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How long will women architects remain second-class citizens?

By Reed Kroloff

We hoped our May issue on young Americans would provoke. Judging by the response, it did. What we didn't anticipate was the tenor of the commentary, or who would provide it.

The *New York Times* was so surprised to see a woman on our cover—the portrait of Julie Salles Schaffer—that they dispatched a reporter to investigate. We chose Schaffer to emphasize our conviction that women have historically been ignored, or worse, mistreated in this profession. Further, by virtue of their increasing numbers, women soon could be architecture's dominant face. The *Times* reporter reduced this statement to a question of fashion and pandering: Through misquotation and fantastic leaps of logic, she implied that *Architecture* was selling itself with skin. If exploitation was our intent, we apparently failed to entice the putative target audience of men, however. Among the unusually large amount of mail we received was a note from G. Randolph Hudson, a partner at Hayes Large architects of Altoona, Pennsylvania (reprinted on page 26 of this issue). Mr. Hudson thanked us for a cover so "excruciatingly funny" that his office fell on the floor laughing. It provided them "with a much needed break from 10:25 to 10:31." Their letterhead (and letter) only confirmed our point: After 79 years of practice, the firm lists only two women among its 19 partners, senior associates, and associates. Care to guess where in that hierarchy they appear? That's right, at the bottom.

While I'm happy we could provide the hills of Pennsylvania with a testosterone moment, the combination of Mr. Hudson's letter and the *New York Times* notice startled me. We are all staring the 21st century in the face, yet a fair number of this profession's practitioners and observers cling to 19th-century notions of women. They may mouth pleasantries about equality, but their actions show they still don't accept women as equals.

Hudson and the *Times* are hardly alone. Architecture is one of the working world's last bastion of white male supremacy: The American Institute of Architects estimates that women own fewer than 9% of the nation's architecture firms, and most of those are sole practices. Yet women amount to nearly 40% of architecture school students, and have for years. Too many men casually (or worse, happily) accept this contradiction. How shortsighted. How disgraceful.

The *Times* was incensed that Julie Salles Schaffer happened to be attractive. That's something the paper will have to take up with her parents. Her looks were not the reason we chose Ms. Schaffer for cover treatment (though to be fair, we recognized and discussed the implications of her attractiveness). It was her resume that won her the cover slot: 31 years old, a principal in her own firm, excellent experience, and (we learned after choosing her) expecting her first child. Even without considering the career complications of maternity (and several readers chided us, correctly, for not examining the challenges of juggling parental and professional responsibilities), Julie Schaffer is an impressive example of what a young architect can do. While a person's looks can unfortunately still affect her or his progress in business—a sad reality that cuts across genders—they have no bearing on our editorial decisions, and shouldn't be an issue in practice, either.

We want our covers to spur debate. But not this debate. A woman's face on our cover (attractive or otherwise) may be noteworthy, but it shouldn't elicit the troglodytic roar we heard. The fact that it did reflects poorly on this profession and society at large. ■

Washington Hall, center stage for theatre and cultural events at Notre Dame. Built in 1881, this modern Gothic structure was named by Father Sorin himself, Notre Dame's founder, in honor of his great hero, George Washington.

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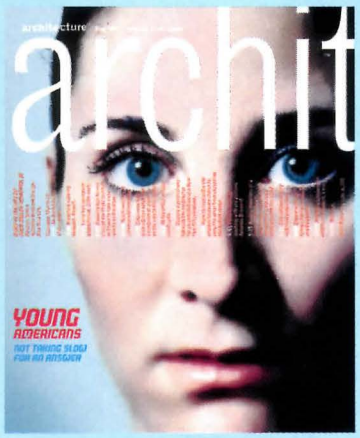
letters



Electric youth

As an educator and practitioner it was refreshing and exciting to see our profession take note of its future and its roots (*Architecture*, May 1999). We most definitely need to know our young practitioners and interns and make the maturation process far more understandable and rewarding. I particularly liked the issue's emphasis on the diversity of practice these days.

As a lecturer/adjunct faculty at the University of Houston Gerald Hines College of Architecture, I regularly encourage the diverse young student professionals to see that our discipline is capable of so much more than building design. Your issue showed young professionals seeking and succeeding in the diversity of our discipline and serving the larger community.

Rives Taylor
Campus Architect
University of Texas - Houston
Health Science Center
Houston

I am a 29-year-old graduate architect and mother. Although I thoroughly enjoyed your May 1999 issue on young Americans, I was very disappointed that you did not choose to follow any young architects who are also meeting the demands of parenthood. Julie Salles Schaffer's schedule printed on your cover enticed me; but none of the men or women you followed had to deal with the real issues of child care or the challenge and joy of nurturing an active young mind while striving to excel in this rigorous profession. It takes a lot more than a 45-minute sonogram and a maternity yoga class! I fear that by glossing over this, you missed a chance to connect with many dynamic men and women, and perpetuated the superficial glamorization that undermines the image and integrity of the profession.

Kelaine Fitzpatrick Mitchell
Project Manager
Architectural Alliance
Columbus, Ohio

Thanks for the excruciatingly funny magazine cover on your May 1999 issue. After we picked ourselves up off the floor and dried our eyes, my colleagues and I decided to write and express our gratitude. Your *Martha Stewart Living*-meets-*Cosmopolitan* approach provided us with a much-needed break from 10:25 to 10:31.

G. Randolph Hudson
Partner
Hayes Large Architects
Altoona, Pennsylvania

Congratulations on the May 1999 issue of *Architecture*. The series about young architects is wonderful, energizing, and enlightening. Reading all about them makes me feel young again after 40 years of practice.

Michael Newman
Principal
Newman Peterson, PA
Winston-Salem, North Carolina

Internal debate

Those debating internship might as well be debating life (*Architecture*, May 1999, page 13). Each firm and every intern is different. When I interned 30 years ago, I was fortunate to find a good mentor. Was I underpaid? I'm still underpaid for what I do.

I enjoy bringing interns through my firm, giving them opportunity and responsibility, and watching them pass their exams on the first try. I would like them to stay and become partners. But after they see how we get paid, the difficulty of getting good work, and the risks we take for our clients, they often say, "No, thank you," and move on to peripheral employment.

Today interns who might get close mentoring from us with pay would rather empty wastebaskets in Frank Gehry's office for free. Interns are young. Often, they have great, if not unrealistic expectations. They make choices, not always good ones. Why should we beat ourselves up over this? Good internships are a matter of good choices and perhaps some luck. This will remain the same throughout their lives and practice.

David A. Souers
Principal
OPTIMUS Architecture
Rhinebeck, New York

Mies makeover

I very much enjoyed Peter Blake's story about his 1965 visit to Ludwig Mies van der Rohe's Tugendhat House in Brno, Czechoslovakia (*Architecture*, May 1999, pages 81-83). The faded color photograph of young people exercising in what was once the living room evokes a fine nostalgia that can only be appreciated by those of us who grew up believing in the ideals of the modern movement. Yet, ruined windows aside, that it became a gymnasium is poetic. And what a gym!

Michael Miller
Key West, Florida

CORRECTIONS

The third sentence in a letter submitted by Peter Laurence (*Architecture*, May 1999, page 29) about the Exploring (New) Urbanism conference at the Harvard Design School should have read, "To the contrary, students are organizing to express support for the pursuit of principled and progressive urbanisms."

Bruno-Elias & Associates will work in joint venture with Bernard Tschumi Architects on Florida International University's School of Architecture (*Architecture*, April 1999, page 29).

WE WANT TO HEAR FROM YOU!

Please mail your letters to the editor to: *Architecture*, 1515 Broadway, New York, NY 10036. Or fax to: 212/382-6016. Or E-mail us at: info@architecturemag.com. Please include your name, address, and daytime telephone number. Letters may be edited for clarity or length.

exhibitions

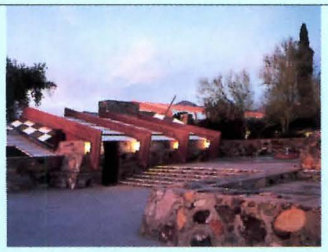
city	dates	exhibition	contact
Denver	through October 3	**Paper Architecture: Hand Versus Machine** at the Denver Art Museum	(303) 640-4433
London	September 18-19	**London Open House '99** offers free admission to more than 500 buildings not normally open to the public	www.londonopenhouse.demon.co.uk
Los Angeles	through August 13, 2000	**At the End of the Century: One Hundred Years of Architecture** at the Museum of Contemporary Art	(213) 621-2766
New York City	through July 24	**Still Rooms & Excavations: Photographs by Richard Barnes** at the Urban Center, sponsored by the Architectural League of New York	(212) 753-1722
Paris	July 10- September 26	**Richard Meier Architect** at the Galerie National de Jeu de Paume, organized by the Museum of Contemporary Art in Los Angeles	(213) 621-2766

SCOTT FRANCES / ESTO

Richard Meier's Neugebauer House in Naples, Florida (1997), is featured in retrospective of his works in exhibit organized by L.A.'s MOCA.

conferences

city	dates	conference	contact
Boston	September 12-16	**Annual Meeting of the American Society of Landscape Architects**	(202) 898-2444
Charleston, South Carolina	October 7-9	**Urban Waterfronts 17,** sponsored by the Waterfront Center	(202) 337-0356
Four Corners	September 27-October 3	**Ancient Pueblo Sites of the Southwest: Native American Art and Architecture of New Mexico, Arizona, Utah, and Colorado study tour,** sponsored by the Society of Architectural Historians	(312) 573-1365
Scottsdale, Arizona	November 10-14	**Frank Lloyd Wright Building Conservancy Annual Conference**	(773) 784-7334
Washington, D.C.	October 28	**North American Construction Forecast,** presented by the Construction Market Data Group	(800) 598-6434

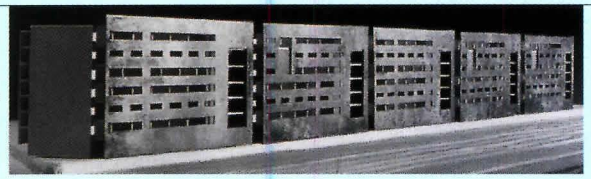


Frank Lloyd Wright's Taliesin West in Scottsdale, Arizona, will host Building Conservancy's annual meeting.

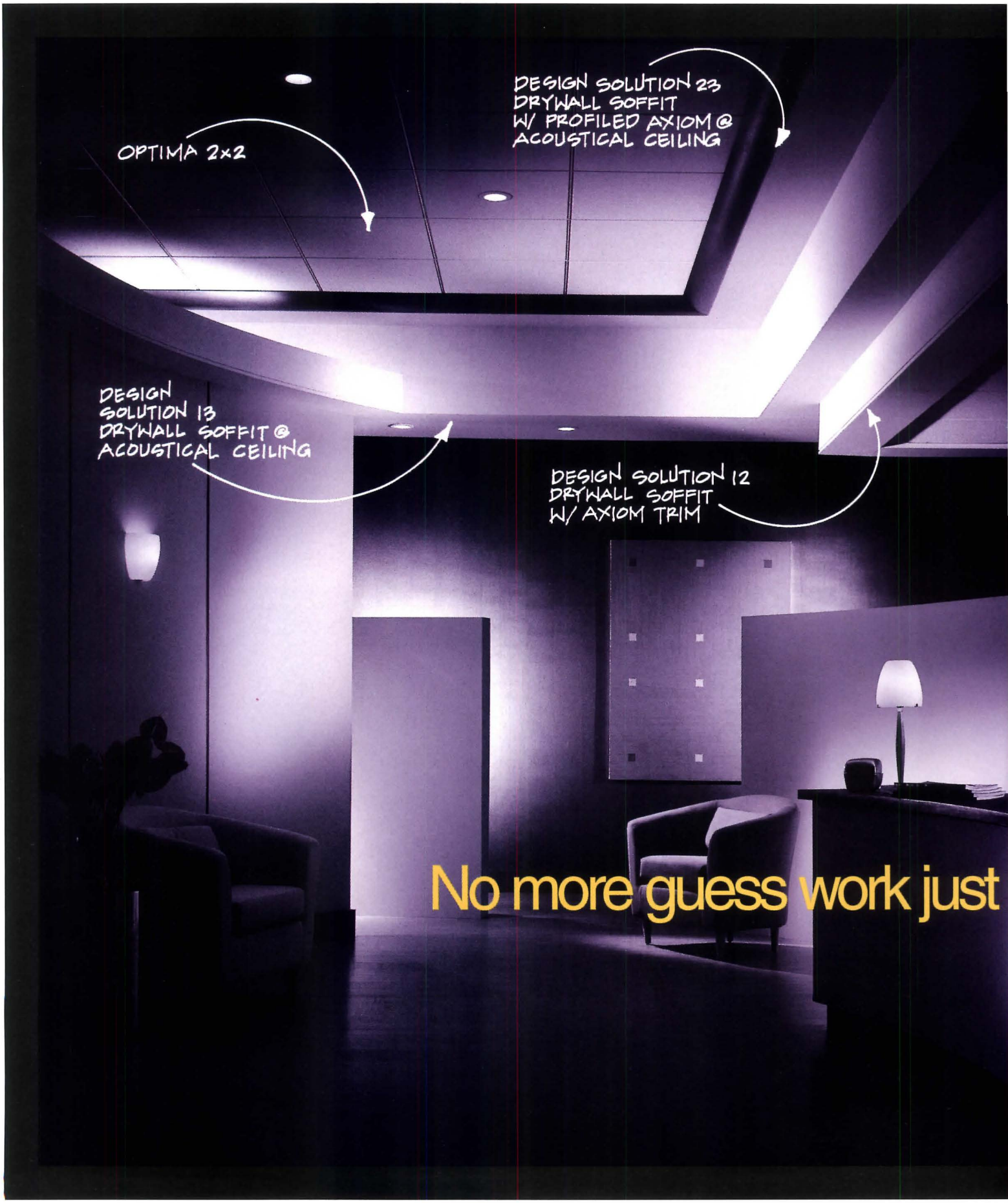
JUDITH BROMLEY

competitions

competition	deadline	contact
Visionary Design Awards, sponsored by *Landscape Architecture*	August 31	(202) 216-2335
The 1999 James Marston Fitch Charitable Trust Mid-Career Grants	September 1	(212) 777-7800
Velux View Awards Program for any project completed between January 1997 and August 1999 that uses at least one Velux skylight or roof window	September 1	(800) 888-3589
Europandom competition to design urban interventions in Guadalupe, French Guiana, Martinique, and Réunion, cosponsored by the French government	September 15 (registration)	www-europan.gamsau.archi.fr
Masonry Projects Awards	September 15	(303) 823-8284
Times Square tkts™ Booth Competition, presented by the Van Alen Institute, the Theatre Development Fund, NYC 2000, and *Architecture*	September 30 (registration)	(212) 924-7000, ext. 18
Berlin Prize Fellowships from the American Academy in Berlin	February 1, 2000	(212) 588-1755



Scheme for mixed-use development in Seville, Spain, by Enrique Sobejano Garcia and Fuenata Nieto de la Cierva won Europan's 1997 competition. Latest installment will suggest growth strategies for French outposts in Caribbean.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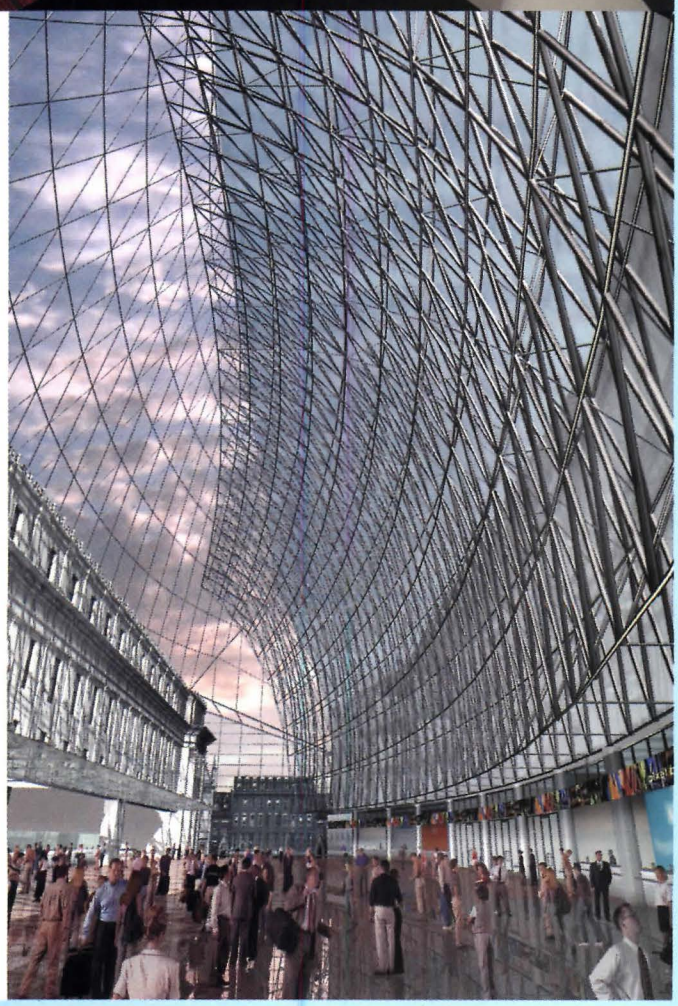
Penn, Again

It's been almost 40 years since the pink granite walls of McKim, Mead & White's New York City Pennsylvania Station came tumbling down in the century's greatest act of architectural martyrdom. Now, a new incarnation of Penn Station, the third since 1963, is poised to take shape across the street from the original depot.

On May 19, President Clinton unveiled a design by David Childs of Skidmore, Owings & Merrill (SOM) that by no means replicates the vanished original station, but recaptures its elegance and drama. Childs' scheme for Penn Station works within the neo-classical shell of the 1.4 million-square-foot Farley Post Office, also designed by McKim, Mead & White, most of which the Postal Service plans to vacate. Between the two buildings composing the post office will be a gossamer glass shield enclosing a 75-foot-high atrium; the new train yard will occupy a glazed-over courtyard.

SOM has the vision in place to build what Clinton calls "the first great building of the 21st century;" now they must raise the remaining $134 million needed to finance the $484 million project. *Raul A. Barreneche*



THE INSTITUTE

Denver Architect Voted AIA President-Elect

At their annual convention in May, the members of the American Institute of Architects (AIA) voted John D. Anderson, founding principal of Denver's Anderson Mason Dale, their first vice president/president elect. Anderson will be the Institute's 77th president. According to AIA bylaws, Anderson will assume the post of first vice president in December 1999 and will ascend to the presidency in 2001.

In addition to the new U.S. Courthouse in Denver (with HOK) and the visitors center at the Mt. Rushmore National Monument in Kingston, South Dakota, Anderson's firm has completed laboratory, classroom, and dormitory projects on nearly every Colorado public college or university campus. ***Michael J. O'Connor***

Buzz

Norman "On A Roll" Foster has received two stateside commissions: a master plan for Boston's **Museum of Fine Arts** and a laboratory at **Stanford University** in Palo Alto, California.

Skidmore, Owings & Merrill has opened two offices in the Southeast: Miami and Orlando, Florida.

Gensler *is undertaking the renovation* of San Francisco's legendary **Fairmont Hotel** (a favorite of **Alfred Hitchcock**'s).

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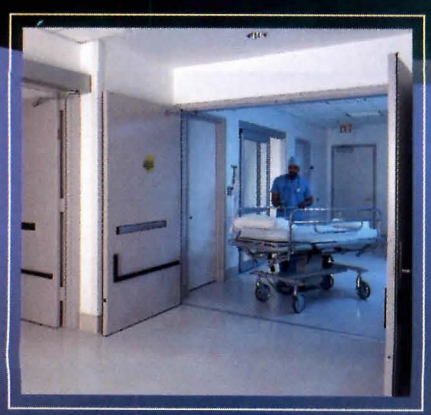

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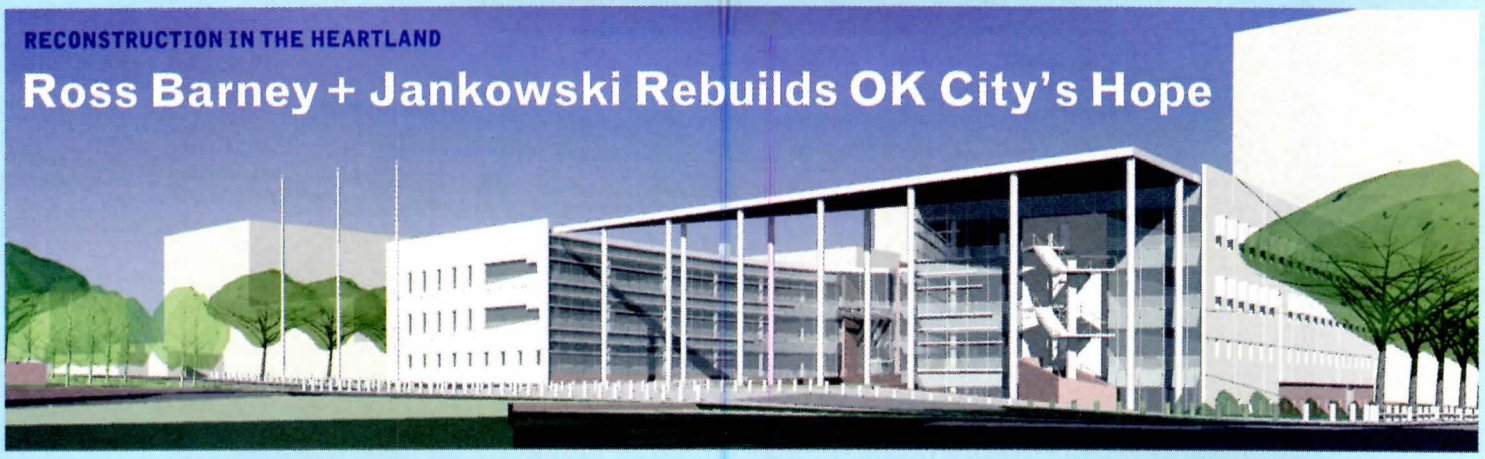

In Oklahoma City, Chicago's Ross Barney + Jankowski (RBJ) released a revised scheme for the building that will replace the Alfred P. Murrah Federal Building, which was destroyed in a 1995 attack that introduced Americans to large-scale domestic terrorism. RBJ's four-story, *U*-shaped concrete building wraps an ovoid courtyard cordoned off by slender pillars. External stairs and interior glazed partitions attempt to convey openness in a building clearly mired in security issues. Construction will begin in late 2000; the building will open in 2002. *M.J.O.*

POLITICS

California Cities "Raffle Off" Public Commissions

Flush with billions in state and local bond money, California cities are hiring architects in preapproved batches to expedite the design and construction of schools, libraries, and other public buildings. In July of last year, for instance, the city of Los Angeles issued an RFQ to architects "in anticipation of voters approving a $178 million library bond measure" to build or expand 32 library branches over six years, said Allan Kawaguchi, library program manager for the city's Bureau of Engineering. Fifty-four firms responded to the RFQ, and 16 ultimately made the cut to potentially share up to $11 million in design fees.

The list hardly reads like a bureaucrat's definition of "safe." Among the 16 are progressives Steven Ehrlich Architects, Hodgetts + Fung Design Associates and Aleks Istanbullu/John Kaliski, all of Los Angeles. Scott Carde of Carde Ten Architects, a Santa Monica, California-based firm that ranked second on the list, described the process as very rigorous and mutually beneficial. "If we had to put in 32 submissions, we'd go crazy," he said. "This way, everything is collected [in the beginning] so all the resources and energy can be channeled where it should go—into the project."

So far, eight library projects have been assigned tentatively to top-ranking firms, who may choose to pass or play. The city reserves the same right to move on to another firm if community approval is withheld or an agreement on financial terms can't be reached. Future projects will be divvied up on the basis of performance and list ranking.

Thomas Blurock, a Costa Mesa, California-based architect who specializes in school design, said he expects more California cities and school districts to work from approved architect lists. He predicts all California school districts will soon revisit and tighten their architect selection processes. A state school bond measure that passed in November requires school districts to use and document a competitive process for hiring architects. Now, Blurock says, the trick will be to arrive at a legal definition of "competitive." *Ann Jarmusch*

Ann Jarmusch is the architecture critic of The San Diego Union-Tribune.

FUNDS

Taliesin Receives $1 Million+ Grant

The Save America's Treasures program awarded $1,146,700 to Taliesin, Frank Lloyd Wright's home and studio in Spring Green, Wisconsin, to fix drainage problems and restore damaged interior features and finishes. Wright twice rebuilt Taliesin's main house after devastating fires (in 1914 and 1925) and continued to tinker with its design until his death in 1959. Last year, a mudslide destroyed part of a hill around which the main house is built, and strong winds dropped a 225-year-old oak tree on the studio wing of the house. The grant is contingent upon a dollar-by-dollar match to be raised by Taliesin. *Edward Keegan*

Star Wars creator **George Lucas** has won the competition to retrofit an abandoned military hospital in San Francisco's Presidio park. Lucas intends to move the bulk of his film-making interests there.

Michael Hallmark, a founding principal of **NBBJ Sports & Entertainment**, has left the firm to found a competing sports-facility consultancy.

Catherine Trautmann, France's minister of culture and communication who facilitated former **President Francois Mitterrand**'s *grands projets*, will receive the **Union of International Architects**' Insignia of Honour.

Richard Meier & Partners is designing a house in Malibu, California, for **Eli Broad** and a pedestrian-vehicular bridge in Alessandria, Italy.

Frank Gehry has designed two cancer centers in Cambridge, England, and Dundee, Scotland. Called Maggie's Center, the rehabilitation facilities are named for landscape designer **Maggie Keswick Jencks**. Gehry has also designed a museum in Biloxi, Mississippi, devoted to the works of turn-of-the-century potter **George Ohr** whose work resembles crumpled paper. (Sound familiar?)

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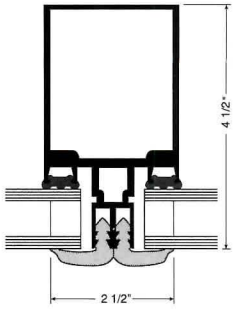

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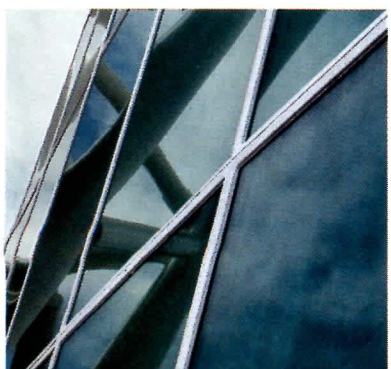

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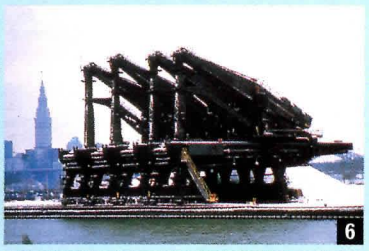
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11

The National Trust for Historic Preservation has released its list of "America's 11 Most Endangered Historic Places"—sites facing their 11th hour.

1 "The Corner of Main and Main," Nationwide Communities are forsaking their historic buildings on America's Main Streets for the economic advantage of major chain stores.

2 Richard H. Allen Memorial Auditorium, Sitka, Alaska An auditorium constructed in 1910 as the centerpiece of Sheldon Jackson College, Alaska's oldest educational institution, has been closed since 1994 and now faces demolition.

3 Angel Island Immigration Station, San Francisco Bay, California Between 1910 and 1940, thousands of Asian immigrants filtered through "the Ellis Island of the West Coast," now one of California's many ailing historic landmarks.

4 Country Estates of River Road, Louisville, Kentucky Between the 1870s and 1930s, well-to-do families commissioned an enclave of rolling hills, stately homes, and lush gardens that are now threatened by a multilane highway and bridge and a five-story water-treatment facility.

5 Four National Historic Landmark Hospitals, New York State Designed by such great 19th-century architects as Henry Hobson Richardson, Frederick Law Olmsted, and Calvert Vaux, these psychiatric wards are now on the market, leaving them open to remodeling or destruction.

6 Hulett Ore Unloaders, Cleveland Rendered obsolete by new technology, the Cleveland Cuyahoga Port Authority is planning to dismantle the dramatic 96-foot-tall unloaders.

7 Lancaster County, Pennsylvania Suburban sprawl is threatening the "Garden Spot of America," a region of lush farmland with a thriving industrial base and traditional Pennsylvania Dutch character.

8 Pullman Administration Building and Factory Complex, Chicago Built by George Mortimer Pullman in the 1880s and ravaged by arson last December, these railcar manufacturing buildings were once part of the most elaborate industrial complex of the 19th century.

9 Traveler's Rest, Lolo, Montana This camp for Lewis and Clark's 1805 expedition is now endangered by the impending construction of a trailer park.

10 Warehouse District, San Diego The city's decision to locate the new Padres baseball stadium in the Gaslamp Quarter Historic District threatens the East Village, an historic warehouse district.

11 West Side of Downtown Baltimore, Baltimore After a suburban exodus in the 1960s, a revitalization plan is now under way to demolish approximately 150 historic structures. (*Architecture*, June 1999, page 71). *Marie Coupland*

Rafael Viñoly Associates will design a jazz theater at Lincoln Center's new outpost in New York City's Columbus Circle; a library in Buenos Aires, Argentina; and Boston's new convention center (with **HNTB**). HNTB recently opened four new offices; St. Louis; Charleston, South Carolina; Columbus; and Toledo, Ohio.

They're alive! Developers in Southwood, Florida, are using the **Disney Corporation**'s plans for Celebration to design a similar planned community.

Rem Koolhaas' Office for Metropolitan Architecture has bested **Steven Holl** and **Zimmer Gunsul Frasca Partnership** for the commission to design a new library for Seattle.

A recent auction of **Eames**-designed merchandise in Chicago netted an eye-popping $660,000—three times the auctioneers' estimates.

The Organization of Black Designers has unveiled *DesigNation*, a new architectural journal.

OBITUARY: Critic **Sara Boutelle**, whose biography of **Julia Morgan** brought the architect of **Hearst Castle** in San Simeon, California, to national prominence, 90.

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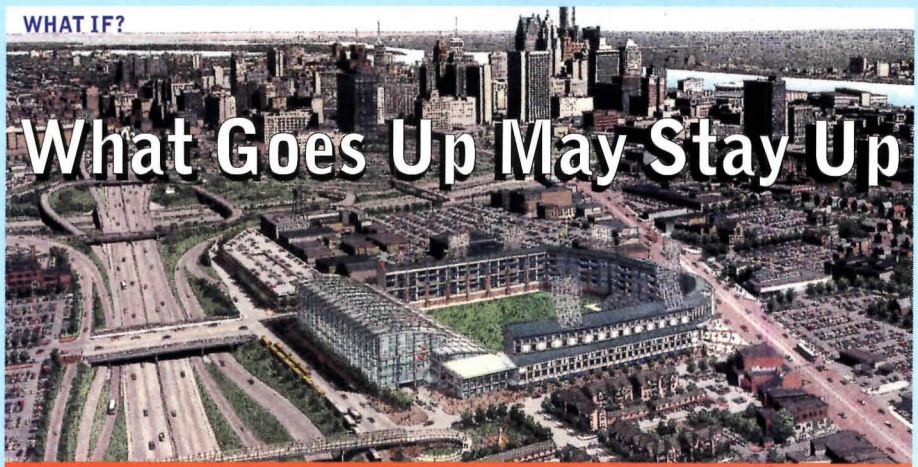


The flip side of all the new sports stadiums being built is an awful lot of demolition. But when the replacement stadium is built on a different site, couldn't the old stadium be adapted and reused in some way? There are those in Detroit who say yes.

The Detroit Tigers will move into the HOK Sport-designed, $260 million Comerica Park next spring, leaving their 1912 stadium (one of the Major League's oldest) open for new development. When *The Detroit News* recently asked their readers to suggest new uses for the old stadium, their responses ranged from the sublime (an outdoor performing arts center) to the ridiculous (a Museum of Lost Detroit nostalgia archive, abbreviated MOLD, the contest's winner).

Now, Detroit's department of planning and development proposes a mixed-use complex that includes retail and sports facilities, lofts encircling the stadium's masonry shell, and a public park around home plate. Prepared by developer Zachary and Associates and architect Hamilton-Anderson Associates, the programmatic mix attempts to make the project self-sustaining. City officials are seeking for private support for the project, which they expect to cost $200 million. Interested parties may call Burney Johnson at (313) 224-1424. *M.J.O.*

TRANSPORTATION

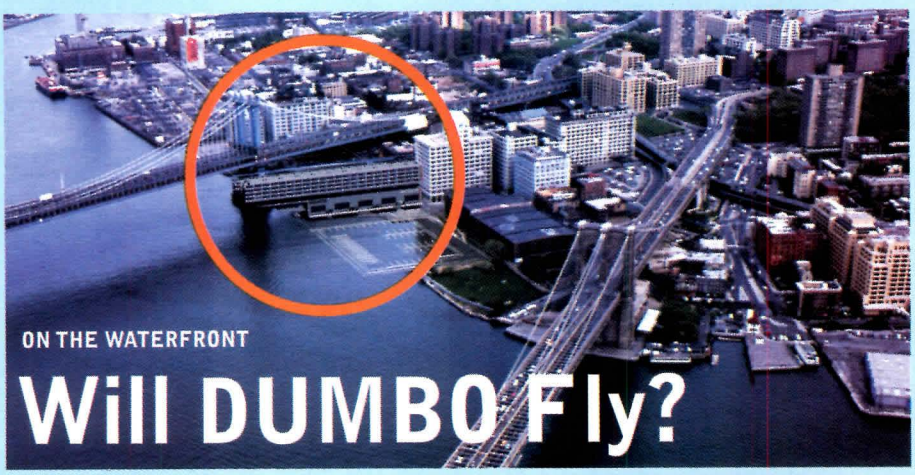
National Airport Retail Crashes

It seems that airport retail has found its lower limits. Despite a cornucopia of retail options at Ronald Reagan Washington National Airport's gleaming new terminal, passengers aren't exactly shopping 'til they drop—and merchants are cutting back, bailing out, and blaming architect Cesar Pelli's design.

Stores such as the Gap, Victoria's Secret, and Gymboree, along with restaurants like T.G.I. Friday's and Legal Sea Foods, are mostly arrayed along the majestic glass-and-steel nave of National's new terminal, completed in 1997. But the nave has a problem: It runs north-south, although people move through it perpendicularly from east to west. The race from ticket counter to plane skips most of the storefronts. On weekends, when air traffic is greatly reduced, the retail areas seem practically deserted. As a result, Walter Nicklin, owner of the Virginia Company gift-shop chain, closed his National location, and the Gap has cut back its inventory.

Airport officials told *The Washington Post* in May that retailers should be happy with their sales, which amount to an estimated $5.92 per boarding passenger. Retailers counter that they measure income by the industry standard of sales per square foot, which in National's case ran about $700 last year—well under the more than $1,000 per square foot at such retail-intensive airports as Pittsburgh International, according to a *Post* survey.

Pelli, who was unavailable for comment, is taking none of the blame: He told the *Post* that he was instructed to design a functional airport that creates an "appropriate gateway to the nation's capital," not another Mall of America. *Bradford McKee*



ON THE WATERFRONT

Will DUMBO Fly?

Wherever artists go, real-estate developers seem to follow (*Architecture*, June 1999, page 154). The latest example: DUMBO (or Down Under the Manhattan Bridge Overpass), a gritty stretch of Brooklyn waterfront inhabited by some 600 artists driven from Manhattan by prohibitive rents. "It may be the greatest concentration of artists since the Left Bank of Paris in the 1920s," says Joy Glidden, director of the DUMBO Arts Center.

Not for long. Developer David C. Walentas released plans in May to transform the district with a 26-acre commercial complex. The $300 million proposal centers on a 350,000-square-foot hotel and movie theater (above) designed by French architect Jean Nouvel, whose work includes the Cartier Foundation for Contemporary Art in Paris. This would be his first U.S. project.

The Brooklyn and Manhattan bridges sandwich Nouvel's site. "I never saw a site like this: between two huge bridges, one of them the most famous in New York, maybe in the world," Nouvel says. "It's a bit wild, a bit raw." Nouvel answered with a nine-story pierlike building clad in gray metal panels. Four stories cantilever 134 feet out over the East River. "I tried to design in the spirit of the older structures nearby," he says. Not surprisingly, community groups oppose a plan that would dash long-standing hopes of a waterfront park. "Nouvel's building may be great, but not on this site," says Marianne Koval, deputy director of the Brooklyn Bridge Coalition, an advocacy group. "It doesn't matter who the architect is, there shouldn't be a building there." *Michael Cannell*

VITALS

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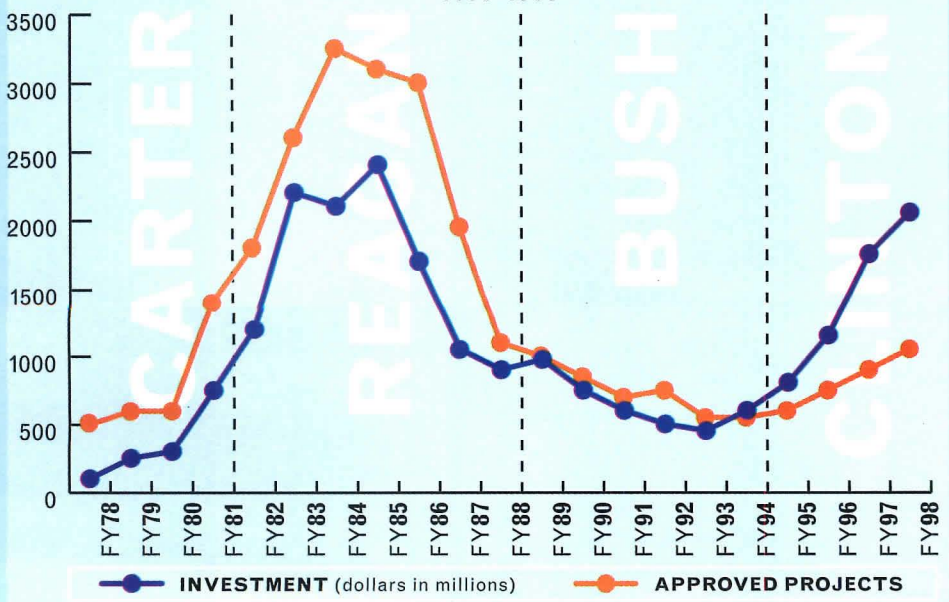

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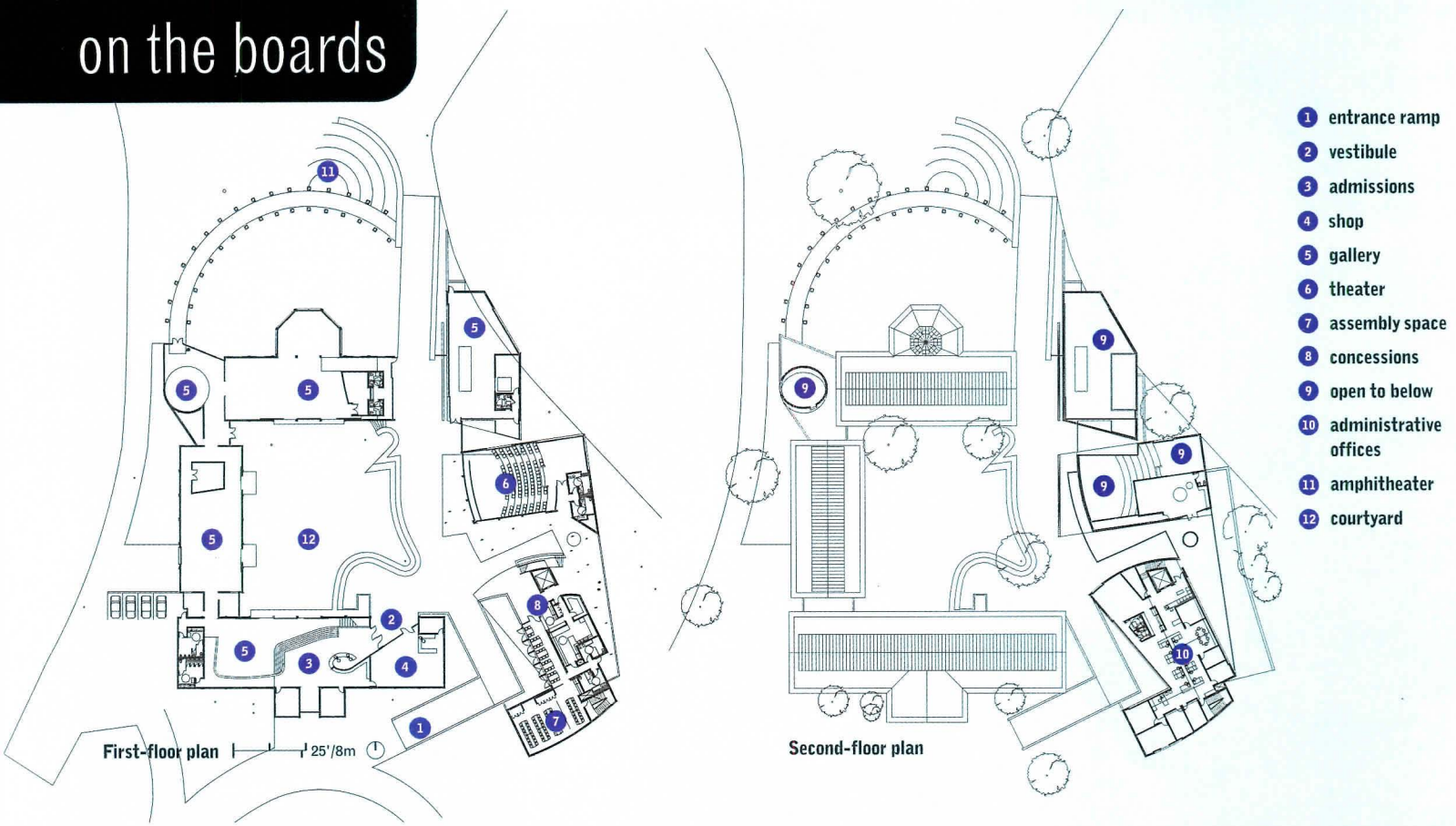
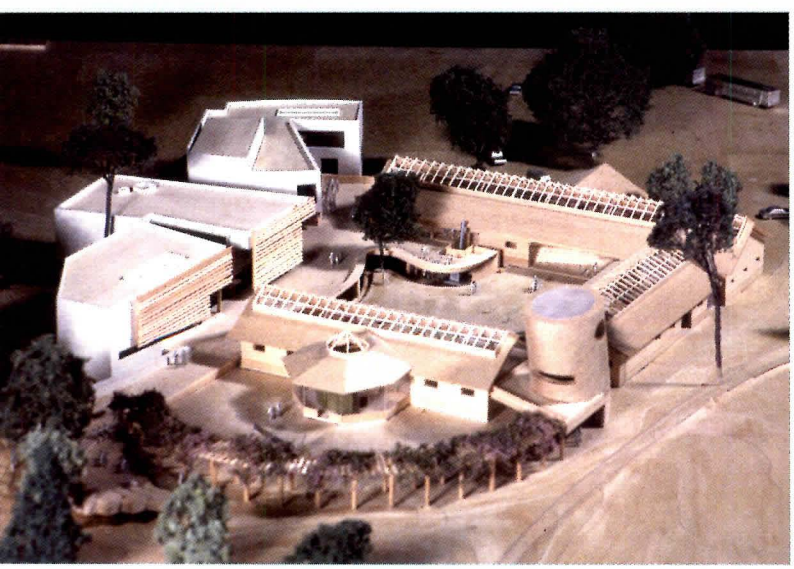


The Next Generation

After apprenticeships with prominent firms, two young architects embrace break-out commissions with sensitive siting and refined form-making.

Michael Maltzan Architecture, Kidspace Museum, Pasadena, California



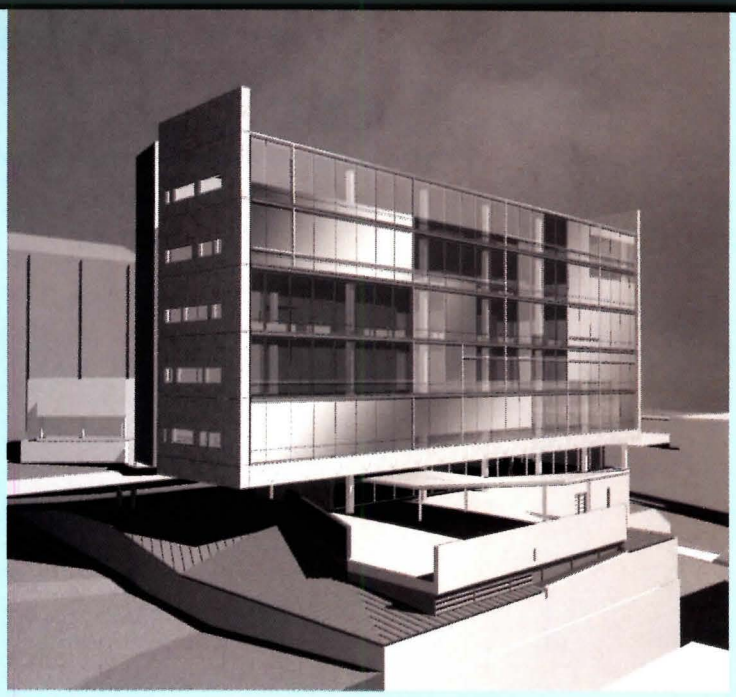
Although Maltzan's *new children's museum* (above, at left) contrasts with existing barnlike buildings, **quadrangle arrangement** creates pedestrian precinct.

Michael Maltzan follows up his design for an arts center at L.A.'s Harvard-Westlake School (*Architecture*, November 1998, pages 142-147) with a whimsical, yet subdued reconfiguration of the Fannie Morrison Horticultural Center (1938) for the Kidspace Museum in Pasadena, California.

The Morrison Center is a collection of three pitched-roofed, daylit barnlike structures arranged in a *U* shape over a 3-acre wooded site in Pasadena's Brookside Park. Extensive strip-light monitors betray the buildings' former lives as greenhouses. This past made Maltzan's job both easier (their shells are basically empty) and more difficult (Kidspace officials insisted on preserving the buildings).

Maltzan adds three new three-story buildings, a circular exhibit pavilion, and interstitial circulation ramps and pathways to knit the complex into a squarish composition surrounding a quadrangle. Maltzan will use materials, including clapboard and stucco, that emulate the existing structures to create a cohesive outdoor room. Yet the forms, reminiscent of the early work of Maltzan's mentor, Frank Gehry, are jaunty subversions of familiar rectilinear shapes.

Construction is expected to begin in the fall; Kidspace's new home will debut in December 2000.



Large openings in **limestone-clad south facade** of Southern Poverty Law Center (above left) demarcate libraries and team meeting areas. In contrast, **glazed north facade** (above right) allows daylit open-office area. Concrete plinth mediates sloping site and creates public plaza. **Bipartite composition** (plan) segregates office and support functions. Eastern end of **building splays to preserve views** between memorial (axonometric, at left) and Dr. King Memorial Baptist Church (axonometric, at right).

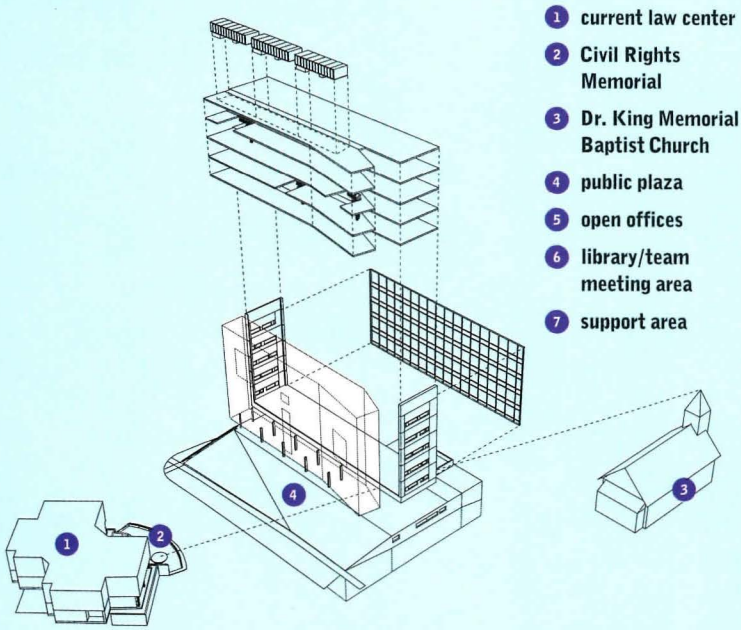
Erdy McHenry Architecture,
The Southern Poverty Law Center, Montgomery, Alabama

In 1955, following Rosa Parks' refusal to give up her bus seat to a white man in Montgomery, Alabama, Dr. Martin Luther King, Jr., led his famous boycott march on the Alabama State Capitol. Much of the subsequent construction in the capitol's vicinity honors that historical narrative: the Dr. King Memorial Baptist Church and the Maya Lin-designed Civil Rights Memorial (1989), for example.

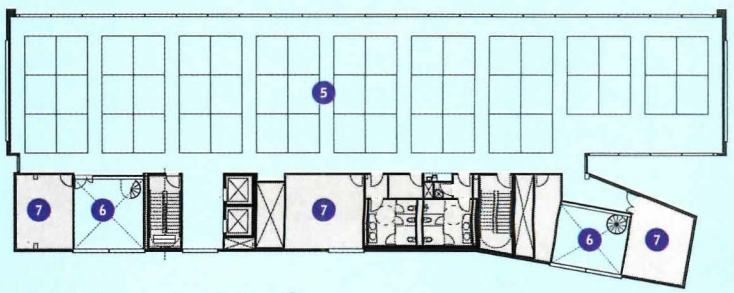
Since 1971, the area has also been the home to the Southern Poverty Law Center (SPLC), a nonprofit civil rights defense organization that combats hatred, intolerance, and discrimination through education and litigation. When the SPLC decided to expand their Montgomery-based facilities, they tapped newcomer firm Erdy McHenry Architecture (EM). Partners Scott Erdy and David McHenry left the Philadelphia office of The Hillier Group in January to found their Haddonfield, New Jersey-based practice.

EM has crafted a slender limestone- and metal-clad slab for a site between the King church and the SPLC's existing facilities. Realizing the importance of maintaining the integrity of the district, the rectilinear building inflects to preserve the views, axes, and connections of the surrounding monuments. Although the sloping 27,300-square-foot site is free from most height and setback restrictions, EM pushed the 62,000-square-foot, six-story structure back to the northern edge of the site to create a public plaza facing the civil rights memorial.

An open first story hovers over a concrete plinth that tops an at-grade parking garage. The building cleaves into differently programmed halves: Daylit open-office areas are to the north; such support functions as the library and team meeting areas are to the south. Construction began last month; the SPLC hopes to move into its new headquarters next summer. *Michael J. O'Connor*



Exploded axonometric



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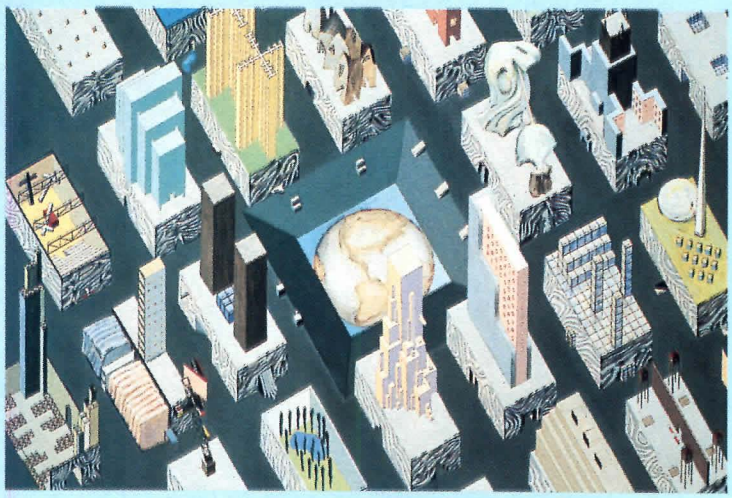

Rem Koolhaas used **surreal paintings** by Madelon Vriesendorp, such as *The City of the Captive Globe* (right) to illustrate his seminal book of theory, *Delirious New York*.

The Wide World of Theory

Plurality is the point of K. Michael Hays' new sampler of late 20th-century critical writings. Review by John Biln

Architecture Theory Since 1968
(Columbia/MIT Press, 1998) edited by K. Michael Hays

Over the past several years, numerous collections and surveys on architectural theory have made their way into print, including most recently K. Michael Hays' anthology, *Architecture Theory Since 1968* (Columbia/MIT Press, 1998). Whatever one thinks of theory, this flood of books shows that theoretical and critical writings have developed a stable academic audience, as well as the potential for a wider professional readership.

Hays, who is professor of architectural theory at Harvard University, conceived his anthology as a companion volume to Joan Ockman's *Architecture Culture 1943-1968: A Documentary Anthology* (Columbia/Rizzoli, 1993), picking up where Ockman leaves off in the late 1960s and including work up to 1993. Although the strongest of recent theoretical work is indebted to the writing of the period covered by Hays' book, too much of it remains unappreciated, even by academics. Anyone with an interest in architecture can benefit from new or renewed exposure to this material, and Hays' anthology is a good starting point. In his general introduction, however, Hays acknowledges that this collection is not an introduction to architectural theory, as it requires some background in intellectual history.

Like Ockman, Hays' selection of 47 essays focuses on well-known pieces by architects or architectural thinkers (he also includes thinkers from other disciplines such as Jacques Derrida and Fredric Jameson), and he has written an introduction for each. The editor's inclusion of lesser-known texts is almost always based on sound reasoning: Manfredo Tafuri's "Toward a Critique of Architectural Ideology," which opens the book, was translated especially for this volume. Tafuri elaborated on the essay's succinct and compelling core argument in his longer and more difficult book, *Architecture and Utopia* (MIT Press, 1976). Hays also includes 12 design projects to demonstrate that "buildings and drawings can be theoretical, too."

Hays' selections represent a generous cross-section of the theories that proliferated during the years following the 1968 student revolts in Paris and elsewhere. This period saw, among other things, the emergence of postmodernism, as heralded by the 1966 publication of both Aldo Rossi's *Architecture of the City* and Robert Venturi's *Complexity and Contradiction in Architecture*. Hays' anthology reconstructs a particular history of architectural thought, one that he believes has been characterized since 1968 by "relationships between the formal analyses of the work of architecture and its social ground or context." Architecture is understood here as neither fully independent of its social context, nor entirely determined by it. For Hays, the architecture profession's simultaneous acceptance and skepticism of capitalism guarantees architectural theory's comparatively conflicted relationship with it.

However, Hays is not immune to the seductions of capitalism. In his introduction to Rem Koolhaas's essay, "'Life in the Metropolis' or 'The Culture of Congestion'," Hays notes that "the new 'ecstasy about architecture'—comprising equal parts of constraint and elation, resignation and intoxication—is the essence of the ambivalent life in

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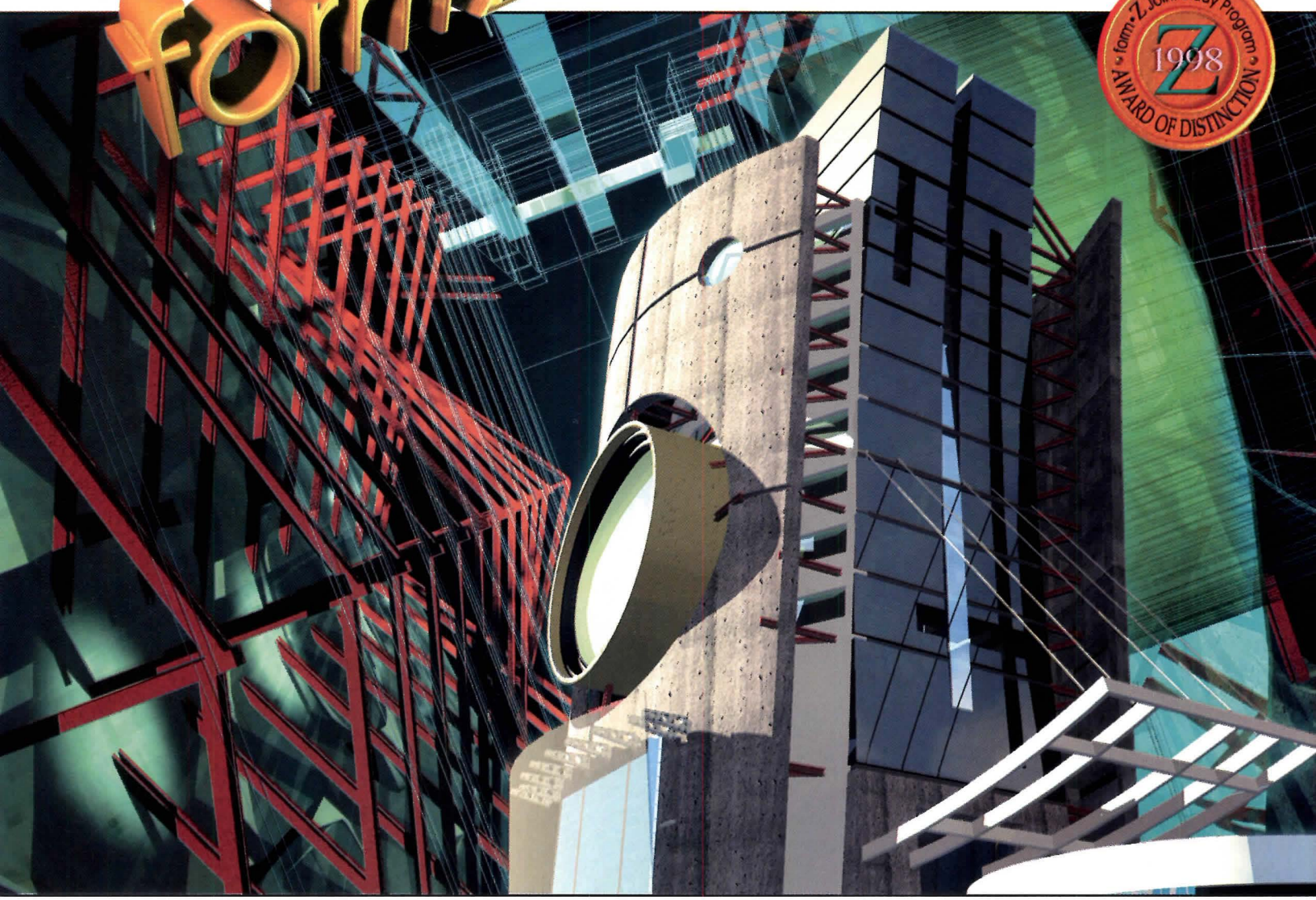

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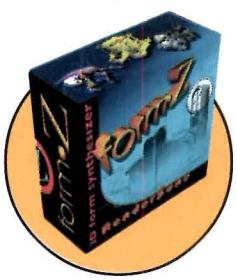

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the metropolis, where the antinomies of modern utopianism are played out." This ambivalence about our current situation "in history," "under capital," or the "in the metropolis" appears in Hays' accompanying essays.

And here we come to the book's sustaining interest: Hays' selections are a form of sampling. He lays out with great precision the split in theoretical design discourse between anticapitalist politics on the one hand, and surrender to an apolitical, commodity-driven postmodernism on the other. Hays abhors the abuses of today's capitalist culture, but acknowledges its extraordinary productivity and endless capacity to sustain our complicity.

Architecture Theory Since 1968 is a neat balancing act: Hays openly collects articles that mark out distinct positions without reducing their differences, and resists the temptation to offer sweeping judgments of his own. His introductions to the readings respond to the specifics of the individual contents and their contexts. Yet they also preserve the inherent tension between criticism of and complicity with a political agenda without forcing a premature resolution.

Hays understands that the tensions between critiques of capitalism and the various forms of complicity with it (as well as a range of responses not reducible to this opposition) are built into the fabric of capitalism itself. For Hays, any understanding of capitalism and theoretical discourse in architecture must register this insight, regardless of its political or philosophical orientation. By presenting so many disparate views as no more than various responses to the same historical condition, Hays lends a loose but suggestive coherence to a collection of material that would otherwise appear fragmented.

Whether this particular resolution of the split between political critique and cultural accommodation will be acceptable to all readers is not the issue. Hays allows this disciplinary ambiguity to be felt clearly enough, while stating his own nuanced Marxian view with subtlety and elegance. Hays has done architectural discourse a great service.

Despite its many strengths, the book has some problems. At times, the selection of articles seems overly determined by their length. Hays maintains that he is interested in vigorous and succinct articulations of important ideas in architecture. But the inclusion of certain synthetic writings—such as Rafael Moneo's "On Typology," in which the Spanish architect explains his own designs in terms of previous writings on typology—would have strengthened the overall comprehensibility of the collection by giving readers access to a complementary but alternative treatment of broad issues in architectural thought. It also would have offered relief from the insistent rhythm of relatively short, dense texts that constitute most of the volume. Although Hays rightly claims that design, too, can be theoretical, the 12 projects he includes seem arbitrary. In part, this is because the margin of explanatory text associated with these works is simply too narrow to fully explain their theoretical importance. Overall, however, this collection insistently raises important questions and helps us elucidate problems that might not have otherwise occurred to us.

John Biln is the Craig Francis Cullinan Chair in Fine Arts, Architecture, and Urban Planning at Rice University.

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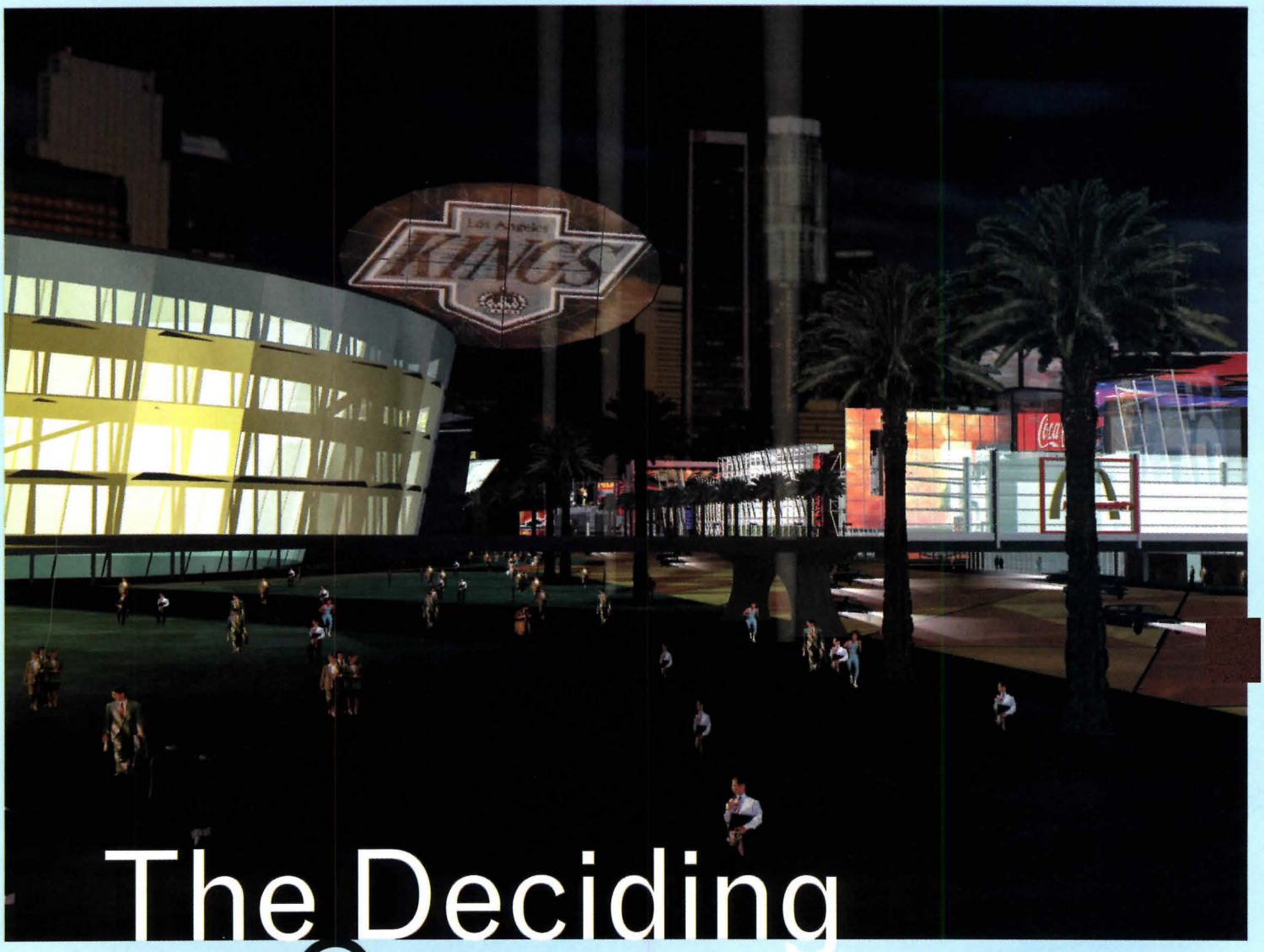

The Deciding Game

A new sports arena and 30-acre development may be the last chance to make a downtown in downtown Los Angeles.

By Joseph Giovannini

During the many decades of its downtown renewal, Los Angeles has lived a contradiction, simultaneously centralizing and decentralizing itself. The 100 suburbs famously in search of a city have chased the neighborhood dream into ever more distant suburbs, while a new asparagus patch of office towers has recentralized the city in the downtown area belted by the 5, 10, and 110 freeways.

Now, just in time for the millennium, the nearly completed Staples Center—a new sports arena for the Lakers, Clippers, and Kings—and the imminent development of an adjacent 30 acres, may finally consolidate spotty past urban renewal efforts and catalyze a district that acts rather than just looks like a downtown. Staples Center will anchor the blighted south part of downtown around the existing Convention Center with activities scheduled some 300 nights a year.

NBBJ's Staples Center sports arena (above) houses retail on first floor.

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It is a moment of truth for Los Angeles. Cementing the downtown core—at least in its southern reaches—may create a cohesive, vital urban whole the city has not seen since the 1950s, when the automobile left in its wake all those parking lots and a street-forsaken urban design. If the plan fails, Los Angeles will miss what may be its last chance to synthesize its significant parts.

Everyone agrees that Staples Center could be a catalytic project, but the question is exactly what it will catalyze. Will it encourage city building within the 30-acre development that links north to downtown, giving and drawing life in direct and indirect textured exchanges, or will it contain business and profits through an internalized urbanism that essentially plants a self-protective mall in the city like a gated community?

It is a moment of truth for Los Angeles. Cementing the downtown core may create a cohesive, vital urban whole.

There is a danger that, like most of Los Angeles's recent downtown developments, the new project may be another airless, controlled environment. Developers generally have learned from festival marketplaces and new outdoor malls, so they are unlikely to build any more projects like John Portman's hermetic Bonaventure Hotel. But the insidious threat to downtown now is the appearance of urban life without the reality. Whether they're in airports, in Orange County, or on 42nd Street, frothy urban theme parks are ultimately malls without the roof. Even if the 30-acre development around Staples Center is more sophisticated, it still threatens to chill the urbanism downtown.

It is frightening, for instance, that this critical project, now being studied by RTKL for the developers behind Staples, is happening stealthily, appearing as hardly more than a shadow on official city screens. There is no oversight task force, no organized body of concerned citizens, not even a residential constituency downtown to diligently watch over the process for the public good. All that exists are regulatory zoning and approval agencies, and vague, toothless Community Redevelopment Agency (CRA) guidelines written before the Staples Center changed the entire urban scenario. "There is, at the moment, no official vision for the area," says William A. Holland, chief architect of the city.

"There's a curious vacuum now—you can't find anyone whose job in the city is to promote and protect a larger urban design vision for the Figueroa Street corridor," says John Kaliski, a former CRA planner who is now an independent architect and planner with offices in Santa Monica. "Instead it's fractured among many individuals, none of whom is responsible for urban design. There is no strong mechanism to develop urban visions internally—the city has set itself up to expect developers to bring a vision."

The Downtown Strategic Plan, established in 1994, calls for hotels serving the Convention Center and more residential development in South Park (a block east of Staples Center). Recent, post-Staples refinements to what remains merely a suggestive plan emphasize the district as a regional destination featuring restaurants, theaters, and stores on streets that cultivate pedestrian life.

"The situation is more than fluid, it's open," confirms Con Howe, chief planner for the city. "Neither the market nor the context is send-

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ing a strong, clear signal. From the city's perspective, there are so many other areas that need and deserve work—Hollywood, Spring Street, Broadway." Howe maintains that the boosterish assumption that the area will become an entertainment district with sports bars and multiplexes rings hollow: "If you're going to the arena, why would you go to a movie, and then to the library and the Music Center? Each is a separate visit, it's not like window shopping. "

One of the grimmer scenarios that would confirm Los Angeles's air-headed image is that a program heavy on entertainment justifies the sugar-high of entertainment architecture. "Downtown doesn't need Universal City Walk, a single entertainment gesture. There will be an entertainment component, of course, but it shouldn't be entertainment

This unparalleled, last-chance opportunity demands something more than feel-good outdoor urbanism.

architecture and curiosity urbanism," cautions Richard Koshalek, former director of Los Angeles's Museum of Contemporary Art. "It is rich urban space that will sustain a sense of community, not just one-night stands. Housing has to be an important part of the connective tissue."

The reason that the 30-acre development around Staples Center is suddenly an issue is that the CRA has assembled sufficient acreage to attract large-scale development, but the assemblage, while making the project possible, has the potential of defeating a heterogeneous urbanism. There is reason for anxiety, but also cause for hope. Kaliski points to the Convention Center by James Ingo Freed of Pei Cobb Freed, "There were some very good decisions: It's more street friendly; it makes a gesture to creating a place."

With the prodding of the Figueroa Corridor Group and the Central City Association, the architects of Staples Center, NBBJ, have capitalized on that point of departure with a building that does in fact make large and small gestures to the street and neighboring Convention Center: A long wall of stores will keep pedestrians company along on the Figueroa Street sidewalk.

Developers have often parachuted into cities with simplistic thinking and opportunistic motives, but Staples Center comes at the end of a cycle of stadium development. One of its developers, Edward Roski, Jr., has studied the building type and the surrounding complexes they catalyze: "When you put an arena downtown, it dynamically changes the area," he says. "If you put it in a suburb, it stays only a building."

Roski extends the logic on which Staples Center was designed to the adjacent 30 acres. "We don't want to suck up all the retail," he says. "We need to pay attention to the hotel, but we want streets to tie into the rest of the area." The project will proceed in two phases, starting with 15 acres to the north of Staples Center, which will include a convention hotel, and probably movie theaters and restaurants. The second phase is on three blocks just east of Figueroa.

Roski is actually a minority owner in the project, with Rupert Murdoch's Fox Group and Denver entrepreneur Philip F. Anschutz, the majority owner, so it is perhaps wishful to assume that his insight might transfer directly to the other partners. Ted Tanner, an architect and the vice-president of real estate for L.A. Arena Company, which will own the arena, however, seems aware of the issues as he under-

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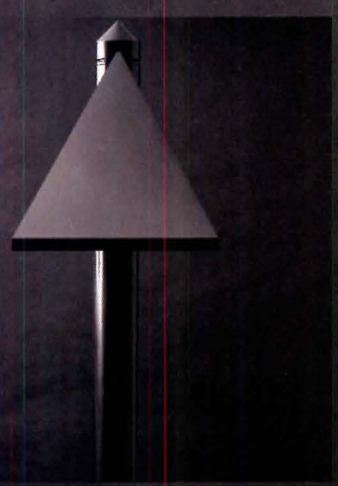

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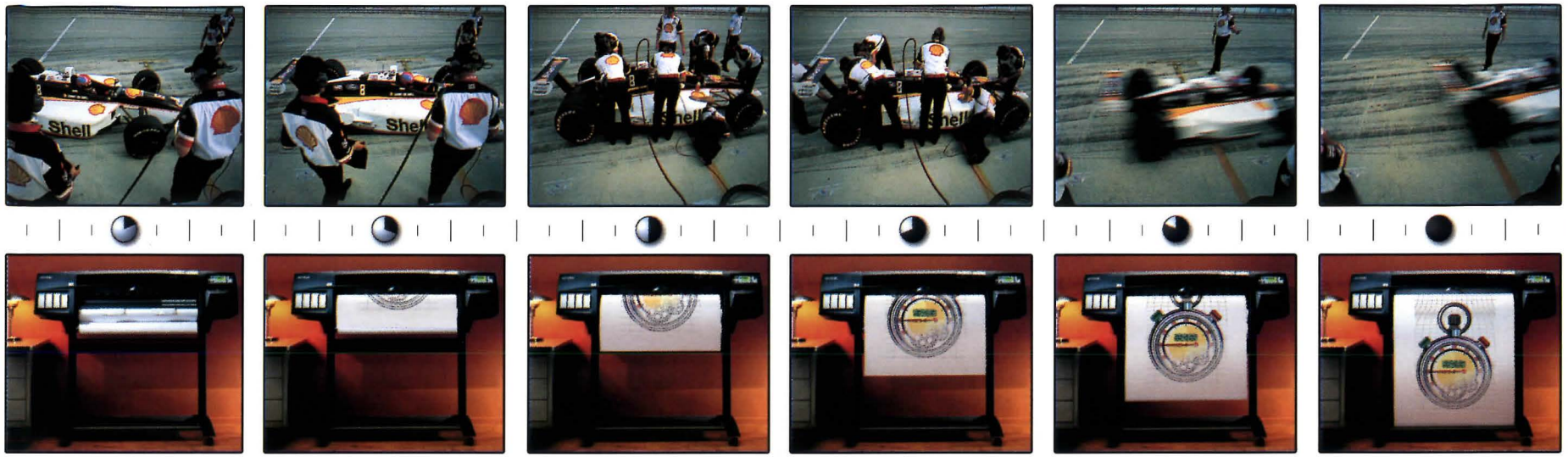
takes the initial development studies with RTKL for the urban development north of Staples. "What we are creating is a framework for these large complexes to knit back into the city," explains Tanner.

But what this unparalleled, last-chance opportunity demands is something more than feel-good outdoor urbanism. "What we're looking for is that intangible quality of making a city an organism," says Kaliski. He remembers that when he was at the CRA, one strategy of prejudicing a development toward urban organicism was to honor the hold-out parcels that prevented full-block assemblies and super projects. By guaranteeing multiple players in the process, the city was able to encourage typological and functional variety, as well as a sense that development occurred over time.

"Smaller buildings have to relate to a shared public environment because they lack the scale to be self-sustaining," Kaliski says. "Preserving hold-outs allowed organicism to occur, but how do you build into that organicism a development process that allows for a variety of different programs instead of a downtown Los Angeles version of the RTKL-designed Irvine Spectrum shopping center? It's possible, I suppose, to develop these qualities on superblock sites, but not by following the formulas."

In the absence of a public process where multiple, often opposing voices become embedded in a plan that acquires the complexity of open debate, the scuttled 1980s Maguire Thomas Partners scheme for Bunker Hill merits study. Coordinated by Los Angeles architect Barton Myers, the plan proposed buildings by talented architects such as Charles Moore, Frank Gehry, Myers, and others. The obvious suggestion for the Staples project's 30 acres is the pool of world-class designers in Los Angeles. "It'd be nice to have a Gehry-type facility that makes it different, that makes a statement," says Roski. But it'd be nicer to have, say, a dozen different buildings by a dozen different Los Angeles architects so that variety is not only guaranteed but inspired. What better way to open the project to the city than to open it up to the architects who understand it best? The project is much too important not to be tested in a larger arena that involves many voices offering many ways of thinking.



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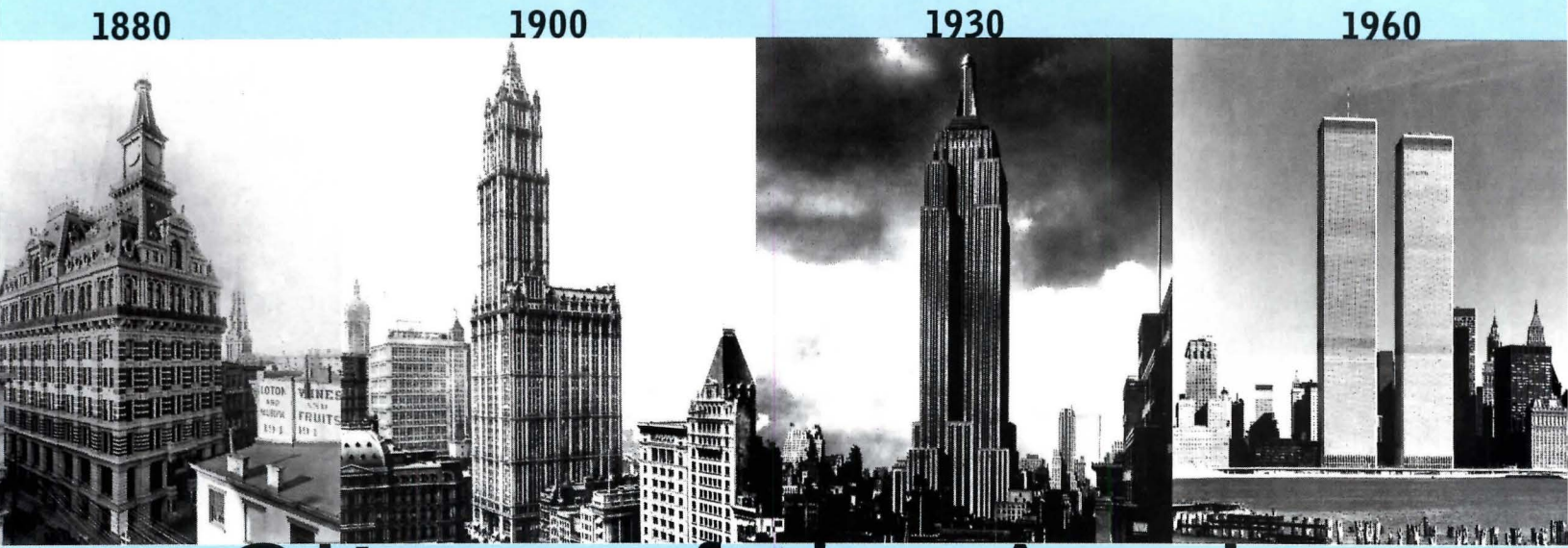

Slices of the Apple

Robert A. M. Stern turns back the clock with the latest in his multivolume history of New York City. By Henry Urbach

New York 1880: Architecture and Urbanism in the Gilded Age
by Robert A. M. Stern, Thomas Mellins, and David Fishman (Monacelli Press)

In Walter Benjamin's unfinished *Passagenwerk*, a study of the culture, ideas, and spaces of fin-de-siècle Paris, written mostly in the 1930s, the philosopher designated the city the "capital of the 19th century." No less emphatic is Robert A. M. Stern's effort to demonstrate that New York City is the capital of the 20th century. His ambitious book series on the city—still unfinished, with four volumes totaling almost 4,000 pages—describes the transformation of The Big Apple from a bustling harbor town to a great world center of manufacturing, commerce, and building. These monumental books are notable for their extensive research, lavish presentation, and generous inclusion of photographs and other visual materials, much never before published.

New York 1880: Architecture and Urbanism in the Gilded Age, written by Stern with Thomas Mellins and David Fishman, is the fourth and most recent volume. A prequel to *New York 1900*, *New York 1930*, and *New York 1960* (published in 1983, 1987, and 1995, respectively), the latest installment traces architectural and urban developments between the end of the Civil War and 1890, placing them in the context of relevant technological and economic shifts while setting the stage for subse-

New York City's landmarks define its history: George B. Post's Western Union Building (1873-1875; above, far left); Cass Gilbert's Woolworth Building (1910-1913; above, left); Shreve, Lamb and Harmon's Empire State Building (1931; above, right); Minoru Yamasaki and Emery Roth & Sons' World Trade Center (1970-1971; above, far right).

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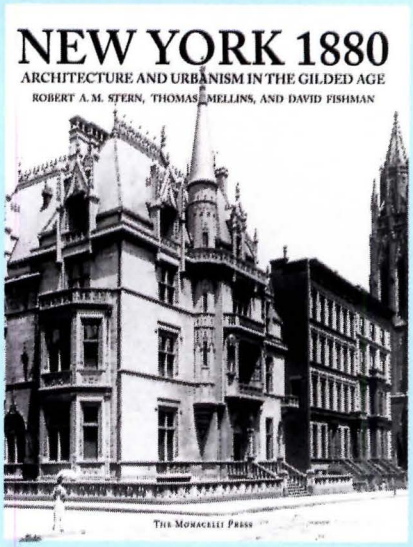
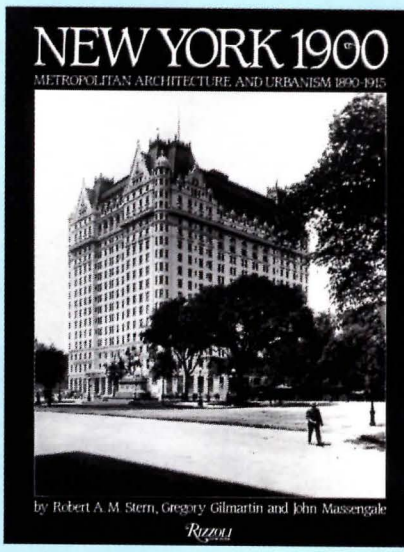
quent events. The series will come to a close with *New York 2000*, expected to be published in a few years.

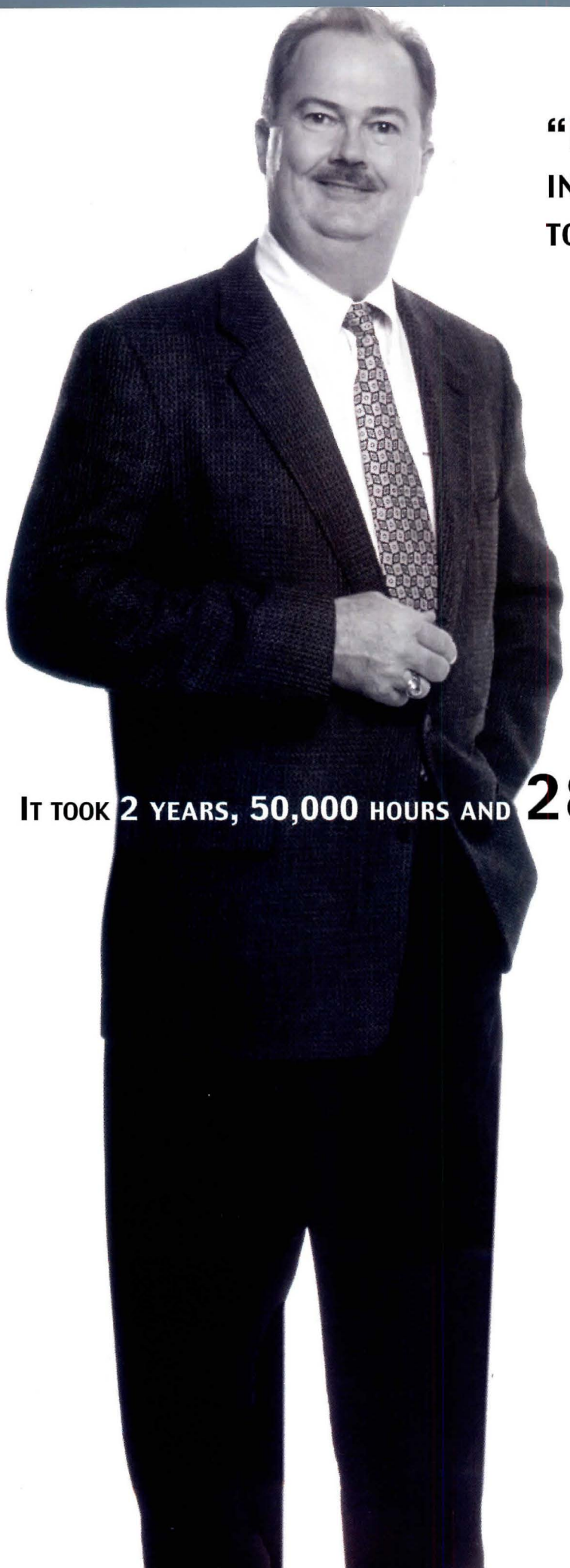
Stern—a native New Yorker, practicing architect, dean of the Yale School of Architecture, Walt Disney Company board member, and master planner for the 42nd Street Development Corporation—came up with the idea for the series around 1980 while working on the centennial celebration of Columbia University's Avery Library. The publication around that time of several studies of fin-de-siècle European architecture prompted Stern to recognize that New York City lacked similar treatment. "I was tired," he recalls "of American architects looking to European models, as though we never addressed metropolitan conditions, transportation, and social needs in this country." According to co-author Mellins, New York City architecture had been neglected because it was seen as too commercial to be of artistic value. "We didn't agree," says Mellins. "Indeed it was the genius of New York City architecture to marry the aesthetic and the commercial, thereby elevating commercial building to the level of art."

The New York books disavow criticism and adopt a seemingly neutral approach. The series' primary intention, according to Mellins, is to be as comprehensive as possible, and to serve as references that "give a clear image of what the city was like at a certain moment." The authors quote historical materials extensively in their endeavor "to let the architects and promoters, the planners and the critics of New York's evolving urban culture speak for themselves as much as





Stern's four-volume series on New York City begins with *New York 1880* and will culminate with *New York 2000*. Cover of *New York 1880* shows Richard Morris Hunt's William Kissam **Vanderbilt House** (1878); *New York 1900* features cover image of Henry J. Hardenbergh's **Plaza Hotel** (1907).



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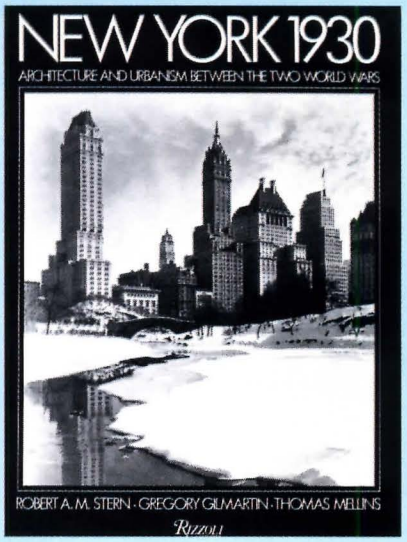
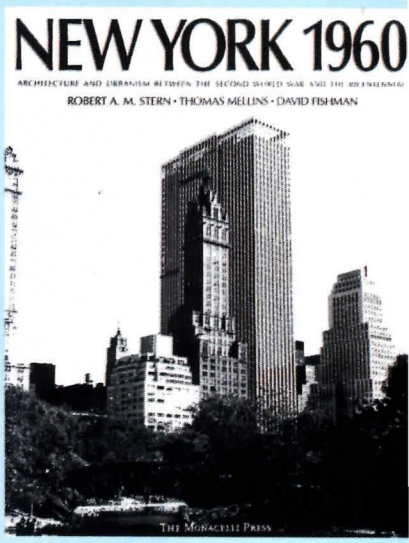
possible." The photographs are effective in conveying the texture of the time, with some delightful shocks, such as a view across downtown Manhattan when Wall Street was only a few stories high. But despite the authors' claim to present an unmediated history, they nonetheless advance a view of New York City's past that is every bit as selective and interpretive as more obviously polemical and theoretical studies.

For example, Stern's books are attentive to the interplay among capitalist imperatives, democratic ideals, and the culture of building, ultimately celebrating the style and chutzpah with which New York City weathers economic cycles. "The chronological span of the series," reads the preface to *New York 1880*, "was planned to reflect the city's rise to prominence as one of the leading cities of the modern world—some would say the leading city—and its success in retaining this status." Many will enjoy this well-told story and its capacity to conjure a city so complex, so dynamic, and so grand that it seems to elude critical analysis. However, some will also wonder if Stern's books, written during a period when his office has designed nearly a dozen large-scale New York City projects, join an august tradition of architectural historiography, characterized by Manfredo Tafuri as "operative criticism": a way of interpreting the past that anticipates, and thereby legitimizes, particular visions of the future.

Henry Urbach writes about architecture in New York City.





Cover of *New York 1930* highlights view from **Central Park** looking southeast toward **Fifth Avenue** (1933). *New York 1960* shows same view (c. 1968; note 1927 Sherry-Netherland Hotel at center).

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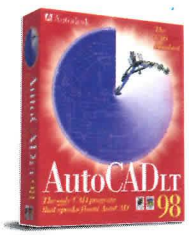

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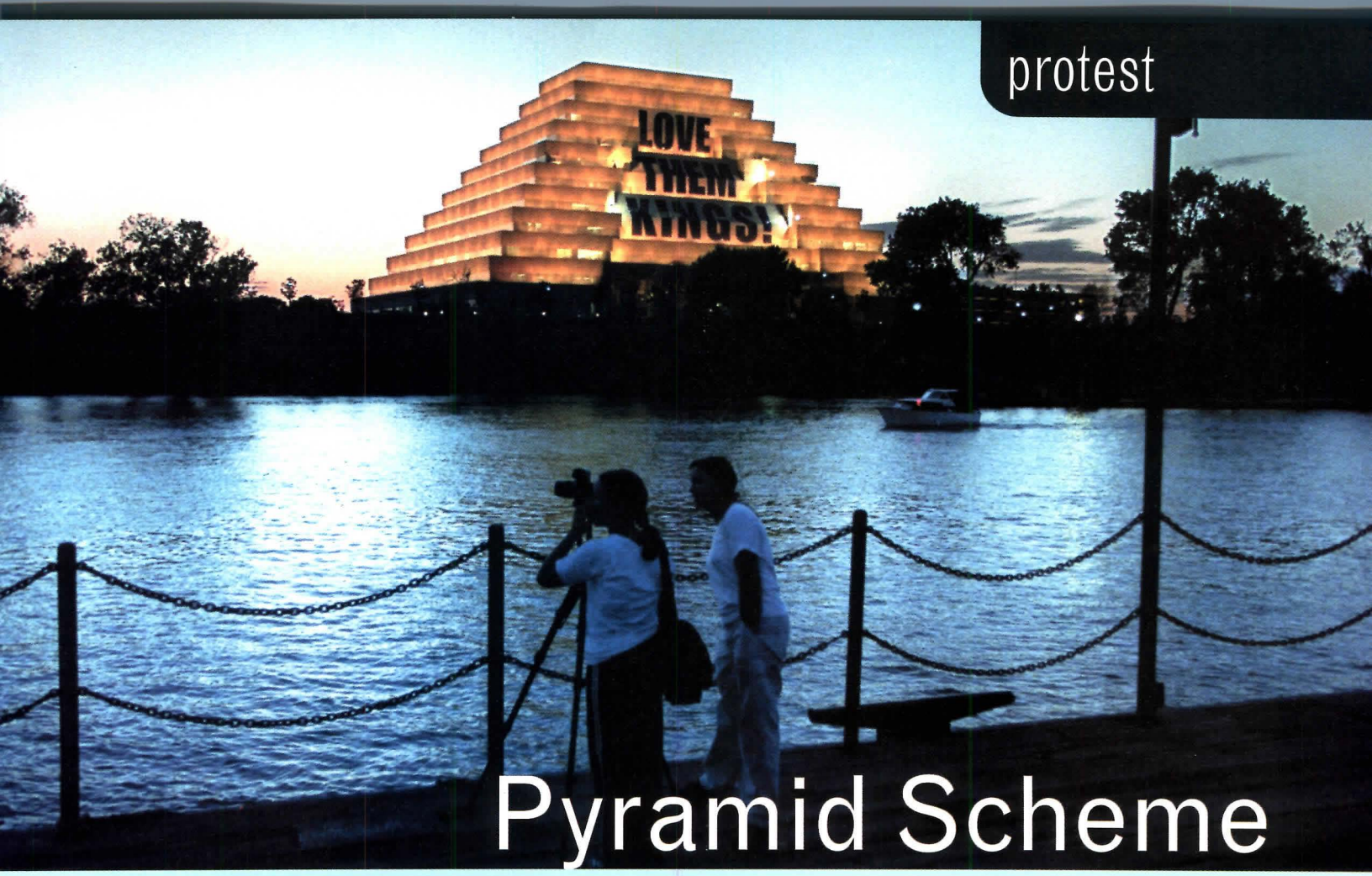

Pyramid Scheme

The new Money Store headquarters toes the line between monument and monstrosity. By Gary Delsohn

Some buildings fail due to poor design. Others defile their site. The new Money Store headquarters on the western banks of the Sacramento River in West Sacramento, California, has the dubious distinction of being a disaster on both counts.

The company's 120-foot-tall, 400,000-square-foot ziggurat might share a distant pedigree with the architecture of the Yucatan Peninsula, but here that heritage is degraded, reduced to an insipid, cheesy confection. Owner Marc Turtletaub envisioned a cross between a Mayan temple and the pyramid on the back of a dollar bill. He tapped local architect Edwin M. Kado & Associates to bring that vision to life. Unfortunately, Kado seems to have been overwhelmed by the overscaled commission: Trays of reflective strip windows and lifeless sandstone cladding alternate in a monochromatic pile that is at once blind and menacing. Even though the building's floorplates taper back from the water, it still looms large, dwarfing the height-restricted, controlled development of Old Sacramento—a collection of Gold Rush-era shops and restaurants—along the opposite shore.

Both Sacramento and West Sacramento are in the process of trying to improve their shared riverfront. Sacramento has plans for restaurants, a hotel, and other public amenities. And West Sacramento has built a 1/2-mile-long promenade to encourage the public to use the waterfront. But since West Sacramento lacks the design review guidelines that might mandate a sound urban plan, the area instead promises to be a scattershot of large-scale projects motivated by little more than corporate greed. The city landed the $60 million Money Store project, for example, by offering cheap land and a city-built parking garage. Now, with this building setting the stage, developers are rushing to suggest all kinds of similarly over-the-top projects: A minor-league baseball stadium and a series of office towers are among the possibilities for West Sacramento's riverfront.

Gaudily lit at night, the Money Store is best viewed from a distance, exactly the opposite of what either city should be encouraging for their riverfront. Sadly, getting closer does nothing to relieve its anti-urbanistic feel. While the Money Store has plans for a green space between the building and the river, it probably won't be open to the public. In short, there is nothing redeeming or attractive about this building, unless of course you have bad credit and need a high-interest loan—the Money Store's stock-in-trade. Ironically, the Money Store works on one important level. Because it feels so utterly out of place and stands out for miles, everyone is talking about it, if only to ask how West Sacramento allowed such a thing to be built.

Gary Delsohn is the architecture critic of The Sacramento Bee.

Glaring pyramid dominates Sacramento riverfront; building-cum-billboard garishly announces city's support for its basketball team.

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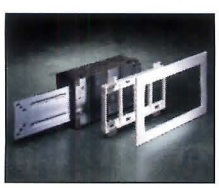

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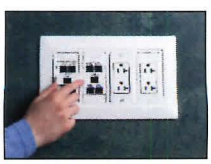

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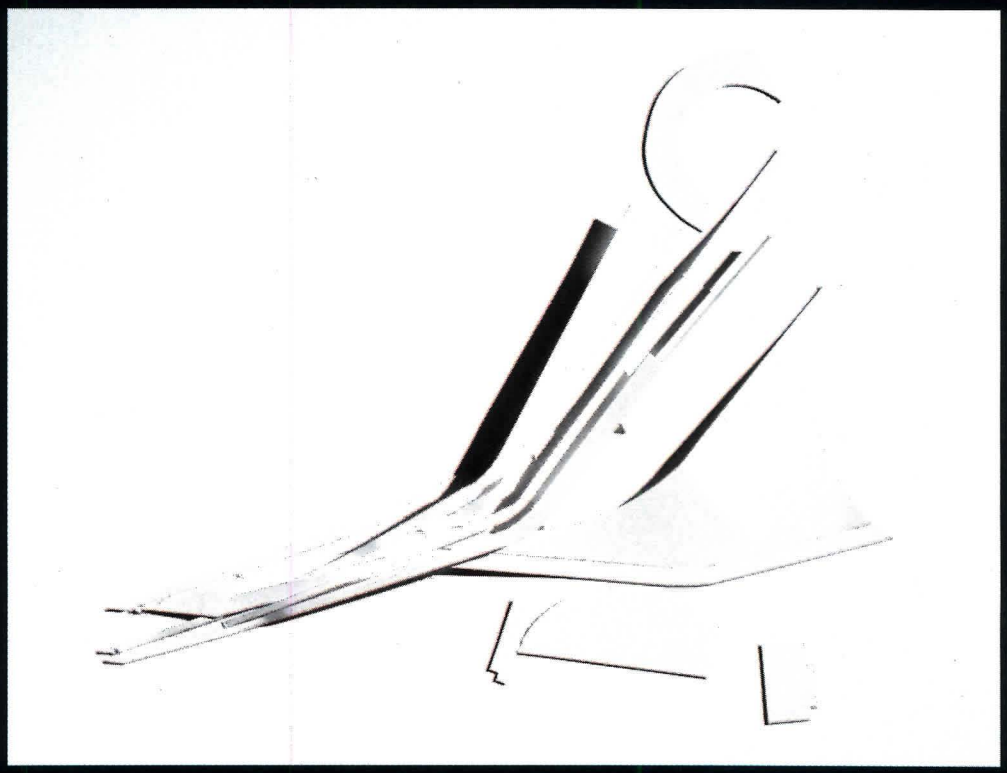


Jorge Luis Borges's short story "The Garden of Forking Paths" centers on a novel by a reclusive Chinese scholar who describes his work as a labyrinthine garden.

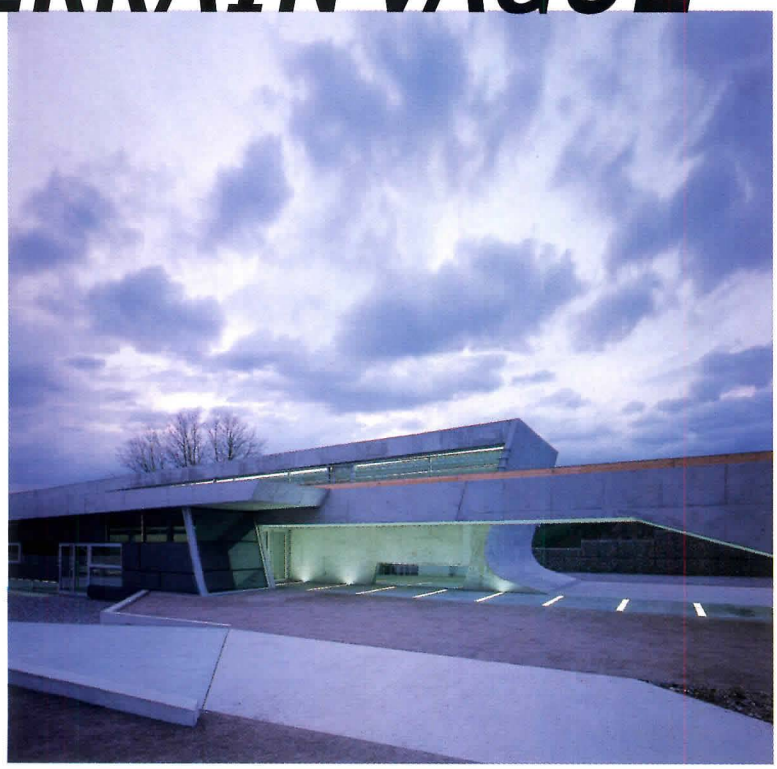
In different chapters and different drafts of the scholar's unfinished epic, the same events play to different outcomes, the same characters meet different fates. Its author, Borges writes, "did not believe in a uniform, absolute time. He believed in an infinite series of times, in a growing, dizzying net of divergent, convergent, and parallel times." In the *Landesgartenschau* Pavilion, British architect Zaha Hadid concretizes Borges's metaphor of time, text, and labyrinth with garden paths that emerge fluidly from the ground, converge in a tangled enclosure, and return to the garden. She gives to the garden's visitors seemingly infinite possibilities of experience—and to architecture a singular vision of its possible future.

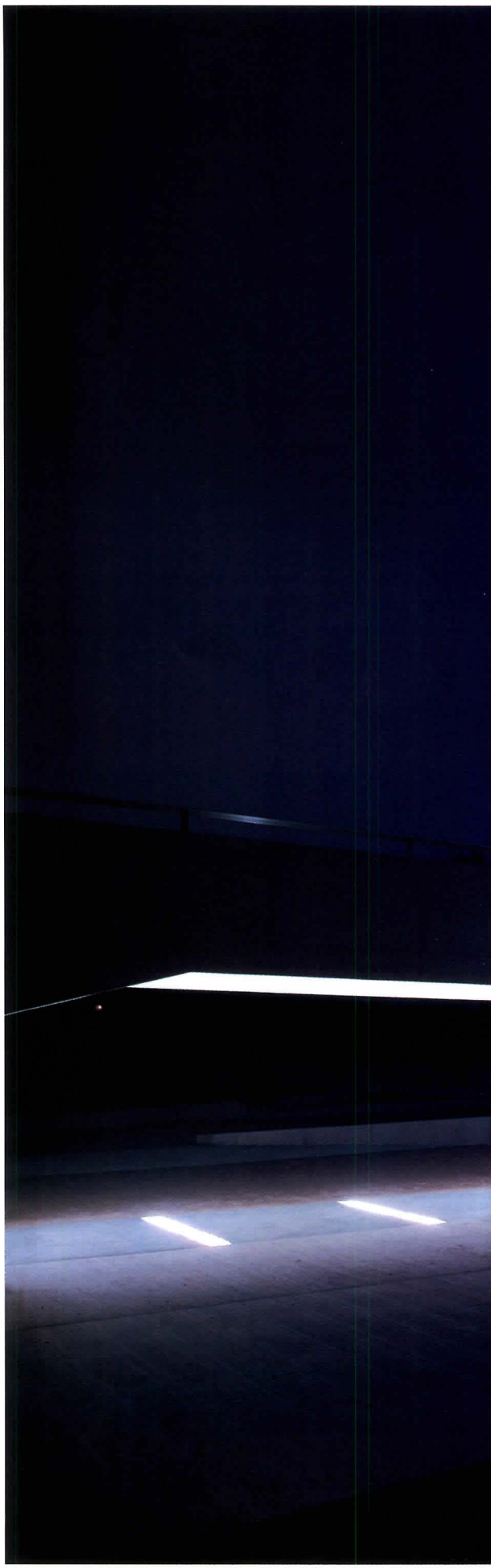
Study model by Hadid explores overlapped paths of garden pavilion.

TERRAIN VAGUE

Germans love a contemplative garden stroll through a garden, and visitors to the *Landesgartenschau* in Weil am Rhein, near the Swiss town of Basel, have been parading through the city's new garden fairgrounds since before the opening of the annual flower show this spring. At the garden's entrance, they step onto a long concrete ramp that gradually rises and gives an overview of an amphitheater of individual gardens beyond before subsiding into the grounds several hundred feet away. The attenuated ramp is so much a part of the landscape that few realize at first that it forms the roof of a building by London architect Zaha Hadid, author of the famous fire station just down the road at the Vitra furniture factory (*Architecture*, September 1993, pages 68-73).

Every year, a different German city hosts the celebrated six-month-long *Landesgartenschau*, which roughly translates as "state flower exhibition." This year's site, Weil am Rhein, wanted to build on the reputation of Vitra's campus, where a collection of buildings by Hadid, Frank Gehry, and Tadao Ando attracts tens of thousands of visitors a year. The city commissioned Hadid on the strength of the fire station, but Hadid, who does not repeat herself, proposed a radically different building type. Vitra is an object building, but the *Landesgartenschau* building is meant to serve and feature the





Concrete wall of exhibit hall (facing page) arcs up from ground, as if incised and folded back from land. Strips of lighting embedded in walkway (above) illuminate path to pavilion entrance tucked between exhibit hall and café.

ZAHA HADID TRANSFORMS LANDSCAPE INTO ARCHITECTURE IN SHAPING A GARDEN PAVILION IN WEIL AM RHEIN, GERMANY.

BY JOSEPH GIOVANNINI

At south side of building (above), sweeping concrete ribbons of rooftop and pathway converge, returning gently into landscape. Small wood-clad office block swells out from concrete flank of exhibition space (below left). East facade (below right) captures fluid motion of ramps and planes that define building.

Shallow steps ramp up from north side of garden to rooftop terrace (above), which forms pedestrian circuit to second-floor gallery. To right of stairs is double-height volume of exhibition space; to left is smaller café flanked by outdoor dining terrace.

Pavilion interior (above) displays volumetric swells and contractions caused by shifting ribbons of roof and ground planes. Café (at right) steps down from airy exhibit space (at left). Pattern of clear and opaque windows on curtain wall creates irregular pattern of views to garden.

grounds. Conceptually it moves from foreground to background, to occupy a position in the territory between object and landscape.

The program called for an ecologically sensitive, 8,000-square-foot pavilion to accommodate a restaurant, offices, and a large exhibition space. Hadid took her forms from the infrastructure of the site, the paths that people take to walk through the gardens. She worked with the metaphor of a bundle of paths, creating a structure at the point at which they converge and diverge.

The ensemble of paths evolves across the landscape, each with a functional and formal life of its own. Some become roofs; others are walkways or gardens. One path heads off to the right behind the building to lead counterclockwise into a circuit around the park, while another rises through a heaving landscape of two other concrete ribbons and then subsides as it heads clockwise into the same circuit. A third path veers left along the building's front facade to an entrance, where it continues into the building, past a lower-level restaurant, and on toward a gallery. This pathway then loops up a staircase to a bridge overlooking the gallery and finally leads to the roof ramp outside.

The roof is not a single plane, but three distinct concrete strands at staggered heights. The restaurant is housed beneath the rooftop ramp, and the gallery and offices are enclosed by the other contiguous ribbons. Each internal space, long and linear, is topologically complex, with different floor and ceiling heights.

Hadid's concept about making architecture out of site infrastructure is a deft strategy for working the building into the site. The building is both a strong presence and a gentle agent reinforcing the flow of circulation within the park. The parts do not toe a single line but always splay in plan and elevation, revealing a complex, almost organic nature responsive to very local conditions—the ground, views, and adjacent functions. The building grows from the site to which it returns.

Hadid's garden pavilion serves as a viewing bridge and stepping stone that looks out to a garden with which it fosters an interpretative relationship; the ground becomes a changing object to be viewed from the unfolding building. The building allows the eye and body to experience the site from evolving viewpoints at different heights. Hadid's structure offers not just one frontal point of view, but continuously changing prospects, and as an implant or graft, it augments the garden. Like a Frank Lloyd Wright house, it is an intensification of the landscape.

The rapport with the landscape is not simply perceptual and conceptual. The building incorporates many "green" strategies. The mass of the building is partly buried in the ground, which helps stabilize the ambient temperature. An underground air cooling system is built into its long tail. Windows are shaded by louvers, and the concrete is insulated.

With its gentle profile and low, curvilinear lines, this gestural building seems an inevitable outgrowth of the site. It avoids the sentimental, eschewing representations of nature and "greenness." But the fact that it looks as if it grew there, as though the gravel and sand scooped from the quarries that once existed on the site were simply watered and shaped, belies the conceptual originality of the infrastructural scheme, new even for Hadid, and the architectural skill of realizing an impeccably detailed concrete structure. Hadid, as a builder, is a perfectionist who masters technology so that it does not distract from the idea and the experience. There are ambitious cantilevers and subtle joinery in this building, but she does not dwell on technology at the expense of the landscape. Her dynamically angled shapes, whose effect depends on clean detailing, accelerates the building visually, confirming its role as a vehicle of movement.

On the most fundamental level, the building offers a walk in a garden. But the garden itself has been transformed and enriched by the building. With this very unexpected design, Hadid has improved on nature by cultivating it with powerful but subtle architecture.

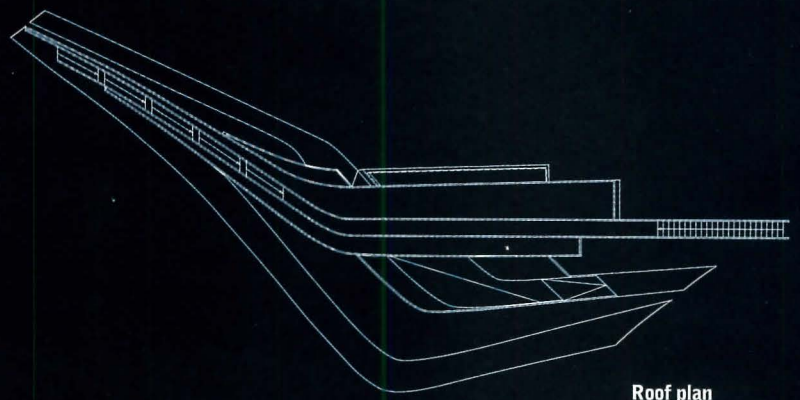
Section A-A

Section B-B

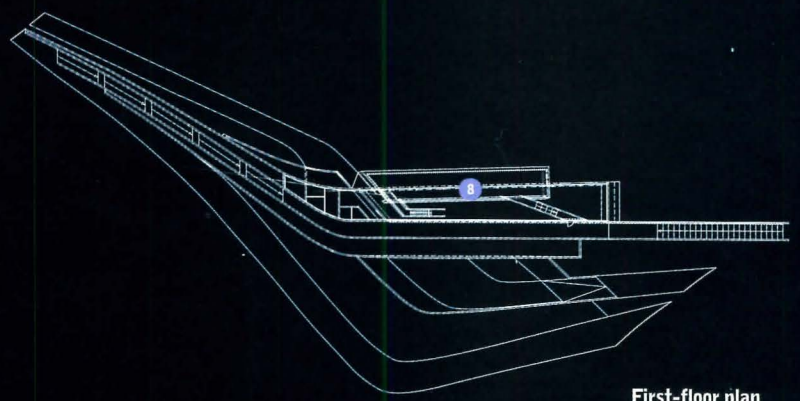
Section C-C

Section D-D

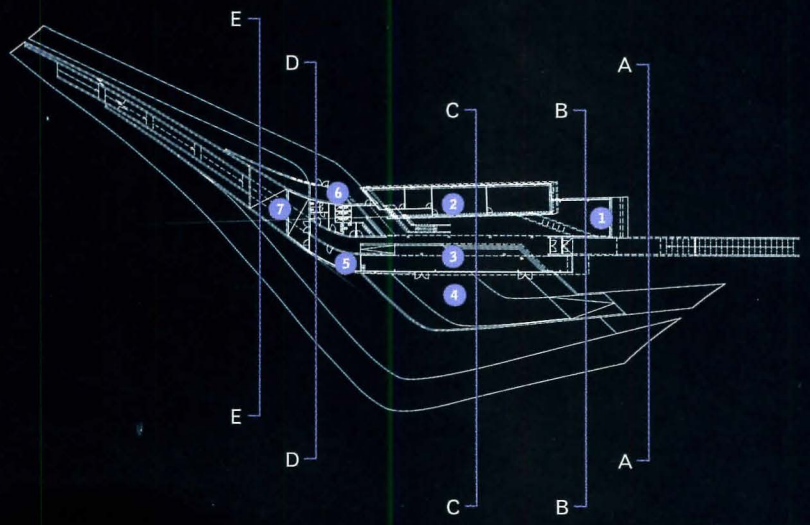
Section E-E



Roof plan



First-floor plan



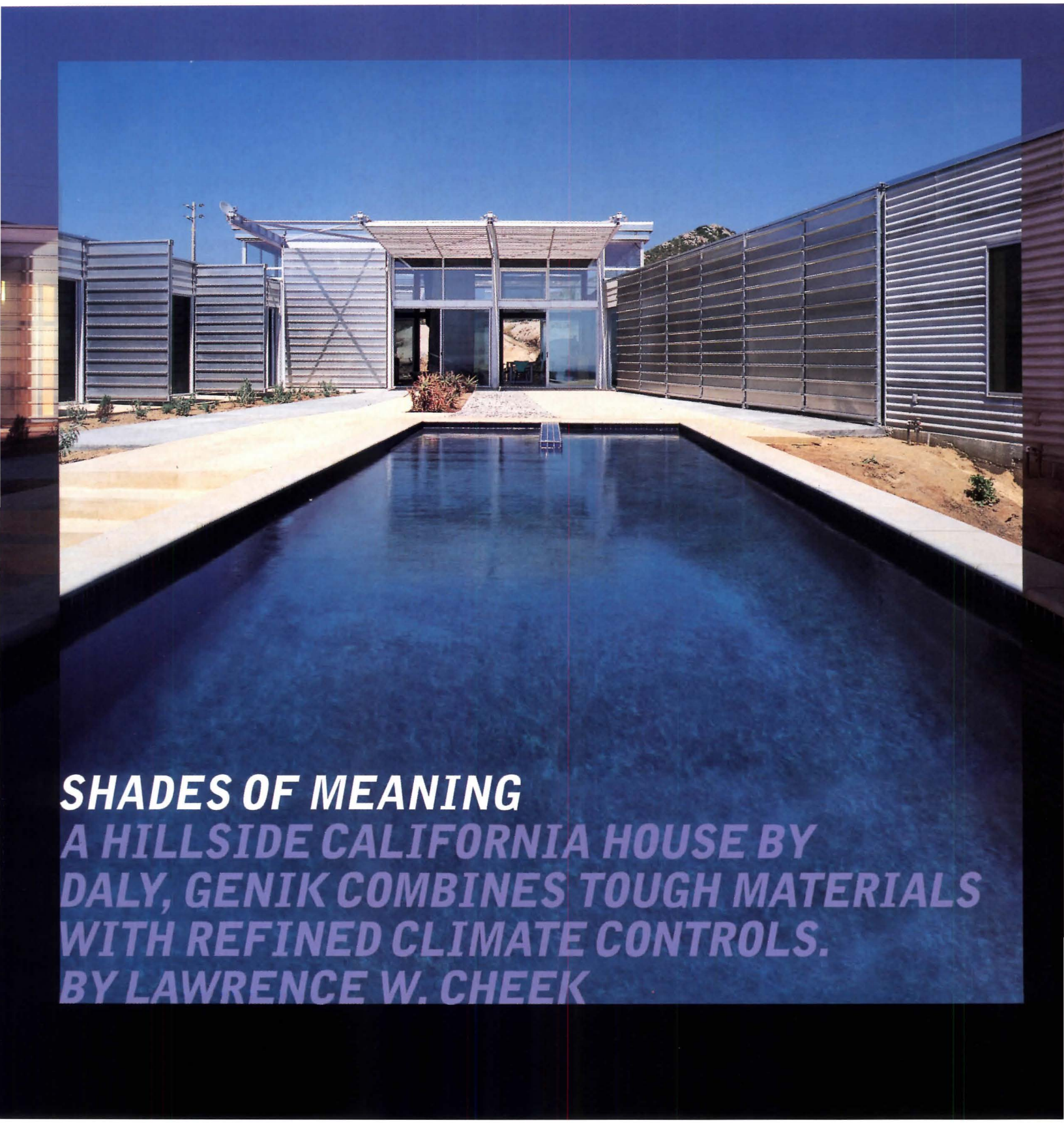
Ground-floor plan

36'/11m

1. exhibition space
2. office
3. café
4. café terrace
5. kitchen
6. storage
7. mechanical room
8. mezzanine gallery

Concrete bridge (above left) connects rooftop terrace with mezzanine gallery enclosed by canted glass railings. Staircase at pavilion's center (above right) leads from mezzanine to ground-floor exhibit area. Lighting strips set into floor delineate ground-floor entry sequence. Glimpse of canted wooden office block (below) illustrates constantly shifting vistas of interior landscape. Seen from below, fluid swath of concrete bridge (facing page) slices through building's heart. Floor-level window overlooks entry path.

LANDSCAPE FORMATION ONE, WEIL AM RHEIN, GERMANY **CLIENT:** Weil am Rhein State Flower Exhibition **ARCHITECT:** Zaha M. Hadid with Patrik Schumacher, London and Mayer Bährle, Lörrach, Germany—Markus Dochantschi (project architect), Oliver Domeisen, Wassim Halabi, James Lim, Garin O'Avazian, Barbara Pfenningsdorf (project team) **ENGINEER:** Dr. Ing. L. Martino (structural) **COST:** $2.1 million **PHOTOGRAPHER:** Christian Richters, except as noted



SHADES OF MEANING

A HILLSIDE CALIFORNIA HOUSE BY DALY, GENIK COMBINES TOUGH MATERIALS WITH REFINED CLIMATE CONTROLS.

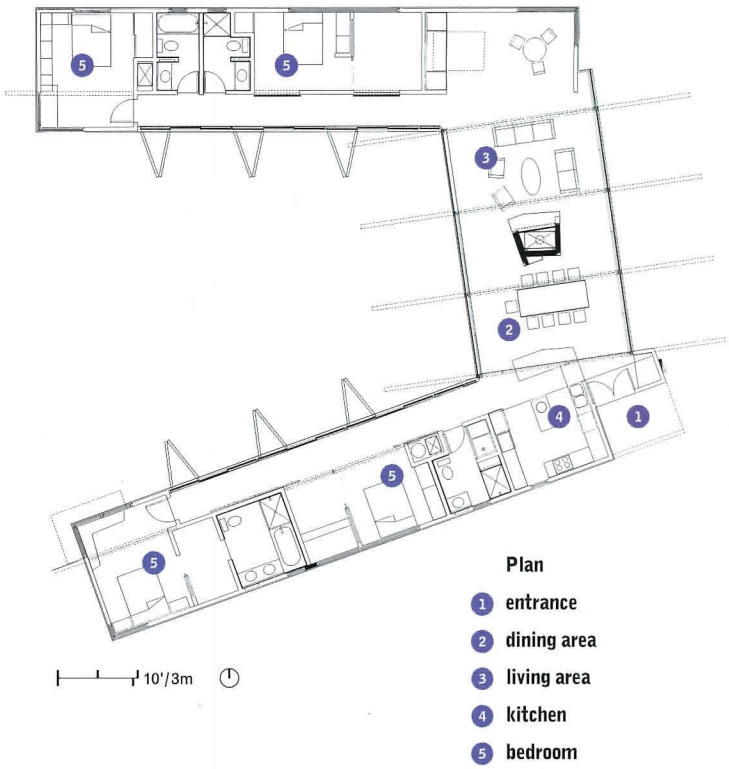
BY LAWRENCE W. CHEEK

Three wings of house surround courtyard with pool. To create different degrees of enclosure and shade during day (facing page) and night (above), perforated aluminum walls of living spaces (at center) lift like garage doors; walls of same material in bedroom wings (at left and right) fold open and shut.

Desert animals and even plants are smarter than most of us bipeds when it comes to negotiating an accommodation with the environment. Rattlesnakes slither under a rock to wait out a summer day; mesquite leaves fold up to conserve moisture. We just build dumb suburban ranch houses—like the one that formerly occupied this Southern California barranca in North San Diego County; one of those infamous brush fires destroyed it three years ago.

"The conditions here require a certain kind of resistance," suggests Kevin Daly of Daly, Genik, the Santa Monica, California, firm that replaced the charcoaled ranchburger in the hills 50 miles northeast of San Diego. Adds partner Chris Genik, "Asking questions about the environment is itself a form of resistance, because it deflects formulating a proposal until the whole gamut of possibilities is explored." The questions led to a 2,850-square-foot house, completed in November 1998, that functions like a clam washed inland from the Pacific that somehow evolved for dry-land life. Its distinctive feature is a shell of shade doors that open and close with the weather, the residents' whims, or the proximity of prowling coyotes on summer evenings. Daly thinks of the doors as forming a separate but interdependent architectural entity along with the house, but their practical function can be explained more simply: They modulate light, wind, and mood.

The plan is an angular *U*, with a living, kitchen, and dining area that form the base and two nearly identical sleeping wings that splay at a 15-degree angle from each other. The 20-by-32-foot living room is almost a glass box, framed in sliding glass doors and clerestories. On clear days it offers views of



the Pacific to the west, but it would be uninhabitable in summer if it weren't for the motorized shell Daly, Genik devised.

Six 10-by-14-foot perforated aluminum screens attach to aluminum tube frames, which pivot vertically with the help of electric motors and roll up like garage doors along the steel I-beams that frame the roof. When the screens are down, the glass doors can stay open to let breezes from the surrounding 25-acre citrus ranch cool the house, and the views appear as if through a scrim. The natural light inside has a pleasantly diffused quality, like a partial solar eclipse. When up, the screens form shade canopies. On the bedroom wings, similar screens open like books, providing varying levels of privacy and light. The house is not guaranteed fireproof, says Daly, but the screens certainly enhance its survivability by preventing embers from bursting through the windows.

The client is an 84-year-old retiree whose extended family plans to stay at the house for long visits. His only requirement: "no stairs." Daly and Genik felt that since the number of people using the house would be in flux, the interior spaces should be not just flexible but transformable. Sliding opaque screens in the sleeping wings serve as doors from the hallway to the bedrooms, making space private or open with a quick push, and the number of bedrooms can range from four to seven at any moment thanks to the sliding partitions as well as Murphy beds and other built-in furniture. These rooms have a monastic air about them; there is no hierarchy and little luxury beyond the large corner window in the main bedroom facing the distant ocean.

Daly, Genik made no attempt to prettify the house; it looks like what it is—a machine made to resist the rampages of Southern California's temperamental Mother Nature. The enormous fireplace, a reinforced concrete monolith, ties into the roof joists to anchor the whole structure in an earthquake. Floors are bare concrete, interior wall surfaces are lacquered birch plywood, and every joint and fastener is left raw and exposed. The exterior walls are corrugated concrete board fastened to 3/4-inch plywood sheathing. The sleeping wings are cantilevered over the foundation, so when viewed from a distance, the house has the unmistakable look of a couple of boxcars snoozing in the sun. Elegant it isn't, but like the scrappy coyotes that roam the surrounding chaparral, it looks like a survivor. ■

When raised, perforated aluminum screens shade east facade of glazed living and dining area (facing page, far left) from morning sun. Formal entrance (facing page, left) occupies carved-out niche at southeast corner of house. Pool (below left) projects from central courtyard. Fireplace separates dining area and kitchen (below, right, foreground) from living area (background).

VALLEY CENTER HOUSE, NORTH SAN DIEGO COUNTY, CALIFORNIA
CLIENT: Withheld at owner's request **ARCHITECT:** Daly, Genik, Santa Monica, California—Kevin Daly, Chris Genik (principals), John Dimmel, Jackilin Hah, Daniel Huh, Cherry Lietz, David Montalla, Sebastian Stave, Michael Vanderhoof (project team) **ENGINEER:** Armando Paez (structural) **CONSULTANT:** Leif Johnson (architectural metal and canopy engineering) **GENERAL CONTRACTOR:** Robert Lackey Construction **COST:** Withheld at owner's request **PHOTOGRAPHER:** Grant Mudford

Perforated aluminum screens on south facade of courtyard (above) slide open to reveal bedrooms within. Corrugated concrete boards clad cantilevered bedroom wings (facing page); boldly projecting scuppers drain rainwater onto hillside.

Viewed from eastern edge of site, museum and research center complex (above) reveals itself as abstract composition of simple masses and volumes: limestone-clad observation tower, chamfered, zinc-covered cone of skylight above exhibit hall (foreground), and canted glass curves enclosing atrium.

A NEW MUSEUM AND RESEARCH CENTER BY POLSHEK AND PARTNERS HELPS THE PEQUOT TRIBE REAFFIRM ITS CULTURAL IDENTITY.

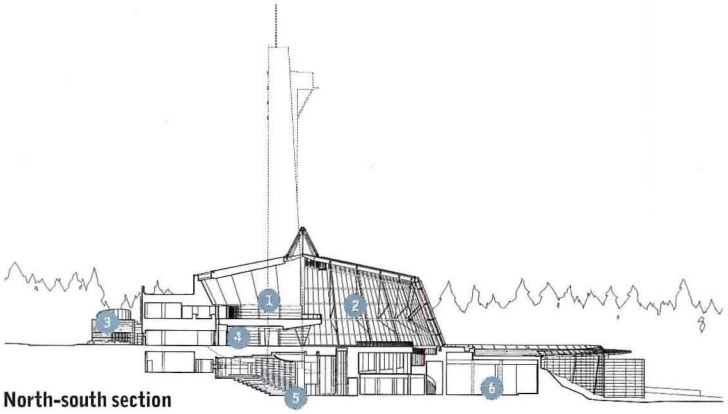
SPIRIT OF PLACE

The history of coastal Connecticut's Mashantucket Pequot Indians is a troubled tale shared by many Native American tribes. The Pequot's hardships with European settlers started especially early, though: Barely 20 years after the pilgrims set foot on Plymouth Rock, war broke out between the Pequots and British colonists allied with neighboring Indians. In 1637, native and British soldiers surrounded a fortified Pequot village in Mystic, torched it, and massacred its inhabitants, all but erasing the once thriving tribe. An English engraving of that massacre records the event in strong but simple graphic terms (drawing, page 89). Neatly ordered rows of warriors ring the barricades around the Pequot compound, bows and arrows drawn like toy soldiers in battle.

More than 350 years after the massacre, the Mashantucket Pequots' lot is much improved. After centuries of living in poverty and anonymity, the resurgent tribe is newly rich, thanks to a lucrative bingo enterprise and casino resort opened on tribal lands. But the iconic engraving of that ancient battle still weighs heavily on the tribe's culture and memory. The splintered circles of the historic etching have now come to life in the Mashantucket Pequot Museum and Research Center near Mystic, a $193.4 million cultural and educational extravaganza designed by New York City architects Polshek and Partners. The shifted circles of the doomed 17th-century fort take new form and meaning as a soaring atrium at the heart of the ambitious 300,000-square-foot complex.

That a graphic element from a centuries-old drawing should command such influence in a modern building underscores important aspects of Pequot culture: a preference for literal symbolism over abstraction and curvilinear buildings over boxy ones. "[The Pequots] definitely wanted a squiggly building," explains design principal Susan Rodriguez. The tribe also wanted a structure that steered clear of nostalgic forms, one that portrayed them as a confident, forward-thinking, and technologically advanced society. And although extensive exhibitions narrating tribal history were at the core of

BY RAUL A. BARRENECHE

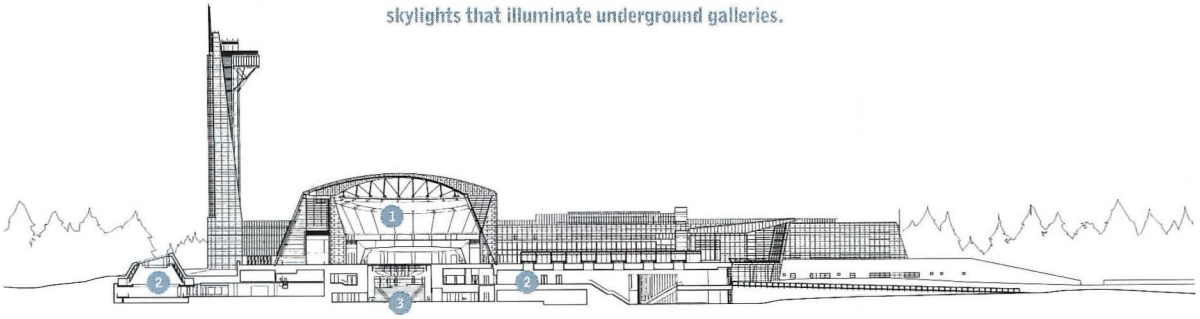


North-south section

1. café
2. atrium
3. children's library
4. gift shop
5. auditorium
6. exhibits

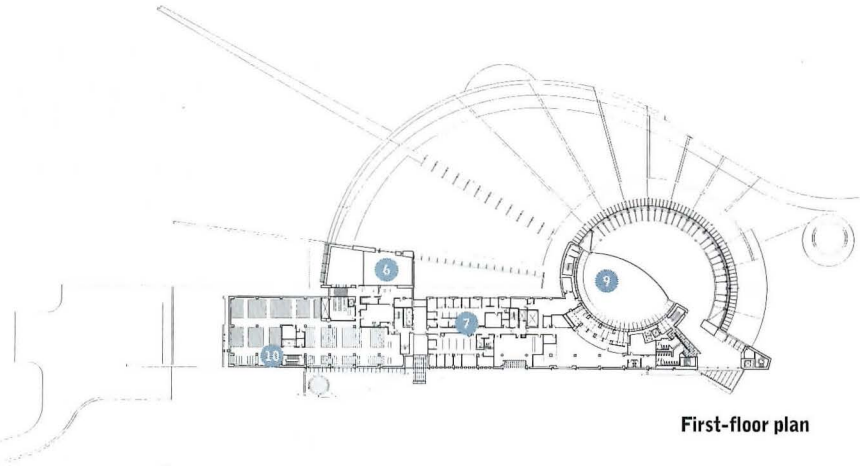
Main elevation of research center (below) takes cues from tribal wampum belts made of colored bits of shell. Small volume projecting into trees is kid-scaled children's library; canopy at east end of wampum wall marks visitors' entrance. Tower and atrium crown counterpoint repetitive pattern of gridded facade. Sections (above and below) reveal how bulk of program is bermed into site.

Conical form of atrium (facing page) is clad in glass curtain wall and cedar strips. Lawn flanking research wing and library (at right) is roof of subterranean exhibition halls. Steel and cedar trellis shades skylights that illuminate underground galleries.

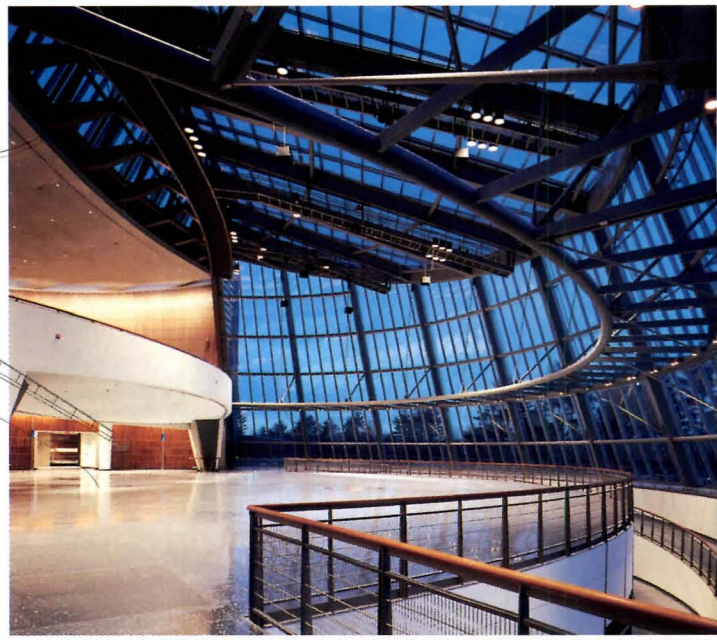


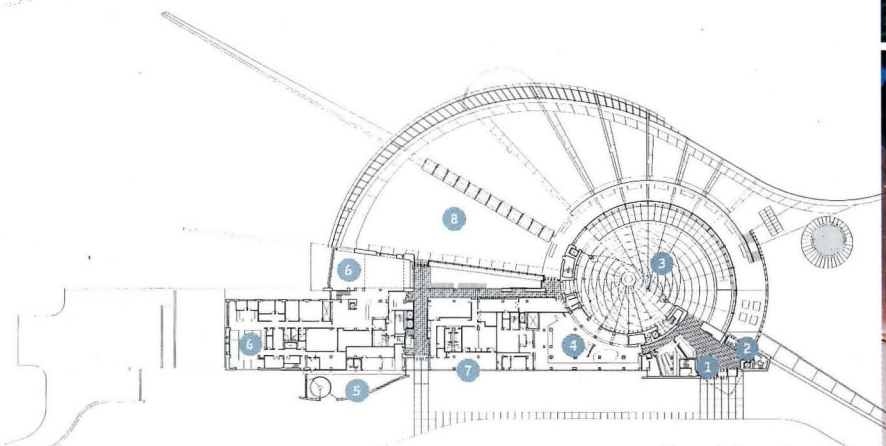
East-west section 60'/18m

1. atrium
2. exhibits
3. auditorium

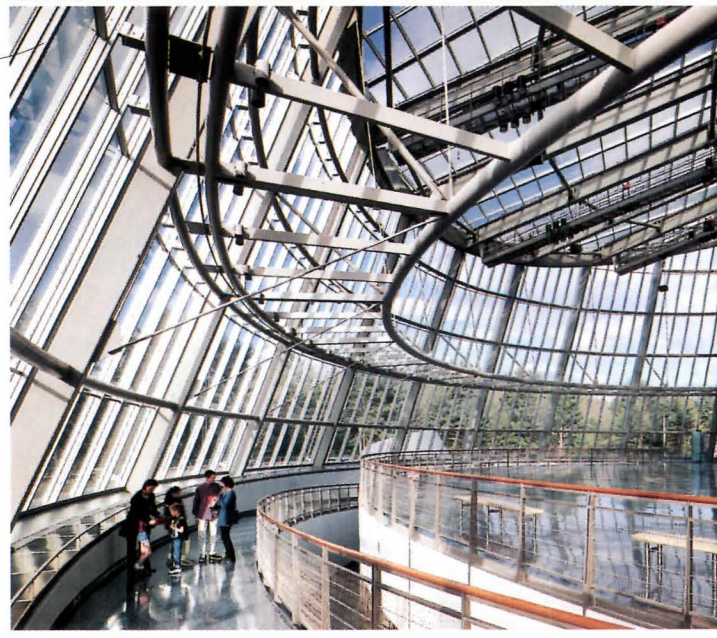


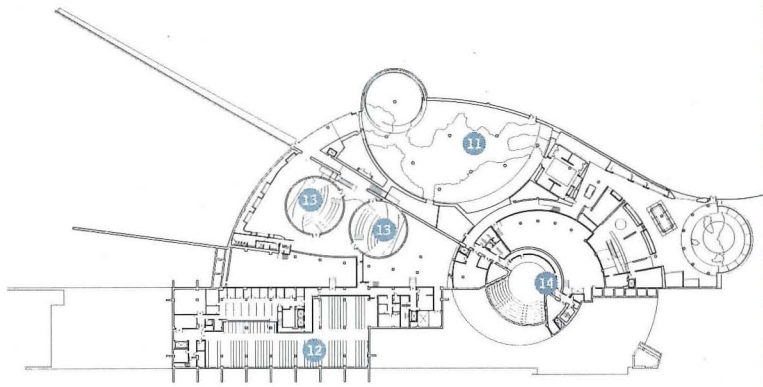
First-floor plan





Ground-floor plan





Basement plan 90'/27m

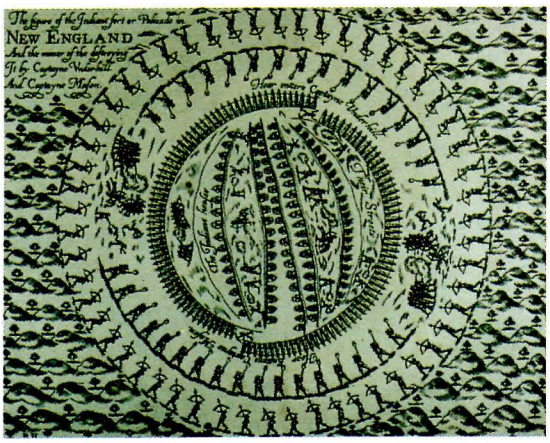
1. entrance lobby
2. observation tower
3. atrium
4. gift shop
5. children's library
6. research library
7. offices
8. terrace
9. café
10. archives
11. permanent exhibits
12. collections storage
13. theater
14. auditorium

the program, the complex was also to include a large research library as well as conservation and archaeology labs. Joining museum and research facilities in a single building was a first among native tribes, according to Executive Director Theresa Hayward Bell.

The building settles comfortably into its wooded 14-acre site next to the Pequots' garish casino complex, Foxwoods. On the southern edge of the complex, a two-story bar containing research facilities, administrative offices, two levels of underground labs, and an entry lobby flanks a curving drive connecting Foxwoods with the museum's parking lot. At the eastern end of the bar, a 185-foot tall tower sheathed in limestone and crowned by a tiny observation deck strikes a perfect vertical counterpoint to the bar building and serves as a marker above the thickly wooded landscape. A vast crystalline atrium known as the gathering space spans between the tower and the bar building. Inside, canted, curving glass walls hug a sweeping ramp that leads visitors down to two subterranean exhibit levels, a large auditorium, and two smaller circular cinemas.

Rodriguez buried the building's largest component, 89,000 square feet of exhibition space, to minimize its apparent bulk above ground. By berming the galleries and planting the roof with a lawn that dissolves subtly into the woods, she concealed their sinuous curved edges (plans, facing page). The sweeping arc reads like the scalloped edge of a garden, not the outwardly curved building the client envisioned.

Though Rodriguez concealed the galleries' curving profile, she provided plenty of overt references to native artifacts that appeal to the Pequots' literalist sensibilities. The south-facing entry facade, for instance, is constructed like a giant wampum, a belt made of purple and white shell beads encased in a gridded rectangular sheath. Rodriguez translates the wampum belt into a two-story aluminum grid set with rectangular slabs of gray limestone, slate, and rosy granite—handicraft writ large. Inlaid in the shimmering indigo-tinted terrazzo floor of the gathering hall are bits of iridescent sea shells, a nod to the Pequots' coastal history. And throughout the building one finds odes to the tribe's handicraft skills: woven metal screens and balcony railings; leather-wrapped door pulls; acoustical wall panels fashioned from copper and hemp; and horsehair fabrics in the particularly Pequot palette of red, black, and green.



Overall, the building wavers in its struggle between abstraction and literalism in interpreting native symbols. Sometimes the results are subtle and don't require visitors to understand references. The facade, for instance, creates elegant rhythms and patterns of metal and stone, whether or not it registers as an oversized wampum belt. And slatted cherry and redwood walls—which may not seem to outsiders an obvious color choice for a Pequot building—contribute to a warm but simple interior palette. The atrium, however, still ends up looking like a truncated, high-tech tepee or a glass version of a bark-covered Pequot hut with its top cut off.

More successful is the architect's response to the tribe's yearning to embrace modern technology. In the observation tower's exposed trusses and the complex steel armature of the gathering hall, technology becomes an obvious emblem of the Pequots' progress and desire to step confidently into a modern era. Technology takes on more symbolic—though less visible—importance in the state-of-the-art archaeology and conservation labs buried beneath the research center.

The luxurious lab facilities—built for an official conservation staff of one—draw light to the museum's most evident shortcoming: Most of the interiors are too expansive for the program, the result of an overly ambitious client. The building always feels a few sizes too big, like an ill-fitting shoe. There are awkward pauses between the lengthy exhibits. Even the gathering space feels awash in emptiness when it's not being used for live performances: Its broad woodland panorama can't hold visitors' attention, and its scale dwarfs the only objects on display there, a pair of canoes filled with larger-than-life Pequot mannequins. The client could have shaped a stronger building with less program.

Aerial view (facing page, top) and plans (facing page) illustrate how atrium form echoes 17th-century engraving of Pequot fort (left). Plan rotates from roadside bar building to align with cardinal axes, important in native symbolism. Curving profile of lawn in aerial view (at right) demarcates edge of bermed exhibition halls. Cafeteria occupies balcony overlooking gathering space (facing page, center). Sweeping tubular steel structure rings vast atrium (facing page, center and bottom), with curved ramp leading down to exhibits.

Still, the Pequots' building is successful as the first tribal complex to combine a museum with research and educational facilities. As such, it has become a model for other tribes across the country. "We're seen as a controversial tribe in 'Indian Country' because we've been so financially successful—and now because of this highly visible building," reports Executive Director Hayward Bell.

The building's most important achievement, though, is in establishing a precedent for a serious new architecture for Native Americans. As more and more tribes find the same economic success as the Pequots, they will surely build their own monuments asserting their culture and history. There have been few examples of strong contemporary architecture for Indians. Antoine Predock's American Heritage Center at the University of Wyoming (*Architecture*, December 1993, pages 48-61) is an excellent—and rare—example. Polshek's building takes a different tack than Predock's mythopoetic abstractions: It translates artifacts into architecture without trivializing their significance, to stake out an important ground between modernity and tribal traditions.

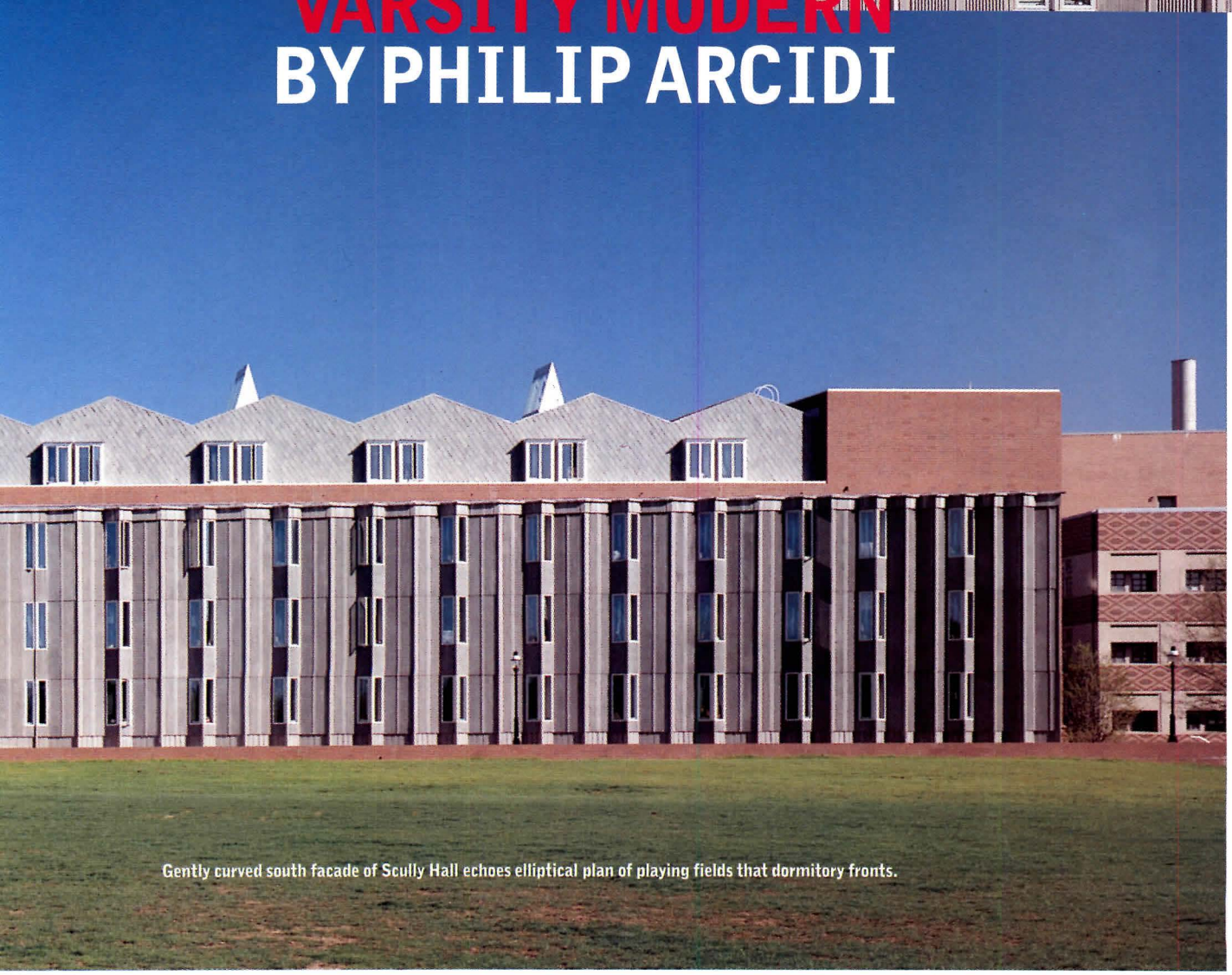
MASHANTUCKET PEQUOT MUSEUM AND RESEARCH CENTER, MASHANTUCKET, CONNECTICUT
CLIENT: Mashantucket Pequot Museum and Research Center **ARCHITECT:** Polshek Partnership Architects, New York City—James S. Polshek, Susan T. Rodriguez (design principals), Timothy P. Hartung (principal-in-charge), Don Weinreich (project architect), Charles Griffith, James Sinks (job captains), Minsuk Cho, Denis Dambreville, Jihyon Kim, Amanda Martocchio, Lois E. Mate, David Shultis, Dan Stube (core design group) Crystal Cai Anderson, Gary Anderson, Anya Bokov, Charles C. Brainerd, Francesca Bucci, Victor Colom, Hoang Dang, Carlos Espinoza, Joseph L. Fleischer, Maria Gray, Price Harrison, Sally Leung, Lisa Mann, E. Tiffany Marr, Craig McIlhenny, Lisa Odyniec, Steven Peppas, Victor Rodriguez, James Slade, Kathleen Smith, Mark Thaler, William Truitt, Laurence Turner, Yuri Uceda, Daryl Wugalter (design team) **LANDSCAPE ARCHITECT:** The Office of Dan Kiley **ENGINEERS:** Ove Arup & Partners (structural); Altieri Sebor Wieber (mechanical, electrical); Dufrense-Henry (civil) **CONSULTANTS:** Fisher Marantz Renfro Stone (lighting); Jules Fisher/Joshua Dachs Associates (theater design); Jaffe Holden Scarbrough (acoustics); Wolf and Company (cost estimating); Heitmann & Associates (curtain wall); Jenkins & Huntington (elevators); Romano-Gatland (food service); Reginald Hough (architectural concrete); Presnell Group (library design); Barbara Laskey Weinreich and G. Christopher Powell (retail fixtures); Cermak Pateka Petersen (wind consultant); Design Division (exhibit design); Tom Nicholson Associates (interactive exhibits); Pentagram Design (graphic design); Langan Engineering and Environmental (geotechnical); Shen Milsom & Wilke (data/communications); Chapman Ducibella (security) **GENERAL CONTRACTOR:** Pavarini Construction Company **COST:** $193.4 million **PHOTOGRAPHER:** Jeff Goldberg / Esto

Broad windows of temporary gallery (above) provide welcome break from tedious exhibition sequence with views of woods. Lobby's warm but simple palette of plaster, cherrywood slats, and stone (facing page) give way to cool expanse of sweeping atrium, with terrazzo floors inlaid with seashell fragments.

MACHADO AND SILVETTI REINTERPRETS PRINCETON'S COLLEGIATE GOTHIC ARCHITECTURE.

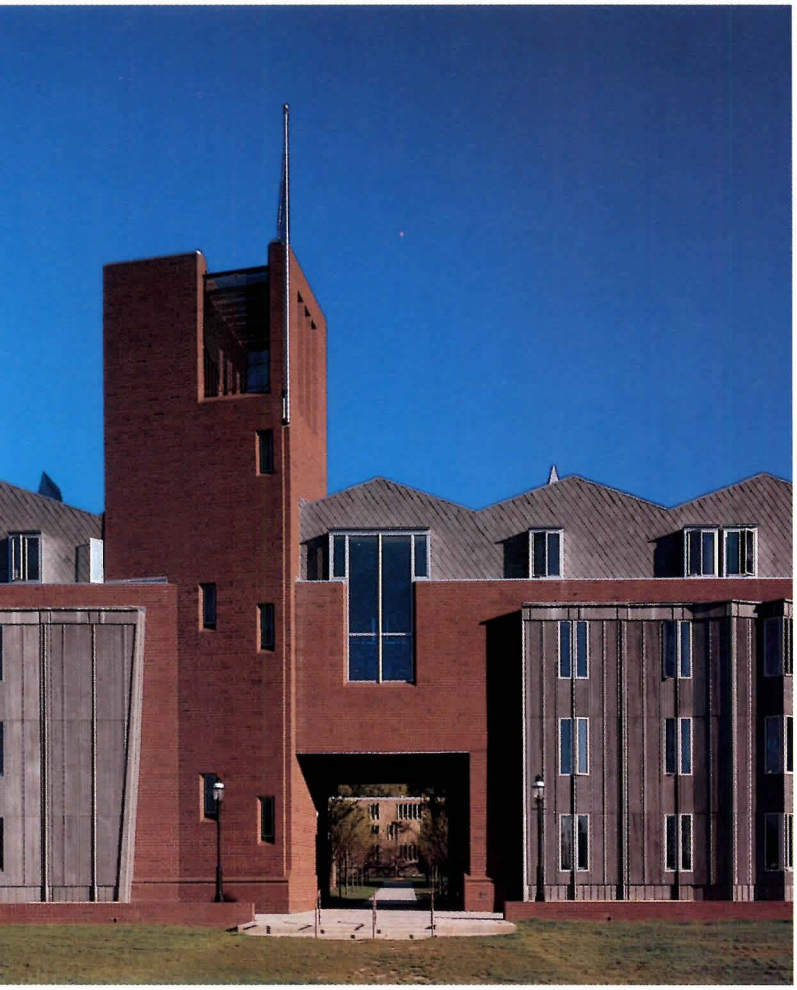
VARSITY MODERN

BY PHILIP ARCIDI



Gently curved south facade of Scully Hall echoes elliptical plan of playing fields that dormitory fronts.

On south facade, brick-clad tower, precast-concrete walls, and slate-faced fourth floor converge around sally port (below left) that leads to heart of campus. Path (below right) proceeds past north wing of dormitory, through courtyard and sally port in north facade, to playing fields beyond. Glazed double-height study and living areas (facing page, left) interrupt dormitory's brick-clad east and north wings. Bay windows along north facade (facing page, right) echo angular form of glazed stair tower at northwest corner of northern dormitory wing. At rear is Venturi Scott Brown's Lewis Thomas Laboratory (1986).

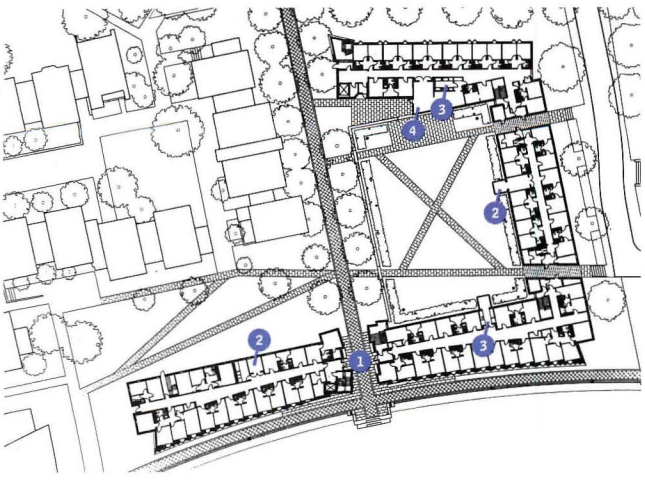


Site plan 200'/60m

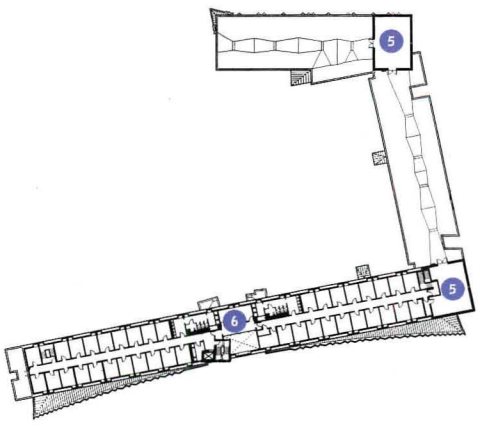
1. Scully Hall
2. proposed buildings
3. playing fields

SCULLY HALL, PRINCETON, NEW JERSEY
CLIENT: Princeton University—Jon D. Hlafter, Director, Office of Physical Planning **ARCHITECT:** Machado and Silvetti Associates, Boston—Rodolfo Machado (principal-in-charge), Jorge Silvetti (consulting principal), Peter Lofgren (project architect), Douglas Dolezal (project manager), Elizabeth Gibb, Gretchen Neeley (project design associates), Mario D'Artista, Max Drivin, Timothy Dumbleton, Aaron Follett, David Freed, Brian Huffines, Ben Karty, David Lee, Max Moore, Adam Omansky, Mark Pasnik, Victor Sant'Anna, Robert Trumbour, Ethan Yungerman (project team) **LANDSCAPE ARCHITECT:** Richard Burck Associates **ENGINEERS:** Lim Consultants (structural); TMP Consulting Engineers (mechanical, electrical); Van Note-Harvey Associates (civil) **CONSULTANTS:** Lam Partners (lighting); Richard D. White, Architect (specifications); Nassar Design (signage) **GENERAL CONTRACTOR:** Irwin & Leighton **COST:** Withheld at owner's request **PHOTOGRAPHER:** Eduard Hueber / Arch Photo

1. sally port
2. study area
3. kitchen
4. living room
5. mechanical room
6. meeting room



First-floor plan 60'/18m



Fourth-floor plan

"We're interested in making architecture that is appropriate. But we're also interested in making contemporary buildings. We struggle to achieve both," maintains Rodolfo Machado, principal of Boston-based Machado and Silvetti Associates. His observations are a clue to the hybrid lineage of Scully Hall, the firm's impressive new dormitory at Princeton University in New Jersey, a building that takes as many cues from the campus's modern buildings—by practitioners as distinct as Minoru Yamasaki and Robert Venturi and Denise Scott Brown—as it does from the campus's Gothic patrimony.

In many ways, this 267-bed dormitory, which opened in September 1998, is as straightforward as any disciplined modern building. Machado describes its parti as a double-loaded corridor, configured as a *J* in plan to optimize its site between a 1964 undergraduate dormitory by Hugh Stubbins and the 1986 Lewis Thomas Laboratory by Venturi Scott Brown. Scully Hall is the first of three buildings (and the only one by Machado and Silvetti Associates) that will line the northern edge of a new campus ellipse. This lawn for intramural athletics is part of the master plan Machado and Silvetti developed for Princeton in 1996.

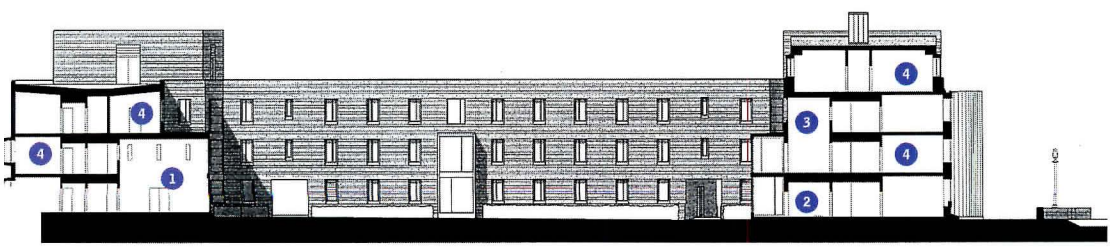
While its plan is methodical, the dormitory's facades echo Machado and Silvetti's more figurative work of the 1980s, when they belonged to the postmodern vanguard. A crenellated attic of slate shingles caps a three-story brick block, which is a backdrop for the front facade, a pleated concrete screen wall that curves to align with the emerging ellipse's plan. The designers' intentions condensed over the past decade. Their P/A Award-winning work of the 1980s wrestled with theoretically driven issues; this dormitory—one of their largest built designs—addresses a more manageable array of problems. Two issues seem to have driven the design: underscoring the facades' role as veneer, and creating, in unison with Stubbins' and Venturi Scott Brown's buildings, a contemporary ensemble on a 250-year-old campus.

A sally port, flanked by a stout tower in the middle of the pleated facade, is the most prominent of the dormitory's three entrances. This covered space is a threshold on the ellipse, the terminus of a path from the campus north of Scully Hall. Residents enter through doors within the sally port to corridors lined with suites: The first three floors feature five different room types, most commonly paired singles that share a bathroom. The fourth floor, the slate-clad attic, boasts single rooms with common bathrooms. Glass walls in most of the lounges, kitchenettes, and laundry facilities distributed along the halls allow students walking past to see inside; the second-floor corridor overlooks a glazed double-height study and café; and the fourth-floor corridor overlooks a lofty living and study area above the sally port.

The six different room configurations provide roommates a variety of ways to share quarters. The two-room suite I visited was generous, albeit furnished with standard-issue beds, desks, and wardrobes that Princeton selected for durability, not luxury. The windows are alternately recessed within or angled outward from the brick wall; those in the concrete screen are flush with the outer surface; the attic windows are dormers. This variety of fenestration has parallels in collegiate Gothic, but Machado and Silvetti's sensibility is more analytic than romantic. Their windows offer cues that the ostensibly thick walls are nonstructural: At virtually every corner of the brick wall, the architects sliced the return, as with a knife. In a load-bearing wall, the corner would be built up, not cut away. The pleated concrete screen is ponderous applique. One can see that it is a weighty frontispiece affixed to the masonry box; its zig-zag profile has the flamboyance of Yamasaki's work from the 1950s and 1960s.

Machado and Silvetti's design responds to the Lewis Thomas Laboratory, one of Venturi Scott Brown's finest renditions of a decorated shed. Unlike Lewis Thomas, however, Scully Hall is not reduced to a flat-roofed box with four smooth walls. It offers an alternate strategy for giving presence to a simple building with a serial plan. Scully Hall's direct antecedents are the figurative buildings of the 1980s. But this structure is less fragile than its precursors. It is a chastened work of collage, with pleats, folds, and crenellations that seem stark, not fussy. Its applied parts are simple and few, their scale hefty enough to define the edge of campus: Machado and Silvetti have introduced us to postmodernism's rugged younger brother. ■

Philip Arcidi is a former senior editor of this magazine.



North-south section 21'/6m

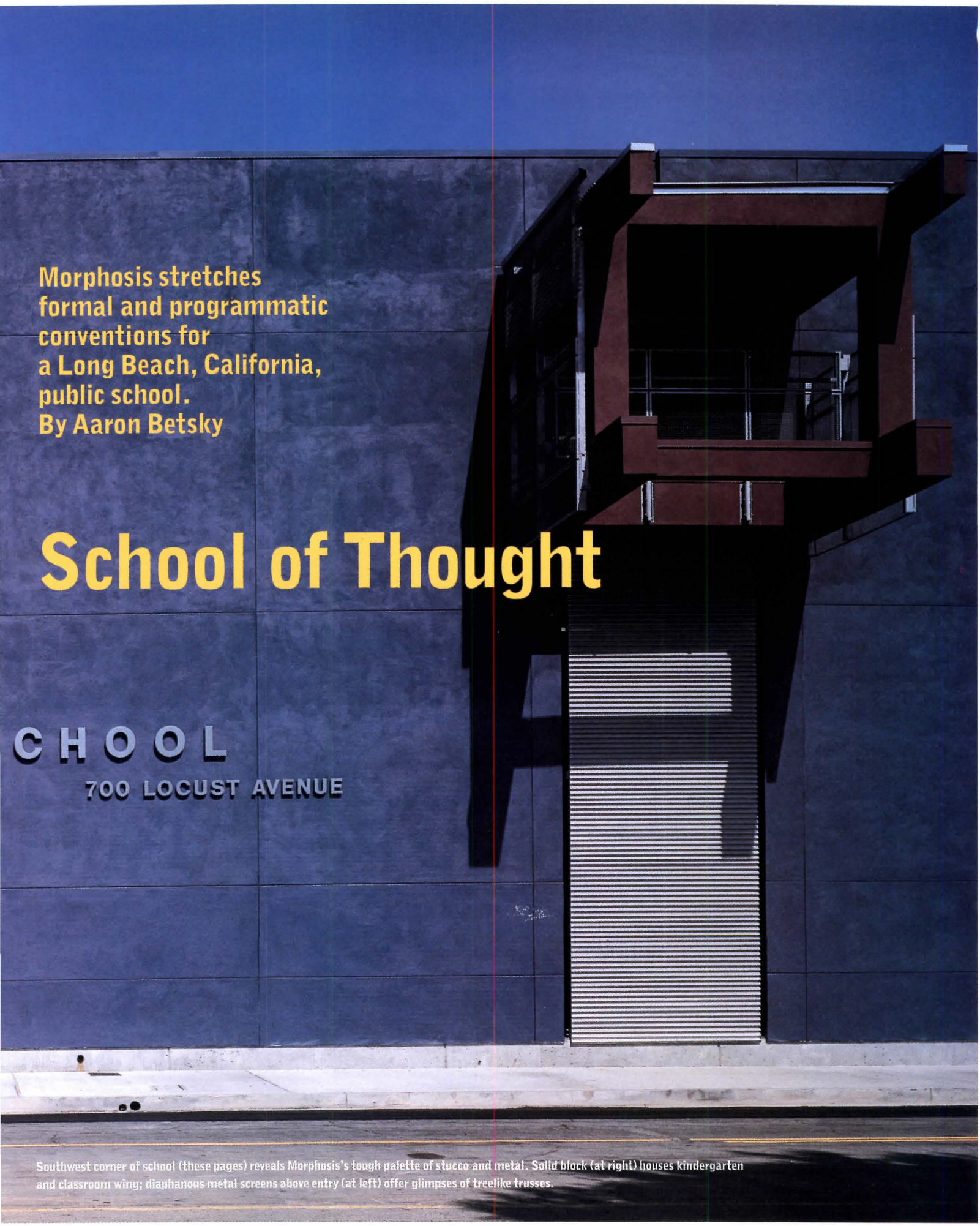
1 living room
2 kitchen
3 study
4 dormitory room

Ceiling of folded acrylic plaster planes crowns gathering area (below) above sally port on third and fourth floors. First-floor living room (right) in north wing offers views of central courtyard.


INTERNATIONAL ELEMENTAR
Langston Hughes
Ernest Hemingway
Wole Soyinka
Pablo Neruda
Jorge Luis Borges

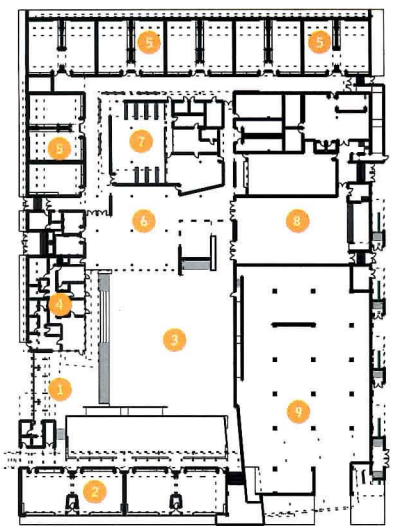
Morphosis stretches formal and programmatic conventions for a Long Beach, California, public school.
By Aaron Betsky

School of Thought

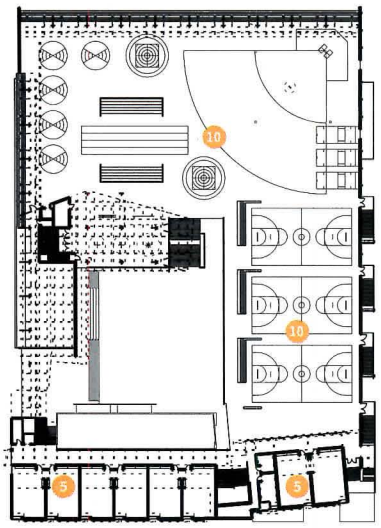


Southwest corner of school (these pages) reveals Morphosis's tough palette of stucco and metal. Solid block (at right) houses kindergarten and classroom wing; diaphanous metal screens above entry (at left) offer glimpses of treelike trusses.

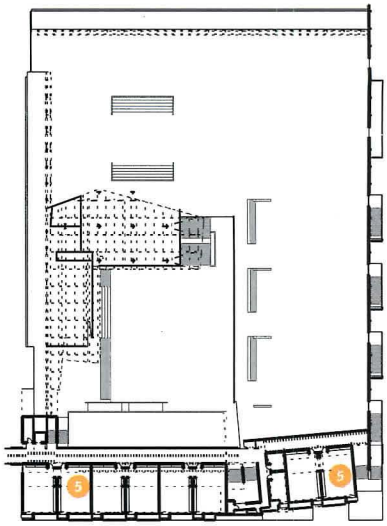
1 entry
2 kindergarten wing
3 courtyard
4 administrative offices
5 classrooms
6 lunchroom
7 library
8 multipurpose room
9 parking
10 playground



Ground-level plan 55'/17m



Second-level plan



Third-level plan

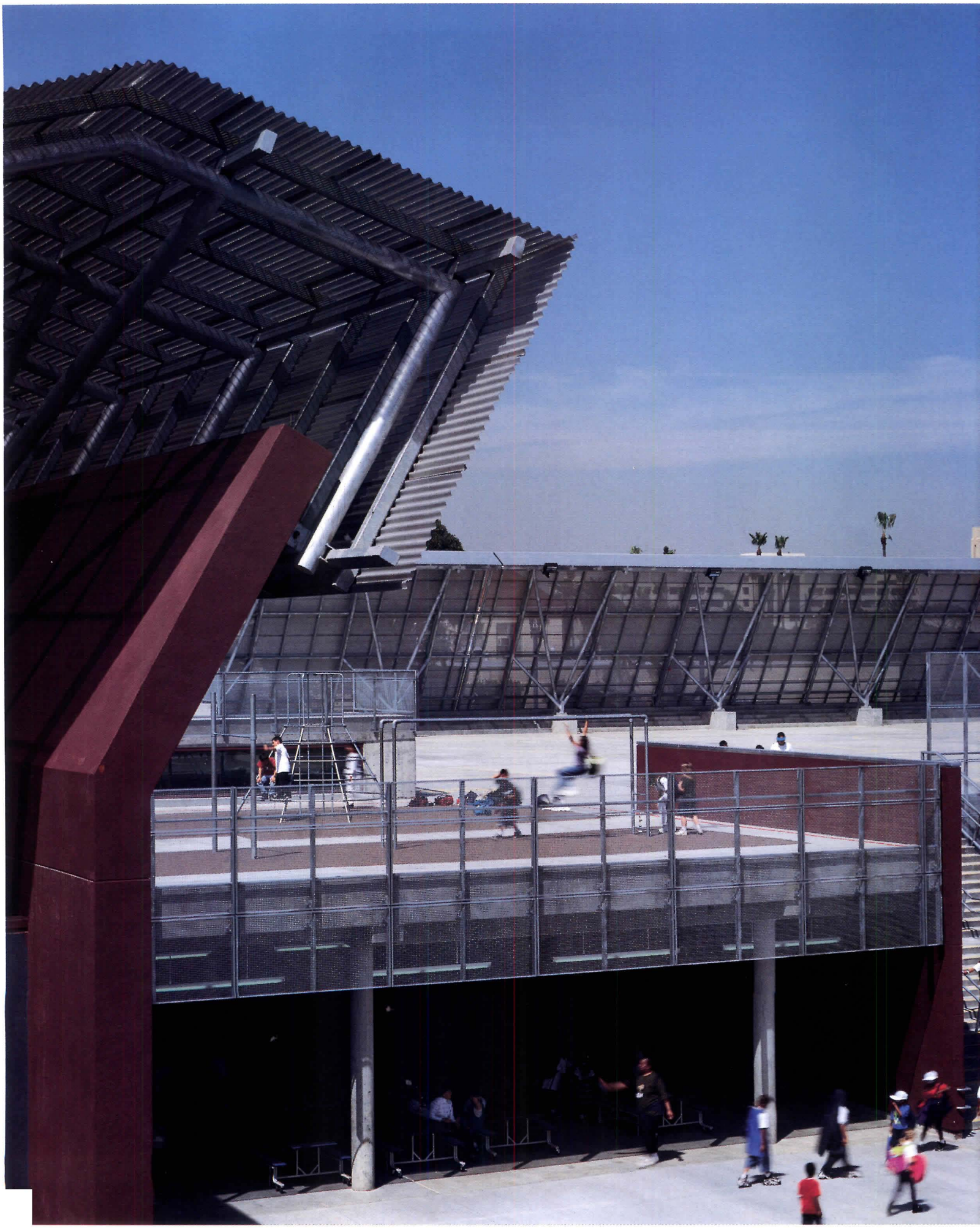
By stacking playground and sports fields atop classrooms, library, offices, and parking (plans, above), school consumes one-third less land area than traditional Southern California elementary campuses. School fills full block in Long Beach's dense, sprawling fabric (below). Stucco-clad classroom block (below center) and folded metal scrims that enclose playing fields (bottom) present different but equally tough facades to street. Behind entry gates, vibrant Morphosis-designed mural (facing page) depicts images of such literary icons as Maya Angelou and Anne Frank.

At their best, the buildings that house our educational institutions are themselves didactic. They tell us something about the world we want our children to learn—or not learn. With city halls around the country taking over school districts, and in the wake of the Littleton, Colorado, massacre, perhaps it is not surprising that the message of the new $14 million International Elementary School in Long Beach, California, is that we care most about security, saving money, and not making things too complicated. Even a firm such as Santa Monica, California-based Morphosis, which has made its reputation by designing structures whose complexity makes the hidden tensions and contradictions of our society evident and sometimes beautiful, has found itself here designing a school that is simple, cheap, inward-looking, and tough. "It's not about architecture," says the firm's principal, Thom Mayne. "It's about a straightforward idea for our educational crisis."

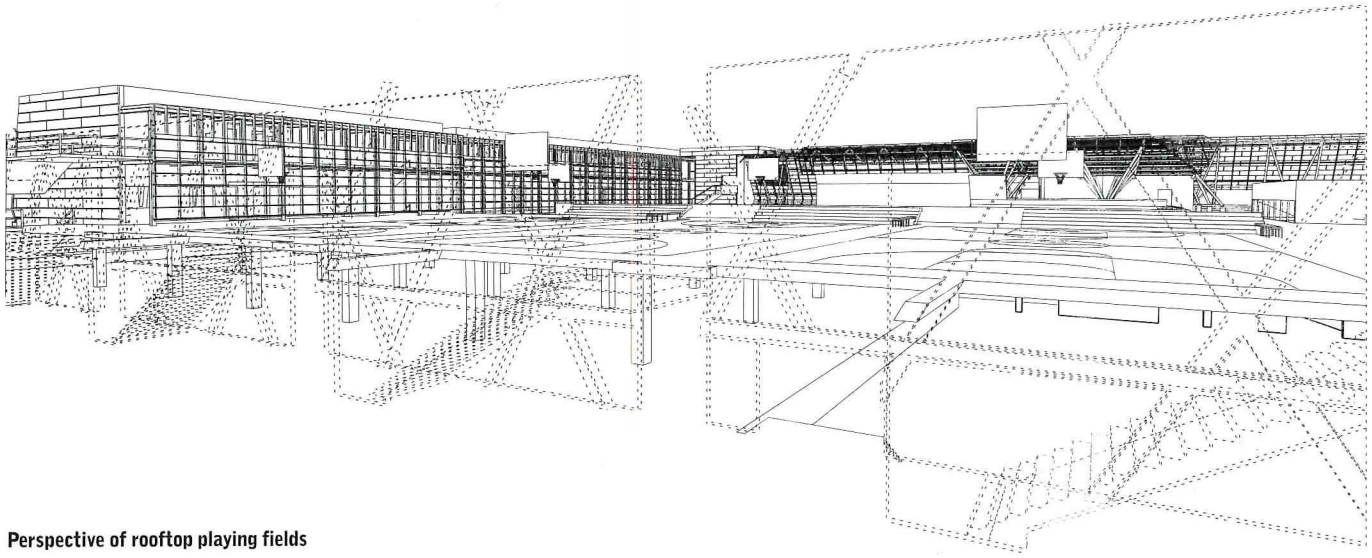
This is not to say that the Long Beach school does not have its strong points. Mayne and the team at Morphosis were able to develop a new type: a "spacesaver" school that uses one-third less land than conventional Los Angeles-area elementary schools. By stacking play spaces and courtyards on top of parking, lunch areas, the library and some classrooms, with a multistory classroom block alongside this central open space, Morphosis was able to create a compact, 2.5-acre campus in which the 1,000 students are always moving through an easily surveyed and identifiable open space at the heart of the complex.

In the development of the spacesaver idea, Mayne sought to create an alternative to the classic 1950s arrangement of "fingers" feathering out into green lawns. "I went to one of those schools, and it was great," Mayne remembers. "But now in Los Angeles, you couldn't find the 5 acres they need to save your life." He proposed instead schools that


NATIONAL ELEMEN
langston Hughes
Ayn Rand
Yasushi Inoue
Alex Haley
James Baldwin
Italo Calvino
Dr. Seuss
Eric Carle
Maurice Sendak
Judy Blume
Ezra Jack Keats
Anne Frank
Wole Soyinka
Chinua Achebe
Pablo Neruda
Nicanor Parra
Octavio Paz
Maya



Grand staircase leads from entry court to playing fields above lunch area (facing page). Low wall separates kindergarten play area (above left) from central courtyard. Folded metal scrims provide permeable enclosure to barren, concrete playground (above right).



Perspective of rooftop playing fields

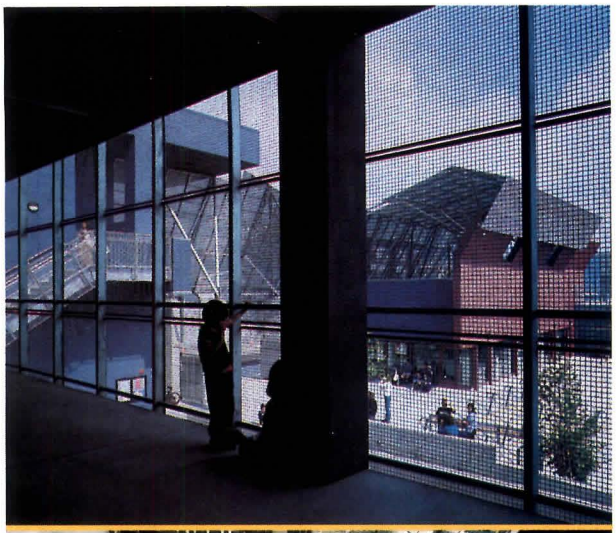
integrate the outdoors with a singular structure better adapted to Southern California's dense urbanism. Instead of separate pavilions, the spacesaver type presents a single entity that promotes tighter relations between students and faculty. Because shared space is centralized in the school's main courtyard and the buildings are linked around that space, the spacesaver also facilitates easier supervision, more efficient land use, and greater visual coherence.

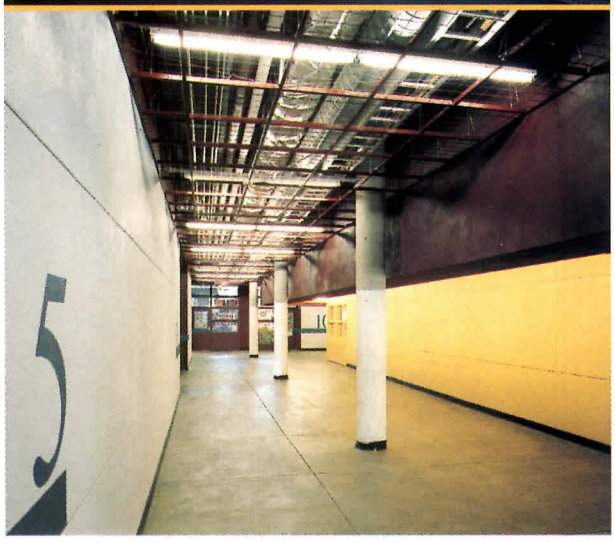
The International Elementary School, which opened in January, appears as a closed block from the outside. Facing a neighborhood of one-story homes and apartment buildings to the west, a high school to the north, and busy commercial strips to the east and south, it presents itself as a low-slung, massive horizontal line. That line comprises stucco walls that buckle in and out. They are surmounted on the east and north faces by a screen of metal mesh that softens the building's profile while giving a hint of the play spaces on the interior.

One enters the school through an opening on the west facade made ceremonial by a perforated metal scrim that surrounds the top of the facade here, bending and folding up over your head. The scrim thus becomes a freestanding element, the signature architectural piece the school presents to the outside.

Once under the covering of the metal screen, the school lays itself out as a series of terraced courtyards: a central space immediately in front of and slightly below you, a kindergarten play area to the south of that space, and an upper play area to the north and east, accessible by a grand staircase to the north of the entry court. A three-story classroom building closes the building off to the south, while a single-story administration wing forms the west facade. Another classroom wing and a parking structure, crowned by folded metal scrims, lie to the north and east. The library, the dining area and kitchen, staff and faculty parking, and some classrooms are tucked underneath the upper play area.

The entry court acts as a gathering space at the heart of the school. It focuses on a computer mural that takes up the east wall, where the courtyard backs up to the parking area. Designed by Mayne and paid for by the architect, his joint venture partner, Thomas Blurock, and Pinner Construction, the contractor, the mural depicts writers from all times and around the world. Though Mayne originally wanted visitors to find the mural through a grove of trees, it now forms the background for the expanse of concrete and stucco that the school administration mandated for the courtyard. The emptiness of this area has made it flexible and therefore a popular site for neighborhood gatherings.





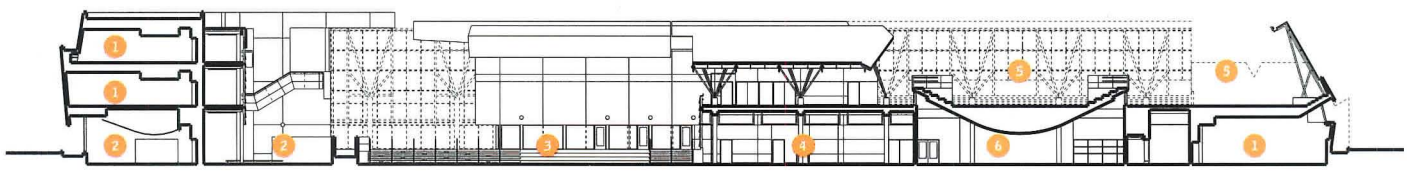
The play areas that take up much of the rest of the complex are a half-level above the street. Their unplanted expanse is broken only by the two clerestories of the library below; the clerestories rise to form bleachers facing each other across a section of the deck. With little shade or focus, the upper play yard depends on views to the mixed commercial and residential area around the school, which one sees through the scrim, to enliven the children's gathering places.

The interiors of the 91,000-square-foot school have less character than these public areas. Morphosis could not influence the interior of the classrooms beyond controlling some of the ways in which light enters them and, as a result, the spaces are serviceable containers that teachers and students have filled with their own drawings, cut-outs, and other teaching paraphernalia.

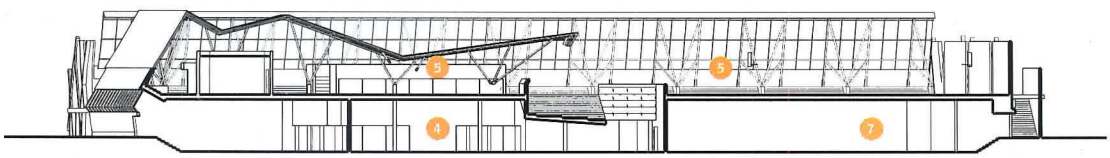
The International Elementary School realizes the strong presence promised by the spacesaver model only on its south facade. There, the three-story block of classrooms fronts Seventh Street. Mayne gave this major thoroughfare one of his signature compositions of prows and canted planes. Two-story windows slice through the monolithic face, and a window to the kindergarten opens up the corner, so that the whole school feels both grand and open.

Where Mayne was able to follow through on his sense of composition, space, and detail, the school has moments of true beauty. The delicacy of the scrim as it folds over to become a roof, the structural members that support the roof, the meeting place of various planes on the facades, and the ceiling of the library all show the hand of a master at work. And with a majestic high school just finishing in Pomona and two other schools on the way, Mayne soon will have more chances to determine how architecture can be not just a container for children, but part and parcel of education.

Gridded metal screens enclose single-loaded corridors of classroom wing (top), creating open-air loggia that overlooks central courtyard. Concrete and exposed infrastructure of bare-boned interior hallways (above) offer little opportunity for architectural flourishes. Although buried deep at center of school, clerestories fill library with natural light (facing page). Bowed concrete ceiling provides softer counterpoint to hard edges of rest of building.



North-south section



East-west section 20'/6m

1 classroom
2 kindergarten
3 courtyard
4 lunchroom
5 playground
6 library
7 parking

INTERNATIONAL ELEMENTARY SCHOOL, LONG BEACH, CALIFORNIA
CLIENT: Long Beach Unified School District
ARCHITECTS: Morphosis, Santa Monica, California—Thom Mayne (principal), Kim Groves (project manager), Silvia Kuhle (project architect), David Plotkin, Robyn Sambo, Stephen Slaughter, Brandon Welling (project team), Rob Edmonds, Mike O'Bryan (project assistants); Thomas Blurock Architects, Costa Mesa, California—Thomas Blurock (principal), James Moore (project architect), Barbara Helton-Berg (project manager), Colleen Bathgate, Rikki Perez, Kristina Singiser, Robert Trucios, Jose Valentin, Lis Zuloaga (project team)
LANDSCAPE ARCHITECT: Fong and Associates
ENGINEERS: Ove Arup and Partners (structural, mechanical, electrical); Andreasen Engineers (civil)
CONSULTANTS: KIA (kitchen); Davis Langdon Adamson (cost estimating) **GENERAL CONTRACTOR:** Pinner Construction
COST: $14 million **PHOTOGRAPHER:** Tom Bonner

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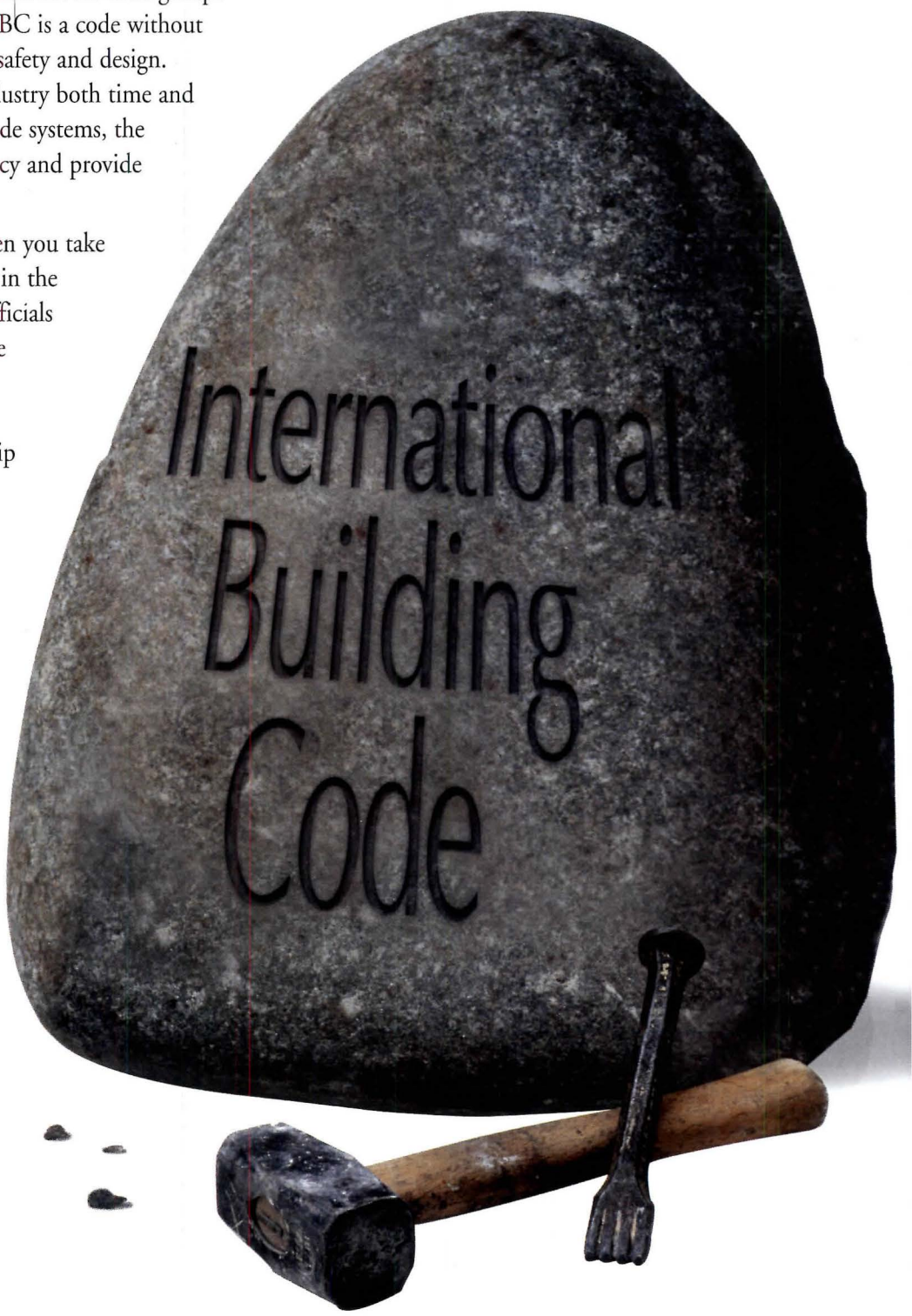

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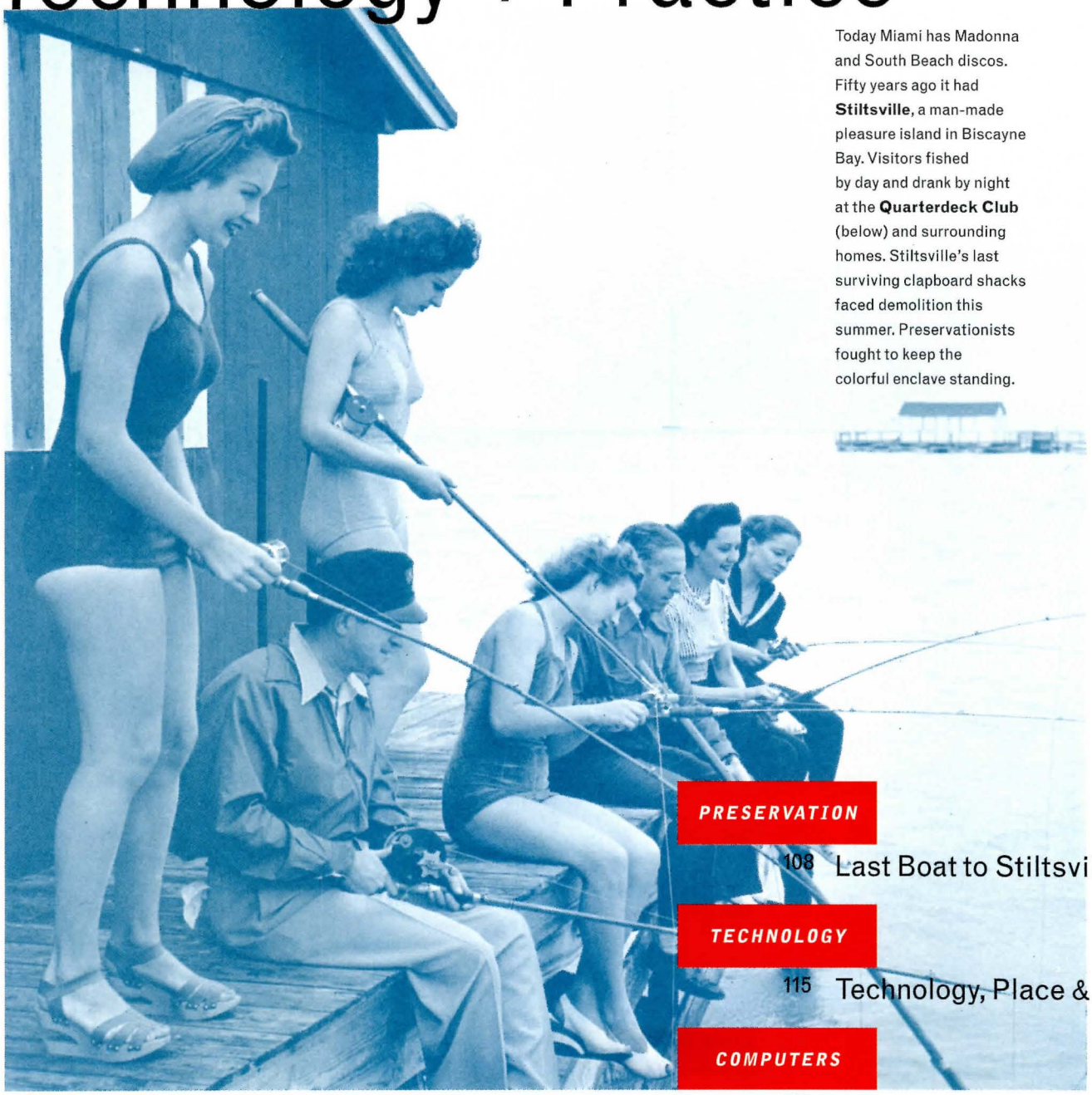

Today Miami has Madonna and South Beach discos. Fifty years ago it had **Stiltsville**, a man-made pleasure island in Biscayne Bay. Visitors fished by day and drank by night at the **Quarterdeck Club** (below) and surrounding homes. Stiltsville's last surviving clapboard shacks faced demolition this summer. Preservationists fought to keep the colorful enclave standing.

Last Boat to Stiltsville

It was a destination like no other. For 60 years, tiny Stiltsville hovered above the azure-blue Florida shoals, a water-bound village perched on spindly piles rising from the shallow waters of Biscayne Bay, 10 miles south of Miami. Positioned on the channel leading to the open Atlantic, Stiltsville was a salty, South Florida outpost—a welcome landfall for thirsty fishermen. Generations of weekenders sat on their decks at dusk to admire the sinking sun while jellyfish and stingrays patrolled the sea grass below. "When I say so long to this life," former Florida Governor LeRoy Collins once wrote to his Stiltsville host, "I hope the great beyond seems a lot like your cabin in the sea."

For all its charms, Stiltsville faced the wrecking ball as *Architecture* went to print last month. After more than two years of negotiations with homeowners, federal park officials planned to order the seven surviving bungalows torn down this month. Having exhausted every official recourse, the residents marshalled a wide array of popular and political support—including a plea from Florida's governor himself—in last-ditch hopes of an

In the 1940s, Miamians flocked to the Quarterdeck Club (above) for fishing, food, and rounds of drinks. Once a full-fledged town of 27 buildings, Stiltsville shrank with each successive hurricane.

The offshore village of Stiltsville faces the wrecking ball. By Michael Cannell

11th-hour reprieve. "I can't imagine Miami without Biscayne Bay," says Gail Baldwin, an architect who co-owns one of the hurricane-battered bungalows, "and I can't imagine Biscayne Bay without Stiltsville. It's Americana at its best."

Stiltsville began 60 years ago when a local salt named Crawfish Eddie moved into a barge sunken at the channel's edge and sold bait and chowder to Bahama-bound fishermen. It was a favorite stop-off, a place to load up on provisions and linger over cold beer. Next came the Quarterdeck Club, a raucous weekend hotel. In 1941, *Life* magazine called it "an extraordinary American community dedicated to sunlight, salt water and the well-being of the human spirit." In truth, the Quarterdeck was an all-hours debauch furnished with booze, crap games, and slot machines—at a discrete remove from the mainland. Its popularity spawned an ad hoc neighborhood of brightly painted wood-frame stilt houses. In its 1950s heyday, Stiltsville was a full-fledged village of 27 buildings with a weekend population of more than 100.

Stiltsville's seven surviving houses are posted 10 feet above the high-tide level. There are no telephones; electricity comes from generators. The nearest shore is more than a mile away.

The Quarterdeck Club burned down in 1961, but Stiltsville partied on at the Bikini Club, a half-sunken 150-foot yacht converted to a maritime version of the Playboy Club by a bearded beatnik named Plucky Pierre (alias Harry Churchville). "Bikini-clad cuties hug the pale orange topdeck during the day to sunbathe and wiggle through the watusi and frug on the planked dancing floor at night," reported the *Miami Herald*. One inebriated guest reportedly returned to shore naked, except for a pink towel.

The good times rolled until state agents closed the club for selling booze without a license in July 1965. Their raid marked the beginning of the end. As if by design, Hurricane Betsy blasted Stiltsville two months later, erasing all but a half a dozen houses within two hours. The abandoned Bikini Club listed 20 degrees to port. Stiltsville had flourished as a no-rules offshore enclave, and its occupants never saw the need for legal claims. But when a handful of houses were rebuilt after Hurricane Betsy, residents of nearby Key Biscayne complained that it was an eye-

Stiltsville is largely deserted during the week, inhabited only by pelicans. The community now lies within Biscayne Bay National Park, the largest marine park in the federal park system.

sore—and the state took notice. In 1968, owners were each forced to sign leases for $1,000 a year. The terms forbade them from rebuilding if a storm destroyed more than 50 percent of a house.

The ground rules changed again when the bay bottom became part of an expanded Biscayne National Park in 1980. From now on, the owners would be dealing with the federal government, which proved to be an inhospitable landlord.

Shortly after he inherited Stiltsville from the state, Park Superintendent Dick Frost told residents that he could not legally renew their leases, even if he wanted to, because private homes are incompatible with park policy. He suggested they apply for protection under the National Register of Historic Places. In March, the National Register rejected the application, saying the surviving buildings weren't old enough to qualify. Although the hamlet dates back more than the requisite half century, the current homes are relatively new.

"The houses were constructed as recreational retreats," says U.S. Congresswoman Ileana Ros-Lehtinen, a staunch defender of Stiltsville, "and much of Miami's history is based on recreation."

Amidst the disappointing news, Stiltsville residents uncovered a letter sent from the National Park Service's regional office in Atlanta advising the National Register that "this proposed district does not appear to meet the criteria for listing...this nomination has little to recommend it." Owners say the letter amounts to a conflict of interest, since the National Register falls under the National Park Service's jurisdiction. "The superintendent promised the park service would withhold its opinion," says home owner Chris Knight, an attorney. "He said he was shocked and upset when he heard about the letter. But he never told us about it."

The citizens of Stiltsville didn't fold easily. In fact, their case may have been even stronger. The National Register's ruling, and the attendant publicity, generated widespread support. Organized under the banner "Save Old Stiltsville," homeowners collected 35,000 signatures and won backing from five U.S. representatives. Governor Jeb Bush called the retreat "a state treasure that cannot be underestimated by our federal government."

After years of negotiation, time may be running out for the watery community. "Civics 101 is hard at work," says Monika Mayr, assistant superintendent of Biscayne Bay National Park.

"These homes have survived [hurricanes] Betsy and Andrew," U.S. Representative Ileana Ros-Lehtinen told a press conference convened at Stiltsville as an armada of 30 boats blasted their fog horns in approval. "I sure hope it will survive the federal government."

Floridians have come to appreciate the ramshackle houses as a romantic vestige of Miami's young history. It served as a backdrop for *Skin Tight*, a detective novel written by Carl Hiassen. Richard Nixon held a meeting there, and Ted Kennedy—of course—threw a party. "We have a chance to preserve our past," Knight says. "I want to be an optimist. I'm hoping common sense will prevail over bureaucracy."

As of this writing, Save Old Stiltsville was preparing to appeal the National Register's decision. Barring a last-minute reprieve, the residents would have to tear down their own cabins. Far better to face the next wrathful hurricane barreling in off the Gulf Stream, they say, than to be swept away by a sea of bureaucracy.

Residents are hoping for a last-minute reprieve. "It's part of the Miami skyline," says homeowner Chris Knight. "When I look out the plane window and see Stiltsville, I know I'm home."

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At the 1996 Jerusalem Seminar, architectural historian Kenneth Frampton brought distinguished architects and critics together to debate the impact of technology on topography, place, and culture.
By Sara Hart

Technology, Place & Architecture

"Despite the undeniable progress of techno-science and the beneficial effect it has had on the quality of human life, one has sufficient reason to be apprehensive about the tendency of technology to become a new nature covering the surface of the earth while simultaneously destabilizing both the natural and the man-made worlds," warns Columbia professor of architecture Kenneth Frampton in his introduction to *Technology, Place & Architecture: The Jerusalem Seminar in Architecture* (Rizzoli, 1998). This book is a collection of lectures recorded at a three-day conference in 1996—formally called the Jerusalem Seminar in Architecture—which was chaired by Frampton, who invited the participants and chose the theme.

The first Jerusalem Seminar was convened in 1992 by the Rothschild family and its foundation, Yad Hanadiv, to celebrate the completion of the Israeli Supreme Court. The seminar is now a biennial conference for distinguished architects, historians, and theorists to present their work and exchange ideas. Massachusetts Institute of Technology professor Julian Beinart and Jerusalem-based architect Arthur Spector chaired both the 1992 and 1994 seminars, and *Technology, Place & Architecture* also includes excerpts from both of these proceedings.

Frampton constructed the debate on the premise that "technological maximization" for its own sake has led to an architecture of monstrous or magnificent objects unconnected to either place or landscape. Excessive use of one technique often requires excessive use of another (e.g., too much glazing in the desert means excessive air conditioning). The antidote, if there is one, is to reconcile technology with topography and the *genus loci*. Frampton assembled a group of architects whose work reveals coherent strategies for this, but who by no means represent a homogenous collective.

"I picked Renzo Piano, Jean Nouvel, and Enric Miralles in the name of 'technology and landscape,' while Glenn Murcutt, Patricia Patkau, and Alvaro Siza were seen as manifesting a 'critical regionalist' approach to the subject," explains Frampton. "I invited [landscape architect] Peter Walker, because I feel landscape will have an increasingly critical role to play in the future, especially with regard to the mediation of technology in the cause of maintaining some sense of place."

This book is extremely important because it examines the architect's difficult task of balancing the technically possible and the culturally or environmentally appropriate.

Frampton is a rare current authoritative voice who has reconsidered modern architecture in terms of the science of construction elevated by tectonic imagination to liberate it from the narrow confines of ideology and style. *Architecture* asked Frampton to explain and expand on some of the issues raised at the seminar.

ARCHITECTURE: Some seminar participants insisted that technology is eliminating form as it is understood in traditional load-bearing, masonry construction.

KENNETH FRAMPTON: References to dematerialization tend to be somewhat rhetorical, since the materiality of the built fabric remains even when it appears to be partially invisible, as in Nouvel's Cartier Foundation (1994) in Paris. Ever larger areas of plate glass are surely proof of this, because the perpetual dematerialization of glass is only possible under controlled light conditions, and so on. There is a tendency toward lighter and thinner forms of cladding and partitioning of space, the required levels of permeability and insulation being provided through high-tech material, as Nouvel takes pains to point out. However, many aspects of building still remain rather primitive, above all because structures have to be anchored to the ground—and this process is as primitive, "wet," low-tech, and unpredictable as ever it was. [Frampton distinguishes between "wet" techniques, those of traditional masonry construction, and "dry" techniques, which employ high-tech materials, such as heat-resistant and structural glass, glass-reinforced fiber, and high-strength glues and sealants.] Hence, the fertile opposition between the heavy earthwork and the light roofwork that we find in the writings of [Gottfried] Semper. The more architects treat buildings as free-standing esthetic objects, the less the buildings contribute to the sense of place, and the more they tend toward commodification.

Influenced from the outset by the sharp but somewhat apocalyptical writings of Paul Virilio, Nouvel maintains a kind of science-fiction faith in the fatal march of technological progress, although he is not so naive as to imagine that architecture may be reduced to this and nothing else. Thus, despite his recognition of the electronic future and his acknowledgment of the "speed" of our time, he has nonetheless created urban place-forms that are at once intensely sensuous and convincing from both a technological and a topographic standpoint. I am thinking of his Congress building in Tours and his concert hall in Lucerne.

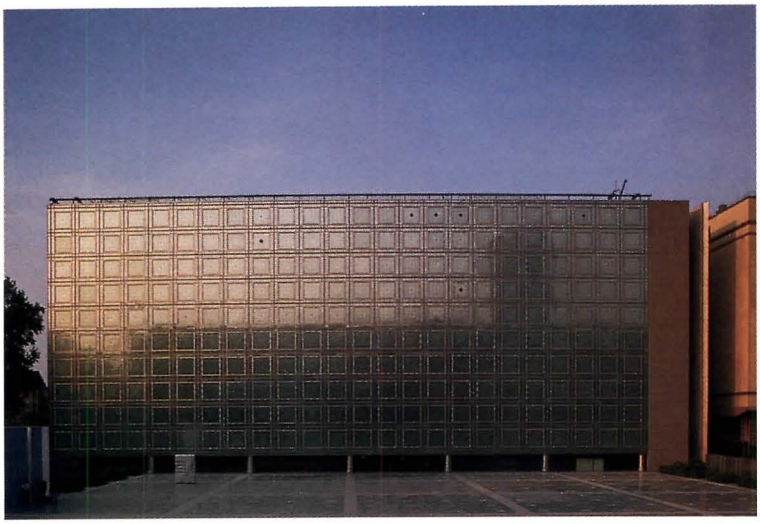
Is it reasonable to expect technology to solve all the ecological and urban crises of the next century? Will technology produce new kinds of cities? Nouvel says only small modifications to existing urban forms are possible, inserting quality where there is none. How will this happen?

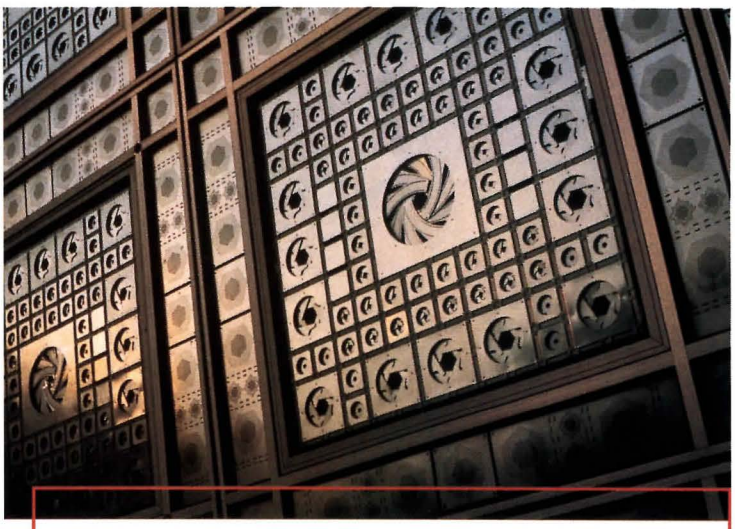
The belief, more prevalent perhaps in the United States than elsewhere, that every intractable condition can be resolved through a technological fix is surely a delusion. The seemingly endless American commodification of the environment through continuous land speculation and suburban subdivision has all the makings of a long-term ecological and cultural disaster, particularly in view of our automobile dependency, the continual consumption of gasoline and corresponding generation of excessive carbon dioxide, among other pollutants. The sticking point is obvious, namely, that to make low-rise, high-density land settlement mandatory while introducing high-speed rail would entail restricting the ideologically sacrosanct freedom of the individual; the corporate establishment enforces excessive levels of energy and land consumption, whether we like it or not. I am not referring to the fate of the traditional city, which is sealed in more ways than one (hence, the urban preeminence of historic preservation), but rather to the need to maintain and redeem in some way the apocalypse of the infinite megalopolis.

Architects should be encouraged to discriminate between science-fiction maximization of high technology as an end in itself and the deployment of an appropriate technology as a means to a liberative and poetic end.

Does technology now drive design? What does it mean for buildings of the next century?

It all depends on what one means by technology, for surely both Nouvel and Murcutt employ sophisticated techniques. The term "appropriate technology" ought to be more widely recognized as a necessary critical stance. And architects should be encouraged to discriminate between science-fiction maximization of high technology as an end in itself and the deployment of an appropriate technology as a means to a liberative and poetic end. In my view, one cannot make claims for the total independence of function from form (and hence from formalization) without risking the loss of our capacity to articulate and enrich the "micro-space" that is so essential to the liberation of the species in a corporal sense. That we will be able to achieve all this in the future through the push-button activation of electronic servo-mechanisms (Henry Miller's air-conditioned nightmare) is neither technologically convincing nor experientially reassuring. The maximization of air conditioning (sealed windows) is just like all the other technological excesses of our time, like the overuse of insecticides and nitrates in agriculture and the gratuitous use of antibiotics in medicine. Surely high-tech may occassionally be the appropriate technique, but we should always keep above our desks the Loosian motto: There is no point in inventing anything unless it is an improvement.



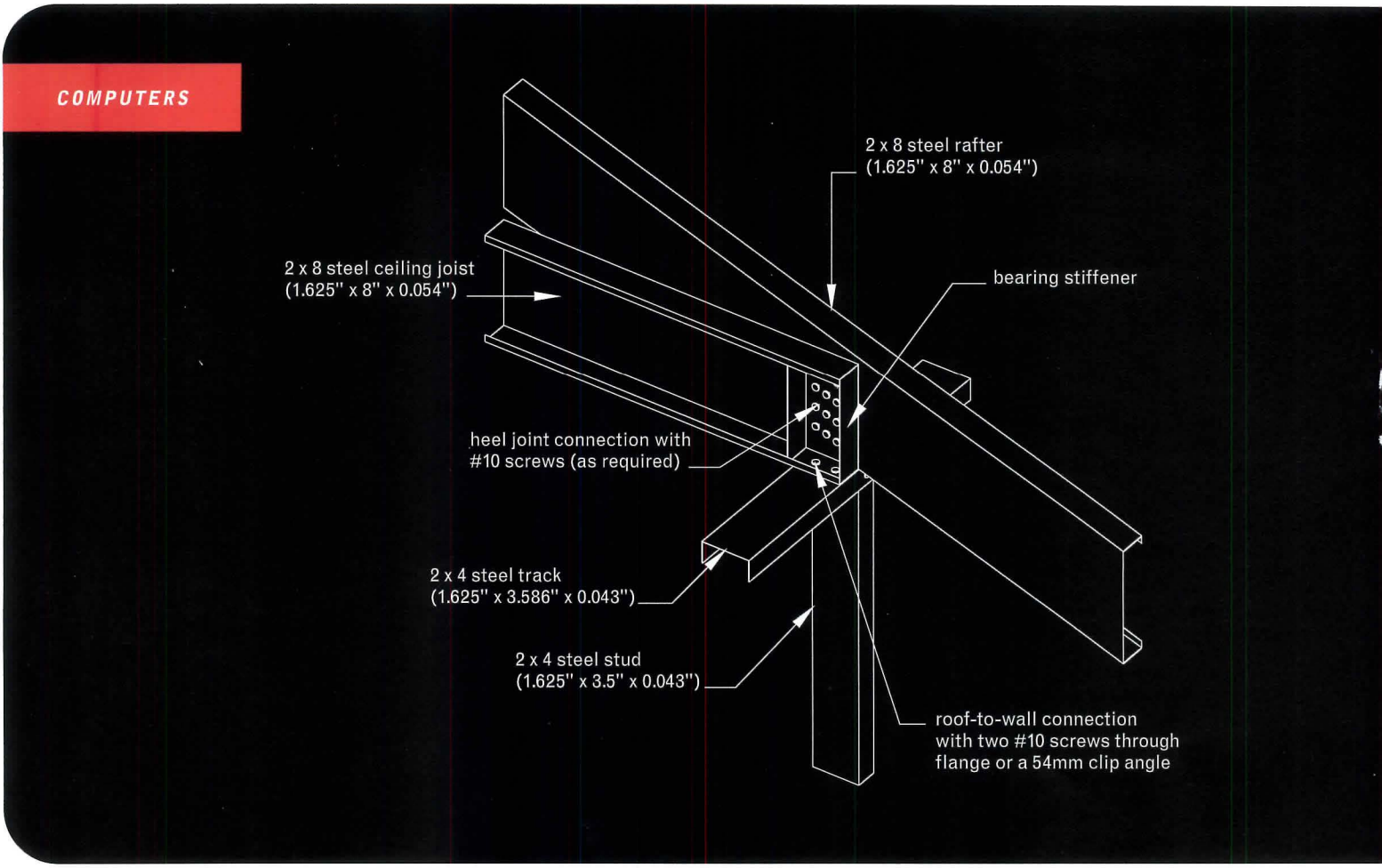


"Through works such as these, I believe we can see the emerging 'ethos of modernity.' To me, being modern means making the best possible use of our memory. It means connecting the most ancient facts with the most recent. It means moving at the quickest pace set by our new knowledge." —Jean Nouvel

In his Arab World Institute (above, left and right), completed in Paris in 1987, Jean Nouvel used mechanical sun screens reminiscent of Islamic decoration. The screens are rotating metal apertures that can be opened and closed electromechanically. Nouvel's Cartier Foundation (1994) boasts three layers of glass (left) in its 59-foot tall facade. The architect used prestressed steel in 18-inch deep beams spanning 52.4 feet to gain higher performance with less material.

Renzo Piano's Jean Marie Tjibaou Cultural Center (below, left and right) in New Caledonia, completed in 1998, comprises 10 double-shelled huts constructed of glue-laminated timber ribs and posts, ranging in height from 65 to 91 feet (*Architecture*, October 1998, pp. 152-156).

"There are many contradictions in architecture. One is surely the interaction between technology and place. Technology today is universal, and if you are not careful, you may easily destroy the spirit of a place. On the other hand, the place is by definition local, and local traditions or other constraints may inhibit the fantastic potential of technology." —Renzo Piano



Plugging Leaks

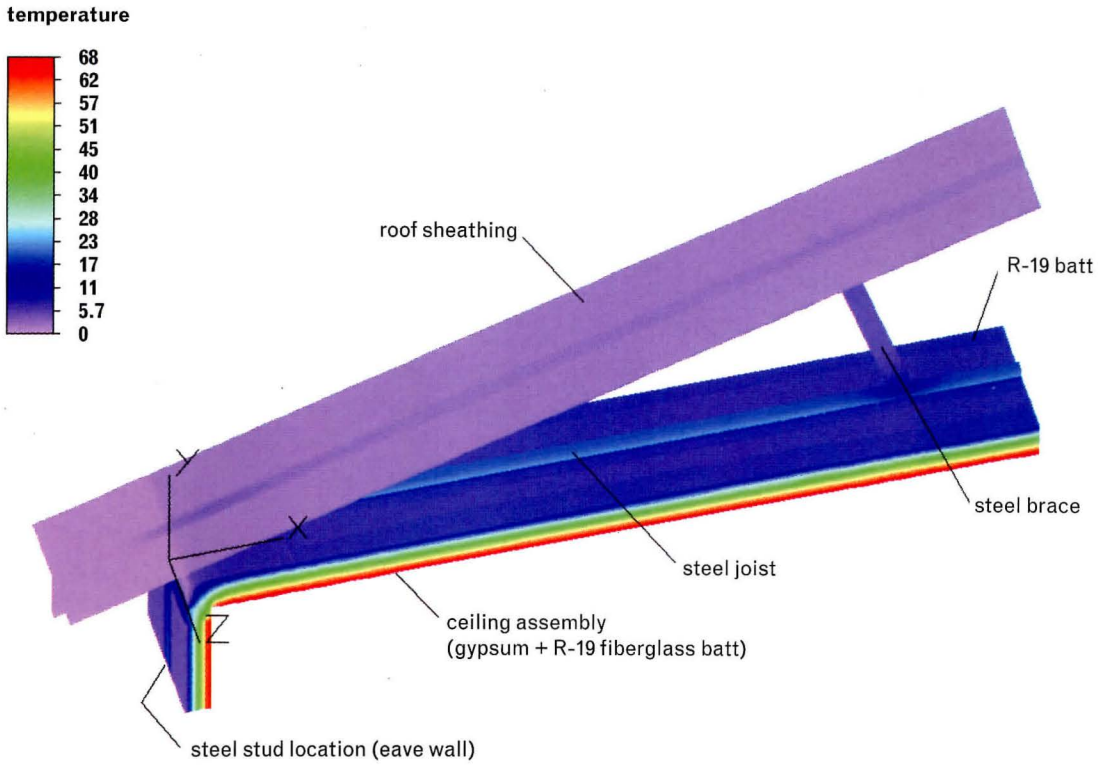
Three-dimensional heat-flow analysis is invaluable for designing optimal performance buildings. By Adrian Tuluca and Michael J. Crosbie

How do you know when a building is leaking? A puddle on the floor is a sure sign. But what if the building is leaking energy? The search for ways to "see" a building's energy puddles has led to sophisticated computer modeling devices that allow architects to examine critical building elements, such as curtain walls, and immediately locate problems.

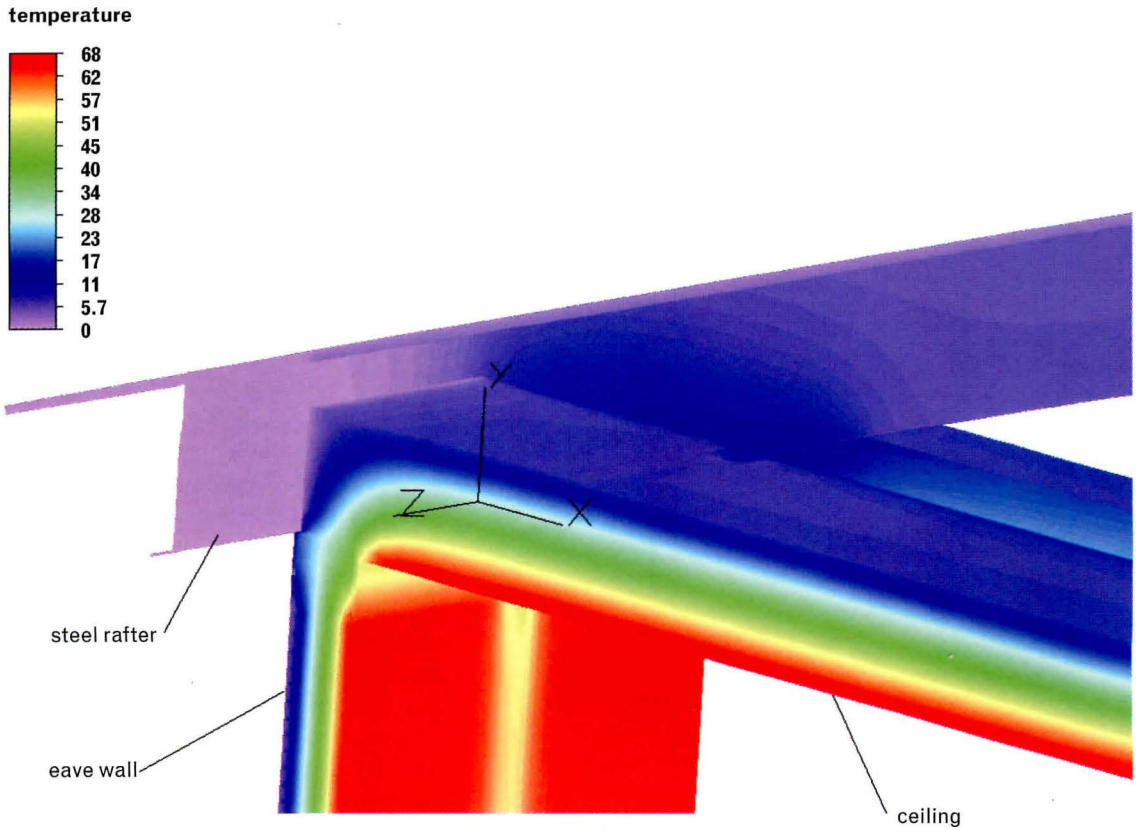
One of the most revealing techniques is heat-flow modeling, using 3-D analysis programs such as Algor (developed by Algor) and Heating-7 (developed by Oak Ridge National Research Laboratory). The user enters the geometry of a selected building assembly into one of these programs, which then models how heat transfers through the building's materials. Three-dimensional heat-flow modeling indicates most clearly where the weakest thermal links are with the aid of a color-coded display. Various strategies for stemming any energy leak can then be studied to understand how best to correct the problem, so that the detail can be redesigned.

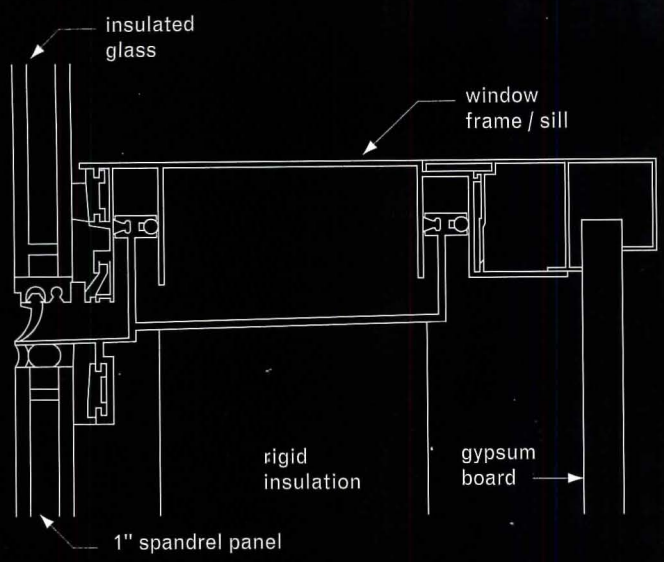
Three-dimensional heat-flow modeling is particularly helpful when studying complex thermal bridging problems where moisture also plays a part. A thermal bridge is a zone in a wall or roof that allows heat to escape at a higher rate (the amount of energy over time) compared with the overall thermal performance of the wall or roof. Typical thermal bridges are steel studs or trusses, aluminum mullions, or concrete slab edges (where the wall insulation is interrupted). Steel, for example, allows about 1,000 times more heat to escape than glass-fiber insulation; the rate for aluminum is 5,000 times more.

Cold-formed steel joists and steel rafters are common in short-span buildings such as houses, small-scale education and health-care buildings, and strip malls. Steel-framed attics, where the insulation is located between the steel joists, present a good example of thermal bridging. The insulation placed between the joists loses much of its value. For instance, if the joists are placed 24 inches on-center, the effectiveness of R-19 and R-30 insulation is reduced to R-7.9 and R-11.2, respectively. Steel-framed eaves further reduce the effectiveness of the insulation at

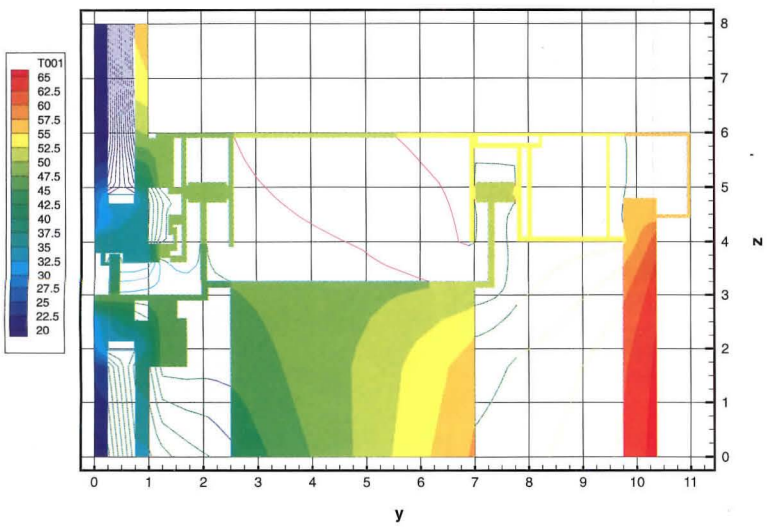


1 **Steel Rafters.** Steel-framed attic (opposite page) allows insulation to be placed between joists. Algor's 3-D modeling of steel framing reveals how thermal bridging takes place. Color-coded drawings (above, below) show warmth of heated room at ceiling. Green zone, where insulation is placed, allows condensation to form on underside of steel joists. Rafter color changes from purple to pink as it extends through building envelope. Brighter blue line along joist indicates thermal bridging. Bright yellow line on inside of eave wall shows thermal bridging at wall's steel stud.





2 **Office Tower.** Detail of aluminum mullions and frame with insulated glass (above) shows rigid insulation beneath aluminum sill and behind spandrel glass. 3-D heat flow models (below) revealed thermal short circuits in detail resulting in cold sill surfaces. Silicone glazed details helped prevent thermal bridging.



the edges. For a 24-foot-wide attic with R-30 insulation, the eave alone reduces the overall R-value by 15 percent. Added together, the joists, eaves, and braces reduce the overall R-value of the attic insulation by about 63 percent if the joists are at 24 inches on-center. If the attic is 48 feet wide, the eave effect (the negative impact a steel eave has on the overall R-value) is less of a problem, but will still decrease the R-value by approximately 59 percent.

Fibrous insulation between the joists in this design invites condensation to form if the building contains high-humidity spaces, such as a swimming pool, humidified medical rooms, or commercial kitchens. According to the 3-D modeling, condensation will form where the insulation meets the underside of the steel joist. When building elements with steel get very cold, moisture from the building's interior can condense, destroying finishes and creating mold, rust, and eventually structural failures. Thus, not only does the thermal bridge waste energy, it contributes to a condition that can cause serious damage and endanger the building's occupants.

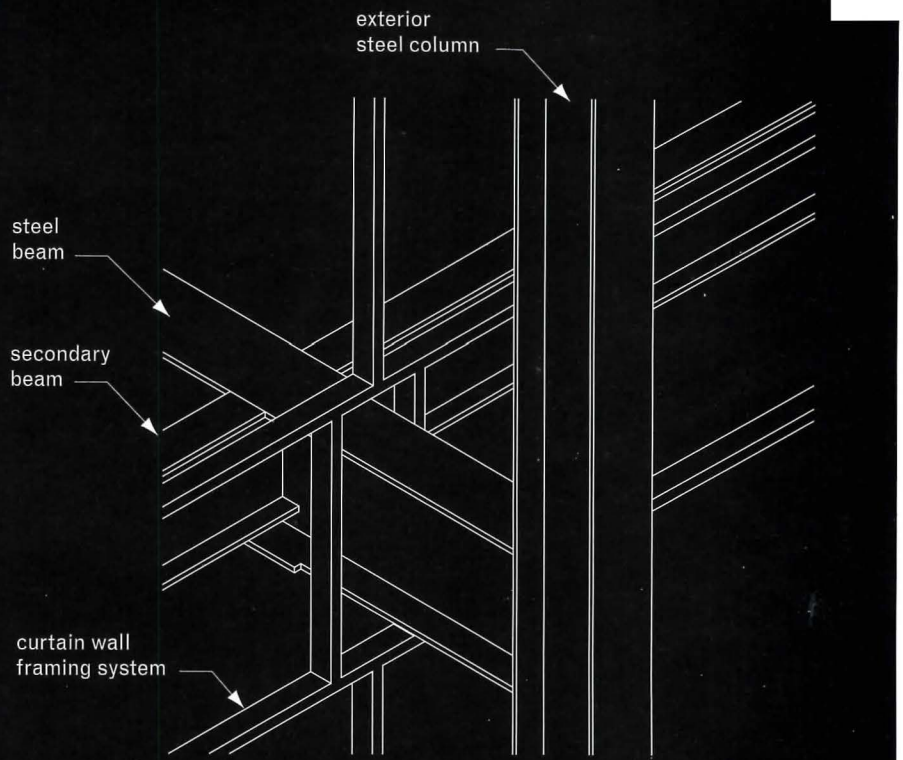
Solutions for this problem are limited. Insulation can be placed on top of the joist in the attic space to mitigate thermal bridging, but it will not stop the heat loss through the steel cross-bracing and at the eave. Insulation placed between the steel members or the ceiling joists will not protect the steel structure from cold temperatures, either. However, a structural insulated panel roof applied to the steel framing will insulate the interior.

The benefits of 3-D heat-flow modeling can also lead to a more sustainable building with a right-sized heating system. For example, the analysis of an office tower in New York City revealed the potential for intense heat flows through the aluminum mullions and around the insulation and glass. These heat flows reduce the effectiveness of materials with high-R-values and create cold surfaces. Three-dimensional modeling confirmed that several strategies under consideration could alleviate the problem. The architect developed silicone-glazed details to minimize the area of aluminum exposed to the outside air and thus to reduce heat loss. They also added insulation at the spandrel glass to boost performance. Analysis revealed that it was better not to provide interior insulation in the steel stud furring. Insulation decreases the temperature of the bottom surfaces of the horizontal aluminum members, making moisture condensation more probable. Finally, computations determined that this state-of-the-art curtain wall had a much lower R-value than estimated by manufacturer, which helped the designers to properly size the heating system. The manufacturer computed the R-value based on two-dimensional heat flow analysis of the curtain wall, but 3-D analysis of the wall portrayed greater heat loss.

On a project for a corporate headquarters, the architect used 3-D heat-flow analysis to understand the thermal performance of a difficult detail: a floor beam that passed through the curtain wall to connect with an exterior column.

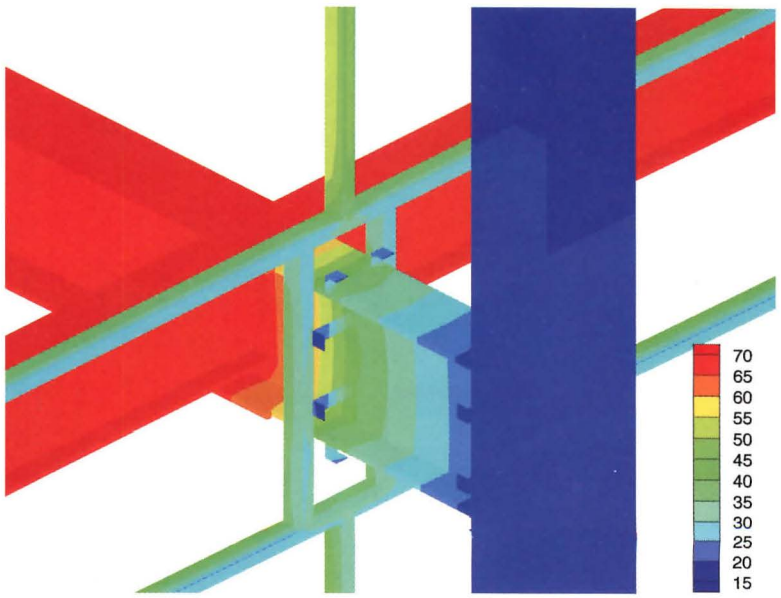
3

Corporate Headquarters. Axonometric (right) shows configuration of steel floor beam passing from building interior through glazed curtain wall and connecting with exterior steel column. 3-D heat flow analysis (below) shows thermal performance of beam when web is insulated with 2 inches of rigid foam and flange with 1 inch. Insulation allowed beam temperature to be kept at levels necessary to prevent condensation.



The exterior steel columns and portions of the beams are at outside ambient air temperature. Where the beams penetrate the curtain wall, moisture from inside the building condenses on their cold surfaces. One remedy—to insulate and clad the entire exterior column and beam—was too costly. The architect also rejected the placement of drip pans below the noninsulated beam at the point of penetration through the curtain wall because they would promote mold growth and rust. Three-dimensional heat-flow analysis showed that only the beam's exterior portion needed to be insulated; column insulation had negligible effect. This seemed counterintuitive, yet there is a good reason for the results. The column had a very large surface area, so insulation only slightly raised the temperature at the beam-column junction. To make a difference, the column's insulation would have to be truly massive, which was unacceptable esthetically and unfeasible economically. The client saved money as well as energy, and got a better performing building.

Simulation technology has advanced to the point where architects can study energy loss and subtle inefficient performance caused by competing building systems long before construction begins. It's easier and more cost-effective to plug an energy leak in a virtual building. In a constructed building, the remedies are far more expensive, time-consuming, and disruptive.

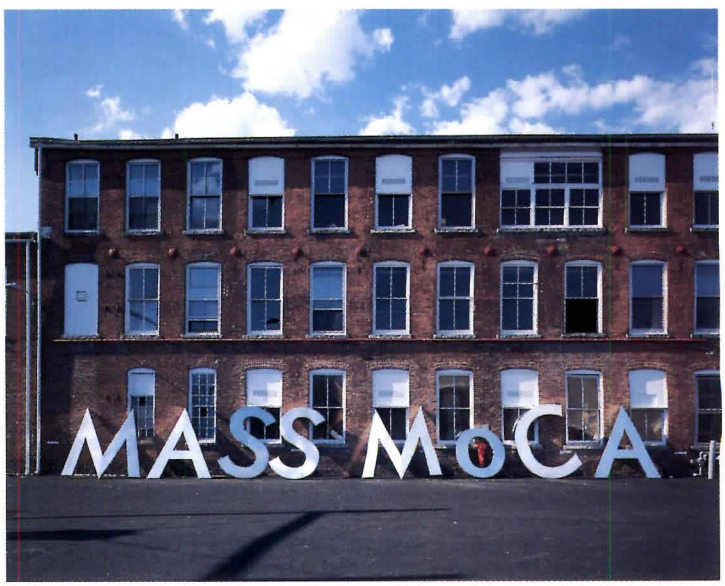


Adrian Tuluca is a principal and Michael J. Crosbie an associate of Steven Winter Associates, an architectural research and consulting firm in Norwalk, Connecticut.

An old town stakes its future

The Big Gamble

By Elizabeth Padjen



on a new museum.

Long before there was Bilbao, there was North Adams, another down-at-its-heels industrial hill town that bet art could spark an economic recovery. After 13 years of struggle, this small blue-collar town in the Berkshire Mountains of western Massachusetts is now home to the largest contemporary art center in the country: the Massachusetts Museum of Contemporary Art (MASS MoCA). Although the Guggenheim Museum and MASS MoCA share roots in an early Frank Gehry-Thomas Krens collaboration, MASS MoCA is in many respects the anti-Bilbao. Completed at a cost of only $68 per square foot, it contains not an ounce of titanium cladding. Some would argue it contains not an ounce of design. Its architect, Bruner/Cott & Associates of Cambridge, Massachusetts, is well respected, but none of its principals ranks as an international celebrity.

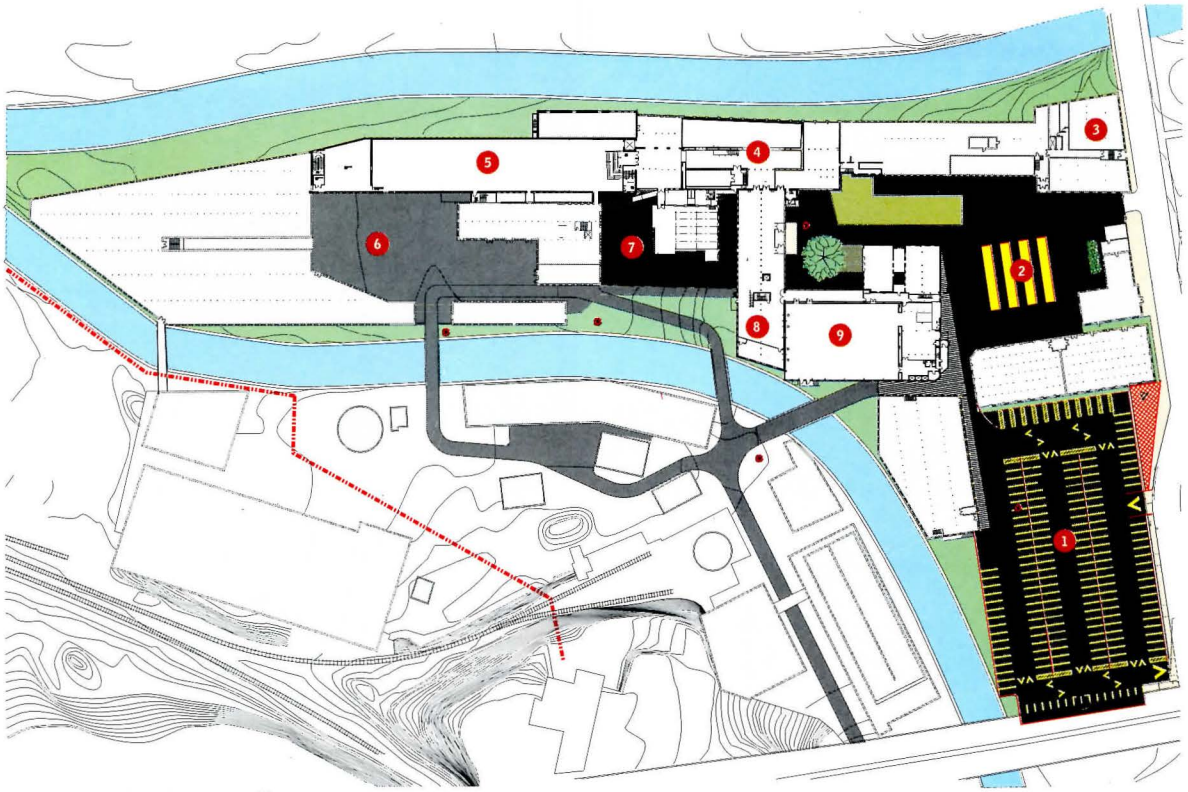
MASS MoCA opened last May on 13 acres originally occupied by a 19th-century textile mill, and later by the Sprague Electric Company. Sprague shut the plant down in 1985, leaving 4,000 electronics workers—nearly a quarter of the city's 17,000 residents—unemployed. "This was a one-industry community," notes Mayor John Barrett III.

As the city scouted in vain for new industrial tenants, Thomas Krens, then director of the Williams College Museum of Art in neighboring Williamstown, offered an observation: The mill buildings' cavernous spaces would make ideal exhibition galleries for large-scale contemporary art. The idea caught on, promoted by community leaders and Governor Michael Dukakis—all of whom pitched the project as an economic recovery mission rather than a cultural crusade. "When Krens came to me in 1985, I didn't understand what he was talking about," Mayor Barrett recalls, "but the project became my obsession. It was our one hope to change the image of this town, which everyone considered a sorry gateway to nowhere."

Boston's media and cultural leaders met Krens' proposal with skepticism, questioning the wisdom of building a new contemporary art

MASS MoCA sign's 8-foot **aluminum letters,** in typeface borrowed from original Sprague Electric Company, lean against Building 2 (left). **Gutted mill space** (above, left) reflects condition of complex as architects found it. **Renovated Building 5 gallery** (above, right), with 30-foot ceilings and concrete floors, now displays works by Robert Rauschenberg.

MASS MoCA sits against backdrop of **Berkshire Mountains** (top). Courtyard C, with steel frame of demolished building, is used for outdoor performances and dining (center left). **Six-story clock tower** marks entrance courtyard (center right). **Steel bridge** connects Courtyard C and museum's entrance gallery (bottom left). View from Courtyard C across bridge connection to gallery (bottom right) exemplifies architect's retention of buildings' **layered history**. Unmarked buildings in site plan (facing page) have not been renovated.



Site plan 83'/25m

museum almost three hours from a metropolitan center. Nonetheless, in March 1988 the state legislature authorized $35 million in state bonds to finance an estimated $72 million project budget. That spring, Krens left Williams College to head the Guggenheim, and Joseph Thompson, an energetic 29-year-old who had collaborated with him on the proposal, became MASS MoCA's founding director.

If MASS MoCA has survived against all odds, so too has its architect. David Childs of Skidmore, Owings & Merrill had already assembled a "dream team" with Frank Gehry and Robert Venturi when Simeon Bruner of Bruner/Cott & Associates talked his way aboard, offering his firm's experience with a dozen mill renovations. The much-vaunted "Massachusetts Miracle" was in high gear, and the team produced an ambitious plan that included an on-site hotel, condominiums, and restaurants. Then came the recession of 1989. "The state budget started to hemorrhage," Thompson recalls. "Our funding was withdrawn, and we were put on hold for several years." In 1993, Thompson commissioned a new study from Bruner/Cott, selecting the lesser known firm because "they had mill buildings in their bones." The new plan reflected the new reality—a $12 million first-phase construction budget, with 70 percent funded by the state and 30 percent from private donors.

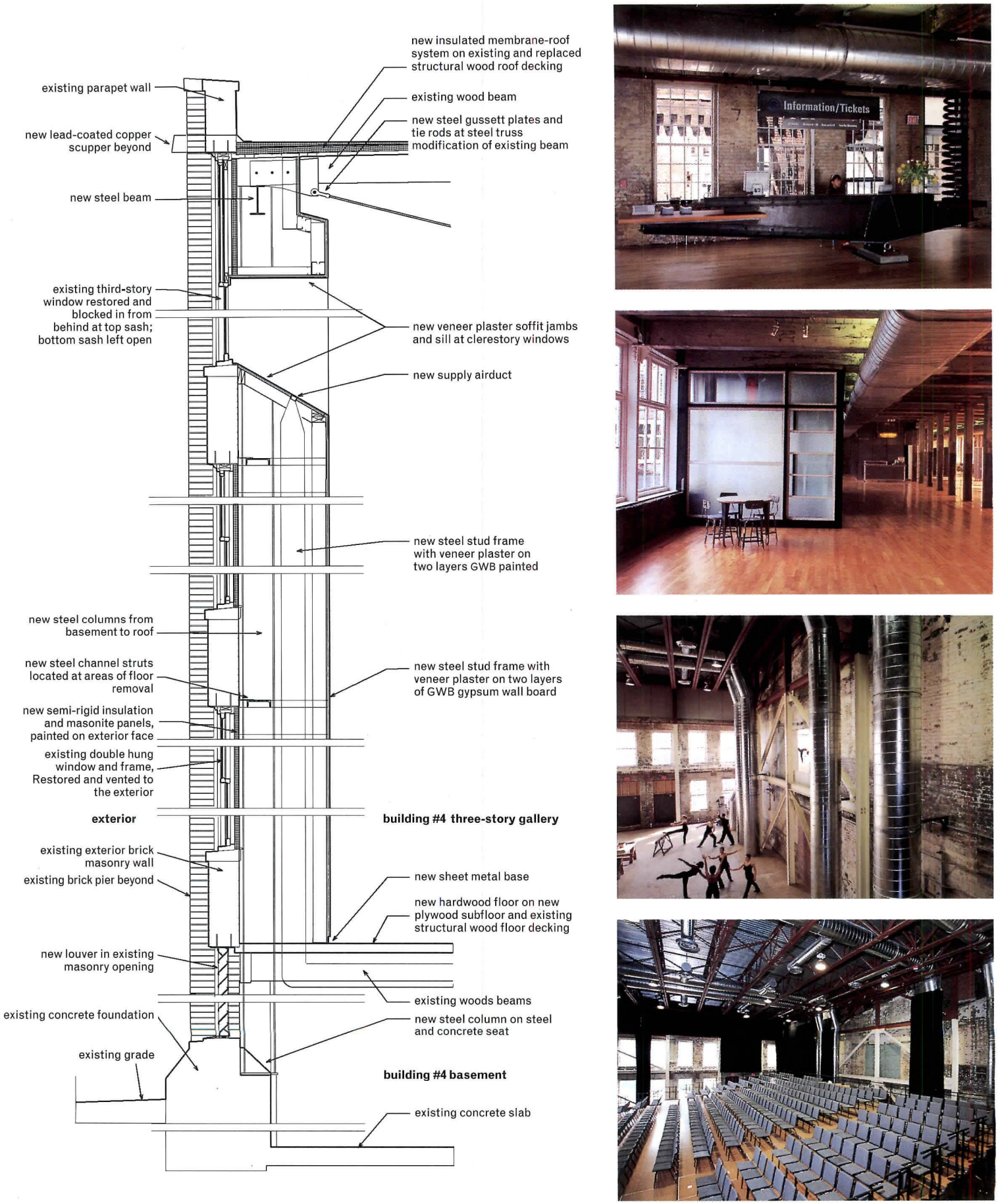
As the project downsized, the building program broadened from the original goal of housing art collections from the 1960s and 1970s to include spaces for the performing arts, art fabrication, and television and film production. The 220,000-square-foot project now includes 60,000 square feet of commercial space leased to high-tech and communications businesses; the space is meant to endow the museum, as well as create Information Age jobs for the region.

A passerby might easily dismiss the new museum as just another derelict mill, long past its glory days. Most of the project's buildings look exactly as they did when Sprague closed—peeling paint, abandoned conduit, piping, and ventilation hoods are intact, contributing as much to the historic character of the structures as dentils and cornices. "We've treated the buildings as 'found objects,'" notes Simeon Bruner. "People sometimes are too precious about old buildings, and they can lose the inherent quality of the structures. We've been able to keep the layers of time and history, and the result is a painterly level of finish that we could never get in a new building." Director Joseph Thompson observes that the nature of the art to be displayed influenced architectural decisions: "This is art that wants rougher, vernacular space. It wasn't made for pure white boxes."

The project team appreciated the irony: Even a hands-off policy is a conscious act of design. There is no nostalgia here; modifications and new work are drawn from a minimalist modern palette. "It's easy to end up with the industrial equivalent of a fern bar," Thompson warns. "You see it in [New York City's] SoHo, a manufacturing of the historic past and the celebration of patina, not reality. Here, we've stuck to our actual past." Still, the design team struggled at times to maintain its own standard of restraint. "When one of us started to get too designy," recalls Bruner/Cott principal Henry Moss, "the others would all jump in."

For all its rawness, MASS MoCA is not the harbinger of a new school of preservation that raises rusted pipe and abandoned conduit to the status of holy relics. "This is not building preservation in the strict sense," Bruner notes. "It is the preservation of space and character." That philosophy perfectly suited the client's needs: an aesthetic that appeals to the museum's constituents; functional flexibility that supports the museum's programs and mission; and a lean budget, without which the project could not have proceeded.

Of the 28 original buildings, only one came down; it was too deteriorated to salvage. Contractors waterproofed, vandalproofed, and removed hazardous materials from an additional 350,000 square feet that will be mothballed for later renovation. The architects selected buildings for inclusion in the first phase based on a counterintuitive strategy: "We chose the buildings in the worst condition," Bruner says, "in order to break the back of deterioration so they wouldn't be lost. We left the obvious easy fixes, which happen to be along the street, for the next phase."



Wall section of gallery shows reconstruction of interior shell (left). Local sculptor designed information and ticket desk (top right). **Light-filled entrance** vestibule offers visitors orientation information (upper middle right). **Black Box Theater** may be used for dance practice (lower middle right), or set up with seating for stage productions (bottom right).

Light flows into gallery in Building 4 (left) through **clerestory**. To provide clear spans in galleries, architect cut existing wood columns (right), transforming them into **king-post trusses** by adding steel plates and lateral ties. Exterminators treated timbers with borate to prevent structural deterioration due to the presence of fungi—a common problem in mill conversions.

The condition of the buildings influenced architectural and technical decisions. The architects removed water-damaged floors, creating two- and three-story galleries. Surfaces in the worst condition are now finished with fresh plaster skim-coats; those in relatively good condition were retained and look rough. "Shells" made of drywall on steel studs went up just inside the exterior walls of one grossly energy-inefficient building to create climate-controlled spaces with smaller heating and cooling loads, while retaining the original windows. The result is a series of 19 distinct—even idiosyncratic—galleries. One is larger than a football field; it ranks as the largest exhibition space in the United States.

Bruner/Cott's hands-off design policy favored the tight budget, but cost control still required some ingenuity. For example, MASS MoCA saved at least $1 million by establishing its own on-site window workshop staffed by craftsmen assisted by students from a local vocational-technical school and students with learning disabilities. "The windows are repaired or replaced by the owner on an as-needed basis that also allows for long-term maintenance," Bruner reports. By his estimate, outside contractors would have charged up to $2 million dollars to replace and repair the complex's 2,000 windows, an expense that would have killed the project. The museum has also established agreements with artists who work in steel, bartering studio space for lampposts that would have otherwise cost $7,000 apiece. More than $1.5 million was saved by using the existing site infrastructure of pipes, valves, and sprinkler mains. "No engineer wanted to take that on," Moss reports. "We worked with a local plumber and the North Adams fire department and building inspector, opening underground mains, testing for leaks, and repairing valves. The total cost was $80,000."

Bruner/Cott worked with the client and a sympathetic building inspector who helped them extract maximum flexibility from code requirements. In some cases, the state granted them variances. "You don't risk life-safety or accessibility, but sometimes you can be more flexible on comfort or convenience issues," Bruner counsels, adding that "convenience" features will be added later. Only two elevators, for example, were provided in this phase. Similarly, a strict interpretation of the plumbing code would have required 174 toilets, based on floor area; instead, 25 fixtures have been provided in one central location. The client also agreed that optimal design conditions were not required throughout the complex: Full climate control is provided only in limited critical-collection areas, and posted floor-loading charts indicate galleries with 50 pound-per-square-foot loading instead of 100 pound. Even light control is minimal by museum standards. "Most museums fear light," notes Thompson, "but here we're showing mostly sculpture."

Mill buildings are New England's unsung vernacular treasure; they define the regional landscape far more than postcard-perfect white churches on town greens. They also serve as icons of entire communities. "These buildings were an integral part of our heritage for many years," notes Massachusetts Lieutenant Governor Jane Swift, a North Adams native. "But this project goes far beyond brick and mortar, and even job creation. People talk about the clock working again; the key moment for me was seeing lights on at night. It's lifted the spirits of the entire community."

MASS MOCA, NORTH ADAMS, MASSACHUSETTS
CLIENT: MASS MoCA **ARCHITECT:** Bruner/Cott & Associates, Cambridge, Massachusetts—Simeon Bruner (principal-in-charge), Henry Moss (principal), Phoebe Crisman (project manager), Maria Raber (project manager, construction), Robert Crosky (site representative)
LANDSCAPE ARCHITECT: Bruner/Cott & Associates **ENGINEERS:** Boston Building Consultants (structural); Abbood Holloran Associates (mechanical)
CONSULTANTS: Alan Symonds (lighting) General contractor: Peabody Construction
COST: $12 million **PHOTOGRAPHER:** Peter Vanderwarker

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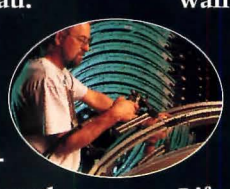

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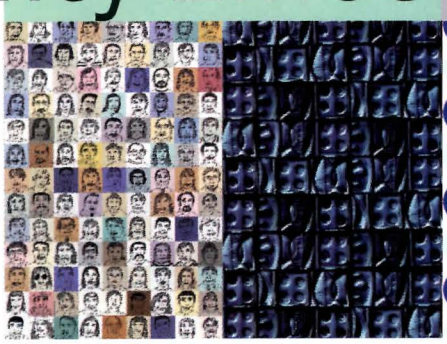

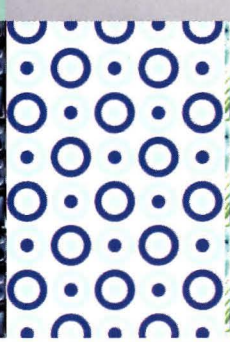

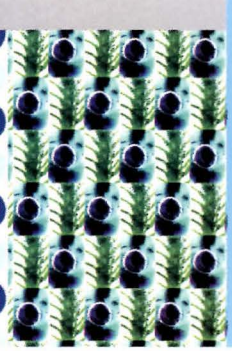

CLOCKWISE FROM TOP LEFT: **Comfort Zone** After four years of research with ergonomists, Steelcase has designed Leap, task seating that conforms to each individual's unique spinal motion. Based on the knowledge that the spine does not move as a single unit, Leap's new technologies provide independent controls to accommodate different amounts of support for both the upper and lower back. The chair's slatted polypropylene back adapts to an occupant's movements, enabling the lower spine to maintain its natural curvature. As the user reclines, the seat glides forward to help workers maintain a comfortable posture. *Circle 297 on information card.* **Drop-Dead Gorgeous** Each of Brooklyn-based lighting designer David Weeks' hand-made designs is inspired by modernism's machine age. Weeks' creativity and attention to detail snagged him this year's prestigious Editors Award at the International Contract Furniture Fair (ICFF). The Wood Point and Wood Curve Pendant (N° 413 & N° 414) are available in wood ash, ebonized mahogany, and clear or painted aluminum. *Circle 298 on information card.* **Bathroom Beauty** D Line International's new line of flexible restroom panel dispensers can be configured for custom applications. Panel combinations are created from modules available in three sizes and can be installed horizontally or vertically. Manufactured in acid-resistant stainless steel, the modules are appropriate in commercial or residential environments. *Circle 299 on information card.* **At Your Surface** Wilsonart won this year's ICFF's Editors Award for Body of Work for their Millennium Collection. Wilsonart brought together 22 artists and designers, including Nick Dine and Jonathan Adler, working in mediums from architecture to video and asked them to create a custom laminate. The eclectic designs are a response to today's changing esthetics as well as Wilsonart's new philosophy that custom laminates should be available with no minimum order requirements. *Circle 300 on information card.*

Compiled by Joelle Byrer

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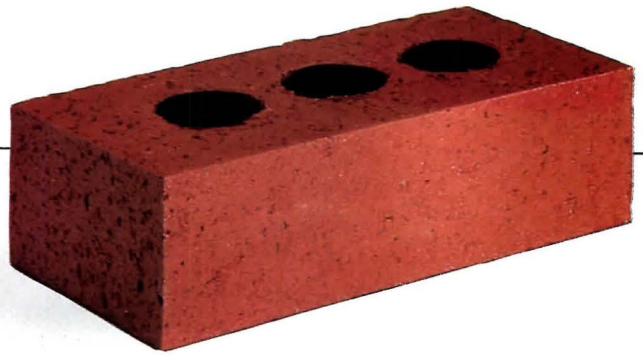

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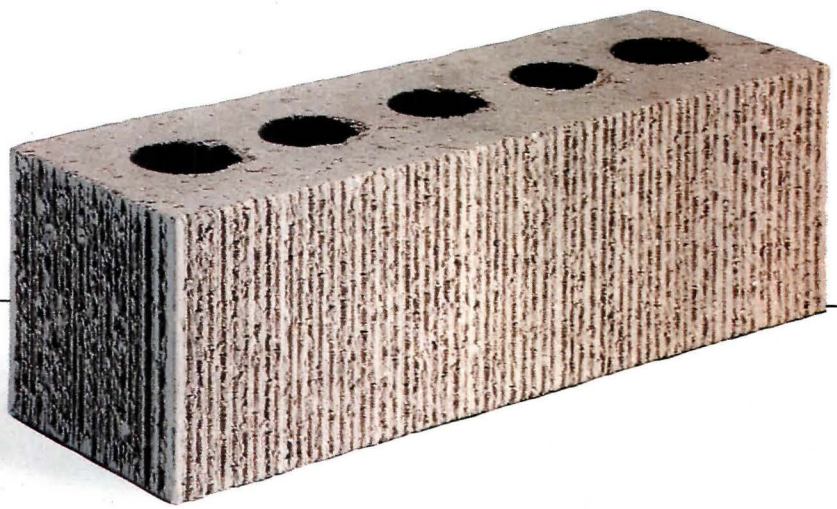

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Power Plant

Architectural metaphors for power are as at home in Louisiana as they were in Stalinist Russia. By Andrei Codrescu

Huey P. Long, Louisiana's Depression-era governor, was a larger-than-life figure whose boundless ambition is immortalized by the State Capitol Building (1932) in Baton Rouge, a 450-foot-high tower that resembles Soviet-style structures of the same era. The allegorical winged figures that guard the corners, which represent law, science, philosophy, and art, are stylistic twins of similar socialist-realist allegories. The carved frieze at the base of the building, which illustrates historical struggles, would have been at home in Joseph Stalin's Russia.

Governor Long was a proto-dictator in the populist manner of Argentina's Juan Perón, his contemporary. Long ruled Louisiana like a private fiefdom, but with greater ambitions. His populist presidential campaign was cut short inside his own monument by an assassin's bullet in 1935. The central hall, between the ornate house and senate chambers, still bears the traces of these bullets, worn smooth by the fingers of Louisiana schoolchildren who were brought there for history lessons. Long's statue, with its uncanny resemblance to Soviet statesman Vyacheslav Mikhaylovich Molotov, faces the State Capitol Building. Adoring sculpted masses crawl up his right side, while a replica of his building snuggles under his left arm. People grateful for Long's Depression-era jobs program still leave fresh flowers at the statue's base. In his research, documentarian Ken Burns found hundreds of men and women in Louisiana named Huey Long.

Effigy of **slain governor Huey Long** presides over Louisiana's capitol gardens. Under statue's gesticulating arms are replica of capitol (at left) and devoted populace (at right).

In contemplating the Capitol, which can be seen from a great distance while driving from the west, the relationship between architecture and the cult of personality is starkly revealed. In Stalin's Russia, monumentalism was checked only by the purely human inability to take it all in. The statue of Stalin that stood at the confluence of the Volga and Don rivers, straddling both, was possibly the largest monument ever constructed in the Soviet Union. Anything taller would have simply disappeared in the clouds. As it was, Stalin's head was allegedly equipped with a pigeon-killing ray that fed mobs of starving people milling about his huge bronze boots.

Long, satirized in Robert Penn Warren's literary masterpiece, *All the King's Men* (1946), never achieved the power of Stalin or Perón, but his architectural impulses were similar. In addition to his Capitol, which is the tallest such building in the United States, he built a swimming pool at Louisiana State University that spanned, on his orders, 101 meters instead of the standard 100. Today, 1 meter must be roped off for meets to take place. He built a bridge in Baton Rouge over the Mississippi River too low for ships to pass through, effectively ending river commerce in Louisiana.

In the 1930s, size was everything. Humanity seemed bent on creating the fastest machines, the biggest buildings, the most exacerbated personalities. At the height of the Depression, what must have looked like a defiant form of optimism turned out to be a rush toward self-destruction. Nostalgia for certain styles—and there are plenty of nostalgists for socialist realism around—carries within it the still-virulent impulses of an age that ended violently. ■