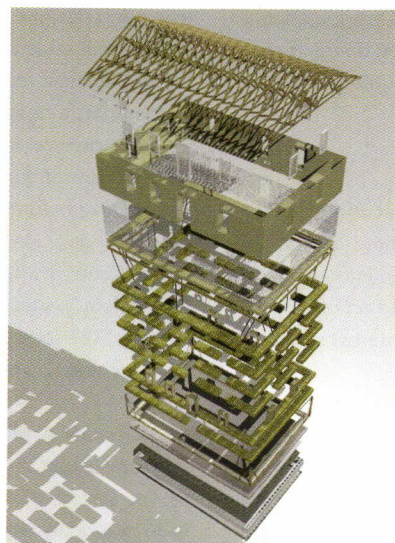
A growing number of young architects are bringing design and more—research, community activism, and creative funding—to housing for impoverished populations. Is there a movement in the making? by Abby Bussel

When Samuel Mockbee was posthumously awarded the 2004 AIA Gold Medal earlier this year, the architectural establishment's highest honor finally found its social conscience—and maybe the profession did too. Much has happened in the eleven years since Mockbee and D.K. Ruth cofounded the Rural Studio, a design-build program at Auburn University that has dramatically raised the profile of hands-on, community-based architecture. Indeed, there is a new generation of practitioners—some are graduates of Rural Studio or like-minded programs, others are simply passionate about an architecture of social engagement—whose members develop projects and programs for clients rarely served by design professionals.

Whether or not the proliferation of such practices constitutes a movement or even a category of design is up for debate. There are strong arguments on both sides, but two recently published books suggest that, by whatever name, critical mass has been achieved. *Good Deeds, Good Design: Community Service Through Architecture* (Princeton Architectural Press, 2003) is a collection of first-person narratives by architects and educators, among others, that relay the stories behind individual housing and community projects and processes. Edited by Bryan Bell, founder of Designs Corps, a Raleigh, North Carolina, nonprofit that specializes in housing for migrant farmworkers and provides fellowships and

other resources to young architects and students, the book crisscrosses the country, from the Community Housing Resource Center (CHRC), which provides home repair and new construction in Atlanta, to Red Feather Development Group, a nonprofit in Bozeman, Montana, that applies a participatory design-build process to the housing crisis in Native America.

Where *Good Deeds* covers a broad range of issues, *Building One House*, published in January by Red Feather and written by its community-design director, Nathaniel Corum, has a single mission: to show how to construct straw-bale dwellings through a combination of professional services and on-site training of volunteers. Both of these books capture the strong-willed efforts of a different breed of architect. They are the twenty-first-century Jacob Riises of the design world, improving how the other half lives.



Constructed by volunteers, a two-bedroom straw-bale house rises on the Crow Reservation in Montana (top). An exploded axonometric describes the construction process (above).

A DESIGN MOVEMENT

Most extraordinary about this group is the high level of design talent they possess. None seem willing to enshrine their clients in treacly wrappers of nostalgic domesticity. These are architects of our time working in contemporary idioms—some more dynamic than others, but all seeking an authenticity of time, place, and culture. Low budgets are not an excuse for uninspired design, but are a liberating challenge to make the most with the least.

Their work is not done in a vacuum, but is both supported and

complemented by related agendas. In 2000, the Enterprise Foundation, which assists local organizations in rebuilding communities, established a program of three-year fellowships that allows recent graduates—Corum was among the five fellows selected in 2003—to work for a public-service organization that could not otherwise afford on-staff architectural expertise. In a design-school first, the Designmatters program of the Art Center College of Design in Pasadena, California, has been granted nongovernmental-organization (NGO) status by the United Nations, enabling the school's students and faculty to participate in humanitarian initiatives around the globe. And last month in another first, Design Corps' fourth Structures for Inclusion conference, which offers process-oriented case studies geared to its constituency, was held



Built by local residents, Jae Cha's community center-church (left) in Marcovia, Honduras, is framed in steel-reinforced concrete blocks and sheltered by a corrugated metal roof; a mesh fabric commonly used for agricultural shading forms interior and exterior walls as needed. M. Scott Ball's Moseley House (right) in Atlanta is the result of a design-build initiative that engages student interns and homeowners.

that and I think it has seriously damaged itself" by not making the field essential in the same way. For Ball, being a public-interest architect is as viable a career as any other: "As designers we are vested community members. We're not missionaries. We are local citizens."

IT'S ALL ARCHITECTURE

"The idea of a 'public-interest' architecture bothers me," counters James Michael Tate, who graduated from the Rural Studio last year. "It's the pigeonhole thing. My work is just to expand the definition of architecture. I believe that what I do is architecture—period." Studying under Mockbee at Auburn presented an opportunity "to immerse ourselves in something that would result in direct change. Architecture has to involve creating some kind of change," argues



in conjunction with the Association for Community Design's annual conference on the work of community design centers, bringing seasoned professionals together with their younger counterparts.

There seems to be something in the air.

DOCTORS AND LAWYERS DO IT

"There is a movement," believes M. Scott Ball, executive director of CHRC, but he contends that it operates without definition. "There should be a field within architecture, a public-interest architecture," he argues, "which could be easily modeled on other professions—just as the nonprofit sector is the public-interest sector of the business community."

And if there is a movement, Ball might embody its essence. The Yale-trained architect has carved out an unconventional career that meshes public advocacy, fundraising, and political engagement. Besides administering his nonprofit's programs, Ball serves as: an appointee to Atlanta mayor Shirley Franklin's Inclusionary Zoning Task Force; a founding member of the Georgia Fair Lending Coalition; an executive committee member of the Atlanta AIA Young Architects Forum; and a board member of the Atlanta Regional Health Forum.

"In law, you have public-interest lawyers—the same with public health. It is unthinkable that people would go without legal representation or a doctor," he notes. But architecture "has nothing like

the young designer, who goes simply by Tate professionally. "It is an opportunity to address social and political arenas through design."

He has most recently taken this philosophy to Common Ground Community, a nonprofit in New York City, where he has coordinated a competition for prototypical single-room-occupancy units (see "Give Them Shelter," page 30). "The profession has become so involved with form," Tate argues, "it has forgotten about these other things." He calls for a more comprehensive approach to design, one in which context, materials research, form, collaboration, client participation, and sustainability are all given equal weight. "The focus of my work is extending the depth and reach of what architecture does. How it's made and who it is made for."

DESIGN ON A MISSION

The same could be said for Jae Cha, another graduate of Yale's architecture school, who works with faith-based organizations that typically do missionary work in Central or South America. "This isn't the thing I thought I was going to do with my life," explains the Washington, D.C.-based owner of a firm called Light. "I thought I would take the regular path—go to New York City, work for a big firm—but I needed to do something that was meaningful. Architecture is so hard. That [traditional route] wasn't enough."

For her efforts, Cha has won awards and fellowships honoring the spare modern forms she creates to harness inexpensive local

materials, respond to harsh tropical climates, and be easily built by untrained community members. Since incorporating her firm as a nonprofit in 2000, she has won three awards in the emerging-architecture program cosponsored by *Architectural Review* and the hardware manufacturer d-line for churches in Costa Rica and Bolivia and for a community center-church in Honduras.

Despite the potential for such professional recognition, Cha knows that her career choice isn't for everybody: "Architects in other parts of the world have been doing this kind of work for a long time," she notes. "Here, though, it's not looked upon so glamorously."

SPREADING THE WORD

For Red Feather's Nathaniel Corum, who is among those who see "a movement afoot," the less glamorous corners of the world have a magnetic pull. After completing a graduate architecture degree at the University of Texas at Austin, where he studied with sustainability guru Pliny Fisk at his Center for Maximum Potential Building Systems, Corum took a Fulbright fellowship to North Africa, where he researched traditional construction technologies and explored ways to preserve the fabric of ancient cities while improving conditions for the urban poor.

In 2003 came his current position at Red Feather, where he has led two "builds." The 10-year-old nonprofit invests

These architects are working in contemporary idioms—all seeking an authenticity of time, place, and culture.

its efforts in refining and adapting the age-old technique of straw-bale construction to help reduce the number of Native Americans who are homeless or living in substandard conditions, which is estimated to be 300,000. Through sweat equity and with volunteers who camp on site for a month, those who participate, he notes, "become ambassadors of design and the participatory process."

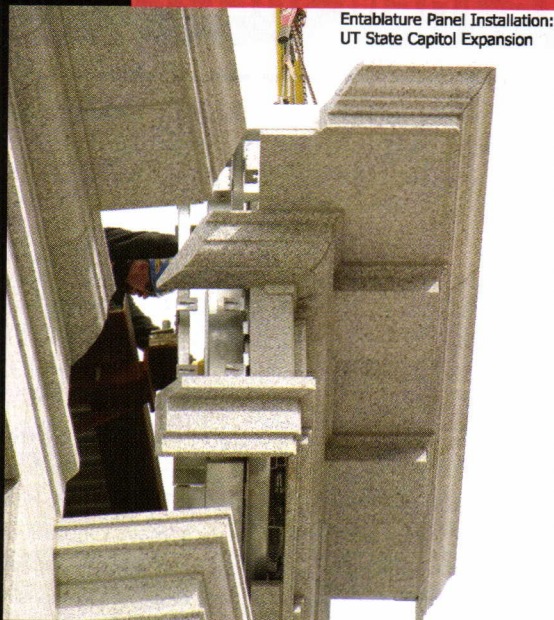
In July, Red Feather takes on its largest project: an environmental research center for the Turtle Mountain Band of Chippewa Indians in Belcourt, North Dakota. With a construction grant from the U.S. Department of Agriculture, the center will not only serve academic purposes, but the build will also provide training for the design and construction of new housing on a reservation where 200 homes have been condemned due to mold infestation. While his main goal is to help tribes become self-sufficient, an added plus for Corum is that the builds also "allow native kids to see architecture as a profession," one that can have a role in the future of their communities.

Corum, Ball, Tate, Cha and their many like-minded peers are not the first to advance architecture's social program, but they are infusing community-based projects with a refreshing belligerence: without good design, good deeds aren't good enough. ■

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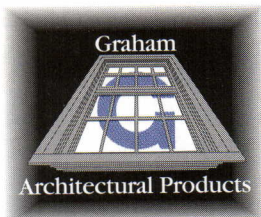
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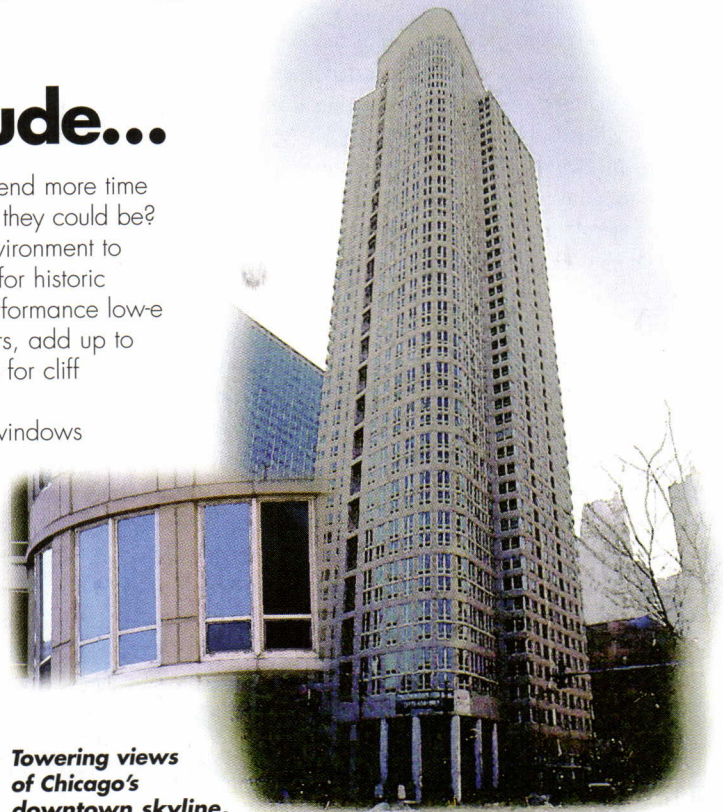


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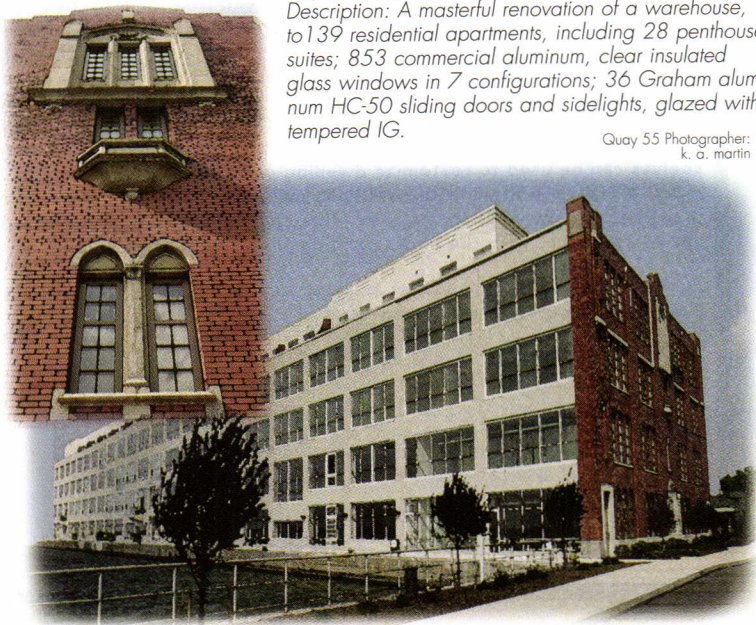
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Project: The Sterling Building, Chicago
Description: New construction, 48-story condominium tower; operating casement Series 6600 aluminum low-E windows help tame Chicago riverfront winds, year round.

Waterfront views, protected by Graham, enhance year-around marina living.

Project: Quay 55 apartments on Cleveland's lakefront
Description: A masterful renovation of a warehouse, to 139 residential apartments, including 28 penthouse suites; 853 commercial aluminum, clear insulated glass windows in 7 configurations; 36 Graham aluminum HC-50 sliding doors and sidelights, glazed with tempered IG.

Quay 55 Photographer:
k. a. martin





DETROIT: CATALYTIC CONVERSION?

The new Motor City is not out of the gate like a race car, but more like a sensible minivan.

by Martin Schwartz

Other cities may have suffered setbacks during postwar suburbanization, but urban flight occurred with a particular irony in Detroit. This city, the birthplace of the American automobile, is a victim of its home-grown industry. In 1950, Detroit was a city of two million, but over the next 50 years, half of those residents packed up their cars and drove to the suburbs.

Now, however, it seems a rebirth is in the works. But is this flurry of activity Detroit's long-awaited renaissance or just another Renaissance Center? Recently renovated to be General Motors' headquarters, the 1973 former riverfront hotel and office designed by John Portman proved to be a flashy but irrelevant episode in urban renewal, its dark glass towers relating to neither the city nor the river. Today it appears that Detroit has come to understand the economic, emotional, and civic need to design new structures that acknowledge the value of an existing cityscape. This late bloom may put the Motor City's architects and planners at an advantage, enabling them to learn from urban-design mistakes that more precocious cities have made.

DOMINO EFFECT

Local sports facilities and cultural institutions have led the city's new development. In the past four years, Detroit has opened two new stadiums: Ford Field (above, left foreground) for the Lions football team, with suburban Detroit-based Rossetti as design architect, and Comerica Park (above, right foreground) for the Tigers baseball team, with HOK Sport as design architect. The Lions relocated from

the suburbs because the city made it financially attractive; but as Rossetti principal Jim Renne describes, it was also a more romantic proposition to be in the city center. "I want to stand on the 50-yard line and know I am in the city of Detroit!" Lions owner and Ford CEO William Clay Ford, Jr. is said to have told the design team. The reality is Ford Field is roofed over and 40 feet below grade, but, given this directive to celebrate the city's urban fabric, Rossetti nestled a 1.3-million-square-foot stadium clad in glass and brick against a 1.2-million-square-foot former Hudson's department-store warehouse on the northeast edge of downtown.

Cultural developments have also been seen by local leaders as essential for downtown revival. Late 2005 will see the long-awaited completion of Michael Graves's addition to the Paul Cret-designed Detroit Institute of Arts (DIA), built in 1927 on Woodward Avenue, the city's main drag. Though Graves first received the commission in 1988, a lack of funding delayed the \$91 million project; construction finally began in 2001. When complete the museum will have a 35,000-square-foot addition, improved circulation, and sorely needed visitor amenities. Plus, two earlier additions will be reclad in the same white Vermont Danby marble as the original building with string course lines carved to echo Cret's modernized classicism. About one mile southeast on Woodward, Diamond and Schmitt Architects of Toronto designed the Max M. Fisher Music Center (2003), an understated renovation and addition to the 1919 home of the Detroit Symphony Orchestra. The project adds a new lobby, a 500-seat concert hall, and educational facilities to the original 2,000-seat hall. And another mile southeast on Woodward, near the two stadiums, the Motown Center museum is planned for the site of the former record company's headquarters (see "Rumblings of a New Motown Sound," page 34).



The principal façade of the addition to the Detroit Symphony Orchestra echoes the Renaissance Revival style of the original hall in a thoroughly modern language (left). New housing construction, like the 30 townhouse units that McIntosh Poris Associates have designed alongside Mies van der Rohe's Lafayette Park housing (1955 to 1963), is a critical indicator that downtown Detroit is on the mend.

MOVING HOME

Even more encouraging than these cultural and sports venues are the institutions, offices, stores, restaurants, and housing that are in the works in between them. Mayor Kwame M. Kilpatrick estimates that 4,000 housing units are coming on line annually, up from 200 units just five years ago. Among the notable contributions are those from Detroit-based McIntosh Poris Associates, now designing housing at various scales, from hotel conversions to low-income infill. Firm principal Doug McIntosh strongly believes that Detroit has "crossed the threshold" to a renaissance that is attracting the attention of out-of-town investors.

School quality and safe neighborhoods are still concerns, however, so new downtown residents are mostly young professionals without children. Architect Dorian Moore, of Archive DS, a young Detroit firm that adapted the 35-unit Canfield Lofts from a former auto dealership, sees this as a pivotal phase. "Next," says Moore, "neighborhoods will be solidified with families moving back; that is the next frontier." In anticipation of a population surge, Detroit Public Schools has sold \$1.5 billion in bonds for school construction.



The direct public benefit of all this momentum will be the reclamation, over several years, of the Detroit River's formerly industrial waterfront. SmithGroup has designed the first section of a planned five-mile River Walk on the East Riverfront. Parkland, an esplanade, and a bike path are to be ready for the 2006 Super Bowl. A plan for public space on the West Riverfront is being designed by a team led by Chan Krieger & Associates of Cambridge, Massachusetts.

But do these projects have the iconic power to catalyze the city? *Detroit Free Press* architecture critic John Gallagher laments the absence of a twenty-first-century signature project on a par with other Midwestern metropolises. Milwaukee has a Calatrava, Cincinnati a Hadid. While Graves's design for DIA has evolved since his 1988 commission, the building program is comparatively modest and its style deferential—an unlikely candidate to have a "Bilbao effect." But then it just may be that Detroit is taking a more measured route to revitalization.

Martin Schwartz, an architect in Ann Arbor, Michigan, is currently writing a book about Jørn Utzon's church at Bagsvaerd.

RUMLINGS OF A NEW MOTOWN SOUND

When Tanya Heidelberg-Yopp considers the challenge of developing Motown Center, an entertainment and cultural venue planned for the site of the blue-paneled former Motown Records headquarters, she thinks of her childhood inspiration from the famous label's founders. "Seeing it here in Detroit made everything seem possible for me," she reminisces. "It's an important American story about how some young people came together to impact the world far beyond what they were trained to do or expected to do."

Like her heroes, this entertainment lawyer and president of Motown Center seems expert at creating momentum. Preparing for an intensive capital campaign, Heidelberg-Yopp organized a high-profile international design competition that led to the selection of Architectural Research Office, the Rockwell Group, and Detroit's Hamilton Anderson Associates as the design team. She has also lined up support from key constituents, including Motown's founder, Berry Gordy, and its parent company Vivendi Universal.

The big question, however, is whether the city of Detroit is ready for the push. While the program—a highly interactive museum, live performance spaces, stores, restaurants, and a park—would inject much-needed vitality into its neighborhood, officials never really promoted their fantastic musical legacy until last year when, apparently inspired by the Eminem movie *8 Mile*, the tourism bureau launched a promotional campaign. Some Detroit denizens fear that the effort—and Motown Center—are a little late, as Memphis is already cashing in on its music history: "Soulsville," a museum and academy, opens there this month. But while Memphis may steal Detroit's thunder this year—even the name seems a riff on "Hitsville," the moniker for the house (now the Motown Historical Museum) where Gordy started his empire in 1959—Heidelberg-Yopp is convinced that the Motor City musical legend is a strong heritage to build upon. **C.C. Sullivan**

WHEN GOOD PROJECTS GO BAD

firm

In a troubled or failed project and in the dispute resolution and mediation that follow, it is remarkable that the architect's role in solving problems has drastically diminished in recent years—even though the architect is often in the best position to develop a solution mid-project.

Typically, nonbinding dispute resolution introduces to the project a neutral third party—someone, such as a retired judge or an industry leader, who commands enough respect that the parties will listen to and follow the mediator's recommendation. Too often though, the architect is supplanted by these independent adjudicators because:

- Construction managers and owner's representatives jockey for the owner's ear and push the architect out of the inner circle.
- Architects believe that a greater role in resolving disputes will mean greater liability.
- Standard-form contracts have diminished the architect's hands-on role.


If the architecture firm has the confidence of the owner, it can broker solutions to project issues as they arise, and adjustments can be made promptly and seamlessly. (Mold is an excellent example of a recurring project issue for which the architect is in the best position to develop a solution: It relates to vapor

barriers, roofing, façade maintenance, and plumbing leaks.) Strategic solutions can also be realized by making adjustments to the project team, changing the schedule, and altering the project scope or its phasing when typical warning signs arise:

- The project team isn't appropriately skilled, can't work together, or can't communicate effectively.
- The project is being delayed by budget constraints or the owner's failure to make prompt decisions.
- Unresolved issues remain, such as excessive changes, claims for unanticipated conditions, disputed design errors, or allegations of defective contractor work.
- Contractors are failing to provide adequate labor to meet the schedule.

The role of the architect as chief problem-solver who can get a troubled or failed project back on track must be clearly defined at the project outset in the contract. And the role must be reinforced by the owner when communicating with each of the project participants. Only then can the owner maximize the architect's effectiveness in a cost-conscious manner.

John E. Osborn is a partner at the New York City and Chappaqua, New York, construction- and environmental-law firm John E. Osborn P.C.



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HOW TO DESIGN FOR HUMANS

The latest wave of sustainability puts people first.

by Jonathan C. Weiss, Kath Williams, and Judith Heerwagen

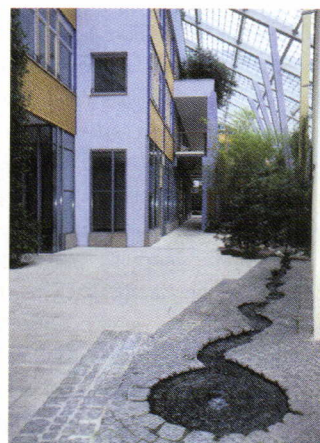
While the international sustainability movement has profoundly affected the built environment, architects know that green buildings must do more than effectively use natural resources. These facilities also need to support the health, prosperity, and happiness of their occupants and neighbors, so that the “people resource” used during the life of the facility contributes to global sustainability. These are lofty goals, indeed. But in the spirit of Thoreau’s question “What is the use of a house if you don’t have a tolerable planet to put it on?” one might ask, “What is the use of a building if it is not a tolerable habitat for people?”

Human-centered sustainable design (HCSD) describes a comprehensive, anticipatory approach to building design that integrates the functional requirements of facilities with state-of-the-art knowledge about people’s physical, psychological, and behavioral needs. Rather than relying on the architect’s intuitive sense of people and organizations, HCSD requires that architects expand the dimension of issues that are consciously and deliberately considered during the design process.

HCSD is a relatively new term, but its roots are older. In *New Organic Architecture: The Breaking Wave*, author David Pearson describes what is now a global school of humanistic architecture that gained prominence in Europe in the 1980s. Influential contemporary practitioners include Joachim Eble of Germany; the Wales-based author of *Places of the Soul*, Christopher Day; the Hungarian Imre Makovecz; and Amsterdam’s Rau & Partners and Ton Alberts & Max van Huut. The U.S. architects Maryann Thompson and Charles Rose, former partners who designed several educational buildings here and in Europe, are also associated with this school of thought, according to Pearson. Other proponents of human-centered design include the author Donald A. Norman, whose books such as *The Design of Everyday Things* consider the effects of people’s tools and environments on human actions and reactions.

A KINDER, GENTLER SUSTAINABILITY

Architect Randolph Croxton and interior designer Kirsten Childs formally introduced the concept of HCSD in the United States in 2000 in the Earth Pledge Foundation’s widely read *Sustainable Architecture White Papers*. Similar notions—“phylogenetic design,” coined by workplace futurist Betty Hase; “humanistic sustainability,” offered by architect Sandra Mendler; and “sustainable human factors,” created by a coauthor of this article, Judith Heerwagen—reflect the inexorable link between sustainable design and a facility’s support of occupant needs. Budding American interest in HCSD has been accelerated by a seminar on the subject at last year’s U.S. Green Building Council (USGBC) conference and through lectures



While human-centered sustainable design is an American term, its roots trace mainly to Europe, where current practitioners include Joachim Eble, known to devotees as the “grandfather of green.” Among his most celebrated projects is the Prisma Building in Nuremberg, Germany (1996), a mix of housing, retail, and office space centered around a glass-enclosed atrium containing plantings and cascading rainwater brought inside for fountains. Developers and governments have credited Eble’s midscale, mixed-use projects, which incorporate community participation in the design phase and have extensive natural features, for revitalizing several blighted urban areas across Germany.

by European proponents such as Eble, who spoke at the Massachusetts Institute of Technology last month.

While definitions may vary, HCSD synthesizes a number of design attributes that impact the actions and reactions of people: ergonomics, biophilia (the human affinity for natural things), security, universal design, gender perception, and cultural values regarding aesthetics and comfort. Designers subscribing to the ideas of HCSD believe that such attributes are vital to a building’s sustainability and that some, because they can be objectively quantified, should be incorporated into sustainable-design guidelines such as the USGBC’s LEED rating system.

Critical to the HCSD approach is the mindset that facilities are *habitats for people* and, thus, that spaces and structures be designed to accommodate human physical and psychological characteristics. First, HCSD practitioners believe that buildings positively impact human health if they incorporate aspects of the natural environment that confer fitness to humans during their physical evolution—features that relate to the idea of biophilia developed by Harvard zoologist

E.O. Wilson. In addition to naturalistic forms, plantings, and water features, biophilic building elements include: extensive visual access to the outdoors; multiple enclosures and refuges; overhead built “canopies” to give a sense of protection; and changes in elevation to allow surveillance. Beyond their aesthetic contributions, such features have been shown to reduce stress and improve mental functioning in government and private-sector productivity studies.

Of course, biophilic features alone don’t guarantee a healthy building. Other factors include the now-standard fare of sustainability: indoor-air quality, noise reduction, and personal comfort controls for occupants. Yet critical to HCSD is ergonomic design—fitting tools and environments to people’s physical, psychological, and behavioral needs—which improves both individual health and group productivity. Another facet is universal design—built environments that people can safely and effectively exploit through all stages of life, regardless of physical ability—which minimizes the need for renovations over time. A final design criterion for HCSD is passive and active security: surveillance, access control, resistance to biochemical agents, and protection against catastrophic events. These enhance building sustainability by safeguarding “people resources” and ensuring continuous operation of the facilities.

Borrowing terms coined by Australian biologist Stephen Boyden, proponents of human-centered design consider buildings successful only when they meet both the “survival needs” and “well-being needs” of humans. To uncover these parameters, HCSD architects focus on a highly collaborative design process—Eble calls it “citizen participation”—that includes all project stakeholders and relies on an environment of trust. To deal with common stumbling blocks like the client’s organizational culture or pre-established “building committees,” HCSD practitioners reach beyond these constraints to include in the design process “change agents,” defined by educational researchers Gene E. Hall and Shirley M. Hord as the people within an organization who are directly responsible for the health, safety, and welfare of its members.

CONSTRUCTING CREATIVITY

Underlying HCSD is the belief that certain built environments support learning and creativity better than others, an idea examined in the 1999 book *Peopleware: Productive Projects and Teams* by Tom DeMarco and Timothy Lister. So why are some places more effective than others? “The patterns that crop up again and again in successful spaces are there because they are in fundamental accord with characteristics of the human creature,” they concluded. For HCSD proponents, the attributes of these places include: access to flora and fauna, unplanned social encounters, occupant control over their spaces, and the opportunity to work uninterrupted in quiet environments. Reinforcing positive emotional states is how environments aid in creative problem solving—and organizational success.

Maximizing our ability to learn and create is vital to our sustainable future. By applying HCSD, designers can craft a built environment that best deploys the material, human, and financial resources of client organizations, contributing to nothing short of a more sustainable society. While much of HCSD may seem like common sense, the approach calls upon architects to unify its constituent disciplines into a holistic, rigorous design method. The key

LETTING NATURE SEEP IN



Like a tree that falls in a deserted forest, if a building is designed according to the principles of “human-centered sustainable design” (HCSD), would anyone notice?

Part of the idea of HCSD is a kind of transparency that lets the natural world seep in. “Even though you’re in the building, you can live a day in nature” by sensing the sun’s movement, smelling outdoor air, and touching natural materials, says New York City architect Randolph Croxton. “And human-centered design is not just about the user: Another crucial part is the natural and human history of the site.”

Working with the architect Cecil Baker & Associates and landscape architect Andropogon Associates, Croxton’s firm put the principles of HCSD to the test for the city of Philadelphia’s new Forensics Science Center, 46,000 square feet of pleasantly daylit laboratories in a 1920s school structure. With efficient M/E/P systems and numerous sustainable-design features—photovoltaics and low-VOC interior finishes, for example—the building is certainly green. But is it more “human-centered” than any other crime lab?

As the originator of the term HCSD, Croxton thinks so. But as HCSD is defined, only time will tell if it works. Its goals? “Productivity, well-being, and health are human-centered issues,” he says. “These attributes are crucial to capture in wellness, learning, and work facilities, where you’re really living your life inside the building.” **C.C. Sullivan**

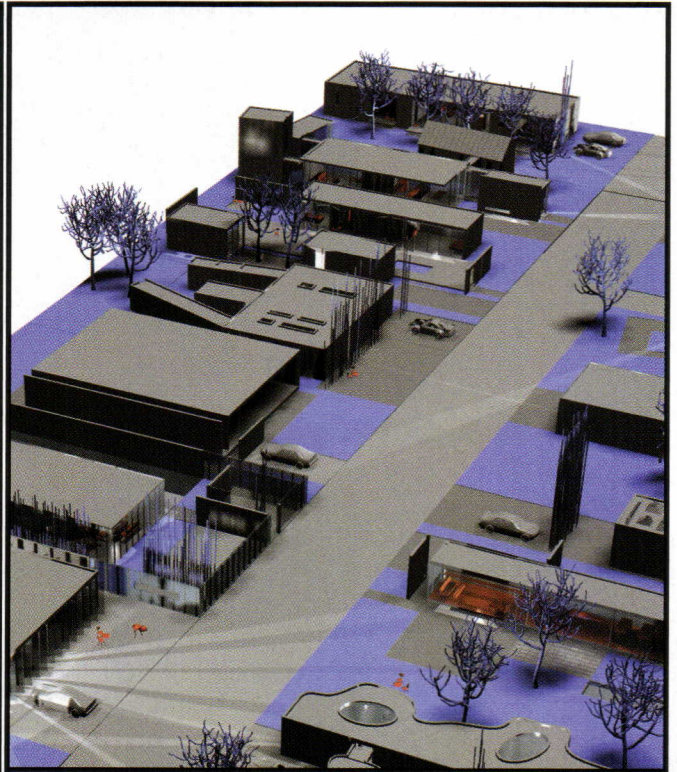
is to consciously and deliberately consider not only a building’s technical needs but also the physical, psychological, and behavioral needs of the human beings within.

Jonathan C. Weiss is an architect with Health, Education + Research Associates in Cary, North Carolina. Kath Williams is a consultant and educator based in Bozeman, Montana, and chair of two U.S. Green Building Council committees. Judith Heerwagen is a workplace-design consultant and environmental psychologist based in Seattle.

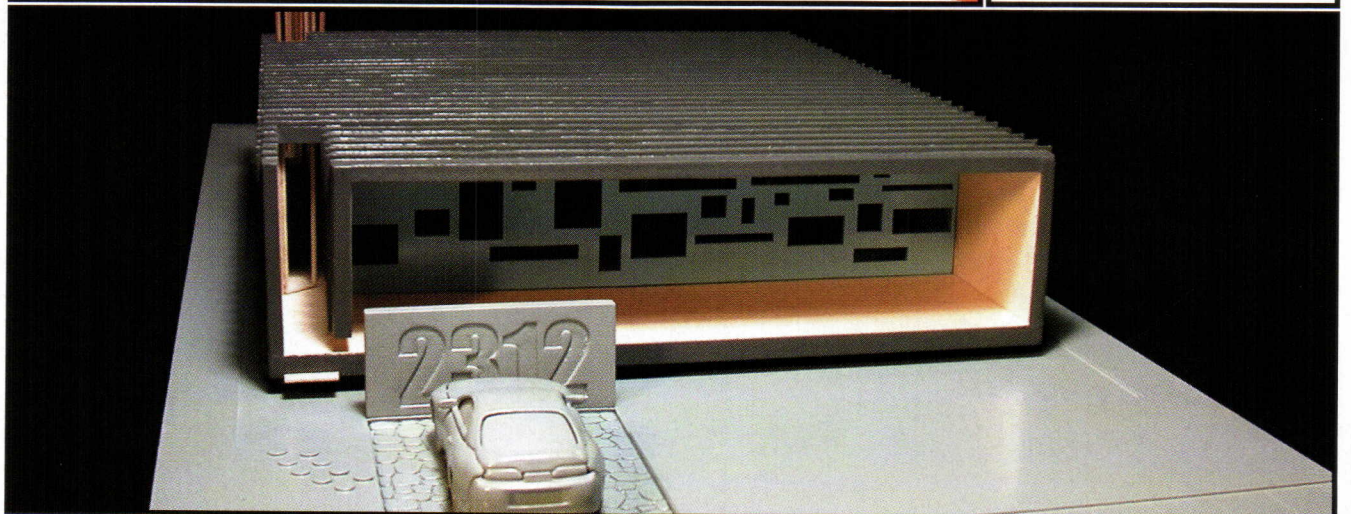
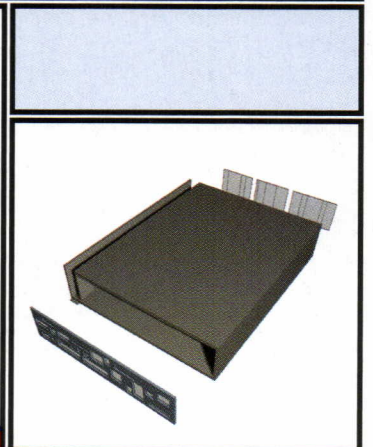
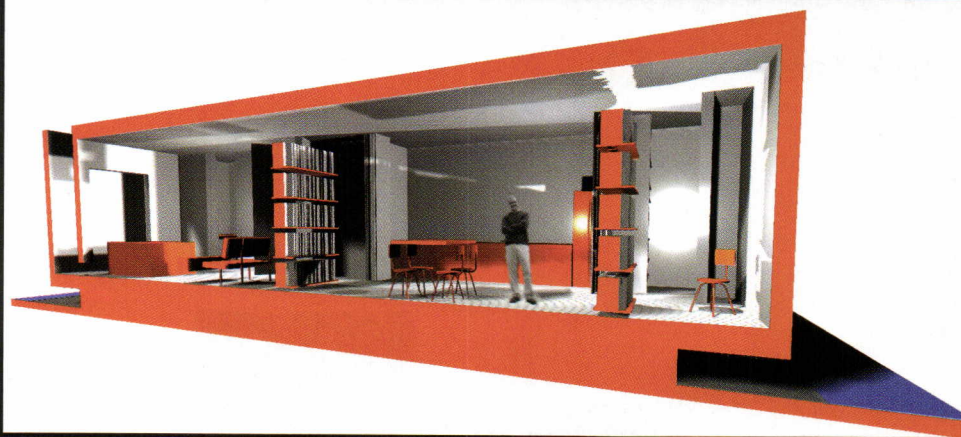
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➔ **BORDEN PARTNERSHIP | 6 OF 20: PROPOSITIONS
FOR SUBURBAN LIVING | RALEIGH, NORTH CAROLINA**

Funded in part by two nonprofits, the Experimental Modern Art Collective and Design Corps, this project brings architecture to the woefully underdesigned suburban housing market at an unusually affordable price. The designers developed 20 modern schemes for infill housing—on typical 60-foot by 120-foot lots—that explore ideas of privacy, modularity, indoor and outdoor spaces, and programmatic relationships. Of the six houses worked out in detail, the “Enclosure House” (below) consists of a single story wrapped on four sides in a standing-seam metal skin whose front and back faces recess to create porches. The street façade features a smattering of small openings allowing for light and air yet limiting visibility from the street, while the back of the house has glass sliding doors to open the view to a private yard. The public areas of the program are pushed to the front of the house, separated from the private spaces in back by the kitchen, bathrooms, and closets. All of the bedrooms and the main living space receive natural light and the matchboxlike wrapping remains continuous so that construction is efficient and cost-effective, producing a modern house with a simple interior arrangement that will cost about \$130,000 for 2,880 square feet. Scheduled to break ground in late 2005, Borden Partnership’s Enclosure House will be the first to be constructed. **Julia Mandell**



infill houses, intended for separate sites



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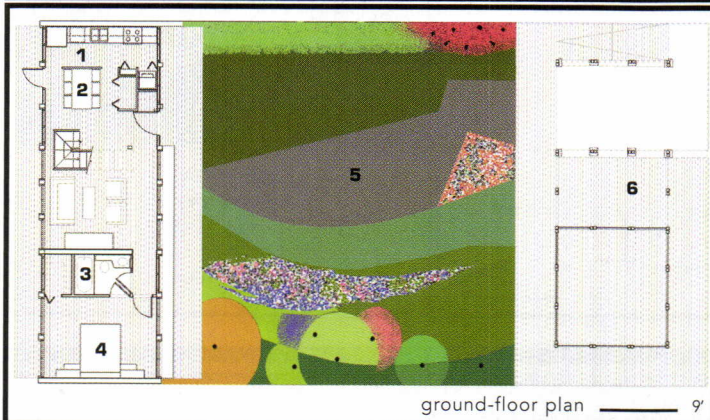
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➔ MARILYS NEPOMECHIE AND MARTA CANAVES | HOUSING DIASPORA | MIAMI

Miami architects Marilyns Nepomechie and Marta Canaves designed this scattered-site, affordable housing prototype for the mostly immigrant neighborhood of Little Haiti in Miami with a combination of cultural metaphor and practical construction. The partners won the commission in an international competition organized by the nonprofit Little Haiti Housing Association, which called for a scheme that would reflect the Caribbean influence of the district's population. Nepomechie and Canaves dispersed the standard residential program across two structures separated by an outdoor area, recognizing the importance of open-air spaces in Haitian culture. When several of these modified courtyards occur adjacent to one another, they form a semi-private green corridor at the interior of the city block. At one end

of each lot is a dwelling—a compact, two-story structure containing three bedrooms and a living and eating area—conceived as a variation on the traditional Caribbean dogtrot house, while at the other end is a one- or two-story peristyle, a multiple-use space that can be used as a carport, storage area, or for a variety of individual or community functions. The peristyle is based on a traditional Haitian structure (a roof atop a colonnade) in which voodoo rituals are performed. The infill project is designed so that the dwelling and peristyle may be built at once or incrementally as the resident's finances allow. The dwelling is of masonry and wood-frame construction, echoing the materials of many of the surrounding early-1900s homes, while the peristyle is wood-framed with operable wooden shutters. **Anna Holtzman**



- 1 kitchen
- 2 dining area
- 3 bathroom
- 4 bedroom
- 5 garden
- 6 peristyle



➔ MURPHY/JAHN | NEAR NORTH APARTMENTS | CHICAGO

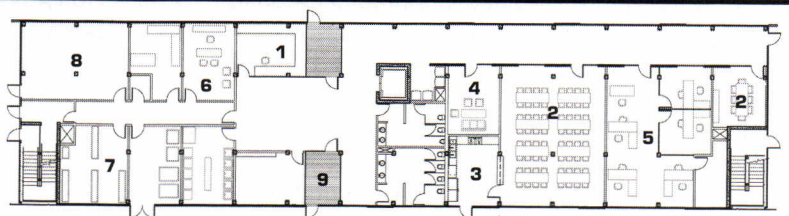
It sounds like a swell studio: You get a room with its own kitchen and bath in an albeit modest 250 square feet. Furthermore, it's designed by an internationally renowned firm. It is hard to see the downside of being the person living in this single-room-occupancy (SRO) building, except that it's your only option aside from being homeless.

Developed by Lakefront Supportive Housing, Near North Apartments will be constructed on a site near the Cabrini-Green housing projects now being demolished (see Protest, page 96). The 47,000-square-foot SRO includes 96 units on four upper floors with social services on the ground floor. Despite a modest budget of \$7 million, Murphy/Jahn has designed a building that both looks cutting-edge and is environmentally responsible. The concrete structure is clad in stainless steel with large punched windows on the main façades and generous glazing on the ends. With each room painted a different color, the expansive fenestration is intended to reveal a spectrum of color when illuminated at night.

The firm hopes to reach the U.S. Green Building Council's "silver" level LEED certification. Individual temperature controls, solar collectors, and 16 wind turbines should keep energy costs down. Construction will begin by the end of the year. **Bay Brown**



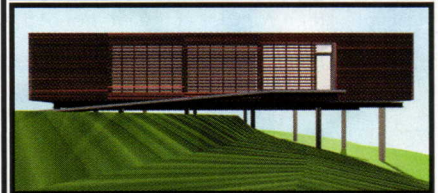
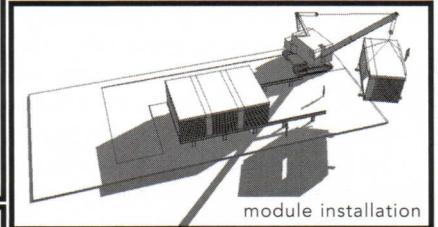
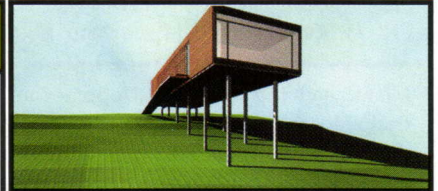
- 1 reception
- 2 meeting rooms
- 3 kitchen
- 4 smoking room
- 5 case management
- 6 property office
- 7 bicycle room
- 8 mechanical room
- 9 main entrance



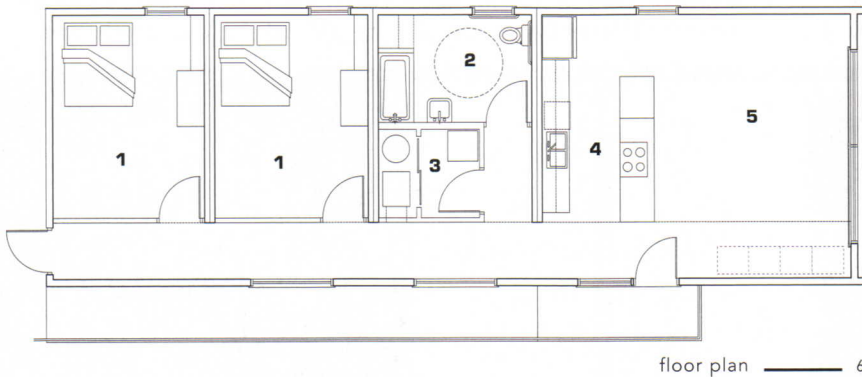
ground-floor plan 18'

STUDIO804 | PREFABRICATED MODULAR HOUSE | KANSAS CITY, KANSAS

Architect Dan Rockhill, principal of Rockhill & Associates in Lawrence, Kansas, runs Studio804, a graduate-level design-build program at the University of Kansas school of architecture and urban design that has worked with local agencies to realize five low-income single-family residences over the last five years. This spring, Studio804 is developing a prototype for a modular prefabricated house with self-contained units—bedroom, kitchen, living, and bath/utility modules—that can be adapted to various configurations and lifted into place by crane on sites in urban areas. Each 11-foot by 15-foot module has two exposures to maximize daylighting and a ramp to provide universal accessibility. The 1,200-square-foot concept house employs bamboo flooring, low-emissivity windows, and maintenance-free, Forest Stewardship Council-certified ipé siding and window slats. **Abby Bussel**



- 1 bedroom
- 2 bathroom
- 3 utility room
- 4 kitchen
- 5 living room



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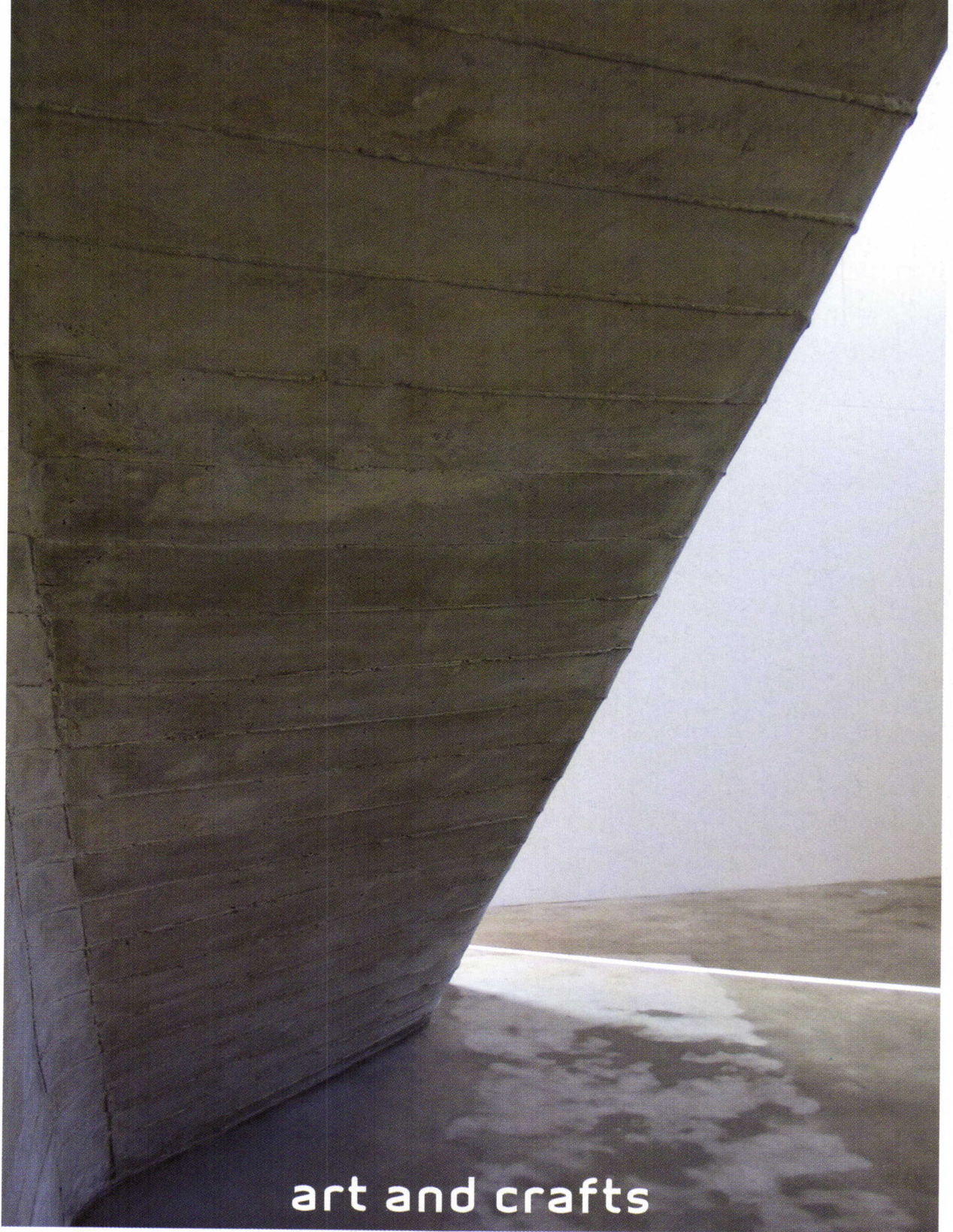
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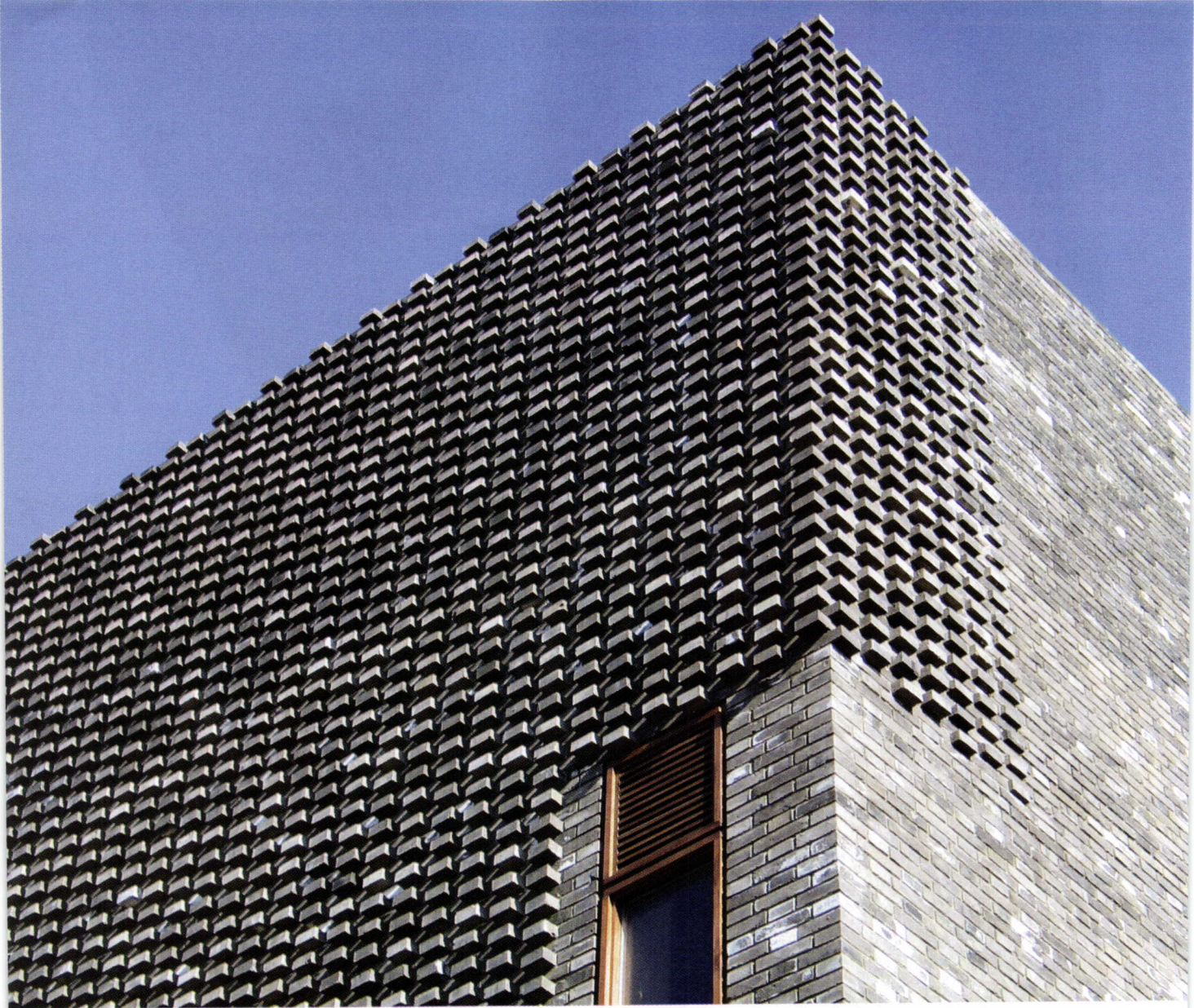
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art and crafts

The art of craft too often goes by the wayside in our bottom-line, immediate-gratification times. Straight lines, flat surfaces, and standardized everything keep costs down and schedules tight—and sometimes those are unquestionable priorities. But not always. Throughout this issue are examples of projects by architects who find ways both large and small to enrich a wall with the work of the skilled hand or design a playful detail that can be realized by untrained volunteers. Olson Sundberg Kundig Allen Architects recast Habitat for Humanity's reputation for admirable works but banal architecture at a 10-house development in West Seattle. Aleks Instanbullu Architects invites an artist to animate the interior of a Los Angeles library with collaged literary references. And Office dA principals Mónica Ponce de León and Nader Tehrani cross borders and time zones to exploit ancient bricklaying and wood-working methods in a gatehouse for a future artists colony near Beijing; they sculpt the region's ubiquitous dark gray brick and concrete into nontraditional shapes—a quirky cantilever, shaved corners—that extend the craftsman's art without neglecting its soul.



pushing boundaries

A gatehouse near Beijing by Office dA speaks to rising outside influences in China.

BY C.C. SULLIVAN

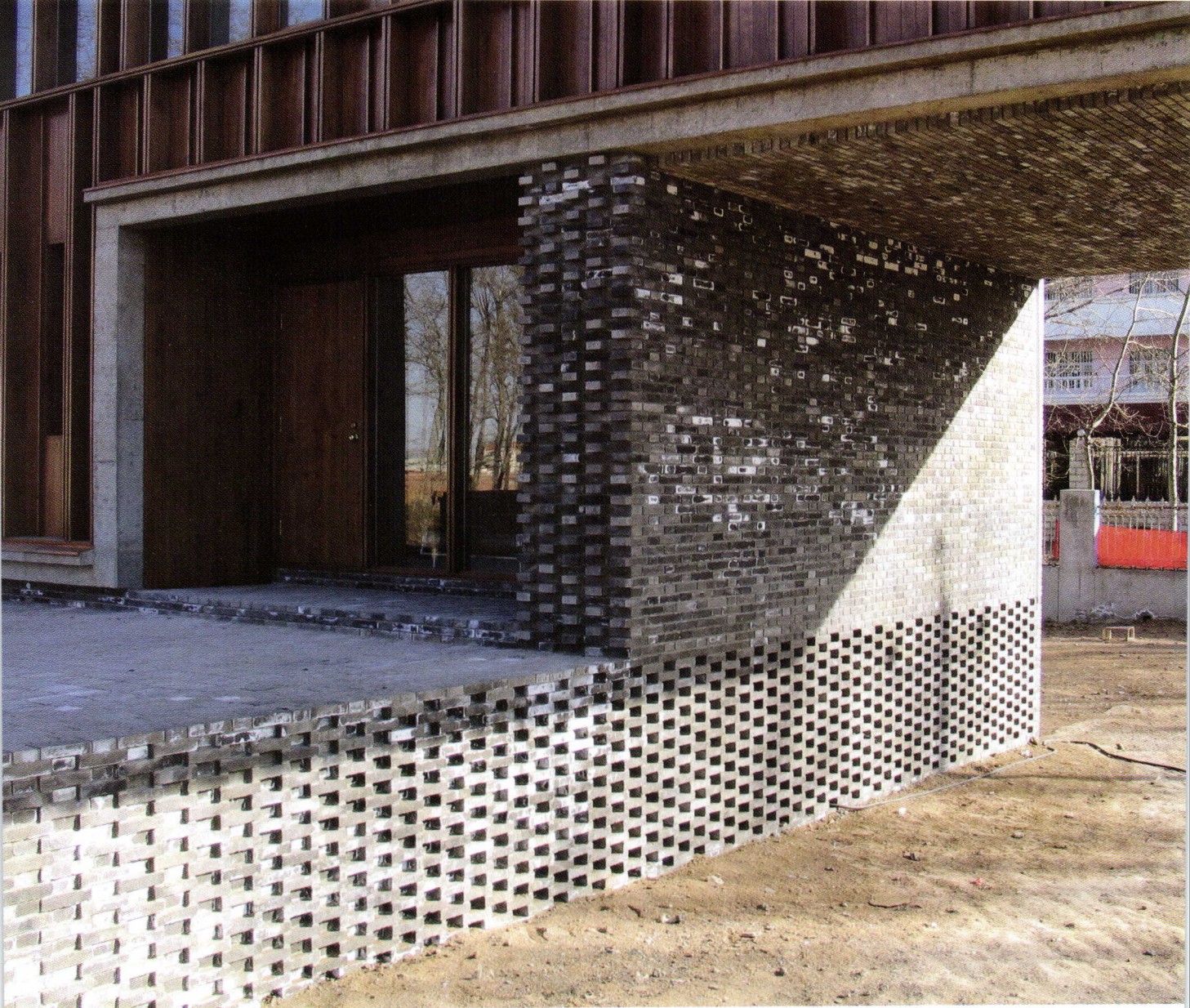
The tide of Western architecture in China is hard to miss, a widely heralded wave of massive projects and investments. Yet, the noise of its breaking crest also drowns out the country's less prominent but most promising subcurrents. About 30 miles outside of Beijing's center in rural but fast-growing Tongxian, for example, one might not notice a hunched mass of dark grey brick, the same brick that colors much of this region's building stock and the *hutongs*, ancient narrow lanes surrounding the Forbidden City. Its anticipatory demeanor, large cantilever, and morphing façades bear little resemblance to the newer, nondescript concrete-and-glass structures in Tongxian, yet the elements somehow fit in. This is modern China, after all, and the 3,300-square-foot gatehouse, the first phase of an unusual enclave called Tongxian Art that will eventually be home and studio to an international group of artists, agents, and critics, is an apt metaphor for the rise of outsider culture.

Art dealer Jack Tilton, whose New York City gallery represents several Chinese talents, conceived of and funded the project as a center for Western artists interested in establishing ties with the thriving Beijing arts community, part of which is concentrated in Tongxian village. The unassuming town is home to the renowned conceptual artist and architect Ai Wei Wei, who acted as the local representative to Boston-based architects Office dA for the project. (Ai serves a similar role for Herzog & de Meuron's Olympic stadium.)

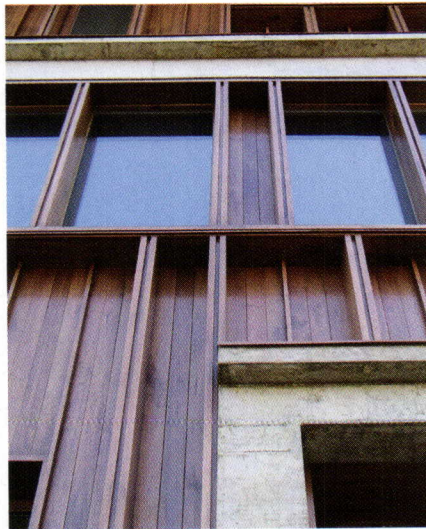
FAST TRACK

The help of the Chinese artist proved invaluable in lubricating the highly political approvals process and getting the project off to a strong start. Although the gatehouse was something of an afterthought, added onto Office dA's master plan for the campus and its larger, P/A Award-winning housing and studio building (January





By varying the placement of header bricks, the Flemish bond pattern rendered in the ubiquitous Beijing “black” brick offers tectonic variation to the gatehouse (previous pages and above). Brick also serves as formwork for the poured concrete structure. Carefully detailed concrete bands and deep panels of Chuzumu, an oaklike native wood (below), help lighten what is actually a heavy cantilever (opposite).



2002, page 72) to be built as a second phase, the project served as a sort of test bed for the unusual construction vocabulary devised by firm principals Nader Tehrani and Mónica Ponce de León. In addition, the project had to be designed and detailed over the course of a few weeks, and then, as is typical of the multiple-shift, large-crew Chinese construction tradition, built as quickly as possible. (To easily and efficiently communicate subtle design features or field changes to the construction crews at critical junctures, the transcontinental collaborators used instant messaging.)

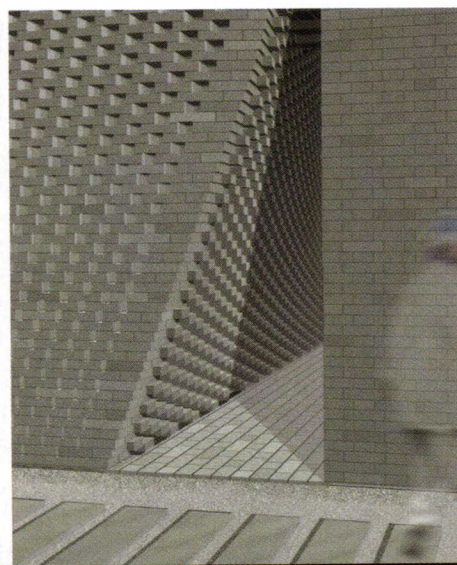
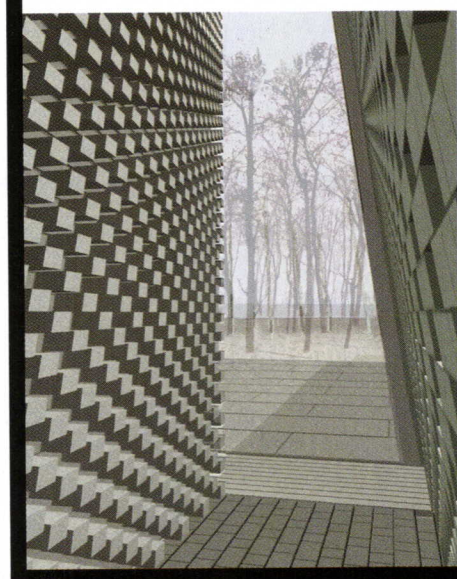
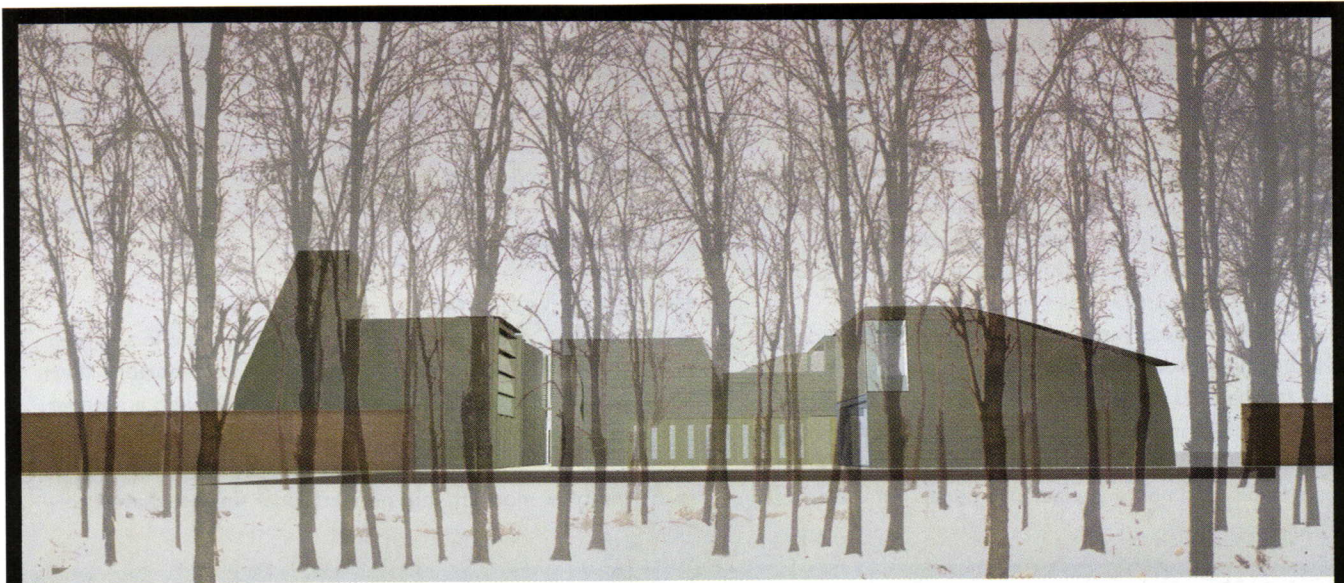
Because the architects had already defined the unorthodox systems for the phase-two buildings, they proved nimble at extending the same language to the smaller, two-studio gatehouse, and then at cranking out the construction drawings. The design exploits local crafts—bricklaying, woodworking, and concrete and plaster finishing—and favors common materials: oak panels, laminated bam-

boo, and most evidently, the grey clay brick. Investigation of local materials has been a consistent theme in Office dA's work, their way of giving roots to an otherworldly avant-gardism. "It's a way of getting away from the tabula rasa and grounding yourself culturally, of bridging local and global," says Tehrani. "And it's a way of communicating with certain constituencies," from the trade workers themselves to Tongxian locals.

THEME AND VARIATION

In this project, Office dA advances this theme. Beyond focusing on material properties and building methods—most notably, their faith in CAD-fed fabrication—the duo concentrates on a broader formal analysis. Using routine, secondary design tasks such as detailing joints and sloping roofs as their cues, the architects "compact" the brick monolith into nontraditional shapes: shaved cor-





The P/A Award-winning scheme for Tongxian Art (January 2002, page 72) introduced the basic spatial and construction vocabulary of the three-phase project, with its distinctive brick treatment and nontraditional shapes (left). Responding to the owner's desire to afford both privacy and interactive spaces for the artists-in-residence, Office dA established three courtyards surrounded closely by several buildings containing galleries, studio spaces, offices, housing, a theater, and a dining hall. The gatehouse, which stands to the southeast at the property entrance, was not included in the initial plan but reinforces the courtyard arrangement. A general view of the complex shows an existing brick wall that divides the site and a stand of trees to the east of the structures (above).

A tight circulation zone with views through a few slit windows (below, left) winds upward through double-height studio spaces and finally to a shared kitchen and living room with views to the east and north (below, right). As if to afford more room to the sky, the northeast wall pulls away from the footprint as it rises, actually reflecting the fact that there is no hall on the third floor (opposite).



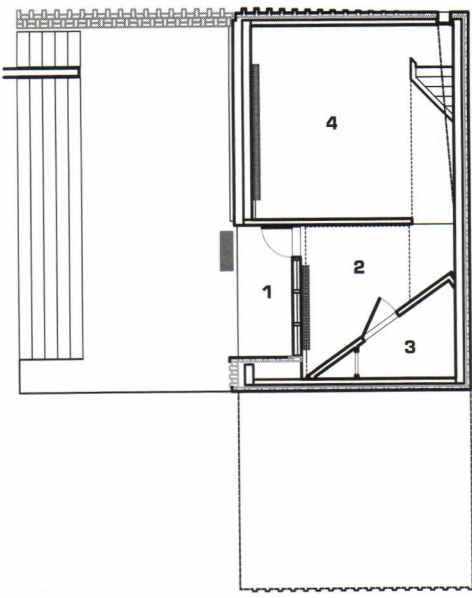
ners, shifted curves, and warped slopes, mainly in brick and oak windows outside, shuttered concrete and smooth plaster inside. The residual spaces between the staircase and the corridor, for example, distort the surface under each flight's rise, as if the circulation elements had to compete for room (see "The Shrink-Wrapped Stair," page 63). In the larger second phase, which Tilton expects to build next year, the passage of light and use of chimneys also visibly alter building elements.

While the design approach is intended as a critique of less rigorous methods, it is also meant to create pleasurable, inspiring places for resident artists (and, presumably, for the property manager who will reside here when the campus is complete). The spatial deformations seem to enhance the rooms, reinforce the tactile qualities of surfaces, and exaggerate the contrast between light and dark. Perhaps inevitably, the building section resembles a

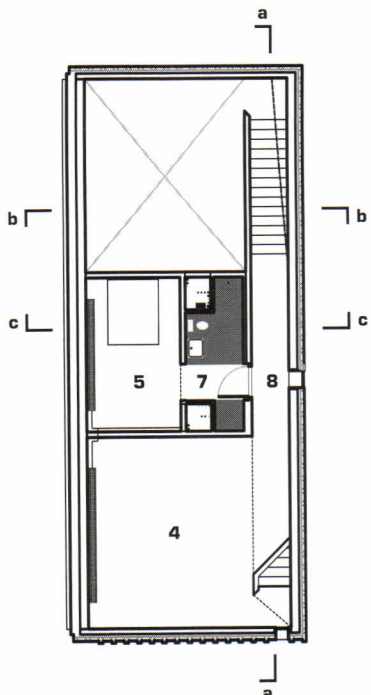
quirky version of the interlocking modules in Le Corbusier's *Unité d'Habitation*; bedroom and bath cores separate open double-height studio spaces, and a shared kitchen and living area fills out the occupied volume. An emblematic gate, the cantilevered studio protects a new road below, with brick suspended from the underbelly of the concrete structure to extend the sense of a continuous, though modulating, envelope.

Although its conception came well after that of the main buildings, the gatehouse plays a critical role for an outsider development in China's public realm: Its unusual presence indicates that a special, private activity takes place inside. The grey brick seems familiar, yet the headers of the Flemish bond are manipulated to animate the façades with curious patterns and highlights. Whether visiting artists or Tongxian residents, observers will immediately sense that this structure is both a boundary and a means to push boundaries. ■

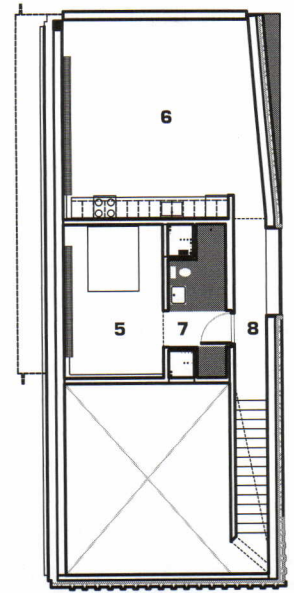





first-floor plan



second-floor plan

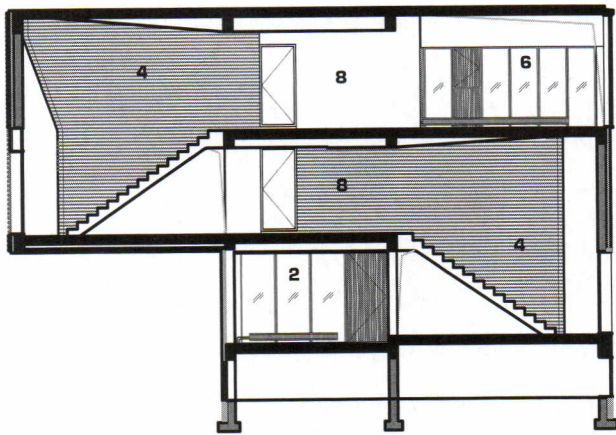


third-floor plan ——— 7' 

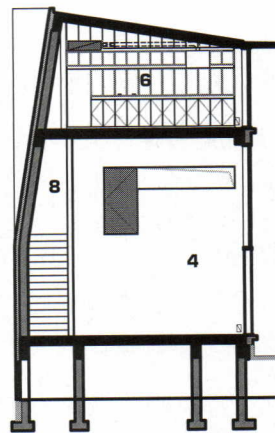
- 1 entry
- 2 foyer
- 3 mechanical
- 4 studio
- 5 bedroom

- 6 kitchen and living room
- 7 bath
- 8 hall
- 9 gatehouse
- 10 future building

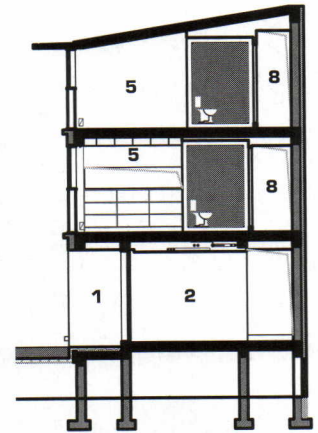
- 11 courtyard
- 12 reflecting pool
- 13 access road
- 14 vehicle courtyard




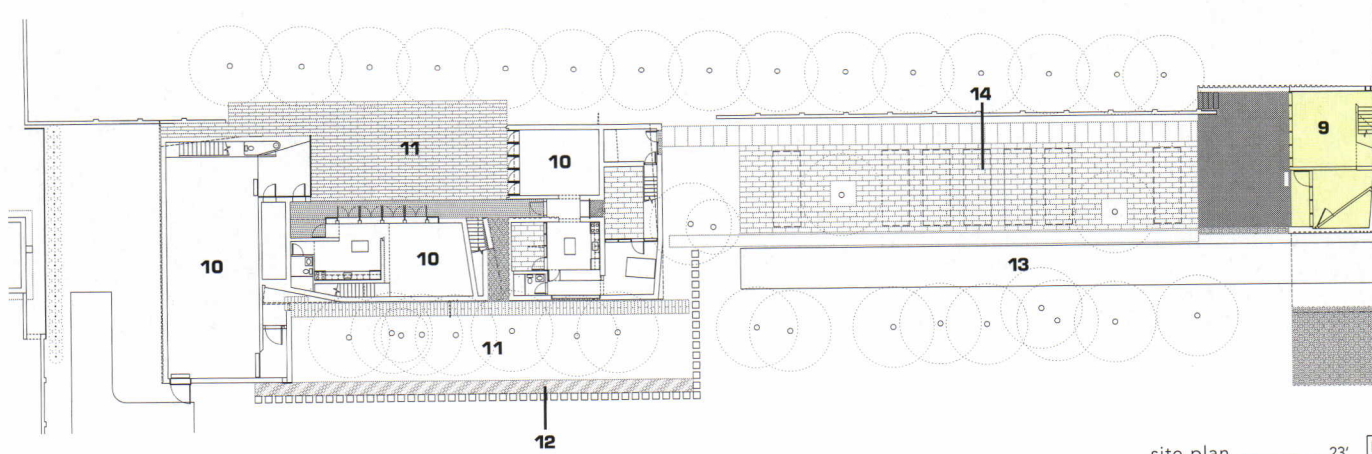
section [aa]



section [bb]



section [cc] ——— 7' 



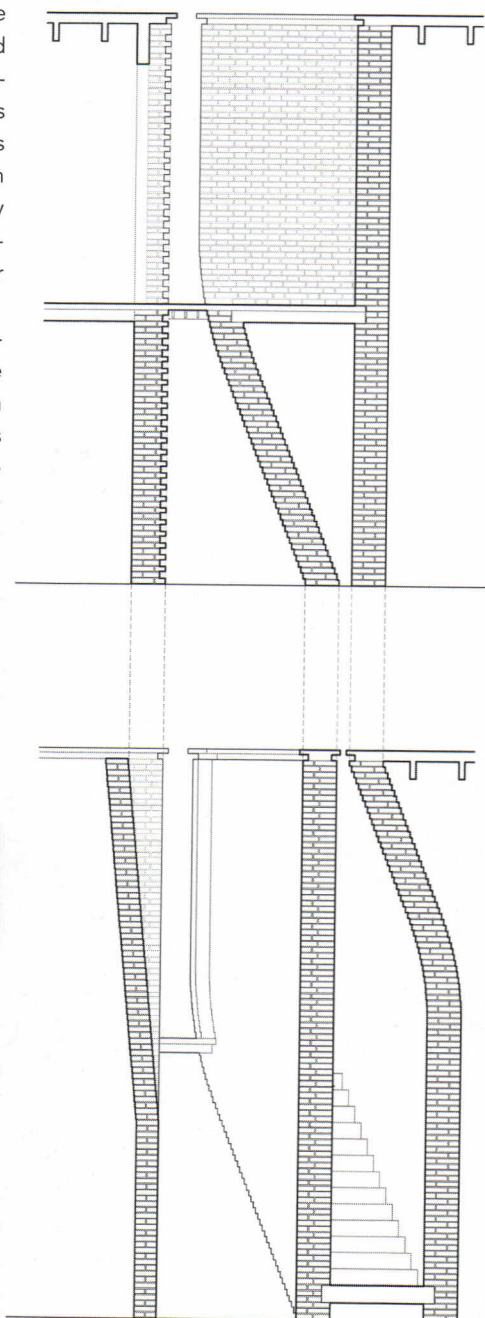
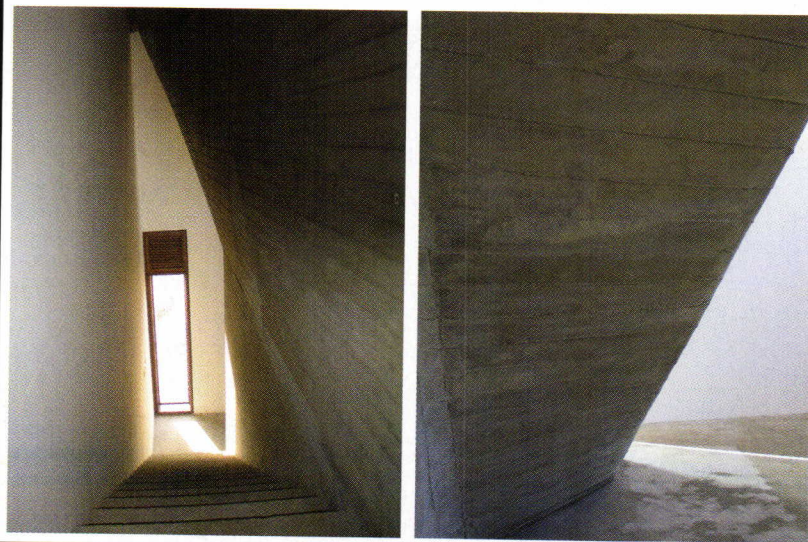
site plan ——— 23' 

THE SHRINK-WRAPPED STAIR

Office dA describes its subtractive form-finding with an array of terms, from the direct ("reduction" and "compression") to the florid ("vacuum-formed" and "shrink-wrapped"). The firm's brief for its P/A Award-winning Tongxian Art buildings (January 2002, page 72) sounds like something from the reality-TV series *Extreme Makeover*: The studio and residential structure underwent a "rigorous diet, its bodily mass having been suctioned to a critical minimum." Today, the firm prefers the term "compactness," but however described, their sculpting is hardly expressive caprice. Rather, it is visual evidence of their fine-tuning of basic programmatic needs and mundane, secondary design tasks: providing slopes for drainage, for example, or resolving joint details.

The residual spaces between stairs for the gatehouse building provide an example. Connecting the duplex studio spaces and shared living and dining areas, the stairs circulate in a compressed figure-eight in plan. Treating stair and corridor as a single element, the designers capture typically "wasted space" under each flight's rise as "compacted circulation zones," explains firm principal Nader Tehrani. The concrete surface under the stair contracts and warps to suggest the push of the corridor space; the result is a set of admittedly cramped, dark hallways, but the passages set up the pleasant surprise of entering bright, open living areas.

The designers also admit that their ethic of diminution—and its resulting deformations and nontraditional shapes—is mainly a rhetorical device, not an attempt to pass on economies to the client. On one level, it is a critique of intellectual and sensual complacency; on another, it reflects a faith in cutting-edge construction technologies, such as CAD/CAM systems, which allow greater precision and smaller-than-ever tolerances. These ideas challenge architects to be more precise, to cut out the fat, and thereby innovate and delight. **C.C. Sullivan**



partial sections at stair and hall

Tongxian Art Gatehouse, Beijing, China

client | Jack Tilton **client representative** | Gang Zhao **architect** | Office dA, Boston—Mónica Ponce de León, Nader Tehrani (principals); Michael Tunkey, Timothy Clark (coordinators); Kristen Giannattasio, Tali Buchler, Hansy Luz Better, Christine Mueller, Achille Rossini, Jeff Asanza, Julian Palacio (project team) **engineers** | Matthew Johnson, China Architecture Design & Research Group (structural); Ameritech Engineering Services (M/E/P) **consultant** | Yung Ho Chang **project liaison** | Ai Wei Wei **general contractor** | Liu Zheng Geng **area** | 3,300 square feet **cost** | \$225,000

photographs by Dan Bibb and Nader Tehrani

Specifications

structural system | reinforced concrete; brick masonry **woodwork** | Chuzumu (native species) **exterior** | oak and glass windows; wood doors **interior finishes** | plaster; shuttered concrete **floors** | cast-in-place concrete

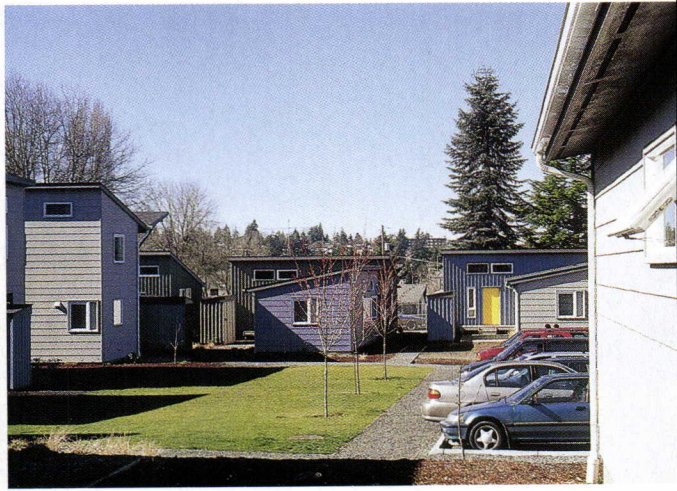


WHAT'S IN A NAME'S



Debunking the stigma of “project housing,” Olson Sundberg Kundig Allen Architects brings design parity to a low-income development in Seattle.

BY LAWRENCE W. CHEEK | PHOTOGRAPHS BY LARA SWIMMER



To enrich the traditional fabric of its West Seattle neighborhood, the architects of Roxbury Estates produced a palette of quirky paint colors, two roof profiles, single- and two-story schemes, and generously scaled semiprivate and communal outdoor spaces. The 10 houses were constructed by the architects, Habitat for Humanity volunteers, and the homeowners, whose zero-interest loans required a down payment of 500 hours of sweat equity.

The West Seattle neighborhood hated the idea from the start. Habitat for Humanity introduced it as the Roxbury Project, but residents heard only that last word, envisioning "project housing" rising in their midst. "We [met] ferocious resistance," says Habitat land-development manager Tim Lawless. "They said it was too many houses; [they] didn't want common walls, didn't want 'those people' in the neighborhood. We always face a lot of misconceptions—a lot of people think we give the houses away, and we're bringing in a bunch of slackers—but this was extreme."

With the neighbors' fangs bared, the city of Seattle took over the task of shepherding the multifamily development through community meetings, Habitat retired the word "project" from its presentations, and the local firm Olson Sundberg Kundig Allen Architects assumed design duties. In compromise, 12 attached units became 10 detached houses. The project is now called Roxbury Estates. And except for a dreary chain-link fence, it is a credit to the neighborhood. Seen from the street, the homes, which were constructed for \$51 a square foot, display more verve than most new builder-designed houses in the Seattle area, where the median single-family home now sells for \$296,000.

That's because there is a lot of architecture in these modest houses, all of it pro bono. Callison Architecture created the original site plan, and then Olson

Sundberg Kundig Allen contributed the building designs—with animated shed and butterfly roof lines and vertical siding, all in a tightly knit fabric. Partner Rick Sundberg, who also worked on site as a volunteer framer, says the designs "really stretched Habitat in building them" but successfully kept costs down. The lighting budget, for example, was \$380 per house. "One of our guys went over to Home Depot," he says. "That was our lighting catalog."

Inevitably, some details suffered. Sundberg stares ruefully at a set of porch steps that missed alignment with a back door by about 3 inches, explaining that, "The final tweaking we would normally do

▣ In compromise, 12 attached units became 10 detached houses. The project is now called Roxbury Estates.

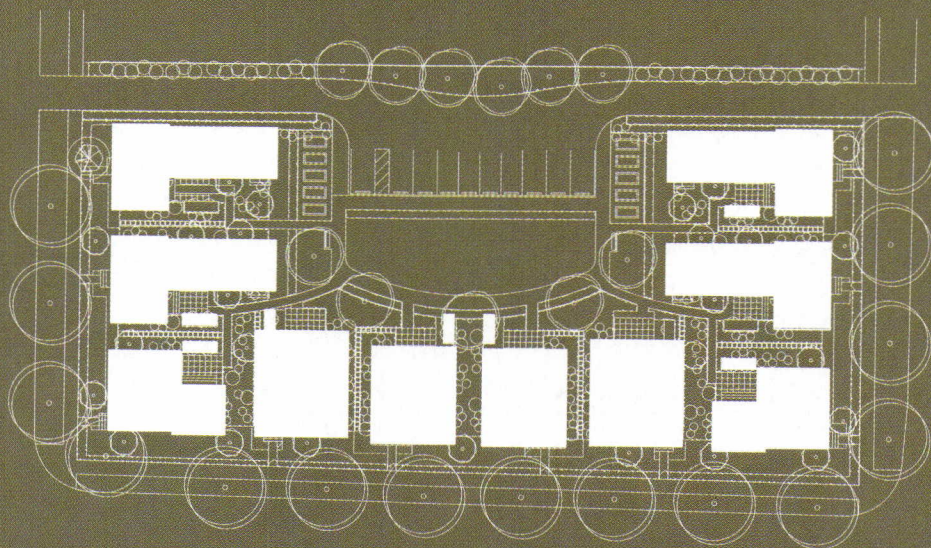
just didn't happen." He says the architects started out brimming with idealism, thinking about sustainability and even proposing a small pond for the courtyard, but the budget throttled such considerations. The cedar fence in the landscape plan turned into chain-link because the money ran out, and something had to separate the children from the arterial street bordering the development.

Still, the houses use efficient boilers that provide both heat and hot water, conserving energy as well as floor space. And the

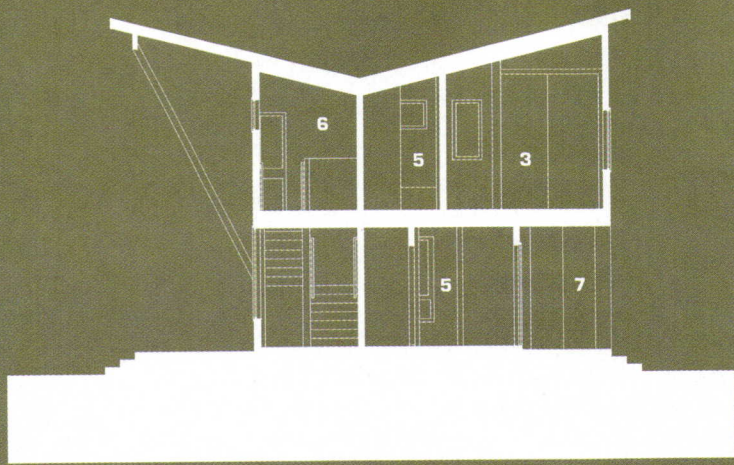
shed and butterfly roofs provide more spatial variety inside than low-budget housing normally affords: A high ceiling makes a worthwhile difference in a bedroom where the floor measures just 8 feet by 9 feet. The two-story plans, accommodating up to five bedrooms in 1,622 square feet, are not just tall boxes but instead have volumetric cutouts and irreverent color schemes that give them an air of friendly insouciance.

Lawless confirms that the designs did indeed stretch Habitat's volunteer labor force. The organization normally avoids two-story schemes—the heights increase construction hazards. But vacant land is as rare in Seattle as Sasquatch tracks, and these 10 houses all had to squeeze onto slightly less than an acre. The rooflines also caused headaches. Volunteers found it hard to understand how an error of 1/8 inch in a stud's angle chop becomes a 1-1/2-inch error at the top of a wall. But it's these modest complexities that raise Roxbury Estates above typical "project housing."

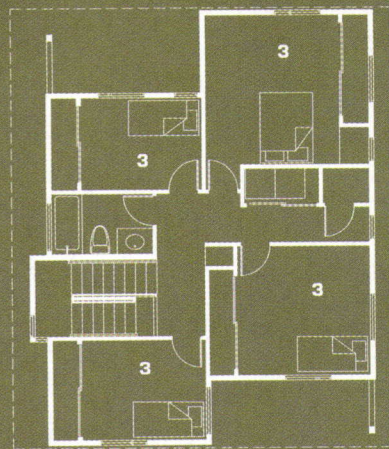
Indeed, Lawless endorses the idea of having architects work on site with the volunteers and future occupants, because that way problems during construction tend to get worked out quickly. For his part, Sundberg says he's so intrigued by the experience that he just might continue with pro bono work after he retires. "It's kind of a fulfillment," he says. "When I was in school, young architects had the idea we were going to save the world." ■



site plan ——— 33' ↑



four-bedroom unit, section ——— 8'



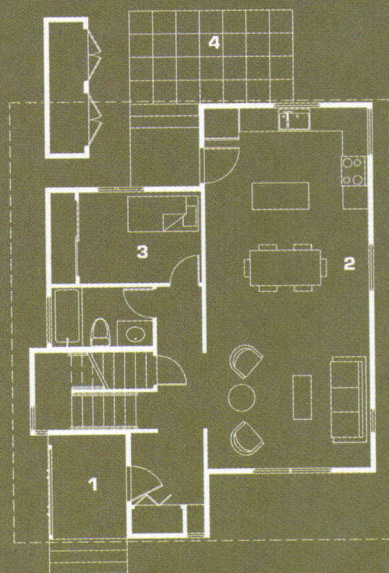
five-bedroom unit, second-floor plan

Roxbury Estates, Seattle, Washington

client | Habitat for Humanity Seattle/South King County **architect** | Olson Sundberg Kundig Allen Architects, Seattle—Rick Sundberg (principal-in-charge); Stephen Yamada-Heidner (project manager); Brad Conway, Olivier Landa, Kristen Becker, Andrew Enright, Stephen Wood, Matthias Winkler, Suzanne Zahr (project team) **engineers** | Putnam Collins Scott (structural); Keen Engineering & Greenbusch Engineering (M/E/P); Rosewater Engineering (civil) **consultants** | Callison Architects (conceptual site plan); Allworth Nessbaum (landscape architect); Environmental Interiors & Ree Hamai; Seattle Art Institute (interior design) **general contractor** | Habitat for Humanity Seattle/South King County—Tim Lawless (land development and permitting); David DeLap (site supervision); Tim Howland (construction manager) **subcontractors/suppliers** | Blueridge (hydronic heat); Brad Mason Trucking and Excavation; Gary Prokash (plumbing); Plywood Supply; Western Green Construction; AGC Electric; Husky Door (doors and hardware); Master Brand (Aristokraft cabinets); Jeld-Wen (windows); Interiors Unlimited (flooring installation) **project sponsors** | St. John's the Baptist Episcopal Church; St. Mark's Episcopal Church; St. Stephen's Episcopal Church; Beverly Kean; Harold Kean Memorial; Bank of America Foundation; University Presbyterian Church; Bill & Melinda Gates Foundation; Hughes Foundation/Roxbury; Anonymous Family Foundation; Holy Trinity Lutheran; Schultz Family Foundation; Plymouth Congregational Church; David and Kim Sinegal; Wyco Limited Partnership; Union Bank of California; Peck Family Foundation; The Rodman Foundation; Episcopal Church of the Ascension; Diocese of Olympia; Epiphany Parish of Seattle **in-kind donations** | Olson Sundberg Kundig Allen Architects; Callison Architecture; Rosewater Engineering; Whirlpool (appliances); HunterDouglas (window blinds); Blueridge (hydronic heating); Constantine Commercial (carpet); Painters Inc.; Western Green Construction (cellulose insulation); Ketchikan Drywall; Kemly Electric; Bluesky Landscape Services; Veca Electric; Simpson Strong-Tie; Fischer Plumbing **area** | 38,756 square foot (site); two 801-square-foot two-bedroom houses; four 1,069-square-foot three-bedroom houses; two 1,448-square-foot four-bedroom houses; two 1,622-square-foot five-bedroom houses **building cost** | \$51 per square foot

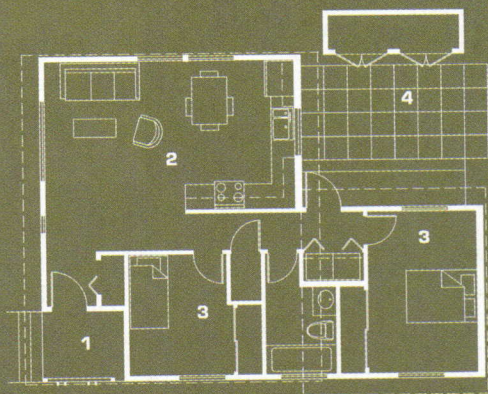
Specifications

structure | monolithic concrete spread footings, wood framing **metals** | tube-steel bracket at porch **siding** | painted Hardiplank and Hardipanel with cedar battens **connectors** | Simpson Strong-Tie **built-up roofing** | torch-down modified bitumen (butterfly cricket) **shingle roofing** | Elk **insulation** | Western Fibers (Wallkote II) **low-e, argon-filled glazing** | PPG SolarBan **vinyl windows** | Jeld-Wen **window blinds** | HunterDouglas **cabinetwork and custom woodwork** | oak **paints and stains** | Benjamin Moore; Parker Paint **VCT flooring** | Mannington Commercial **carpet** | Constantine Commercial **surface-mounted downlights** | Hampton Bay **boilers** | Baxi Luna (hydronic heat and domestic hot water) **steel radiators** | Roca **appliances** | Whirlpool

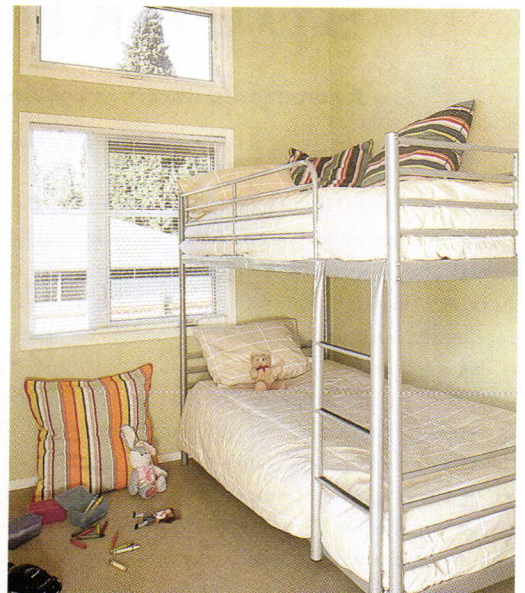
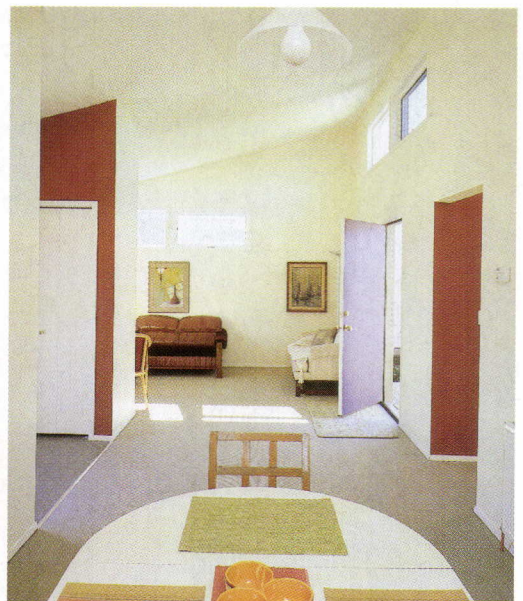


five-bedroom unit, first-floor plan

- | | |
|-----------------|------------|
| 1 entry porch | 5 bathroom |
| 2 living/dining | 6 hallway |
| 3 bedroom | 7 storage |
| 4 patio | |



two-bedroom unit, plan ——— 6' ↑



Four unit designs were developed for Roxbury Estates, containing two to five bedrooms. Windows are in generous supply, including openings placed high—to emit ample natural light—and low—to connect children to their community. Strong colors enliven the interiors of a three-bedroom unit (above), which, unlike the development's other nine for-sale houses is for families in transition.



speaking volumes

A community library in Los Angeles lets subtle interventions do all the talking.

BY JAMIE REYNOLDS | PHOTOGRAPHS BY TOM BONNER

Describing the library he recently completed in the modest Westchester neighborhood of Los Angeles, Aleks Istanbullu could be accused of downplaying the finished product: "It's basically a box for books," he says. But in the same way designers since the early modernists have been reinventing "boxes" for residences and offices, his eponymous Santa Monica firm has done more than comfortably meet the program; they've inserted straightforward formal elements to improve but not overpower the facility's function. Says the architect, "I have this thing about letting things be."

Part of an ambitious, 5-year undertaking by the city of Los Angeles to commission 32 such facilities, the Westchester-Loyola Village Branch Library fell to Istanbullu's firm after they submitted a winning proposal for the project. But the firm had never completed a library, accustomed more to residential work in the local market, so they set about learning the basics of the typology by the

books and by the numbers. Their success in the venture can be measured in the same terms: The 41,000-volume facility has drawn positive reviews and substantial crowds from the surrounding ethnically mixed, middle-class neighborhood.

Located at the northwest corner of a park, displacing a library on the same site, the new branch invites visitors through a landscaped terrace to a partially hidden entrance. Two tones of stucco riff gently off the Spanish Colonial palette of the region, while vertical aluminum cladding hints at the rows of book spines found within.

Inside, what would normally be considered back-office functions are located just through the main doors, to the left and right of the entry lobby. To the north side are the administrative offices; to the south is a large meeting room for community gatherings where large retractable window scrims handily double as screens



The Westchester-Loyola Village Branch Library's exterior cladding—vertical aluminum siding set against colored stucco—echoes the stacks of books located within. Through its ample storefront, passersby glimpse sepia-toned illustrations by a local artist.

for projected presentations. Both can be accessed after hours when the main library space is secured.

But it's once the typical visitor passes the main doors, into a double-height space that serves as the principal area for public interaction, that the cleverness of the spatial delineations bring alive this charmingly simple building. Front and center is the custom-designed information desk, from which a single staff member could feasibly monitor the entire library and its occupants without imposing on them. At either end of the space, full-height windows provide abundant daylighting, but equally dramatic gestures spider up the maple-veneer-lined walls: Sepia-toned collages, spaced sparingly, provide playful ornamentation.

Kept separate at either end of the double-height space to minimize noise are the young adults' and children's areas—the former with a nearby bank of Internet terminals. Roughly halfway along one wall is the circulation counter, above which hangs an interior awning. In an aberration, the maple panels here pull away from the wall, visually defining the area and providing an armature from which to hang four overhead lights.

The library is at its most dynamic where the ceiling dips down to a standard height at the point where visitors proceed deeper into

the building toward the stacks. The architect specified two gestures at this juncture to reinforce the intimacy of the eastward circulation path. A warm, dark orange coats the walls and about half of the ceiling tiles, and thin ribs of the same maple used in the public space—Istanbullu calls them "purely Aalto" in inspiration—run the length of the stacks' ceiling to the four reading bays that are extruded from the east side of the building. Both gestures invite visitors deeper into the space, but relieve the stacks of the dark, monastic feel of so many other libraries.

The reading bays, which overlook planters and the landscaped lot beyond, form a regular rhythm against the façade, save for one that is slightly longer. Istanbullu doesn't offer an explanation for the sudden variation, beyond that it was visually interesting without interrupting the function of the well-lit pods or the adjacent circulation paths in the stacks.

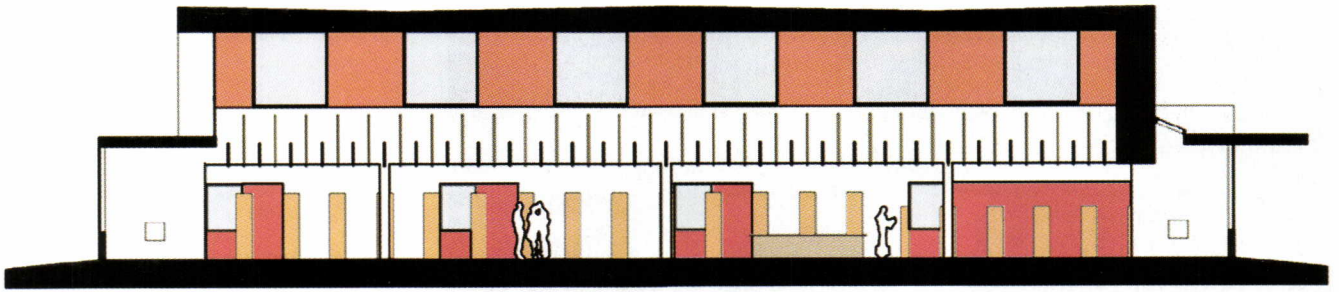
Like the more traditional inclusion of wall art and color treatments, even these mildly capricious aspects never risk muscling in on the simple and effective essence of the library and its function. "Balanced out with some real accidents," says Istanbullu, referring to the slightly awkward interior awning and the fourth bay, "the other elements really come alive." ■■■



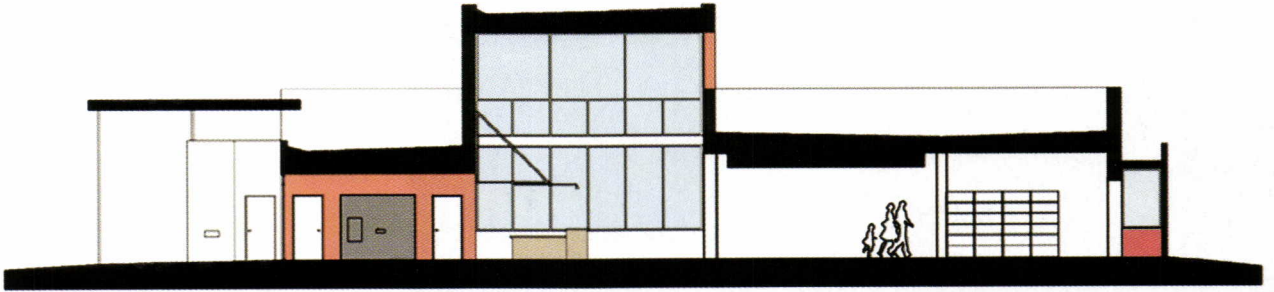


The information desk (facing page) allows a single employee virtually uninterrupted sightlines across the entire space; above the circulation counter, the architect inserted an awning, which appears to emerge from the maple veneer panels to support overhead lights. Silk-screened onto the maple panels throughout the double-height space are sepia-toned collages by local artist Jill d'Agnew that reference literary characters as well as some of the library's real-life users.

Aalto-inspired wooden ceiling ribs lend visual warmth to the stacks and adjacent reading bays (top). To keep noise down, the young adults reading area is at one end of the main library space, and the children's area (left) is at the other. The alternating white-and-orange ceiling tiles were a concession: The client found the specified color to be too bold, so the architect created a field of alternating squares to dynamic effect.

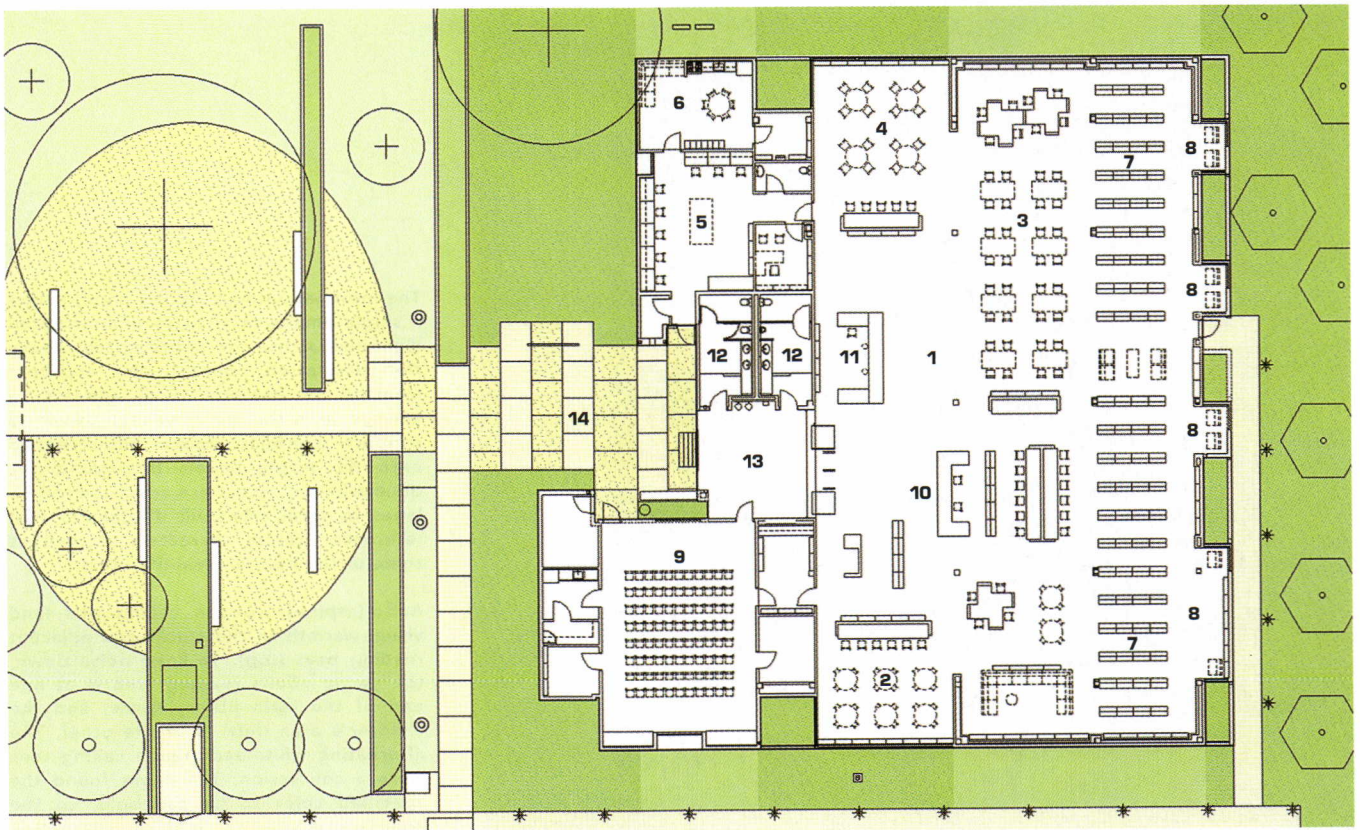


north-south section through reading room



east-west section through lobby ——— 11'

- | | | |
|------------------------------|---------------------|---------------------|
| 1 main reading room | 6 lounge | 11 circulation desk |
| 2 children's reading area | 7 stacks | 12 washroom |
| 3 adults' reading area | 8 reading bays | 13 lobby |
| 4 young adults' reading area | 9 meeting room | 14 entry |
| 5 workroom | 10 information desk | |



first-floor and site plan ——— 15' 



Beyond an aluminum-clad wall softened by low-maintenance plantings, the library's partially hidden entrance comes into view. Preserving the existing ficus tree on the southwest corner of the lot meant siting the building 10 feet east of its original planned location.

Westchester-Loyola Village Branch Library, Los Angeles

client | Los Angeles Public Library **architect** | Aleks Istanbulu Architects, Santa Monica, California—Aleks Istanbulu, Holly Chacon (architectural team); Joshua Sherman, Jeffrey Smalley, Matthias Lenz, David Senft, Gabriel Zamora (project team) **landscape architect** | Calvin Abe & Associates **engineers** | Wong Hobach Lau (structural); Kim, Casey & Harase (M/E/P); Engineering Design Services (civil) **lighting designer** | Tim Thomas & Associates **consultant** | Geotechnical Engineering Division (environmental) **general contractor** | G.B. Construction **area** | 12,500 square feet **cost** | \$3.2 million

Specifications

structural system | type V wood **storefront with low-E glazing** | US Aluminum **cladding** | Alucobond Duramar **exterior** | colored steel-troweled and sand-finished stucco **single-ply PVC roofing** | Sarnafil **sliding doors** | Stanley **hardware** | Corbin Russwin (locksets and exit devices); Hager, Marker (hinges); Norton (closers) **interior panels, cabinetwork, and woodwork** | maple veneer, medium-density fiberboard **bathroom partitions** | Bobrick **paints and stains** | Sinclair, QC Construction **flooring** | Lonseal **carpet** | Collins & Aikman **counter surfacing** | stainless steel **work stations, chairs, information desk** | Izhak's Custom Interiors **interior ambient lighting** | Cooper **uplights** | Rambush



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MAKING DATA CENTERS COMPUTE

Forget redundant M/E/P—habitability is what elevates the common data center.

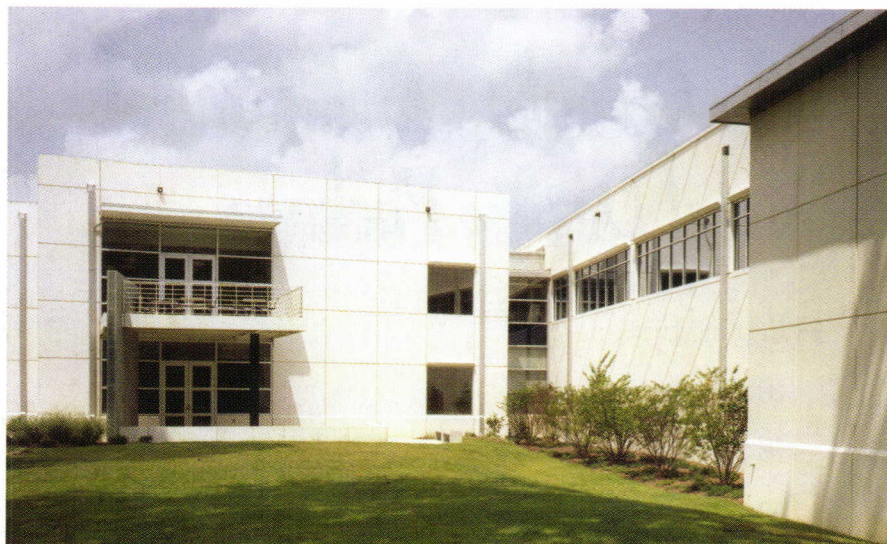
by C.C. Sullivan

Asked to prioritize, the typical data-center owner will list the top needs for her precious facilities: 1) powerful chillers for the hardware; 2) backup electrical equipment; and 3) state-of-the-art fire protection under the raised floors. Attention invariably focuses on cables and servers, not the human beings who enter data and safeguard the mother lode on a daily basis. Data centers are a relatively new typology and, like early factories, they are monuments to technology—but often retrograde workplaces.

Architects must push to humanize the program, as Columbia, South Carolina's Watson Tate Savory recently found. Taking lessons from the "industrially inspired buildings of early 'Heroic' modernism," the firm encouraged the state Budget and Control Board to make their new computer center in Columbia a great place to work. "We acted on our strong ethical desire to bring light and quality of environment into the project," explains principal Thomas M. Savory. Their design incorporates quality-of-life features "you can get for free."

Based on occupant response, the firm's work has boosted morale and productivity, while adding only nominally to the budget. The straightforward amenities remind us that while today's industrial buildings are often palaces of light, most data centers are still stuck in the dark ages. ■

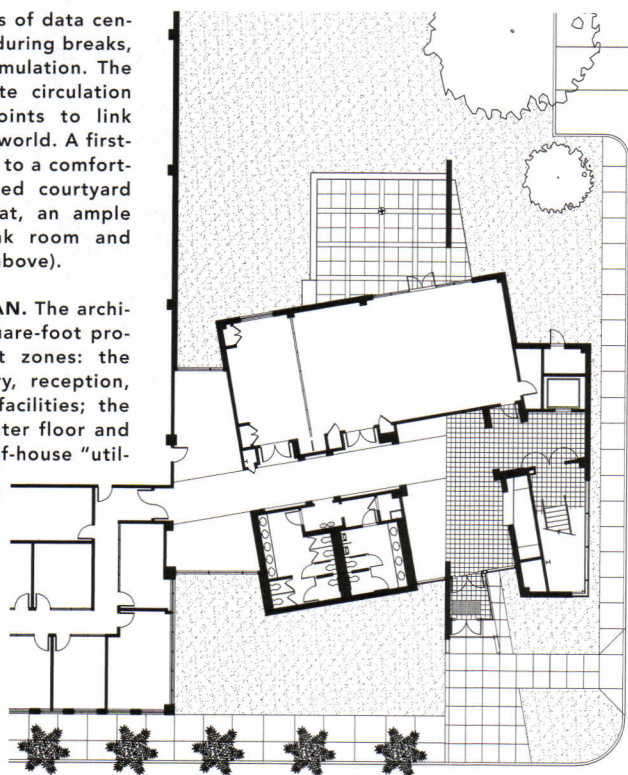
LIGHT, VIEWS, AND MATERIALS. Along key sightlines, the architects maximized framed views and allowed controlled daylight to enter, "for awareness of the outdoors and as much openness as possible," says principal Michael Watson. The idea extended to the prominent head-house stair (right), with its large curtain wall and a floor of black Mexican beach stones. The steel-framed structure is clad in white precast concrete, with ornamental joints, cast-iron scuppers, and aluminum downspouts. Slate slabs and wood-veneer panels framed in painted steel enliven the two-story reception volume (far right).



OUTDOOR ACCESS. Users of data centers tend to decompress during breaks, seeking light, air, and stimulation. The design includes deliberate circulation elements and access points to link workers with the outside world. A first-floor training room opens to a comfortable patio and landscaped courtyard with furniture; above that, an ample balcony extends a break room and accommodates smokers (above).

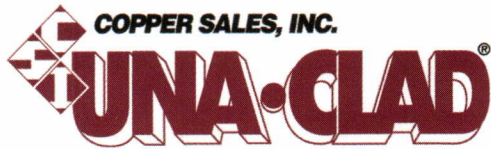
SEGREGATED FLOOR PLAN. The architects split the 77,000-square-foot program into three distinct zones: the "head house," with entry, reception, and training and break facilities; the "box" of the main computer floor and staff offices; and a back-of-house "utility building," mainly for electrical equipment. The plan increases window area and break areas and also improves adjacencies. "Part of the challenge was combining functions without creating a rabbit warren," says Savory.

For project specs, visit www.architecturemag.com



partial first-floor plan 15' ↓





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Wired glass, the chicken-wire-embedded glazing that for decades has graced almost every elementary school in the nation, is no longer a safe option, according to the International Building Code (IBC), which has now been adopted in 44 states. The old-style glazing, consisting of two panels of 1/8-inch-thick glass sandwiching wire mesh, has long been used for fire safety due to its status as the most affordable glass product that can stay at least partially intact when subjected to intense heat. At issue in the new code, however, is the material's impact resistance. "Wired glass looks strong but is actually extremely weak," contends Jerry Reznick, president of **Technical Glass Products** (www.fireglass.com). "Although it is 1/4 inches thick, you only need to break one of the 1/8-inch panes to expose the wire and sharp glass edges. There have been a fair number of injuries over the years, but originally it was the only glass that could withstand fire."

While impact-resistant alternatives to wired glass have been on the market for a number of years, they have not been required by law until now. (Reznick believes this has been because of their greater expense.) With the IBC adoption, however, many more architects are going to find themselves looking into wireless options. The code states that wired glass will no longer be acceptable for use in "hazardous locations"—including doors, sidelites, and areas close to the floor—in schools, daycare centers, and athletic facilities.

So what are the alternatives? There are two options for fire-rated, high-impact glass. One is ceramic, a material well known for its ability to withstand high heat. **Transparent glass-ceramic** can have a fire rating of up to three hours and is as impact-resistant as non-fire-rated safety glass. Technical Glass Products offers Firelite Plus, a clear glass-ceramic that meets Consumer Product Safety Commission impact requirements and can be cut on site using standard tools. Another ceramic product line that meets fire safety and impact standards is the Keralite series from **Vetrotech** (www.vetrotech.com).

For areas where a large volume of glass is needed, **intumescent glass**—layers of glass surrounding an inner layer of sodium silicate that turns into foam when subjected to high heat—is an alternative. It creates an opaque barrier that blocks heat transfer for up to two hours, meaning there can be a fire on one side of the glass and little heat will be felt on the other. **Pilkington** (www.pilkington.com) offers Pyrostop, which is marketed in the United States by Technical Glass Products. The mate-

rial has a 45-minute fire rating and can be used for areas of up to 30 square feet. A brand new Pilkington product, Pyrodur, takes advantage of the same intumescent technology as that used in Pyrostop, but is intended for small-scale applications. For its part, Vetrotech offers the Swissflam series of intumescent products in a variety of thicknesses and fire ratings, from 45 minutes to two hours.

FOR INFORMATION ON FIREPROOF GLAZING, CIRCLE 120 ON PAGE 97.



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ORNAMENT À LA CAD

Old-fashioned detailing gets a boost from today's digital fabrication technology.

by Joel Hoekstra

The ornamental flourishes and fillips that make the University of Richmond campus an icon of Gothic Revivalism recall an age of fine craftsmanship. But the Virginia college's Weinstein Hall, a 38,000-square-foot addition that opened last fall, is no less ornate than its pre-World-War-I-era neighbors: Computer-aided design and manufacturing (CAD/CAM) technology enabled SMBW Architects of Richmond to add stone, textile, and metal details that rival those of the older buildings in beauty and refinement. What's more, the finished product is more precise and costs less than it would have a decade ago.

This new technology has tightened the relationship between architect and artisan. Much like A/E/C was reenergized by CAD in the 1990s, trades such as **stonecutting and metalwork** are beginning to benefit from advances in computers and software. The limestone employed at Weinstein Hall was cut using a five-axis, computer-numeric-controlled (CNC) milling machine, based on CAD files sent electronically to an Indiana fabricator. Likewise, scans of old tile patterns were transformed via computer interface into ornate **custom rugs** by Lees Carpet. "What's most exciting is the direct engagement of the designer with the final work," says SMBW project manager Rab McClure. "It's not quite the same as Michelangelo conceiving of something and carving it at the same time, but it helps to close the distance that's grown between architect and finished product."

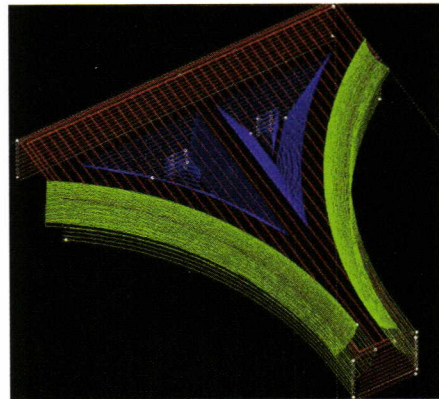
Precision and speed are the primary advantages of this high-tech interface. In traditional stonework, for example, a draftsman lays out a pattern that is traced onto the block and then tooled and finished by a stonemason. Intricate carving requires experienced, often expensive laborers. But today's CNC milling machines deliver precise detail-



To create the ornamental stonework for the University of Richmond's Weinstein Hall (above), designers at SMBW Architects delivered details in AutoCAD's Architectural Desktop 3.3 to Indiana Limestone Fabricators. The stoneworkers created their shop drawings in AutoCAD and built 3-D models (right) from the CAD data in OneCNC and Rhino, programs that can translate these models into code for computer-numeric-controlled (CNC) milling machines. The designs were carved using a five-axis CNC mill and finished by hand.

ing and reduce the potential for error, according to Brad Mobley, president of Indiana Limestone Fabricators, which shaped the stone for Weinstein Hall. Only **finish work** requires manual attention: "A stonemason with six to eight months of experience can complete the piece," Mobley says. "In the past, it would've taken the skill of a stonemason with 16 years' worth of experience."

Not only can architects rely on less experienced artisans, but scanning, morphing, and replicating detail images in CAD applications, rather than on paper, can reduce design time and costs. When a client of the Washington, D.C.-based firm Allan Greenberg Architect decided halfway through the construction of his new home that he wanted **Palladian plaster moldings** rather than Greek Revival, designers scrambled to develop new profiles for the 20,000-square-foot Connecticut residence. "Within two weeks, we redesigned and changed all of the moldings in the house," says project architect John Dale. "And because of the



computer, we were able to consider options, choose one, get final drawings done, and get orders to the contractor in time."

The accuracy offered by CAD can also enhance restoration work. Perkins & Will is currently using the software to recreate **Art Deco details** in its restoration of the Victor Hotel in Miami. The lobby of the historic building, which fell into disrepair during the mid-1980s, once sported a number of classic metal flourishes, including a trio of **decorative gates** and geometric railings along the mezzanine. Redrawing these elements in Microstation V8 allows for reproductions that are accurate down to 1/16 inch. "We're able to deliver drawings that are one-to-one for manufacturing," says Pat Bosch, design principal for the firm's Miami office.

While CAD/CAM might fuel a boom in old-fashioned ornament, it could also herald

the arrival of a new era of intricate designs that are not historically referential. "It allows you to specify more complex ornamental detailing than you could have done 10 years ago," says McClure.

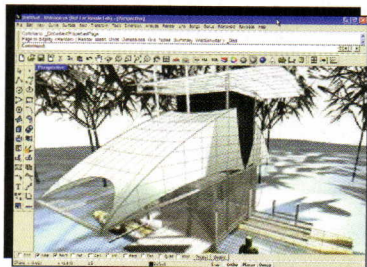
But technology can have a downside. Dale, for example, worries that reliance on architect-supplied CAD drawings could make subcontractors less careful. "Generally, a subcontractor tends to know better than an architect how to produce high-quality millwork. They're specialists," he notes. "We detail millwork in terms of design, but we rely on them to examine our work and show us how the desired level of quality can be achieved. When

the shop drawings are just spit back by the computer, you don't get that kind of examination."

Derek McCallum, a senior associate with Minneapolis-based RSP Architects, which uses CAD for more contemporary detailing, is also wary. "We're not all artisans. I like the notion that you can suggest an idea to a stonecutter and he may produce a sculpture that's better than you imagined. To me, that could enhance a project. If in fact what I've drawn is exactly what's going to come back, then I've lost the opportunity for that interface to happen. I think you can end up with a little too much sterility." ■

Details, Direct from CAD

- ☑ product: **Rhino 3D 3.0**
- ☑ manufacturer: **Robert McNeel**
- ☑ web: **rhino3d.com**



This popular low-cost modeling program has been upgraded. Since releasing version 3.0 in late 2002, the manufacturer has been issuing service releases for the new program that users can download free of charge. The latest, 3.0 Service Release 3, improves upon Rhino's surface-modeling capabilities.

- ☑ product: **XP Professional**
- ☑ manufacturer: **OneCNC**
- ☑ web: **onecnc.com**

This affordable CNC milling software performs a range of NURBS modeling options, from 3-D wireframes to solids, and can import data from any CAD system via such standard interfaces as IGES, VDA, and STEP. Designed for Windows, the programs operate as both a modeling and a milling software, translating 3-D models into the code used by milling machinery.

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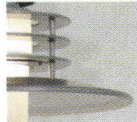
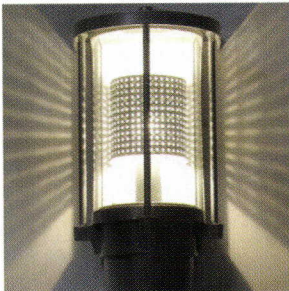


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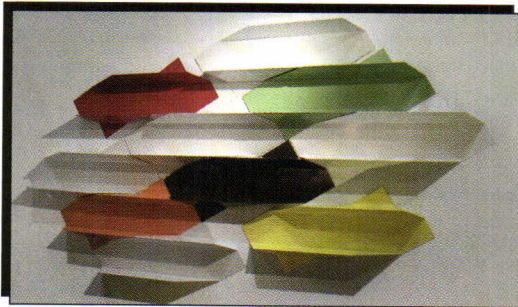
- ☒ product: **Curves**
- ☒ manufacturer: **Q Collection**
- ☒ web: qcollection.com

This debut line combines 17 pieces—sofas, chairs, tables, and stools—and clads them in what the company claims are the greenest materials available. Suitable for hospitality or residential applications, the furnishings carry distinctly human names: a stool called Lisa, armchairs dubbed Jesse and Ivy, and the Emily couch. The New York City company makes its own upholstery and fabrics—also available for sale—which boast 100-percent natural or organic materials, zero-impact dyes, and leather that's tanned nontoxically.



- ☒ product: **Bias**
- ☒ manufacturer: **Nüf design**
- ☒ web: nufdesign.com

From the two-person New York City design studio Nüf, the Bias shelf is a single sheet of high-grade aluminum folded in origami fashion for easy mounting on a wall or partition. The 45-1/2-inch-by-20-1/2-inch forms can be combined to create repeating tectonic patterns while increasing storage space. Powder-coated for durability, Bias is available in a choice of 10 colors.



- ☒ product: **Landscape Infinite Spectrum**
- ☒ manufacturer: **Allsteel**
- ☒ web: allsteeloffice.com

A collaboration between Allsteel and color-matching company Pantone, the Landscape Infinite Spectrum series lets users specify any of thousands of Pantone's colors for direct application to polyester tiles used in Allsteel's Terrace workstation panels. The furniture maker offers other surfaces, including metal finishes and stained mulberry-wood veneer, now at designers' disposal for customizing this office-partition system.



- ☒ product: **Tazia chair**
- ☒ manufacturer: **Ligne Roset**
- ☒ web: ligne-roset-usa.com

Part of a mini-collection designed by Pascal Mourgue that also includes a table and an ottoman, the Tazia chair is inspired by the Middle Eastern tradition of low-to-the-ground furniture. With a base of fabric-covered foam and an oak-veneer back, the seating unit also comes in hand-made polyester versions. Especially well suited to hospitality and residential projects.

- ☒ product: **Noguchi Fin Series**
- ☒ manufacturer: **Vitra**
- ☒ web: vitra.com

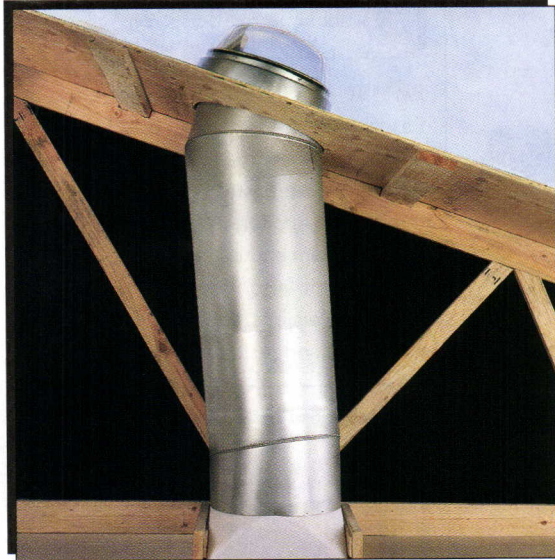
In collaboration with the Noguchi Museum in Long Island City, New York, Vitra has added reissues of Isamu Noguchi's Fin series to their line of home and office furniture, which already includes the famous Japanese-American artist's Cylinder Lamp and Free Form sofa. Available in dinette or coffee-table models or as a stool, each Fin piece features two chromed tubular-steel legs, a solid wood top, and a wooden "fin" stabilizer leg. Available in ash (stained black), maple, and walnut, the Fin series was designed in 1944.



the tough and the tubular

☒ product: **SolaMaster**
 ☒ manufacturer: **Solatube**
 ☒ web: solatube.com

Invented by Solatube more than ten years ago, the tubular skylight is increasingly specified by architects to boost LEED credits for energy optimization and daylighting. The SolaMaster 21-inch model draws sunlight from an angled roof through a domed refractor, then along a highly reflective shaft and into the building interior via a 24-inch square diffuser. Easily mounted on hard or dropped ceilings, the skylight is suited to office, retail, and healthcare application and can also help projects accrue recycled-content credits: lenses, trim, and fasteners are all of recycled materials.



☒ product: **HurricaneShield**
 ☒ manufacturer: **Pella**
 ☒ web: pella.com

Pella's answer to the updated International Building Code's hurricane-and-wind-protection regulations, HurricaneShield is a highly impact-resistant treatment now available on a wide variety of its commercial products. Featuring a layer of plastic heat-sealed in between layers of glass, the windows can withstand strong gusts and flying debris. Available in sizes of up to 35 inches by 71 inches, and with the ability to block 100 percent of ultraviolet rays, the windows come in tinted or low-emissivity glazing for energy savings.

☒ product: **Stormwatch protection**
 ☒ manufacturer: **Andersen**
 ☒ web: andersenwindows.com

Introduced at this year's International Builders' Show in Las Vegas, Andersen's "Stormwatch protection" is available for a variety of its lines, including double-hung, casement, and specialty windows, such as the roof models shown here. Designed to address new code requirements being enforced in many Gulf and Atlantic coast states, Stormwatch features energy-efficient, impact-resistant glass to protect against debris carried by winds, and Perma-Shield cladding to resist the corrosion from sea air and salt water. In terms of hardware, the lock, hinge, and sash come reinforced and can be finished with a corrosion-proof coating.



☒ product: **Sun Tunnel**
 ☒ manufacturer: **Velux**
 ☒ web: velux.com

Another tubular skylight option is the flexible Sun Tunnel series. The TSF model fits shake and shingle roofs with pitches from 15 to 60 degrees, and the flexible light tunnel fits easily around internal obstacles such as HVAC ducts. Fourteen-inch and 16-inch sizes are both made of 24-gauge Zinalume for durability, while the metal flashing and low-profile dome make for smoother integration with the roof surface. Also available are the TTF (for tile roofs), the TSR (a rigid-tunnel model for shingles and shakes), and the TTR (a rigid tunnel for tiles).

☒ product: **Ultimate Insert**
 ☒ manufacturer: **Marvin Windows and Doors**
 ☒ web: marvin.com

Also a Builders' Show launch, the wood version of Marvin's Ultimate Insert double-hung window is a traditional-style fenestration piece designed for residential applications. Suitable for first-time installation or replacement scenarios in which the frame is undamaged, the Ultimate has all-wood jambs, and is available made-to-size. The window features Energy Star-compliant low-emissivity II glass and is rated to Design Pressure 30 by the Window and Door Manufacturers Association certification system.





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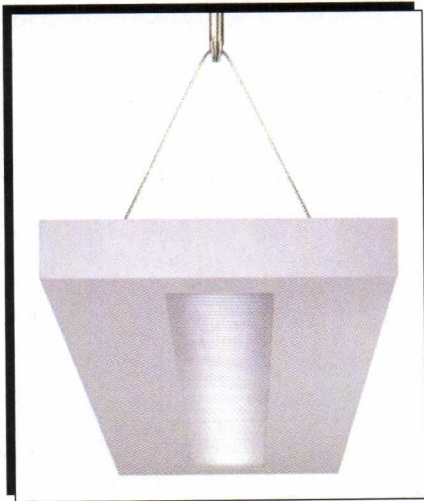
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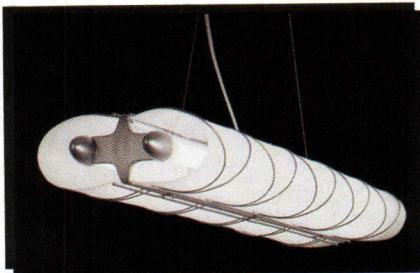
- ☒ product: **Twelve**
- ☒ manufacturer: **Focal Point**
- ☒ web: **focalpointlights.com**

The Twelve family of luminaires addresses the need for direct-indirect fixtures in spaces with low ceiling heights. Equipped with Focal Point's "Ceiling Uniformity Filter" and a 115-degree low-beam optic, Twelve hangs just 12 inches from the ceiling; rows can be positioned from 12 to 14 feet apart. The product is available in 4-foot and 8-foot lengths and uses T5 and T5 high-output lamps.



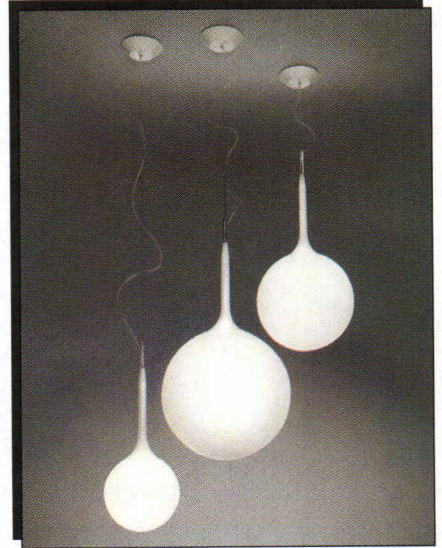
- ☒ product: **Weblight**
- ☒ manufacturer: **Metalumen**
- ☒ web: **metalumen.com**

The delicate wire frame of the Weblight overhead wraps around an opal polycarbonate diffuser that encloses two T8 lamps. The effect is a warm glow—and a unique fixture.



- ☒ product: **Castore**
- ☒ manufacturer: **Artemide**
- ☒ web: **artemide.com**

This collection, which includes table, floor, and suspension models in different sizes, lends itself to spaces that require a diffused ambient light. Each fixture is constructed from a die-cast metal alloy with a white epoxy-powder base, a thermoplastic-resin stem, and a blown etched-glass spherical diffuser. These elegant fixtures are available in three diameters (25-, 35-, or 42-inches) and can use lamps of up to 250 watts. A touch-button dimmer is located on the lamp base allowing for easy on/off control.



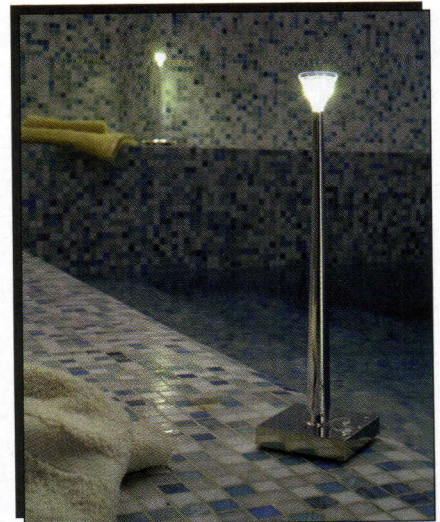
- ☒ product: **White Plexineon**
- ☒ manufacturer: **ilight Technologies**
- ☒ web: **ilight-tech.com**

This LED fixture comes in three different color temperatures (one cool and two warm), and can also be custom ordered to a specific Kelvin temperature. The product uses blue LEDs and a patent-pending light-conversion system that produces various white color temperatures across the spectrum. The fixtures are available in standard straight lengths of 2 to 8 feet as well as in custom lengths and slight curves, and is rated for a five-year-plus life span. The housing combines a UV- and impact-resistant acrylic diffuser with a UV-resistant plastic channel, available in various colors.



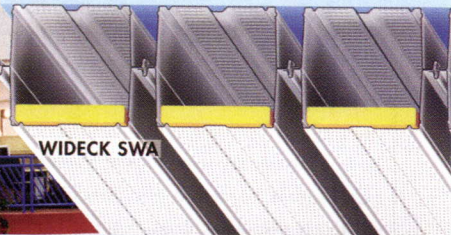
- ☒ product: **Star LED Light**
- ☒ manufacturer: **Luceplan**
- ☒ web: **luceplan.com**

Created by Italian architects Alberto Meda and Paolo Rizzatto, the Star LED fixture uses a single LED to generate a high-luminosity white light that requires no electric wire: It operates on three rechargeable AA-size batteries, which provide four hours of power. The fixture is fabricated in either a transparent methacrylate or metallized body and comes with a transparent green or metallized blue prismatic head.



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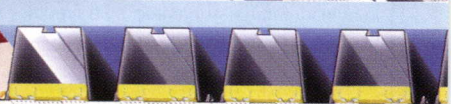
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*Charles V. Park Library, Central Michigan University, Mount Pleasant, Michigan
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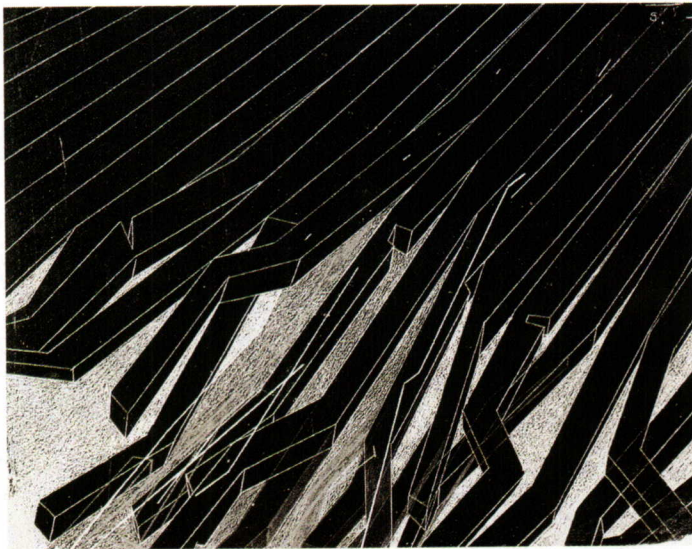
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BOOK

The Storm and the Fall | Lebbeus Woods | Princeton Architectural Press

Its author's fist practically bursting from its pages, the latest book by experimental architect and theorist Lebbeus Woods chronicles two large, dynamic installations—"tension space fields" wrought of rods and wire—that comment provocatively on architecture and the world. Known for interpreting how violent forces (crisis, chaos, collapse) relate to architectural expression, Woods offers his familiar study drawings and models, wildly kinetic yet haunting and dark, that jolt our awareness. (A surprisingly optimistic epilogue describes a soaring replacement for the World Trade Center.) A glimpse of his rare built efforts sheds new light on his thinking, but his prefatory attack on today's architecture is worth the price of the book. Woods's challenge: "Architecture, if it is to address the human condition in these times, must do more than valorize in monumentally stylish new buildings global power and concentrations of wealth. It must also valorize the struggle to change wherever it exists."

Right on. **C.C. Sullivan**



EXHIBITION

Hopping Fences: Influences in Modern Living | Philadelphia Art Alliance | Philadelphia | Through May 2

There are fences both literal and figurative in *Hopping Fences: Influences in Modern Living*, but they're hardly the most interesting part of this delightfully brainy show. Five installations, each by a different team of Philadelphia-area designers, occupy the terrain where architecture, installation art, and trade show converge. Modern materials—such as resin, homasote, and fiber glass—have the starring role, and they succeed in triggering not just tactile responses, but emotional ones as well.

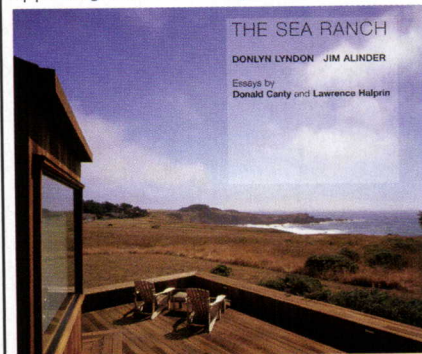
The most ambitious of the installations, Adam's House by Qb3—a multidisciplinary collective of architects—manages to evoke the serenity of a late summer afternoon and engage all five senses with the unlikely combination of foam rubber, steel, wood, water, and grass. You plunge your toes into a squishy, Spaldeen-pink welcome mat, inhale a grassy sweetness from a planter bed, and listen for the wind that appears to ripple the installation's chiming steel-rod fence. Meanwhile, Amuneal Manufacturing offers two contrasting visions of home—one of an imaginary past, the other of an imaginary future—separated by a fireplace wall (below). In other projects by Float, odg/otto design group, and Veyko Design, the demarcating power of fences is systematically blurred, deconstructed, and rendered a chimera. These meditations offer evidence that fences do more than enclose space; they also liberate it. **Inga Saffron**



BOOK

The Sea Ranch | Donlyn Lyndon and Jim Alinder | Princeton Architectural Press

Built in the 1960s along 10 miles of rugged coastline 100 miles north of San Francisco, the Sea Ranch is a 4,000-acre planned community whose principal design guidelines warrant a second look. And they are given a fine one in this process-oriented volume with text by Donlyn Lyndon, one of the community's original architects, and by its master planner, landscape architect Lawrence Halprin. In the latter's scheme and in the seminal residential work of the young Bay Area architects (Lyndon, Charles Moore, William Turnbull, and Joseph Esherick among them) who designed the wood-framed, wood-clad houses, nature came first; shared open spaces took precedence over private ones; and building sites were slotted delicately into the terrain of cliffs, meadows, and wooded hill-tops. Such environmentally minded strategies are part of a common mantra today, but land continues to be leveled and clear-cut in the name of maximum development potential. This beautifully illustrated book offers an appealing antidote. **Abby Bussel**



BOOK

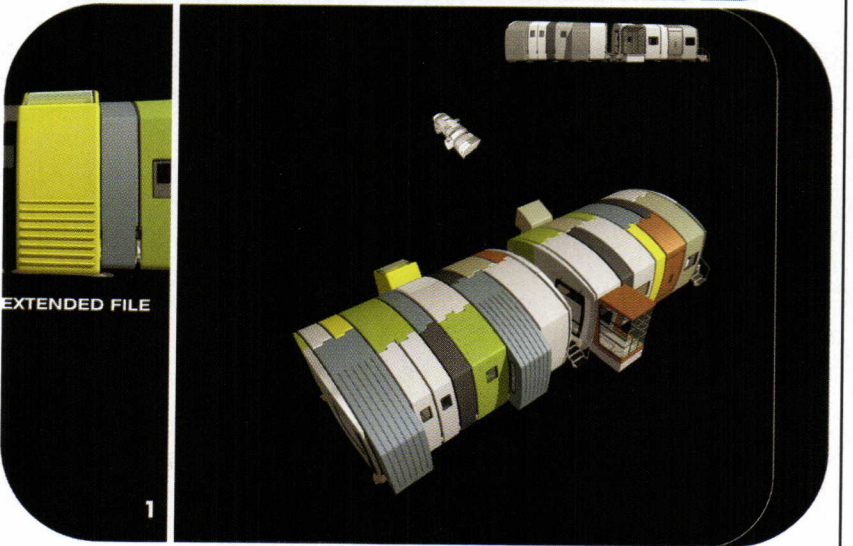
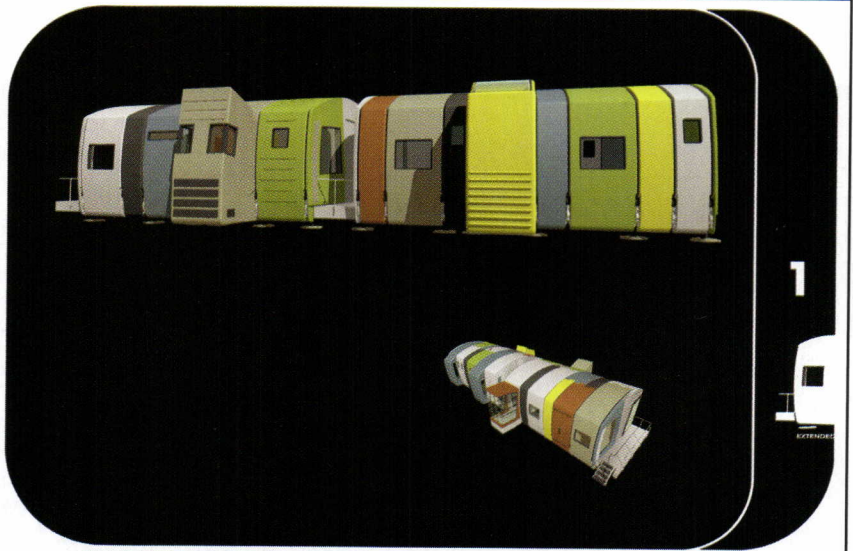
16 Houses: Designing the Public's Private House | Michael Bell |

Monacelli Set against a critical history of federal public-housing programs since the 1930s, architect Michael Bell's case study examines a contemporary practice: the promotion of single-family homeownership through government voucher subsidies. Bell chronicles his own demonstration project on this housing typology in Houston's predominantly African-America Fifth Ward neighborhood, arguing that while these homes are typically built without the involvement of architects, they must be well-designed for the voucher program to be successful.

Using funding from different sources, Bell brought together 16 design teams to participate in this research project, charrette, and exhibition documented in this book. Architects, including Los Angeles-based Robert Mangurian and Mary-Ann Ray of Studioworks, New York City's Lindy Roy, and Houston's Interloop Architects (project shown here), worked alongside developers, academics, community groups, and public agencies to explore design solutions. Through renderings, drawings, and model shots, *16 Houses* amply illustrates these projects.

Seven of the designs were eventually offered for sale. At the time of the book's publication, one had gone for \$111,000. Three adjacent sites found interested parties, but water-main problems stalled negotiations, and two buyers walked away. Bell notes that the city's nonchalance about the water mains in this community, coupled with various mortgage lenders' inability to accommodate low-income, "one-off" designs, revealed "an expected but still startling suppression of innovation."

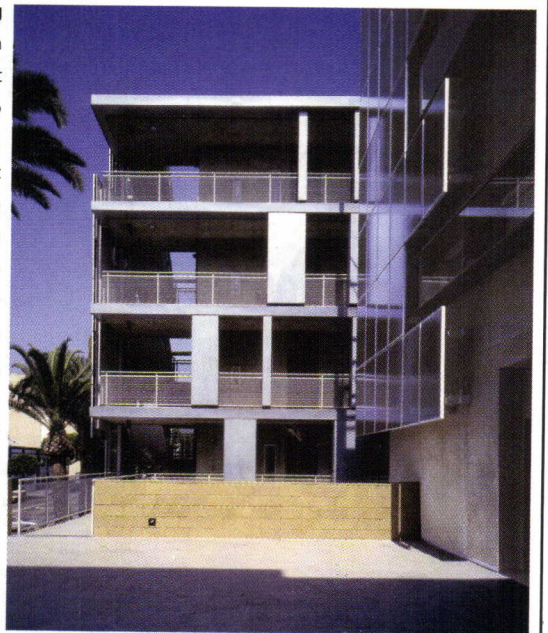
Bay Brown



EXHIBITION

Affordable Housing: Designing an American Asset | National Building Museum | Washington, D.C. | Through August 8

Public housing is often associated with ugly, high-rise "projects" isolated from surrounding neighborhoods. But as this exhibition reveals, the large housing blocks of the postwar era have given way to smaller, community-friendly developments that are actually nice to come home to. *Affordable Housing: Designing An American Asset* focuses on this shift through 18 recent projects from across the country. Photographs, drawings, and models—unfortunately displayed on fussy, multisided kiosks—show how the architecture of public housing has become more diverse, humane, and sophisticated. Many of these townhouse and apartment complexes mix households of different income levels while promoting regional sensitivity and sound urban design. They range from the modern, energy-conserving Pugh Scarpa Kodama's Colorado Court (right) in Santa Monica, California, to the neo-Colonial homes of Westbury in Portsmouth, Virginia. Ironically, as the demand for affordable housing and the quality of its design are growing, the supply and the governmental support for it are shrinking. One of the most informative—and disturbing—parts of the exhibit is a timeline showing the rise and the fall of government housing subsidies. Missing from the text, however, is President Bush's proposed termination of HOPE VI and community-development block grants in 2005, the very programs that made possible many of the projects in the show. The promise of well-designed affordable housing, so convincingly portrayed in this exhibit, may go unfulfilled. **Deborah K. Dietsch**





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www.museobilbao.com
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Gabriele Basilico

Images of urban places in transformation by the Italian photographer.
MIT MUSEUM
<http://web.mit.edu/museum>
 Through June 6



BOSTON

Scales of Practice

Selected projects by Boston-based architecture firm Chan Krieger & Associates.
HARVARD DESIGN SCHOOL
www.gsd.harvard.edu
 April 5–May 25

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Lakefront Park

Winning designs from the Graham Foundation's 21st-Century Lakefront Park competition.
CHICAGO ARCHITECTURE FOUNDATION
www.architecture.org
 Through May 2

HOUSTON

Snapshot 04

Fourth annual exhibition of realized and unrealized Houston-area architectural projects.
RICE DESIGN ALLIANCE
www.rda.rice.edu
 April 9–May 1

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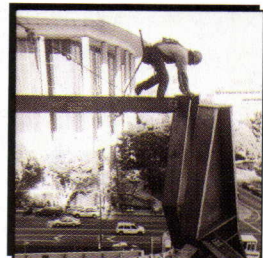
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MERCHANDISE MART
www.merchandisemart.com
 June 14–16

SAN FRANCISCO

PCBC

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MOSCONE CENTER
www.pcbbc.com
 June 15–18

COMPETITIONS

Da Vinci Awards

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www.esd.org/davinci
 Deadline May 15

Unbuilt Architecture

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www.architects.org
 Deadline July 12

Home of the Year

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www.architecturemag.com
 Deadline July 16

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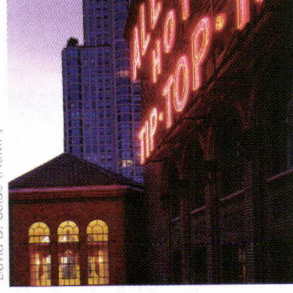
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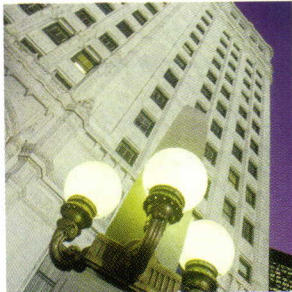
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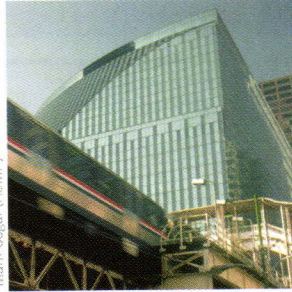
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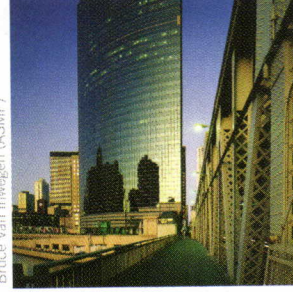
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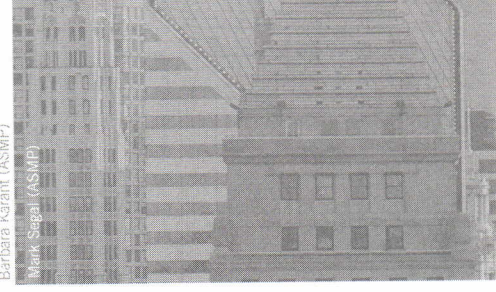
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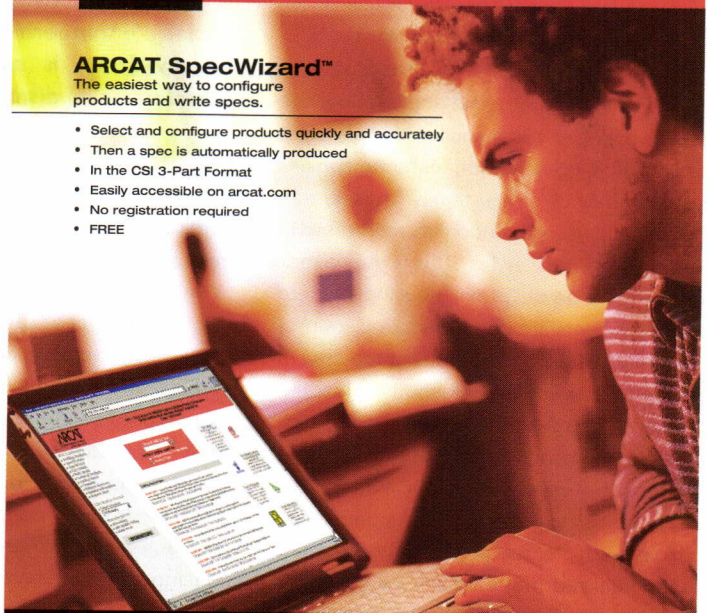
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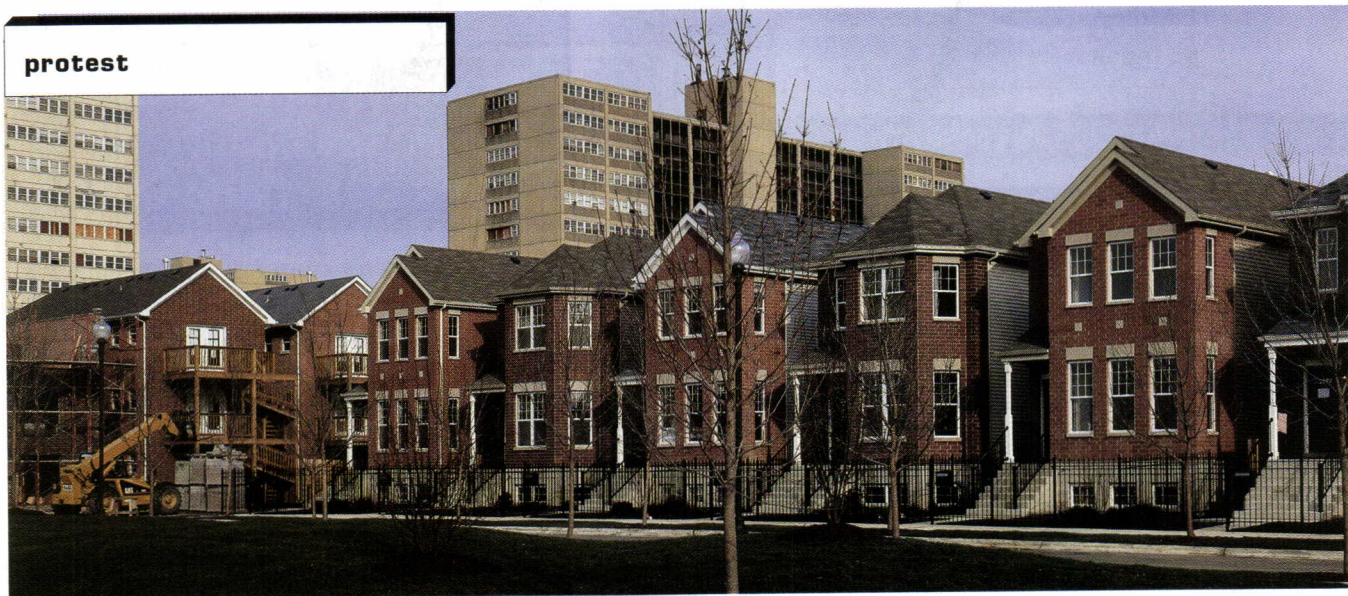
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CHICAGO'S NOTORIOUS CABRINI-GREEN TOWERS ARE COMING DOWN. THAT'S GOOD. THEY ARE BEING REPLACED BY A FEEBLE PASTICHE OF THE CITY'S TRADITIONAL BRICK FAÇADES. THAT'S BAD.

by Edward Keegan

Just a few decades ago, the tall towers of Chicago's Cabrini-Green public housing projects stood as exemplars of a great social planning experiment. Today, the city's housing authority is tearing down many of these structures (some have already been razed, the rest are slated for demolition by 2009) and sponsoring a piecemeal redevelopment in which both for-profit and nonprofit developers are producing a mix of market-rate and subsidized units. These developers shun the infamous Cabrini-Green name, adopting confusingly similar monikers for their projects, such as North Town Village, North Town Park, and Old Town Village (East and West).

By whatever name and for all its promising twenty-first-century social engineering, the new Cabrini-Green is as soulless and placeless as its dismal predecessor, featuring cookie-cutter red-brick single-family houses, row houses, and midrise condominiums dressed in vaguely historical styles. This is the mixed-income version of "public housing," where many residents are upper-middle-class professionals who zip in and out of the area in sporty cars, leaving the neighborhood's spiffy, walkable sidewalks to narcotics entrepreneurs.

At the moment, it is difficult to fully assess the viability of the post-Cabrini-Green era. The city's decision to condemn the dangerous and dilapidated high-rises can't be faulted, but several unrealized master plans for the area's rebirth seem to have been supplanted by a disconnected group of simplistic schemes that

share little beyond their low-rise, market-driven formula (and a designated percentage of subsidized units for former tower residents).

Each development employs a different mix of urban building types. But these hardy precedents are rendered with ill-proportioned windows, utility-sized bricks, and cheesy asphalt-shingled roofs that belie the involvement of design professionals in their composition. Some blocks, for example, include the ubiquitous Chicago row house that stacks three apartments with full front-to-back exposure for each unit. Rather than celebrate the typically quirky forms that the

⊗ **For all its twenty-first-century social engineering, the new Cabrini-Green is as soulless and placeless as its dismal predecessor.**

three-flat typology takes throughout the city, the iteration at the new Cabrini-Green has been frothed in a blender with the architecture button set to "dull."

While many of the pieces of a New Urbanist-influenced fabric are in place, they seem unlikely to cohere into a community. The psychic center of the dispersed new developments occurs at the intersection of Division Street and Clybourn Avenue, one of Chicago's grid-busting diagonal arteries. In a small park at this important juncture, green grass has replaced broken glass as the primary surfacing material. But eight lanes of traffic separate the park from a cloying Prairie-style shopping center to the north, where three-

dollar lattes and DVD rentals can be had in red-brick and cast-stone likenesses of Frank Lloyd Wright's Unity Temple.

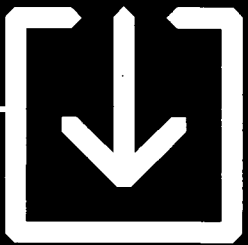
There is an obvious human tragedy at the redeveloped Cabrini-Green that will, at least temporarily, displace some 4,700 residents as the original towers continue to come down. Indeed, critics bemoan the fact that only about 30 percent of the rebuilt neighborhood will be "public" housing. But what percentage is the correct mix for a successful neighborhood? Clearly, the warehousing concept, which created an enclave of poverty, drugs, and crime, was never going to produce a viable community. Despite the outcry from public-housing advocates, this Chicago neighborhood has become far more economically diverse, which may mean a brighter future for all its residents.

While still years from completion, the new Cabrini-Green risks becoming as aesthetically homogenous as its predecessor, albeit dressed in the cut of a different cloth. The recent announcement that Helmut Jahn has designed a sleek, stainless-steel-clad single-room-occupancy (SRO) structure for a site one block north of Division and Clybourn leaves some hope for architectural quality in the area. Significantly, his SRO respects the same ideas about urban form-making that have, in other hands, resulted in architectural drivel. Until Chicago can muster the courage to build communities that are authentically diverse—economically, ethnically, and architecturally—we can only lament a great opportunity lost to a timid vision of tomorrow. ■

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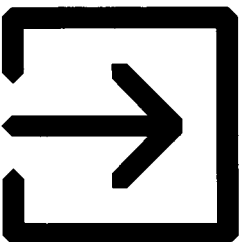
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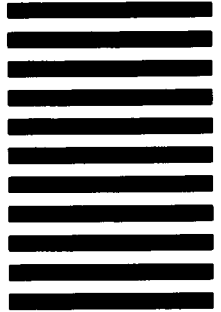
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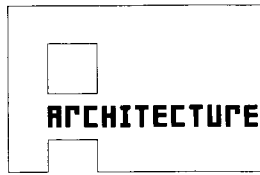


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