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architecture



ANNUAL
AWARDS
ISSUE

SUBTLE SHIFTS
Design Moves Away from
the Big Gesture



Magazines have personalities. We read *Atlantic Monthly* because it is erudite and serious. We read *Wired* because we'd like to live up to its name. We read *Martha Stewart Living* because, well, no one else can tell us how to turn old hospital gowns into colorful table linens.

Architecture magazines have personalities too. In fact, for many years, America's design publications shared the *same* personality: elegant, stately—and dull. Avoiding risk and steering clear of controversy, these magazines sailed so steady a course through the center of the profession that you hardly noticed when they passed. Or if they passed.

Last January, *Architecture* set out to change all that. In keeping with our newfound status as the profession's only independent voice, we shed our skin and launched the bold design you are

Richard Ingersoll, and others. Our outside contributors and staff editors are the great strength of this magazine, the foundation upon which we've built our reputation as the nation's best written, most respected architectural journal.

You'll meet these people in the magazine over the coming months. And as the new editor-in-chief, you'll get to know me as well. This column will be a bully pulpit, not an amen corner: Two decades of studying, practicing, teaching, and writing about architecture have convinced me there is no other profession more vital, or more vitally important, and I intend to make sure that architects and non-architects alike agree. I'm passionate about this profession—its strengths as well as its weaknesses—and I'm not afraid to raise some eyebrows in getting that message across.

My appointment as editor-in-chief marks

On The Move

Architecture has a new editor, and a new home.

holding: graphics that say design; reporting and criticism directed at intelligent readers—in short, a magazine architects want to read, not just one they get because it's free. Our intention was to shake things up, break a few rules, and topple a few sacred cows. (We even put one on our cover last May to drive the point home.)

People noticed. We swept *Folio*: magazine's Ozzie awards (the Oscars of magazine design). In a field of more than 1,100 submissions, we took home six of the 34 awards granted, an unprecedented four Gold awards and two Silvers—one for each of the categories we entered, including Best Overall Design.

We brought new writers on board, some of the best in the business: Aaron Betsky, the feisty design curator of the San Francisco Museum of Modern Art; theoretician and academic firebrand Diane Ghirardo; outspoken art critic and professor Dave Hickey; and renowned cultural observer and housing expert Witold Rybczynski, to name just a few. They joined the industry's most illustrious list of contributors, including Peter Buchanan, Joseph Giovannini,

a transition for *Architecture*, a scant year-and-a-half after the transition that led to our new graphic and editorial format. Further, it is accompanied by the move of our editorial offices to New York City (see address change, page 4), home of our parent company, BPI Communications. This pace of change, once unheard of in the glacial world of architectural journalism, will not relent: *Architecture*, like the profession it chronicles, will continue to evolve.

Change is always easier to swallow if it is accompanied by something familiar. The P/A Awards have been the nation's premier architectural prize for 44 years, and it gives us great pleasure to continue that tradition in this, our annual awards issue (see pages 61-93). We are equally pleased to present once again the Awards for Architectural Research, sponsored in conjunction with the American Institute for Architectural Research. It is an honor to introduce myself alongside our award winners, *particularly because they embody the progressive personality of this magazine so well.*

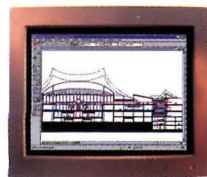
Reed Kroloff

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Archi-babble

Whether RoTo Architects' Carlson Reges House (*Architecture*, February 1998, pages 64-73) is the "breakout house" or "the next significant notch on the timeline," as author Joseph Giovannini claims, is certainly debatable. But please spare me the archi-babble of "the serene idealism of a Petit Trianon [that confronts] the powerful metallic materiality of the industrial landscape in a roiling composite of the cooked and the raw."

This is about more than semantics. There is something rather outrageous about "hard-nosed logic and a heavy dose of heavy metal." Archi-babble only clouds the issue. Besides, Giovannini knows better: His tribute to Brendan Gill in the same issue (page 29) is eloquent and thoughtful.

Ellis Kaplan
Bolinis, California

Anti-local?

It is obvious from your critique of the Frio Street Building in San Antonio, Texas (*Architecture*, February 1998, page 55), that your biggest problem with the building is that architect Humberto Saldana is local. You admire the fact that Saldana emulates the characteristics and style of the architecturally baptized cognoscenti. If [a more famous architect] had designed it, it would be considered a work of note, but designed by Saldana, it must be critiqued detail by detail to show its unworthiness. Your protest was not worthy of a national publication.

William J. Mello, Jr.
Bedford, Massachusetts

Preservation woes

Your splenetic February editorial (page 15) attacking preservation and design review districts (with New Urbanism thrown in for good measure) reminds those concerned with issues of urbanism that—just as health shouldn't be entrusted entirely to the medical profession—the character of our cities and towns should not be left to architects. Historic preservation began as a grassroots movement that has contributed more to urbanity at modest public cost than all the costly urban renewal schemes shaped by Modern architecture.

I live in a city managed by 26 different design review districts.

The interrelationship of buildings, streets, signage, and other features has been greatly enhanced—and many architects have been employed in the process. You either don't understand or don't care.

Philip A. Morris
Birmingham, Alabama

I am responding to your article on the Secretary of the Interior's Standards and Guidelines for Historic Preservation (*Architecture*, January 1998, pages 126-130). Professional discussion forums such as that recently held by AIA New York seem to be a rarity. The last large-scale symposium, titled "Old and New Architecture: Design Relationship" and sponsored by the National Trust for Historic Preservation, was held in 1977.

Today, the issue of additions only comes to a head at public hearings or preservation reviews, at the expense of many client dollars and professional hours. Only when true collaborative exploration of the subject takes place will it be possible to move beyond the sometimes simplistic separation and hierarchy of the new and old. The built environment must be seen as a continuum.

Scott Demel
Brooklyn, New York

Ethically speaking

Why should Joseph Gonzalez be out of a job (*Architecture*, January 1998, page 11)? Perhaps because SOM and Gonzalez determined that his lack of professional credentials did not properly serve the firm and its clients in his position as partner. However, I am not concerned about Gonzalez—with a 23-year career at SOM, he certainly has demonstrated the personal acumen to weather this storm.

Rather, I admonish you for your disparaging remark about the "design-impaired [interns that sail] through" the exam each year to staff the production and management teams that support "talents" such as Gonzalez. For 23 years, somebody stepped forward and took professional responsibility for the likes of Gonzalez and his "better recent buildings" at SOM. Without the contributions of licensed architects, his designs never would have seen the light of day.

Remember—architecture is a collective activity that requires many talents, skills, and aptitudes.

However, state statutes distill this collective activity to a licensed architect, the single point of responsibility. Any person (even a design-impaired intern) who demonstrates the aptitude demanded by the Architect Registration Examination and acts as the single point of responsibility should not be maligned, but praised.

Craig Deering
Arlington, Virginia

Nothing nice to say

I am appalled by the negativity of your articles on Frank Gehry's Guggenheim Museum Bilbao and Richard Meier's Getty Center (*Architecture*, December 1997, pages 60-93). Rather than celebrate these accomplishments, your article focuses on their "failures," as subjectively perceived by your critics. While you heap praise on the Guggenheim and criticize the Getty, another perspective might view the Guggenheim as gratuitous abstraction and complication of form and the Getty as a humanist, Postmodern statement of order appropriate to the collection it houses.

Equally bewildering is Alan Schwartzman's article titled "Art vs. Architecture" (pages 56-59). I have visited museums all over the world, including most of the buildings Schwartzman mentions, and I have not experienced the disasters that the author suggests. While constructive criticism is important, when it becomes subjective, I am reminded of that old saying: "If you don't have anything nice to say, don't say anything at all."

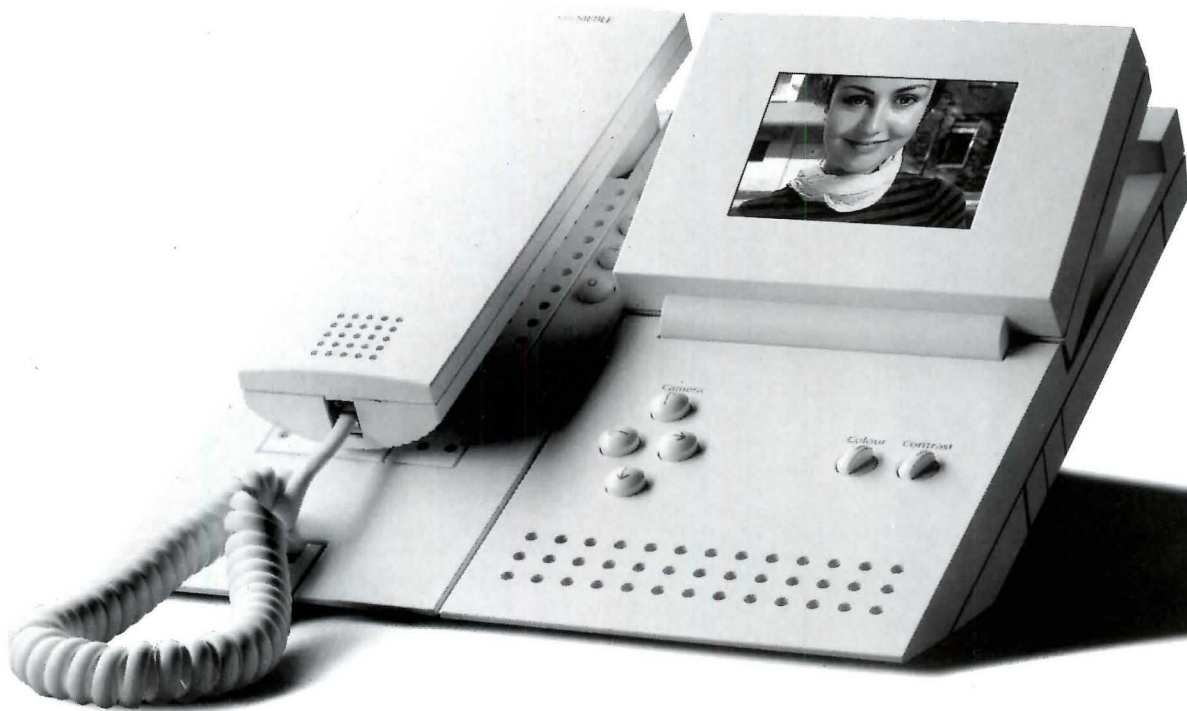
Paul S. Swedlund
Rapid City, South Dakota

CORRECTION

Richard Lee Francis's letter to the editor in our December 1997 issue (page 15) should have suggested that Gwathmey & Siegel Associates locate their addition to the Henry Art Museum in Seattle (*Architecture*, September 1997, pages 120-127) to the south of the museum, not across the street as printed.

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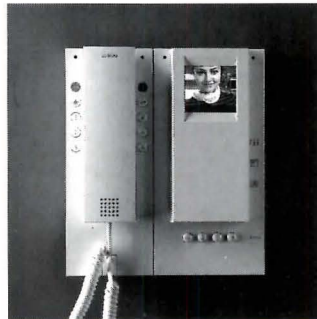
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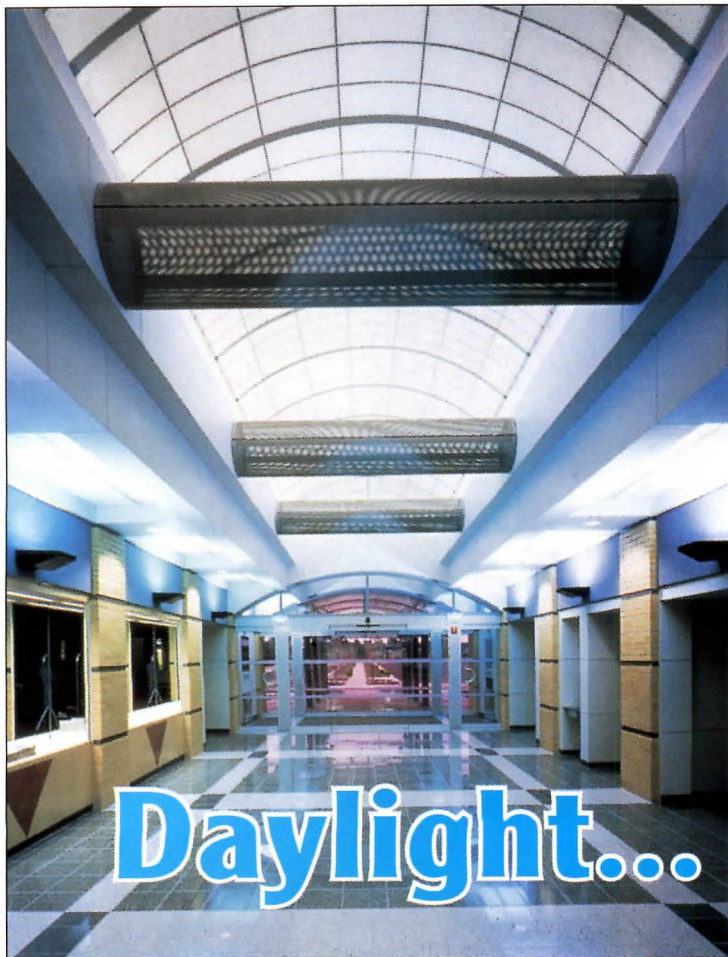
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exhibitions

city	dates	exhibition	contact
Chicago	through May 3	Japan 2000: Architecture for the Japanese Public at the Art Institute of Chicago	(312) 443-3600
New York	through April 25	Archigram: Experimental Architecture 1961-1974 at The Thread Waxing Space, Columbia and Cornell universities, and the Storefront for Art and Architecture	(212) 966-9520
	through May 26	Alvar Aalto: Between Humanism and Materialism at the Museum of Modern Art	(212) 708-9400
	through July 7	Landmarks of New York at the New York Historical Society	(212) 873-3400
Pittsburgh	through July 19	An Architecture of Independence: The Making of Modern South Asia at the Carnegie Museum of Art	(412) 622-3131



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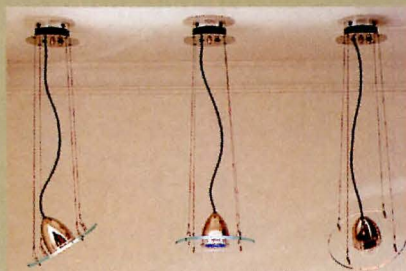
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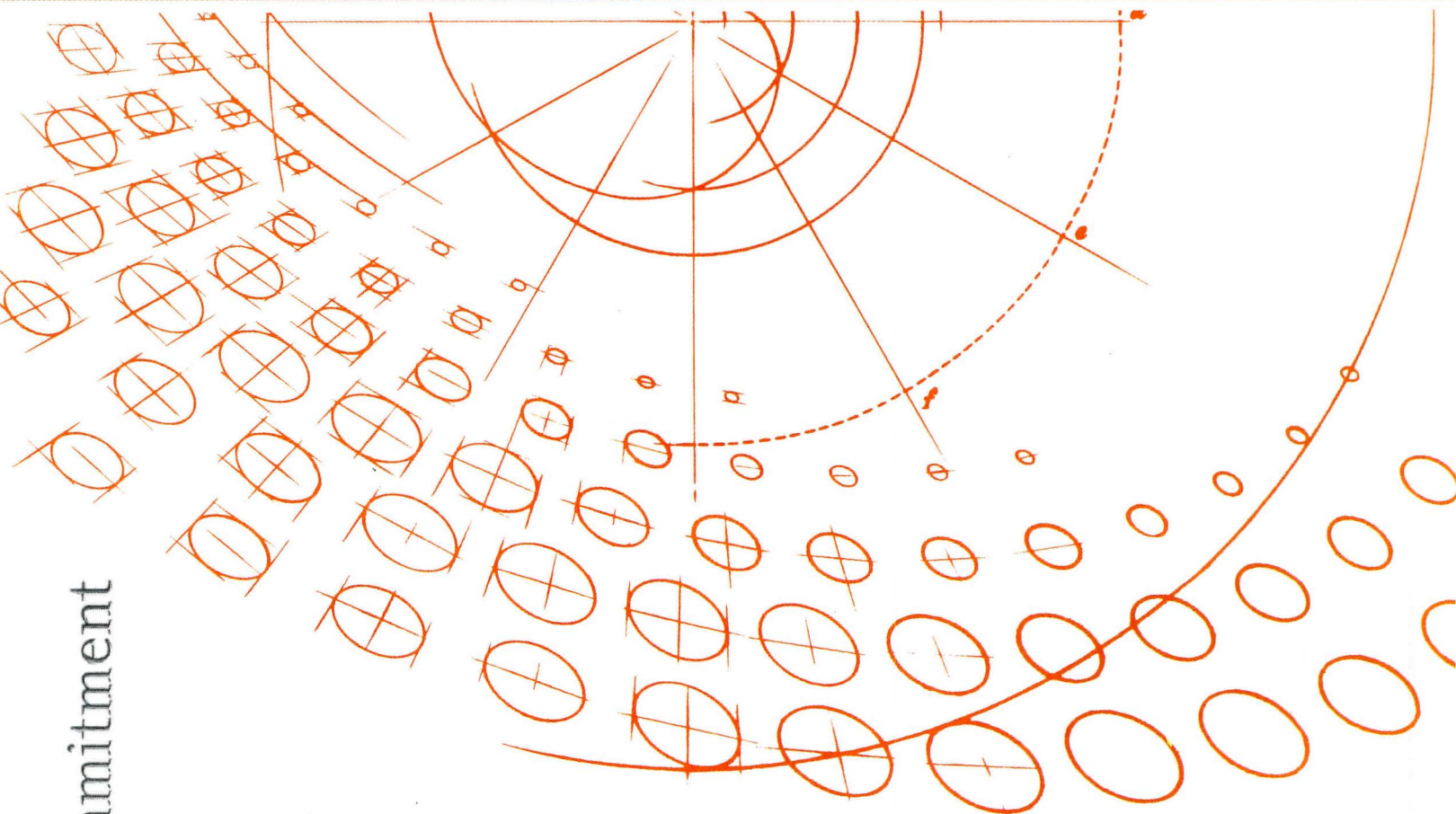
conferences

city	dates	conference	contact
Baltimore	June 25-28	Construction Specifications Institute Convention and Exhibit	(800) 689-2900, ext. 772
Berkeley	May 7-10	California Preservation Foundation Conference	(510) 763-0972
Chicago	June 7-10	Decorex USA	(800) 677-6278
	June 8-10	NeoCon	(800) 677-6278
Hilton Head	August 26-29	National Marketing Conference, sponsored by the Society for Marketing Professional Services	(800) 292-7677, ext. 14
Las Vegas	May 26-29	Lightfair International, sponsored by the International Association of Lighting Designers and the Illuminating Engineering Society of North America	(972) 620-3036
San Francisco	May 14-17	AIA National Convention and Expo	(202) 626-7395



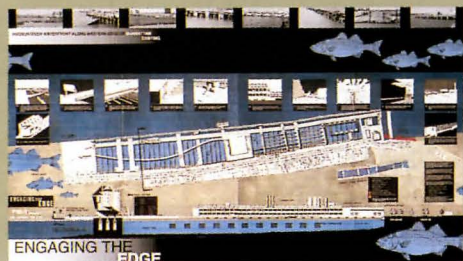
Boyd Lighting's Tilt 16 Pendant
will be on view at Lightfair.

Commitment



competitions

competition	deadline	contact
The Burnham Prize , sponsored by the Chicago Architectural Club	April 14	(847) 381-2946, ext. 236
1998 National Preservation Awards , sponsored by the National Trust for Historic Preservation	May 1	(202) 588-6092
National Art & Design Competition for Street Trees , sponsored by the City University of New York and the Cooper-Hewitt, National Design Museum	June 5	(212) 642-2970
Student Case Study Competition , sponsored by the University of California, Berkeley	June 15	(415) 972-5931
Good Design Awards Program , sponsored by the Chicago Athenaeum	July 1	(312) 251-0175
Unbuilt Architecture Design Awards and Young Architects Awards , sponsored by the Boston Society of Architects	August 17 and August 30	(617) 951-0845 fax
Johannesburg, South Africa, Constitutional Court Competition	August 25 (registration)	(27) (12) 325-8095 fax



Hudson riverfront proposal by Tunch Gungor won 1995 BSA Unbuilt Architecture Award.

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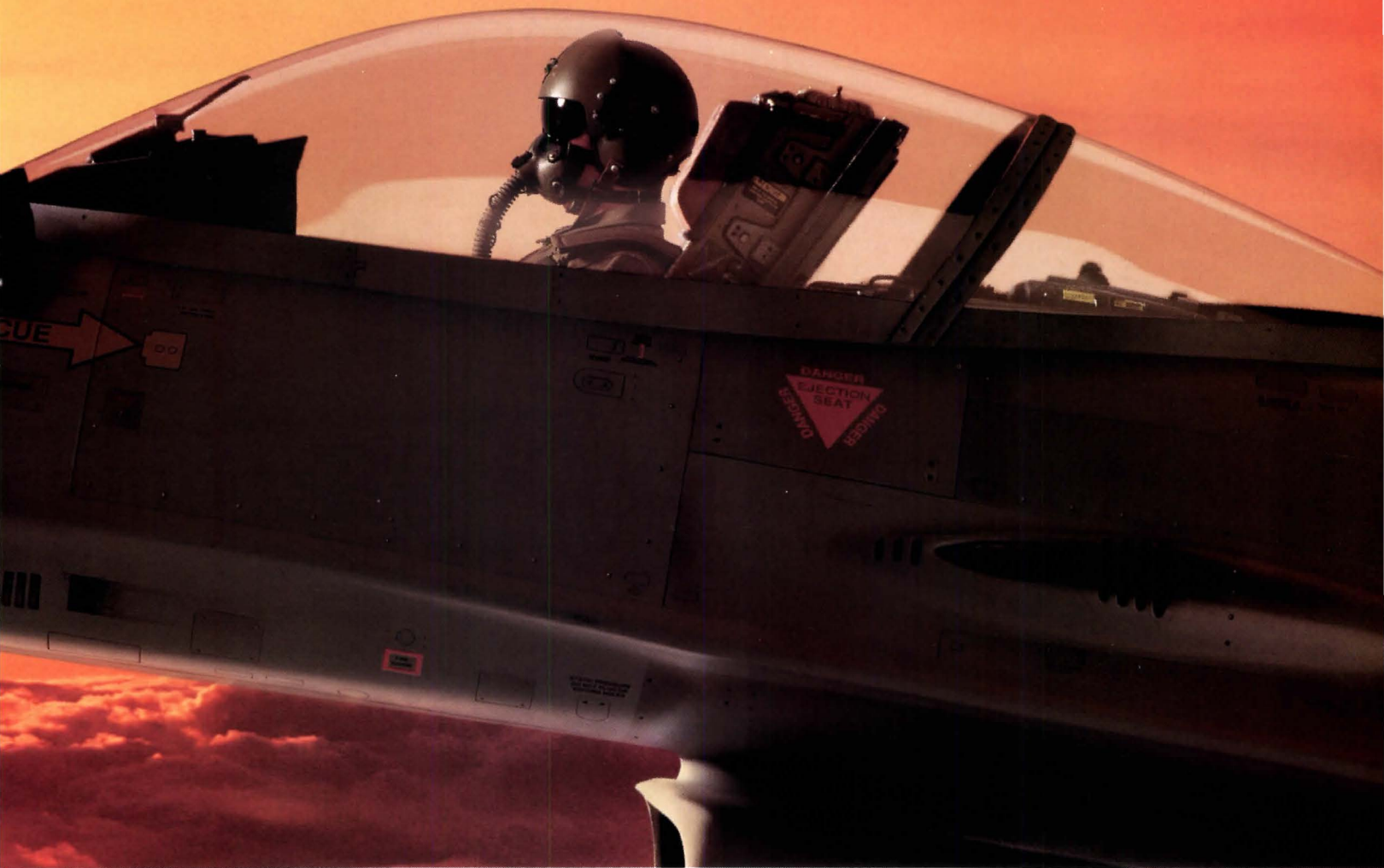


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HADID TAKES CINCINNATI

Trustees of the Contemporary Arts Center in Cincinnati, Ohio, concluded a nine-month search for an architect early in March by choosing Zaha Hadid to design their new \$25 million building overlooking a busy downtown intersection. The 65,000-square-foot facility will be the first in the United States by the London-based architect.

Hadid was chosen over finalists Bernard Tschumi and Daniel Libeskind from a field that originally numbered 97. Hadid convinced trustees that she would design a building with a "gorgeous" exterior that would also engage art exhibits in an active dialogue between architecture and art, said Director Charles Desmarais.

Desmarais also said the building would be "a beacon of pride" for a city whose arts community has run famously afoul of Christian fundamentalist politics and cultural intolerance. Construction on the Contemporary Arts Center is scheduled to begin late in 1999 and will be completed late in 2001 or early in 2002. *Steven Litt*

ARCHITECTS OPPOSE CALIFORNIA INITIATIVE

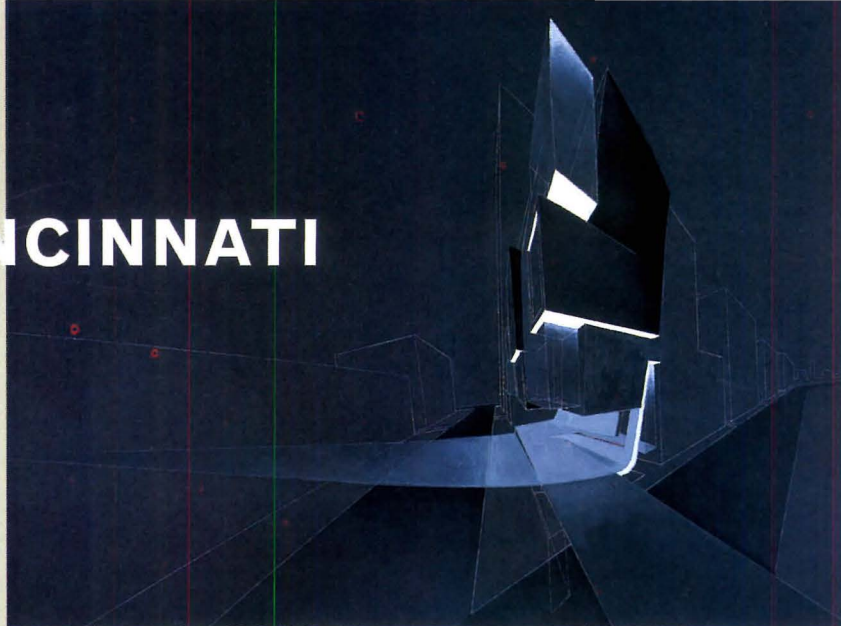
The AIA California Council has raised over \$1 million to defeat an initiative that would require all architectural and engineering contracts involving state funds to be awarded to the lowest bidder. The initiative, known as Proposition 224 (*Architecture*, March 1997, page 11), has drawn the wrath of more than 600 organizations, including the AIA California Council and the California Society of Professional Engineers (CSPE), which had raised another \$2 million for the effort, according to its January campaign finance report.

Architects' opposition to the measure has "galvanized the profession" in California, says Ann E. Looer of the AIA California Council, adding that the fundraising has been unprecedented in the profession's political history. Opponents of the measure

call it the "competition killer" because bids on projects by state employees would not include such overhead costs as rent, insurance, health and safety experts, and legal and capital costs, that private firms must calculate in their proposals.

"If this initiative passes, the system will be rigged so there is no way a private firm can win," says San Francisco architect Michael Willis, president of Michael E. Willis & Associates.

Supporters of the measure, which was initiated by the Professional Engineers of California Government, point to its emphasis on a competitive bidding system that would be free from political patronage. They say that private-sector architects and engineers should not be afraid of competition. *Michael Maynard*



Hadid's proposal for Contemporary Arts Center confronts intersection in downtown Cincinnati.

UPSTAGING SYDNEY'S OPERA

A lumpy new apartment block, constructed adjacent to Australia's national icon, the Sydney Opera House, is provoking an international architectural furor. Local critics claim the size and inelegant detailing of this new building—the first of several planned along the waterfront leading from downtown

Sydney to the Opera House—compromise views of the scenic harbor and Jørn Utzon's 1973 masterpiece. Authorities as diverse as American cultural historian Simon Schama, Irish rock star Bono, and UNESCO's World Heritage wing have spoken out against the building.

After intensive negotiation between developers and the city, the emerging wall of privately owned apartment and office buildings will be considerably lower, though thicker, than the 1950s and 1960s offices it will replace. During construction of the first new block, however, many problems were revealed, notably the obstructed views of the opera house—the result of a confused development-approval system and design-build process. The project manager switched between architects Dino Burattini & Associates and Peddle Thorp & Walker, and ignored them both for key on-site decisions. Many of the decision-makers clearly rank low on the learning curve about architecture's potential to affect investment and tourism. In light of the outcry, the city government has so far declined to approve satisfactory completion—so the apartment owners can't yet move in. *Davina Jackson*

Davina Jackson is the editor of Architecture Australia.



New apartment building crowds out Utzon's 1973 masterpiece.



PENN STATION GOES POSTAL

Thirty-five years after the demolition of McKim, Mead & White's 1910 Pennsylvania Station in New York City, President Clinton has approved a plan to convert the Beaux-Arts firm's adjacent, 1914 James A. Farley Building (above), home to Manhattan's central post office, into a new rail station and civic center. The decision ends years of wrangling over the landmark's fate: The U.S. Postal Service initially resisted giving up space in the Farley Building. City and state officials, however, determined that many postal duties can easily be shifted to other outposts. The conversion will take place over the next five years.

New York City's nonprofit Municipal Arts Society drafted a 1.4 million-square-foot schematic proposal with local firm Richard Nash Gould Architects to compel federal decision-makers—like preservation cheerleader Senator Daniel Patrick Moynihan and the General Service Administration's Public Buildings Commissioner Robert Peck—to put the already-earmarked funds into action. Acting developer Penn Station Redevelopment Authority (a division of New York state's economic development authority) has narrowed the field to three architect teams—Skidmore, Owings & Merrill with Hardy Holzman Pfeiffer Associates; Richard Meier

& Partners; and Beyer Blinder Belle Architects and Planners with Santiago Calatrava—and plans to announce the winner in the next two months.

The Society's plan calls for a new concourse to occupy the Farley Building, with escalators leading to Amtrak platforms below. Roughly 190,000 square feet of restaurant and retail venues, of which the U.S. Postal Service will remain the owner and landlord, will help defray the renovation's estimated \$315 million cost. Also planned are a 7,000-seat auditorium, a large exposition space, and rail links to the Jacob Javits Convention Center and JFK and Newark airports. The Long Island Rail Road and New Jersey Transit will continue service from the 1968 Penn Station facility, buried beneath Madison Square Garden, across the street from the post office. *Michael J. O'Connor*

TIMES SQUARE TIDINGS

The transformation of Times Square is gaining momentum, especially as developers scurry to complete new projects by New Year's Eve 1999. In March, Beyer Blinder Belle Architects and Planners moved the Empire Theater, a 1912 terra-cotta-faced building, 168 feet west of its original location to make way for a 335,000-square-foot entertainment complex. The Empire's lobby and former auditorium will serve as an entrance to a new 25-screen movie theater with retail space, restaurants, and a Madame Tussaud's Wax Museum. At 3,700 tons, the Empire (which was hydraulically pushed on a steel-rail system) is the heaviest building ever moved in New York City.

Meanwhile, much activity has focused on the intersection of Forty Second Street and Seventh Avenue. Prudential Insurance Company of America—formerly the owner of all four corner sites—sold the northwest parcel in March to developer Rudin Management Company. Rudin immediately released architect

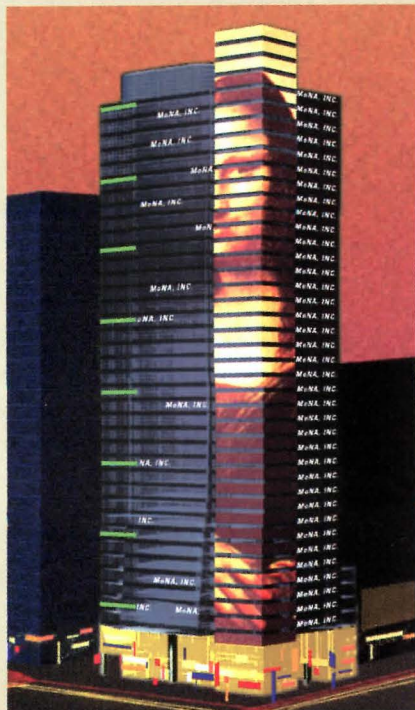


Comics Abbott and Costello "move" theater where they performed (above); Johnson's Prudential proposal (below left); and Fox & Fowle's Reuters headquarters (below right).

Fox & Fowle's design for a 30-story, 855,000-square-foot headquarters for the Reuters America news service. On the northeast corner, Fox & Fowle is forging ahead with construction of their 48-story Condé Nast Building (*Architecture*, August 1996, page 50).

Also in March, Philip Johnson/Alan Ritchie Architects (the firm changed its name from Philip Johnson, Ritchie and Fiore in February, following Partner David Fiore's resignation) unveiled their design for the intersection's remaining Prudential sites. Johnson and Ritchie have prepared four different schemes for this crossroads, beginning in

the mid-1980s. Carrying the concept of a neon-flashing, billboard-plastered building to its logical conclusion, the architects are now proposing two towers whose entire 49- and 40-story facades can become advertising signage. Their patent-pending curtain wall—developed with Los Angeles graphic designer Sussman/Prejza and architect Fernando Vasquez—incorporates clip-on panels bearing simple graphics, or more complex electronically illuminated light boxes, in the spandrels. Prudential is seeking a buyer for the two parcels, packaged with the Johnson/Ritchie design. (The buildings' massing remains unchanged from the firm's 1994 proposal, approved by the Empire State Development Corporation.) The new owner will have the option of choosing a new architect or retaining Johnson's signage-embracing scheme. *Sarah Amelar*



THE BUZZ

The National Park Service is reportedly interviewing several firms to design a roughly \$25 million visitor center on Independence Mall in Philadelphia. The future home of the Liberty Bell, the visitor center is the centerpiece of a controversial master plan for the park, designed by **Bohlin Cywinski Jackson (BCJ)** and **The Olin Partnership** landscape architects (*Architecture*, November 1997, page 25). The firms contending for the job comprise BCJ with **Ueland, Junker, McCauley Architects**; **Beyer Blinder Belle** with **Susan Maxman Architects**; **Hardy Holzman Pfeiffer Associates** with the **Vitetta Group**; **Kallman McKinnell Wood** with **MGA Partners**; **Pei Cobb Freed & Partners**; and **Schwartz/Silver** with the **Kling Lindquist Partnership**. **Polshek and Partners** was also approached for the job, but has reportedly dropped out of the running.

The Tacoma Art Museum in Washington state has announced a shortlist of architects to design its new building: Seattle-based firms **Olson Sundberg Architects**, **George Suyama Architects**, and **Zimmer Gunsul Frasca**; Swiss architect **Mario Botta**; New York City-based **Richard Meier & Partners** and **Richard Gluckman Architects** with Seattle-based **The Miller/Hull Partnership**; and Albuquerque-based **Antoine Predock Architect**. In Oregon, **Stastny Brun Architects** recently completed designs for the \$2.5 million Native American Student Center at Portland State University. The firm is partnering with Albuquerque-based architect **David N. Sloan & Associates**.

San Francisco's Jewish Museum released yet another shortlist of architects to design its new facility in Yerba Buena Gardens: Swiss architects **Herzog and De Meuron**, local architect **Studios**, and Berlin-based **Daniel Libeskind**. San Francisco-based architect **Daniel Solomon** is designing the first building to be constructed on the new University of California, San Francisco, campus in the Mission Bay district: a 175,000-square-foot laboratory and conference center.

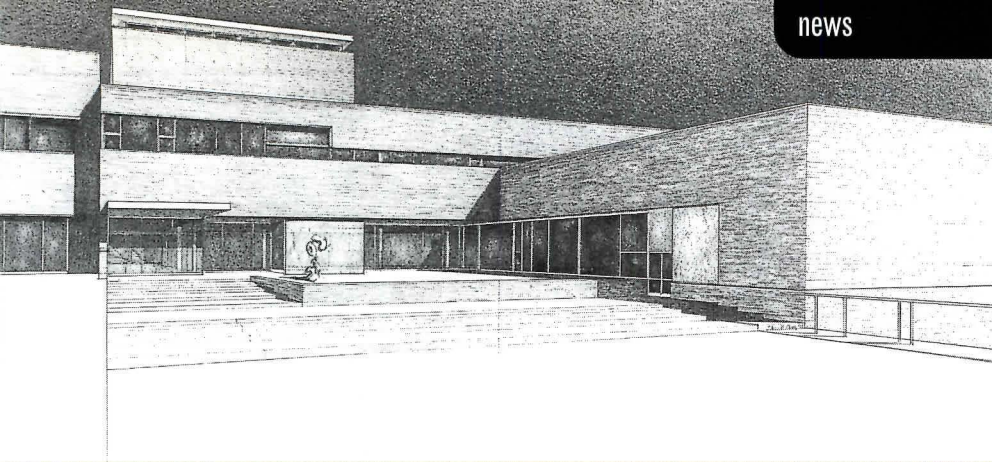
Mission Bay master planner **Machado and Silveti Associates** is designing a branch public library in Allston, Massachusetts; a 250,000-square-foot mixed-use complex in Boston; a new residential college at Rice University in Houston; and a new, 62,000-square-foot home for the Marcia and John Price Museum of Fine Arts at the University of Utah in Salt Lake City. Boston

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Marcia and John Price Museum of Fine Arts at the University of Utah in Salt Lake City, designed by Machado and Silvetti Associates with Prescott Muir Architects, opens in October 1999.

architect **Perry Dean Rogers & Partners** is renovating Alvar Aalto's landmark Baker Dormitory (1949) at the Massachusetts Institute of Technology in Cambridge. Nearby, at Harvard University, local architect **Ellenzweig Associates** is designing the 60,400-square-foot Naito Chemistry Building. The firm is also designing science buildings for Millikin University in Decatur, Illinois, and Ursinus College in Collegeville, Pennsylvania.

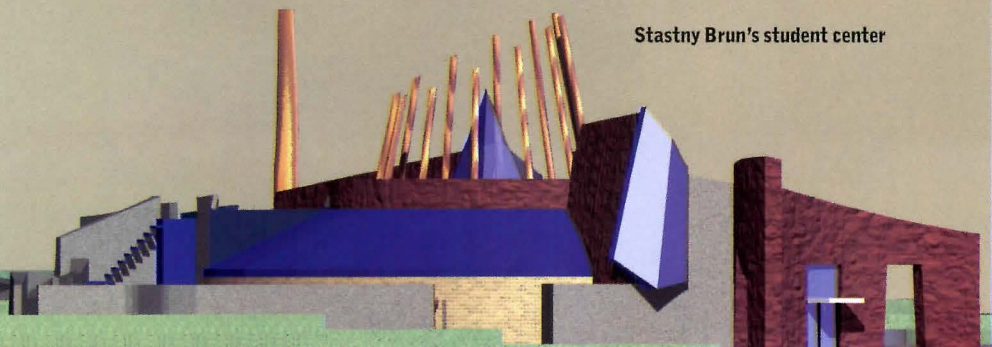
HOK has designed more than 30 airports since 1990, prompting the firm to found **HOK Aviation** in February. Led by **Pat Askew**, this new, St. Louis-based "core business" is comparable to the firm's highly successful HOK Sport division in Kansas City. Recent new projects include the \$300 million renovation and expansion of the Minneapolis/St. Paul International Airport, with **Leigh Fisher Associates**. **Sydney Architects**, a new New York City-based firm founded by former Johnson/Burgee Partner **Jeff Sydney**, has won two major competitions in Shanghai: a 500,000-square-foot office building and a 38-story, 385-room hotel. A 67-story condominium and hotel tower, designed by local architect **Lucien Lagrange and Associates**, broke ground in February on Chicago's Michigan Avenue. In **Skidmore, Owings & Merrill's** (SOM) Chicago office, **Neil Frankel** is retiring as director of interiors; Associate Partner **Jaime Velez** will assume his role. And SOM Partner

Thomas Fridstein is leaving the firm to become director of design for developer Tishman-Speyer Properties. Noted architect and planner **Douglas S. Kelbaugh**, a partner in Seattle-based **Kelbaugh, Calthorpe & Associates**, is the new dean of the University of Michigan's College of Architecture and Urban Planning. Kelbaugh's fellow New Urbanist, **Jaquelin Taylor Robertson**, is the 1998 recipient of the University of Virginia's Thomas Jefferson Memorial Foundation Medal in Architecture. Robertson's firm, New York City-based **Cooper, Robertson & Partners**, is currently developing its master plan for Yale University.

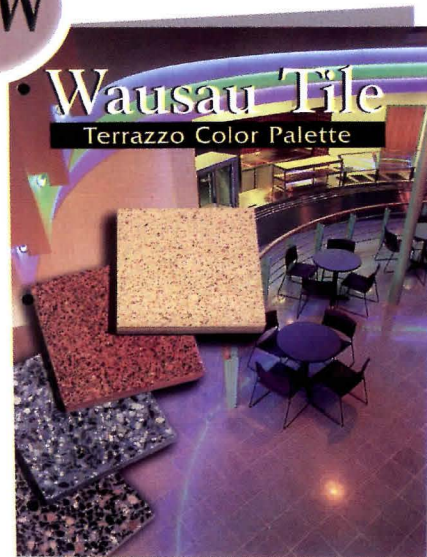
Dutch architect **Erick Van Egeraat** is designing the \$165 million renovation and expansion of the Royal Shakespeare Theater, in the bard's home town of Stratford-on-Avon, England. And in the town of Woking, in Surrey, England, architect **Norman Foster** is designing a 350,000-square-foot headquarters for the TAG McLaren Group. A new production building for Turner Broadcasting System, designed by **Gensler**, broke ground last month in Atlanta.

Washington, D.C.-based **Cooper-Lecky Architects** and Princeton, New Jersey-based **CUH2A** have merged into a limited-liability partnership, with majority owner CUH2A serving as managing partner. Two Los Angeles firms, **Widon Wein Cohen** and **O'Leary Terasawa Partners**, have also merged.

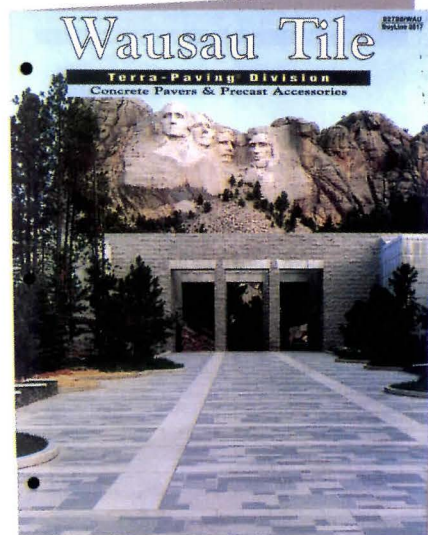
Stastny Brun's student center



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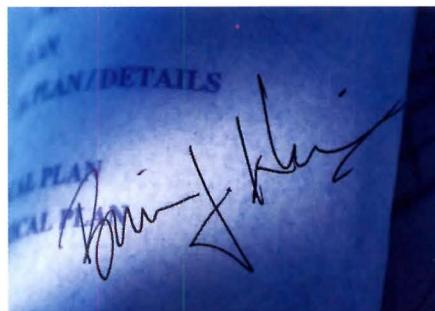
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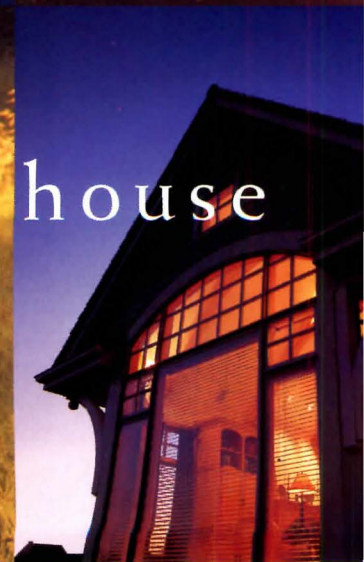


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Alvar Aalto: Between Humanism and Materialism, on view at the Museum of Modern Art (MoMA) in New York City through May 19, is an extraordinary exhibition celebrating the centennial of the Finnish architect's birth. From the archives of the Alvar Aalto Foundation and the Museum of Finnish Architecture, Peter Reed, associate curator of MoMA's department of architecture and design, selected more than 100 drawings—supplemented by models, furniture, videos, and installations—that embody the poetry and delicacy of Aalto's vision. The drawings alone require serious attention, especially because their fragile condition suggests they won't be lent for exhibition again. Still, the difficulties of presenting architecture through drawings and photos remain.

The exhibition is organized chronologically, in a large gallery broken up by small alcoves. These intimate spaces open easily into one another, mirroring the flowing circulation systems of Aalto's buildings. The display of drawings, photographs, Aalto-designed furniture and glass, and new and period architectural models in the initial sequence of work from the 1930s are formally and materially rich. The succeeding exhibits grow increasingly dependent on the

Drawing Conclusions

An exhibition celebrating the centennial of Alvar Aalto's birth privileges graphics over content.

drawings, however, and seem flat by comparison. Contributing to the show's progressive visual anemia, walk-through videos projected in an alcove lack immediacy and focus. Since many of the documents are delicate pencil sketches or softly colored measured drawings, the mood of the exhibit becomes disproportionately serene. How are non-architects to judge Aalto's work—with its dynamic spaces, delicate manipulation of light, textures, and materials, and rich historical, cultural, and contextual references—from drawings never intended for public exhibition?

Moreover, the survey format leaves the visitor, uninitiated or not, thirsting for more information. The wall-mounted texts only supply a general overview, while important projects—such as the Finnish National Pensions Institute (1956) in Helsinki, whose material, formal, and social innovations rival the better-known Paimio Sanitarium (1933) and Viipuri Library (1934)—require more explanation to reveal their complexity. Aalto's light fixtures and floor lamps, too, are underemphasized, undercutting his poetic vision of the incandescent lamp as a miniaturization of the sun's light that lifts the human spirit during the darkest winter nights.

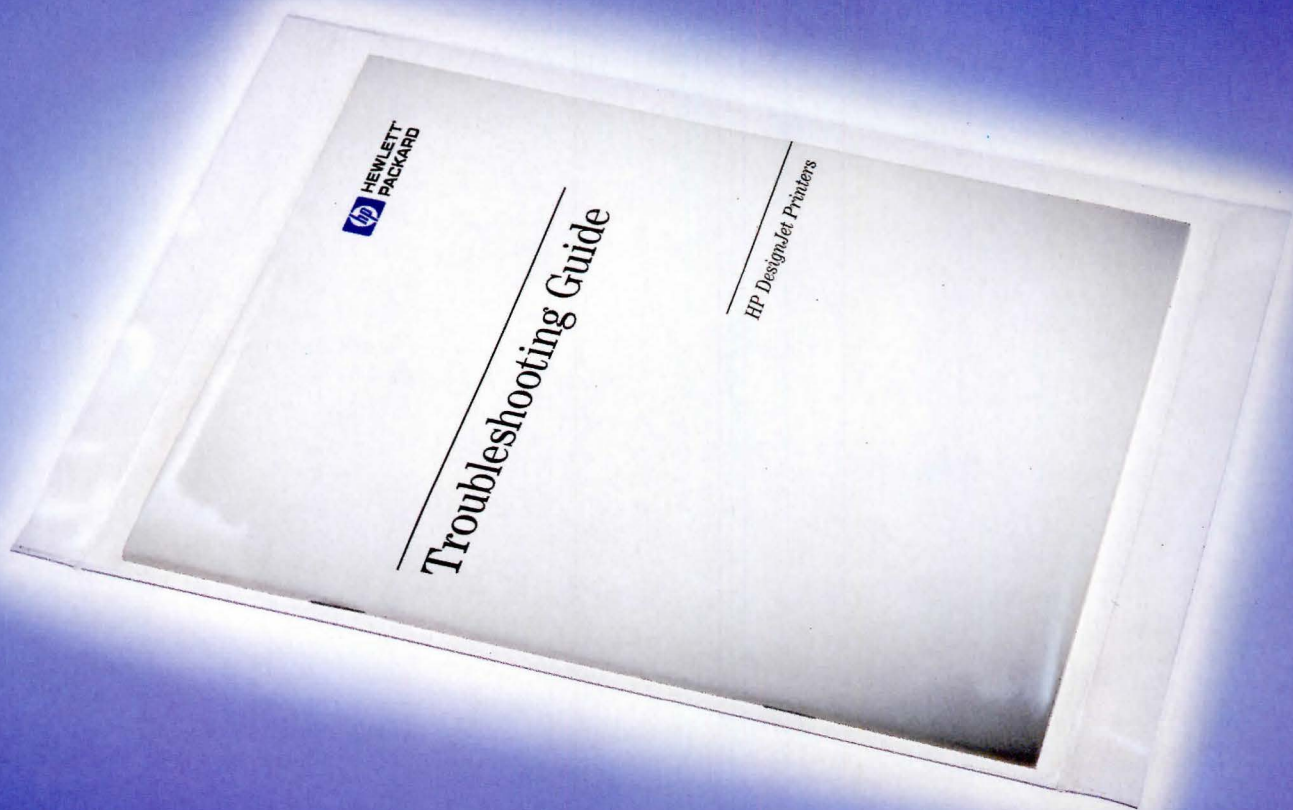
Such omissions obscure Aalto's humanist themes. He was not simply a stylist. Form and technology served the physical and spiritual well-being of the individual and society without ideologically polarizing architecture as construction or art. Although the show rightly celebrates Aalto's artistry, it does not sufficiently demonstrate the complexity of his culturally sensitive, socially responsible, and integrative approach to design. *Michael Trencher*

Michael Trencher is the author of The Alvar Aalto Guide (Princeton Architectural Press, 1997), the director of the Alvar Aalto Study Center, and a professor of architecture at Pratt Institute in New York City.



TOM GRIESEL

Flowing exhibition layout mirrors circulation patterns of Aalto's buildings.



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On a cold, clear Monday evening in February, I joined some 40 people filing into a public meeting at the government center of St. Charles, Missouri, a sprawling, distant suburb of St. Louis. The topic on the agenda was the crisis facing the St. Louis region and possible ways to fix it.

The crowd was made up mostly of white middle-aged, middle-class men and women. They sat on hard government chairs under bright fluorescent lights, while a clean-cut young man in a plain brown suit got up and introduced himself as Mark Hayes, vice president of a new civic-improvement group called St. Louis 2004.

In his preamble, Hayes explained that St. Louis 2004 "is a movement for creating change in our region." During the summer and fall of 1997, he continued, St. Louis 2004 held dozens of town-hall meetings in communities all across the St. Louis area, which

St. Louis Blues

Can a clutch of corporate do-gooders save a city they helped destroy?

holds 2.5 million people in Missouri and Illinois. St. Louis 2004 executives boast that over the course of those meetings, they talked with 10,000 people and collected 7,100 ideas for improving the metropolitan region.

The ideas ranged broadly, from ending violent crime in the city to building nature trails through the suburbs. The results of this rough referendum were then passed to a set of six volunteer "action teams," which are organized under the rubrics of citizenship, culture, environment, health, work, and learning, and undergirded by a plethora of "task forces" that deal with everything from "formal learning" (as well as "informal learning") to "living together as a region" and the "ethics of business."

The St. Louis 2004 action teams, with advice from the task forces, boiled down the thousands of citizens' ideas into a manageable set of priorities. In January, 60 action-team volunteers met at Washington University to vote on which of the people's ideas deserved action the soonest. (The public and the media were excluded from this session.) When the meeting was over, the teams emerged with a list of about 18 fairly specific ideas, which, as Hayes explained, were being trotted out to the public for review and comment, in yet another three-week round of town-hall gatherings like this one in St. Charles. "We're moving tonight from talking to taking action," Hayes declared earnestly.

But where in the world to begin? St.

Despite its riverfront glitter, downtown St. Louis is dead after dark, though riverboat casino gambling has become a big draw.





Louis has so many deep structural problems and so many entrenched special interests that it will take a miracle to turn the city around.

St. Louis is nearly 50 years into its decline, and has turned into a town with limited respect for its history and a strenuously dim vision for its future. The city hit its peak in 1950, when it boasted 856,796 people. By 1990, the population had fallen to 368,215. Since 1990, another 11 percent have left (18- to 35-year-olds are leading the way out), as St. Louis bleeds away faster than any other U.S. city. More demographic bad news: St. Louis is, according to one recent study, among the country's most racially segregated metropolitan areas. Of course, that's not news to the black population, which has always had to settle for less. But it probably came as a revelation for many suburban whites.

Anatomy of desertion: Areas shaded in green mark vacant urban land in the heart of St. Louis.

Furthermore, over the past few years, several of the region's economic and civic pillars have been shaken to their foundations: Southwestern Bell moved to San Antonio in the early 1990s. The city's largest employer, McDonnell Douglas, was acquired by Boeing Corporation of Seattle in 1996. The biggest bank in town, Boatmen's Bancshares, was sold to NationsBank of Charlotte last year. Trans World Airlines, which has headquarters in St. Louis, may never recover from the wrath of corporate raider Carl Icahn. In 1987, the St. Louis Cardinals football team defected to Phoenix. Five years later, the city's taxpayers forked over \$280 million (not including interest) to build the new Trans World Dome downtown, then poured in \$80 million more to snare the lackluster Los Angeles Rams, who arrived in 1995. St. Louisans were appalled to learn later that \$28 million of that would go to pay off the Ram's real estate commitments in California. In recent years, the people of

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St. Louis—once content with markedly provincial pride—could hardly pick up the daily *St. Louis Post-Dispatch* without finding a new source of disgrace to their city.

Curing this case of the St. Louis blues will require more than Budweiser, the ubiquitous hometown beer. It will take a sobering dose of possibly dangerous ideas—dangerous in that they will have to upset the city's fiercely preserved status quo. The city's civic and corporate elite have traditionally made their living by clinging stubbornly to home-grown ideas, and almost always reject the new and the novel as subversive. Yet improbably, over the past couple of years, St. Louis's business Brahmins have begun to get the message: The city has become a national eyesore, along the lines of Baltimore and Cleveland before they started to straighten up their acts.

Enter St. Louis 2004. The group itself is new, but the faces behind it are not. Headed by former Republican Senator

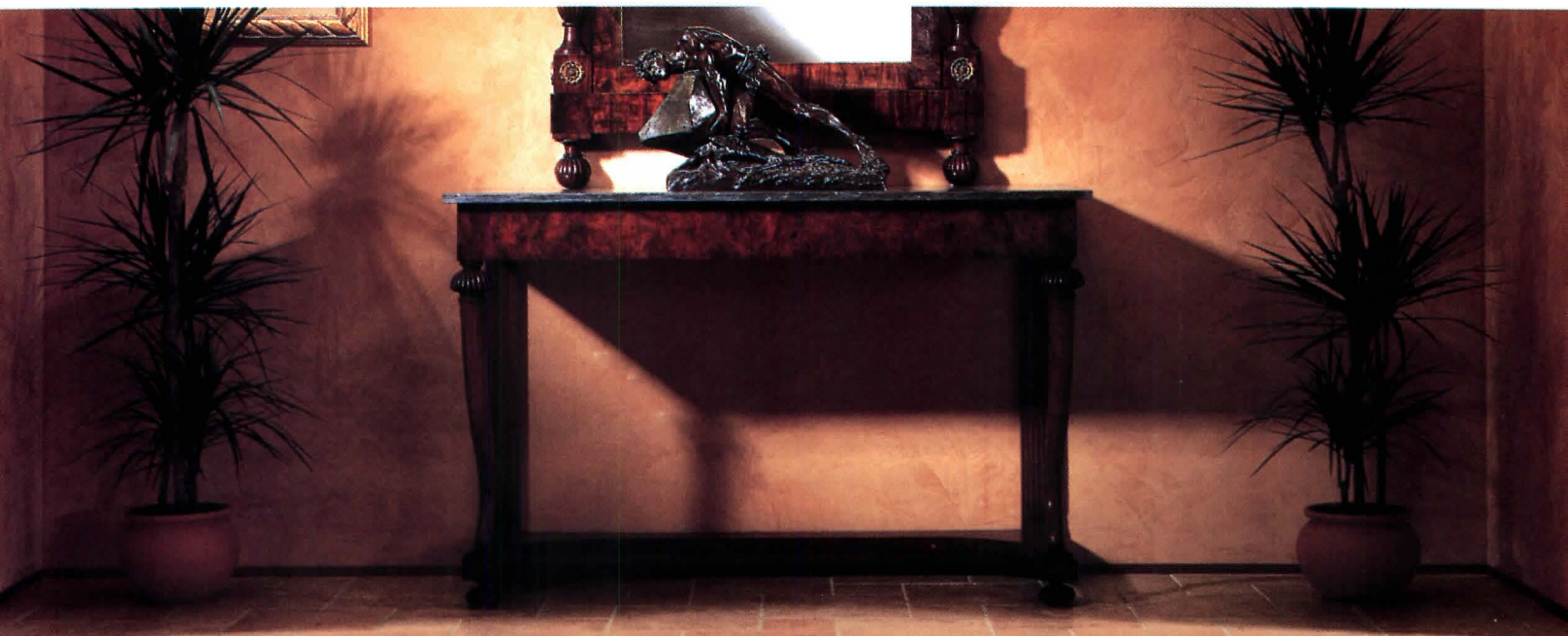
John C. Danforth, St. Louis 2004 has a board of directors that includes a pack of familiar chamber-of-commerce types drawn from the Regional Commerce and Growth Association and Civic Progress, two tightly knit breakfast clubs of business leaders. The 2004 group emerged in 1996 as a campaign to mark the centennial of the 1904 World's Fair in St. Louis, as well as to celebrate the 200th anniversary of the 1803 Louisiana Purchase. The idea for a World's Fair follow-up was first mentioned publicly by Boatmen's bank Chairman Andrew B. Craig, III, who was St. Louis's "Man of the Year" in 1995, before he helped sell his bank down the river in 1996. But St. Louis 2004's chieftains realized there would be nothing to celebrate unless the entire region is able to drastically reverse its course.

In case St. Louisans were still in denial, the scope of the region's problems was detailed last year in a series of grave *Post-Dispatch* articles. As written by urbanists

Neal Peirce and Curtis Johnson, the stories read like a catalogue of urban despair: bad schools, violent crime, the near-death of downtown, and the decay of urban neighborhoods brought on by unchecked suburban sprawl. The authors emphasized a glaring lack of regional cooperation among the 10 counties and 100-plus cities surrounding St. Louis.

St. Louis 2004 decided to do something never done before here (though Kansas City did much the same thing a few years earlier): The organization launched an ostensibly populist planning movement for the entire region, which begat the list of proposed initiatives that its operative Hayes began reading to the concerned and skeptical citizens of St. Charles.

The list read like some sort of Utopian charter, including a program to get guns off the streets, a plan to provide medical care to uninsured people, a push to revive downtown, and the creation of "new industry" in the region. After reciting each item,



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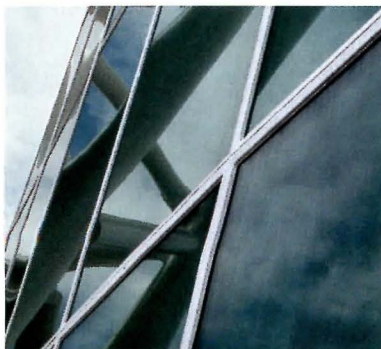
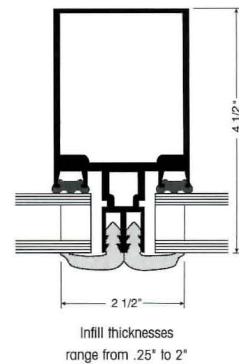
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Hayes directed people at the meeting to form discussion groups (led by professional focus-group facilitators) and prepare to vote for their five favorite ideas.

This secondary plebiscite was rushed, but the results were telling of the suburban sensibilities in St. Charles. Racial problems, for instance, were not a burning issue, because all the people gathered at this meeting were white.

Promoting the advancement of minorities and women got zero votes. ("What do you mean by that?" asked one man. ... "Next!")

The concept of revitalizing downtown St. Louis with loft housing and an arts district ranked highest: Several of the participants were expatriates from the city who still regarded it affectionately.

But they no longer see downtown as someplace they can venture—few still feel proud or safe enough to take out-of-town visitors much beyond the riverfront and the grounds of the Arch. Downtown St. Louis is showing a few new signs of life, however, such as the wildly popular new City Museum, with its cavernous, dinosaur-filled interiors and fantastic spaces where

children can climb around. A push to develop loft housing along historic Washington Avenue is gaining steam. There's also a big, new (and homely) federal courthouse by Hellmuth, Obata & Kassabaum

New four-star hotel (at left) will adjoin renovated Gateway Statler Hotel (at right) next to convention center.

going up, and a new convention hotel being designed by Peter Fillat Architects of Baltimore to replace the perfectly good hotel demolished a few years ago to expand the convention center. But the city center is dead after dark. How can it be saved?

Reviving downtown must go hand in hand with any effort to lure new businesses to the region. But St. Louis 2004's approach to building new businesses seems dubious. As outlined, the proposal stated that the Regional Commerce and Growth Association (RCGA) would work to attract new firms to the region. RCGA? A cabal of big-business leaders nurturing newcomers and little guys? Not likely. Besides, what is that group waiting for? Over the past decade, the only significant new business brought to town on RCGA's watch has been riverboat gambling. St. Louis, meanwhile, has lots to offer new companies, not the least of which is a low cost of living. But there is one major handicap: a lack



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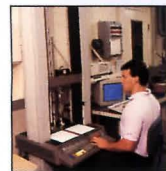
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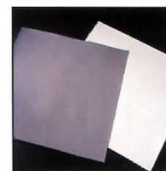
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of intellectual capital. Young, educated people find few reasons to stick around or return after college.

None of these complexities were discussed much in St. Charles, as the forum was not set up for debate. Several people attempted thoughtful give-and-take, but the facilitator pressed onward—it was getting to be 9 p.m. The facilitator's clipped format led up to the most disturbing aspect of the St. Louis 2004 meeting, not to mention the entire 2004 process. The facilitator explained to the attendees that their sentiments—hurriedly and haphazardly documented—would be relayed to the six action groups, which would then make final recommendations to the St. Louis 2004 board of directors for a 1998 "action plan," listing the first problems the group should attack.

The people in my group got restless at this procedure, and began asking, Who is this board of directors? Where are they? If they care so much about what we say tonight, why aren't they here? St. Louis 2004 has some 19 directors—you'd think two or three could show up at each meeting.

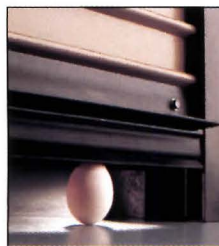
Otherwise, how do we know the board will really pay attention to our interests?

This scenario confirmed what a lot of St. Louisans dislike about St. Louis 2004: that when it comes to making choices, there are too many degrees of separation between those who voice their will and those who act on it—or don't. It is not easy goading the people of a large metropolitan region to cooperate. But the broad suspicion afoot is that St. Louis 2004 itself is no kind of cooperative. The outfit originally sprung from the skulls of a few ambitious, moneyed

people with special skills in public relations. Its community meetings primarily elicited various community values rather than a regional consensus. Consensus, in fact, is ironed out behind closed doors. The ultimate secrecy of St. Louis 2004 gives the impression that its leaders are merely wasting the time of 10,000 people so the area's bigwigs can draw a blueprint for doing what they want to do anyway—which up to now has only brought the city to its knees.
Bradford McKee

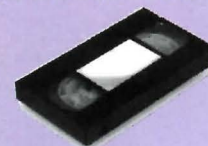
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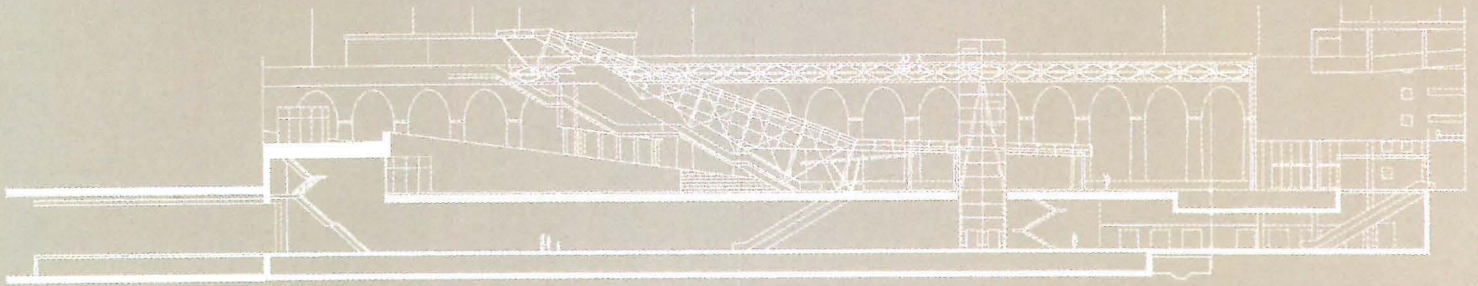
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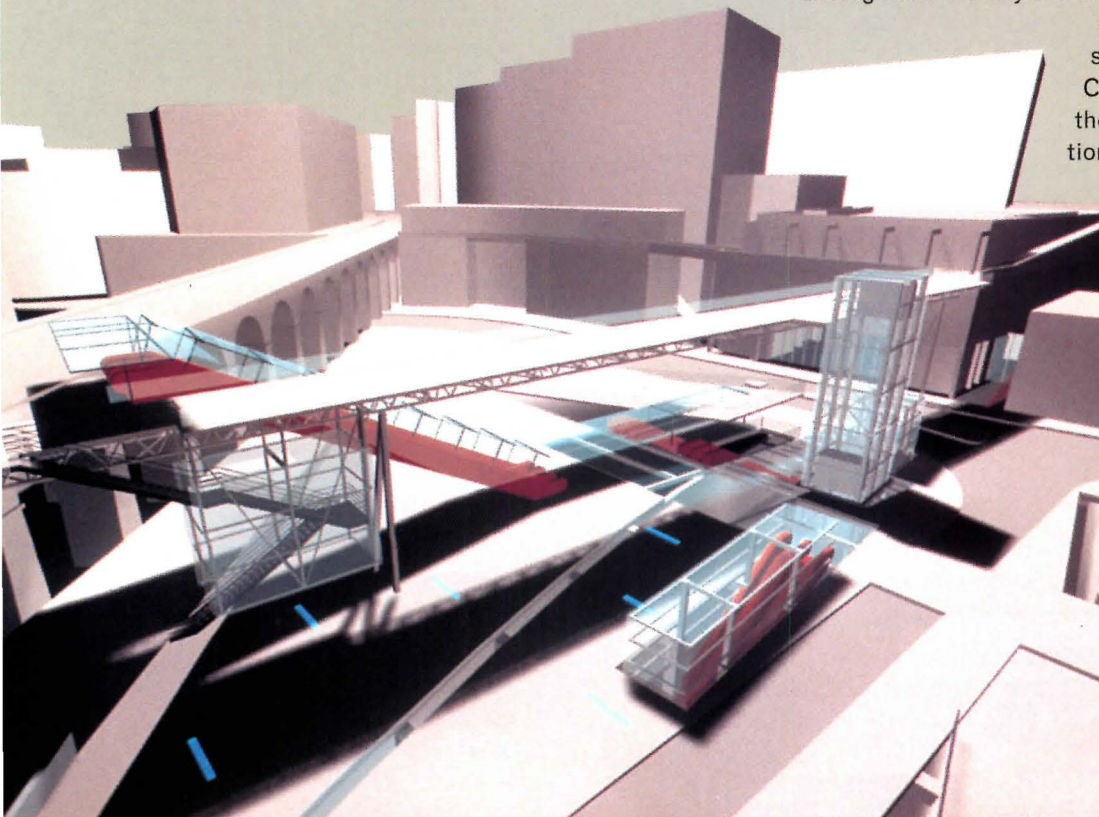
Bernard Tschumi folds the dynamism of urban life into three recent projects in which exposed, translucent public spaces invite movement and interaction while linking more-intimate zones dedicated to specialized functions. In a Swiss train station, Tschumi's glazed elevators, escalators, and bridges transport travelers. In two university projects, his criss-crossing ramps, stairs, and catwalks express the chaos of student life.

Tschumi's design for the 200,000-square-foot Public Transport Interface in Lausanne, Switzerland, connects two bus routes and two suburban rail lines to the city's new subway system, thereby joining the low-lying downtown and older hilltop neighborhoods. Tschumi, who collaborated with local firm Luca Merlini Architects, emphasizes the resulting vertical, horizontal, and diagonal connections between programmatic components at different levels. A steel-and-glass pedestrian bridge connects two city streets that run 12 meters above the valley's floor. Glass escalators and elevators tether the pedestrian bridge to the bus stop and to the underground subway and rail station below. Commuter train and subway platforms are housed in a

skylit, subterranean concrete block.

Construction began in August; all but the subway line, scheduled for completion in 2004, will open in 2001.

For Columbia University's new 225,000-square-foot Lerner Student Center, Tschumi has created a central circulation zone he calls "the Hub." In this glazed, four-story volume, catwalks and ramps mediate the grade change between two new flanking wings—the western wing along Broadway sits a half-floor lower than the east wing facing the main campus. Brick-and-granite cladding is intended to harmonize with surrounding historic buildings; in contrast, the hub's skylit steel roof echoes the angled ramps within.



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**Rates for Domestic Services
 To Increase in February**

United Parcel Service of America Inc. said it will raise rates for most domestic services beginning in February. The rate increase for the Atlanta shipping company will include a 3.3% jump for most domestic air-express services and an average increase of 3.6% for standard ground-commercial shipments in the U.S. and Puerto Rico. UPS said ground service to residential addresses also will cost about \$1 more than the new commercial-ground rates. Rates for international services will remain the same, the company said. The rate increase continues the company's tradition of boosting rates each year and is in keeping with UPS's previously announced intention not to lower rates to win back market share lost due to a crippling Teamsters strike this year.

As appeared in The Wall Street Journal 12/31/97

FEDERAL EXPRESS CORP.
**Rate Increase of 3% to 4%
 Matches UPS Price Jump**

Federal Express Corp., matching a price increase by archrival United Parcel Service of America Inc., said it will raise rates for domestic deliveries by 3% to 4% beginning in February. International rates for the express-delivery concern will be unchanged, the Memphis, Tenn., company said. Closely held UPS, Atlanta, previously announced it would raise domestic rates by more than 3% in February. Separately, FedEx said it is introducing a new guaranteed five-day delivery product for overseas-freight shipments weighing more than 150 pounds. The service, which will cost about 30% less than the company's premium two-day international deliveries, will be available for deliveries between the U.S. and major markets in 13 countries in Europe, Asia and Latin America.

As appeared in The Wall Street Journal 1/7/98

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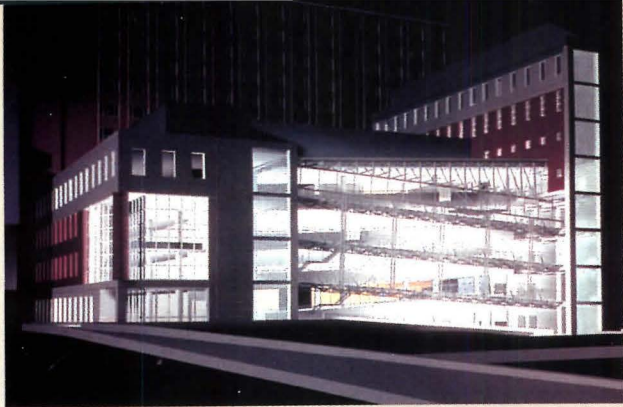
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Lounges and student mailboxes are located along the southern edges of the ramps. Behind, a triple-height, 1,100-seat auditorium sits below a black-box theater. On the third floor of the adjacent eight-story western wing, a 400-seat cinema and assembly hall can be converted into a balcony for the main auditorium by tilting its screen, expanding the capacity of the auditorium to 1,500. This tower also houses a bookstore, student club rooms, classrooms, and offices. The four-story wing to the east contains the center's main entrance, which leads from the main campus into the Hub.

A cafeteria, lounges, and meeting rooms occupy the upper three floors; the basement houses a nightclub. The student center, designed with Gruzen Samton Associated Architects, replaces a 1960 brick student center designed by

Shreve, Lamb & Harmon that was razed by the university in 1996. The center will be completed in the fall of 1999.

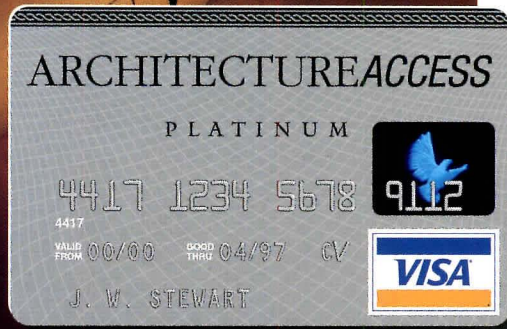
Tschumi calls his 200,000-square-foot Marne La Vallée School of Architecture in Champs-sur-Marne, a suburb of Paris, a "city of architecture." Accordingly, a five-story skylit atrium built over ground-floor parking acts as a city square. Ringed by steel stairs and catwalks like city streets, the atrium is surrounded by volumes that house the school's distinct functions. Along the atrium's northern length, prefabricated concrete-clad seminar rooms and glass-walled studios form a student neighborhood within the city; two smaller blocks located at the atrium's western and eastern sides provide additional studio space. At the atrium's southern edge, four discrete, profiled metal panel-clad blocks house the administrative and research zones. Inside the atrium, two amphitheaters and a ceremonial stair function as a venue for community events. To the west, a metal-clad amphitheater on *pilotis* floats above a cafeteria. The amphitheater contains two rooms that can be combined into a single 225-seat auditorium. To the east, a 400-seat amphitheater is tucked below a grand interior stair ascending toward the east. The 500-student-capacity school of architecture building marks the first of two construction phases for a new technical university set to begin this spring and end in 1999; the architecture school's second phase will expand the student capacity to 1,200 and will be designed when the university's master plan is completed in 2000. *Jessica Barrow Dawson*

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Aside from cultivating young talent and showcasing design excellence, the Progressive Architecture Awards featured in this issue support America's architecture schools: Revenues from entry fees for the P/A Awards and our Awards for Architectural Research help fund a \$10,000 scholarship given annually by Architecture to an innovative academic program. The scholarship supports a continuing program rather than a specific course of study or individual students or faculty within an institution.

Last year, Auburn University's Rural Studio (Architecture, January 1997, pages 49-51), a visionary, socially responsible design-build program founded by architect Samuel Mockbee, received the inaugural scholarship. This year, we honor Archeworks, the ethics-minded Chicago school founded by Stanley Tigerman and Eva Maddox (left) in 1994. Architecture spoke with Tigerman and Maddox about the program's ongoing quest to advance civic consciousness and interdisciplinary learning in architectural education.

Chicago School

Chicago's Archeworks is the recipient of Architecture's second annual scholarship for architectural education.



ARCHITECTURE: When was Archeworks established and what was the impetus for its founding?

STANLEY TIGERMAN: We thought of it in the spring of 1992 and classes began in the fall of 1994.

EVA MADDOX: We wanted to break away from the single-mindedness of architectural design and make it a more multidisciplinary activity. Design education was in a lull. There was no way to resolve the tension between the practical and the theoretical; it was like two different worlds.

ST: We were part of both sides of the fence—practice and theory.

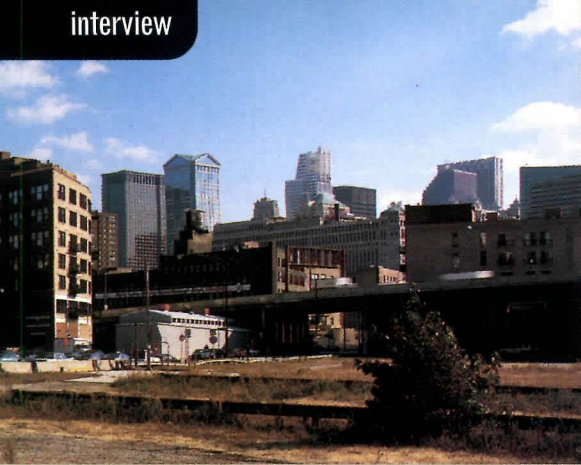
How is the curriculum organized? What degree do students get?

ST: Archeworks confers an academic diploma that is the equivalent of a one-year postprofessional degree. Although Archeworks is a nonaccredited institution free of the traditional academic regimen, transfer credits can be negotiated with affiliated educational programs, and Archeworks fulfills NCARB and NCIDQ internship requirements.

EM: The program typically lasts one year, but since the projects are real rather than academic, many interns [Archeworks' term for students] work on them longer. Several interns have returned for a third term, while others have participated as facilitators [Archeworks' term for faculty] beyond their years as interns.

What types of projects are students working on this semester?

EM: The students have packaged a record-keeping system for the disabled for the Social Security Institute, part of the Social Security Administration. In West Humboldt Park, a neighborhood in Chicago, students are developing more visual teaching tools



Tigerman and Maddox designed new Archeworks building to slip under freeway (far left), and incorporate casual meeting places for students (left).

under investigation. The goal is to provide specific solutions for the client.

How many interns are enrolled this year? What is the tuition?

ST: There are 11 interns this year. The annual cost is \$5,000.

What is the ideology behind the program?

EM: Our thought has always been that Archeworks is the front-runner on ideas in areas of social need, including designing for the disabled or the elderly, homelessness, and child abuse.

ST: Archeworks is about morality and ethics. To make something that never was is to break the status quo. That's an ethical move. Everybody is learning to understand

and learning exercises for fifth-grade students—like how units of measurement relate to the human body. At the end of the semester, everyone kept feeding on the fact that the spatial confinements in schools today are so out of touch with teaching methodology. The destination-driven room with four walls and a door is very much against where society and design is going; there's a disjuncture. If Archeworks can expose these disjunctures in the profession, we can take on these ideas and push them further. We're not saying that our raw

data is an end product. We're saying it can open up the door: It's a beginning.

How is the interns' experience structured?

ST: Four to six interns form a project team to conduct research on a particular project. The projects come from the Chicago community and confront interns with real life, real world, real-time situations in need of urgent attention. Each team is led by a facilitator. Advisers and consultants are brought in for their expertise with the issue

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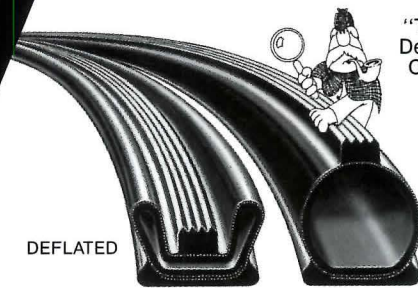
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the value of breaking boundaries.

EM: We have a multidisciplinary attitude with the students. We bring in diverse projects that allow students to learn from each other. So, if the students are working on a housing project for the homeless, the issues of the disabled and of child care are included. If you think about it from a planning point of view, it's really an intense research piece that brings together people and ideas. There's the added dimension of really learning about who the client is and how they interface.

How do you see the program developing?

EM: We want to be experimental. I'm interested in getting the process between conception and design to have meaning for the public, and to understand, through some method of feedback, evaluation, and testing, what was accomplished, and what its value is. I continue to beat on this idea of creating value, work that does not need to be interpreted or decoded. We're trying to talk to real people through our projects.

Do you choose students with specific talents to fit the projects?

ST: Of course, we look for architects, interior designers, and industrial designers, but this year, we've also got a lawyer.

EM: You have to learn to communicate the projects in advance so students interested in those particular projects can see them and understand what they're about. It's important to have our facilitators focused in those areas, though not necessarily the students. A facilitator who has knowledge in a particular area could be more beneficial in pushing the project forward.

What kind of student do you create?

ST: I know that three or four graduates have stayed in architecture and are working for a Chicago firm whose owner loves Archeworks. They hoped to learn about ethical behavior when they came in, and they sure knew it when they got out of here. I don't think it's an accident that they all work for a minority-owned firm. We have no false aspirations that everyone who comes

here will change the trajectory of their life and their work. Even those who don't can remain a conduit after leaving Archeworks. It is very important that they understand ethical behavior.

Archeworks began in a basement warehouse space south of downtown Chicago. It's startling to a lot of people that you're now in a brand new building. How can Archeworks afford this?

ST: Chicago has stepped up to the plate. We have very small projects but very large helpers. This city has taken us to its breast—foundations, not-for-profits, our board of trustees—have all supported us. We have called in a lot of markers because we've all done favors for people as they did for us. We're great beggars.

What are your plans for the future?

ST: We're going through growing pains as we try to institutionalize this place. We're beginning to look for our successors—not now, but maybe in five years. Our reputa-

January 1998

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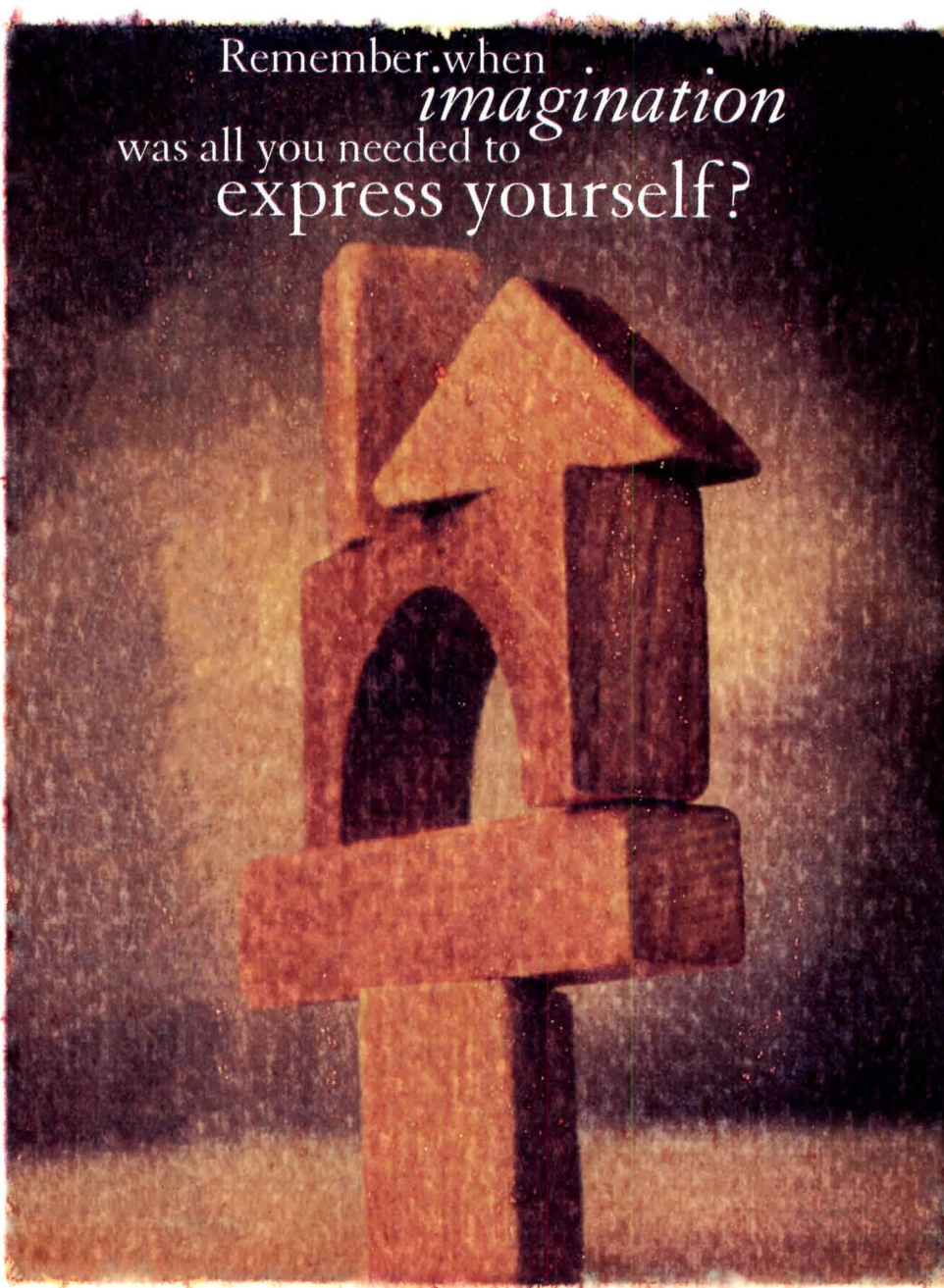
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tions have carried this place and will continue to do so for some time. I think that as long as I'm alive I will at least be a consultant to Archeworks. But we're beginning to look at other ways to expand upon this.

EM: There's a lot of research that can benefit education. We've gone out of our way to capture that. And we have started filming our projects and logging our actions so that we can look back on that record. Did six meetings with a creative person make the project better? To prove that value, it has to [show] something that people will understand.

ST: Each team will produce a book with inserts for CD-ROMs and videos of their project—that will mean three to four books a year. We also need to increase the student population to start to hit a balance. We need to have 15 to 18 interns from our current 10 to 12; it creates a greater synergy. Peter Eisenman, who ran the Institute for Architecture and Urban Studies, pointed out how difficult it is year after year to ask for money. That's my responsibility. I'm good at it, but it's hellacious.

The school is becoming systematized at all levels. You hit a plateau and you begin to think a little differently. We're having some thoughts about broader issues—where do we see ourselves in five years?

Architecture visited Archeworks two years ago (August 1996, pages 160-161). Then, you were positioning yourselves against the academy and traditional education. It now appears that you're trying to institutionalize.

EM: I don't want to use the word "institutionalize." It's a killer. We're trying to get organizational systems in place. Institutionalization implies something that's cast in stone. We need to have good programming write-ups so there's a clear understanding of what the program can be. We need job descriptions for the staff; we need basic organizational pieces.

ST: We need to clarify the term. Call it systemization instead. We are not further removed from the desire to act out against the academy. We are more self-assured than we were two years ago, but that doesn't mean that we're self-satisfied.



Intern Yoris Van Reusel views display on homeless (above left); intern Pierre George tests furniture prototypes (above right).



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Exhibition (above) brings complex mathematics to wide audience: Grid of light bulbs (bottom) explains exponential growth.

Snippets of wisdom, in the form of quotations from noted mathematicians, hang from the ceiling in *Mathematica*, the exhibition Charles and Ray Eames designed for Los Angeles's California Museum of Science and Industry in 1961. None, however, are more wounding than Hermann Hankel's observation: "In most sciences, one generation tears down what another has built and what one has established, another undoes. In mathematics alone, each generation builds a new story to the old structure."

As if proving this observation, the show itself is coming down, the casualty of a new exhibition program at the rechristened California Science Center, now in brand-new expanded facilities designed by the Zimmer Gunsul Frasca Partnership. The deinstallation of *Mathematica* represents one more blow to the Eames legacy in Southern California, which ignominiously saw—after Ray's death in 1988—a select collection of Eames prototypes shipped off from the Eames Office to the Vitra Furniture Museum in Weil am Rhein, Germany.

Mathematica is a jewel of concision, charm, and elegance, explaining timeless mathematical principles with short texts, a long timeline, and some of the first interactive science exhibits anywhere. But in its new digs, the center is shifting from a discipli-

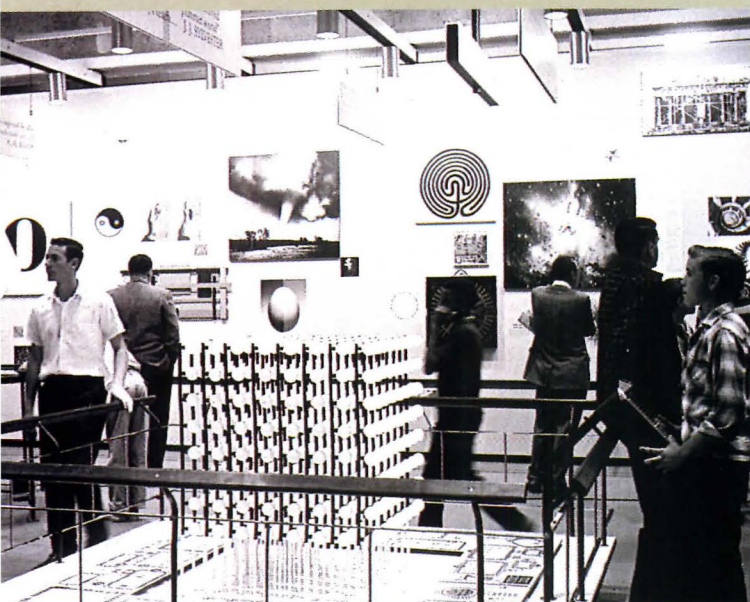
Flawed Equation

Dismantling a mathematics exhibit at an L.A. science museum threatens the city's already lean Eames offerings.

nary model to one based in themes—the creative life, the Pacific, worlds beyond—and the Eames show does not fit the new format. Dr. Kenneth Phillips, curator of the aerospace exhibits, explains that updating *Mathematica* would be prohibitive, and that the show includes hardly any achievements by women and people of color.

Mathematica's quiet bookishness is out of sync with a museum that has become a trampoline of well-intentioned interactivity. Eames Demetrios, a grandson of Charles and Ray and a filmmaker who is a moving spirit behind their legacy, says that the exhibition can, with proper care, be updated: "It should not be changed lightly, but that's not to say it is unchangeable." Demetrios also suggests that *Mathematica*, like math itself, is interdisciplinary and amenable to other formats. The Center and the Eames Office are negotiating with several institutions—including one in Los Angeles—that have expressed an interest in adoption. So far, though, nothing is sure.

The museum has a historic exhibition with a strong point of view and a proven 37-year track record about how to make difficult information easily intelligible—and doesn't know what to do with it. The problem is not the exhibition, but theming itself, when theming means a narrative that eliminates anything that doesn't conform to the storyline. The Science Center, the most prominent such institution in Los Angeles, should keep *Mathematica*. As Hankel observed, it should build a new story to the old structure or allow the old structure the space it deserves within the new order. Mathematics itself is not amnesiac and the Science Center and Los Angeles should not be either. *Joseph Giovannini*



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Our visions are no longer grand. We no longer believe we can save cities—let alone the world—through new ways of forming space, solving the need for more and better housing, or dividing functions from each other. We, both as architects and as citizens, have little faith any more in the saving graces of styles. Few of us believe that we can somehow make life better by painstakingly revealing the technology we use to build our world. To what, then, do we aspire?

If this year's batch of winners of the P/A Awards are any indications, we now aspire to skewing, warping, unfolding, and exposing the status quo. Out of such operations, forms emerge that offer intensifications rather than explanations of our world. As always in the 45-year history of this awards program, some of the work looks strange. This year, that is

place, several of the architects set us wandering up and down ramps. The passageways are not just circulation spines, but cuts through the buildings that reveal one space to the other, the structure to the viewer, and the relationship of the landscape to the construction. Instead of a focal point to these buildings, either as the physical core or in terms of a central meaning, the architects offer us only the possibility of exploring the form of the building itself.

Many of the projects also undulate or weave in their surfaces and structures. These architects are interested in design that interlaces, oscillates, and otherwise refuses the strict articulation of separate forms: The buildings are thus supposed to be organic.

There are theories lurking behind these modest manipulations that

By Aaron Betsky

Big statements are gone, for now. This year's Progressive Architecture Award winners find subtle epiphanies in everyday events.

FORM

not because the architects are adding something new or previously unknown to our landscape. It appears that almost all the current winners believe that form deforms under what they see as the pressure of incompatible forces, ranging from site demands to the architect's ideals. Their architecture is no longer dedicated to finding new shapes, but about registering, making us aware of, or exploring what already exists. Hence, one notes the presence of many tortured forms and folded plates among the winning projects.

In many cases, these prows, mounds, elongated trapezoids, and other bits of irregular geometry are meant to be an unfolding of the landscape. In others, the forms react to an interpretation of landscape that the architects reinvent. Others create their own landscape, one that emerges from the nature of the material the architect uses to clad otherwise simple spaces.

Once these primary plates are in

question our ability to make independent forms. Theoretician Sanford Kwinter proposed that architects look at "epigenetic landscapes," in which systems evolve from chaos into order by resolving themselves around "attractors." Such a landscape that produces a center out of its own inherent logic might serve as a convenient metaphor for an architecture that "grows" out of its conditions. Indeed, architect Greg Lynn FORM (a 1997 P/A Award winner with Garofalo Architects and Michael McInturf Architects for their Korean Presbyterian Church of New York) uses computer software that mimics this process in an effort to create "blobs" that they see as the accumulation of site and program data into stable forms.

The smooth appearance of such forms appears to echo the belief of French philosophers Gilles Deleuze and Felix Guattari that, as we make a world that is more and more complicated, the myriad parts of our man-

made reality will become so densely sedimented—like buildings built on top of each other or crowds gathered in narrow streets—that we see something they call “retroactive smoothing.” Structures that are aggregates of many smaller forms emerge, and these larger forms are as smooth as the original landscape out of which man’s first forms appeared. The common thread in all these theories is that form is not something we invent, but something that appears. We can only manipulate it, carve into it, or reveal it.

For a long time, architects in particular have fought this tendency of form to be like a rock—mute and built-up through sedimentation or ground down over time—by adding articulation that helps explain form to the eye or subjects it to the whim of fashion. When such ornament—

of them. As we try to tease the reality of form out of our buildings, architecture becomes archaeology.

Beyond such philosophical musings, one can find another reason for the folds and ramps. All these projects exist outside of the commercial arena. They are either private homes or the result of commissions by governmental or nonprofit organizations. Architecture, in such cases, is not engaging the marketplace and its demands. It is turning toward the affirmation of either the personal and the private, or of whatever we define as our collective persona. The tense in-between where we struggle for money and space is not part of this equation. Architecture can affirm a direct relationship to the land, to our spaces, and to our past only because it stands as a mute, introspective monument. It seeks to dissolve com-

Form yields little moments of sense instead of grand meanings.

Some, including members of the jury, lament the lack of beautiful articulation. Some wonder why new technologies do not have a more radical impact on these designs. Certainly there are no startling images in this generation of work that will change the way we make buildings. One recalls, in contrast, such projects as Michael Graves’s famous Moorehead-Fargo Bridge or Morphosis’s dead-tech-chic Crawford House, to name two former recipients of this award that produced startling and influential images. The return to form also means a disappearance of image. This year we see slippery projects that give little toehold to those wishing to understand or copy them.

Perhaps the jury was conscious of

DEFORMATION

which developed from decorative motifs to Classical orders to the eclectic Tower of Babel of styles as constructional expression and abstract ordering devices—had become so divorced from the actual function and site of the building as to no longer make sense, they made them part and parcel of the structure. Modernist architects believed that form would fall apart into the abstract lines of geometry and a mentally postulated space would eventually dissolve all reality. From Piet Mondrian to Ludwig Mies Van Der Rohe, they believed we could shed our own bodies, as well as those of the buildings we inhabit, to float away into the freedom from all constraints, including gravity. Now that we realize that such an abstract utopia of pure formlessness may not be our destiny, we are turning back toward an examination of form itself. We torture and explore shapes, dig into their history and their materiality, and find only more

plex reality in favor of a renewed community of form. By building solid forms that grow out of our needs and landscapes, we can hope to build a home in which our collective desires for place, comfort, and identity are made real, even if neither we nor the buildings we design can articulate what those desires might be.

The spaces and meanings one does find inside such forms are episodic, like small scenes we find along our path of exploration. This unfolding or succession of meanings is the explicit rationale of Studio Works’ Milwaukee Montessori School and facades for Santa Monica Boulevard in West Hollywood, as well as of Millar/Guthrie + Buresh’s Water Works: Advanced Water Treatment Plant. In these projects, architecture becomes a gathering of eddies of space, disparate materials, out-of-scale elements, and leftover pieces that enliven an otherwise rational sequence of spatial cells. If the architects find anything, it is small scenes.

the program’s reputation for fashion-mongering or trend-surfing. Maybe architecture has nothing more to say. Perhaps there are no more theories to articulate in building and no more grand unifying principles of construction. Or, it is possible that form is the point of what architecture does. In a world in which electronic media are so much better at giving us images, in which we have few shared values, and in which the corrosive effect of the flows of capital continually remove value from an object by minimizing costs, taking profits as quickly as possible, and moving on, grinding down the expressive capacities of any cultural utterance, it is perhaps up to architecture to fold in on itself, to intensify our natural and urban landscape, and to create nodes of complex coherence and moments of sense. Certainly such small things may have the weight, mass, and endurance we need to survive in a world many of us experience as dangerous, strange, and alien.

Last year, Morphosis took home three Progressive Architecture Awards; this year, the firm went home empty-handed. None of this year's honors went to flashy office towers, campus buildings, or big museums designed by familiar faces. Instead, jurors James Cutler, Zaha Hadid, Dan Hanganu, Carlos Jimenez, and Sheila Kennedy awarded subdued, small-scale projects such as a water garden, a memorial, and a kindergarten—all designed by relatively unknown architects. Do the jury's choices portend a shift away from buildings interested in making overt design statements, or do they reflect a more rigorous interpretation of the notion of visionary design?

The program, as Hadid remarked, "is a place to look at new ideas that may at first seem marginal, and push them into the mainstream to prove it is possible to build them. This program encourages architects not to play it safe." Certainly, the jurors looked at the work with an eye toward the visionary, but carefully considered how they defined the term:

DAN HANGANU: *To me, visionary has several components: future, fantasy, and optimism.*

CARLOS JIMENEZ: *I want to separate fantasy from form, because fantasies are communicated much better by*

other kinds of media than by architecture. I think the projects that really maintain a vision and a degree of excellence radiate a certain presence that is self-evident.

SHEILA KENNEDY: *We looked for things that were deep, being careful not to be fooled by simple, quiet presentations.*

ZAHA HADID: *We had to see whether there was an idea behind a project or not. Visionary has to do with ideas, but also how they are manipulated, developed, and expressed.*

JAMES CUTLER: *For me, visionary doesn't necessarily fall into the realm of form. There is just as much power in how a building fits into its site and creates a wonderful place.*

The jury reacted strongly against submissions of large-scale projects with flashy, bombastic forms and imagery.

JIMENEZ: *We saw a lot of projects that were about spectacle. But if you look at the winning projects together, they suggest a reaction against spectacular forms. I think they're more like landscape pieces.*

HADID: *The stadiums we saw were very cartoony. They were very strange and spectacular.*

HANGANU: *The projects we selected do not fall into the trap of that kind of form. This work sends the message*

that you can do good contemporary work through a simple vocabulary of humble, modern materials and shapes.

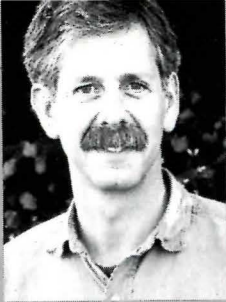
KENNEDY: *But I don't see that as a corrective: We're not going to find our way out of a maze with humble materials and simple forms. I think some of these projects are very ambitious, and they're being realized through contemporary technology—for example, the water garden and the house on a terminal line. The most sophisticated kind of tectonic is coming from the translation of computer models into built objects.*

CUTLER: *That house was particularly notable for the state-of-the-art technology employed to further recognize the landscape in which it will be built. In the end, several other winning projects showed deep understanding of their program and place.*

JIMENEZ: *Maybe the vision of the future is the diminishing of the heroic gesture.*

HADID: *I think it's a pity that these projects avoid making major statements. As a result, they're much flatter.*

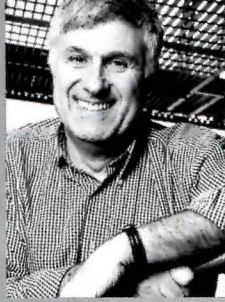
JIMENEZ: *I think the winning projects represent a high level of sophistication and of serious thought. After all, we are not just lovers of form; we are also thinkers.*



JAMES CUTLER is principal of James Cutler Architects in Bainbridge Island, Washington. His firm has received more than 30 regional and national awards, including national AIA Honor Awards for the Salem Witch Trials Tercentary Memorial and the Virginia Merrill Bloedel Education Center. Cutler has taught at the universities of Washington and Pennsylvania and the Harvard University Graduate School of Design. Cutler holds master's degrees from the Louis I. Kahn Studio Program and the University of Pennsylvania.



ZAHA HADID is principal of her eponymous, London-based firm. After studying at the Architectural Association in the 1970s, she worked with Rem Koolhaas at the Office for Metropolitan Architecture in Rotterdam. Hadid has held the Sullivan Chair at the University of Illinois at Chicago and served as guest professor at the Hochschule für Bildende Kunst in Hamburg. Hadid's firm recently won the competition to design the Contemporary Arts Center in Cincinnati.



DAN HANGANU is principal of Dan S. Hanganu Architects in Montreal. He was born in Romania. Hanganu graduated from the University of Bucharest, and moved to Canada in 1970. He has taught and lectured at several universities, including the University of Québec at Montréal, the Rensselaer Polytechnic Institute, Columbia University, and the University of the Andes in Bogotá, Colombia. His firm has received several awards from the Royal Architectural Institute of Canada and the Order of Architects of Québec.



CARLOS JIMENEZ is principal of Carlos Jimenez Studio in Houston. The Costa Rican-born architect has received numerous awards, including Young Architects citations from *Progressive Architecture* (1987) and the Architectural League of New York (1988). Jimenez has been Eliot Noyes Visiting Design Critic at Harvard University, and has held the Favrot Chair in Architecture at Tulane University. He has also taught and lectured at the Southern California Institute of Architecture, Rice University, the University of Texas at Austin, and Williams College. Jimenez is a graduate of the University of Houston's School of Architecture.



SHEILA KENNEDY is partner of Kennedy & Violich Architecture in Boston with Frano Violich. The firm has received an interdisciplinary award in architecture, urbanism, and research from *Progressive Architecture* and three national AIA Honor Awards. She is associate professor at the Harvard University Graduate School of Design and the recipient of several research grants from the National Endowment for the Arts, the New England Foundation for the Arts, and the Massachusetts Cultural Council. Kennedy holds architecture degrees from Harvard and Wesleyan universities.

Back to BASICS?

ZAHEDI HOUSE: ON CORRUGATION AND CORNERS Office dA

PROJECT: Zahedi House, Weston, Massachusetts

SITE: A two-story house on a heavily wooded, 1.5-acre hilltop site in a low-density suburban neighborhood. A carport sits along the driveway between the house and a road that runs along the north edge of the site.

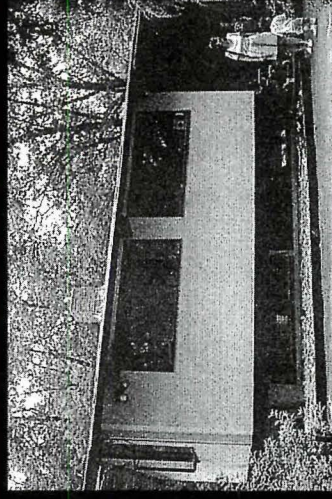
PROGRAM: In this extensive renovation, bedrooms are relocated from the lower level to a new, third floor to make way for a home office. The living room, dining room, and kitchen will remain on the second floor, but are reconfigured. A garage, which doubles as a greenhouse, is added onto the north face of the house.

SOLUTION: To keep costs down, the

client will act as his own contractor, and requested inexpensive materials. The architect responded with a design that explores the functional and expressive capabilities of corrugated copper cladding, taking advantage of the material's affordability as well as the client's expertise as a builder. Each elevation and corner of the house has a different treatment, many of which frame views or correspond to internal program: The east facade billows out like a curtain, forming a canopy over an exterior stair and revealing a wood-framed window wall. The corrugated copper wraps the northwest corner, and two corrugated planes meet in a "cuff-link" joint at the northeast. The material folds, bends, shears, and curves to expose various windows. The faceted, wood-framed, glass-and-wood-clad greenhouse addition to the south strongly contrasts with the draped metal forms of the house itself.



Site plan and north-south section

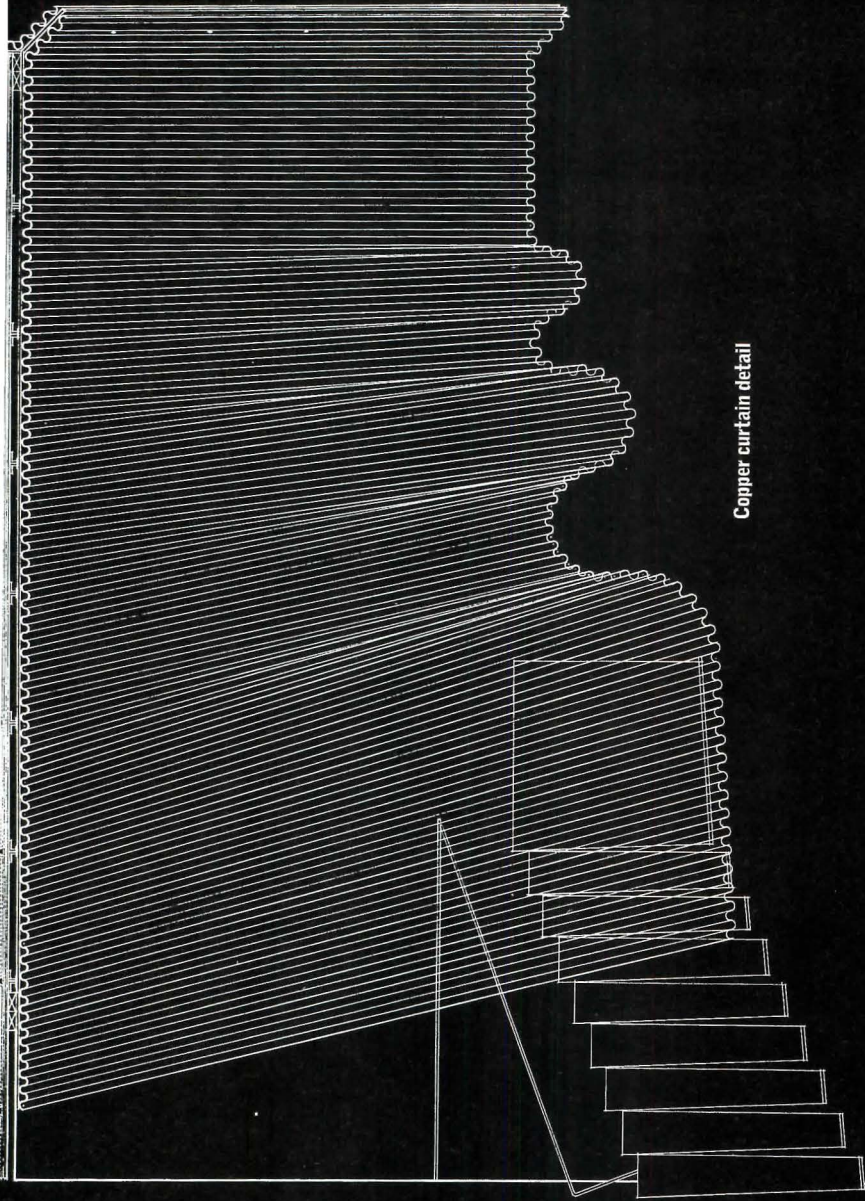


Original house

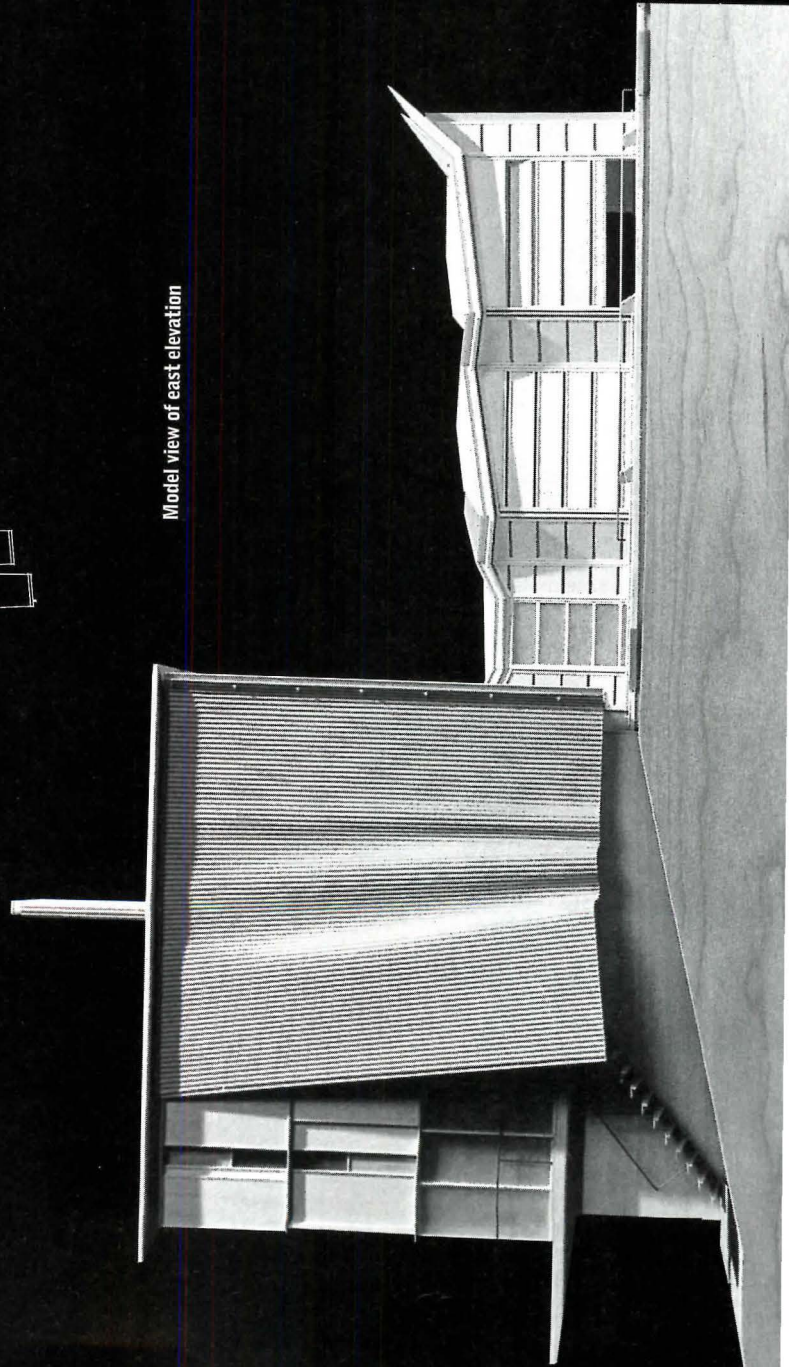
CUTLER: *It's about the skin, an old idea that is cleverly done.*

JIMENEZ: *We're seduced by surface manipulation. There is a joy in the fabrication of the surfaces.*

HADID: *It's a prop. The skin is like a temporary structure. It's like a house wearing an inexpensive dress. You can take it off and on, change it in time. The architect puts too much emphasis on the skin; it is disposable.*



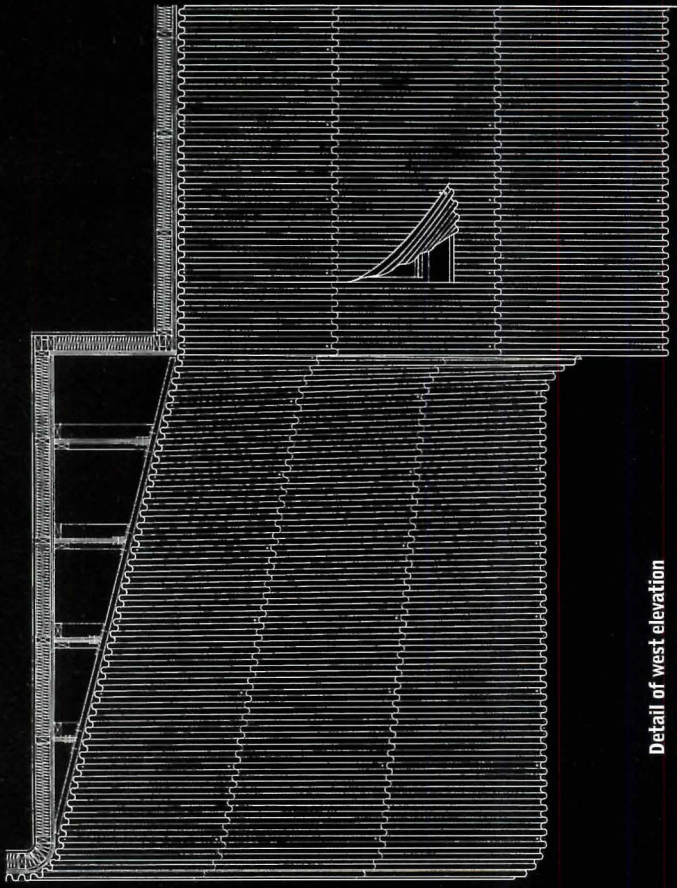
Copper curtain detail



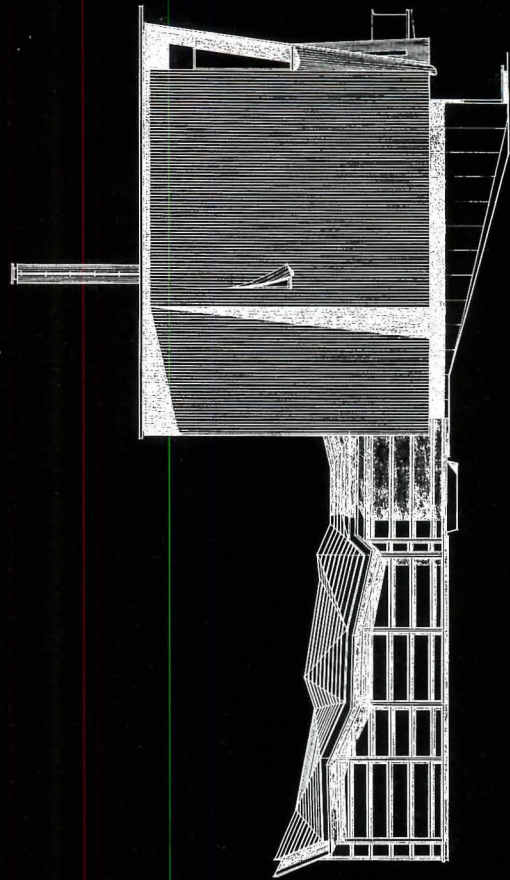
Model view of east elevation

CLIENTS: Kamran and Shirin Zahedi
ARCHITECT: Office dA, Boston—Monica Ponce De Leon, Nader Tehrani (principals), Jeffrey Asanza, Richard Lee, Jill Porter, Phillip Smith, Lee Su (project team)
ENGINEER: Arthur Choo Associates (structural)
CONSULTANT: David Rasmussen, Copper Sales (copper cladding)

HANGANU: *It's a trick, but a nice trick, to take the undulated metal and perforate it, which changes the materiality and makes it transparent.*

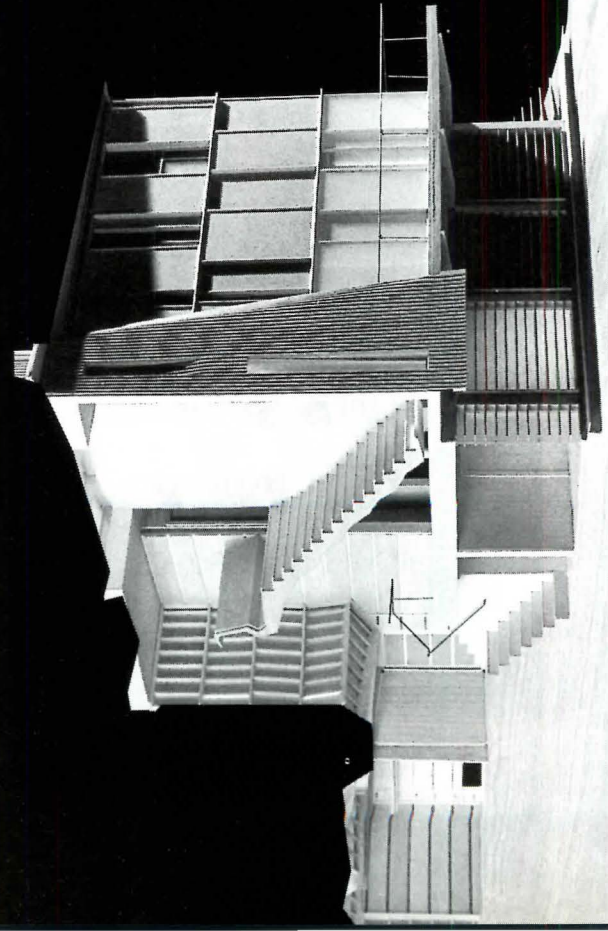


Detail of west elevation



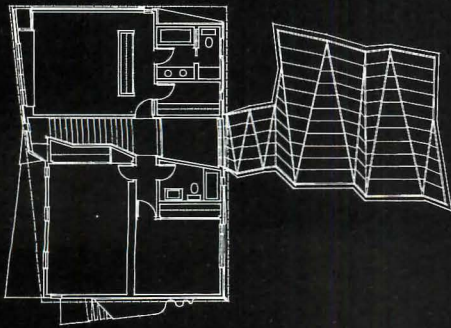
West elevation

Model view of north-south section

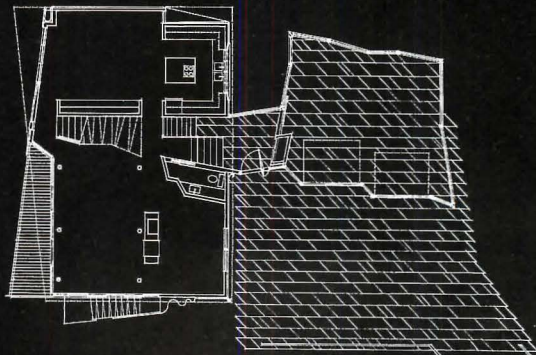


KENNEDY: *I think this project is about image and iconography. I wish the details they showed were actually crucial for making the project. It purports to be about tectonic issues and materials, and I'm not sure it really is. It's about image. My second concern is the back of the house. I would be enthusiastic about this project if it was all about skin and how it moves from the inside to the outside—a body wrap. But there's a loose, arbitrary addition. This is a highly sophisticated project esthetically. But the house itself, in terms of the rooms, is completely conventional.*

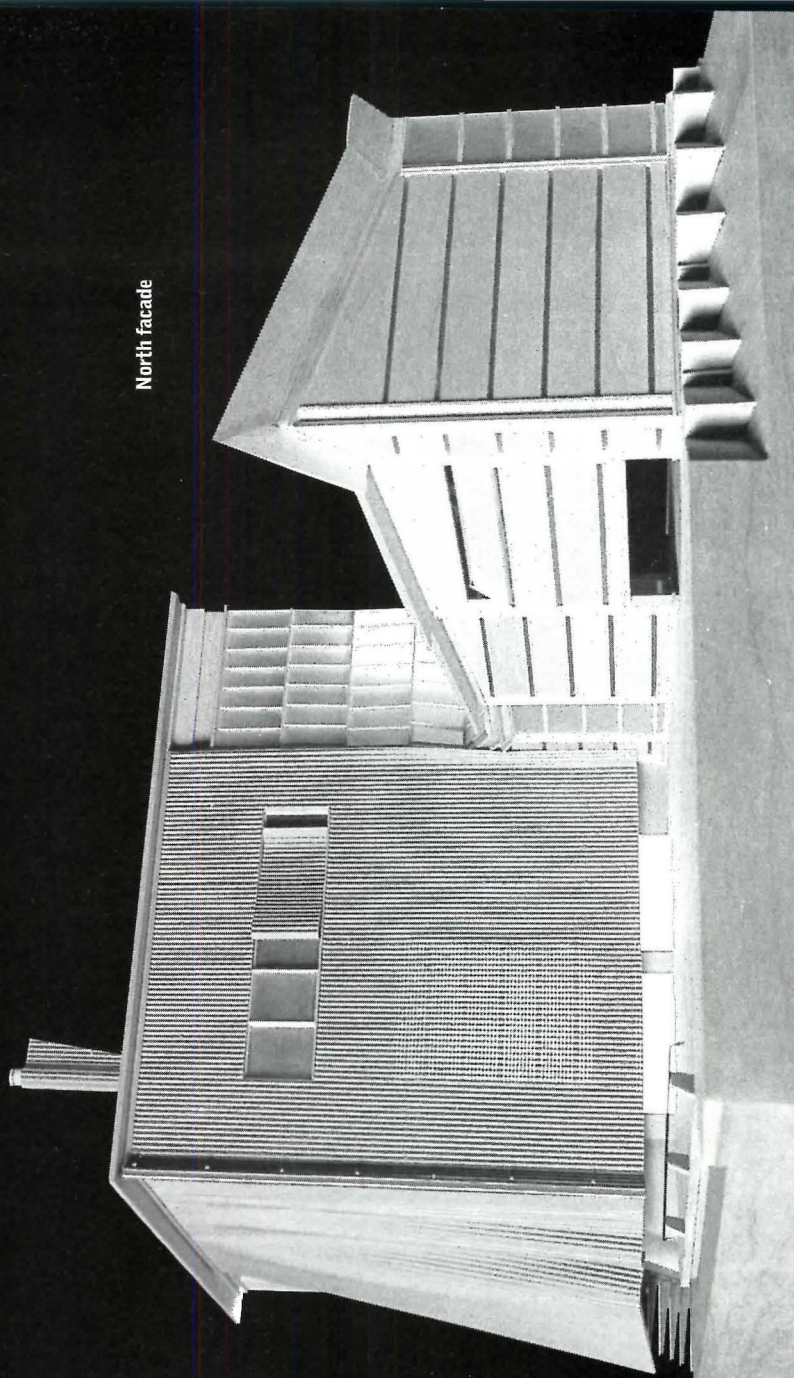
Second-floor plan

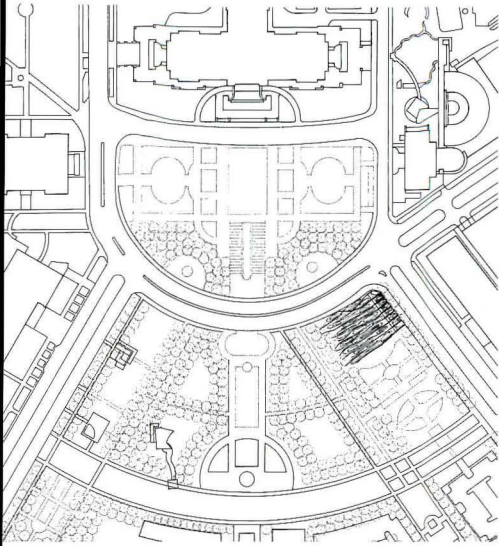


First-floor plan



North facade





Site plan ①

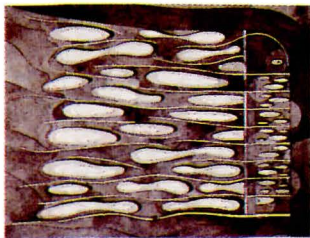
WOMAN SUFFRAGE MEMORIAL Loom

PROJECT: Woman Suffrage Memorial, St. Paul, Minnesota

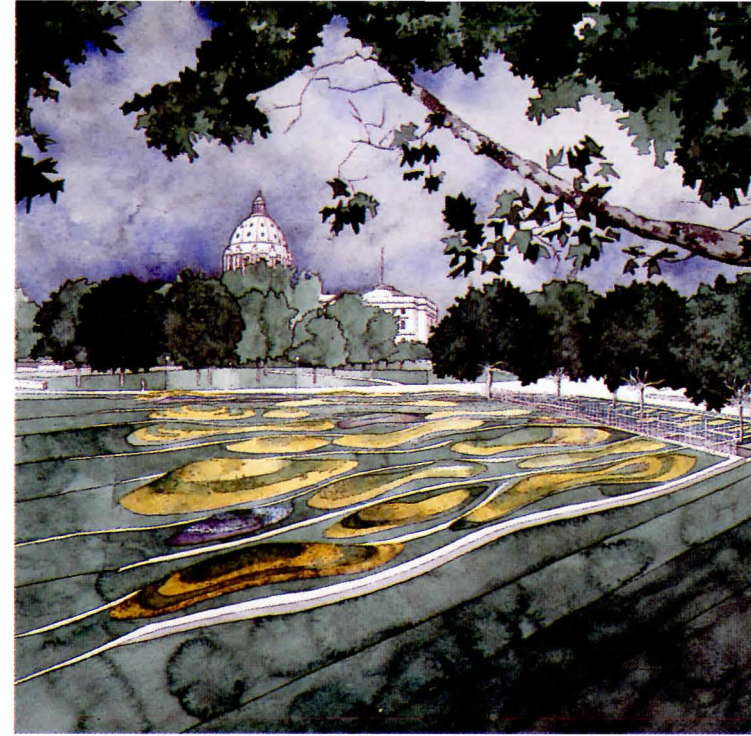
SITE: A 1-acre section of the Beaux-Arts mall south of architect Cass Gilbert's Minnesota State Capitol (1905).

PROGRAM: A memorial dedicated to the ratification of the 19th Amendment to the U.S. Constitution, which recognized women's right to vote, and to the suffragists of Minnesota.

SOLUTION: The architect intends the memorial to embody the momentous social and political impact of the 19th Amendment. In contrast to the timeless Classical context of the mall, each feature of the new memorial landscape reflects a different measurement of time: An irregular field of earthen mounds abstracts geological time by recalling Minnesota's hilly landscape. The berms take on new colors and textures as the seasons pass, when native flowers planted on them change hue; snow frequently covers the site during the long Minnesota winters. A latticework fence bounds the northeast edge of the site. Its vertical posts represent successive years of the suffrage movement. Horizontal bars weave in and out of the posts, reflecting the lifelines of 25 different suffragists. Plaques at the base of the fence document major events during the movement.



November-March

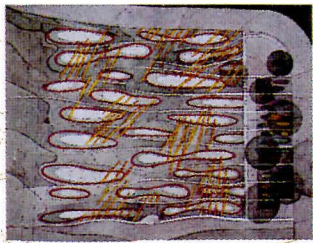


Memorial garden looking toward State Capitol

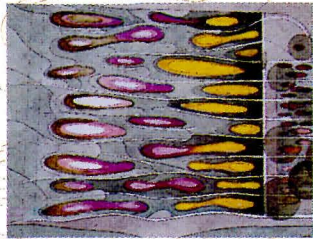
CUTLER: *It's very emotive.*

JIMENEZ: *It's a poetic project. It alludes to the idea of landscape and nature intersecting the realm of government. I like the series of waves and interweavings.*

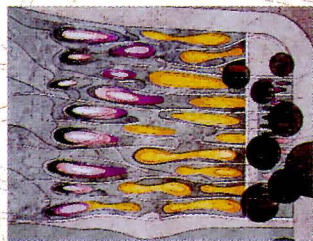
HADID: *It collapses because the landscape implies a continuous surface, and then, suddenly, there's a fence that is like a wicker basket. Also, the dunes don't have anything in them.*



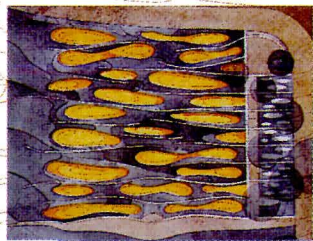
April



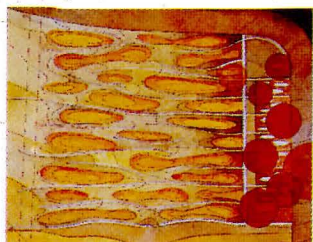
May



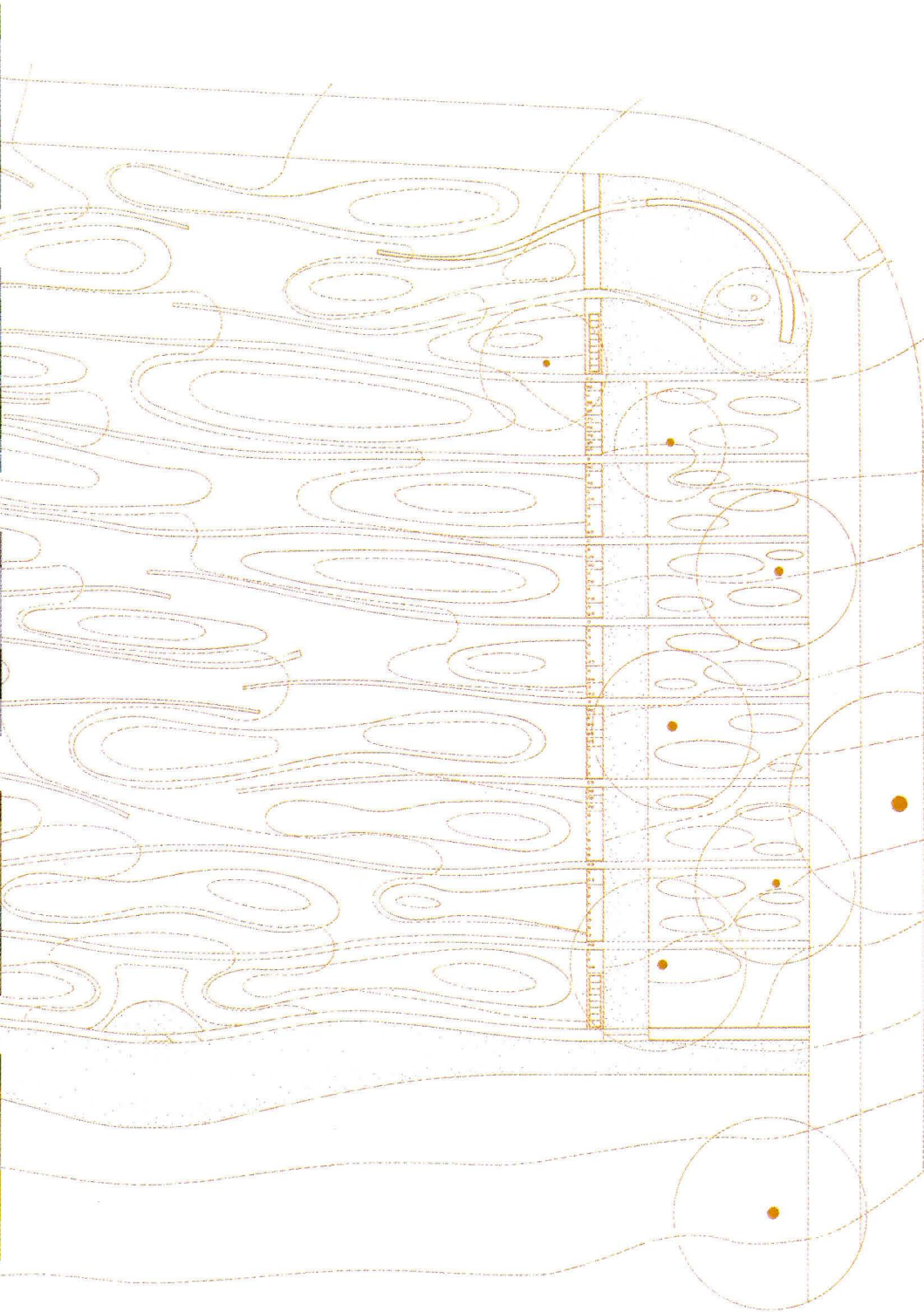
June-July



August-September

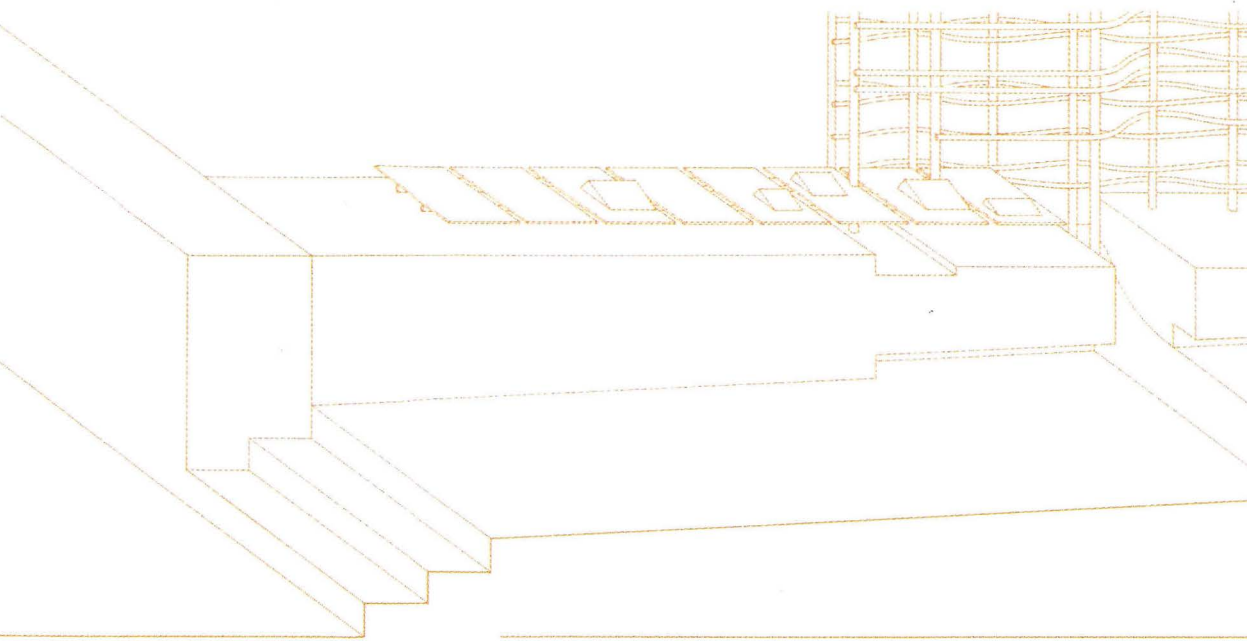


September-October



CLIENT: State of Minnesota—Sally Grans
(project administrator)
ARCHITECT: Loom, Berkeley, California, and
Minneapolis—Raveevarn
Choksombatchai, Martha McQuade,
Ralph Nelson (design team), Michael
Kao, Cheng-long Tsai (assistants)
LANDSCAPE ARCHITECT: Stefan/Larson
Associates
ENGINEER: Bruno Franck (structural)
CONSULTANTS: Arvonne Fraser, Susan
Gross, Barbara Stuhler (historical)

Plan 

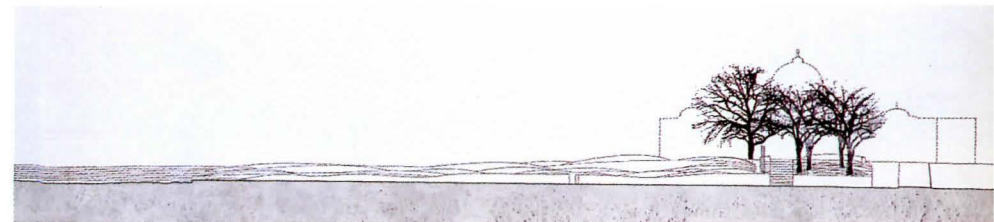


View of metal plaques at base of fence

KENNEDY: *This is difficult territory because it's trying to express the repression of women. I don't like the cliché of the earth mounds and the basket, elements that are associated with "women's work." On the other hand, the fence both displays the names and stops the view, so it actually works with the dunes.*

HANGANU: *It's easy to invest almost anything today with meaning. I like its use of simple elements.*

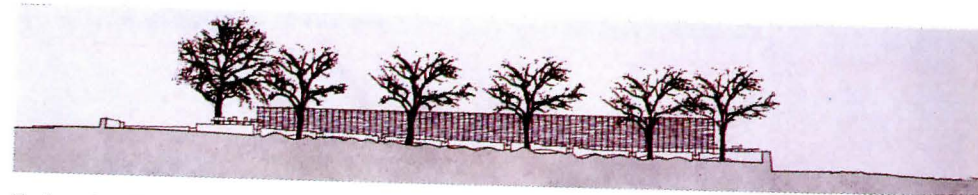
View along fence



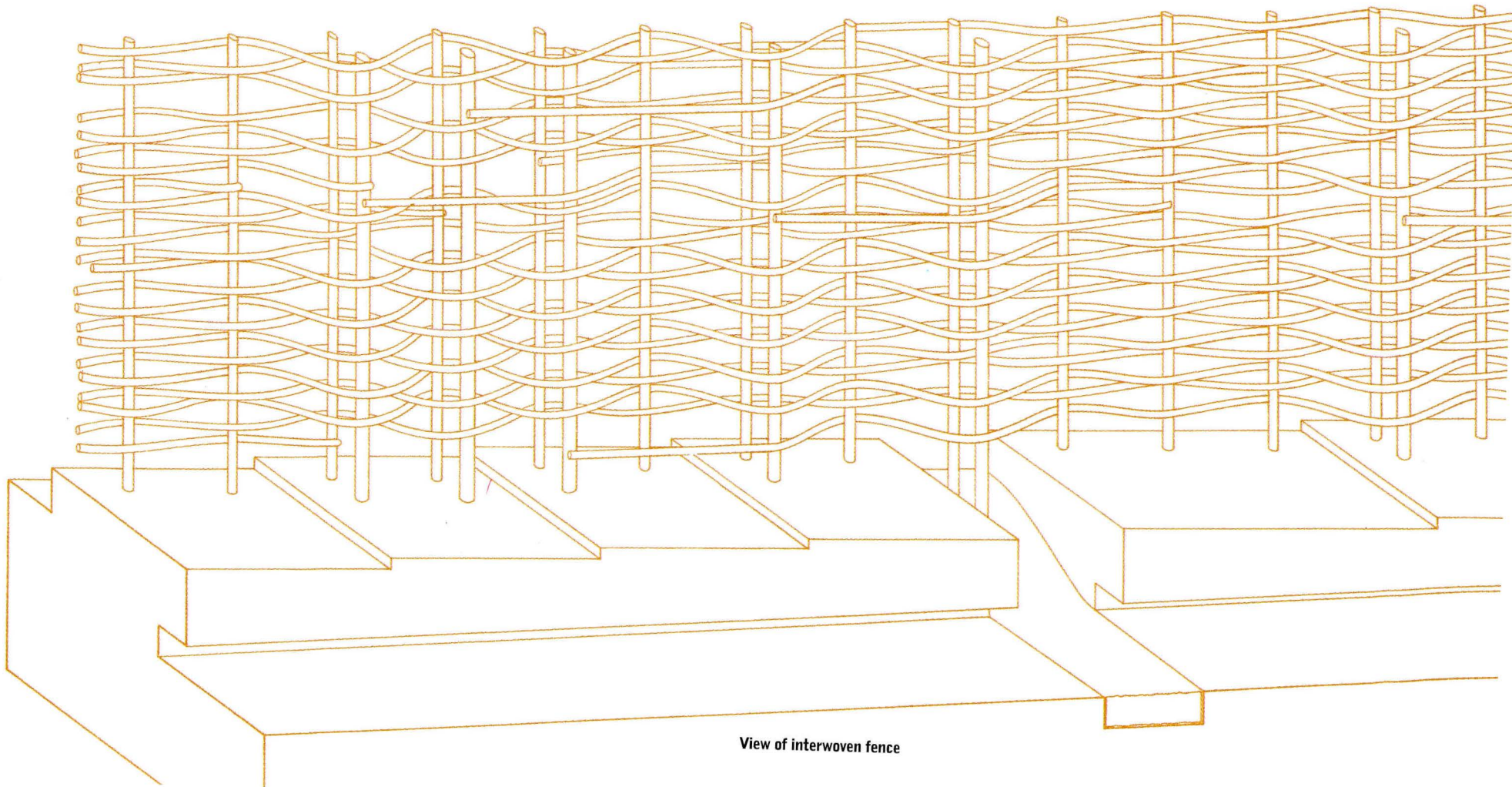
North-south section

JIMENEZ: *I don't know if the fence is correct, but I like where it's placed. To me, the fence is crude, heavy.*

HADID: *Why do you need the fence? It's like two minds operating on the same plane. When you do a project of this genre, it implies a nonseparation. But symbolically, what does it mean?*



East-west section



View of interwoven fence

HOUSE ON A TERMINAL LINE Preston Scott Cohen

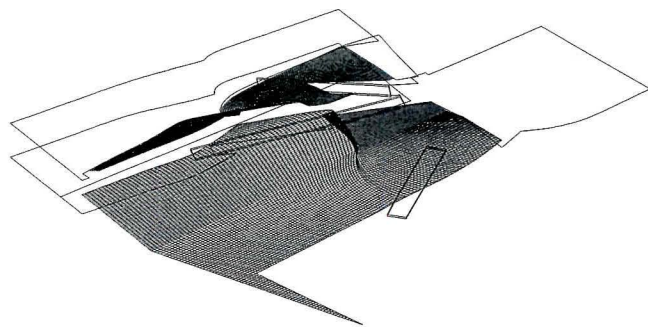
PROJECT: House on a Terminal Line, Montague, New Jersey

SITE: A 3-acre parcel in a low-density residential neighborhood. The ground slopes down gently toward a sharp drop-off on the heavily wooded north edge of the site. A road runs along the site's south edge.

PROGRAM: A 3,800-square-foot, four-bedroom house, with an attached studio and carport. The two-story house is built into a hill; first-floor public rooms and second-floor bedrooms face the woods to the north.

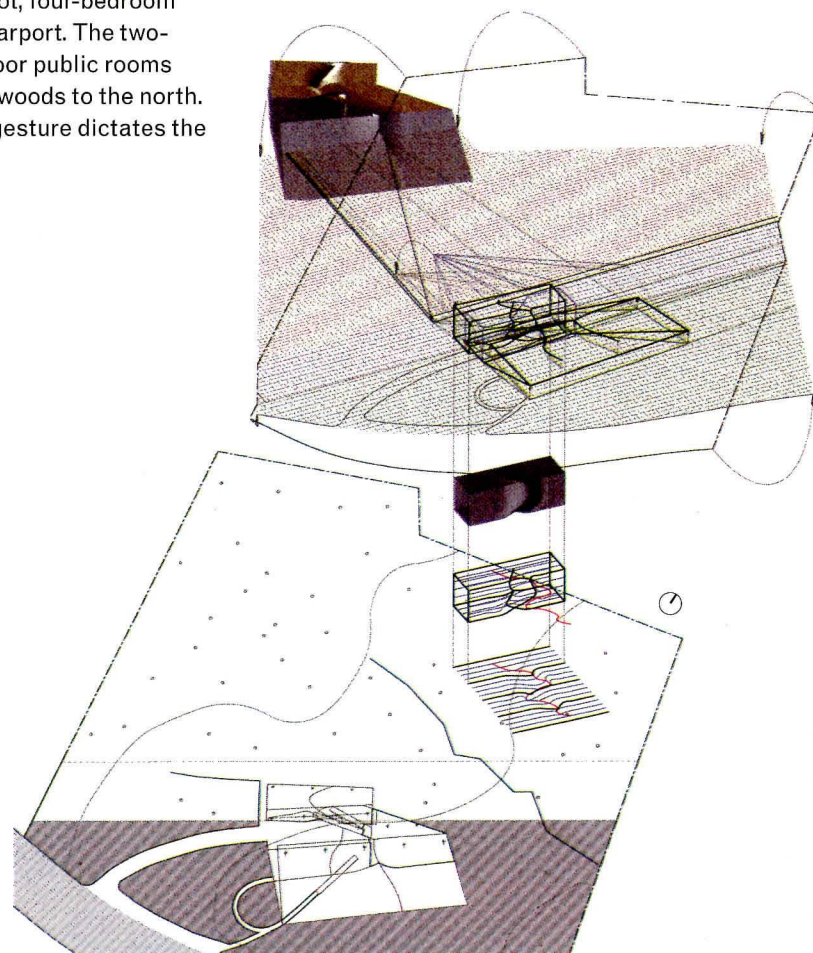
SOLUTION: A simple formal gesture dictates the

design: The architect distorts a square, gridded plane along a curving line, then folds the undulated plane into a box to create the shell of the house (right). The architect specified laminated plywood beams, cut by water jets, for the construction of the skeletal grid—a method that appeals to the client, who is a metalsmith and sculptor. Glass panels, screens, shelving, and other materials occupy the spaces between the beams. To the south, the architect builds out the grid as a conceptual shadow cast by the house's rectangular form. It serves as paving for the forecourt, carport, and studio apartment, which are sited against a retaining wall. The grid also appears above the retaining wall, as a roof for the carport and studio and as a landscape feature in the yard. Ramps lead from the forecourt to the yard above, and down to the sunken ground floor of the house. Hallways, two staircases, and a switchback ramp line the house's southern edge. On the open ground floor, a low-ceilinged living room, dining room, and kitchen face the woods to the north. Above, four bedrooms run the length of the house's north face; an office occupies the southeast corner; and the connecting hallway doubles as a library.



Floor-plate diagram

Geometry diagram



CLIENT: Richard Boscarino

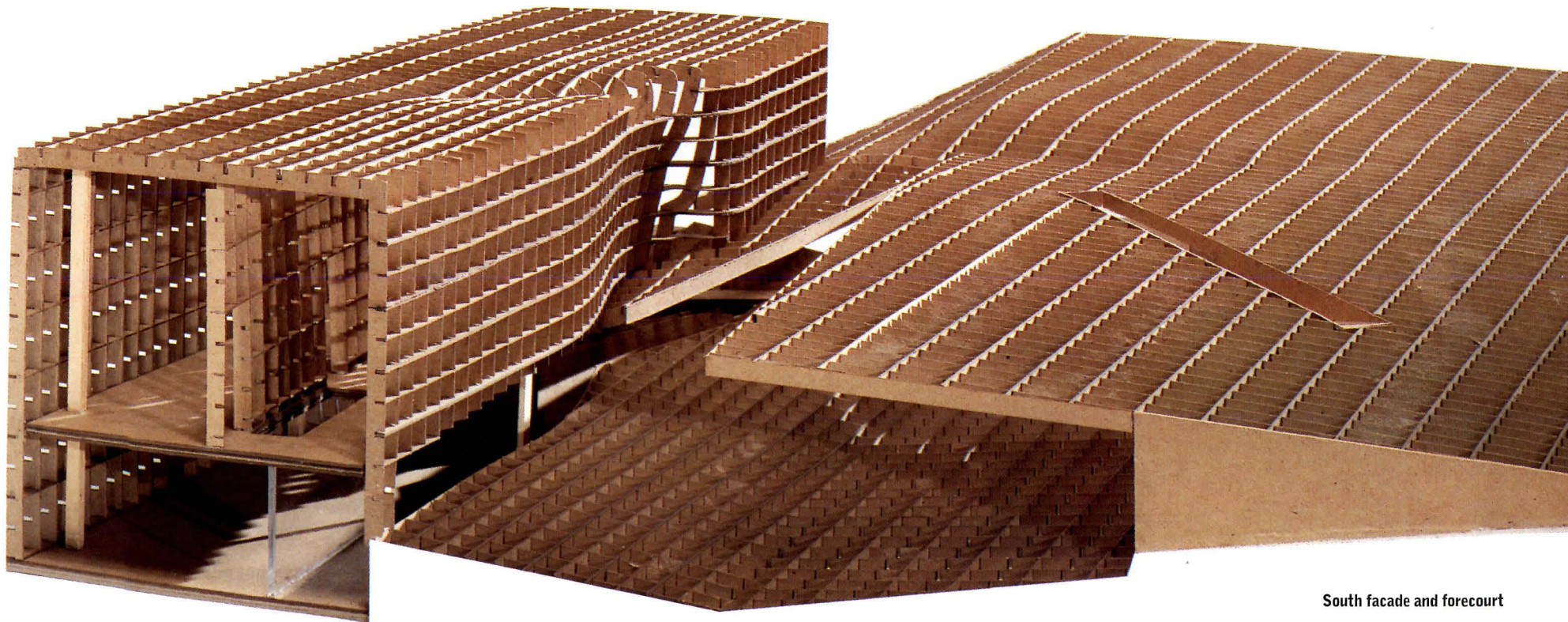
ARCHITECT: Preston Scott Cohen, Boston—
Prescott Scott Cohen (principal), Chris
Hoxie (collaborator), Alexandra Barker
(project assistant)

MODEL PHOTOGRAPHER: Anton Grassl

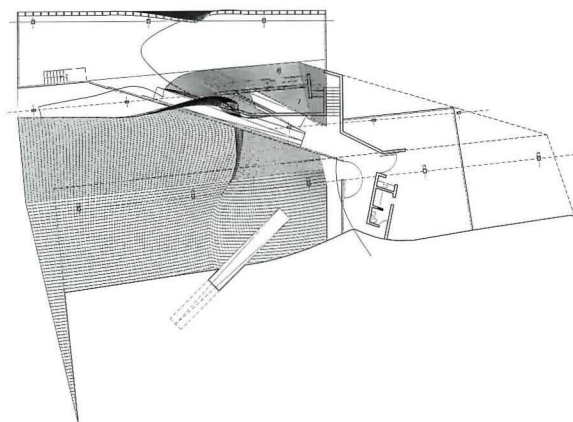
HADID: *It has one or two very simple moves; it doesn't try to do too much. It's interesting to make a few dents in the box.*

JIMENEZ: *I respect the way the ground extends into the roofscape of the house. I agree that the plan is just one idea, but it's very tactical where the cuts are created, the light enters, and the ramp comes into the entrance.*

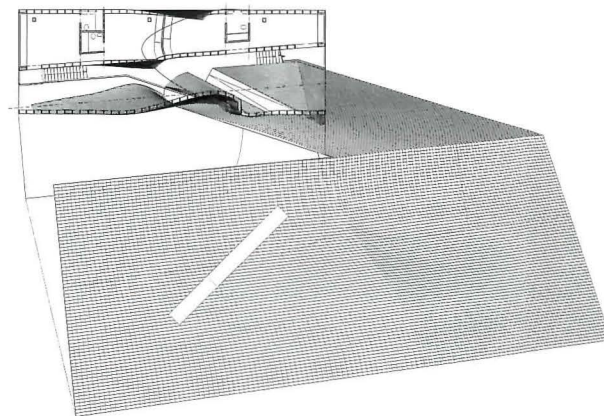
HANGANU: *It's the kind of composition where mistakes are welcome.*



South facade and forecourt



First-floor plan | 50'/15m

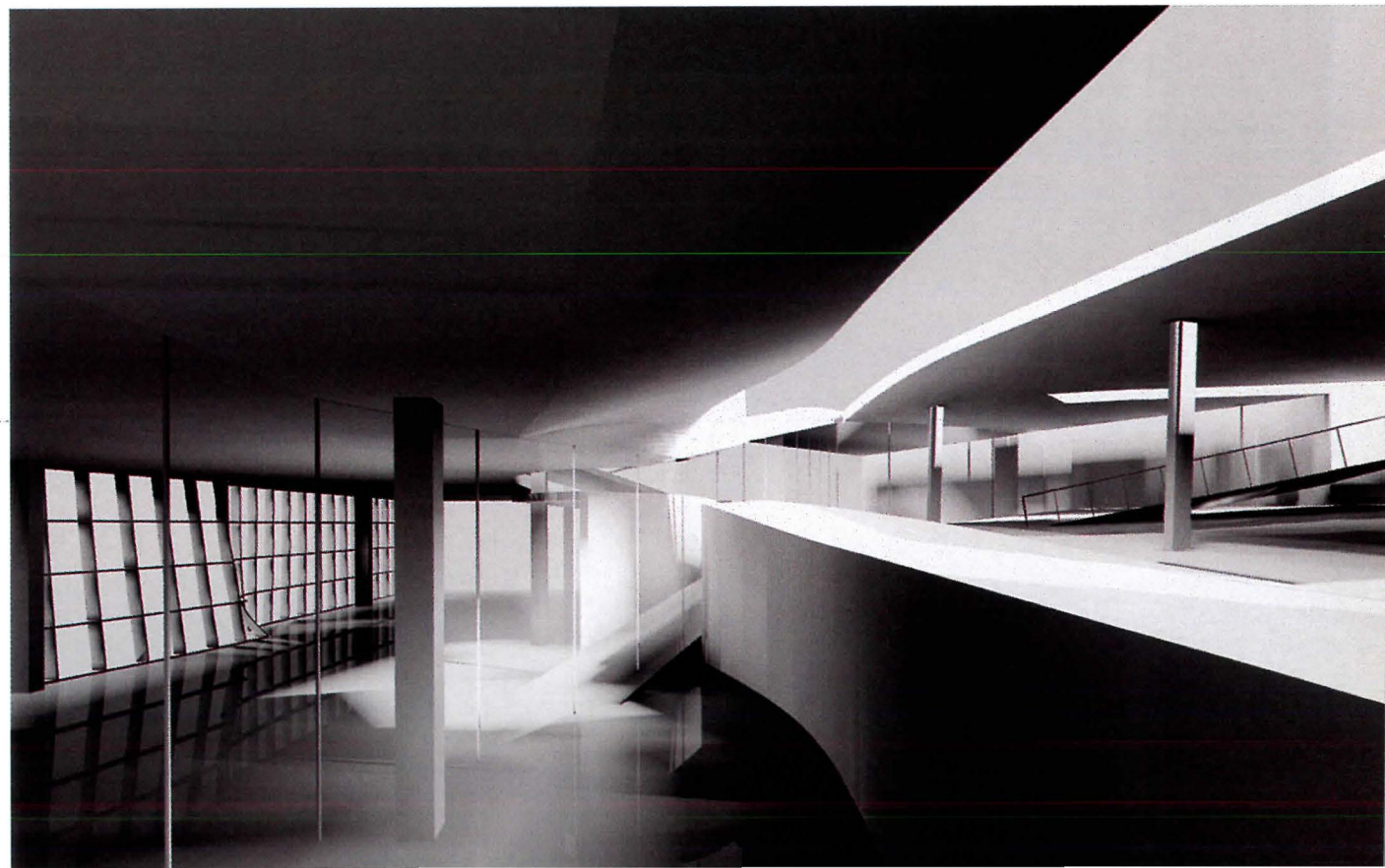


Second-floor plan

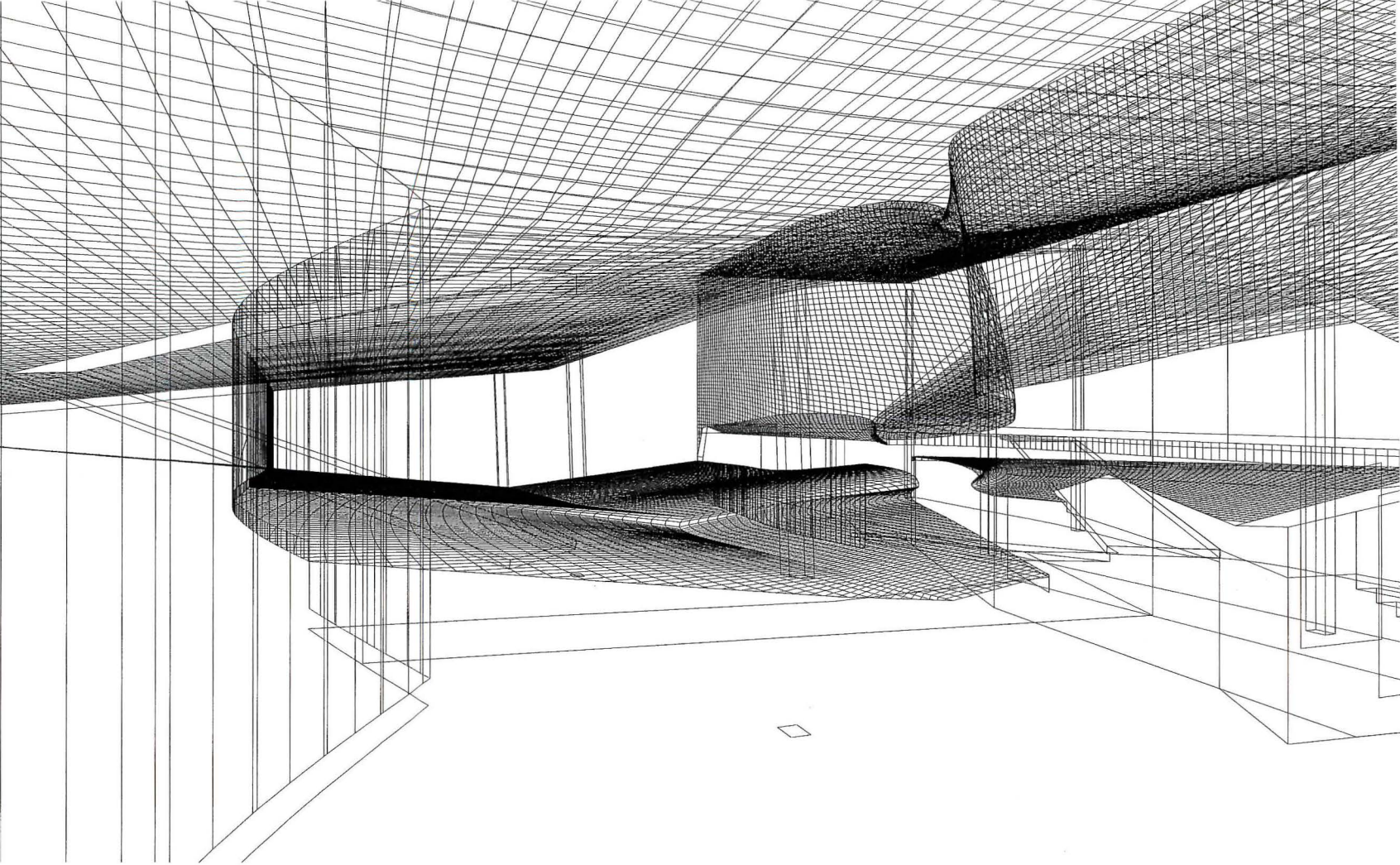
KENNEDY: *We saw a lot of houses that tried this continuity of surface—and didn't succeed. This one was very intelligent.*

HANGANU: *I presume that living in this house would be a pleasure all day, all night. It's a sculpture and you consume this sculpture every day.*

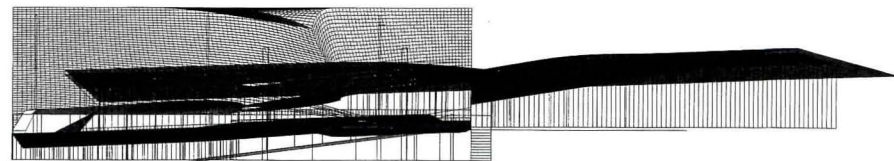
CUTLER: *This is going to be a beautiful house; it's going to fit*



View through living spaces



Views toward house from studio

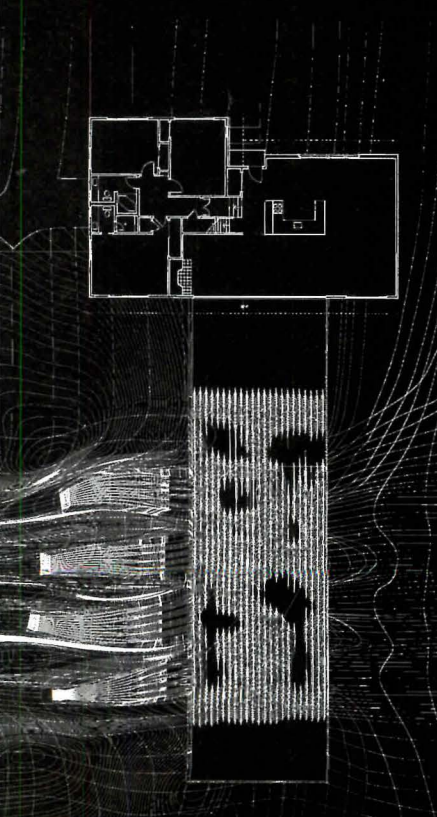


South elevation

beautifully. They're just going to have a hard time building it.

JIMENEZ: *It pushes the idea of habitation. Do we always need to be on the ground? Can it be more of this intermediate solution? How do we become part of the landscape?*

WATER GARDEN
RUR Architecture Reiser + Umemoto
with Jeffrey Kipnis



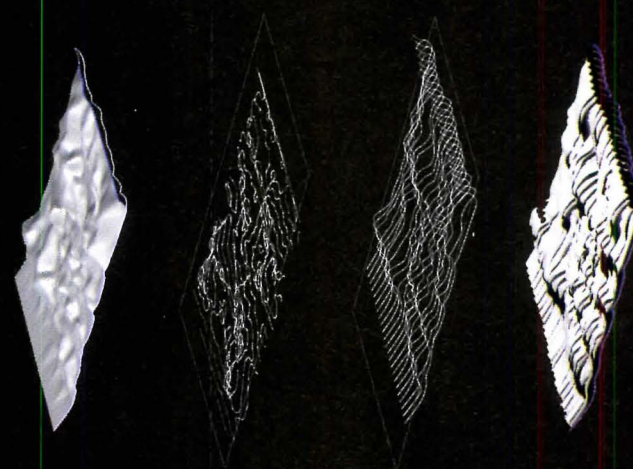
Site plan

PROJECT: Water Garden, Columbus, Ohio
SITE: The backyard of a suburban tract house in Columbus, Ohio, on a 3/4-acre lot.

PROGRAM: A landscaped water garden.
SOLUTION: The architect and the client—Ohio State University Architecture Professor Jeffrey Kipnis and his wife Beverly Stephens—were interested in creating a landscape whose dynamic forms would interact with nature, contrasting with what they consider to be the staid geometry and passivity of historic formal gardens. They propose building up a series of berms that resemble interlocked fingers across the backyard—the first act in a “deliberate production of instability.” The architect then extends an existing concrete patio over the mounds. Irregular water rills

planted with grasses and water plants cut into the 72-foot length of this rectangular plane. Four runoff channels project from the berms into the yard to the north of the pool to control overflow. The water level falls and rises—using either an optional pump system or the natural processes of rainfall, runoff, and evaporation—to expose varying degrees of the underlying striated concrete slab.

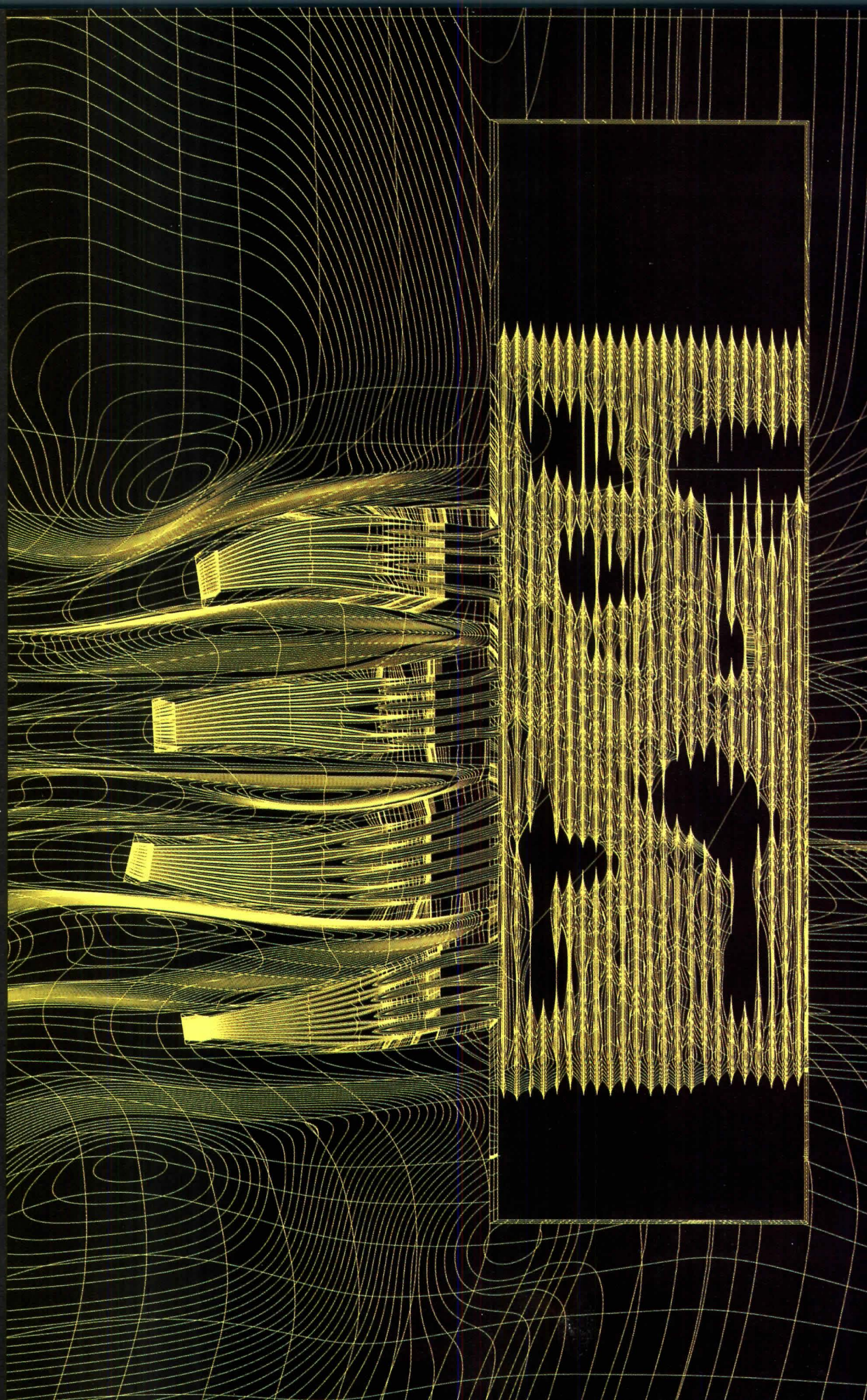
HADID: *It's very desertlike.*
CUTLER: *It's a bit of a disappointment, only in that it's concrete. Hopefully, green things will grow all over it.*
KENNEDY: *You're actually looking at how water moves and trying to use these eddies and swirls. It's quite a complicated geometry they're trying to build.*
JIMENEZ: *The piece finds its own form.*
CUTLER: *It's copying how water runs down a beach.*

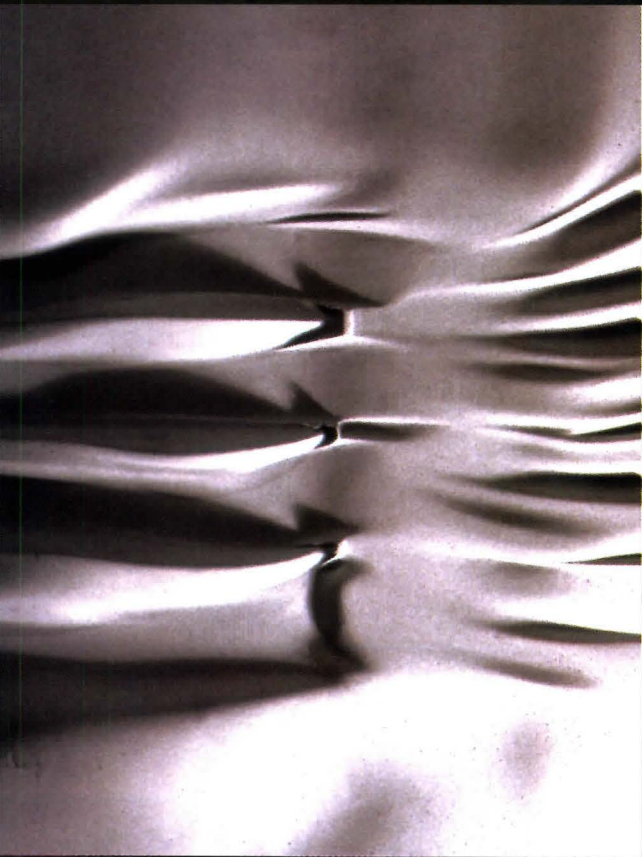


Site-geometry diagrams



Plan





Berms before addition of concrete pool

Water level +2"



Water level +4"



Water level +6"



Water level +8"



Water level +10"



Water level +12"



Water level +14"

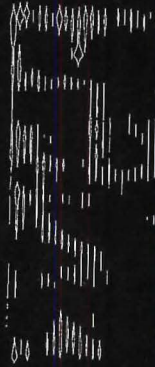


CLIENTS: Beverly Stephens and Jeffrey Kipnis
ARCHITECT: RUR Architecture Reiser + Umemoto,
New York City—Jesse Reiser, Nanako
Umemoto (principals); David Ruy
(project assistant) with Jeffrey Kipnis
ENGINEER: Ysrael Seimuk (structural)
CONSULTANTS: John Seamon (project manager);
ERA Industries (laminated object modeling)



Run-off channels

Water level +16"



Water level +18"

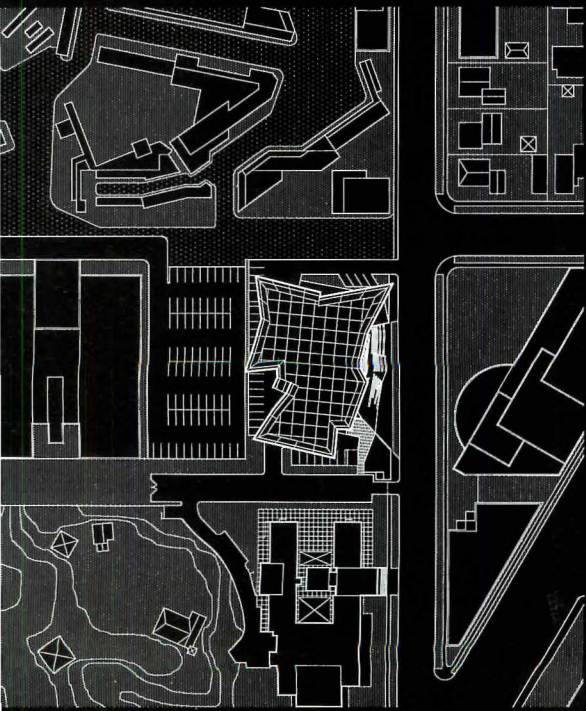


Water level +20"



HADID: *It's a marriage of striation to continuous surface.*

HANGANU: *It reminds me of a quotation from The Iliad: "Man never does anything which hasn't been done before."*



Site plan

PERFORMANCE THEATER 1999 Karen Bausman and Associates

PROJECT: Performance Theater 1999, Los Angeles

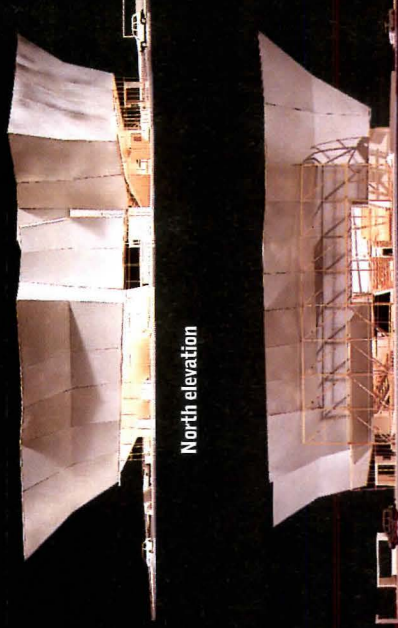
SITE: A 1.5-acre parking lot in a commercial district of Los Angeles, with a collector street running along its south edge.

PROGRAM: An 18,000-square-foot theater for music, film, and television productions, with 750 indoor and 250 outdoor seats. The theater sits above three levels of underground parking, and incorporates ancillary spaces such as a lobby, green room, coat check, and storage.

SOLUTION: The structure of plants influenced this design: A cast-in-place concrete plinth, subterranean parking garage, and surface parking serve as “stem” and “roots” for a steel space-frame roof and walls. This structural framework supports

canted planes—acoustic panels, outdoor and indoor seating, and exterior walls clad in preweathered galvanized aluminum sheathing—resembling petals or leaves. A second structural curtain wall system encloses the base of the theater. On the south elevation, this curtain wall rises to form a backdrop for an outdoor amphitheater. By sliding open a screen at the back of the stage, indoor and outdoor seating become an open-air theater-in-the-round. Entrances are located both on-grade and one level below; the stage sits one level below grade.

CLIENT: Moving Arts Ltd.—Aaron W. Levy (president)
ARCHITECT: Karen Bausman and Associates, New York City—Karen Bausman (principal), Michael A. McClure (project manager), Chad D. Smith, Tzyh-yuan Sun (project team)
ENGINEER: Anchor Consulting (structural)
MODEL PHOTOGRAPHER: Jock Pottle, Esto



North elevation

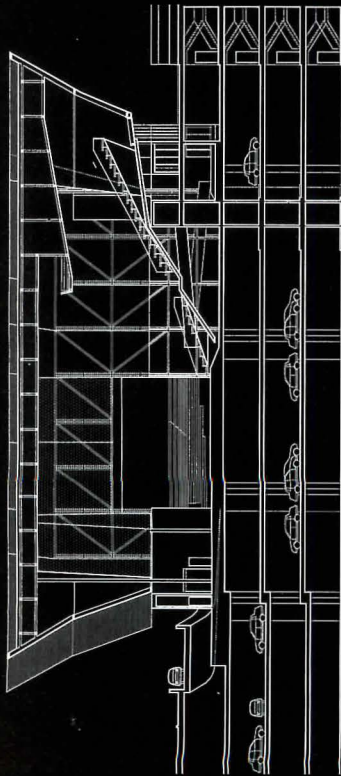
South elevation

KENNEDY: *I like the idea of transforming something very banal like a parking garage into this light, delicate theater. It's a great use of public space.*

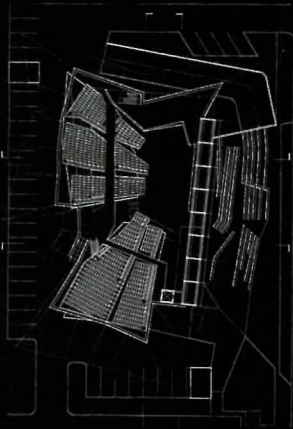
CUTLER: *I'm trying to get a sense of whether the jury is being driven by shapes or by primary ideas.*

Model view from southeast

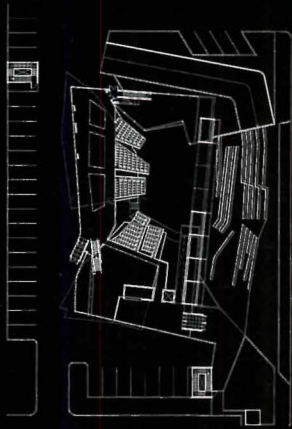




East-west section, looking through to amphitheater



Seating-level plan

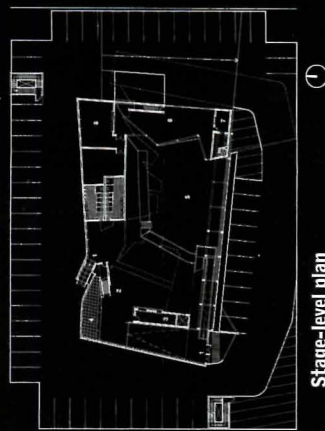


Entrance-level plan

KENNEDY: *But the shape is the expression of the program.*

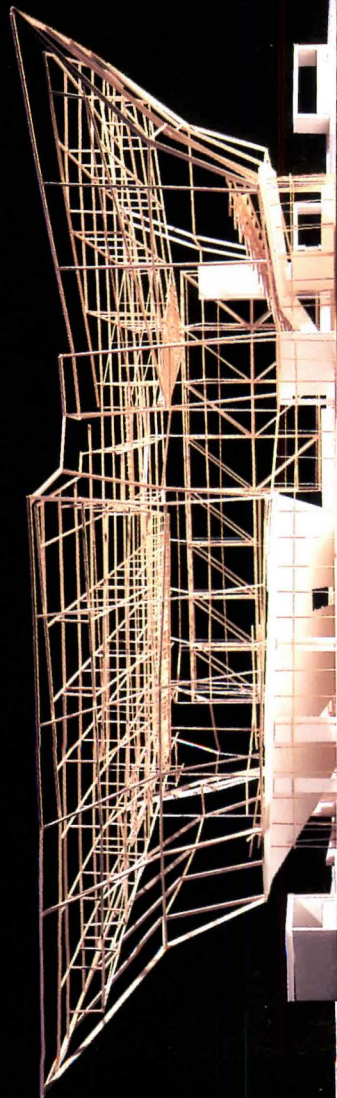
JIMENEZ: *I think it's important to clarify that it's a concept, an idea.*

HADID: *I like the way it leaves the ground.*



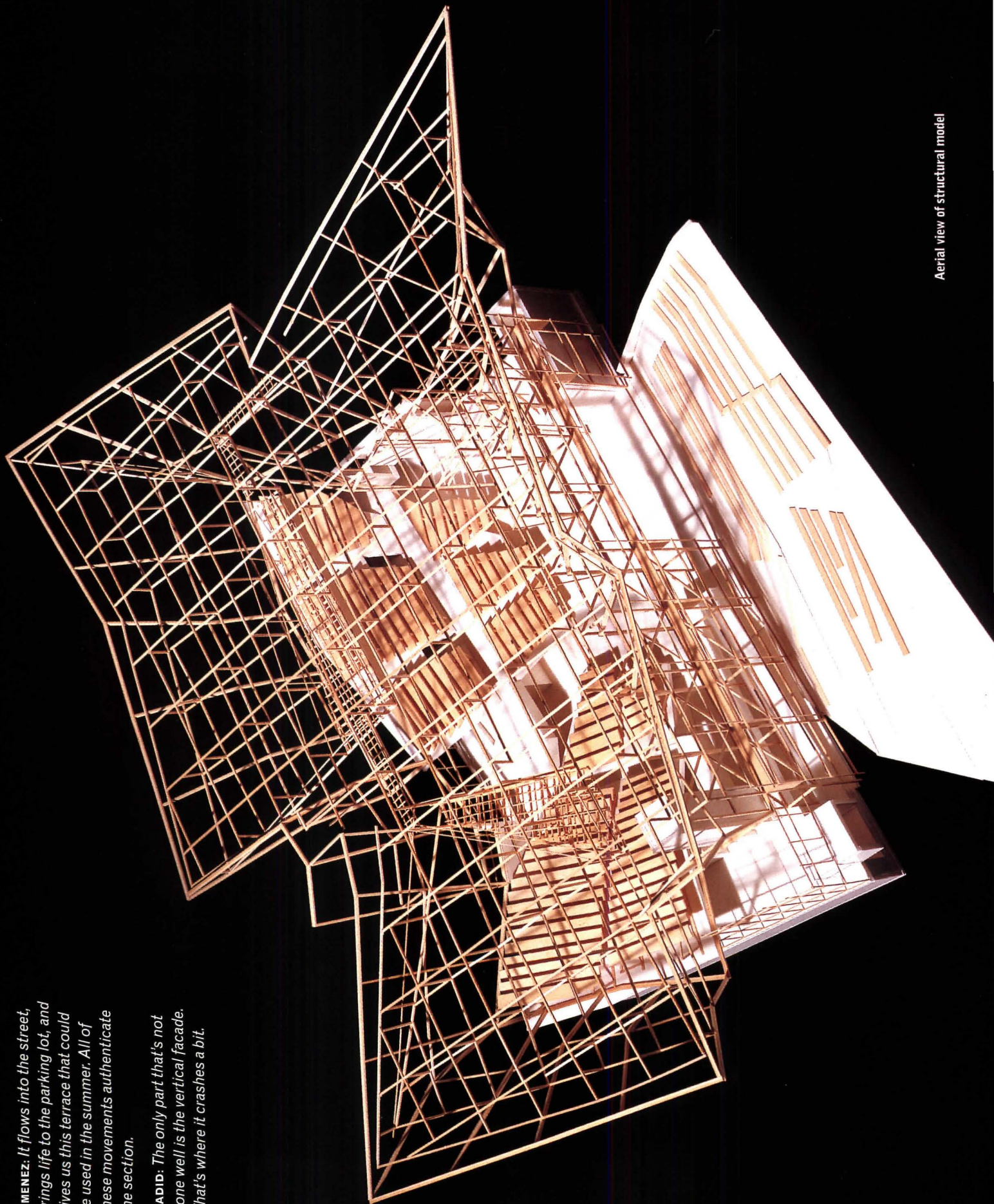
Stage-level plan

Structural model



JIMENEZ: It flows into the street, brings life to the parking lot, and gives us this terrace that could be used in the summer. All of these movements authenticate the section.

HADID: The only part that's not done well is the vertical facade. That's where it crashes a bit.



Aerial view of structural model

CITY PROPOSALS

Studio Works

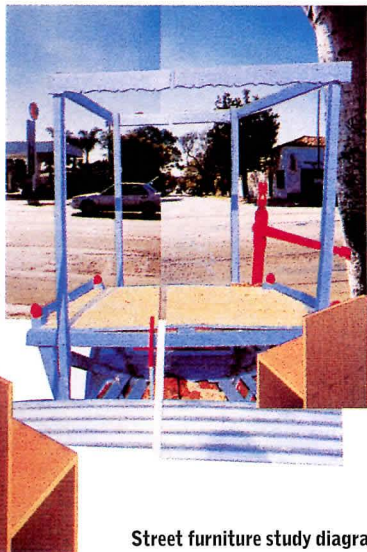
PROJECT: Seven Diagrams for Seeing a City, 29 City Proposals, Five Projects for Faith Plating, West Hollywood, California

SITE: The eastern stretch of Santa Monica Boulevard, a commercial street in West Hollywood.

PROGRAM: A preliminary master plan and design recommendations for the redevelopment of Santa Monica Boulevard, commissioned by the city of West Hollywood. The architect also developed designs for new facades for a local business.

SOLUTION: Seven plan diagrams of the boulevard document existing scale, variations of the street grid, topography, local landmarks, building placement, and views. Using these analyses as a starting point, a series of 29 recommendations attempt to manipulate, correct, and enhance existing uniformities and anomalies. Five alternate proposals for the expansion of a local business indicate how the architect's general ideas might be implemented.

The architect intends the 29 recommendations to enliven conventional urban design strategies. For example, translucent walls added to the top of single-story buildings allow the passage of light and create a more continuous



Street furniture study diagram

cornice line along the largely two-story street. New street furniture ranges in scale from gigantic to miniature. Persistent use of the color blue—through lighting, paint, and window tinting—imparts a subtle, yet pervasive, mood to the neighborhood.

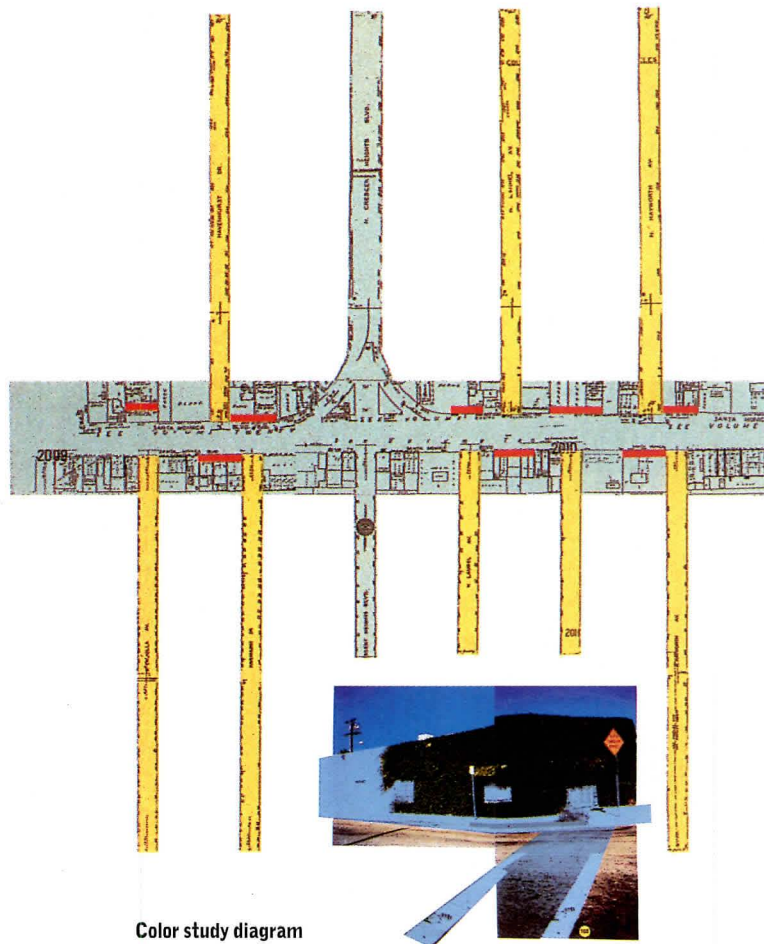
For local bumper-repair shop Faith Plating, whose current home on Santa Monica Boulevard was designed by Frank Gehry in 1964, the architect prepared five proposals for the new facade of an annex. These designs provide specific examples of the general concepts outlined in the master plan. In one scheme, the architect proposes enveloping the exterior of the building with native grasses in tiers of planters. Another entails cladding the facade with a patchwork of discarded industrial parts.

JIMENEZ: *West Hollywood is a neighborhood of fragments. This study suggests finding other ways of looking at corners and edges. It's about Hollywood; it's about this type of place. It proposes that you begin to read this context and offer a continuation of it.*

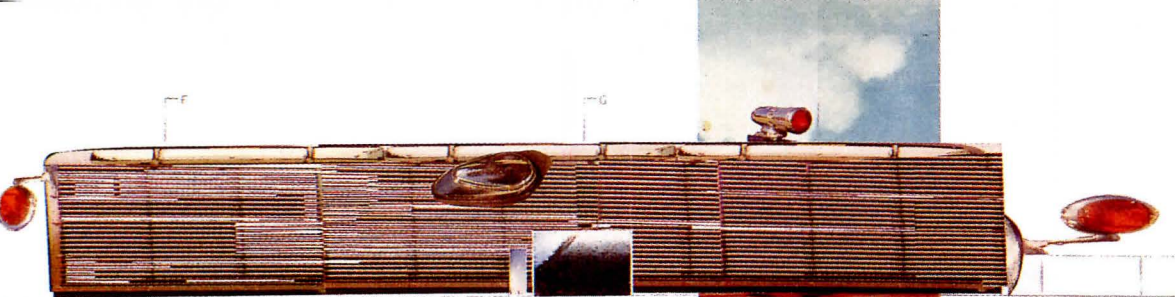
KENNEDY: *The various materials and surfaces are a low-tech, affordable way to produce some continuity on the street—a series of very small-scale interventions. That an old garage could be covered with grass seed like a Chia Pet is completely crazy. It's trying to find a mythology for this ordinary Los Angeles street. It's a kind of a delirium, but an interesting one.*

JIMENEZ: *Beautiful things occur in the banal: The vernacular comes out of the banal.*

CUTLER: *It's more like a magnifying glass that takes everything there and makes it more apparent. It magnifies the complexity of the street.*



Color study diagram



Facade proposals for Faith Plating

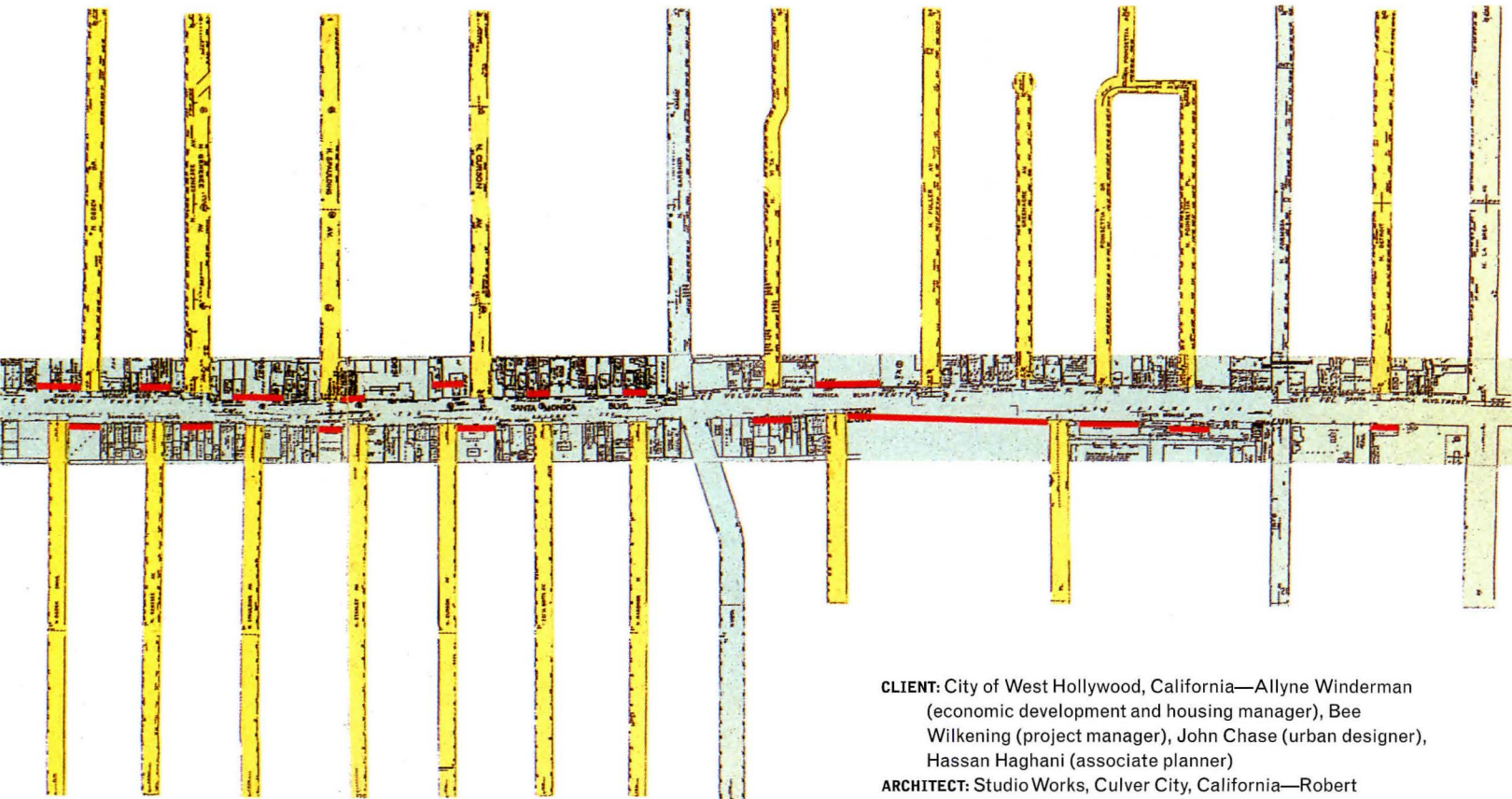
HADID: *This one is not trying to overgentrify the neighborhood. It has a strategy: Through a map, they locate things, insert things, and unify disparate areas.*

HANGANU: *It's not necessarily the end which is going to give you most of the pleasure, but the process of getting there.*

CUTLER: *It's easy to walk into this and imagine. In some ways, it's almost old Venturi-like. This is an Impressionist document.*



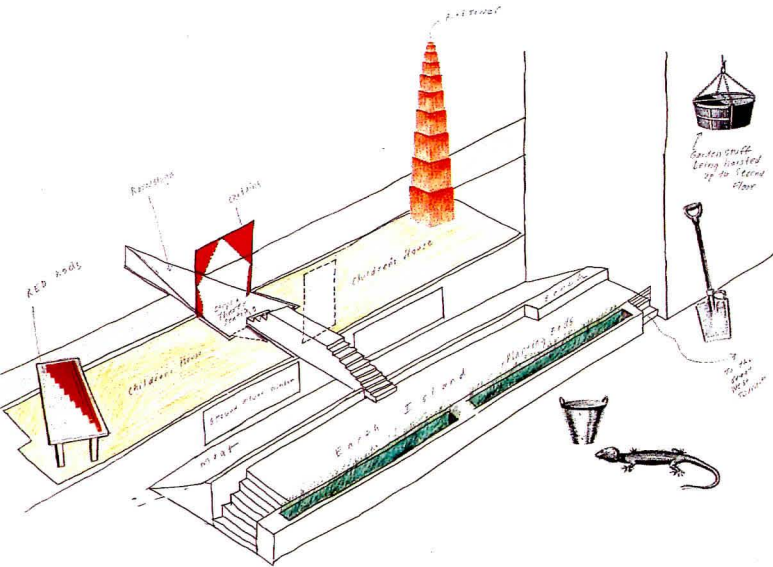
Street-grid study diagram



CLIENT: City of West Hollywood, California—Allyne Winderman (economic development and housing manager), Bee Wilkening (project manager), John Chase (urban designer), Hassan Haghani (associate planner)

ARCHITECT: Studio Works, Culver City, California—Robert Mangurian, Mary-Ann Ray (principals), Robert Adams, Patrick Bambrough, Joshua Coggeshall, Jennifer Cosgrove, William Hogan, Sophie Smits, Frederick Eric Vogel, John Zorich (project team)

MILWAUKEE MONTESSORI SCHOOL Studio Works



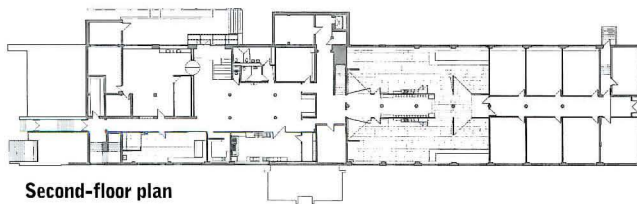
Earth island play area

classrooms feature an open plan and many have access to an outdoor play area—"the earth island"—for the study of geography and botany. Other whimsical garden features include an aquarium and a terrarium built into the school's entrance; a circular drop-off with a giant sundial at its center; a covered ramp, called the Bridgadariam, leading from the second floor to outlying playing fields; and steps and paving that re-create typical Montessori toys at a larger scale.

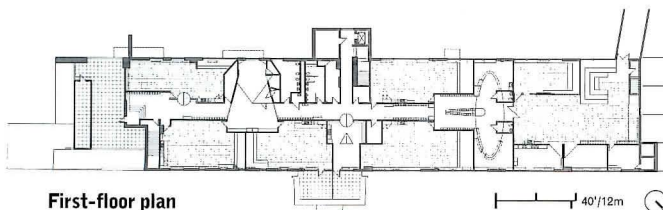
PROJECT: Milwaukee Montessori School, Milwaukee
SITE: A 2.5-acre lot in a residential suburb of Milwaukee. The site is bounded by a road to the north.

PROGRAM: The cost-sensitive renovation of an existing school building into a 58,000-square-foot facility for 340 students.

SOLUTION: For Maria Montessori, founder of the educational movement that bears her name, the learning environment played as important a role in children's development as did the teacher. The architect accordingly enlivened the interior and exterior of this prosaic 1950s school building with a series of didactic architectural events that reflect Montessori's teachings. For instance, Montessori called classrooms "children's houses," and the architect treats them as such, with miniature kitchens and built-in furniture. Corridors become streets, interrupted by public gathering places. One of these doubles as an informal theater; another is capped by an observatory. So that children "may be free to go and come as they like," as Montessori recommended,



Second-floor plan

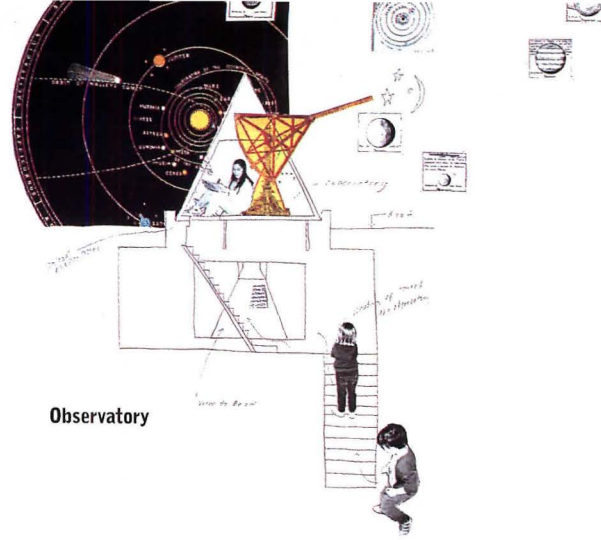


First-floor plan

CUTLER: *The plan is wonderfully readable: The creation of axes, the creation of hues within the building, particularly the very long corridors that end at blank walls, turn you left, turn you right, and then run you into a single door at the bottom of the stairs.*

KENNEDY: *I really like the strategy—what they call stealth—of coming into an existing institution and inserting certain kinds of Montessori interventions. Normally, architecture sets aside all of these little things, typical everyday elements, in favor of heroic perspectives or gestures. But here, these things are all elaborated. The floors, walls, and doors are reinvented. This building is made up of a patchwork of different, affordable materials.*

CLIENT: Milwaukee Montessori School—Mary Kenngott (executive director)
ARCHITECT: Studio Works, Culver City, California—Robert Mangurian, Mary-Ann Ray (principals), Joshua R. Coggeshall, William Hogan (project managers), Scott Ackatz, Robert Adams, Jennifer Cosgrove, Frederick Eric Vogel, John Zorich (project team)
DESIGN/BUILD ARCHITECT: Peter Schwabe Design-Build, Big Bend, Wisconsin—Randy Scoville (vice president/COO), Scott Ackatz (design coordinator)
ENGINEERS: The Office of Gordon Polon (structural); Haning Sikkema Heaton and Associates (mechanical); Uihlein Electric Company (electrical); Shrode Engineering (plumbing)

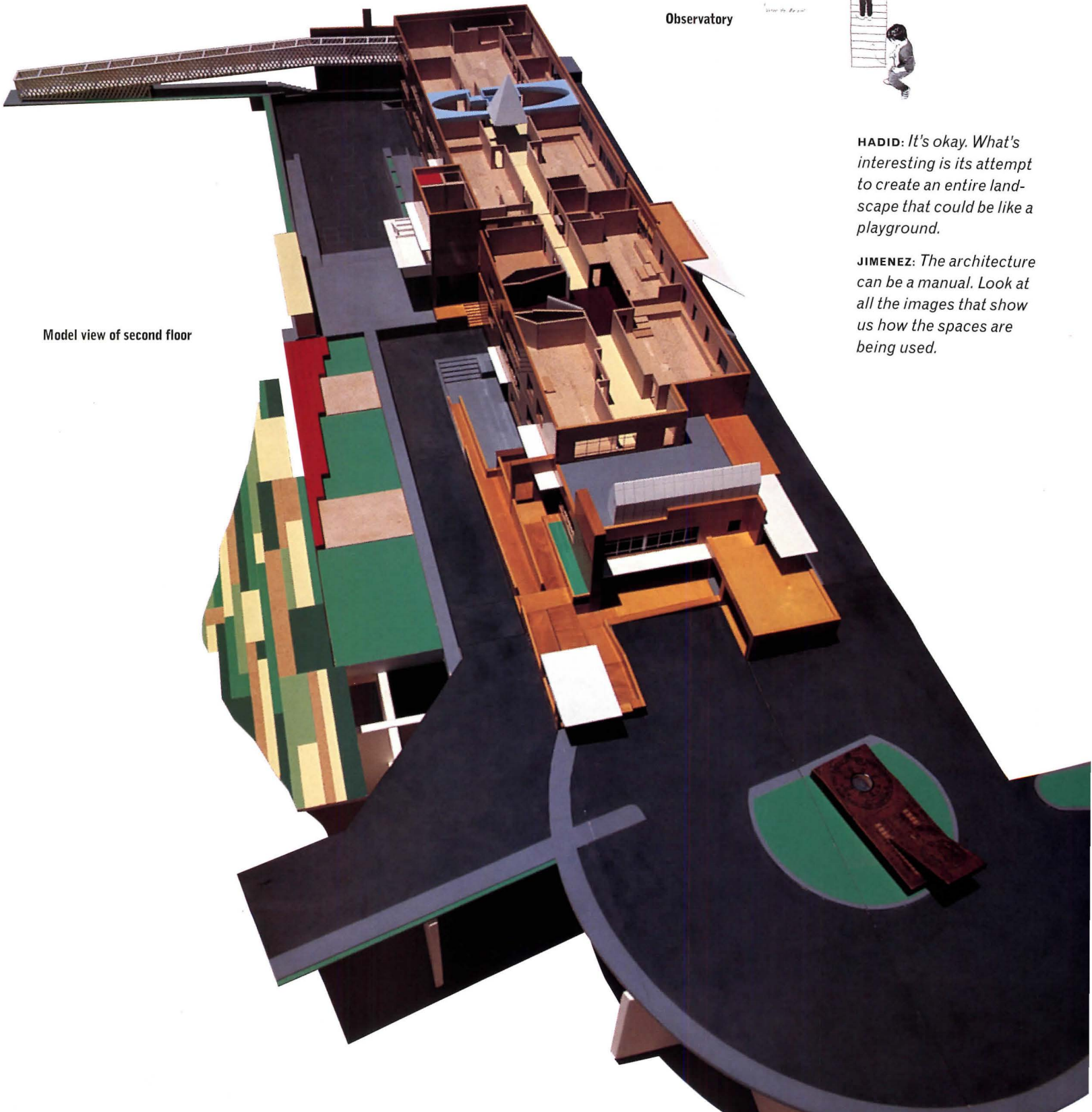


Observatory

HADID: *It's okay. What's interesting is its attempt to create an entire landscape that could be like a playground.*

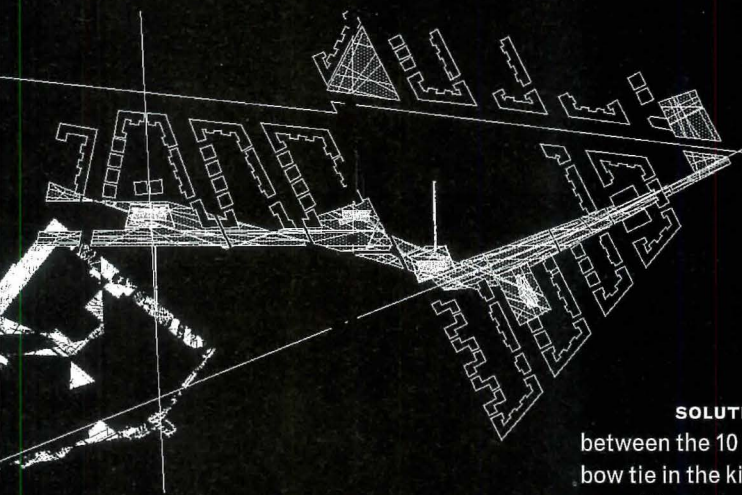
JIMENEZ: *The architecture can be a manual. Look at all the images that show us how the spaces are being used.*

Model view of second floor



KINDERGARTEN AND YOUTH CENTER

Barkow Leibinger Architects and Douglas Gauthier Architect



Site plan ⌚

HANGANU: *This is so Modernistic, almost simplistic. He doesn't do the corridor like everybody else. The problem with old schools was the corridor, where you met all your friends because you hated class. That kind of space seems more important today than the classroom.*

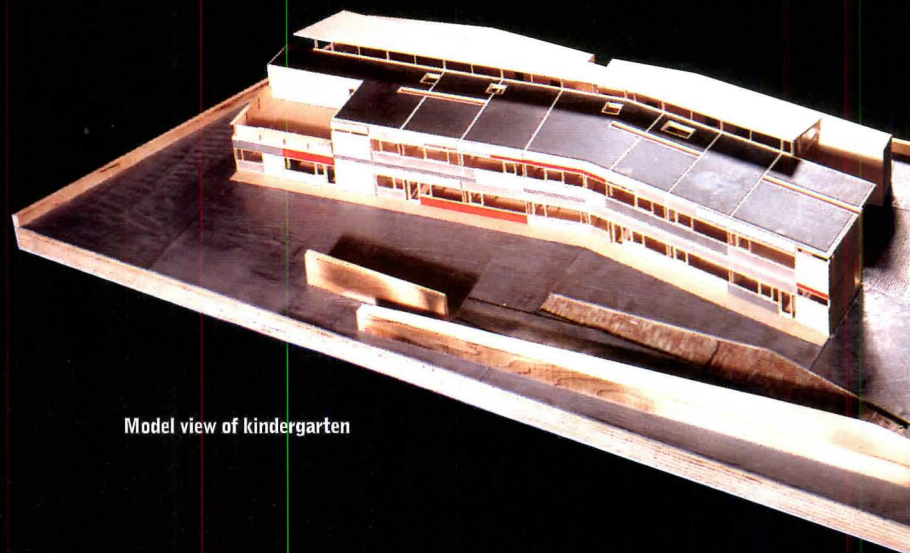
CUTLER: *It's a very Modern plan. It would be easy for children or anyone else to orient themselves. The Modernism looks Teutonic, a little hard. But this is good architecture. The failings are the tight conditions, such as the lack of a place of arrival.*

PROJECT: Kindergarten and Youth Center, Berlin

SITE: The green spaces between the six-story blocks of a housing development for 5,000 people, currently under construction in the Berlin suburb of Buchholz.

PROGRAM: A 10,000-square-foot kindergarten and 8,000-square-foot youth center, part of a state-sponsored, competition-winning master plan the architects prepared for 10 such children's centers in the housing complex. The client has since scaled the project back to six centers and awarded the design of four of these buildings to other architects.

SOLUTION: A cross-hatched system of geometric alignments between the 10 proposed sites determines the buildings' angular forms—a bow tie in the kindergarten and a lozenge in the youth center—as well as an overall landscape plan for the green spaces between the housing blocks. (The client has since abandoned landscaping for all but the areas immediately surrounding the children's centers, where hedges, walls, and trees delineate a patchwork of grass, sand, and clay.) Both buildings are organized along a glazed, double-loaded corridor, with services such as stairs and bathrooms along the north face, and classrooms and other public spaces along the south. Color-stained concrete-fiber panels and wood-framed windows fill in the poured-in-place concrete frame of the classroom blocks, the roofs of which are planted with grass. The service blocks are clad in horizontal tongue-and-groove larch siding, and capped by a faceted aluminum standing-seam roof.

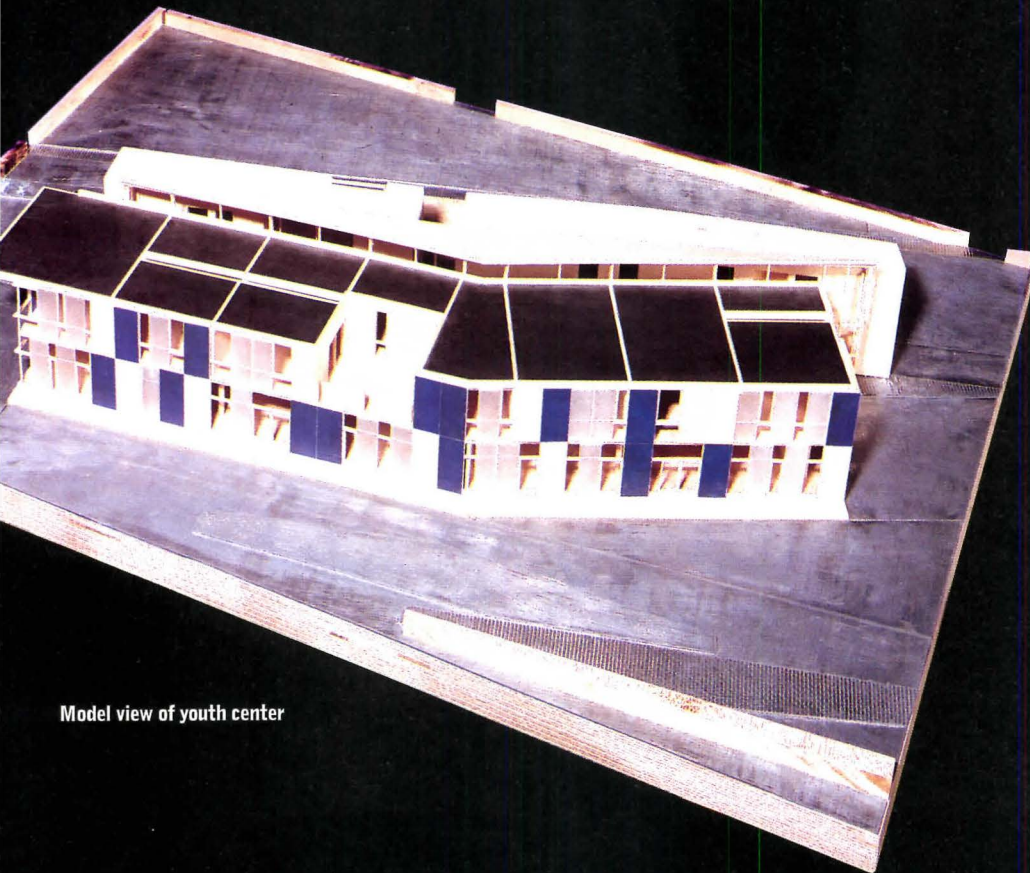


Model view of kindergarten

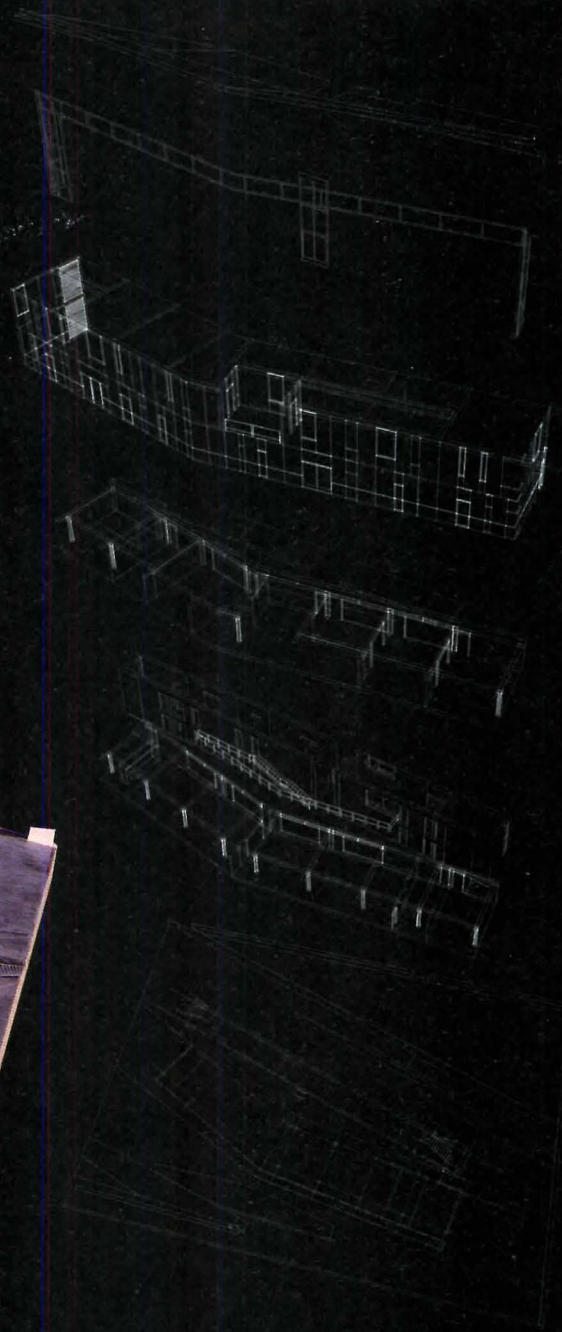
KENNEDY: *There isn't the slightest hint of figurality in this corridor.*

JIMENEZ: *It's a very accomplished piece of architecture. It's a building that might have another program in its future. There are some buildings that are so fixed by program that, once built, they cannot be changed. We might have problems with the plan, but I think that can be worked out simply.*

HADID: *It's an educational puzzle.*



Model view of youth center



Exploded axonometric

CLIENTS: City of Berlin, Germany; Ergero—Uwe Abraham (managing partner)

ARCHITECTS: Barkow Leibinger Architects and Douglas Gauthier Architect, New York City—Frank Barkow, Regine Leibinger (principals), Douglas Gauthier (collaborator), Amy Barkow, Jeremy Carvalho, Martin Heberle, Lydia Heine, Jeff Kirby, Karin Lohrman, Oliver Neumann (project team)

LANDSCAPE ARCHITECT: Gaby Kiefer

ENGINEERS: HTPS (structural); BLS (electrical)

CONSULTANT: Rikirt Riravanija (artist)



View of circulation ramp



KENNEDY: *Infrastructure projects are now a subject for architectural exploration. These repressed infrastructures become analogous to body parts that we don't know about but are vital to the health of the city or the body. The project is ugly and the drawings are broody and kind of frightening, but there's a certain weird vision to the infrastructure.*

JIMENEZ: *It's sinister.*

HANGANU: *It's in the context.*

CUTLER: *It's like Salvador Dali became an architect.*

WATERWORKS: ADVANCED WATER TREATMENT PLANT Millar/Guthrie + Buresh

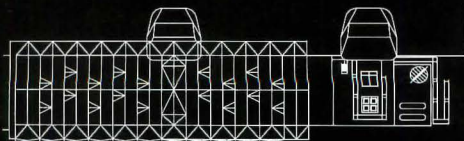
PROJECT: WaterWorks: Advanced Water Treatment Plant, San Diego

SITE: An unoccupied, 12.5-acre site in San Diego, bordered on the west by a sunken freeway and burgeoning office development, on the east by an industrial office park, and on the south by the San Diego North City Water Reclamation Plant. The site's northern end looks off to a sparsely populated valley and the Pacific Ocean beyond.

PROGRAM: A 122,400-square-foot plant that cleans wastewater. The architect, who collaborated with artist Robert Millar, incorporates an educational tour into the building.

SOLUTION: The city of San Diego approached the architect and artist to elevate a public works project to an artistic and educational amenity. The team responded by creating a promenade through the plant that explains the wastewater reclamation process. A giant, faceted earth berm marks both the public entrance at the southwest corner of the site, as well as the underground entrance point for water piped in from the preliminary reclamation plant. From the entrance, a ramp runs along the western edge of the 600-foot-long building to the starting point of the treatment process on the north.

A contiguous, copper-clad roof and west facade shelter the northern half of the plant and ramp. The orientation and size of skylights in the roof and openings in the facade highlight various stages of the reclamation process. An inner layer of Teflon-coated fiberglass and galvanized chain link controls views and noise. The ramp terminates on the north in a platform that overlooks the valley below. The procession then doubles back along the east side of the building, where a walkway overlooks the machinery and connects with exhibits that occupy two protruding, enclosed pavilions. At the end of the route is a garden that demonstrates the use of the treated water.



Roof plan



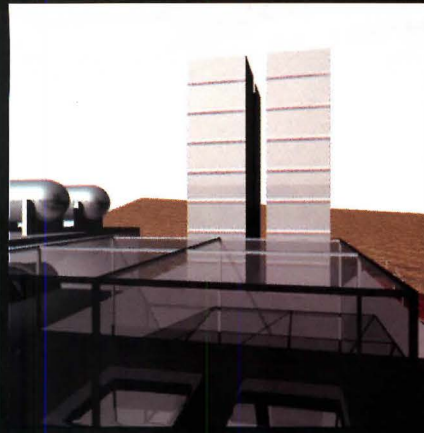
Circulation plan

JIMENEZ: *This project takes a water-treatment plant and accepts that it has its own iconography. It can be a place for people to visit and not feel threatened.*

CUTLER: *This is a public facility, and they represent it as part of our body—as an anatomical part of a living city.*

KENNEDY: *The site plan isn't just the area around the building; it's the whole region. How do you represent that?*

CUTLER: *For a building of this type and for the location that it's in, it needs to be understood at 50 miles per hour. None of that is given. I think it's an interesting building and it's drawn at a funny scale, but it's good to award something that's so much a part of us—like a kidney.*



View of machinery from elevated walkway



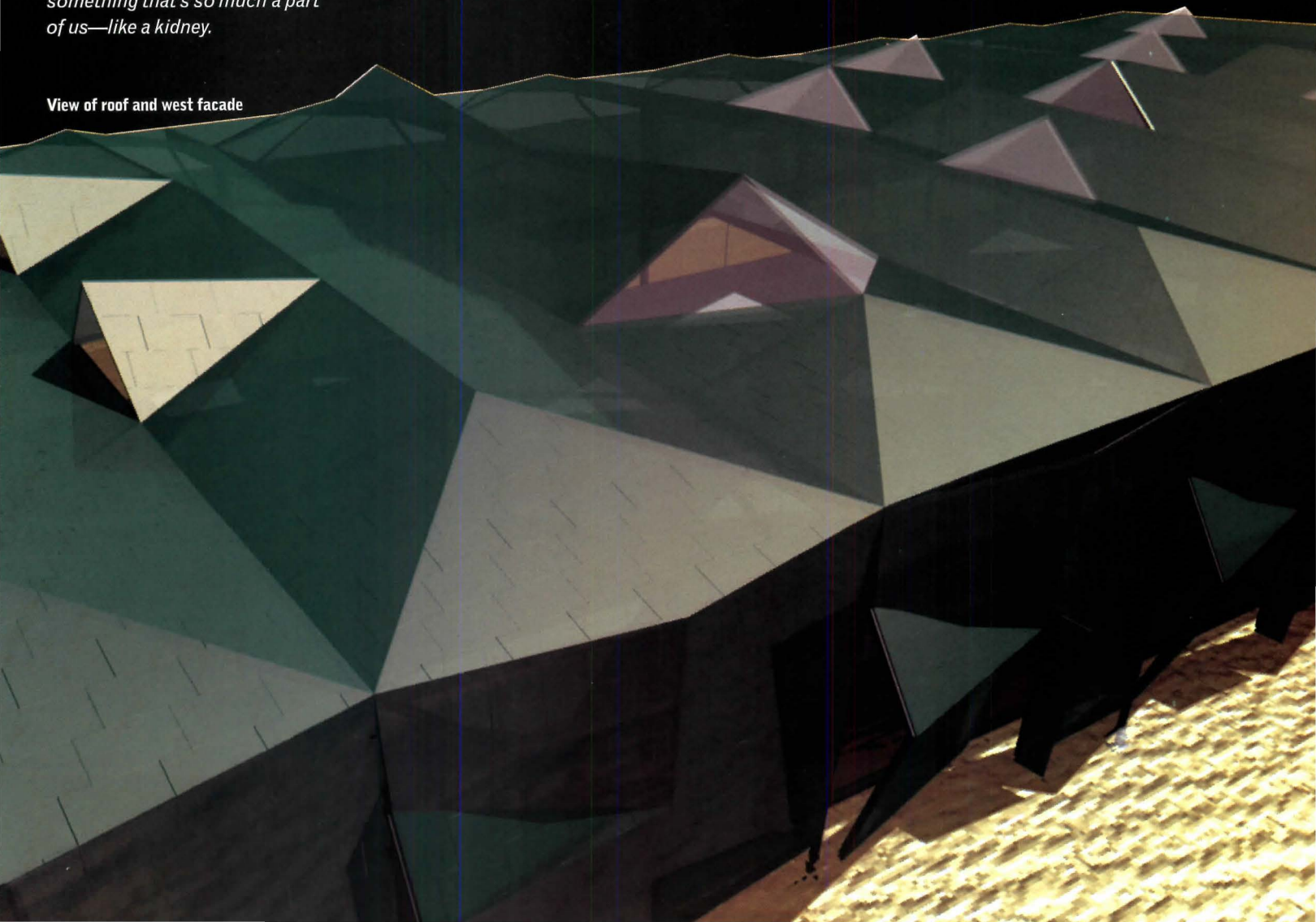
CLIENTS: City of San Diego Wastewater Department—Dave Schlesinger (director), Jim Shamloufard (project manager), Paul Gagliardo (technical advisor); City of San Diego Commission for Arts and Culture—Gail M. Goldman (public art director)

ARCHITECT: Millar/Guthrie + Buresh (a collaboration of Robert Millar and Guthrie + Buresh Architects), West Hollywood, California—Tom Buresh, Danelle Guthrie, Robert Millar (principals), Mark Skiles, Sophie Smits (project team)

LANDSCAPE ARCHITECT: Estrada Land Planning

ENGINEERS: Beyaz & Patel (structural); Malcolm Pirnie Environmental Engineers; Boyle Engineering (environmental)

View of roof and west facade



This year's Awards for Architectural Research program continues to reflect the profession's management and intellectual vigor. While the 53 research projects submitted cover a broad spectrum of subjects, methods, results, and budgets—one winner has no budget at all—they all strive to advance the field's knowledge and provide its reach. The entries pay greater attention to historic preservation and social needs, while actively pursuing new applications of high technology.

The goal of the awards program is to recognize outstanding research in architecture and urban design, and to publicize it for use by the profession. Entries were submitted in three categories: Energy and Sustainable Design, Behavioral and Social Science, and Technology and Materials. The jury recognized eight projects. Two received awards and six received citations.

This year's jury comprised Robert M. Beckley, former dean of the College of Architecture and Urban Planning at the University of Michigan, Ann Arbor; Susan Maxman, principal of Philadelphia-Based Susan Maxman Architects; and Alan Plattus, associate dean of the Yale University School of Architecture in New Haven, Connecticut.

The jurors considered many factors in their deliberations, including the intellectual contribution of each project relative to its budget—to ensure that small and large programs were

given equal opportunity. They also considered originality and overall aesthetic appeal, especially beyond a single building or case study, as well as the intellectual and dissemination of each entry.

The jury was impressed by a number of projects that emerged from the entries, especially an unimagined attention to social needs. "I was encouraged by the studies projects that dealt with more than formalist design issues and demonstrated care for community and people," recalls Maxman. "That's an important and valid thing to explore."

Bob Beckley lauded the number of research projects focusing on historic preservation. "It's increasingly important today," he explains. "Some of this is a function of the maturation of preservation studies in university contexts. But it also signals a recognition by the profession that research is a very important part of what we do."

As they discussed the entries, the jury's criteria for what constitutes an outstanding research effort became clearer. Plattus cited the North Philadelphia Urban Initiatives study—an award winner—as an example of a project that addresses urban design concerns and reveals an understanding of the broader issues. "We ruled out some projects in the first round because they were just design projects," he explains. "If they had more of a research base, it was tentative and not made explicit in an accessible way."

Beckley was particularly impressed by the number of new design projects that had research built into a fundamental component. Both educational institutions and the profession, he comments, are recognizing that research is an activity that is closely aligned with the design process. Beckley concludes that many times a good research project is not in making. "They're sitting in the office or documenting, but they think of it as being proprietary. As in, 'This is my research. I'm not going to share it with anybody because that'll give another firm a boost.' There's a place in where things can be very good [of their work] and share what they've learned."

Both Plattus and Maxman agree that the economics of research and technology is key to good Maxman said she likes—and wants to see more— involvement by product manufacturers as a driving force behind development and a contributor to the overall quality. Plattus adds that environmental research is important in the field where it's less concerned with narrow technical research—although that remains important—and more with understanding the way in which those issues are integrated into a holistic view of the built environment. "We must understand technical research's place within the building industry and the economics of development in this country," Plattus maintains, "as well as its broad cultural ramifications, such as in the Zund study."



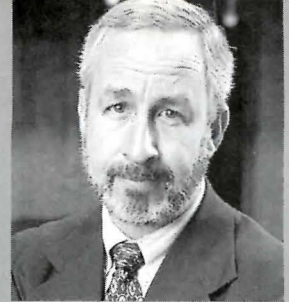
ROBERT BECKLEY

is professor of architecture and urban planning and dean emeritus at the University of Michigan. He is also adjunct principal of the Smith Group Urban Solutions Studio. He has served as president of the Association of Collegiate Schools of Architecture and on the executive committee of the National Architectural Accrediting Board. He holds architecture degrees from the University of Cincinnati and Harvard University. His research has been recognized by *Progressive Architecture*, the U.S. Department of Housing and Urban Development, and the National Endowment for the Arts.



SUSAN MAXMAN

is principal of Philadelphia-based Susan Maxman Architects. She is a nationally recognized advocate of sustainable design and historic preservation and was the first woman elected national president of the American Institute of Architects in 1993. She has served on the Eco-Efficiency Task Force of the President's Council on Sustainable Development and represented the architectural profession at the 1992 Earth Summit in Rio de Janeiro, Brazil. She holds a bachelor's degree from Smith College and a master's degree in architecture from the University of Pennsylvania.



ALAN PLATTUS

is associate dean and associate professor of architectural design and theory at the Yale University School of Architecture. He holds architecture degrees from Yale and Princeton universities. He has served as president and on the board of directors of the National Architectural Accrediting Board. Plattus has contributed to *The American Vitruvius: An Architect's Handbook of Civic Art* (Princeton Architectural Press, 1989) and is currently at work on a companion volume on recent American urban design.

Broadening HORIZONS?

North Philadelphia Urban Initiatives Project

AWARD

This study tackles a problem common to many urban neighborhoods in the United States: the gradual loss of industry, population, and housing stock. The Temple University-led effort sought to create more livable and sustainable residential environments within North Philadelphia by reconstituting the area's deeply fragmented residential and commercial districts into a new community-centered model.

The three-year project, which received approximately \$100,000 in funding annually from Temple and the U.S. Department of Education, encouraged the university and neighborhoods within the 200-block study area to work together productively, tapping and connecting the resources of each. During the summers, faculty-led design and research workshops were conducted to gather and analyze environmental information, assess needs, critique design projects, and build and maintain pilot park projects. During the academic year, residents partici-

pated as reviewers in design studios.

Two studies were produced that propose design and development strategies to restructure the components of the existing context and reinvent them according to a more humane and habitable model. Proposed concepts include lower density; new dwelling-pattern prototypes that transform existing block patterns through increased dwelling size and private land ownership; reuse and expansion of the existing building fabric; and reclamation of vacant land for new uses, such as secure outdoor and civic spaces.

The report contends that initial over building and broad-stroke urban renewal were ultimately detrimental to the area. In their place, the researchers propose a more sustainable approach that lends itself to incremental implementation, use and reuse of local resources, and greater accessibility to small community developers.

PRINCIPAL RESEARCHERS/AUTHORS: School of Architecture, Landscape Architecture, and Horticulture, Temple University, Philadelphia—John Collins, Sally Harrison (principal researchers/authors), Deborah Dalton, C. William Fox, David Glasser, Baldev Lamba (faculty), Daniel Brick, Marc Colemann, William Davis, Bill Deitrich, Pete Johnson, Nicolle Keegan, Debra Leopard, Robert McCall, Joel Miller, Doug Phillips, Mark Rolfs, Debb Seiler, Traci Stortz (student assistants); John Abner, Bernadette Briscoe, Saskia Dowell, Vandella Goodman, Dolie Green, James Lester, Jim Tyree (community participants)
CLIENT: Center for Public Policy, Temple University
FUNDING: U.S. Department of Education

PLATTUS: *It deals with a problem of enormous proportions—under-crowding—which is being faced by industrial cities after their infra-structures have emptied out. You can't just hire some expert to think about the problem of replanting those devastated areas. You have to do it in conjunction with the community.*

MAXMAN: *It is a studio project that has really kept the university involved in the neighborhood. It's a great example of what all urban universities should be doing—and many of them are.*

BECKLEY: *I like it because it's a clear-eyed look at the problem. They realize that the city is not going to be what it was, but they are very realistically figuring out what it can be.*

Project team documents existing conditions (below, left and right) to reconnect neighborhood's cultural and economic resources with vibrant past (bottom).



Structural Analysis of Historic American Buildings

University of Tennessee Professor J.S. Rabun delved deep into the past and found that, for the most part, our old buildings can withstand more change than previously assumed. This personally funded project, conducted for the Institute of Advanced Architectural Studies at England's University of York, gives architects and engineers tools with which to analyze historic buildings and their components, including cast-iron columns, steel beams, load-bearing masonry, and wood frames. Understanding what forces these buildings can withstand, the researcher contends, helps designers better preserve and rehabilitate them without unnecessary alterations.

Rabun compiled information about the structural design and capacity of American

commercial buildings from 1820 to 1940. Gathering this data from journals, books, and design guides that cover the use and capabilities of various building materials, Rabun compared the original design capacity of structural members, their capacity as determined using early design formulas, and the actual strength found today by modern methods of analysis. The research indicates that, frequently, buildings from earlier eras were not only built to meet or exceed load requirements of their original use, but also have reserve capacity resulting from the conservative nature of earlier structural design methodologies. This excess, Rabun asserts, allows for modern adaptations with minimal reinforcement or alteration.

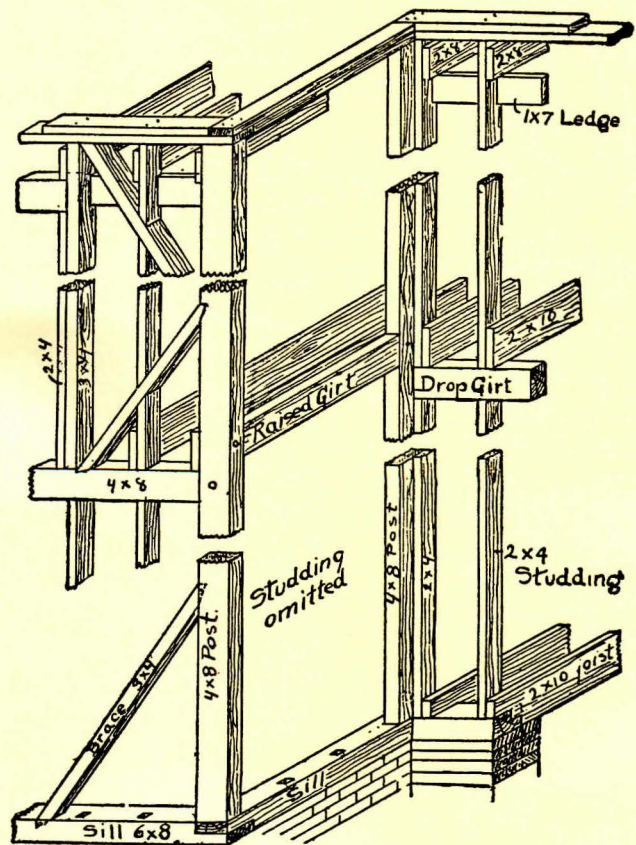
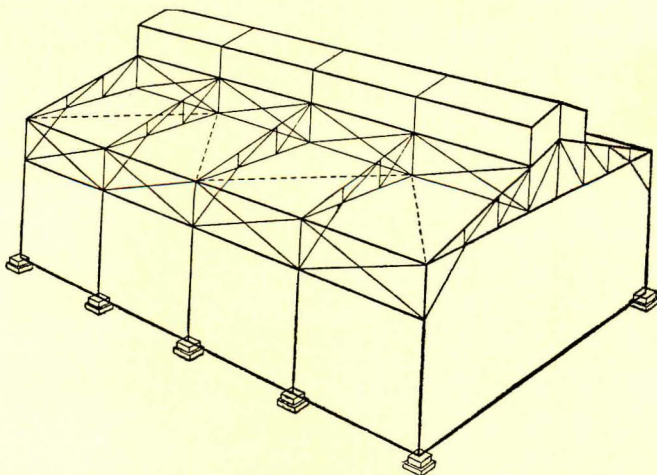
PRINCIPAL RESEARCHERS/AUTHORS:
College of Architecture and Planning, University of Tennessee, Knoxville, Tennessee—J.S. Rabun (principal researcher)
CLIENT: Institute of Advanced Architectural Studies, The University of York, York, England
FUNDING: J.S. Rabun

PLATTUS: *It goes back to the original construction manuals for older technologies, looks at what's there, and then conducts modern analysis for modern uses.*

MAXMAN: *Exactly. You often don't know where to begin when evaluating an existing structure. This research begins by looking at how they built it in the first place.*

BECKLEY: *This is an important, serious piece of research.*

Early 20th-century isometric drawing (below left) shows wind bracing on industrial mill building. Before masonry dominated, braced-frame construction (below) was common in 19th-century barns.



AWARD

Virtual Model to Actual Construct: A Direct Link to Computer-Generated Formwork

Faculty at the Montana State University School of Architecture have developed a way to eliminate the middle man when building complex architectural forms. Working with a tiny \$1,200 budget, researchers developed a technique for architects to move their designs directly from computer model to built form through the use of computer numerically controlled (CNC) technology that makes it possible to manufacture precise architectural components directly from CAD files. By removing the imprecise layers of communication between architects and contractors, a direct link is created between designer and structure, and the limitations of creating complex biomorphic forms and structures are reduced.

The research entailed producing fabrication drawings on computer, and from them,

developing, milling, and testing physical molds to retain poured-in-place concrete. MicroStation Triforma software was used in the initial three-dimensional computer modeling process and then dedicated computer milling software called MasterCAM was employed to design and model the form's final parts.

Tests proved that the ability to move directly from a computer-based model to a built form is possible and, further, that there is no more complication in fabricating complex geometries than there would be for fabricating simpler forms. The research team also maintains that this system is economical, as the drawings produced by an architect become the actual code for the fabrication process.

PRINCIPAL RESEARCHERS/AUTHORS:
School of Architecture,
Montana State University,
Bozeman, Montana—William
E. Massie (faculty); Paul
Borowick, Elizabeth Clifford,
Travis Growney (research
assistants)

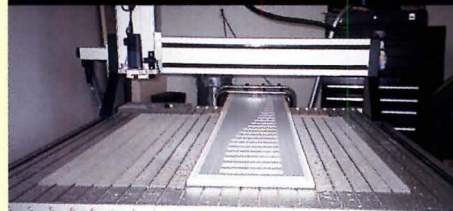
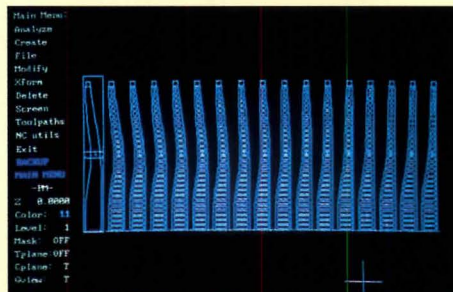
CLIENT/FUNDING: School of
Architecture, Montana State
University

CITATION

MAXMAN: *When we start to look at manufacturing component parts, we really do have to become more innovative. This is exactly what an industrial designer would do, so it's valid in terms of setting a precedent.*

BECKLEY: *Currently, there's a real interest in getting away from right angles. This project demonstrates a construction technique that will make these forms easier to achieve.*

PLATTUS: *While we are familiar with the use of sophisticated computer modeling techniques for making increasingly complex buildings, they all have a more or less indirect relationship to materials and construction. This bridges the gap.*



Computerized milling machine creates customized formwork sections (left), which are arranged to hold poured-in-place concrete (below left). Final wall (below) shows formwork broken away and skin peeled back.



Cultural Form and Process in Building at the Zuni Pueblo

The traditional way of life of New Mexico's Zuni Indians is threatened by encroachment from modern culture, as well as social and material problems within the Zuni's own community. This University of Pennsylvania research project, budgeted at \$45,000, focused on helping the Zuni create a more livable pueblo. Planners from the university had to take into consideration the unique way the Zuni have built and organized space in their centuries of evolution, and avoid the "suburbanization" that resulted from earlier, unsuccessful U.S. government attempts to provide housing. Graduate students and faculty worked with the Zuni to develop culturally appropriate methods of new construction and to conserve their natural landscape and tribal resources.

Students studied patterns of housing, work, and religious and social events through research, sketch problems, and site visits where they were paired with young Zuni, who assisted in documentation and information-gathering and provided a liaison to the tribal members. Study topics were based on current needs identified by the Zuni for the pueblo and reservation lands. The students avoided artificial replication of Zuni building practices, but did integrate landscape forms, building processes, local materials, and historic and contemporary cultural patterns in their design of housing, an arts and crafts center, and a museum, as well as restoration and conservation of existing structures.

PRINCIPAL RESEARCHERS/AUTHORS:

University of Pennsylvania, Philadelphia—Tony Atkin (principal researcher), Katherine Gleason, Dennis Playdon (faculty); Cornerstones Community Partnerships—Ed Crocker (principal researcher); Zuni Trainee and Mentorship Program—Clifford Walkaniwa (field supervisor), Bennie Laate, Wapton Tshowna (elder mentors), Shalie Gaspar (intern)

CLIENT: Pueblo of Zuni Heritage and Historic Preservation Office

FUNDING: Samuel H. Kress Foundation; National Park Service; New Mexico Division of Cultural Resources; The Hitachi Foundation

MAXMAN: *I like the broad base of the research and the in-depth study from a social standpoint regarding the use of materials.*

BECKLEY: *It combined research, education, and community service into one effort. It is one of the most outstanding examples of that that we've seen.*

PLATTUS: *This project was executed over several years. For a community-based design project to be done seriously and to produce results, that is a key factor.*

Researchers studied traditional forms (right) and adobe-brick-masonry techniques (below left) to create a pueblo featuring dormitories that arrange bedrooms, study spaces, and common areas to offer both privacy and opportunity for social interaction.



Energy Efficient Resource Recovery Project

CITATION

The Renewable Energy Institute at California Polytechnic State University addressed the need for more economical and environmentally sound waste-management facilities by proposing a prototype biological waste-processing facility for the university's San Luis Obispo campus. The planned Energy Efficient Resource Recovery Facility is intended to demonstrate cost-effective and environmentally sound wastewater and solid-waste treatment using proven technologies, with an emphasis on resource recovery and energy-efficiency.

With a three-year, \$342,000 budget, researchers analyzed available technology, including systems for disinfection, irrigation storage, compost curing, methane storage, and liquids treatment and recovery. They also conducted site-selection surveys on the

campus and addressed the economics of the project. Proposed technologies for the facility include straw-bale construction, roof ponds for passive solar heating and cooling, integrated photovoltaics for electrical generation, and gray-water plumbing systems that recycle sewage water for non-potable reuse. Researchers claim the facility is designed to recover energy, water, and valuable nutrients and mitigate the odors typically associated with waste processing.

An external economic audit and technological review of the project was conducted to determine its feasibility. Though the economic review is not complete, the technological review indicated that the project would, in fact, work.

PRINCIPAL RESEARCHERS/AUTHORS:

California Polytechnic State University, San Luis Obispo, California—Daniel Panetta (principal investigator), Douglas Williams (assistant investigator), Walter Bremer, Gary Karner, Harap Mallareddy, Margot McDonald, Samuel Vigil (faculty); University of California, Berkeley, Berkeley, California—Bailey Green, Henry Hammer, William J. Oswald (faculty); William Roley, Jr., Applied Ecological Systems (ecological consultant)

CLIENT: California Polytechnic State University

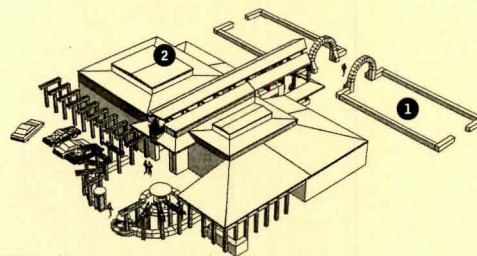
FUNDING: California Institute for Energy Efficiency; California Polytechnic State University; Pacific Gas and Electric; San Luis Obispo County Integrated Waste Management Authority

MAXMAN: *I commend the effort.*

They're really looking at the problem holistically and have made a product of their research.

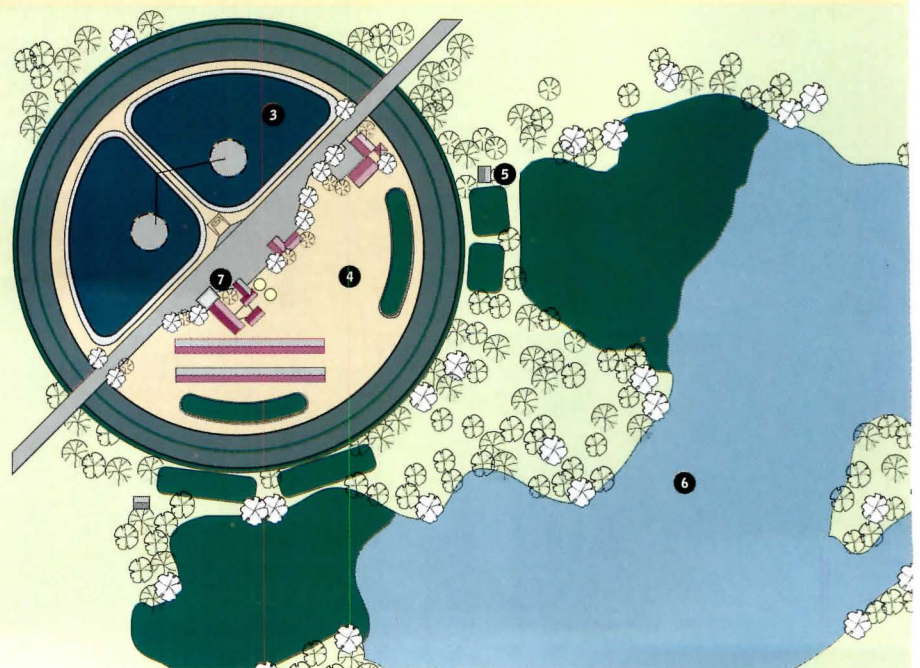
BECKLEY: *This has taken some of the theoretical research that has been around for a while and applied it to a particular situation in a very admirable way. I was also impressed by the collection of sponsors.*

PLATTUS: *I think the collection of sponsors is indicative of the political dimension of this particular project. The problem of waste management is one of the things that could create incentives for regional cooperation among a large group of constituencies.*



Education center

- 1 demonstration gardens
- 2 solar atrium
- 3 wastewater pond system
- 4 constructed wetlands
- 5 disinfection facility
- 6 wildlife habitat
- 7 treatment buildings



Resource recovery facility

Living-Learning Communities Study

This yearlong, \$30,000 study, a collaboration between architect Angelini & Associates and the University of Michigan, sought to create more intellectually stimulating residential environments on academic campuses. The researchers developed a plan for transforming existing residence halls into living-learning communities—a close coupling of educational facilities with residential areas—and designed new facilities as well. The team also examined the role that such environments play in enhancing undergraduate education.

Research included a literature review on environment and behavior, student housing,

and architecture; student surveys regarding needs and preferences; communication with administrators of living-learning programs nationwide; focus groups; and assessments of student rooms.

The study concluded that residence halls designed and programmed as living-learning communities within the modern university setting nurture education and contribute to student satisfaction and retention. The study recommended facilities that feature discrete units ranging from 150 to 200 students, with study areas, administrative and faculty spaces, small meeting rooms, classrooms, and “breakout spaces” for larger meetings.

PRINCIPAL RESEARCHERS/AUTHORS:

Angelini & Associates, Ann Arbor, Michigan—Bradford L. Angelini, Theresa L. Angelini (principals), Suzanne Irwin (project architect), Nancy Wells (environmental psychologist); University of Michigan, Ann Arbor, Michigan—Jacqueline Mims-Hickmon, Jonathan Plummer (housing), William Durell, David Kluck (dining services), Sandra Gregerman (director, undergraduate research opportunity program), Victoria Hueter (architect, housing design group), William Vlisides (conference management services coordinator)

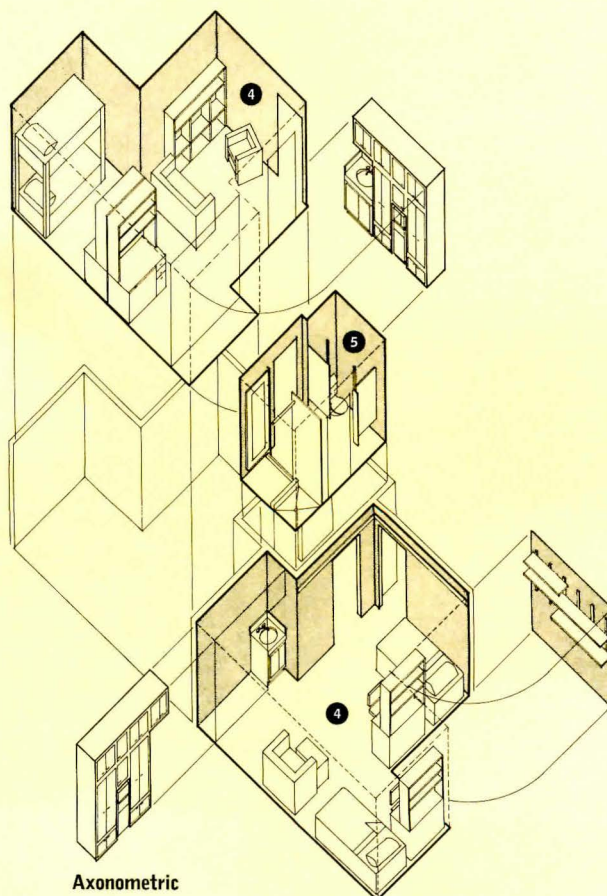
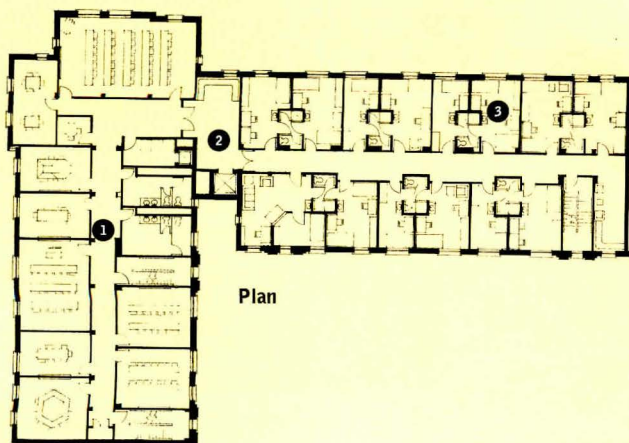
CLIENT/FUNDING: The University of Michigan

MAXMAN: *Institutions that may not have the time or money for a similar effort can take a look at the research conducted at Michigan and apply it on their campuses.*

PLATTUS: *It's a great example of programming research and can be quite influential in some of the bigger universities. Some campuses got built too quickly and very little thought was put into what they were like as environments.*

BECKLEY: *Right. It's important that some attention be brought to these places.*

- ① classroom wing
- ② lounge
- ③ dormitory room
- ④ double room
- ⑤ shared bathroom



Development of the EQA Home

CIATION

"Dream house" means different things to different people, but to this research team it means energy efficiency, environmental responsiveness, quality, short construction time, adaptability to a variety of lifestyles, and affordability. It's a tall order, but according to the residential building research and design consortium (RDC) formed in 1992, it can be done. Architect Burt Hill Kosar Rittelmann Associates, the U.S. Department of Energy, and numerous construction product manufacturers formed the RDC with the goal of offering the building community technologically advanced methods and products.

Research included analysis of current construction products and processes in a series of lab houses, investigation of prior building innovations and those that can be transferred from commercial construction, and the preparation of proposals for a variety of house systems. The research also examined technologies that affect indoor air quality, durability, and comfort.

BECKLEY: *It's a very difficult project. It's great to see government-sponsored research with architects working to make housing better.*

PLATTUS: *It's important that architects see housing research as a real field and that the government see the value of architecture as a profession contributing to that field.*

MAXMAN: *The teamwork this project creates is helpful. The involvement of manufacturers is important, too. Architects should be working with them more often to create more economical, better-designed systems.*

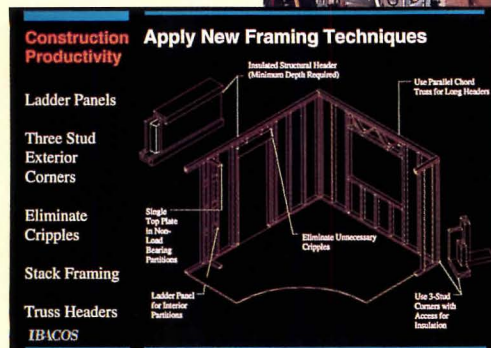
The program concluded that it is practical to achieve improved performance from houses through modest means; that home builders are risk-averse and prefer performance technologies bundled in proven packages; that homebuyers are uneducated in house-performance attributes; that the shell is the most important component of the house when considering environmentally responsive design; and that adaptable design produces highly desirable and marketable houses.

The project has resulted in a series of pilot houses built around the U.S. that emphasize such innovations as airtight walls, efficient circulation systems, recycled materials, automated power-control systems, and energy-efficient appliances. The research team maintains that new products from participating manufacturers, new building systems, and increased homebuyer education and communication methods also result from the project.

PRINCIPAL RESEARCHERS/AUTHORS:
Burt Hill Kosar Rittelmann Associates; Innovative Building and Construction Solutions

CLIENT/FUNDING: Innovative Building and Construction Solutions; U.S. Department of Energy

Comparative analysis (bottom) determines appropriate construction technology, while laboratory mock-ups (below and right) test performance.



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Practice **Problem Solved?**

Alternative dispute resolution is moving into the mainstream as a means to quickly settle potentially costly feuds.

By Michael Maynard

Mediation is fast becoming the first line of defense in keeping disputes among architects and other parties from reaching their costly and drawn-out conclusions in a courtroom. In the most recent changes to the AIA's standard, B141 owner-architect agreement, mediation appears as the first resort for dispute resolution prior to arbitration. With this new language in the AIA documents endorsing mediation, plus incentives from insurance carriers for successfully using the negotiating method, mediation is

where you're anticipating spending \$100,000 on attorney fees and you'll never get back that money, why not spend \$5,000 on mediation?" asks Chicago attorney Werner Sabo, a specialist in construction law.

Insurance-underwriting firms, such as Schinnerer and DPIC Companies, offer 50 percent discounts on a firm's deductible—up to \$15,000—if a mediation is successful. Given these trends, Sabo predicts a wave of mediated cases in the design professions by the end of the year.

The 1997 A201 and B141 AIA docu-

MEDIATION

"spreading like wildfire," says Paul Genecki, senior vice president for Victor O. Schinnerer & Company, a liability insurer based in Chevy Chase, Maryland.

Alternatives to litigation such as arbitration and mediation have gained favor in many professional circles as the cost and time to see a case through has grown. Arbitration involves a binding decision made by an arbitrator or panel of arbitrators, while mediation is a nonbinding agreement reached among the parties that is facilitated by a mediator. If one party backs out of the agreement, however, the next step would be arbitration or litigation.

Mediation would appear to be the most sensible way for an architect to patch up a fight with a client or contractor. Advocates point to the time and money savings, and maybe even the preservation of a business relationship. "If you have a case

ments (*Architecture*, July 1997, pages 142-144), approved last October, continue to regard arbitration as a means to resolve disputes between the client and architect. But the boilerplate contracts stipulate that the conflicts first should be mediated according to the procedures of the American Arbitration Association (AAA), a private, not-for-profit concern. The New York-based organization is the nation's largest dispute resolution agency, though architects may select an arbitrator or mediator from another company. Last year, the AAA's construction division heard 4,166 arbitration and mediation cases, according to Senior Vice President Mark E. Appel. To prepare for an influx of expected cases, AAA is expanding its pool of mediators.

Cheaper, faster, friendlier

The majority of lawsuits involving architects and design professionals

never make it to a courtroom: Statistics from both federal and state courts show that 94 percent of all cases are not tried before a jury. As a case winds its way through the legal system, lawyers often settle it at a pretrial conference, or informally. What potential litigants should be asking themselves, Appel counsels, is not whether they're going to sue, but how much time and money is it going to cost?

One architect in the Southeast (who asked that his name be withheld because of a confidentiality

Perhaps most attractively, **alternative dispute resolution is also a private matter that allows parties to resolve a case without creating a public record, which could create negative publicity for a firm.**

About 25 percent of DPIC's active claim files are currently engaged in some form of alternative dispute resolution, mostly mediation, and company officials want to increase that figure to 30 percent, Meisem says.

But how successful is mediation? The AAA asserts that approximately 80 percent of its mediated cases

ARBITRATION

clause in the mediation settlement) had been involved in litigation with another architect for one year—and they were still about one year away from trial—when he examined mediation as an alternative. “I was searching for a way to try and make it end,” he recalls. The mediation began at 9 a.m.; by 1 p.m., the parties had “agreed to agree” and the details were worked out by day's end.

Advocates of alternative dispute resolution argue that a professional mediation or arbitration can achieve the same result as an out-of-court settlement in a more streamlined, less acrimonious manner. “Our philosophy in resolving disputes is speed,” asserts Bill Meisem, chief claims officer for insurer DPIC. **A dispute settled quickly means that insurance companies and architects save money and stand a greater chance of preserving the relationship with the other parties.** Meisem notes.

are settled. “When [the parties to the mediation] walk out of mediation, they've made the decision, nobody has made the decision for them,” observes architect Bill Reiner of San Rafael, California, a longtime advocate of mediation. Ava Abramowitz, a private mediator based in Maryland, concurs. “It's the rare case that cannot be mediated sometime during the dispute and an even rarer case where the parties would choose to go to court and let others decide their fate.”

But the aforementioned Southeastern architect notes that a mediation session can be counterproductive if the quality of the mediator is poor. “The risk is not having a mediator who is skilled in the details of the law as it affects the issue, who understands the realities and practicalities of a working relationship between the architect and owner or contractor, and who has really good

Arbitration and mediation are both considered forms of alternative dispute resolution.

While both are less adversarial than a court trial, there are some key differences:

Arbitration:

- **An arbitrator or a panel of arbitrators is selected to review the evidence, hear witnesses, and render a decision.**
- **The arbitrator's decision is final and cannot be overturned by a higher arbitration panel or an appeals court, unless there are outstanding circumstances in which the arbitrator was biased.**
- **Arbitrators are selected by the parties. If the sides cannot agree on an arbitrator, the AAA will select one.**
- **In most cases, the parties are represented by counsel.**
- **Discovery is allowed—depositions may be taken, evidence may be presented. The discovery process can last up to one year.**
- **In larger, more complex cases, a hearing may last for several days and the arbitrator or panel of arbitrators may take several weeks to issue a decision.**

Mediation:

- **A mediator is more akin to a facilitator. Instead of weighing evidence and making decisions, the mediator attempts to narrow the disagreements to the most salient points and build common ground.**
- **Mediators are selected by both parties.**
- **Parties may agree in advance to bring counsel to the mediation or attempt to resolve the issue without them present.**
- **An attempt is made to reconcile the problem on the same day.**
- **Any agreement reached during a mediation is non-binding. Parties are legally free to back out of the agreement, although doing so will most likely result in the case going to arbitration or into litigation.**

personal communication skills," the architect says. In his case, the mediator possessed all three attributes, and the mediation was successful.

Because the number of parties involved in a construction-related lawsuit is often larger than in typical professional liability cases, legal fees may often run into six figures, says attorney Sabo. If an owner sues the architect along with the contractor, the roofer, and the builder, the process of ferreting out information becomes that much more difficult—and expensive. But arbitration is not necessarily cheaper or faster.

In arbitration, parties are allowed to take depositions and submit relevant plans and drawings, similar to the discovery process in litigation.

Such discovery in arbitration could take up to a year. Add in attorney fees, filing fees (typically several thousand dollars), and a per diem for the arbitrator (typically \$1,000 per arbitrator), and the costs may approach what it takes to bring a case to court. Mediation is typically a one-day affair with no discovery: "a fraction of the cost," Sabo notes.

Cost aside, the nature of a dispute involving design and construction lends itself to an alternative resolution. "It's always extremely complicated," Sabo says of design and construction disputes. "You never have a case where there's just one issue." Unlike a judge, an arbitrator may separate the issues and award judgments on individual claims.

Mediation vs. arbitration

While mediation is intended to allow the parties to fashion a solution themselves and is less formal in structure, arbitration is more akin to litigation in that the arbitrator or panel of arbitrators will make a binding decision. Some architects avoid arbitration altogether because, unlike the court system, an arbitrator's decision is not appealable. Disputing an arbitration case to a state court is rarely granted.

Arbitration has become such an accepted means of dispute resolution in the construction and design fields, however, that some feel it should no longer be considered an

"alternative," relates Stan Martin, a construction-law attorney with Gadsby & Hannah in Boston. Most construction-document agreements, such as the Associated General Contractors of America contracts, like the AIA's, have long included arbitration in place of litigation.

Many lawyers, however, are wary of immersing themselves in mediation, where the rules are fuzzier and there is little legal ground on which to stand. "The problem in mediation right now is that most attorneys are very uncomfortable with it," remarks Werner Sabo. "They don't have control" over the proceedings.

There is also a concern that mediation will force one party to reveal its information to the opposition, which the opposing party could use in court if mediation failed. But attorneys recommend that if you believe you are in the clear, there should be no fear of being burned. And if both parties think they're right, then mediation should be able to resolve the issues.

Arbitration, as devised by a new AAA formulation, divides cases into three tracks to increase efficiency: small claims (up to \$50,000); regular claims (\$50,000 to \$1 million); and large, complex claims (more than \$1 million).

Under the fast-track rules, parties receive a decision within 60 days of the arbitrator's appointment. The hearing, headed by a single arbitrator, usually lasts one day. At the other end of the spectrum—the large, complex track—three arbitrators hear a case that is conducted in hearings on consecutive days or in blocks of consecutive days. Like a trial, a broad range of evidence may be submitted and depositions taken from expert witnesses and others.

Genecki says that as a risk-management counselor, Schinnerer "[has] not 100 percent endorsed arbitration," but instead strongly suggests that each design firm make its own decision about the process. But Sabo argues that arbitration and litigation will sever any future business partnerships with a contractor, owner, or subcontractor. Mediation, in contrast allows for some chance for future collaborations.

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Cast stone offers a less expensive, more manipulable alternative to cut stone, but architects must use it wisely.



Seattle-based LMN Architects specified cast stone for Hawaiian Convention Center's exterior balustrades, bases, and guardrails (above). Cast stone allows complex designs and patterns to be fabricated inexpensively.

By Jack Klein

Although it didn't appear in the United States until the 1920s, cast stone has been in use for centuries as an alternative to natural cut-stone products. Cast stone is an architectural concrete product manufactured from a combination of Portland cement and coarse and fine aggregates used most often in creating trim, ornamental work, and facing for commercial and residential structures. Sand, crushed stones, and color additives help it simulate real stone effectively enough to replicate most typical cut-stone details.

In fact, one of cast stone's primary advantages is that repetitive details can be made from the same mold, an easier and less expensive alternative to cutting each piece from natural rock. Color can usually be matched easily as well, allowing an architect to re-create the color of the stone in older buildings. Thickness and size also can be manufactured to exacting architectural specifications.

Architect Jim LaPina of the Orlando, Florida-based Evans Group says cast stone makes it possible to get custom shapes less expensively than with cut stone: "We use cast stone for almost anything where budget considerations must be taken into account." He adds, however, that the firm often uses cut stone on its

higher-end jobs: "People seem to prefer natural materials, and though cast stone can simulate natural materials fairly closely, we use natural stone when the budget allows."

Casting stone

Cast stone is created in two manners—vibrant dry tamp and wet cast. Neither is considered superior, though they do result in different finishes. The vibrant dry-tamp method uses a concrete mix that contains a smaller percentage of water than wet-casting. In dry-tamping, the concrete is poured into a mold and the desired aggregates are added for color and texture. The mixture is then treated with a ramming device (called a pack gun) that compacts the mixture and forces the aggregates to the bottom of the mold. When the hardened mixture is removed from the mold, the aggregates forced to the bottom become the rough-face of the cast stone. The stone is then cured for about 12 hours in a warm, humidified room.

Wet-casting uses the same "upside-down" casting process as dry-tamping, but it often employs much finer aggregates that, when sanded or polished, create a more finished surface. Wet-casting is similar to any other cast-in-place method of concrete production.

A good match

St. Louis architect Hastings + Chivetta specified cast stone for their Corbin J. Robertson Recreational Activities Center at Southwestern University in Georgetown, Texas. The firm was hired to renovate and build an addition to the Sid Richardson Athletic Center when the university outgrew the facility. "The Southwestern University campus consists of about three different architectural styles, all of which use a natural Texas limestone quarried about 10 miles from the campus," says Principal Erik Kocher. "The existing quarried stone was rough-cut, so we had to mix in the cast-stone pieces to match."

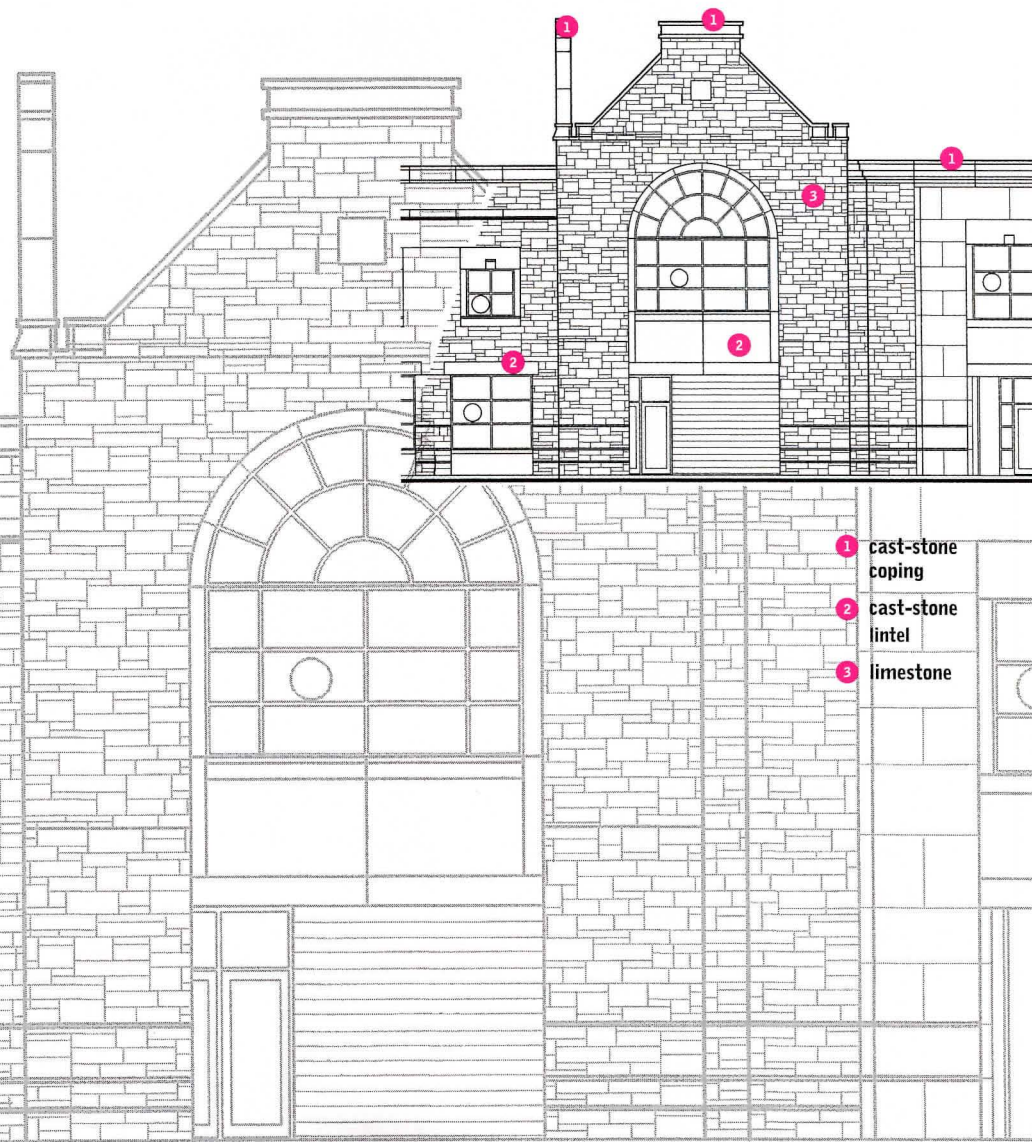
Kocher explains that while the exterior of the existing facility had a limestone base that was consistent with the architecture of the campus, an ocher-colored metal standing-seam panel wrapped the upper sections of the building. Hastings + Chivetta was directed to enclose the campus side of the building with new construction—consistent with the existing architecture. "The cast stone matched the natural Texas limestone well," Kocher explains, "and it was cost-efficient."

A flexible alternative

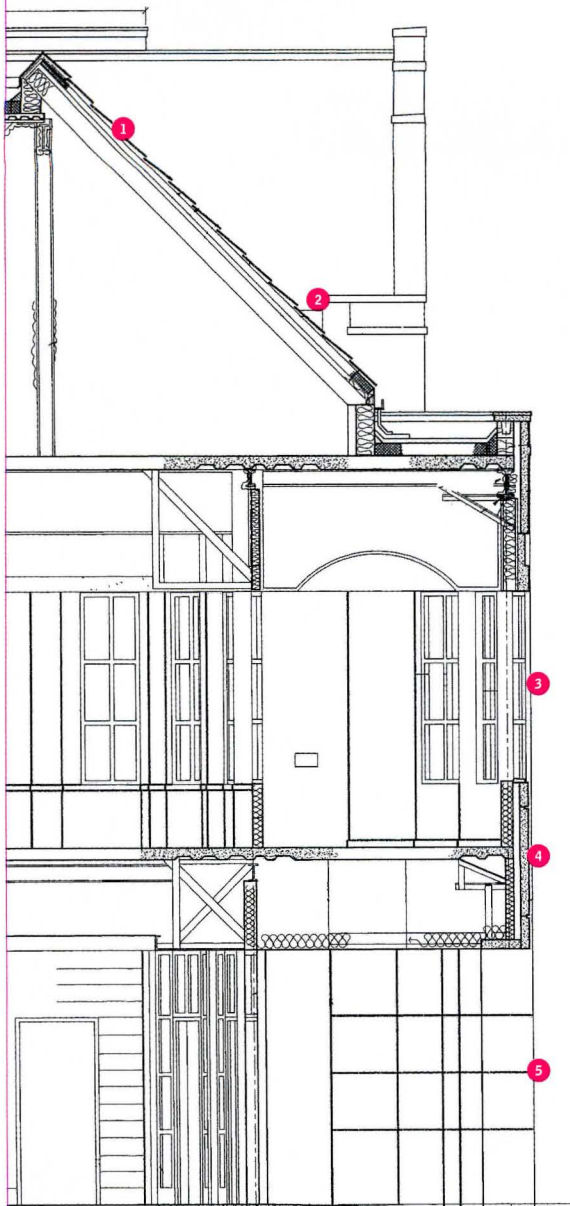
Because it is a molded product, cast stone offers designers the opportunity to create intricate designs and patterns that might not be available with natural stone, or would be prohibitively expensive. The Hawaiian Convention Center in Honolulu, designed by Seattle-based LMN Architects, offers a large example. "We used cast stone throughout the 1 million-square-foot convention center for both cost considerations and esthetics," says Brian Tennyson, project architect for construction administration.

The building features extensive outdoor concourses that take advantage of Honolulu's mild climate. "The concourses circulate throughout the building, so we needed a material that would be appropriate for both indoor and outdoor use—one that would tie the building together esthetically," Tennyson explains.

Corbin J. Robertson Recreational Activities Center at Southwestern University (below and bottom), renovated and expanded by Hastings + Chivetta, features cast-stone details that match rough-cut limestone used throughout campus.



**Section detail of Corbin J. Robertson
Recreational Activities Center at Southwestern
University shows attachment of cast-stone
coping.**



- 1 shingle roof
- 2 cast-stone coping
- 3 window
- 4 cast-stone panel
- 5 limestone

"We ended up using cast stone for balustrades, bases, and guardrails throughout the project."

Tennyson notes that the architect first looked at precast concrete for the ornamental items, but couldn't get it fabricated in the desired shapes. "We used architectural concrete to hold planters and so forth, and originally, we wanted to use the same concrete mix for the adjacent guardrails," Tennyson notes. "However, we realized that the complexity and patterns we wanted to use weren't working with precast forms. We found the answer to the problem with cast stone, which allows for more flexibility."

Some cautions

Despite its positive qualities, designers who work with cast stone do have concerns about its application. "There are so many varieties of cast stone, so many ways to make it, and so many ways to reinforce it that it's important to be very careful when you're using it," cautions Darrel Rippeteau, principal of Darrel Downing Rippeteau Architects in Washington, D.C. "I am currently working on a church in which the cast stone is really deteriorating, while the natural limestone in the rest of the wall has held up well." But Rippeteau adds that in the 100 years since the cast stone was installed, materials and fabrication of the product have improved.

Karen Gruber, senior technical service engineer with concrete additive manufacturer Engelhard in Iselin, New Jersey, affirms that research continues into making cast stone more durable. "We have developed a product that strengthens cast stone and other concrete products through a chemical process," she says. "When concrete hydrates, it

releases lime as a by-product, causing efflorescence problems and increased porosity in the system that allows water or chemicals to penetrate it. Our product reacts with the lime to, in effect, form additional cementitious material, so you are able to get a denser structure and increased strength."

Hastings + Chivetta's Kocher adds that cast stone's vaunted color-matching ability is also not 100 percent assured. "We recently did a project with cast stone letters over a building entry, and, unfortunately, the letters were cast at a different time than the rest of the work," he says. "That gave the lettering a fairly significant color shift from all the surrounding cast material, even though the fabricator told us they could control the color very exactly."

However, Kocher says one bad fabricating job won't prevent him from using cast stone again. "That's the first time we've had a problem with it," he says. "Ordinarily, we've had very good luck, and use it in nearly every project we do."

Tampa, Florida-based writer Jack Klein covers construction, engineering, and environmental issues.



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Computers **New Tools for Tracking Projects**

The latest project-management software enables architects to choose just how much of a project they want to manage.



Dan Kaplan (left), partner of Fox & Fowle Architects, and Mel Ruffini, project director of Tishman Realty and Construction, examine plans for 4 Times Square tower.

By Jerry Laiserin

Although architectural practice is a project-centered activity, many architects underutilize the formal tools and systems perfected in other fields for managing projects. Project-management (PM) systems were originally developed as the Project Evaluation and Review Technique (PERT) for the Navy's Polaris missile program in the late 1950s, but they have evolved into a broad array of planning, monitoring, and administrative software adaptable to any project task and budget by any architect who chooses to use them.

While the scheduling of activities, people, and other resources is the core function of most PM software, such programs also link to every area of business—from financial management and human resources to risk management and quality assurance. The Project Management Institute (PMI), based in Darby, Pennsylvania, identifies nine such areas, along with specific tools to better manage each

one. PMI's executive director, Virgil R. Carter, himself an architect, notes wistfully that although the organization's 31,000 members "span all businesses, institutions, and government agencies that organize their management structure around projects," fewer than 1,000 of the Institute's members are architects.

An informal survey of three dozen architectural firms shows only five to 10 percent of total staff, typically associates and principals, use PM-specific software. Microsoft Project is the program most often used by firms in this sample, followed by AEC Software's FastTrack Schedule, Scitor Project Scheduler, Primavera (Project Planner, or P3, and SureTrak Project combined), Timeline, and QuickGantt. About 20 percent of these firms press Microsoft Excel, a spreadsheet program, into service for project management.

Why the apparent reluctance of architects to embrace formal management techniques and PM-specific

software tools that have been successfully deployed in other enterprises? The reasons may include the cost and perceived complexity of these offerings. For example, Primavera's P3 leads the PM software category in sales to all businesses, but few architects in design-only firms are likely to gain sufficient benefit from its powerful features to justify the \$4,000 price tag. According to James Rothwell, a principal with 320-person Callison Architecture in Seattle, and an avid user of Microsoft Project, "P3 is overkill for most architects." Recognizing this trade-off, Primavera offers the P3-compatible SureTrak Project for under \$400.

Multiple options

Faced with a price spread from less than \$400 to more than \$4,000, how do architects choose PM software that delivers appropriate value and functionality? PM software functions start with modeling, or dividing, a project into tasks; identifying the duration of those tasks; and laying out the dependencies, or sequential relationships, among them. These models can be represented in various graphic formats, from simple time lines represented by bar (Gantt) charts to the more analytic PERT and CPM (Critical Path Method) diagrams. More powerful and complex software packages allow multiple projects to be combined into firmwide views so that staff scheduling requirements (resource leveling) can be adjusted as needed.

As PM products increase in sophistication and power, they usually become more expensive and more difficult to set up and use. The optimal trade-off for many architects seems to be *in the mid-priced, mid-*

dle-market category that includes Primavera's SureTrak Project, Computer Associates' CA/SuperProject, Scitor's Project Scheduler, and Microsoft Project, which is the category sales leader. The experience of The Hillier Group of Princeton, New Jersey, illustrates the difficulty that a large firm faces in settling on any single tool that is both powerful enough for experienced users and easy enough for the average project architect.

According to James Greenberg, principal and director of computer technology at Hillier, the firm started with Computer Associates' CA/SuperProject in the late 1980s, switched to Microsoft Project in 1993, and moved to Scitor's Project Scheduler as the "official" PM package 18 months ago. "Previous versions of Microsoft Project had frustrating limitations: It was unable to link multiple projects, to scale output, or to create resource spreadsheets," says Greenberg. Several third-party add-on vendors (Microframe, Project Control, and SelfWare, for example) offer products

that extend and enhance Microsoft Project, but such add-ons also may add cost and complexity.

However, large firms, like 420-person Hillier, often must support a multiplicity of software solutions to satisfy the preferences of different internal groups. Its healthcare studio has used the download version of Microsoft Project 98, while its construction-management affiliate uses Primavera Project Planner.

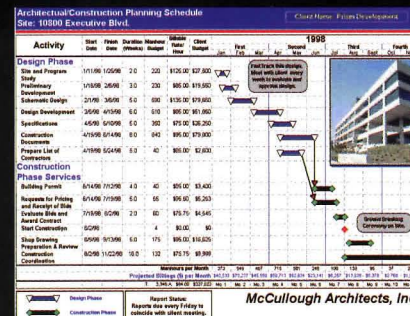
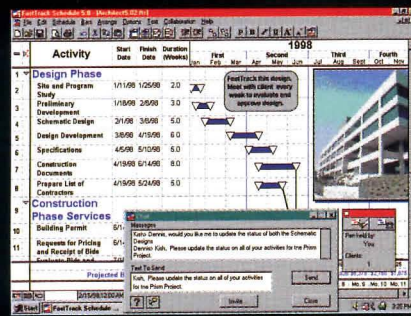
Smaller firms with only a few PM users typically settle on just one product, with ease of use being the overriding criterion. Richard Bolus, a partner in the 25-person Vancouver office of Calgary-based Coho Evamy Interplan, prefers FastTrack Schedule for "day-to-day and front-end needs because it's easy to use and easy to dress up with custom graphics imported from Photoshop and other programs."

Those users lacking the experience or patience to develop their own templates may want to invest \$99 in Project KickStart, from Berkeley, California-based Experience in Software. This interactive add-on

works with Scitor Project Scheduler, CA/SuperProject, plus Microsoft Project, Excel, and Word, as a self-running tutorial to help project managers set up their schedules. A version of KickStart is bundled as a start-up wizard, or on-screen guide, with Primavera's SureTrak Project.

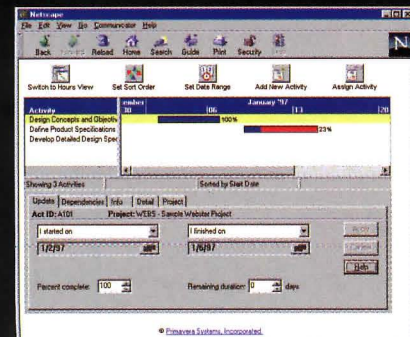
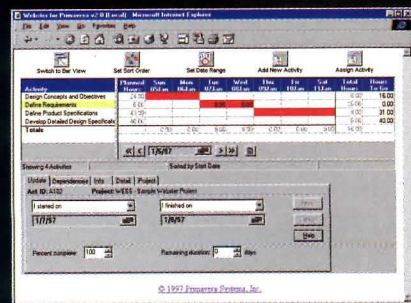
George T. Manos, president of Manos Architects, a six-person commercial, retail, and educational design firm in Philadelphia, says "SureTrak Project is good for architects because it's easy to schedule tasks the way architects work, by hours, as well as by whole days."

The easier a PM tool is to use, the more it falls within the reach of even the smallest firms. Ed Wolfstein, a sole practitioner in Burlington, Vermont, says he uses Timeline, from Timeline Solutions, as "a reality check" to show his clients preliminary schedules that "help them understand the sequencing of steps from design through construction to occupancy." Similar, inexpensive graphic schedulers include Milestones, Etc. from Kidasa Software, and Ballantine &



FASTTRACK SCHEDULE

Users of FastTrack Schedule by AEC Software can exchange comments (far left) in Internet "chat" window while viewing project on-line or software may be used strictly as scheduling tool (left).



PRIMAVERA

Webster 2.0 provides Internet viewing and access from Primavera Systems' products. Users can post time on-line directly to projects (far left) and review schedules (left).

Company's EasyGantt.

Maggi Sedlis, a New York City architect who provides consulting services to other architects, runs weekly project managers' meetings for several of her design-firm clients. She finds "Microsoft Excel works fine for fee and staffing projections" and includes simple time lines to track due dates and project milestones.

Even large firms with large projects don't always need full-blown PM software. Dan Kaplan, a partner in New York City's Fox & Fowle Architects, designers of the 1.6 million-square-foot skyscraper under construction at 4 Times Square, uses simple bar schedules in Excel as a communications tool for the project team's consultants. Kaplan does coordinate closely with the project schedules generated by 4 Times Square's construction manager, Tishman Realty and Construction.

A marketing tool

In many firms, the most popular use of PM software is not, strictly speaking, project management at all, but as a form of marketing communi-

cation. Because most Requests for Proposals (RFPs) and Requests for Qualifications (RFQs) require a schedule and time frame, HOK includes them in proposal binders and prints them out for the large boards that principals show at interviews, explains Tina Dowell, marketing administrator at HOK's Kansas City office. FastTrack Schedule "is user-friendly and requires very little training," says the firm's computer manager, Brenda Mallonee.

While most architects use project management tools for scheduling within their own firms, project administration addresses the flow of documents and information among firms—from consultants to contractors and clients. Until recently, few formal tools were available to log and track drawings, change-orders, submittals, meeting minutes, and all other forms of project documentation.

Primavera has capitalized on the widespread adoption of Web technology to simplify the use of its formerly complex software with Webster, a new tool for publishing and sharing P3 and Expedition data via the

Internet. The Internet also facilitates collaboration with a new "chat" function built into AEC Software's FastTrack Schedule.

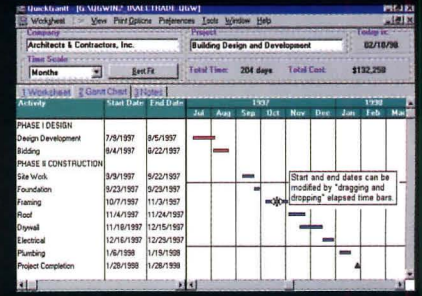
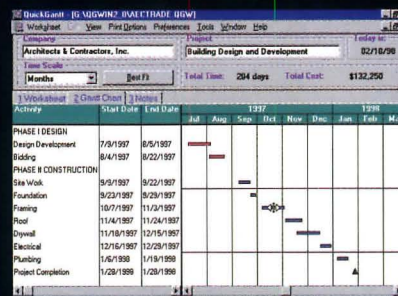
So many Web-based project-administration tools have come to market recently that they constitute a new subcategory of PM software. Among the names to watch because of their market positioning among early adopters of the technology are Blueline/Online, Changepoint (Involv), infoAdvantage, eBuilder, iManage, and ProjectEdge.

Project Management Institute's Executive Director Carter, the AIA's former vice president for education, believes architects will sell more services as a benefit of more formal involvement with project-management systems. "Today's architectural clients are larger, more global, and increasingly sophisticated users of PM techniques themselves," explains Carter. "PM tools provide architects an international common language for new services and added value."

Architect Jerry Laiserin develops technology strategies for architects.

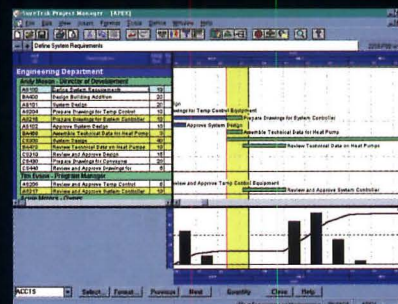
QUICKGANTT

Gantt charts may be displayed in Ballantine & Company's EasyGantt as time lines (right) or may benefit from addition of explanatory captions (far right).



SURETRACK

Displayed as vertical bars (right), resource schedule correlates staff requirements with time interval in overlaid Gantt chart. PERT chart (far right) supports greater project control by displaying details of tasks, including start and finish dates.



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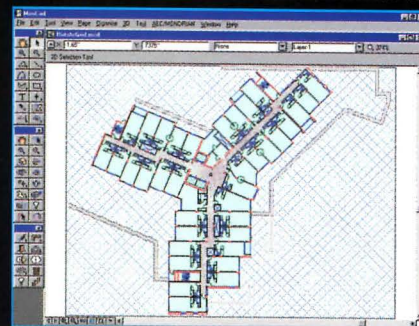
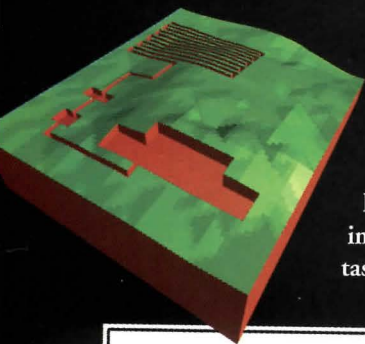
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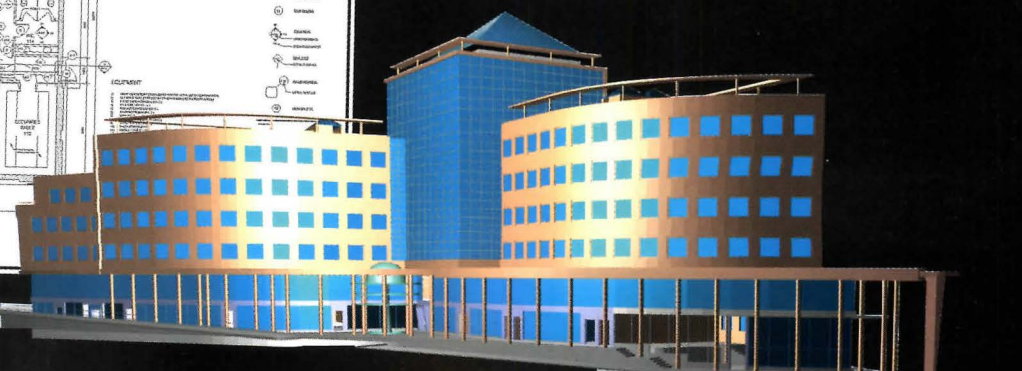
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102	Office	Paint	White	100	Sq Ft	1.00	100.00
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104	Office	Paint	White	100	Sq Ft	1.00	100.00
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Steering away from epoxies, new technologies help patch, clean, straighten, and strengthen historic brick and stone buildings.



Limestone cladding of Essex County New Courts Building and Jail was one accident away from catastrophic failure. More than 20,000 Cintec anchors now prevent masonry's collapse.

By Eric Adams

If masonry is one of architecture's true constants, masonry repair is one of historic preservation's. Brick and stone are among the most versatile and durable building materials, but they're prone to wear and damage from wind, rain, and all manner of human assault.

Fortunately, historic preservation specialists and product manufacturers are working to stay ahead of masonry decay. Several innovative new technologies help in virtually every area of masonry repair, including strengthening, repointing, cleaning, connectivity, and void and crack repair. These methods range from advanced anchoring systems and sophisticated cleaning devices to carefully prepared and applied mortars and grouts.

Although new repair techniques sometimes introduce modern materials into historic fabric, they are all designed to aid historically faithful preservation efforts while supporting necessary cosmetic and structural repairs. The techniques respond to the concerns of architects, conservators, and contractors about an historic building's ability to breathe and move naturally. They also resolve more general issues of material and historical fidelity. In particular, experts are shying away from chemi-

cal-based fixes, such as epoxies or resins, and from high-strength mortars, both of which can damage buildings more than the forces they are trying to correct.

"Compatibility is the key when fixing old masonry," explains Michael Schuller of Atkinson-Noland Associates, a masonry evaluation and repair consultant in Boulder, Colorado. "If you place a really stiff material, such as mortar, next to a softer material, you'll likely get cracking and spalling in the masonry. If there's an epoxy barrier, you'll have water-vapor transmission problems."

Strengthening masonry walls

Perhaps the most dramatic recent advancements in masonry preservation technology focus on strengthening and connectivity. In the face of seismic forces, wind loads, vibration from vehicles and machinery, inadequate original design, new adaptations, and aging, stabilizing masonry is becoming a more critical element of rehabilitation and historic preservation efforts.

Two technologies, Cintec Designed Anchor Systems and Moduloc Masonry Systems, offer innovative alternatives to invasive or unsightly structural strengthening systems. Both new systems are embedded *within* masonry walls and can be

To install Cintec anchor (right), technicians drill hole, insert nylon sock-covered anchor, and inject grout into sock until anchor is securely wedged in masonry.

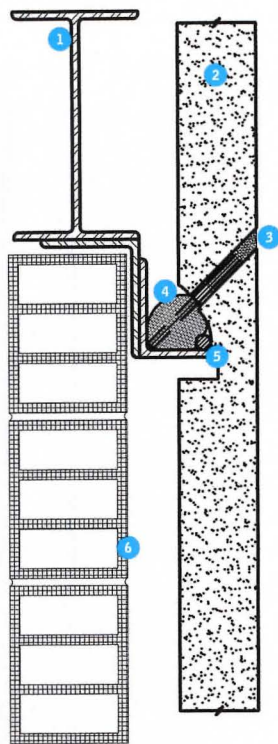


installed with relative ease and speed. In most cases, neither requires a structure to be evacuated during installation.

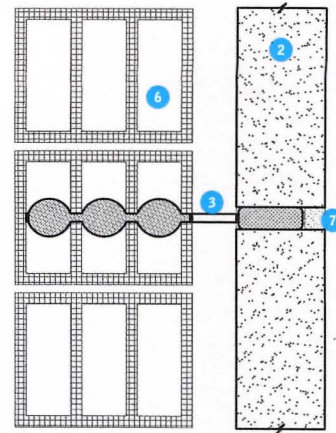
Developed in the United Kingdom and instrumental in the recent post-fire restoration of Windsor Castle, Cintec anchors, manufactured by CLS Cintec, are deceptively simple. A steel rod wrapped in a fabric sock is inserted into a predrilled hole in the masonry. Once in place, ultra-fine concrete grout is pumped into the sock. As the anchor fills, grout milk is forced through the sock, creating a chemical bond between the anchor and the substrate. The exterior hole is then patched. The wall is then better able to withstand vertical forces and is generally stronger.

"One of the best things about this system is that the material is cementitious, not epoxy-based," explains Westfield, New Jersey, architect Michael Zemsky. "The most interesting part is that the nylon sock expands to fill the cavity until it is completely wedged in." Zemsky recently specified Cintec anchors on the Essex County New Courts Building and Jail in Newark. The 1966 building's limestone curtain wall panels had separated from the structure, causing damage so pervasive and severe that the building was, in Zemsky's words, "one accident away from catastrophic failure."

Zemsky's general contractor for the courthouse project, Jim Papandrea, says that before they inserted more than 20,000 Cintec anchors into the building, they had an independent lab test the system by measuring the strength of the anchors' hold on the masonry. "The pullout tests exceeded 4,000 pounds," Papandrea says of the procedure, in which steadily increasing force is applied until the anchor fails. "The

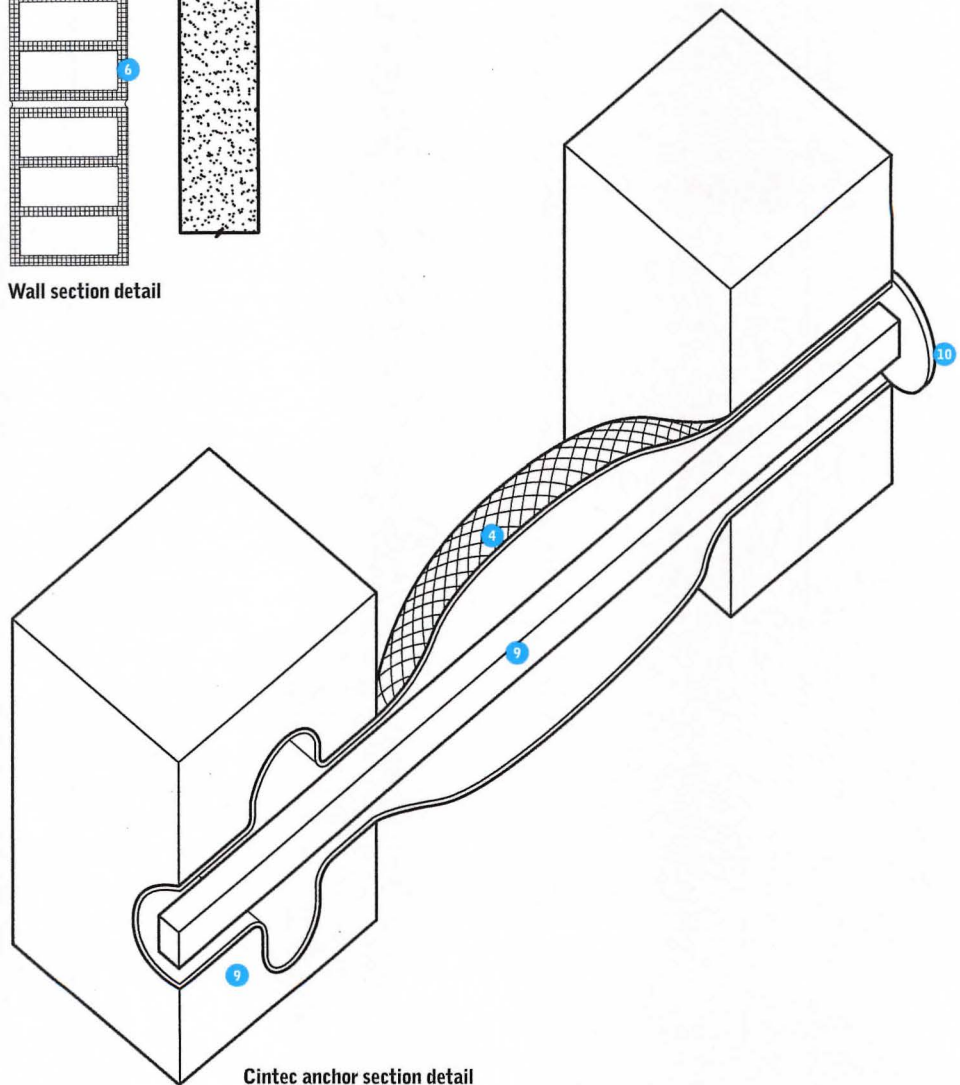


Wall section detail



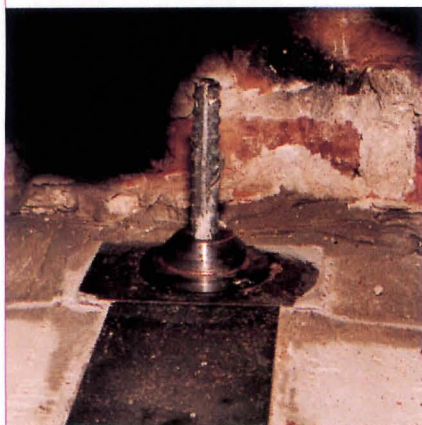
Wall plan detail

- 1 structural steel beam
- 2 limestone panels
- 3 Cintec anchor
- 4 expandable nylon sock
- 5 steel relieving angle
- 6 masonry backup
- 7 patching compound
- 8 grout flood hole
- 9 stainless steel member
- 10 end plate



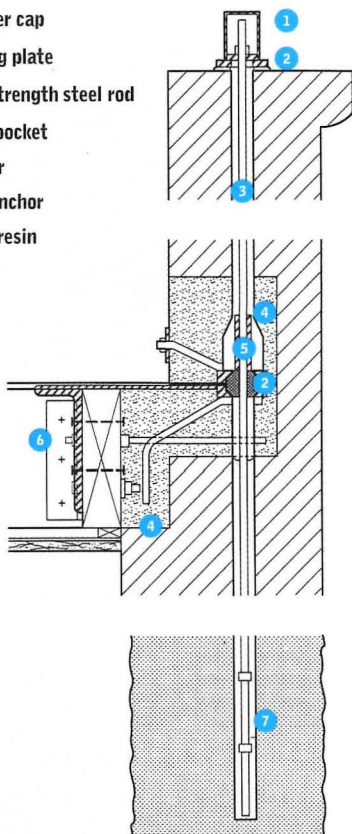
Cintec anchor section detail





Top of Moduloc anchor prior to placement of galvanized weather cap shows steel rod and bearing plate after tightening. Bottom of anchor is epoxied into foundation.

- 1 weather cap
- 2 bearing plate
- 3 high-strength steel rod
- 4 grout pocket
- 5 coupler
- 6 floor anchor
- 7 epoxy resin



Moduloc anchor section detail

Grouting technique relies on low-pressure pump (right) to inject grout into masonry voids (far right). Grout injection also repairs severely cracked masonry walls (facing page, bottom left).

block broke before the anchor did.”

Cintec anchors are available in lengths ranging from 6 inches to hundreds of feet, and can be applied either front to back or lengthwise through a masonry wall. Variations of the system can also stitch together heavily cracked masonry and connect outer external wythes to internal wythes. The anchors also provide cost savings: Their use in the Newark courthouse project saved the client \$2.5 million over a previous estimate for reanchoring the building’s dangerously unstable stonework.

Compression is key

Going in a different direction from the Cintec anchors—vertically instead of horizontally—the Moduloc steel connector is a post-tensioned anchor system developed in California to help historic buildings withstand earthquakes. Exploiting masonry’s compressive properties, a steel rod is passed from the parapet to the foundation through a hole drilled in the wall. It is epoxied into place at the foundation and tightened at the top. Finally, the rods are secured at each floor joist.

Creator Reginald Locke says he developed Moduloc back in the 1960s to aid in precast concrete construction, but realized its seismic applications after the 1989 Loma Prieta

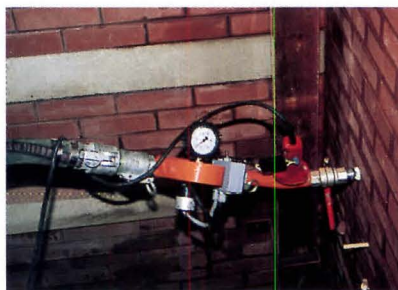
earthquake. He describes the low-cost system as similar to a lugnut on an automobile. “In compressing the wall from top to bottom, it acts as a sheer connector that redistributes forces vertically,” Locke explains.

Although Moduloc has only been installed in one building so far—a 150-year-old bank in Sonoma, California, near San Francisco—Locke has gotten it approved by the San Francisco Department of Building Inspection and is now pursuing national licensing and marketing. His system is currently being applied to seven buildings in the San Francisco area.

Kentfield, California, architect Eugene Wedell likes the way Moduloc allows designers to retain original structural systems. “You can put a building back together the way the original builders wanted it to be, as opposed to upsetting the structural order,” he contends. “You need to figure out how it was built and where the weak points are. But when you’re done, you can convert horizontal forces weakening the building to vertical forces and transfer the loads to the foundation.”

Mortar mayhem

Though perhaps not as sexy as the connectivity technology, critical improvements in mortar repair are



also now coming to market. Key to the advancements is the increasing awareness among preservation specialists that off-the-shelf products are, for the most part, unsuitable for historic masonry structures.

Off-the-shelf mortars that contain epoxies or overly rigid mixtures can severely damage masonry. The risks lie in a structure's limited movement tolerances—for example, from heat expansion and contraction—and frustrated transmission of water vapor. Ed Torres, an architect with Bauer Latoza Studio in Chicago, cites a limestone church he worked on last year. A year earlier, a contractor had repointed the building with an epoxy mortar, which proved too stiff to allow the stone to expand. "All the areas he had repointed had spalled off," he remembers. "The stone crushed its own face off."

Norman Weiss, a conservator at Columbia University in New York City, explains that water-vapor transmission problems, on the other hand, emerge when mortars don't allow water to evaporate once it enters a wall. "If evaporation doesn't occur, then you have a significant increase in the amount of time a wall stays wet," Weiss explains. This increase can result in spalling, joint erosion, gypsum crusts, and other problems.

To limit these risks, mortars are being prepared with greater precision. Cathedral Stone, of Jessup, Maryland, is one of several manufacturers specializing in case-specific mortars. Its line of Jahn mortars has been developed to address problems unique to different regions and types of stone and brick. Cathedral Stone offers products for various types of sandstone and limestone, anchor settings, terra-cotta and brick repair, historic pointing for limestone and sandstone, marble patching, and

Overly stiff epoxy mortar (right) can restrict natural movement of brick and stone, causing severe spalling. Bad mortar patches and pointing (below right) are replaced with new, softer mortar (bottom right).

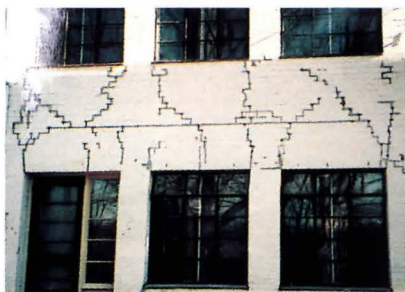
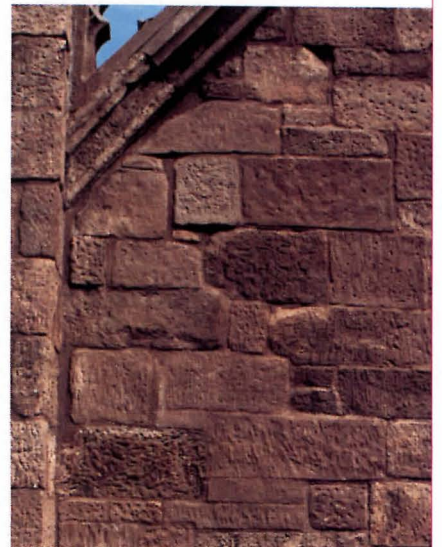
hard stones such as granite. The company will also create mortars for specific deterioration problems, such as the salt infiltration common to many coastal areas.

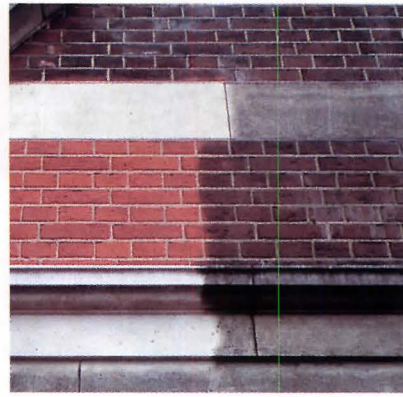
The company, which cut limestone for the completion of Washington National Cathedral, also encourages training for the craftsmen who execute the repairs. "Perhaps more than the mortar itself, craftsmen make the repair work," says Cathedral Stone's Keith Matney, who adds that inexperienced contractors are prone to bad habits, such as adding polymers to mortar mixtures.

Architects themselves are also getting into the mix. In Chicago, Bauer Latoza Studio works to ensure that the mortars it uses for its preservation projects are softer than those for new construction. "We try for in-kind replacement," says Bauer Latoza's Ed Torres, whose firm is a regional manager for the Chicago Public Schools renovation program. "Instead of the typical 1-to-1-to-6 mixture of cement, lime, and mortar aggregate, we'll use 1-to-2-to-6. The higher lime content creates softer mortar that allows movement with the original mortar."

Crack and void repair

While mortar can solve strength and permeability problems, it has some limitations in terms of crack and void repair. Filling that gap are increasingly popular grout-injection techniques. "Grouting is not a panacea," says Wayne Ruth, of Masonry Solutions in Hunt Valley, Maryland, "but it can be a very cost-effective strengthening agent and water sealant that is compatible with the original material."





Low-pressure, rotating water spray mixed with fine, inert mineral powder cleans masonry. Brick and stone surface (above right) before and after treatment with JOS system.

Though similar in composition to mortar, grout is more fluid and thus easier to inject into cracks or larger voids. Masonry Solutions and Michael Schuller's Atkinson-Noland Associates are working together to refine grout-injection techniques. Ruth explains that each case requires its own specific grout mixture. A large void, for example, requires different grout flow, settlement, and separation characteristics than a hairline crack.

Grout is typically injected through small holes—often as narrow as 1/4 inch—drilled in masonry joints. Low-pressure grout pumps force the mixture into the wall to fill small spaces or larger ones, such as the spaces between wythes. Grout can also be applied to bind steel reinforcement inserted through drilled holes or between wythes.

Gentle cycle

Making an historic masonry building look better is often as important to the client as ensuring its structural integrity. Cleaning techniques abound, but their effectiveness varies from system to system. Possible negative impacts on masonry surfaces, caused by overabrasion, and on the environment, by dangerous chemicals or detergents, also vary.

Sherman Holdings, a Niagara, New York, firm, is promoting a mechanical abrasive system developed in Europe that attempts to eliminate the negative effects of traditional techniques while increasing a preservationist's ability to clean up brick, stone, and terra-cotta. The JOS low-pressure cleaning process uses a specially designed,

adjustable nozzle to project a swirling, low-pressure vortex of air, water, and a fine, inert mineral powder onto stone and brick surfaces. It can remove carbon soiling, gypsum crusts, microorganisms, paints, smoke damage, and even graffiti.

"It's a much gentler way of scrubbing masonry without resorting to harsh chemicals," says architect James Rhodes, a principal at New York's Beyer Blinder Belle Architects and Planners, who has used the JOS process on several recent projects.

Rhodes is cautious, though, about how the system is used. Before using it on the U.S. Navel Academy Chapel in Annapolis, Maryland, Rhodes had the JOS system evaluated by several conservators, including Virginia Naude of Norton Art Conservation in Lafayette Hill, Pennsylvania, and Glenn Boornazian of Integrated Conservation Resources in New York City. Both experts approved of its technique and effectiveness, but warned that if not used properly, the system, like any other cleaning technique, can severely damage masonry. In particular, they were concerned that the wrong combination of pressure, media, nozzle, and working distance could strip off masonry glazing and expose substrate. Though this stripping could occur at a microscopic level, it's enough to cause greater damage in the future.

Still, the conservators and Rhodes remain very enthusiastic about the JOS system's possibilities. "In general, this is a giant step forward from abrasive technology," Rhodes concludes.

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Niagara, New York 14305
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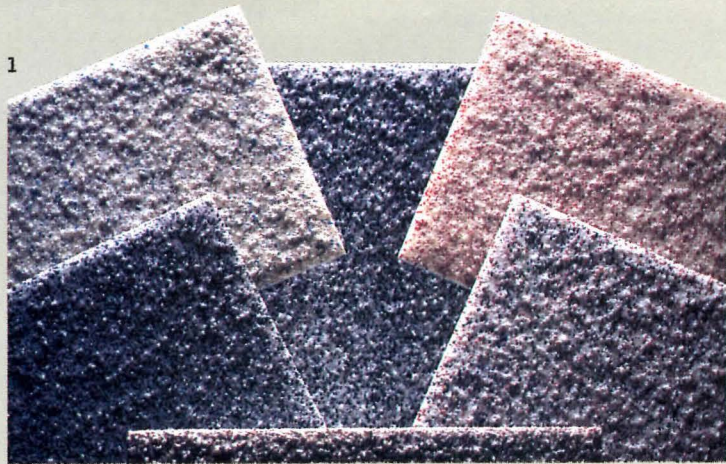
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Circle 169 on information card



1

1 Floor Coating

Keeler and Long's 7700 Series Kolor-Quartz epoxy enamel coating protects concrete floors and is easy to clean. The company offers smooth and non-skid finishes in six standard colors; custom color-matching is also available. *Circle 292 on information card.*

2 Water-Repellent Admixture

Grace Construction Products introduced its Dry-Block II moisture control at the Masonry Expo in Charlotte this February. The system comprises two liquid polymeric admixtures for poured-in-place concrete and mortar. Unlike surface sealants, Dry-Block bonds to con-



2

Masonry

Weatherproofing

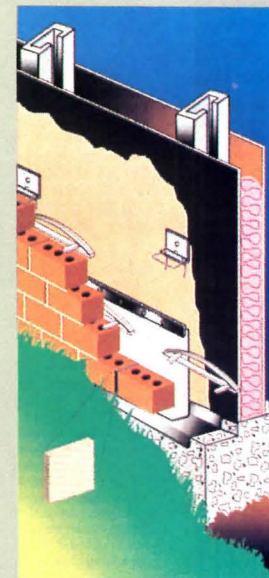
Finishes, admixtures, and coatings seal and protect masonry.

crete and mortar during the curing process to control water penetration and does not require reapplication. *Circle 293 on information card.*

3 Protective System

As part of its masonry moisture-control system, Dur-O-Wal offers five products that prevent water infiltration into brick cavity walls. When installed together, the company's wall and edge flashing, masonry anchors, and mortar-collecting inserts prevent water infiltration and encourage drainage. Dur-O-Wal claims that its components are more economical and easier to install than comparable systems. *Circle 294 on information card.*

3



4 Moisture-Control Sealant

Dow Corning's AllGuard Elastomeric Coating waterproofs and seals exterior paint, such as in the recent renovation of a 1913 brick warehouse (left). Two coats of the sealant are applied to the brick to seal leaks around windows and in mortar joints. The sealant has a faint color that Dow can custom-blend to match existing masonry. *Circle 295 on information card.*

4



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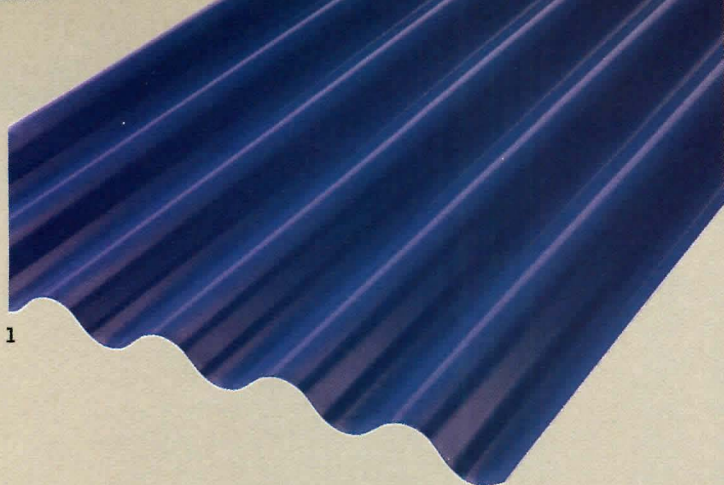
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1

1 Metal Decking

Una-Clad C-Deck UC-600 by Copper Sales is a corrugated metal roof deck for use as a substrate or exposed sheathing. The decking is manufactured in copper, stainless steel, aluminum, or prefinished colored metals. Sheets are available up to 42 inches wide and 10 feet long.

Circle 296 on information card.

2 Ergonomic Chair

Haworth's new TAS office chair encourages subtle motion and posture changes to help improve concentration. The design is both supportive and flexible: The chair back allows occupants to tilt left to right, as well as forward and backward. TAS is available in three sizes featuring adjustable arms and back and seat heights.

Circle 297 on information card.



2

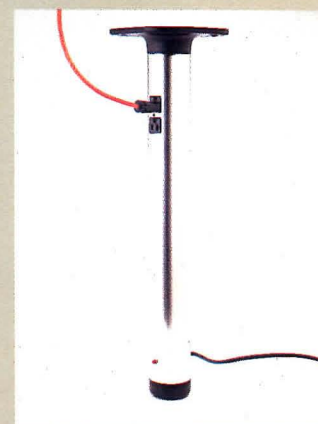
New and

Noteworthy

Recently introduced products
simplify the workplace and
enliven interiors and exteriors.

3 Powered Table Leg

Doug Mockett and Company has introduced a table leg housing an electrical power conductor to eliminate tangled power cords. A 110-volt outlet is mounted at the top of the table leg, which can be installed on the underside of any workstation; the leg's base connects to the power supply. The leg measures 27 inches high and 3 1/4 inches in diameter; custom sizes also can be specified. Black, polished chrome, and unfinished models are available. Circle 298 on information card.



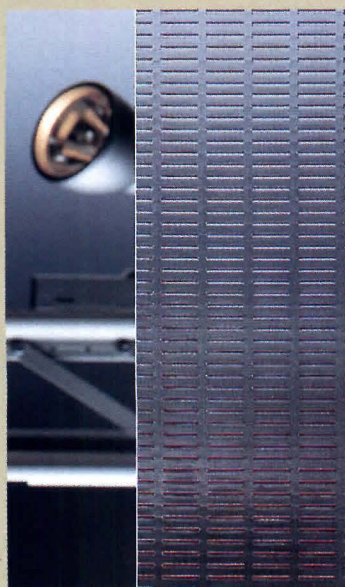
3

4 Patterned Glass

Bendheim Architectural Glass is the U.S. distributor of Masterglass, a patterned, rolled glass from French manufacturer St. Gobain that features subtle geometric impressions such as dots, squares, and lines. Applications include shower doors, shelving, stair railings, and partitions. The glass is available in custom sizes, and can be tempered, laminated, or silvered to create a mirrored effect.

Circle 299 on information card.

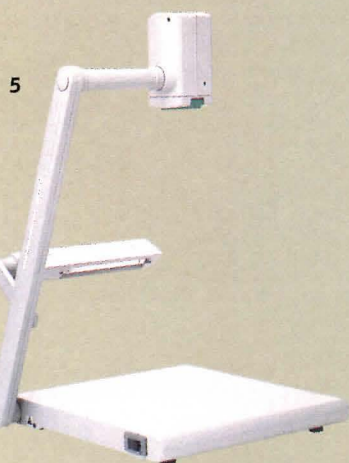
4



5 Three-Dimensional Projector

Sony's new VID-P50 video-presentation stand can project three-dimensional objects, such as models, onto video screens or monitors. The system features a powered zoom lens, a high-speed auto focus, and automatic iris control for adjusting brightness.

Circle 300 on information card.



5

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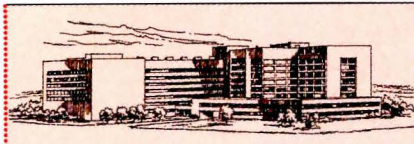
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Face brick with structural facing tile and reinforced steel frame



OFFICE BUILDING, 2-4 STORY
Face brick with concrete block back-up and steel joists



SCHOOL, JR. HIGH
Face brick with concrete block back-up and a steel frame

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Kansas City	104.89	102.73	64.78	63.54	78.23	76.49
Los Angeles	122.00	121.02	75.57	75.52	91.27	90.11
New York City	147.22	146.03	91.67	90.85	110.70	108.73
Phoenix	98.83	98.72	61.11	61.06	73.64	73.51
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San Francisco	136.61	136.07	84.81	84.36	102.42	101.31
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Each month Architecture takes a snapshot of U.S. construction – looking at average costs and actual upcoming projects for different building types on a rotating basis. News on projects is provided by Construction Market Data (CMD). Costs are supplied by R.S. Means Co.

NOTE: Cost comparisons shown here are for the basic building without sitework, development, land, specialty finishes or equipment. Actual square foot costs vary significantly from project to project based on quality, complexity and local economy.

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UPCOMING PROJECTS

St. Rose Dominican Replacement Hospital

Location: Lake Mead Road, Henderson, Clark County, NV
Project Value: \$40 million
Size: 26 acres, 155,000 sq ft, 4 floors above grade, 110 units, 1 structure, 650 parking spaces
Contract Type: Invited Bidders
Current Project Stage: Planning; Masterplanning
Status: Masterplanning in Progress; Bid Schedule Not Set
Project Scope: Surgery Rooms, Doctor's Offices, Lobby, Lab Space, Waiting Room, Bed Space, Restrooms, Kitchen, Storage.
Owner: St. Rose Dominican Hospital; 102 Lake Mead Road; Henderson, NV 89105
Phone: 702.564.2622
Architect: HKS Architecture; Jim Mitchell; 700 N Pearl Street, Suite 1111 LB 307; Dallas, TX 75201
Phone: 214.969.5599, **Fax:** 214.969.3302

Virginia Tech Equine Medical Center

Location: Leesburg, Loudoun County, VA
Project Value: \$5.5 million
Size: 1 structure
Contract Type: Invited Bidders
Current Project Stage: Planning; Schematics
Status: Schematics in Progress; Bid Schedule Not Set
Owner: Virginia Tech; Peter Karp; 326 Burruss Hall Virginia Tech University; Blacksburg, VA 24061
Phone: 540.231.3812; **Fax:** 540.231.3034
Architect: Copich & Associates; John Copich/Helen Durflinger; 314 Churchill-Hubbard Road; Youngstown, OH 44505
Phone: 330.759.0226; **Fax:** 330.759.3163

Office Complex

Location: Old Montgomery Road & Route 108, Ellicott City, Howard County, MD
Project Value: \$35 - 40 million
Size: 20 acres, 330,000 sq ft, 4 fl above grade
Contract Type: Invited Bidders
Current Project Stage: Planning; Masterplanning
Status: Masterplanning in Progress; Bid Schedule Not Set
Project Scope: 2, 3 & 4 Story Office Buildings.
Owner: Linden Associates, Inc.; Christopher Kurz; 906 Poplar Hill Rd; Baltimore, MD 21210
Phone: 410.532.6250
Architect: RTKL; Gary Bowden/Jim Lenoard; 1 South Street; Baltimore, MD 21202
Phone: 410.528.8600; **Fax:** 410.385.2455

New Harbor Front Plaza

Location: Ludington, Mason County, MI
Project Value: \$7.5 million
Size: 60,000 sq ft, 3 floors above grade, 1 structure
Contract Type: Invited Bidders
Current Project Stage: Planning; Preliminary Plans
Status: Preliminary Plans in Progress; Bid Date to be Set Approx. 4/98
Owner: Ludington City Hall; 201 South William Street; Ludington, MI 49431
Phone: 616.845.6237; **Fax:** 616.845.1146
Architect: Vos Construction; 6160 East Fulton; Ada, MI 49301
Phone: 616.676.9169; **Fax:** 616.676.2435

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Fair Arts Middle School

Location: Adair Avenue, Crystal, Hennepin County, MN
Project Value: \$11 million
Size: 107,000 sq ft, 2 floors above grade, 1 structure
Contract Type: Open Bidding
Current Project Stage: Planning; Masterplanning
Status: Masterplanning in Progress; Bid Schedule Not Set
Project Scope: Fine Arts Inter-Disciplinary Resource School.
Owner: West Metro Educational Program; 925 Delaware Street SE; Minneapolis, MN 55414
Phone: 612.627.2686
Architect: Hammel Green Abrahamson; Bake Baker; 1201 Harmon Place; Minneapolis, MN 55403
Phone: 612.337.4100; **Fax:** 612.332.9013

Pembroke Hill Middle School

Location: State Line Road, Kansas City, Jackson County, MO
Project Value: \$2 million
Size: 30,000 sq ft, 1 structure
Contract Type: Negotiated
Current Project Stage: Planning; Schematics
Status: Schematics in Progress; Subbid Schedule to be Set 6/98
Project Scope: Classrooms.
Owner: Pembroke Hill School; 5121 State Line Road; Kansas City, MO 64112
Phone: 816.753.1300
Architect: Mackey Mitchell Zahner Architects; Brian Gross; 112 West 9th Street, Suite 600; Kansas City, MO 64105
Phone: 816.474.2995; **Fax:** 816.474.2996

Cast in the harshest light, it's the work that high-profile designers strive to conceal and that workaday architects love to hate. We tag this brand of commission with the innocuous label "**bread and butter**," but for all the distaste commonly associated with it, we might as well call it castor oil. Take your medicine, pal, and stop whining.

But architect John Kane's take on **bread and butter** is altogether positive. In 1989, he and three colleagues started the Tempe, Arizona-based firm Architekton with a modicum of experience and a pocketful of dreams. "We decided we would need a

for clothier J. Crew nationwide.

Piscuskas says the J. Crew work requires interaction between architect and client that is neither collaborative nor servile. The process is more listening to the client and responding with ideas—what some might refer to as service. And that's not a dirty word in Piscuskas's book.

Neither is it for James Timberlake, a principal of Kieran Timberlake & Harris in Philadelphia. Timberlake says his firm's work for educational institutions has evolved into a kind of specialty based on a client type, rather than a building type.

Bread and Butter

For many architects, well-designed everyday projects can be the staff of life.

bread-and-butter client to have a strong foundation," Kane recalls. One of the partners had designed gas stations at a previous job, so they decided to run with that, believing the **bread-and-butter** work would stabilize their practice and foster growth.

It's important to let the **bread-and-butter** jobs work in your favor, says Kane. "Be positive about them and be open to the opportunities they present," he advises. "If you do **bread-and-butter** work well, it's amazing how it can grow into something that is better for you." Now Architekton, which has 55 employees and offices in three states, has leveraged its expertise in digital technology into a profitable new service for its petroleum company clients: Web-based document-management systems for standard gas station plans.

The simple mention of **bread and butter** stirs a wide range of reactions among architects. Some firms utter the term in the same breath with "down and dirty." Others see it as a practical way to jump-start a new practice. For still others, **bread-and-butter** work is the stuff that plugs the gaps in cash flow or refers to commissions that constitute the staple of the firm.

"Each of our clients thinks that their work is very important, and so do we," says David Piscuskas, a principal of 1100 Architect in New York City. Piscuskas rejects the very notion that any of the firm's work is **bread and butter**—including the retail interiors that 1100 Architect designs

"With an established client, you generally take on all the projects they offer," advises Timberlake. "You can't say, 'Hey, I'm going to do your museum, but I'm not going to do your nasty little vice president's suite.' It's not good business."

Instead, architects have to transcend their more mundane work. Ideas for small commissions help inform bigger ones, says Timberlake. "We've had great success using those small projects as incubators."

Others, like architect Bob Corcoran, unabashedly embrace **bread-and-butter** work to sustain their firm. Corcoran, a principal of Kvell Corcoran Associates in Washington, D.C., recalls the 1982 recession that nearly left his firm belly up. To stay in business, he and partner Ted Kvell redirected the practice from developer-based work toward government and institutional projects. At the same time, they developed an expertise in specialty waterproofing and reroofing, the **bread and butter** that comprises 10 to 20 percent of Kvell Corcoran's yearly billings. "You do that over a 20-year period and it's a significant number," Corcoran says.

How effective has the strategy been? When the recession of the early 1990s slammed most Washington architects, Corcoran says he didn't notice the tiniest blip in his firm's fortunes. For him, the payoff for doing "down-and-dirty" architectural work means he knows which side of the **bread his butter** is on. *Vernon Mays*

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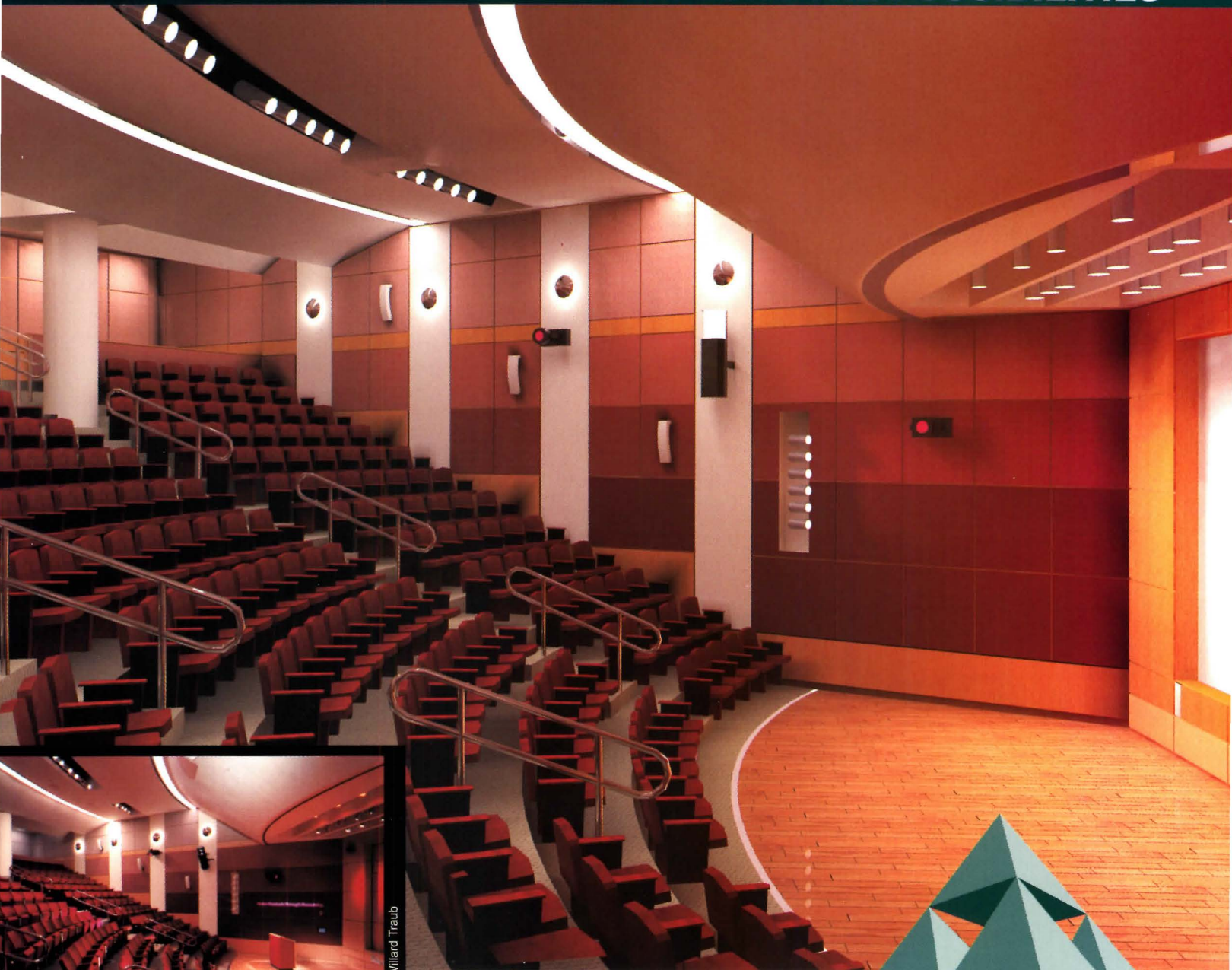
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