



Architecture has never really been my father's thing. As far as he is concerned, Vince Scully is a sportscaster, and Decon is an insecticide. When I told him I intended to become an architect 17 years ago, he groaned with disappointment. "Don't you know those people can barely make a living?" Turns out I get the last laugh: Last month, after stepping down as CEO of Delta Dental Arizona, Dad became the Chief Operating Officer of Cornoyer Hedrick Architects, a 120-person firm based in Phoenix.

He isn't the only non-architect making this transition. At almost the same time, for-

matters are farmed out to engineers. That leaves most architects spending most of their time doing business.

And exactly how much of your architectural education covered business? One course? Two? And how many of you enjoyed it (or even paid attention)? Architects routinely describe themselves as poor businesspeople. Imagine what actual businesspeople think. The answer: Regard the field, with its \$12 billion-plus in annual billings, as ripe for the picking. Brace for the invasion. Arthur Andersen, one of the nation's largest accounting and

Oh God, my dad wants to be an architect!

By Reed Kroloff

mer General Electric Vice President Kenneth Brown became the new president of Skidmore, Owings & Merrill (SOM).

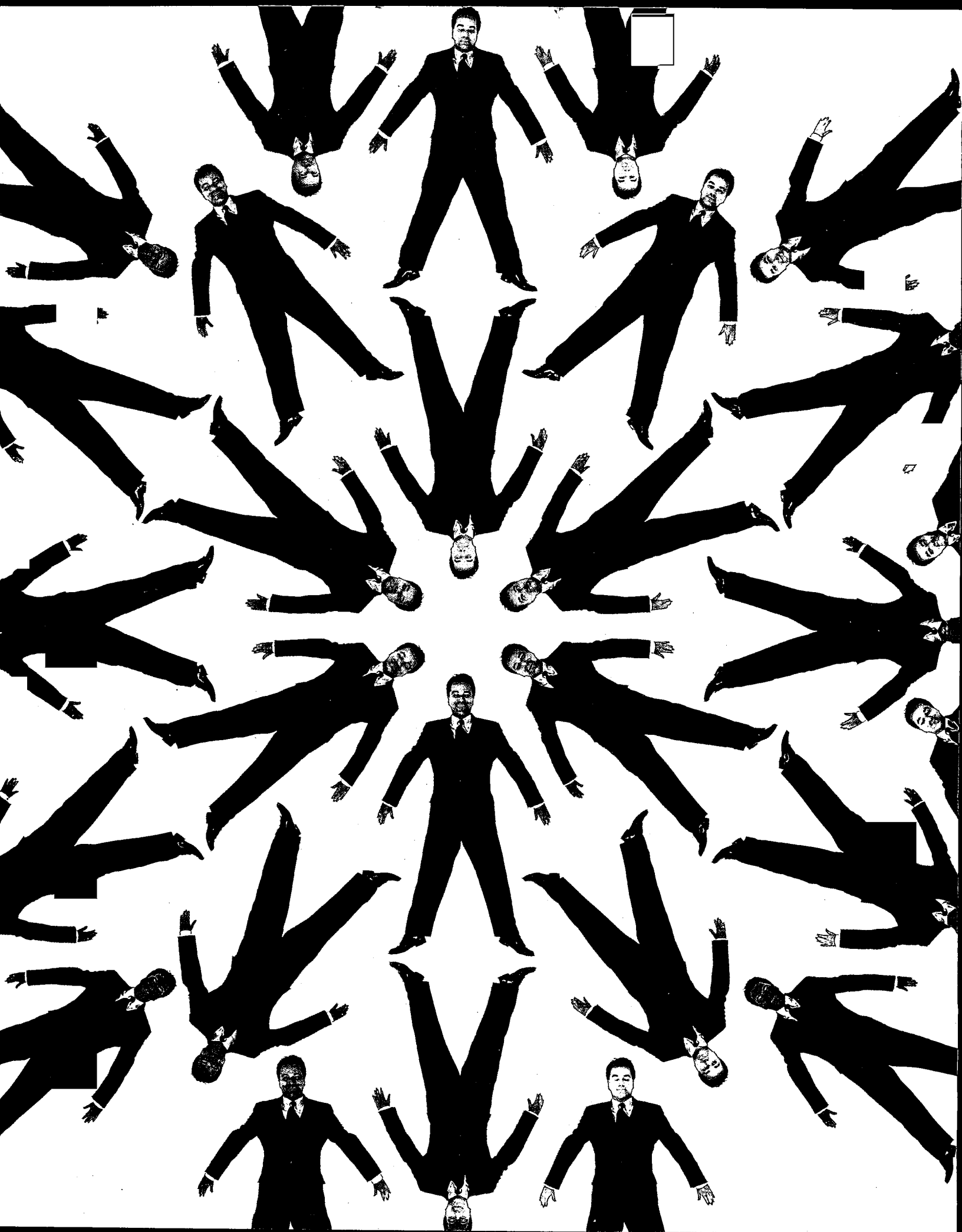
That's right. America's first name in corporate architecture is no longer run by an architect. Sixty-three years ago, SOM's conviction that architecture firms could operate like businesses revolutionized a profession that was little more than a country club: gentleman-farmers who had beaten their plowshares into T-squares. In awarding Brown the helm, SOM carries the revolution to its logical conclusion.

"There's always been this sense in the profession about the holiness of architecture and the crassness of business," notes SOM chairman David Childs. "But architecture is a business, and must be self-sustaining." Cornoyer Hedrick president Jeri Cornoyer Kendle explains the new corporate order this way: "I didn't have the training for management or dealing with banks or accountants. We designers don't know enough, and that's risky."

Architects love to characterize what they do as equal parts art, science, and business. That sentiment—like so many others driving this profession—is romantic, but inaccurate. Check your time sheets: Conventional wisdom has most architects spending around 10 percent of their day designing. So much for art. As for science, all but the simplest technical

consulting firms, now offers design services as part of its business strategies practice. Multinational engineering giant Fluor Daniel has its own architectural practice. Others are coming.

If nothing else, bringing business leaders into the architectural fold makes sense as a hedge. Architecture firms with experienced businesspeople in key management positions can significantly increase their competitiveness. Both Skidmore's Brown and my dad, for instance, cut their teeth on marketing and strategic planning. Both have international experience. They are ideally suited to extend their new employer's practices. Finally, neither is burdened with antiquated notions that doing business is somehow unclean, or that profits are desirable but not required. There's an added bonus hidden in this for the firms who can afford it (primarily medium- and large-sized practices). "If we are more businesslike," suggests David Childs, "we can focus our energies on what we're good at—design." Imagine the day when you won't have to worry about invoices, insurance schedules, or choosing attorneys, a day when 30 percent more of your time is spent on design. Imagine the effect this could have on the built environment. Sound like heaven? Sounds like good business to me. ■





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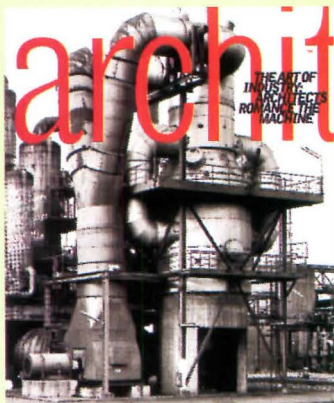
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Stress test

Eric Adams's article on NCARB (June 1999, pages 118-122) was extremely informative. It's calming to learn that NCARB is having so many problems with the new computerized Architect Registration Examination (ARE). I think the only pleased party is the entity that took NCARB for a ride in designing the program. While taking the ARE, I have composed numerous letters in my head relating my frustrations, but will hold off sending them until all tests have been taken and scored. Besides, I've got to get back to studying "Archaic CADD 101!"

Kevin Timmerman
TCI Architects/Engineers/Contractor
La Crosse, Wisconsin

I was saddened and appalled by Eric Adams's "low blow" attack on NCARB. Saddened by the distorted and blatant negative bias directed toward a nonprofit institution whose mission obviously escaped Mr. Adams. Appalled by his inaccurate portrayal of the tremendous benefits NCARB provides the profession through a national exam, a structured and diverse intern development system, and a certification process that allows architects to practice freely throughout the United States and Canada.

NCARB is a volunteer organization constantly working to improve itself and its services. In the case of NCARB and its charge to protect the public, accountability is fundamental to the State Licensing Boards that comprise the membership of NCARB. It is incredibly unfortunate that Mr. Adams can-

not be held accountable for his article and his blatant disregard for accurate reporting.

Alan T. Baldwin
Vice Chairman of NCARB, Southern
Conference
North Carolina

Location, location

Right on! Despite serving as the AIA's national Chair of the Committee on Architecture for Education, I avoided the Dallas Convention for many of the reasons outlined in Reed Kroloff's editorial (June 1999, page 11). In recent AIA conventions, I found the general sessions boring and uninformative and the continuing education sessions providing little useful information, regardless of what the AIA believes is an intense effort to select the best proposals from the hundreds received. An interesting location is probably the one thing that will get me to attend a national convention, since the convention itself no longer has much to offer.

James T. Biehle
President, Inside/Out
Architecture, Inc.
Clayton, Missouri

Buck-passing

Reed Kroloff wants us to increase our emphasis on getting interns through the system and into licensure, under the premise that this will stabilize the profession for the future (May 1999, page 13). However, licensure and legally mandated internship are part of the problem.

Internship results in substandard education and professional development, with perpetual buck-passing. Professionals point fingers at academics for producing graduates without core competency in architectural tasks.

Academics accuse professionals of not providing opportunities and responsibilities for professional development. In the end, internship drives away people who love architecture but lack the pig-headedness or negotiating power to be treated with respect—personally, professionally, and finan-

cially. Licensure then serves as the padlock on the gate, keeping them out and protecting those who wish to benefit from their loss. Academia must realize it is their responsibility to train knowledgeable and competent architects. The profession likewise must realize we can't get something for nothing. Fix internship by abolishing it.

J. Gregory Wharton
Seattle

Urbane solution

Aaron Betsky's article, "Can I Take You Higher," (May 1999, pages 71-75) strikes a resonant chord for those who recognize San Francisco as part of the Bay Area's sprawl problem, but fear in those who see the city as a bastion against sprawl—the "close the gates, it's Contra Costa's problem, not ours" mentality. San Francisco likes to see itself as a city apart, but its problems are those of the entire Bay Area—and vice versa. The region is an interconnected web of urban, social, economic, and ecological systems and must be viewed as such. The Vancouver model of thoughtfully spaced towers is an elegant and urbane solution to housing needs and should be considered as part of a regional approach to managed urban growth that will sustain the quality of life its inhabitants cherish.

John A. Loomis
Chair, Architecture
California College of Arts and Crafts
San Francisco

CORRECTIONS

Architect Enid de Gracia collaborated with Lynette Widder and Christian Volkmann on their Van Alen Institute competition entry for floating pools on New York City's East River (June 1999, page 34).

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exhibitions

city	dates	exhibition	contact
Chicago	through August 29	The American Architecture Awards 1999 at the Chicago Athenaeum	(312) 251-0175
Denver	through October 3	Paper Architecture: Hand Versus Machine at the Denver Art Museum	(303) 640-4433
Minneapolis	through September 12	Milestones of Modernism 1880-1940: Selections from the Norwest Collection at the Minneapolis Institute of Arts	(612) 870-3131
Santa Monica, California	through September 15	The Sarasota School of Architecture: 1941-1966 at Bergamot Station	(310) 828-0226
			
		Paul Rudolph's Milan House (1955) represents Sarasota School in retrospective at Bergamot Station.	
Venice, Italy	August 30-October 9	HVEN LC: Le Corbusier Venetian Hospital at the Istituto Universitario di Architettura di Venezia	(39) (41) 71-00-25

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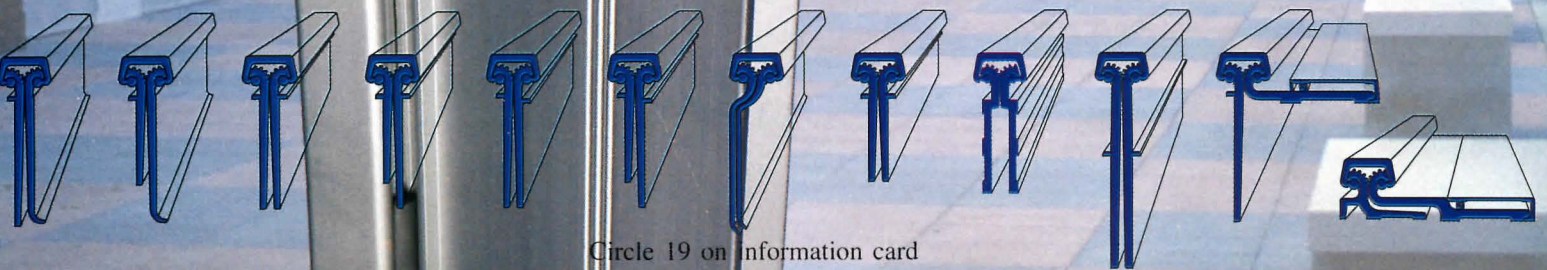
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conferences

city	dates	conference	contact
Dallas	September 25-28	Rail-Volution: Building Livable Communities with Transit	(800) 788-7077
Four Corners	September 27-October 3	Ancient Pueblo Sites of the Southwest: Native American Art and Architecture of New Mexico, Arizona, Utah and Colorado, sponsored by the Society of Architectural Historians	(312) 573-1365
Newport, Rhode Island	September 23-25	 Salve Regina University Conference on Cultural and Historic Preservation <small>Wakehurst Estate (1888) at Salve Regina University in Newport, Rhode Island, will host preservation conference next month.</small>	(800) 351-0863, ext. 2711
Scottsdale, Arizona	November 10-14	Frank Lloyd Wright Building Conservancy Annual Conference	(773) 784-7334
Thailand	December 21-January 2, 2000	Study tour to the Golden Triangle, Bangkok, and Phuket with an optional extension to Singapore sponsored by Boston Society of Architects	(800) 272-8808
Washington, D.C.	October 28	North American Construction Forecast, presented by the Construction Market Data Group	(800) 283-4699

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Architecture for Humanity International Competition for Transitional Housing in Kosovo, sponsored by Christidis Lauster Radu Architects, Alltrom, and the United States Agency for International Development, to benefit War Child



September 27

<http://www.archforhumanity.com>

Attorney David Kuhn recently photographed makeshift housing in Albanian refugee camps.

tkts2k Times Square tkts™ Booth Competition, presented by the Van Alen Institute, the Theatre Development Fund, NYC 2000, and *Architecture*

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October 15
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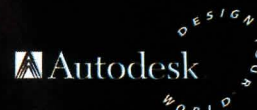
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John A. Cunningham
Larry H. Adams, Jr.
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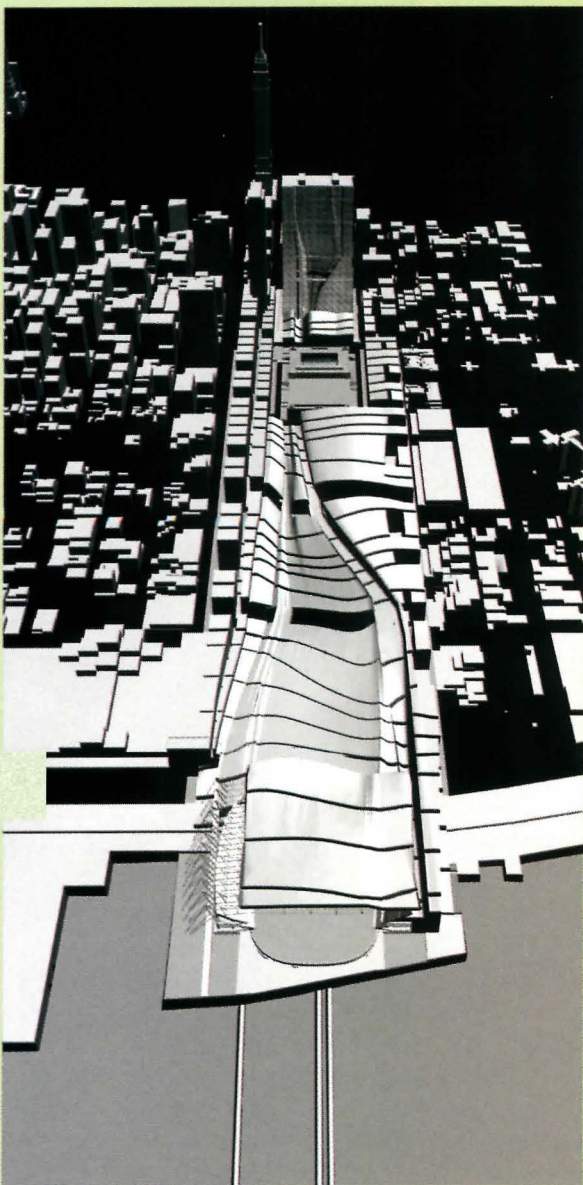
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WEST SIDE GLORY

Eisenman Nabs CCA Prize



It is Manhattan's last great building tract: a 3-million-square-foot swath of Midtown from the James A. Farley General Post Office Building on Eighth Avenue west to the Hudson River. This plum has languished as a scruffy rail yard while developers and politicians haggled over its fate.

Last year, the Canadian Centre for Architecture (CCA) in Montreal selected the rail yard as the first site of a new competition founded to help cities generate innovative planning for the next century. In June, the competition jury, which included Frank Gehry and Philip Johnson, announced a winner: enfant terrible Peter Eisenman's plan for a grand east-west park incorporating a relocated Madison Square Garden, an addition to the Jacob K. Javits Convention Center, and a sports stadium built into the Hudson River. The park would include an undulated public path leading from the river to a new office development on Madison Square Garden's current Eighth Avenue site.

The other competitors were Ben van Berkel and Caroline Bos of UN Studio Van Berkel & Bos; Thom Mayne of Morphosis; Cedric Price of Cedric Price Architects; and Jesse Reiser and Nanako Umemoto of Reiser + Umemoto RUR Architecture.

Eisenman received the \$100,000 prize, but no building contract. "It's food for thought, not a construction plan," says Joseph B. Rose, director of the New York City Department of Planning, who sat on the jury. In fact, the city will likely include some features of Eisenman's plan (the stadium and expanded convention center are both on the city agenda) when it adopts a plan for the area.

All five proposals will be exhibited at Grand Central Terminal in October. The CCA will stage its next competition two years from now in a city to be announced. *Michael Cannell*

Buzz

Cambridge, Massachusetts, architect **Graham Gund** has donated \$1 million to found a department of architecture and design at the Harvard University Art Museums in conjunction with the university's Graduate School of Design.

Jørn Utzon has, after years of acrimony, agreed to lead interior renovations of his Sydney Opera House. No word if said renovations will include an acoustical upgrade. (In recent months, performers with the Sydney Symphony Orchestra have threatened to boycott the hall because its acoustics were so bad.)

Oakland, California-based **VBN Architects** is designing an education center on the site of the internment camps in Cody, and Powell, Wyoming, used by the U.S. government to imprison Japanese-Americans during World War II.

RoTo Architects is overseeing the design of a \$20 million, 32,000-square-foot retail complex, part of a larger redevelopment of the Hollywood Boulevard area that also includes a new theater for the Academy Awards by **The Rockwell Group**.

Still holding my breath: Germany's Bundestag has finally approved a much-altered **Peter Eisenman** design for a Holocaust memorial for Berlin.

Shepley Bulfinch Richardson and Abbott has recently received commissions to restore the Boston Public Library and Newport, Rhode Island's Redwood Library and Athenaeum.

Polish-born architect **Daniel Libeskind** received the biennial, \$26,000 German Architecture Prize for his Jewish Museum in Berlin.

PRESERVATION

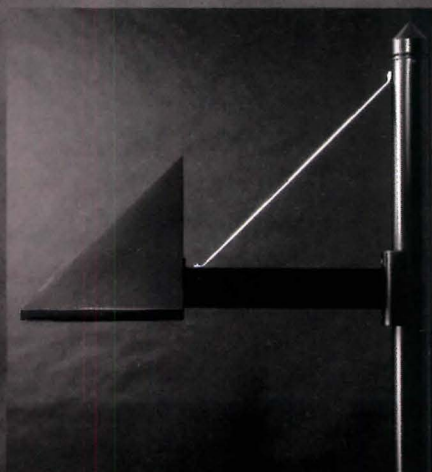
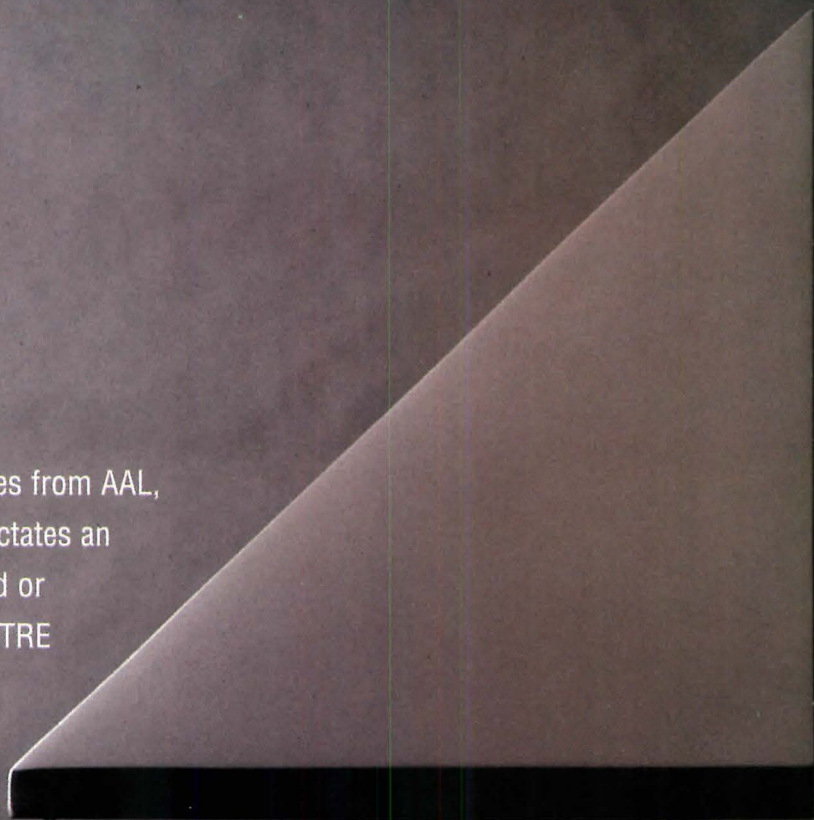
Stiltville Still Standing

Last month, *Architecture* reported the imminent demolition of Stiltville, a colorful cluster of wooden bungalows perched on pilings in the middle of Biscayne Bay, 10 miles south of Miami (July 1999, pages 108-113). The National Park Service, which annexed the surrounding bay bottom under its 1980 expansion, ordered the owners to dismantle their aquatic homes by July 1, saying the park could not sanction private structures on public land.

Residents of the 60-year-old community's seven surviving homes fought the eviction with 35,000 petition signatures and the endorsement of Florida Governor Jeb Bush, who called the refuge "a state treasure." The last-ditch effort paid off: Two weeks before the demolition date, the Park Service announced a five-month reprieve. Representative Ileana Ros-Lehtinen (R-Florida), who brokered the extension, hopes to introduce legislation that will preserve Stiltville before the new December 1 deadline. "We need to draft a bill that will save these unique homes without setting a precedent for private property on all public lands," she says. *M.C.*

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ON THE MALL



Gehry to Expand Classical Corcoran

The shortlist for the commission to add on to and renovate Washington, D.C.'s Corcoran Gallery of Art (one of the city's few private arts institutions) perplexed those in the know of the capital's stringent design approvals process. The three finalists—Frank Gehry, Santiago Calatrava, and Daniel Libeskind—aren't exactly known for subdued form-making. While their sophisticated unconventionality has brought them status in the world of progressive design, in regimented Washington, D.C., any of the three finalists seemed to be a marriage made in hell.

Enter Frank Gehry. Museum President and Director David C. Levy reports he won over the jury by precisely addressing the programmatic complexity of the project. It is important to note that Gehry is adding on to a complex of stately Beaux-Arts buildings designed by Ernest Flagg in 1897 and Charles Platt in 1928. Adding to the difficulty of the commission is its site: a triangular parcel at the corner of 17th Street and New York Avenue, N.W. (and across the street from AIA national headquarters, incidentally). The existing building sits within spitting (and

shooting, one staffer morbidly observed) distance of the National Mall and the White House.

The museum has charged Gehry with expanding and renovating the museum's gallery and administrative spaces, while incorporating the Corcoran School of Art into a new wing along New York Avenue, where a parking lot presently sits. In presentations, Gehry has emphasized the conceptual nature of his schemes. While his numerous models—the Corcoran has received 30 thus far—show similar ideas, they are, perhaps more so than usual, subject to change. What we have seen consolidates all gallery space in the existing structures. The new wing, an explosion of slithery serpentine panels squirming up the side of the north facade, houses the gallery's administrative and educational functions.

The Commission on Fine Arts, which approves all new construction on and near the National Mall, will of course have the final say. Is Washington ready for Gehry? Stay tuned. A preliminary timetable places completion of the \$40 million, 140,000-square-foot project in 2003. *Michael J. O'Connor*

Scuttlebutt about cost overruns in Scotland's Parliament may jeopardize the construction of the **Enric Miralles** design. Some members of Scottish Parliament want the whole thing scrapped. The inevitable value engineering should follow.

Following on the heels of his under-construction design for the Milwaukee Art Museum, Spanish architect **Santiago Calatrava** will design a \$50 million expansion to the Milwaukee School of Engineering.

Montreal-based **Saucier + Perrotte Architects** bested fellow Canadians **Patkau Architects**, **Peter Cardew Architects**, and **Daniel Hanganu** to design a new Institute of Modern and Contemporary Art for Calgary.

Ehrenkrantz Eckstut & Kuhn Architects of New York City will design a \$1 million master plan for Houston's Main Street corridor.

Architects **Elizabeth Diller** and **Ricardo Scofidio** received a \$375,000 "genius" grant from the MacArthur Foundation.

Architectural critic **Carter Wiseman** has been elected president of the board of directors of the Peterborough, New Hampshire-based Macdowell Colony, which funds residencies for artists, writers, composers, filmmakers, and architects.

Hanley-Wood, publisher of *Builder* and *Residential Architect*, has announced a campaign to raise \$25 million for renovations at Frank Lloyd Wright's Taliesin compound in Spring Green, Wisconsin.

The University of Oregon School of Architecture and Allied Arts recently honored filmmaker **James Ivory** (of English corset dramas like *A Room With a View* and *Howard's End*) with their Ellis F. Lawrence Medal, which the school gives annually to a distinguished alumnus.

CLUB KID

P.J., D.J. at P.S. 1



At P.S.1's summer inaugural event, organizers unveiled an outdoor D.J. booth and dance pavilion designed by nonagenarian Philip Johnson. With square towers made of off-the-shelf scaffolding sheathed in cheap window screening, it looks like it took less than the 20 minutes Johnson boasted spending on the design. At P.S.1's request, Johnson broke in his creation, spinning personal faves that began with Sinatra's "My Way" and ended, appropriately, with Gloria Gaynor's disco hit, "I Will Survive." *Cathy Lang Ho*

EXHIBITION

Zen and the Art of Carpet Maintenance

San Francisco-based rugmaker Elson & Company will sponsor a unique exhibition this fall to benefit New York City's Tibet House. Called *Tibetan Modern: The Architects Collection*, the exhibit will include Tibetan carpets designed by 17 modernist architects, including: (from left to right) Trent Tesch; David Yama and Henrike Aengenendt; Steven Holl; Paulett Taggart; Michael McInturf; and Malin Strähle. For more information, call Tibet House at (212) 807-0563. The exhibit runs October 7-30; after that, the carpets will fly to San Francisco for an exhibit at the LIMN Gallery in November. *M.J.O.*

EDUCATION

Philadelphia Finds First Charter School of Architecture and Design

Come September, the city of Philadelphia will be the nation's first to have a public charter high school dedicated to the study of architecture and design. Approved by the Philadelphia School Board in February as part of the city's preparation to host the American Institute of Architects' 2000 convention, the school is presently accepting applications for 400 openings in grades 9 through 11 (12th

grade will be added the following year). A 26,000-square-foot building downtown has been earmarked for the school, which will teach, among other things, community planning, sustainable design, and development. An appointed board of directors is finalizing staff hiring, fundraising, and a curriculum. Interested applicants should call (215) 248-3680. *M.J.O.*

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FARM REPORT

Roadside Attractions

Call him Michelangelo of the cornfields. For the past year, aspiring billboard artist Scott Hagan, 22, has traversed Ohio painting the state's red, white, and blue bicentennial logo across weathered roadside barns. His assignment: to paint at least one barn in each of Ohio's 88 counties by the state's 200th birthday in 2003. "It's become an event unto itself," says Stephen George, executive director of the bicentennial commission. "People literally turn out to watch the paint dry." Hagan's murals are so popular that 600 farmers have volunteered their barns.

The draw is Hagan's uncanny knack for painting eye-catching, 40-foot-tall logos freehand, without the benefit of stencils or outlines. He tested his talent by splashing insignias for the Cleveland Indians and Ohio State University Buckeyes across the family hay barn. "I wanted to see how big I could draw something," he says. "I chose our barn as my canvas." His debut landed on the front page of—what else?—the *Barnesville Enterprise*. The photograph convinced the commission to dispatch Hagan across the state. At his current pace, he should finish a total of 35 logos by this fall (a tornado destroyed one barn minutes after he departed).


And to whom does the barnstorming painter turn for guidance? His neighbor, 74-year-old Harley Warrick, who painted Mail Pouch tobacco ads on some 20,000 barns from 1950 to 1995. *M.C.*



The Smith Group (née **Smith Hinchman & Grylls [SHG]**) will oversee a \$1 billion renovation of the **Eero Saarinen**-designed General Motors Warren Technical Center in Warren, Michigan. SHG served as local architect on the original project in the 1950s.

Idyllic hamlet Celebration, Florida, had a not-so-idyllic moment at the end of June when a truck containing the bodies of three missing Massachusetts men was pulled from one of its man-made ponds. Authorities have retrieved several other vehicles from the pond, which has become a sort of East River-style dumping ground for the planned community.

Hartford, Connecticut-based **Tai Soo Kim Partners** will design an 80,000-square-foot U.S. Embassy on a 22-acre site in Tunis, Tunisia.



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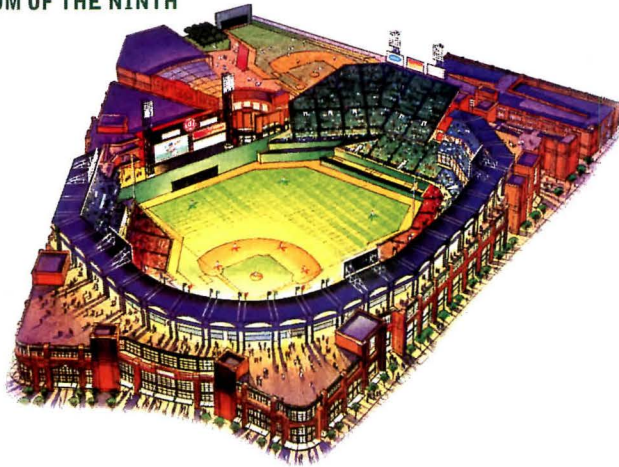
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BOTTOM OF THE NINTH



Sox to Replace Fenway

Two things we know: The Boston Red Sox are going to knock down Fenway Park and it's been 81 years since they won a World Series. But between that last pennant in 1918 and 1912, when Fenway debuted, the Sox took five series championships. The superstitious connection between new construction, team performance, and—most importantly—the bottom line has led every team with a stick, bat, ball, or puck to


want a new stadium (*Architecture*, November 1998, pages 115-135). Most have leveled their old parks without a peep from preservationists.

But Boston is different. Not only is Fenway the oldest park of Major League Baseball, but Bostonians don't much care for change. The Boston Preservation Alliance, for example, has formed a group called Save Fenway Park (SFP), whose efforts have fans teary-eyed about laying waste to Fenway. But is nostalgia a good reason to preserve it?

The Sox claim the current Fenway is unsafe, cramped, and financially inefficient. They propose to replace it with a park by Kansas City, Missouri-based HOK Sport that looks strikingly similar to, uh, Fenway. It preserves the "Green Monster" wall and boasts three seating decks, wider seats, and, of course, more revenue-generating luxury boxes.

Don't count SFP out yet though. Since the team formally rejected a preservation proposal by SFP last month, claiming that preserving the old park would cost \$100 million more than starting from scratch, SFP has contracted a cost consultant that says otherwise. The Sox still need to obtain governmental and fiscal approval, not to mention purchase untold acreage presently occupied by a residential neighborhood to make the new scheme a reality. As such, there is no firm timetable for the project. But you can expect a crowd-pleaser: Both *The Globe* and *The Herald*—who previously supported a new park—are suddenly publishing weepy op-ed pieces favoring preservation. As former Yankee great Yogi Berra, famous for his malapropisms, once said: "It ain't over 'til it's over." *M.J.O.*

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Downsview Park
Canada

Downsview Park International Design Competition REQUEST FOR EXPRESSIONS OF INTEREST

Architects, landscape architects, other design professionals and artists are invited to submit expressions of interest to participate in a limited competition for the design of a large national urban park on the site of a former military airbase in the City of Toronto, Canada. Downsview Park is to be at the forefront of park design in Canada and the world.

Expressions of interest and qualification documents are to be received no later than October 6, 1999. Selected entrants will be invited to compete in a juried design phase that will run from November 1999 to March 2000.

The 320-acre park is being developed by CLC Downsview Inc., a Crown Corporation of the Government of Canada. The Professional Advisor for the competition is Detlef Mertins. The Jury consists of Kurt W. Forster, Ydessa Hendeles, Cornelia Hahn Oberlander, Terence Riley and Gerald Sheff.

For more information visit the Downsview Park Competition website at www.clcdownsview.ca/competition, call (416) 973-6000 or write to Professional Advisor, CLC Downsview Inc., 35 Carl Hall Road, Toronto, Ontario, M3K 2B6, Canada. Information is available in both English and French.

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RHETORIC

NYU Study Critiques HUD's HOPE VI

A new study by **Jerry J. Salama**, published recently in the journal *Housing Policy Debate*, provides a compelling critique of the federal government's latest campaign to resolve the public housing crisis: the HOPE VI program, begun in 1992. HOPE VI ambitiously rewires the federal housing apparatus by drastically scaling back the volume of government-managed housing units in favor of passing out rent vouchers. Salama finds the entire process needs considerable refinement.

Salama, an adjunct law professor and research fellow at New York University, studied three HOPE VI developments in Atlanta, Chicago, and San Antonio, Texas. Taking into account organic differences, he compared their performance vis-à-vis the HOPE VI program goals and found that the program currently inheres "many tradeoffs."

As housing officials decolonize the poverty of public housing to "mixed income" neighborhoods, Salama suggests, they need to determine how to deal with the displacement of poor people who fear losing their homes altogether, and learn how to exploit local real-estate market strengths to help solidify community economies. Many new initiatives focus on building the education and skills of public-housing residents, but no in-depth analysis has yet shown who benefits most from which kind of help.

As for making public housing look like it fits in with the rest of an economically functional city—HOPE VI's most obvious goal—"this pronouncement is simply too broad," Salama argues. And, yes, the more that residents take part in the planning process for new housing, the better, but both residents and housing authorities need clearer mandates about their roles. Otherwise, distrust develops between the two sides, because, as the record shows, the meek have good reason to think they will inherit the earth much sooner than they'd like. *Bradford McKee*

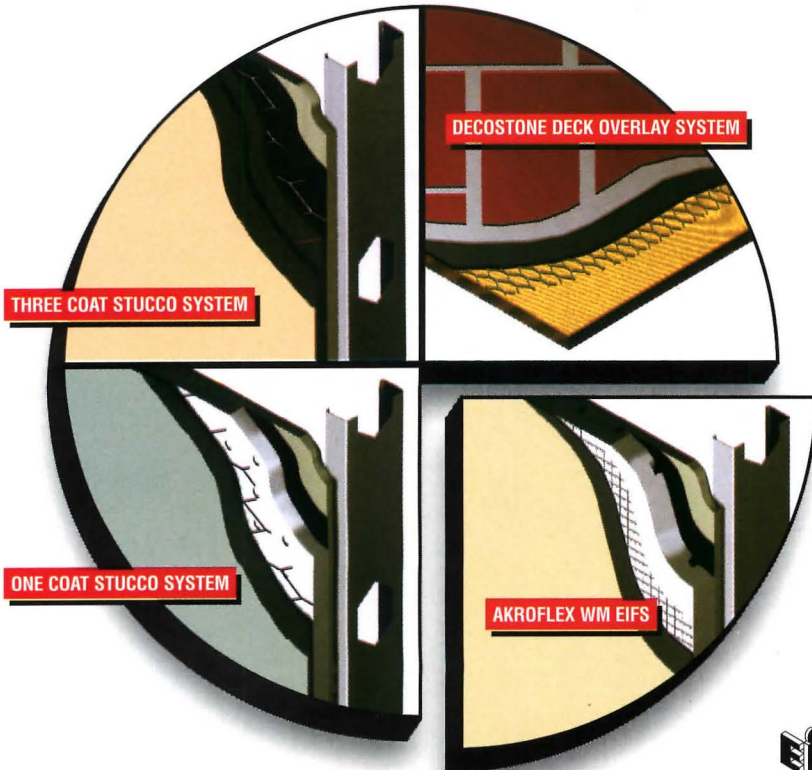
James Freed, founding principal of **Pei Cobb Freed & Partners**, has designed a 130,000-square-foot, \$50 million entrance pavilion and visitors center for the Israel Museum in Jerusalem.

Architect and author **Arthur Dyson** has been named the dean of the **Frank Lloyd Wright School of Architecture**.

Toronto-based architect **Jack Diamond** received the commission to design a \$130 million, 2,000-seat opera house for his hometown.

Columbia University's Avery Library has received a \$200,000 grant from the **National Endowment for the Humanities** to add 150,000 written records to their online database, which is available through Research Libraries Information Network: (www.rlg.org/cit-ave.html).

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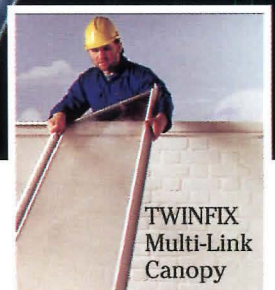
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LET THE SUN SHINE IN

Study Shows Grades Improve in Daylit Spaces

One of the largest studies of its kind, released this month by the Fair Oaks, California-based energy consultancy Heschong-Mahone Group, draws a possible connection between daylit spaces and academic performance. Although all the testing locations were in the West, the study's conclusions bear useful information for all architects who design schools.

Heschong-Mahone, led by architect Lisa Heschong and Seattle-based environmental psychologist Judith Heerwagen, analyzed data collected in a survey of more than 21,000 elementary-school students. Their findings include a 2.3-point higher score in reading and a 2.5-point higher score in math by students who attended school in daylit

classrooms as compared with their counterparts in classrooms without extensive daylighting. In Seattle, for example, the scores of students in daylit classrooms represented a 13 percent differential in reading and 9 percent in math.

Heschong acknowledges the road from skylight to dean's list is not straight, but pointed to anecdotal evidence from teachers and students who used words like "better" and "more alert" to describe the way a daylit space changed their outlooks. The U.S. Department of Energy has expressed interest and energy think tank The Lawrence Berkeley Laboratory has published the results in their latest review. There's a new day dawning. *M.J.O.*

Steven Holl bested Tadao Ando, Gigon + Guyer, Carlos Jimenez, Machado and Silvetti, and Christian de Portzamparc for the \$80 million commission to design an expansion of the Nelson-Atkins Museum of Art in Kansas City, Missouri.

Businessman and philanthropist A. Alfred Taubman donated a whopping \$30 million to the University of Michigan College of Architecture + Urban Planning (now known as the A. Alfred Taubman School of Architecture + Urban Planning). Taubman's gift is the country's largest private donation to a school of architecture.

OBITUARY: Architect Crombie Taylor, who tirelessly researched and restored the work of Louis Sullivan and taught the principles of the Bauhaus at Chicago's Institute of Design and the University of Southern California, 85



Photograph by Timothy White

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WHAT IF?

A Museum With Heart



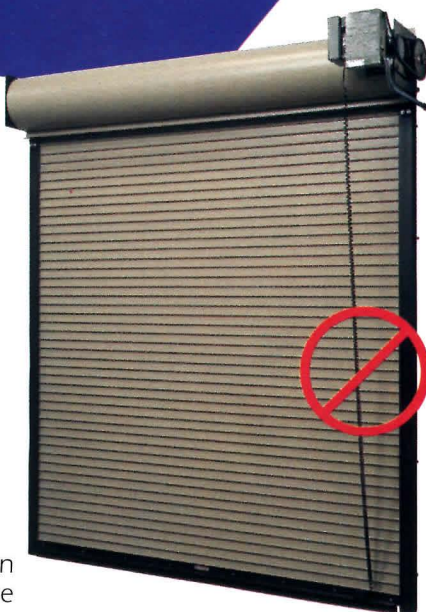
On Bob Hope Drive in Rancho Mirage, California, the Heart Hospital and the Heart Institute of the Desert have gained a reputation as one of the country's leading cardiac-care facilities. Furthering their mission is the Heartland Museum, a one-room educational venue that instructs children about heart health with such innovative exhibits as a walk-in artery and a two-story atrioventricular valve.

The hospital's board now proposes to take this hyperrealism to the extreme, creating a new home for their museum in the shape of a giant,

vividly anatomical human heart. Local architect Narendra "Nick" Patel tapped film animators at Pixar (the company that created *Toy Story* and *A Bug's Life* for Disney) to digitally map a heart. Patel then converted this three-dimensional model into architecture, inserting a glass elevator that will take visitors through the building's "aorta."

Many older residents of Rancho Mirage expressed opposition at the prospect of a scary blood-pressure-medicine-reminder looming over their every move. Amid the hew and cry, however, the hospital is raising the \$3 million needed to build the concrete addition with hopes of opening the museum—when else?—Valentine's Day 2001. *M.J.O.*

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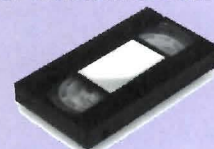


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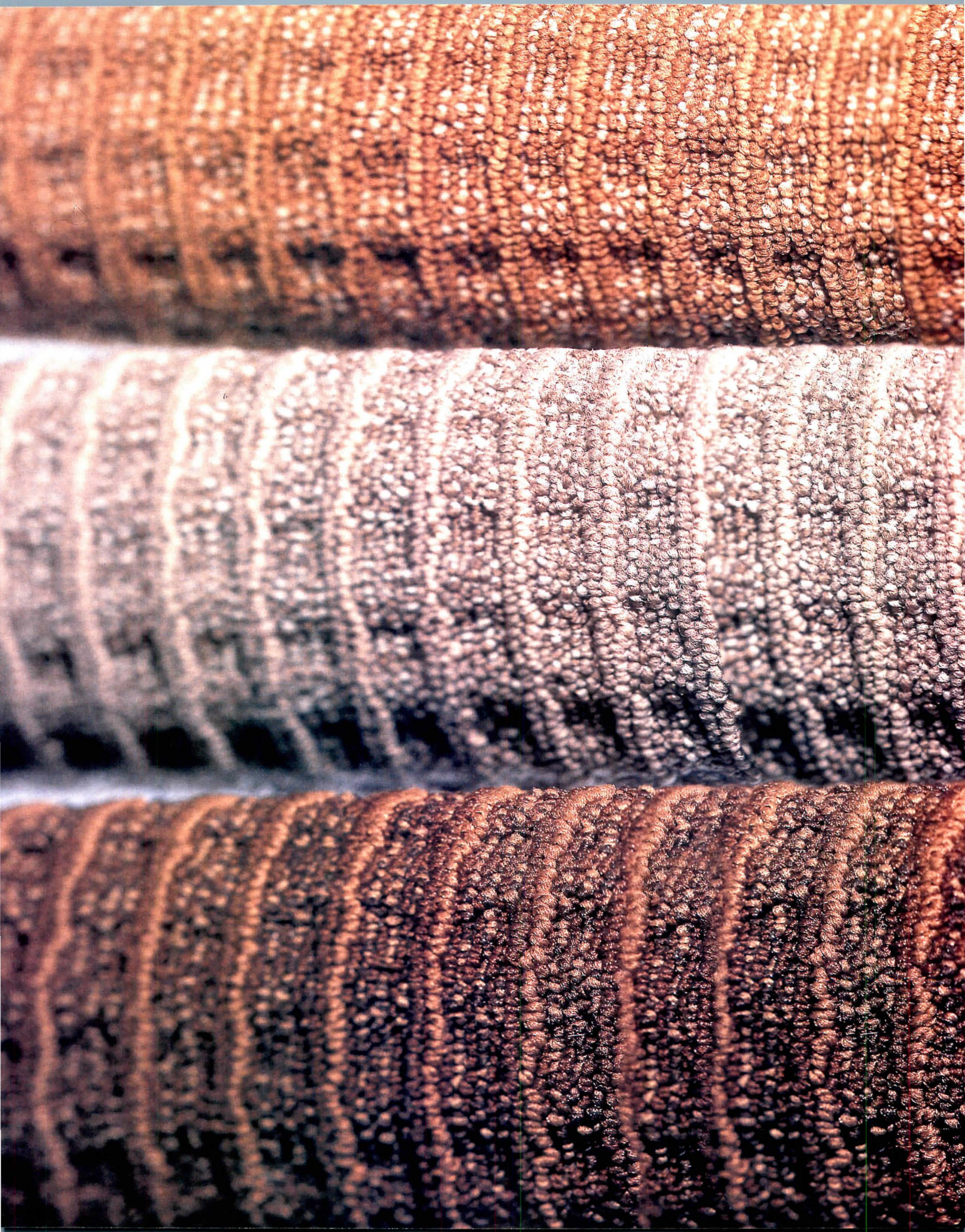
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THE LIST

Population Growth Signals Developing Economies

RANK	STATE	POPULATION	PERCENT CHANGE 1990-1998*
1	CALIFORNIA	2,880,693	45.4%
2	TEXAS	2,773,279	27.4%
3	FLORIDA	1,977,909	22.0%
4	GEORGIA	1,164,058	21.9%
5	ARIZONA	1,003,292	20.5%
6	NORTH CAROLINA	914,045	18.0%
7	WASHINGTON	822,594	16.9%
8	COLORADO	676,498	16.3%
9	ILLINOIS	614,724	15.5%
10	VIRGINIA	602,148	15.3%

NUMERICAL CHANGE 1990-1998*
PERCENT CHANGE 1990-1998* *1998 estimated





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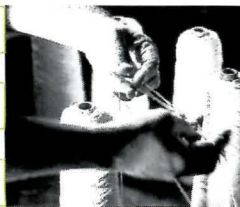
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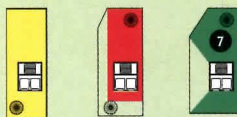
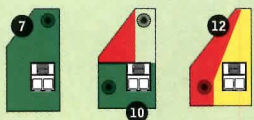
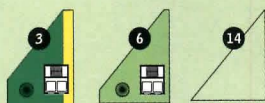
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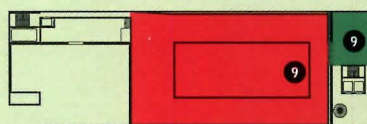
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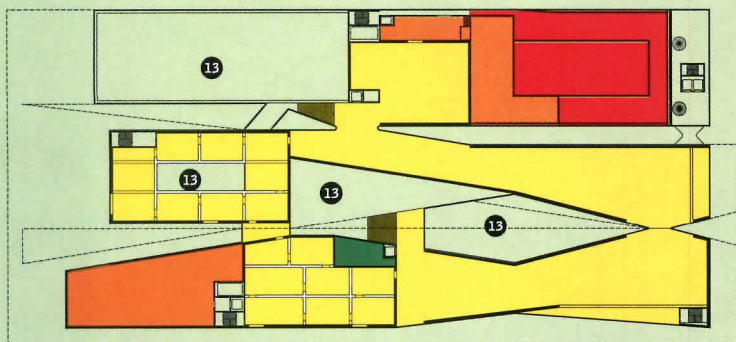
- 1 entrance
- 2 lobby
- 3 café
- 4 shop
- 5 auditorium
- 6 courtyard
- 7 office
- 8 rest rooms
- 9 library
- 10 storage
- 11 mechanical
- 12 loading dock
- 13 open to below
- 14 roof



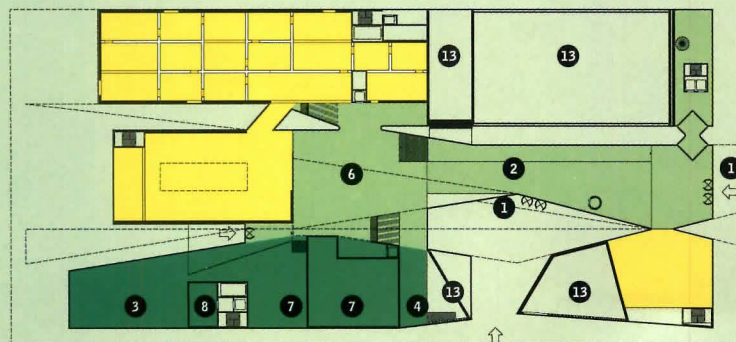
Third- through 10th-floor tower plans



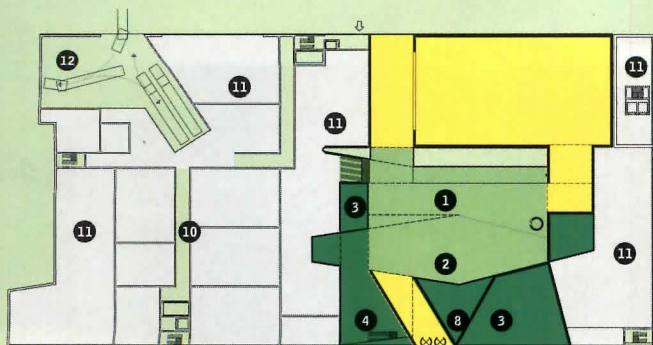
Mezzanine plan



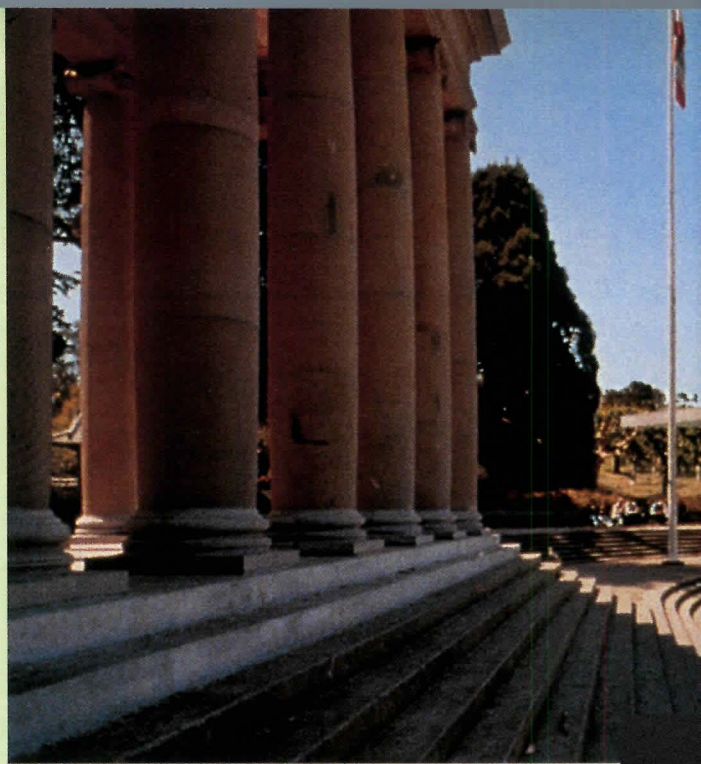
Second-floor plan



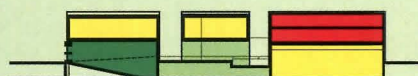
First-floor plan



Basement plan 1:75/23m

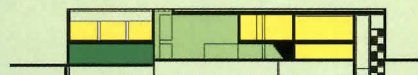


Art

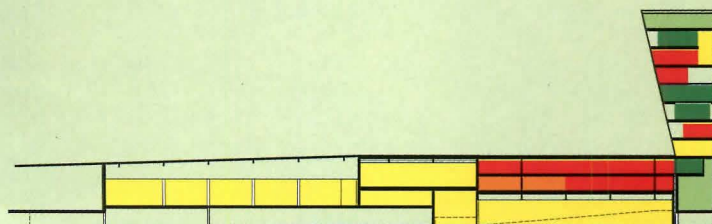


North-south section

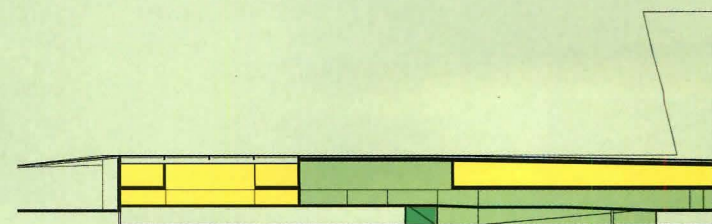
- support
- gallery
- public
- administrative
- conservation



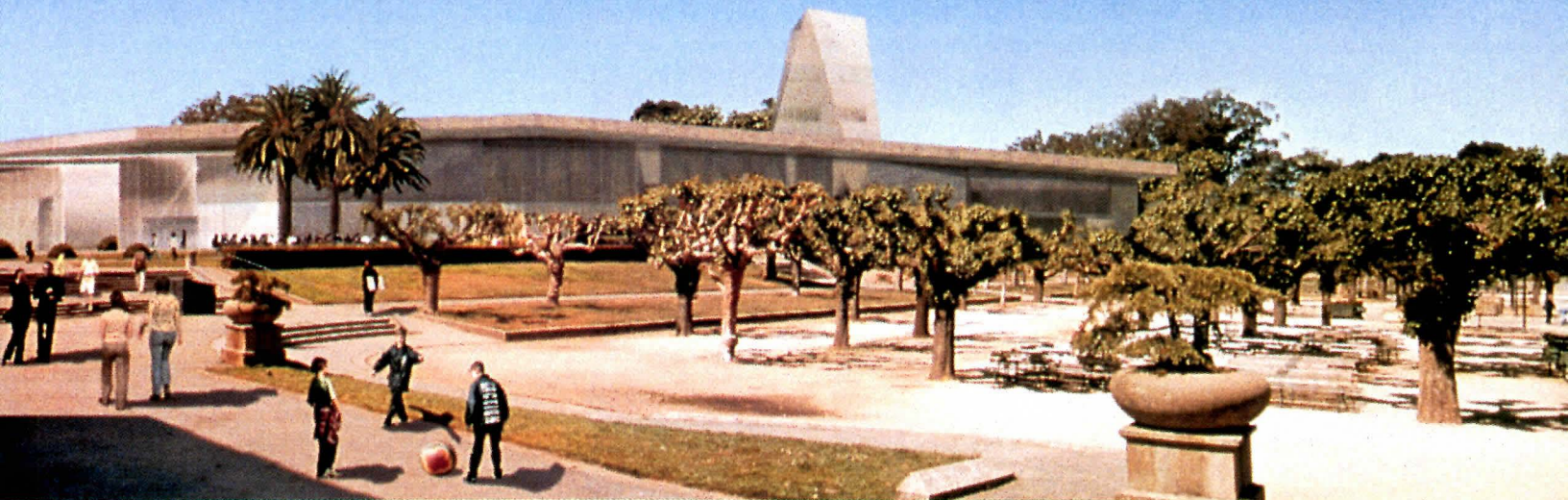
North-south section



East-west section



East-west section



Park

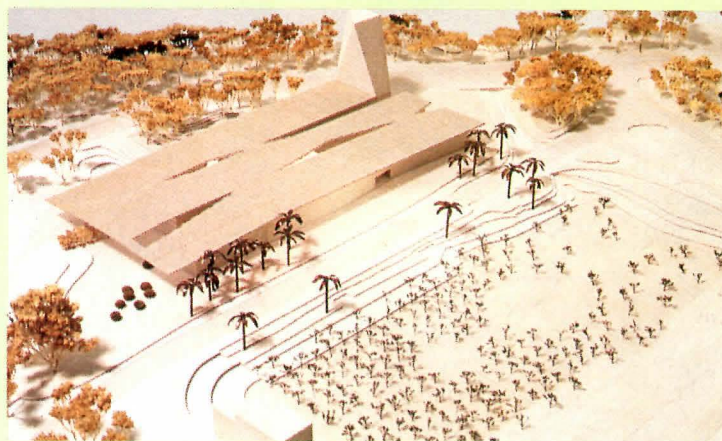
Herzog & de Meuron Architects, M.H. de Young Museum, San Francisco

How do you put a big new building in San Francisco's Golden Gate Park without upsetting the neighboring birds, bees, and park activists? Put the park inside the building. Basel, Switzerland-based firm Herzog & de Meuron Architects' proposal for the city's M.H. de Young Museum lets park visitors move through portions of the 280,000-square-foot building without leaving green space or paying admission. In this way, the museum hopes to put to rest a decade-long controversy.

After the 1989 Loma Prieta earthquake left the de Young's existing building structurally unsound, the museum's board of directors twice attempted to float bond issues to rebuild the 1916 Louis Mullgardt-designed, vaguely Spanish Colonial structure. Both proposals failed. The exasperated board tried to find another site, but San Francisco is a city suspicious of any new development, even if it is cultural. Finally, the board dug in its heels and decided to raise the \$135 million necessary to build a new structure in the park with private funds.

Herzog & de Meuron—whose first American building, the Dominus Winery, was completed in nearby Napa Valley last summer (*Architecture*, June 1998, pages 122-127)—was selected in April and unveiled its design on June 10. They propose a tripartite structure of overlapping bars with a central public courtyard. The new building is almost 30 percent larger than its predecessor, but its multilevel design occupies an 8 percent smaller footprint. The park slides between the three parallel, slightly undulated bars, connecting with the central court. Park visitors can thus gain access to this courtyard without ever entering the museum.

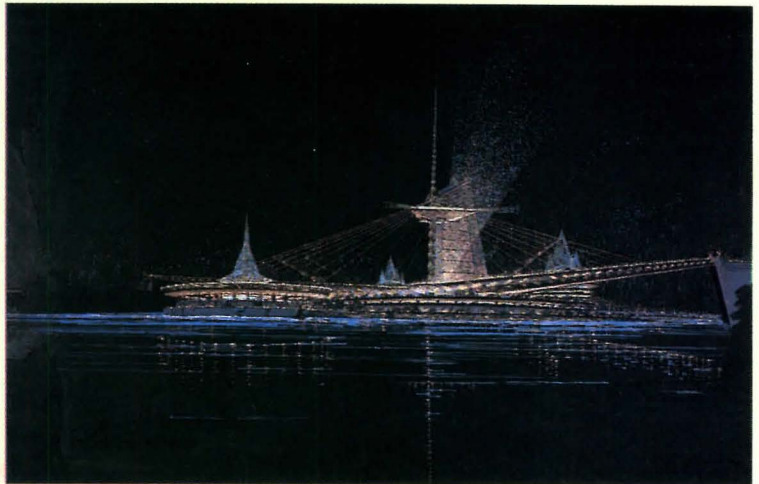
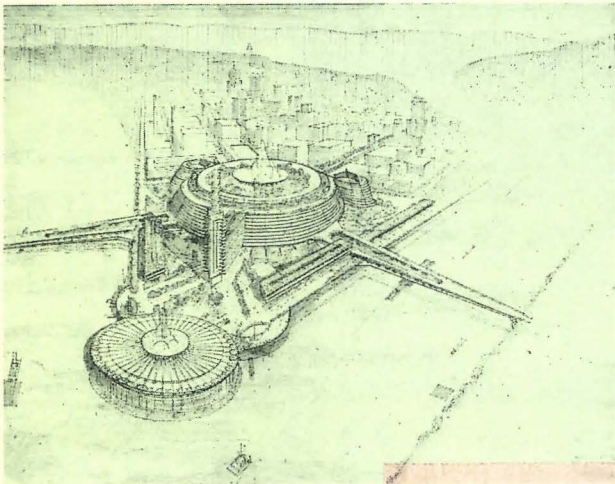
Functional shading (facing page, plans and sections) shows how administrative and mechanical spaces sit above and below central gallery zone. While Herzog & de Meuron relegates one level of galleries below grade and maintains a low, horizontal profile for the de Young Museum (top), **multilevel tower** soars above park, twisting to conform with city grid beyond. **Overlapping bars** (above) create wedges where park meets museum's interior courtyards.



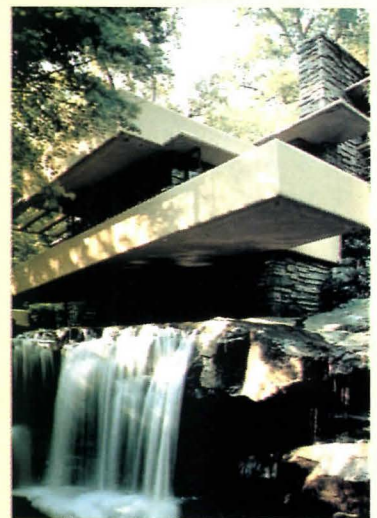
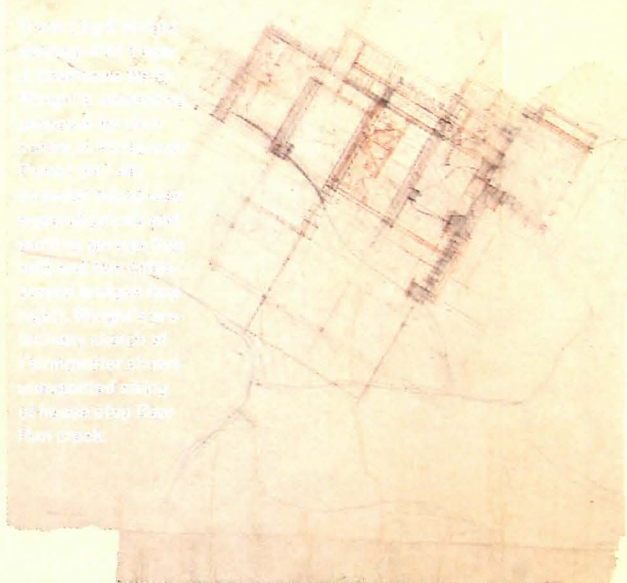
Museum patrons enter the complex at the center of the southernmost bar, passing by a restaurant and museum store, through the central courtyard, and into a lobby. Visitors can enter the galleries through the two bars to the north of the entrance area, ascend to the second-floor galleries, or descend to a basement-level special exhibition space. The fee-free section of the museum continues toward the northeastern corner of the courtyard into a tower that rises 160 feet above the park. As it rises, this signature element twists to conform to the city grid beyond the park boundaries. The complex's gently arced roof—probably to be clad in a mixture of glass and stone—shelters the building. As at the Dominus Winery, interior spaces will be white boxes nestled within the overall structure.

Though the board has already raised \$80 million of the projected costs, construction will not begin until 2001, when the neighboring Asian Art Museum moves to new Gae Aulenti-designed quarters in the city's civic center, allowing the de Young to take its vacated space. Barring any public objections, Herzog & de Meuron's building will open in 2006. *Aaron Betsky*





Frank Lloyd Wright
 designed the
 Kaufmann Bridge
 for Edgar J. Kaufmann
 and his wife
 Lavinia. The bridge
 is a masterpiece of
 Wright's organic
 architecture, blending
 with the natural
 surroundings of
 the Kaufmanns' home
 in Pittsburgh.



Two Tough Customers

An exhibition at the Heinz Architectural Center examines Frank Lloyd Wright's relationship with his most famous patron, Edgar J. Kaufman, Jr. By D. S. Friedman

"Merchant Prince and Master Builder: Edgar J. Kaufmann and Frank Lloyd Wright," on view at the Heinz Architectural Center, Carnegie Museum of Art, Pittsburgh, through October 3, 1999.

The first thing one sees when entering the exhibition "Merchant Prince and Master Builder: Edgar J. Kaufmann and Frank Lloyd Wright," at the Heinz Architectural Center, is a chair by Charles and Ray Eames. Its molded plywood petals float in front of a small collection of objects intended to document the Kaufmann family's patronage of good design. "Good" hardly seems a sufficient adjective to describe the work of Wright, who produced his best-known project, Fallingwater in Mill Run, Pennsylvania, for the Kaufmanns. "Not only do I intend to be the greatest architect who has yet lived," Wright once bellowed to critic Henry-Russell Hitchcock, "but the greatest who will ever live. I intend to be the greatest architect of all time."

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The greatest architect of all time designed quite a few chairs, including one for Pittsburgh department store magnate Edgar J. Kaufmann's office, a drawing of which appears in this exhibition. Yet in choosing to open the exhibition with a chair by Eames and not by Wright, the curators wisely underscore the primary theme of their exhibition: For E.J. (as the senior Kaufmann was known), good design meant good business. E.J.'s principal cause was neither architecture nor Wright, but retail marketing: He saw design in the service of sales. Curators Dennis McFadden and Richard L. Cleary document E.J.'s mercantile esthetic, which his son Edgar jr. (who preferred the lowercase) labored to elevate through his

For department store magnate and Wright's steadiest client, Edgar J. Kaufmann, good design meant good business.

association with the Museum of Modern Art. Even the Eames chair, it turns out, can be indirectly linked to Edgar jr.'s entrepreneurship: He was the one who pitched the idea for a furniture program to MoMA director Alfred Barr in 1940. Barr passed it on to Elliot Noyes, who ran the museum's architecture and design department (Edgar jr. would succeed him after World War II). Noyes enlisted Edgar jr.'s help in organizing the famous 1941 competition and exhibition, "Organic Design in Home Furnishings," which helped launch Eames's career with his winning entry, an early version of the molded-plywood chair designed in collaboration with Eero Saarinen. On the same day that "Organic Design" opened at MoMA, a satellite version of the exhibition opened at Kaufmann's department store, which Edgar jr. fancied to be the museum's unofficial Pittsburgh branch.

Fallingwater, an icon of American modernism, is the most enduring evidence of the Kaufmanns' affair with modern design. The cataract of publicity that followed its completion in 1937 helped rejuvenate Wright's career, which had been overshadowed by the rising popularity of International Style modernism. He landed on the January 1938 cover of *Time*, which praised Wright as the country's "greatest living architect." Other publications, including *Life* and *Architectural Forum*, soon followed suit. And MoMA made Fallingwater the subject of its first single-building exhibition (1938), restoring Wright to equal rank with the International Style modernists. After the success of Fallingwater, Kaufmann and his family assigned 11 more projects to Wright over a span of 25 years. Of these, only two were built: the guest house and servant's quarters at Fallingwater, which the Kaufmanns added in 1939; and an office for E.J. on the 10th floor of his downtown Pittsburgh department store (1938), for which Wright designed custom furniture using fabric designed and woven by Loja Saarinen (Eero's mother) at Cranbrook. (The office has since been reconstructed in the Victoria & Albert Museum in London.)

In preparation for this exhibit, McFadden, curator of the Heinz Architectural Center, and Cleary, associate professor of architecture at the University of Texas at Austin, examined 690 drawings at the Frank Lloyd Wright Archives at Taliesin West in Scottsdale,

Arizona. Their selection, which includes many images never before shown, deftly balances the depth of Wright's artistic genius with the breadth of Kaufmann's commercial ambition. The exhibition features 23 rare sketches and construction drawings from the three completed projects, along with another 26 drawings selected to represent the rest of the outbuildings for the property in Mill Run, including a gatehouse and farm cottage; the Rhododendron Chapel, also planned for a site in Mill Run and poignantly championed by Edgar jr.; the Boulder House in Palm Springs, California, which Wright designed expressly for Edgar's wife Liliame; two visionary civic center proposals for Pittsburgh's Point Park; a circular parking garage for Kaufmann's department store; and a luxury apartment building overlooking downtown Pittsburgh.

In the presentation of Fallingwater, the curators mix Wright's graphic romance with his workaday problem-solving. McFadden and Cleary took care to select drawings that did not try to duplicate the experience of the building itself. Rather, they open to inspection the constructive processes and logic that led Wright and his collaborators to its final form. Included in this section is the astonishing preliminary sketch that established the compositional strategies and structure of the house. Clearly visible in Wright's initial layout are the boulder-embedded fireplace and the stairs he used to connect the living room directly to the mountain stream, called Bear Run. When Wright first showed Kaufmann the scheme, E.J. registered surprise that Wright positioned the house directly on top of the site's most attractive feature. "I want you to live with the waterfall," he said to his client, "not just look at it."

McFadden and Cleary devote an entire section of the show to Wright's large-scale urban projects, including his audacious proposals for the civic center superstructure on Pittsburgh's Point, the city's easternmost tip that overlooks the confluence of the Monongahela and Allegheny Rivers. Kaufmann's status as a leading local businessman, not to mention his zeal for urban design and planning, accrued considerable political influence. In 1946, he became chair of the 28-member Point Park Committee, organized to implement redevelopment schemes for the blighted, 60-acre Point Park site. The restoration and improvement of the Point had emerged as one of the highest planning priorities of the region. Kaufmann used his position as chairman of the committee to funnel a new opportunity to the 80-year-old Wright. Through Wright, he hoped to propagandize his own ambitions for downtown Pittsburgh, which he believed needed aggressive mixed-use developmental amenities. Wright translated Kaufmann's program into a civic center big enough to hold one-third of the city's population. In his second scheme, Wright scaled back the megastructure, but redesigned the two bridges, proposing cable-stayed spans held up by a single, 1,000-foot-high tower-topped pier—more dazzling than his first scheme, perhaps, but no less monumental. Undermined by its own structural *braggadocio*, Wright's commission evaporated.

To augment the superb graphic specimens from Wright's studio, "Merchant Prince and Master Builder" features three models commissioned especially for the exhibition. The first, designed and built by Cleary's students, offers a well-crafted three-dimen-

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sional representation of the structural system Wright employed at Fallingwater. The model helps explain the deflection of the cantilevered concrete trays, which the Western Pennsylvania Conservancy (caretaker of Fallingwater) is at pains to remedy. Philadelphia landscape architect Sean Garrigan designed and built the second model, which cleverly projects a transparent map of the roads and structures of Bear Run onto a painted plaster rendering of its dramatic topography. The third model, also built by Cleary's students, displays the second of Wright's two schemes for Point Park in all its heroic theatricality.

This exhibition memorializes a kind of failure, with its documentation of the numerous impasses that neither Wright nor E.J. nor Edgar jr. could surmount. Reasons why so many commissions remained unrealized range from economic downturns to changes of heart, code problems to family tragedy, infeasible budgets to artistic hubris. Still, Kaufmann's investment was not a waste: Drawings are cheaper than buildings, and this brilliant entrepreneur, with his tested intuitions about the promotional benefits of good design, surely recognized that image counts as much as substance, sometimes more. In the increasingly complex context of modern American consumer culture, however, Wright and Kaufmann seemed unable to move their association out of its strangely reflexive narcissism into the public imagination.

This provocative and compact exhibition—thoroughly researched by Cleary, who authored its handsome 200-page catalog—clearly aims at deepening the public's awareness of the complexities of marriages between architects of genius and clients of ambition. "Before 1910 it took intelligence to employ Wright," observes Neil Levine, author of *The Architecture of Frank Lloyd Wright*. "After 1935 it took only money." In the end, Kaufmann was Wright's toughest customer; Wright was Kaufmann's hardest sell. ■

Daniel S. Friedman is associate director of the School of Architecture and Interior Design at the University of Cincinnati.

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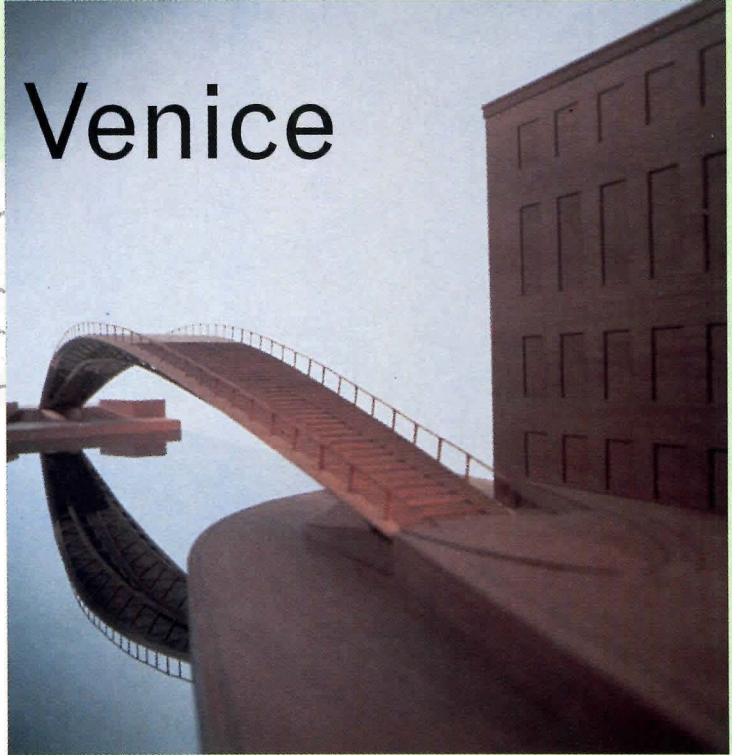
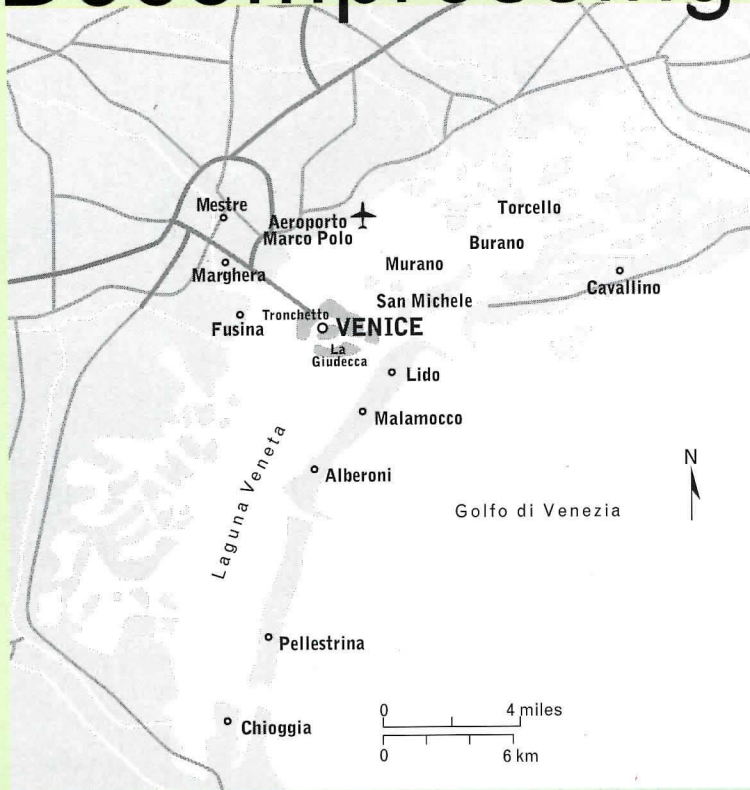
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Decompressing Venice



Venice: The New Architecture, on view at the Fondazione Giorgio Cini, Venice, March 26 to June 13, 1999.

Venice is developing its periphery to save its center: 20 projects for the formation of a metropolis. By Richard Ingersoll

Since the 15th century, hydrological engineers have documented that Venice, the preternatural amphibious city, is slowly sinking. Every year the buildings on the 60 islands in the Lagoon of Venice drop a few millimeters, adding up to 12.5 centimeters per century. Some parts of the city, including the Piazza San Marco, are regularly submerged in briny water, and during the increasingly frequent periods of *acqua alta*, wooden planks are improvised on scaffolds or even café tables to allow passage over the flooded areas. The general trend of unstable water levels in the city's canals has been accelerated by both local and global environmental problems. The unregulated post-war exploitation of 6,000 industrial wells around the lagoon's shores drained subsoil veins of fresh water, jeopardizing the intricate geological structure of the Venetian islands. At the same time, the sea level is rising due to the effects of global warming and the melting of the polar icecaps. The possibility remains that Venice may someday find itself completely underwater, like the mythical Atlantis, fulfilling a melancholy destiny as a victim of the planet's ecological tragedy.

Could it be that the extraordinary influx of tourists, this year an estimated 12 million, also contributes to the islands' sinking? Venice continues to survive as a real city, where people dwell, work, study, and live their daily lives. But the outrageous imbalance between tourists and

Spanish engineer and architect **Santiago Calatrava**-designed bridge (above right) will be fourth to cross Venice's Grand Canal.

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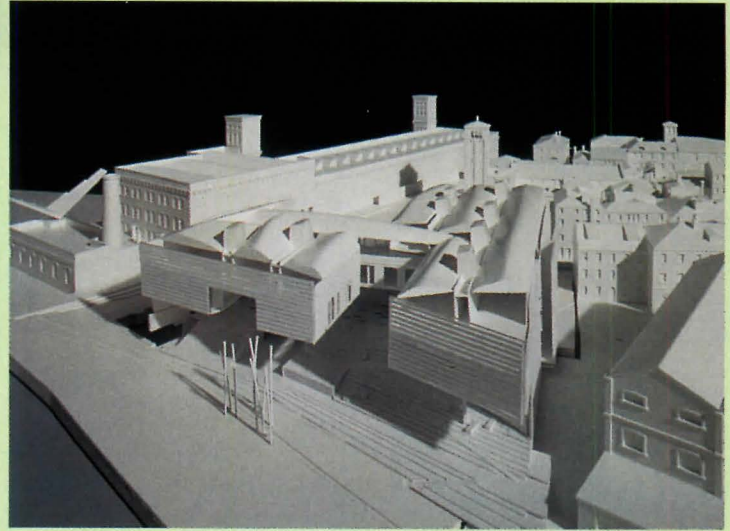
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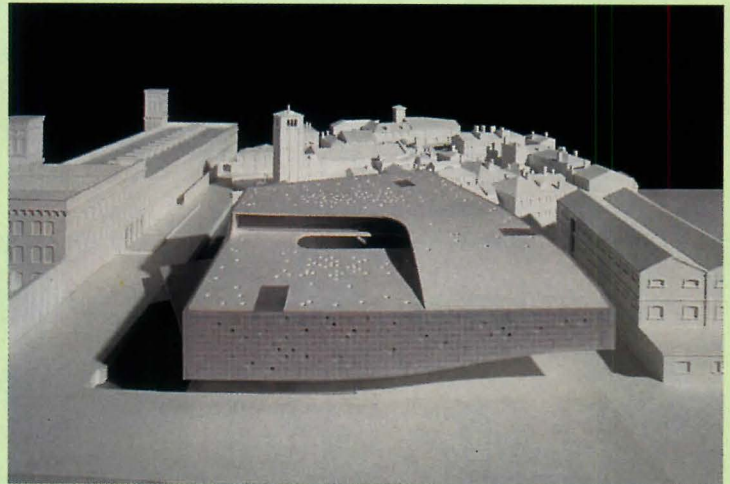
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Located in San Basilio district, **Enric Miralles'** new School of Architecture for IUAV (top) weaves together fragments that evoke Venice. It was winner in competition that drew over 400 entries, including **Ben van Berkel's** more monolithic proposal (bottom), which garnered second place.



citizens has transformed the city into a theme park of sorts, converting scenes of normal life into a quaint spectacle. During the past 20 years, the population of the historic center has diminished by half—to a mere 70,000—mostly due to locals fleeing to the tourist-free quarters of Mestre and Marghera (mainland towns that belong to Venice's municipality), where there is better access to jobs, rapid transportation, and housing. Most of the remaining island residents are over 60 years old, and a large portion of the transient population comprises as many as 30,000 students, predominantly architecture majors.

Rather than impose unproven technologies to stop the flooding or instigate repressive regulations to penalize tourists, current Venice Mayor Massimo Cacciari advocates a "politics of resources," aimed at creating awareness of the *inevitable forces* shaping the city, and developing strategies to diffuse them. His greatest challenge has been to introduce structural and architectural changes into an environment that no one wants to change. The prevailing attitude during the 20 years preceding Cacciari's administration was to conserve the city as an unalterable image corresponding to tourist expectations, leading to an urban stasis that has had dangerous consequences for the city's civic and economic future. But despite the fact that Venice, more than any other city, represents the desire for (and burden of) heritage, it has not managed to escape disturbing modernizations

during the 20th century. Unsightly interventions are visible from almost any entry point, such as the horrendous industrial complexes and refineries of Marghera, the brutal maritime port of Tronchetto, and the formidable parking garage at Piazzale Roma.

After a special historic preservation law was instituted in 1973, modernization virtually stopped and scant new buildings appeared in the city's historic center. Industrial and shipping functions have been gradually rerouted to Marghera and Mestre, while tracts of land in former industrial zones have opened up for development, on the islands as well as the mainland.

Well known before his political career as one of Europe's leading philosophers, Cacciari has inaugurated a change in attitude for the city, what he refers to as "orchestrated urbanism." Through a program of select commissions and competitions for public projects, Cacciari wants to create a "metropolitan city" that will relieve the historic center by redistributing the city's resources around its periphery.

Venice Mayor Cacciari wants a "metropolitan city" that will relieve the historic center by redistributing resources around its periphery.

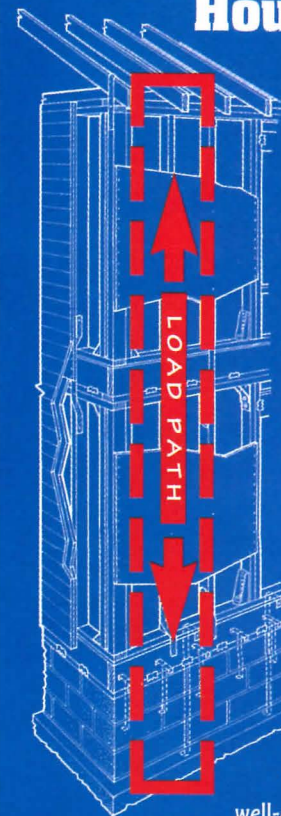
He wants to deconcentrate Venice's cultural and governmental functions, ultimately creating a more polycentric city.

A recent exhibition, "Venice: The New Architecture," curated by Marco De Michelis and Mario Spinelli and sponsored by the municipality of Venice, the Giorgio Cini Foundation, and the Istituto Universitario di Architettura a Venezia (IUAV), features 20 projects that are part of Cacciari's program of dispersal. This effort is comparable in scale to the urban transformations of Berlin and Barcelona during the 1980s. Most of the projects are already under construction, and all have received financing through a mix of private and public investment.

Architectural quality has been a parallel agenda of the new plan for Venice. As Cacciari explains, "The best urban plan will be destined to complete aphasia if it is realized with insipid architecture; the desire to pursue the most noble social and civil goals has often been compromised by an inappropriate architectural image." In most cases, the city's planning commission induced public institutions and private investors to hire prominent architects or sponsor competitions. The direct commissions include the Solomon Guggenheim Museum's choice of Vittorio Gregotti to renovate the historic Customs House for its new "colonial" outpost in Venice. Frank O. Gehry has been brought in to create a carnivalesque commercial and hotel complex adjacent to the Venice airport on the mainland. And the municipality hired Spanish architect and engineer Santiago Calatrava to design a fourth bridge across the Grand Canal, connecting the bus depot at Piazzale Roma to the train station.

The remaining projects are the result of competitions. The most widely followed was an invited competition for the addition to San Michele Island Cemetery, in which David Chipperfield's rationalist reinterpretation of Venice's labyrinthine order prevailed against Enric Miralles' proposal for a single building structured on triangular geometries set on a free-formed island. Miralles was vindicated, however, by obtaining the prize for the building for the IUAV School of Architecture. Sited on a former refrigeration plant in the San Basilio district, the commission represents the university's key role in main-

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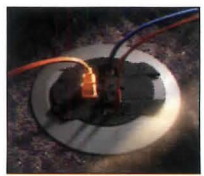
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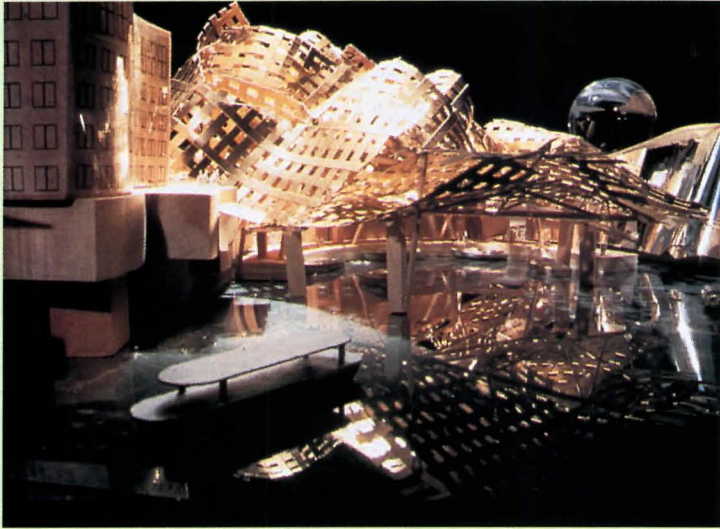
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Lively "Venice Gateway" by **Frank O. Gehry** (top) is hotel and commercial complex near Marco Polo Airport, and is intended to pull interest from islands to mainland. Already half completed, the Scientific and Technological Park by **Wilhelm Holzbauer** (bottom) occupies site of former pyrite warehouse.

taining the city's urban vitality. Miralles' project casually weaves together fragments that evoke Venice, such as transparent facades, hull-shaped roofs, irregularly shaped piazzas, and nonaxial stairs. The irregularity of the exterior forms and alignments belies a surprising internal clarity of repeated classrooms.

Two other competitions of major importance involve the private sector. The first transforms an industrial warehouse district in Mestre into a science and technology office park. The project, won by Austrian architect Wilhelm Holzbauer, incorporates an impressive existing cooling tower as a *monumental focus* for three long, low buildings clad in striated bands of masonry. Already half completed and partly occupied, Holzbauer's Scientific and Technological Park shifts an important emerging economic resource away from the city center while keeping it near the lines of communication to the islands. The second private sector competition is the recuperation of the ex-Junghans factory on Giudecca Island, won by Milanese architect Cino Zucchi. Some of the factory buildings will be conserved and restructured while several new buildings will be inserted to create a mixed residential district of half government-sponsored housing. Zucchi has designed three of the 11 anticipated structures; the rest were left to his co-competitors, Bernhard Huet, Boris Podrecca, and Luciano Parenti. The formal result is consistent



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with the vernacular architecture of Venice, heterogeneous in style but sympathetic in scale and density.

The most radical intervention to diffuse the center of Venice is a project to redirect automotive tourist traffic to a new terminal on the south shore of Marghera, where the Fusina canal enters the lagoon. The project, won in a limited competition by Venetian architect Alberto Cecchetto, provides parking for 3,000 automobiles and 200 buses and a grand maritime piazza. It serves as a sorting-out point and waiting zone for public boat transport from the mainland to the islands. The piazza is covered by an immense translucent, butterfly-shaped canopy engineered by Ove Arup. The Fusina terminal will provide a much easier entry point for visitors coming from the highway and will allow a more scenic approach to the historic city by boat.

Another important ingredient in Venice's decentralization will be a 1,400-acre urban park with 10 miles of new canals, which will reclaim the barren sand dunes of San Giuliano in Mestre, a site opposite the Scientific and Technological Park. While the design by Antonio Di Mambro unfortunately lacks formal ingenuity, it will nonetheless provide the type of recreational facilities and greenery that have never been available to Venetians, who will finally have a leisure-based reason to leave the islands for the mainland. Not far away, the IUAV has commissioned Francesco Venezia to design a three-story workshop devoted to building materials and technology. An austere, windowless cube, the laboratory will be illuminated by a modulated system of skylights and a single canted light scoop, and features an inventive material format, including zinc and quartz panels, as well as *opus signinum*, a mix of cement and ground ceramics.

The numerous other projects in "Venice: The New Architecture" all work within the new metropolitan strategy to improve the quality of the existing fabric, recuperate ex-industrial areas, and decentralize both tourists' and citizens' needs. And if the city sinks? At least its new civic and economic developments will add other imperatives—aside from tourism—to come to its rescue. ■

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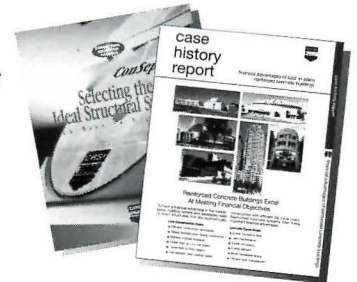
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Sense and Sensuality

Engineer and architect Eladio Dieste infuses the tradition of brick building with modernist logic. By Ramón Gutiérrez

Dieste's **Church of Atlántida** (1959; above left) is double-curved shell with self-supporting vaulted walls and reinforced brick roof. Structure's base is rectangle, but walls (above, center) break from orthogonal geometry to undulating gently. Colored-glass (above, right) windows are seamless part of wall.

The work of Uruguayan engineer and architect Eladio Dieste (born in 1917) is not widely known outside Latin America, but it rarely fails to astonish all who encounter it. Like much notable architecture in developing countries, Dieste's work converts the limits imposed by economic and material circumstance into a springboard for creativity. Though he never studied architecture, his structural and sculptural bravado earned this trained engineer honorary degrees from the architecture schools at the University of the Republic of Montevideo (Uruguay's capital) and the University of Buenos Aires.

With an engineer's rationalism and a humanist's sensitivity, Dieste has spent his career extracting the maximum potential from the material that was most accessible to him: brick. His work takes clear advantage of brick's inherent thermal insulating qualities, low heat radiation, good acoustical behavior, and ability to regulate humidity. But above all, his explorations have been motivated by issues of economy and culture: Brick can be locally produced at low cost, and it ages well with minimal upkeep. In the 1940s, Dieste was an engineer with the highway administration for the Uruguayan Ministry of Public Works, specializing in bridges, and later headed the technical section of the Ministry's Architecture Office before establishing his architecture and engineering practice, Dieste y Montañez, in Montevideo in 1954. The drive toward large-scale urban modernization produced commissions such as factories, bridges, bus stations, gymnasiums, water tanks, and grain silos.

One of Dieste's earliest projects is also his most famous: The Church of Atlántida (Departamento de Canelones, outside Montevideo, Uruguay, 1959) demonstrates his material struggle to achieve



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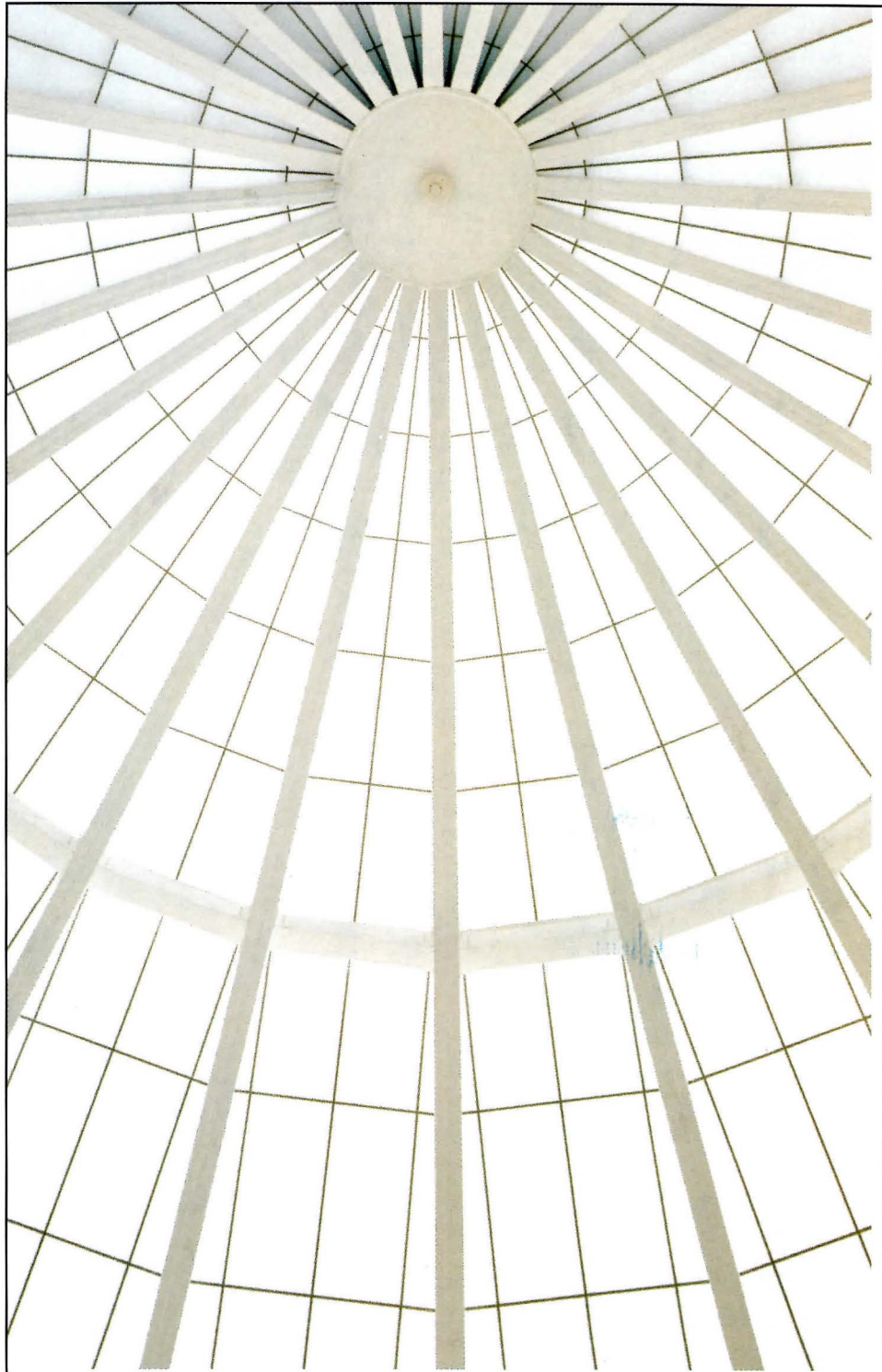
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highly expressive, even mystical forms while working within the context of limited resources and the skills of local laborers. Inspired by the simple arch structures of traditional Iberoamerican construction, Dieste developed a unique *ceramica armada* (reinforced masonry), and coined the *bóvedas gausas* (gaussian vault), a brick-mortar-iron complex that behaves as a structurally viable unit. In the Church of Atlántida, the vaulted walls and roof are self-supporting, allowing the dramatic combination of undulating fluidity and structural rigidity. Architectural historian Víctor Pérez Escolano describes Dieste's approach succinctly: "Skeleton, muscle, and skin are integrated into a single identity." Not to be mistaken as formal extravagance, Dieste's forms—shell vaults, catenary sections, ruled surfaces—are intrinsically tied to structural needs. For example, the beautiful curves of the Atlántida are carefully calculated to stabilize the walls and the double-curvature roof.

Dieste labored to convey his philosophy through writing as well. His essay, "Technology and Underdevelopment," for example, passionately outlines his belief in an architecture based on a local economy of resources, whether material or conceptual: "We of the 'Third World' must not make the error of confusing ends: Development is not an end in itself. One of the risks we face is that of psychological colonialism and a sentimental admiration of power. When we face any problem, it is common to take the approach that the solution is already available, formulated by the developed countries, and this is false." Dieste is a modernist, but he advances a particular form of modernity—an "appropriate modernity." His work expresses the *unique possibilities* of a specific time and place, with modern attunement for progress and productivity, yet a sensible skepticism toward the transfer of technologies and ideologies to contexts for which they are ill suited. His life's work affirms the sentiment of Antonio Gaudí: The only way to be original is to return to the origin. ■

Architect Ramón Gutiérrez is director of the Center for the Documentation of Latin American Architecture in Buenos Aires.



Thomas and Agnes Carvel Children's Rehabilitation Center at Saint Agnes Hospital, White Plains, NY; Kenneth Irving, Architect P.C.; Photo by Peter Paige Associates

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Not well done: Burger King built restaurant prototype in Reno, Nevada, to announce new look to franchisers.

Burger King's latest slogan—"it just tastes better"—certainly doesn't apply to the new store prototype they built for their April annual franchise convention in Reno, Nevada. The first step in transforming more than 10,000 outlets worldwide, the new restaurant is a tasteless recipe for disaster.

The ironically monickered Jacqueline McCook, Burger King's senior vice president of worldwide strategic planning and brand standards, explained that a decision to freshen the chain's name-between-buns logo led to a complete overhaul of its physical image. McCook observed that in previous design efforts, a lot of money was spent on elements that customers never noticed or cared about—the overscaled mansard roof for example. This time, the in-house design team envisioned something simpler: a neutral concrete box with a few human-scaled design flourishes. The retro-modern look tested well with consumers and jelled with the chain's stylistic origins in 1950s Miami. One problem: They forgot to ask an architect. When pressed for the name of the architect who stamped their drawings, McCook was at a loss. "Couldn't

Turkey Burger

Burger King should have had it some other way when they designed their new prototype. By Michael J. O'Connor

tell you," she responded matter-of-factly. Without any prompting, she added, "I guess the fact that I can't remember his name shows you how involved he was." Indeed. It's a shame, since architects have successfully brought life to the visions of the corporate marketers and number-crunchers of BK competitors McDonald's, Sonic, and IN-N-OUT Burger (*Architecture*, May 1998, pages 110-111).

As a result, the new BK prototype carries meaning, hints at ideas, and suggests styles, but does none of these things in a complete, cohesive, or esthetically pleasing way. Instead, all this dogmatic baggage is crammed into a clunky, 3,000-square-foot pile on the edge of a residential neighborhood. The all-important drive-by view offers nothing but tacky, striped split-face concrete block, meant to evoke the restaurant's trademark flame-broiling grill (Ugh!). Incongruously, the designers then tacked on primary-colored window trim and mullions, an electric blue tile-clad tail fin, a barrel-vaulted roof, and a yellow plastic canopy. The retro-modern references are clear, but ugly. The whole mess looks like a day-care center designed by the producers of "Happy Days"—neither nostalgic nor innovative. Suddenly, a mansard roof seems almost okay.

Burger King has slowly begun the second phase of implementing their new look: revamping 43 franchises in the Orlando area. They've also launched other test sites for the nouveau BK, including one on New York City's starchy Wall Street. McCook proudly reports that the Reno franchise has already posted huge sales increases since redesigning. Too bad what pays the rent is unable to feed the soul. Aren't you hungry for something more? ■

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The straightforward act of stacking rocks to make a wall has a timeless immediacy, a gestalt power greater perhaps than any other method of construction. The masonry wall is a primal response to the forces of gravity and to the need for shelter, permanence, and the demarcation of territory. Masonry construction has changed little since ancient times: Eero Saarinen's concrete may be reinforced, and his arcs parabolic, but the underlying idea goes back to the Roman Pantheon. Brick, stone, and concrete held sway long before the advent of steel, and will always be an elemental part of how we build.



The Maryhill Overlook on high bluffs overlooking the Columbia River in southeastern Washington state is no more and no less than a line, a dam that holds back nothing, a fragment of movement made solid, a twisted and folded piece of a grid. It marks a boundary, defines a place, and offers a way of understanding the landscape. Paid for by the federal government to provide historical, geological, and economic information about the Columbia River Gorge and to promote cultural tourism, the \$100,000 project is really a rational folly in the tradition of such 18th-century architectural experiments as the Désert de Retz outside Paris.

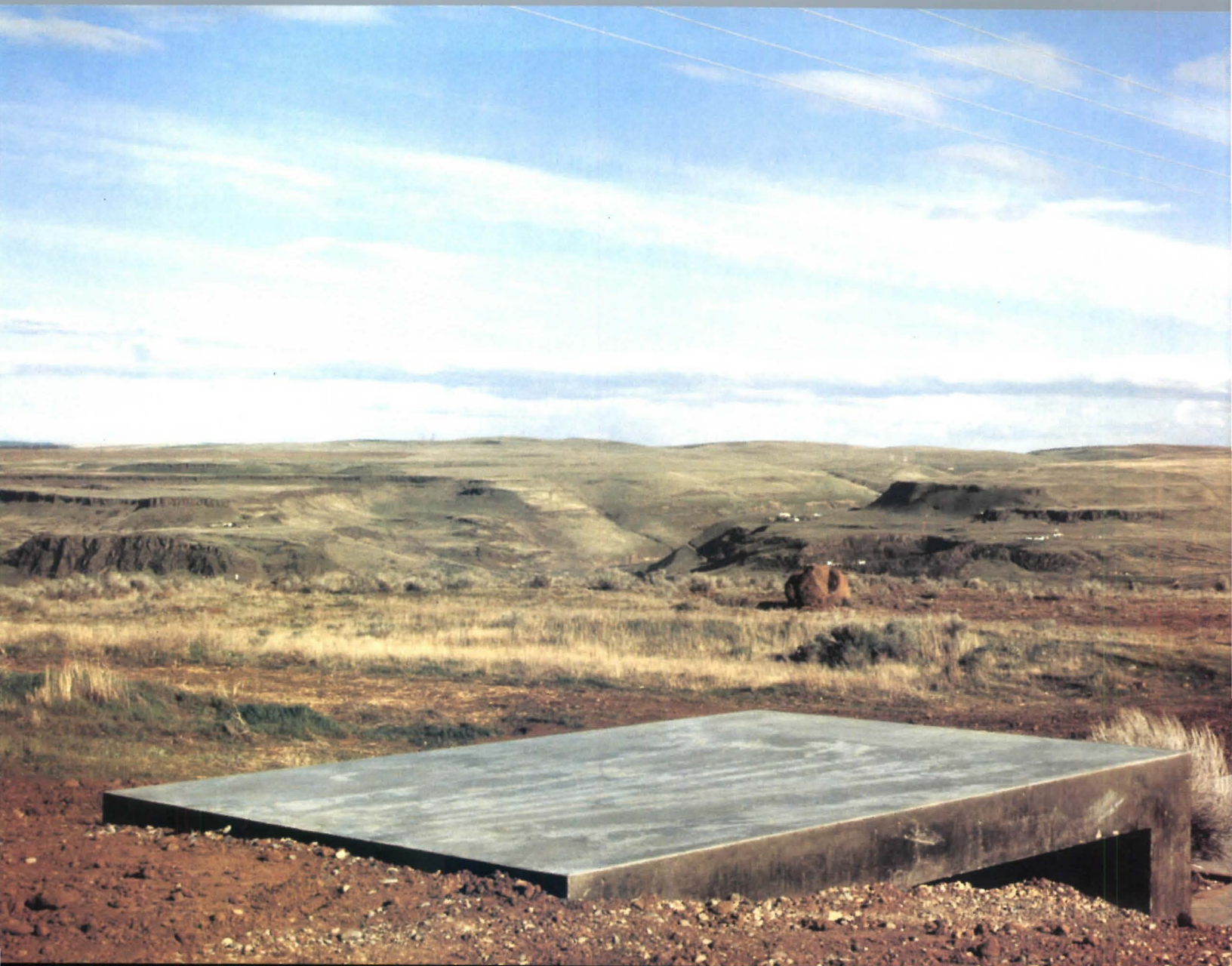
The site is the estate of entrepreneur Samuel Hill (1857-1931), who built a concrete mansion (1920) on 6,000 acres of land that he hoped would be the heart of a utopian agricultural community. In 1940, the house became part of the Maryhill Museum of Art, which houses Hill's eclectic collection, and the land became a preserve. The house now stands as a block against the eroded landscape, taking its place as yet *another willful human incursion*, along with the dams and railroad lines that punctuate the Columbia Gorge. The museum commissioned the overlook project, which opened in May, from Brad Cloepfil, principal of Portland, Oregon-based Allied Works Architecture. The architect's construction marks the edge of the peacock-strewn lawns and clumps of trees of Hill's artificial oasis.

Like Hill's monuments and the WPA-period dams that span the Columbia River, the project stands at right angles to the river. It is essentially a *single concrete ribbon* that points out over the gorge to Oregon's rolling wheat fields across the river. Starting as a plane on the surface

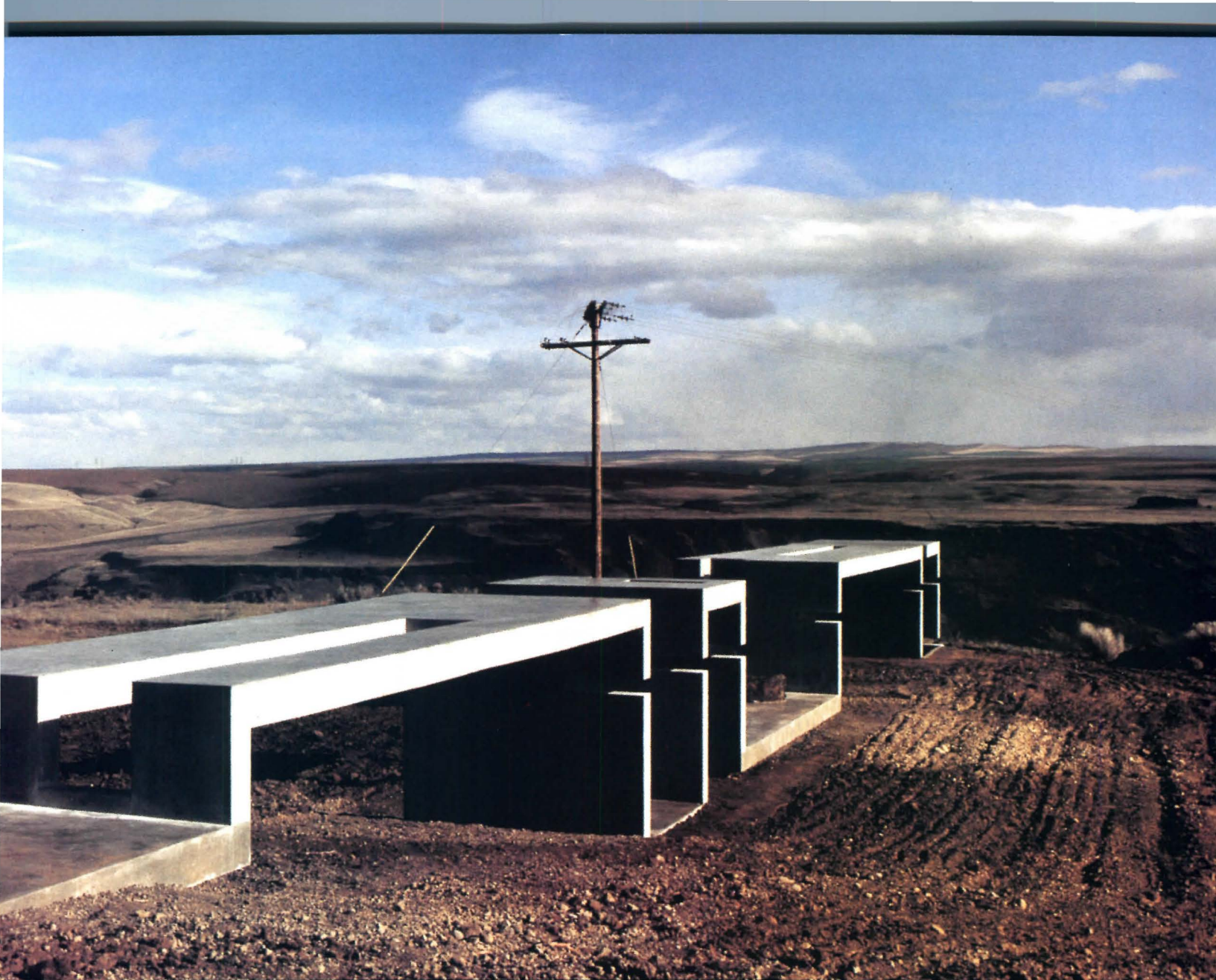


Line in the Sand

Allied Works' sculptural overlook imparts human scale to a vast, arid landscape. By Aaron Betsky



Maryhill Museum of Art in Washington state commissioned overlook (above) from architect Brad Cloepfil of Allied Works, having heard of his plans for five "Sittings" structures in five different environmental contexts. Federal government paid for Maryhill Overlook, first in Cloepfil's proposed series to be constructed, as way to educate visitors about surrounding Columbia River Gorge.



of the earth, it begins to move above the ground as the cliff's elevation drops away. The floor becomes a roof, then drops down again to suspend like a sling over the ground, repeats itself, becomes a roof again, and then drops down to meet the edge of the cliff. As it courses along, the band of concrete creates a series of rooms bounded by never more than three horizontal or vertical surfaces. A visitor can find shelter underneath parts of the project, stride over the roof, or be suspended within what from the side appears to be just a thin line. At two points, a 1-foot-wide segment of the wall folds out from the main body of the project to provide benches. A preexisting tree and two stones sit within the structure, offering a *Zen-like* miniature of the landscape around the project. Plaques offer information about the surrounding sites.

It is the very grandeur of the territory that makes Cloepfil's project work. This is a place that has made painters see the majesty of creation and farmers imagine a bountiful Eden. It has inspired thoughts of sublime art and measured beauty. Every picture of the Columbia Gorge and every structure man has built there looks small against the reality of a landscape that is not only broad in its reach, but also abstract in its contours. Cloepfil's project is no match for its site. Instead, it is a measure. It creates a sense of scale, rhythm, perspective, and place. We realize how small we are here, but we can also see and understand the "there" from the "here" of this construction. ■

MARYHILL OVERLOOK, GOLDENDALE, WASHINGTON

CLIENT: Maryhill Museum of Art **ARCHITECT:** Allied Works Architecture, Portland, Oregon—Brad Cloepfil (principal/designer); Corey Martin (project lead)
ENGINEER: Ang Engineering Group (structural) **GENERAL CONTRACTOR:** Hard Rock Concrete **COST:** \$100,000 **PHOTOGRAPHER:** Sally Schoolmaster

Debut

**Allied Works
Architecture**

Portland, Oregon

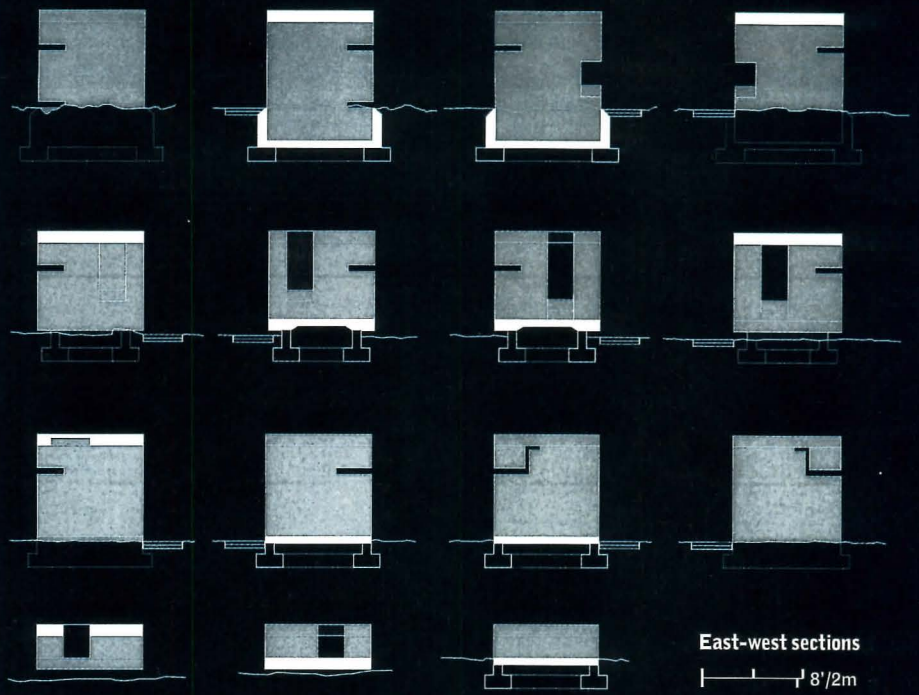


Principal: Brad Cloepfil

Brad Cloepfil has hit the big time. Five years after founding 17-person Allied Works Architecture in his native Portland, the University of Oregon- and Columbia University-educated architect is about to finish the Weiden & Kennedy headquarters, a labyrinthine concrete building for what may be the country's hippest ad agency (*Architecture*, April 1999, pages 108-109). He also just beat out the likes of Rem Koolhaas and Herzog & de Meuron for the commission of a new art center in St. Louis. "It feels good to move beyond the home town," says the 43-year-old Cloepfil. Though the architect enjoys Portland's landscape and easy life, he chafes at its closed culture. "Most developers wouldn't know good architecture if they saw it." With the Weiden & Kennedy building and a new downtown contemporary art center opening this November, Cloepfil is about to give Portland a good hint.

Cloepfil located 150-foot-long overlook at edge of formal garden surrounding Maryhill Museum of Art, which occupies 1920 mansion (below, at left). At different points along length of structure (section, facing page), continuous concrete surface is wall, floor, roof, or even seating.







Shaded by overhanging steel canopy, double-height vitrine of entry facade opens onto urbane little plaza (above). Tiny glass strips embedded between blocks of western wall (at left) create luminous streaks. By day, trees cast shadows against hefty concrete block scrim of east elevation (facing page, bottom). At night, light glowing through random pattern of windows (facing page, top) reveals masonry wall's thinness.

A SCOTTSDALE, ARIZONA, STUDIO BY WENDELL BURNETTE
IS A SIMPLE BACKDROP FOR DRAMATIC MANIPULATIONS OF DAYLIGHT.
BY RAUL A. BARRENECHE

PLAY OF LIGHT

Sunlight is an abundant resource in Arizona, but a difficult one to harness. Architects from Frank Lloyd Wright to Richard Meier have relished the poetic potential of the intense light there and struggled to render both its brilliant and subtle effects. Phoenix architect Wendell Burnette has spent the past two decades mastering the possibilities of desert light, from his student days at Wright's Taliesin West, to his collaborations with desert guru Will Bruder, to the launch of his own studio in 1996. Burnette's second major solo project, a 1,800-square-foot interior design studio in Scottsdale, Arizona, is at its core a container for light, a simple masonry husk that channels sunlight into an exquisite range of effects.

To call Burnette's building a big box belies its spatial and material complexity, but its parti is nonetheless boxy and simple: a long, narrow container 20 feet wide by 90 feet deep by roughly 25 feet high, punctuated by a tiny courtyard at the rear. Likewise, the program is concise—two workstations and a principal's office, conference room, and reception area—but its fluid spaces unfold and intertwine within and out of the box in a sophisticated spatial choreography. The studio has only two public faces: A long, concrete block wall peppered with a Corbusian pattern of slits and slots fronts a tiny parking lot to the east. A narrow glazed facade opens onto First Street to the south, a pedestrian-friendly block (by Phoenix standards) of cafes, galleries, and furniture shops. The solid concrete block wall defining the western edge of the building doubles as a fire wall at the edge of the property; the north elevation fronts a private courtyard at the rear of the building, beyond which lies a service alley. This back elevation is largely unseen by the public, which is unfortunate as it's a virtuoso curtain wall of milled steel and glass panels as taut and exactly detailed as any high-tech European skin.

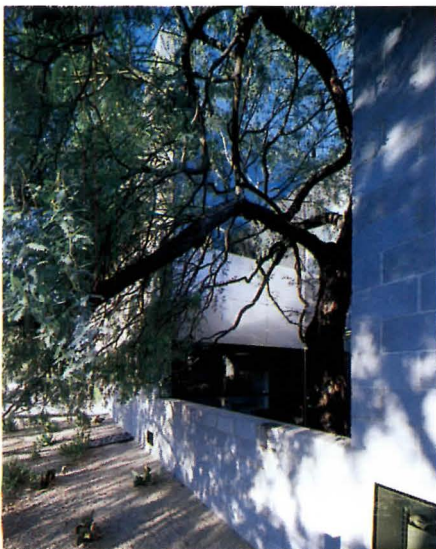
Burnette treats the small paved plaza leading to the front door as a forecourt in some more urban setting, complete with a granite bench. A steel canopy cantilevered between the concrete walls and floating 24 feet above the plaza implies a soaring, gestural portico that reinforces the building's neighborly posture. It also shades the canted, double-height vitrine-as-facade that touts owner David Michael Miller's designs in a sleek, spatial billboard.

The interior sequence begins in a cool, dark reception area where light seeps in subtly along the concrete block side walls, washing them in broad swaths. Narrow vertical slots scored into the base of the eastern wall project almost tangible bands of sunlight on the floor, especially in the early morning. The tiny lobby's tight confines unfurl into a soaring space containing orderly bays of desks and drafting tables extending towards the rear of the





Old mesquite tree found on site generated Burnette's plan: East facade steps down, allowing gnarled branches to spread out from private courtyard at rear of studio (above and below left). Burnette designed monolithic, mill-finished stainless-steel gate (above, at right) to match discrete custom enclosure for dumpsters (above, at left). Polished double-height rear facade overlooks courtyard's shady haven (below right).



HORIZONTAL SECTION THROUGH DISPLAY CASE

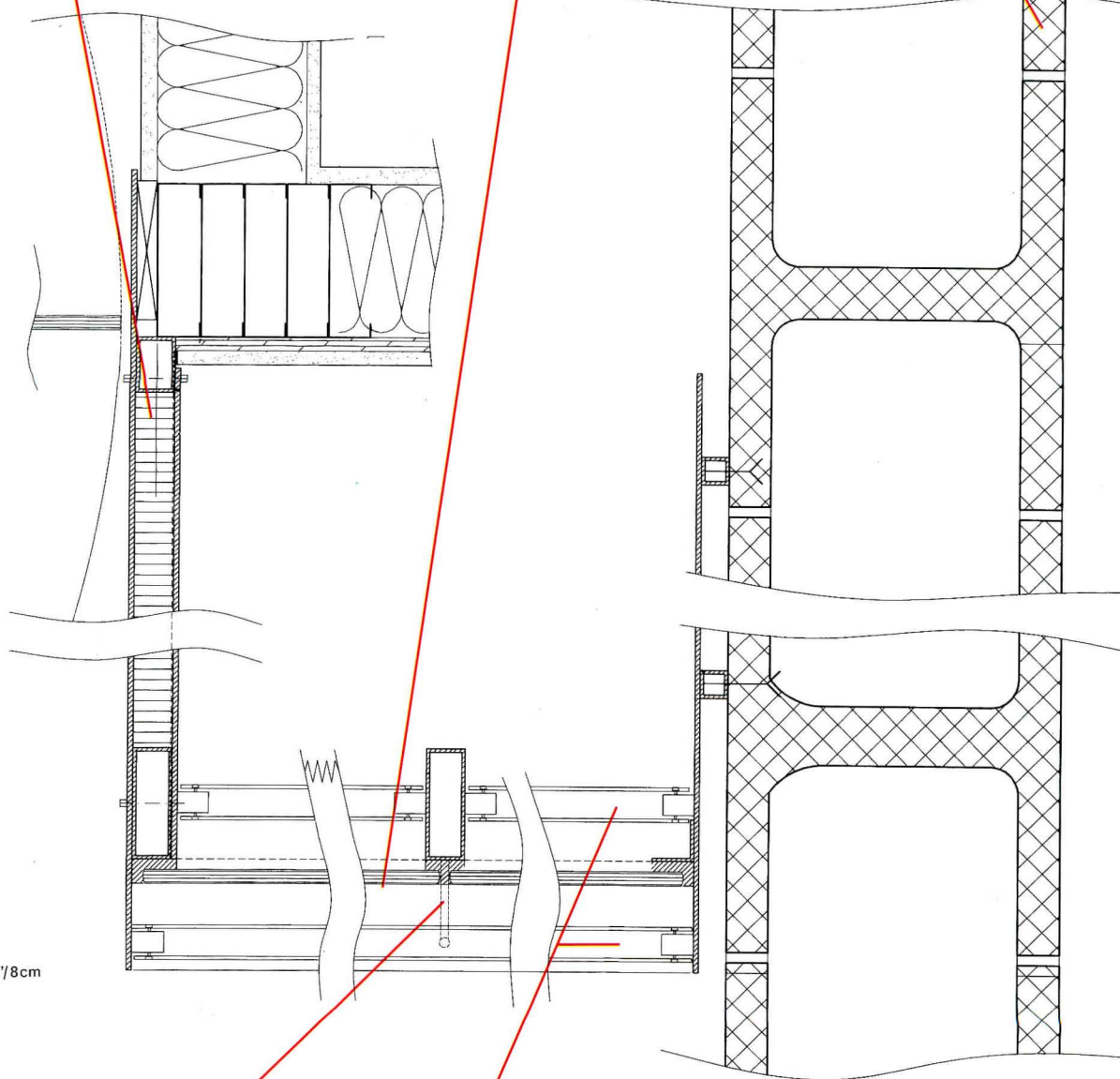
Rigid 1½-inch-thick insulation provides continuous R7 value.

All four sides of the vitrine on the studio's front elevation are constructed of standard 48-inch-wide, mill-finished steel plate. The hot-rolled, ¾-inch-thick plates are assembled like butt-jointed sheets of glass, sealed with black urethane and blind-welded to a tubular steel frame.

All the edges of the 10-by-14-foot annealed glass are polished to minimize stress in the ½-inch-thick pane. The piece is just 2 inches short of the largest standard sheet of glass manufactured in the U.S.

Insulated, post-tensioned masonry wall system, assembled from 12-inch-thick concrete blocks, is a structural feat for the system's manufacturer.

All the exposed mill-finished steel components are treated with a val-oil finish to preserve the mill scale finish in its reflective state.



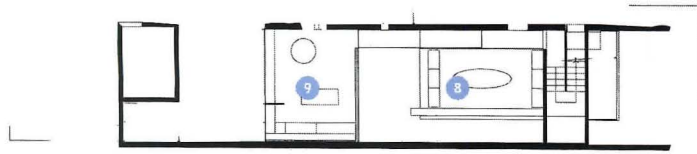
3 7/8 cm

A tubular steel frame is concealed in the display case assembly, except for the center mullions. The tubes measure 1½ by 2 inches, 1½ by 5 inches, and 2 by 5 inches.

The custom window assembly is a "poor-man's Pilkington," according to the architect. The sealant manufacturer helped determine a method for supporting glass without exterior mullions.

As per the Uniform Building Code, stainless steel, 1½-inch diameter railings mounted 1'10" above the floor, both inside and out, protect the large vitrine. The railings allowed the architect to specify annealed instead of tempered glass.

STUDIO FOR DAVID MICHAEL MILLER ASSOCIATES, SCOTTSDALE, ARIZONA
CLIENT: David Michael Miller Associates **ARCHITECT:** Wendell Burnette Architects, Phoenix, Arizona—Wendell Burnette, (principal), Michael LeBlanc (project manager), Christopher Alt (project team)
LANDSCAPE ARCHITECT: Ten Eyck Landscape Architects **ENGINEERS:** Rudow + Berry (structural); Technica Consulting Engineers (mechanical); C.A. Energy Designs (electrical) **CONSULTANTS:** David Michael Miller Associates (interiors); Rowley Associates (graphics); Creative Designs in Lighting (lighting) **GENERAL CONTRACTOR:** Construction Zone **COST:** \$480,000 **PHOTOGRAPHER:** Timothy Hursley



Second-floor plan

- | | |
|------------------|----------------------|
| 1 entrance | 6 courtyard |
| 2 display window | 7 storage |
| 3 reception | 8 conference area |
| 4 workstation | 9 principal's office |
| 5 garden | 10 dumpster |



Ground-floor plan | 13 3/4m

building, overlooked by Miller's office aerie. Behind the main workspace is a secluded patch of courtyard. Burnette cut away the eastern wall of this private patio to allow an old mesquite tree that existed on site to spread its feathery branches over the courtyard and out beyond the building.

The circuit upstairs from the lobby to the open conference space above it—which is linked to Miller's open office by a pristine cable-stayed metal bridge—is more charismatic. As clients wind up a narrow wooden staircase tucked behind a powder room and closet, a square in the eastern concrete block wall opens up to reveal a thin onyx slab, its tawny ochre veins casting a moody glow into the stairwell. Further up the staircase, guests catch a glimpse of randomly placed slivers of glass set into the vertical joints between concrete blocks of the western wall. Backlit by the sun, they light up like tiny rectangular lamps—or streaks of liquid mercury, in Burnette's estimation. Upstairs, the open conference room fills with cool northern light pouring in through Miller's office.

Within such a small building, Burnette expresses a wide range of attitudes and treatments of sunlight: muted washes, broad fills, and brilliant highlights. He even manipulates solid materials to further the sunlight's effect on them. For instance, Burnette chose not to sandblast the rough natural texture of the concrete block to create stipples of sunlight on the gray plane's craggy surface. He considers this a "shadow wall," a hefty scrim against which trees and shrubs cast their spindly shadows.

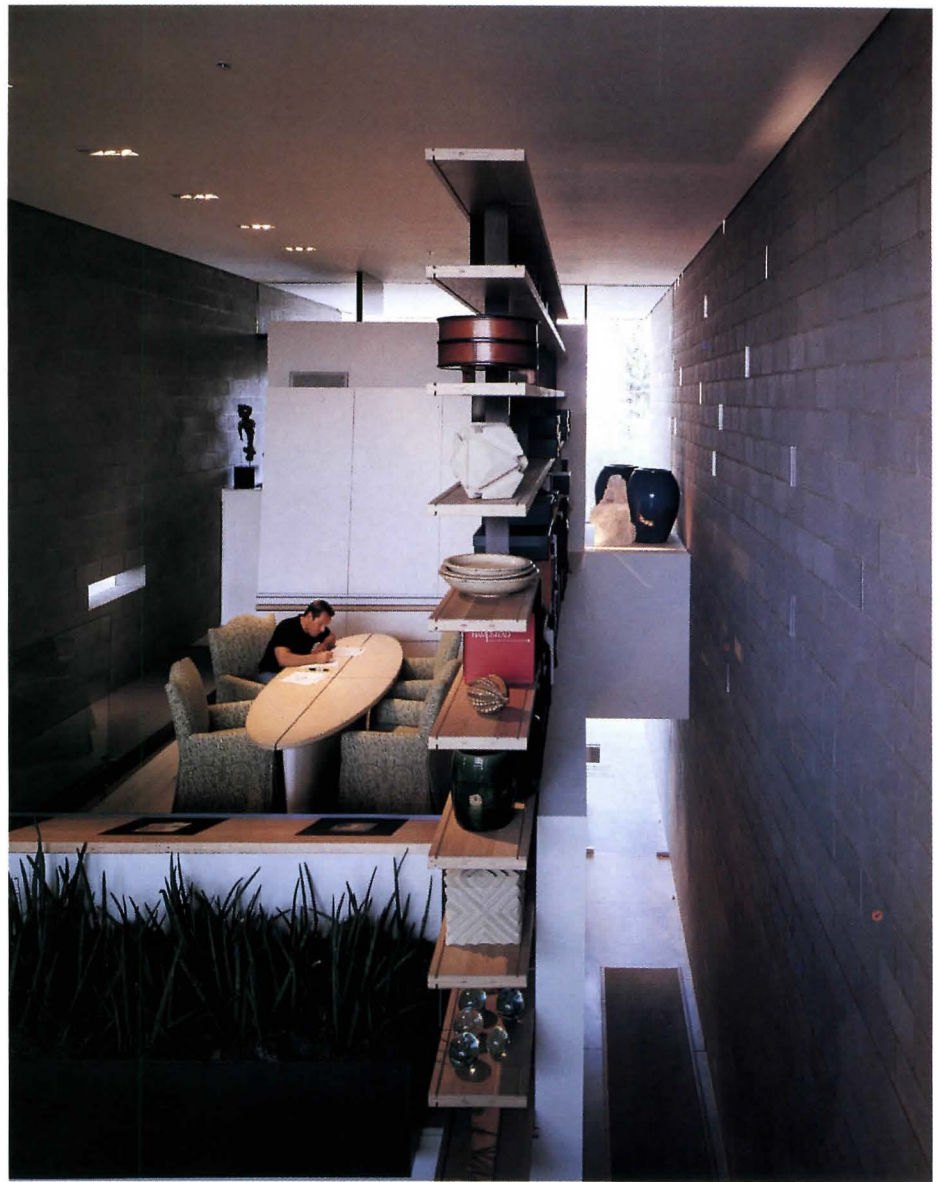
The Miller studio is a refined and mature piece of architecture. Its spatial conceptions are sophisticated for any scale building—impressively so, considering its small size—and every element of its assembly is executed with razor-sharp precision. But more powerful than its rich organization and well-crafted materials is its sublime control of daylight. Burnette has positioned himself as more than an architect of talent; he is now a master of light. ■



On second floor, cable-stayed steel bridge protected by canted glass railing leads to principal's office at rear. Burnette likens open, airy office to choir loft.



Onyx panel set in masonry wall casts moody glow in staircase. Daylight from glazed vitrine falls on stair landing.



View from principal's office to open conference area reveals narrowness and permeability of single-loaded volume (above right). Wooden planks of bookshelves conceal steel columns supporting conference-room floor, a trick Burnette borrowed from Frank Lloyd Wright. Interiors soar from small entry lobby (below left) to double-height work area at rear (below right). Glazed facades at studio's front and back create fluid, luminous interior.



Blocky and muscular, school's street elevation (these pages) explores crisply articulated language of asymmetrical solids and voids. Classrooms are contained in quartet ofouselike volumes that match surrounding domestic scale. Hermetic brick walls protect school from busy road.

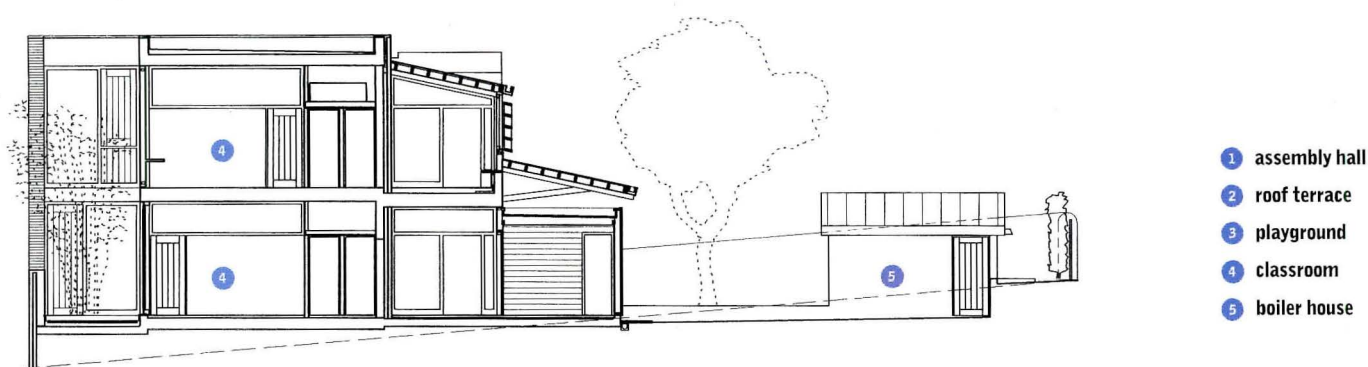


O'DONNELL AND TUOMEY HUMANIZE A CONTEMPORARY



BRICK-AND-MORTAR MODERN

IRISH SCHOOLHOUSE WITH TRADITIONAL MATERIALS. BY CATHERINE SLESSOR



North-south section



North-south section | — | 6' / 2m

Although most architects' hearts might sink when handed a particularly proscriptive program, some are still capable of a kind of alchemy that can turn the basest of requirements into gold. Irish architect O'Donnell and Tuomey's new primary school in Dublin confirms the firm's reputation as an architectural alchemist. Working with a standardized brief from Ireland's Department of Education, O'Donnell and Tuomey created a modest yet refined building that both enriches and is enriched by the lives of its users. It is a quiet riposte to the institutional quality of many Irish school buildings, and it epitomizes O'Donnell and Tuomey's humane, imaginative approach to design.

The new school inherited its site from an earlier school—a congested jumble of existing buildings that were eventually demolished. The original buildings did provide basic cues for the new design, however: its two-story scale, tough brick skin, and street-hugging line. Other ideas such as the classrooms' expression as houselike volumes came from the domestic scale of the surroundings.

The Ranelagh Multidenominational School lies in a suburb just south of Dublin's center. Although lacking civic grandeur, Ranelagh is leafy and relatively prosperous, filled with sturdy terraces of Georgian and Victorian houses. The new building is sited at a bend on a busy main road linking the suburbs with the city center and sloping gently up toward a terrace of Late-Georgian houses. Exploiting the level change, the architect partly embedded the building into the slope, resulting in a change that gives the school a very different character on each of the principal elevations. On the street side, the building is 2½ stories high; to the rear, it reveals itself as a single-story structure fronting a playground to the south and west.

Along the main street frontage, O'Donnell and Tuomey's school appears as a blocky, muscular composition, its two-story classroom cubes crammed together like an Italian hill town. A taut skin of mottled, honey-colored brick—reclaimed from a 19th-century Dublin prison—wraps the facade protectively. The hermetic brick wall is ruptured in places by big glazed openings set almost flush in the facade so that, from a distance, the elevation reads as a crisp, geometric interplay of solids and voids.

To the rear, scale and materials change and the building becomes more transparent and permeable. Here it faces a small playground enclosed by wrought-iron railings (a relic from the original school). On this side, the building's underlying organization becomes apparent. A broad circulation spine running from southeast to northwest separates the two-story classrooms from single-story staff quarters. Treated as simple timber-clad boxes, the staff rooms are slid under a sloping, overhanging zinc roof to create a generous veranda around the main entrance that faces the playground on the site's southwest flank. Especially expedient in the damp Irish climate, this also functions as a covered play area. A long glazed slot runs along the edge of the veranda. Compared with the street elevation's hermetic brick wall, the open playground frontage signifies entry and welcome, with views through to the spine corridor and classrooms beyond.

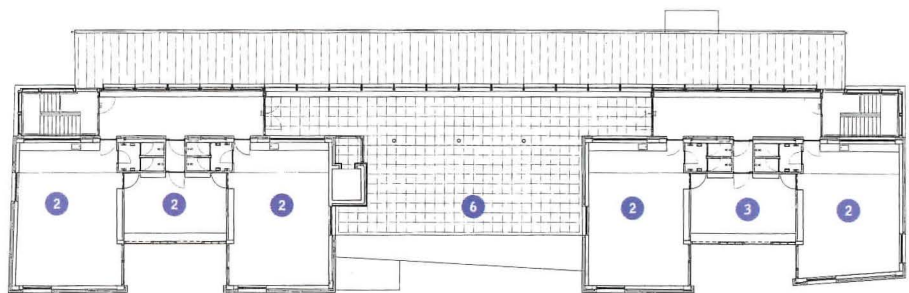
The school provides facilities for children from four to 12 years old. Eight classrooms are arranged in two pairs on each floor, linked by a general purpose room that flanks the circulation spine and can be used for assemblies, performances, and indoor sports. Externally, the hall is differentiated from the classrooms by its random-coursed



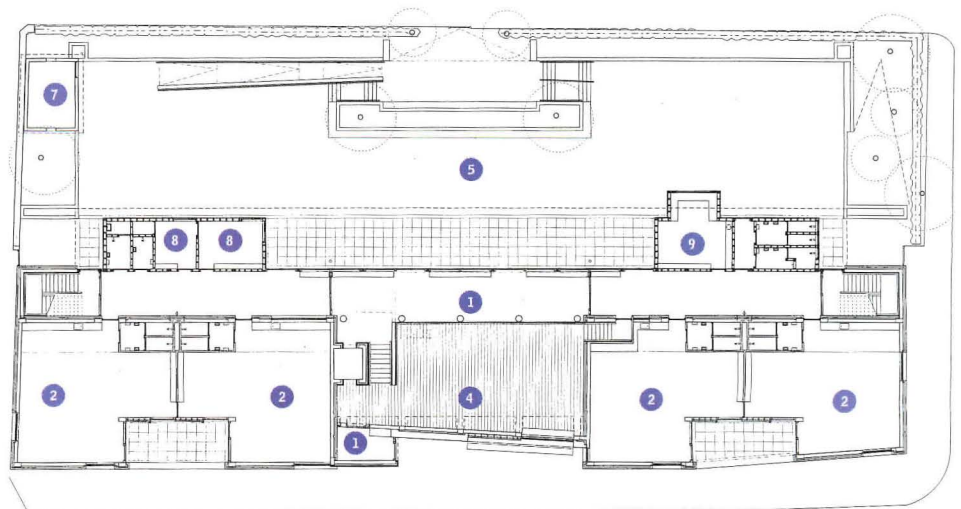
Facing small playground, rear elevation (above) is more open and transparent than street facade. Sloping zinc roof reaches down in welcoming gesture embracing school's occupants. Timber-clad office wing nestles comfortably beneath roof; long veranda provides generous covered play area. Louvered wood screen encloses circulation spine.



- 1 entrance
- 2 classroom
- 3 library
- 4 assembly hall
- 5 playground
- 6 roof terrace
- 7 boiler house
- 8 office
- 9 teacher's lounge



Second-floor plan



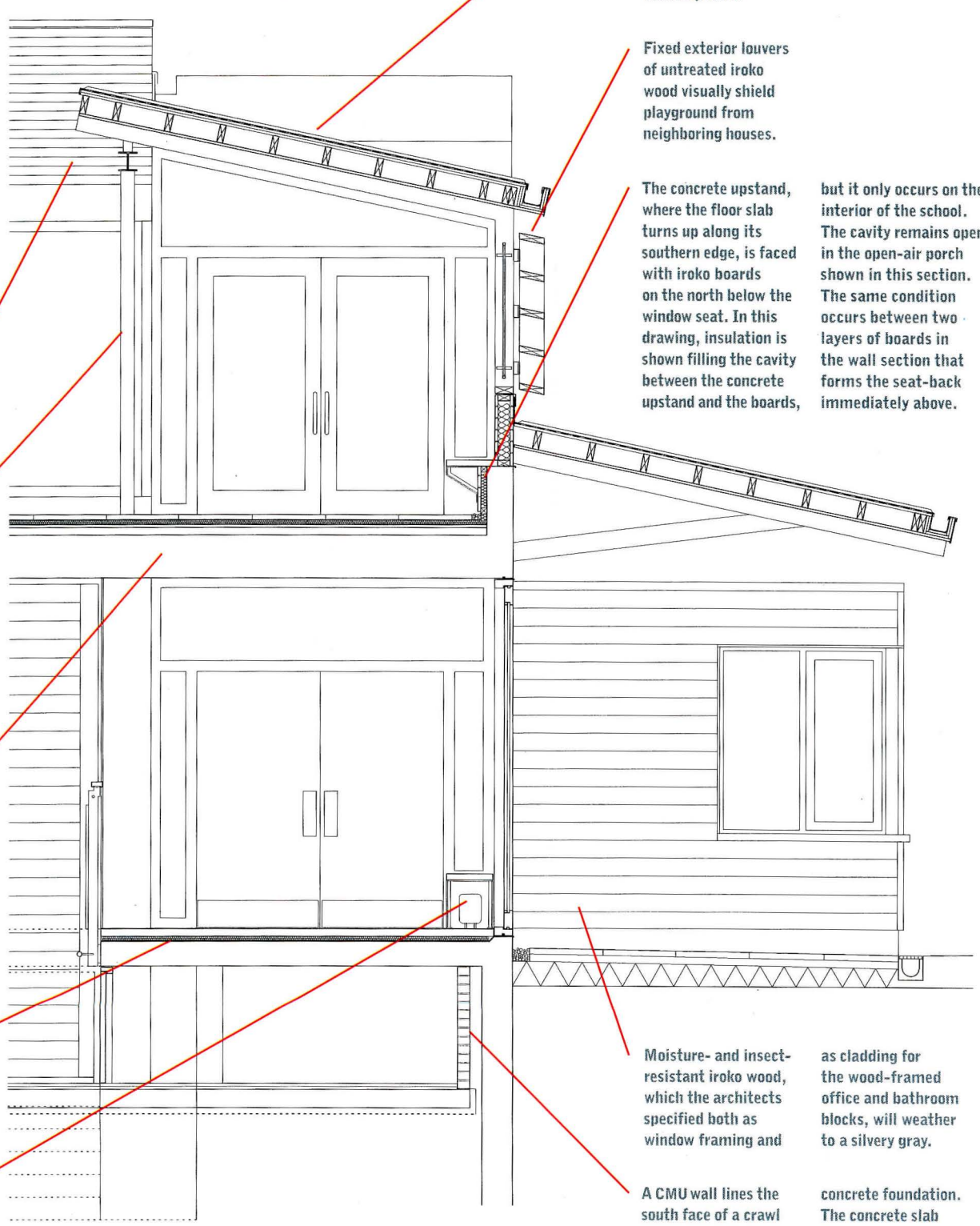
First-floor plan | ——— | 16'/5m



Covered walkway and open roof terrace on second floor (above) are used enthusiastically by pupils. Throughout school, classrooms connect with informal exterior spaces, extending possibilities of indoor-outdoor activities. O'Donnell and Tuomey's exploration of patios, terraces, and verandas draws on the ease and informality of Mediterranean vernacular, despite obvious differences in climate. Empty of children, roof terrace (below) echoes plain compositions of surrounding Victorian neighborhood.



NORTH-SOUTH SECTION THROUGH FIRST-FLOOR CLASSROOM CORRIDOR AND SECOND-FLOOR ROOF TERRACE



The simple assembly of simple materials—concrete, brick, timber—characterizes the construction of O'Donnell and Tuomey's Ranelagh School.

Salvaged brick laid in Flemish bond pattern with lime-mortar pointing clads the classroom volumes.

Galvanized steel tube columns supporting the roof of the porch along the south side of the roof terrace have a flat plate on top, which attaches by bolts to the I-beam above.

Flat concrete slab, 350 millimeters thick, provides sufficient thermal mass to maintain a consistent internal ambient temperature.

The floors throughout the school are power-floated concrete with natural linoleum surfacing.

An iroko-wood window seat, finished with beeswax, runs the length of the classroom corridor to conceal radiators.

20"/50cm

The roof of the veranda along the second-floor terrace is standing-seam, terne-coated stainless steel that will weather to a pewter-colored patina.

Fixed exterior louvers of untreated iroko wood visually shield playground from neighboring houses.

The concrete upstand, where the floor slab turns up along its southern edge, is faced with iroko boards on the north below the window seat. In this drawing, insulation is shown filling the cavity between the concrete upstand and the boards,

The roof panels conceal 225-by-550-millimeter iroko-wood rafters, which are bolted together with a galvanized-steel flitch plate.


but it only occurs on the interior of the school. The cavity remains open in the open-air porch shown in this section. The same condition occurs between two layers of boards in the wall section that forms the seat-back immediately above.

Moisture- and insect-resistant iroko wood, which the architects specified both as window framing and

A CMU wall lines the south face of a crawl space beneath the classroom floor. Behind it are an insulation-filled cavity and poured-

as cladding for the wood-framed office and bathroom blocks, will weather to a silvery gray.

concrete foundation. The concrete slab of the crawl space continues into the assembly hall.

Debut	O'Donnell and Tuomey	Dublin, Ireland
 <p>Founded: 1988 Staff: three associates, one administrator Principals: Sheila O'Donnell, John Tuomey</p>	<p>Dublin-based O'Donnell and Tuomey forms part of a group of returned Irish exiles who share an emerging sense of Irish identity tempered by individual experience, and whose influence through both practice and teaching is steadily growing. Sheila O'Donnell, 47, and John Tuomey, 46, launched their firm in 1988. Both trained at University College Dublin and worked for Stirling Wilford & Associates in London during the early 1980s. They are founding members of Group 91, a consortium of architects involved in the urban regeneration of Temple Bar in the heart of the Dublin (<i>Architecture</i>, October 1998, pages 48-53).</p> <p>Through projects such as the Irish Film Centre and Archive (1992) and the National Photography Centre and Gallery of Photography (1996), they have sought to develop a regionalism appropriate to the Irish context—one that has echoes of European Rationalism, but is also inspired by the tough local urban and rural vernacular. O'Donnell and Tuomey's buildings are also informed by a care and concern for materials and how things are made. This can transform apparently standard programs into architecture of great refinement and sensitivity. Current projects include a furniture college in Connemara and a satellite campus for University College Cork.</p>	
<p>Navan House</p> <p>In 1997, the firm completed a remarkable family house in Navan (right). Built of concrete and glass, the dwelling is set in a narrow back garden of an existing town house. In Ireland, concrete is rarely used on such a small scale and the raw material has a surprising, austere presence. At the heart of the project is a courtyard that separates and unites a single-story pavilion and a three-story tower, creating a dialogue between vertical and horizontal elements, and living and sleeping quarters. Within the tower, each room has a clear identity responding to function and location. The parents inhabit a cavelike space below the court level, while their children sleep in a skylit bed chamber and airy upper room with views over the town to the countryside beyond. The expression of individual elements allows for an imaginative response to the inhabitants' concerns, desires, and lifestyles. It also nurtures a concern from part to whole, creating individual spaces for each family member that, together, constitute a coherent building.</p>		

stone cladding (salvaged from the original school), which echoes neighboring garden walls. At the first-floor level, the roof of the hall forms an open-air terrace enthusiastically colonized by children during their breaks. Smaller outdoor courts are also provided for the ground-floor classrooms on the main street frontage, enclosed by the protective brick wall. Emphasizing the ease and informality of interior and exterior realms, O'Donnell and Tuomey's exploration of patios, terraces, and covered walkways extends the Mediterranean hill town metaphor.

Despite the rigorous proscriptions of the Department of Education brief—even making the building two stories high challenged conventional guidelines—the architect has managed to give the entire building, especially the interior, a strong sense of variety and intimacy. With the size, function, and finish of individual spaces starkly preordained, O'Donnell and Tuomey set about examining and developing each element so the building becomes an adaptable armature for the social life of the school. The corridors, for instance, are not simply circulation routes, but are spacious, light-filled colonnades with benches for lounging and bulletin boards animated by pupils' kaleidoscopic paintings. Although all the classrooms conform to a standard scale and organization proscribed by the brief, each provides a different spatial experience and pattern of use. The architect experimented with room shapes, window positions, and room heights to make each classroom an individual entity, like a room in a house, so pupils identify with their particular space.

Even the most basic materials such as the internal blockwork walls are enlivened through the use of strong color. Different colors indicate different functions—blue for partitions, green for rest rooms, and so on. Other colors simply reflect light inside. Paint saturates the blockwork like a fresco, so the walls become intense planes of color adding to the messy vibrancy of classroom displays.

Intended to withstand vigorous daily use, the school has an engaging robustness and unfussiness; yet it also transcends the ordinary, making spaces that respond to pupils' physical needs and stimulate their collective imagination. The school is a social and educational community and children progress logically through it, working their way along the classrooms on the ground floor, then repeating the sequence on the upper floor. The eldest children occupy a classroom on the corner of the second level, with a view of the road leading towards the city. Fittingly, this symbolizes their futures beyond the school and marks a rite of passage into the adult world. O'Donnell and Tuomey has brought the power of architectural imagination to bear on a very basic program, with impressive results. ■

RANELAGH MULTIDENOMINATIONAL SCHOOL, RANELAGH, DUBLIN, IRELAND

CLIENT: Ranelagh Multidenominational School Association **ARCHITECT:** O'Donnell and Tuomey, Dublin, Ireland—Sheila O'Donnell, John Tuomey, Will Dimond, Peter Carroll (design team) **LANDSCAPE ARCHITECT:** Mitchell Associates **ENGINEERS:** Fearon O'Neill Rooney (structural); JV Tierney (mechanical, electrical) **CONSULTANTS:** Boyd and Creed (quantity surveyor) **GENERAL CONTRACTOR:** Pierce Healy **PHOTOGRAPHER:** Dennis Gilbert /VIEW, except as noted



Despite stringent space and cost limitations, O'Donnell and Tuomey manage to instill classrooms (above) with sense of variety and intimacy, so pupils can identify with their particular space. At heart of school is multipurpose hall (below), used for indoor sports, music recitals, plays, and school assemblies. This double-height volume exploits level change across site. Painted concrete block walls draw in and reflect daylight entering through skylights above.





Vegas, Seriously

Mark Mack brings substance to Las Vegas's skin-deep suburbs.

Street facade of Mack's house for casino designer Roger Thomas is guarded composition of colored stucco planes.



By Aaron Betsky

Las Vegas is a rather grand place. The ridge of hotels along the Strip answers the rough desert mountains with its own tacky majesty. Beyond that line of light sprawls a city of over one million people. As the city grows faster than any other in the United States, it is beginning to develop fragments with scale and permanence that don't gamble for effect on casino dollars. The latest and most convincing example of Vegas's new reality is the house Los Angeles architect Mark Mack has designed for the man responsible for the interiors of many of the largest casinos, Roger Thomas.

Thomas's house presents itself as a blank wall to a street of faux chateaux in the exclusive Summerlin subdivision. Thomas moved there to be close to his ex-wife and son, who live in the development. Born and raised in Vegas, Thomas has brought a sense of other places to such casinos as the Mirage, Treasure Island, and now Bellagio (as director of casino magnate Steve Wynn's in-house design firm), and to the city in general as an active supporter of the arts—Thomas helped start a contemporary art museum and serves on the boards of several performing arts organizations.

On a visit to a house Mack had designed in Reno, Thomas recalls, "I woke up there and realized that this is how I wanted to live." So he asked Mack to design a large but simple, two-bedroom home. "He didn't have a lot of demands, but he did say that he did not want to see out and did not want people to see in," Mack remembers as his mandate. "The program was simple, but he imagined a sense of grandeur." As Mack and his client developed the 5,000-square-foot design, they tried to reconcile what Mack calls Thomas's "love of order, classicism, and symmetry" with the architect's own desire for "things that are more random and surprising." The result is a balanced house that unfolds through a series of screens into an abstraction of its desert site.

The core of the house is the large central courtyard: a U-shaped configuration of living spaces with corner windows that captures an "outdoor living room." Thomas grew up in a courtyard house, and he and Mack share an admiration for the work of Mexican architect Luis Barragan who, as Mack puts it, "showed me a modernism that could be inflected



Watercolor study (above) by Mack shows U-shaped arrangement of house around courtyard. Entrance (below left) between brilliantly colored walls terminates in untreated mild-steel plane, portion of which pivots to reveal hall and courtyard behind. Hallway (below center) wrapping courtyard connects entrance (at left) with library and bedroom wing beyond. Corridor (below right) turns corner and terminates in master bedroom suite.



THOMAS HOUSE, LAS VEGAS, NEVADA

CLIENT: Roger Thomas

ARCHITECT: MACK Architect(s) / Design Architect, Venice, California—Mark Mack (principal), Tim Sakamoto (project architect), Ed Diamante (assistant architect), Jeffrey Allsbrook (design team), Ariel Asken, Roger Kurath (renderings)

ARCHITECT OF RECORD: Assemblage Studio, Henderson, Nevada—Eric Strain (principal)

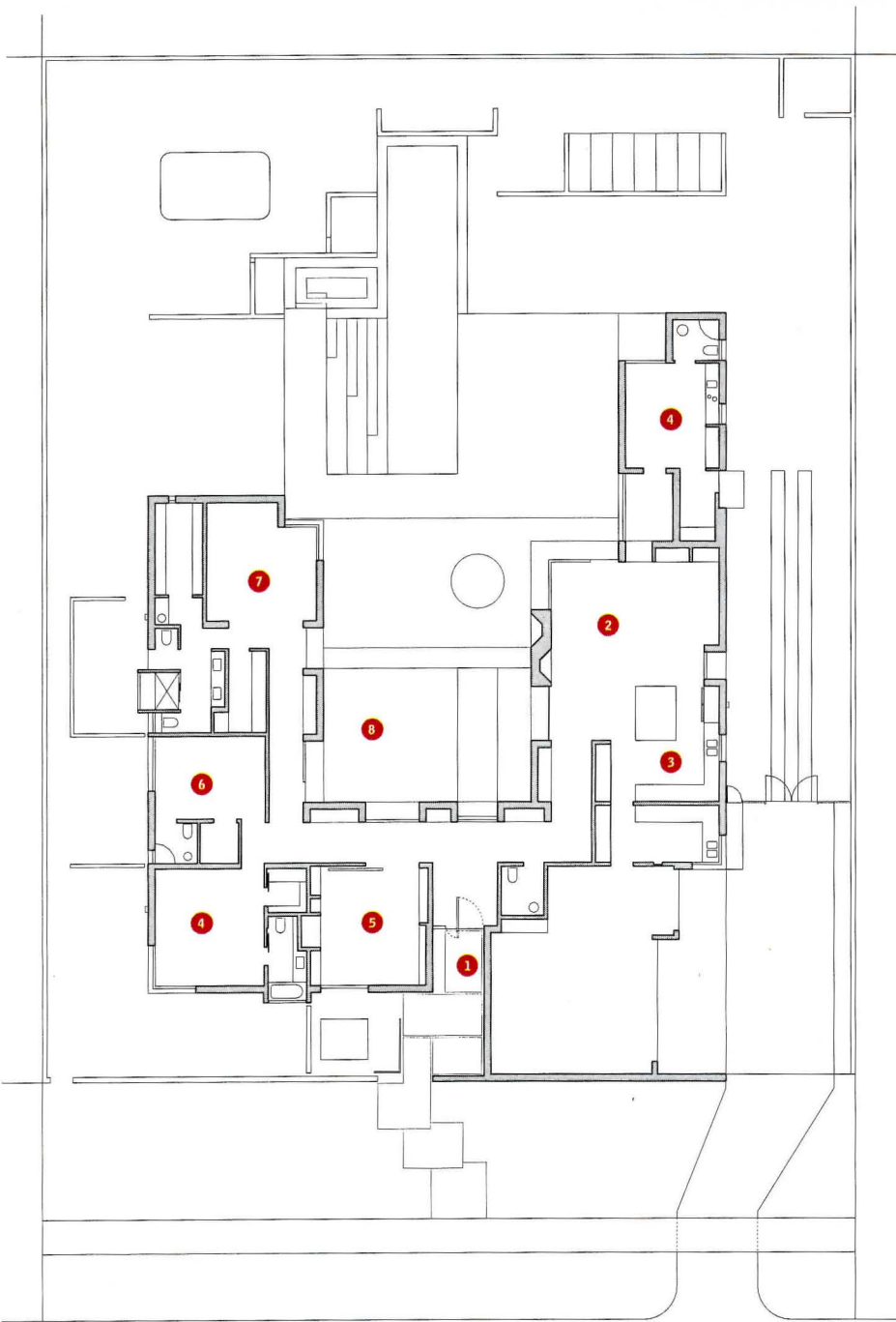
LANDSCAPE ARCHITECT: Anderson Environmental Design; Hadland Landscaping

ENGINEERS: Martin & Peltyn (structural); Southwest Air Conditioning (mechanical); Morris Engineering (electrical)

CONSULTANTS: Joe Kaplan Architectural Lighting (lighting)

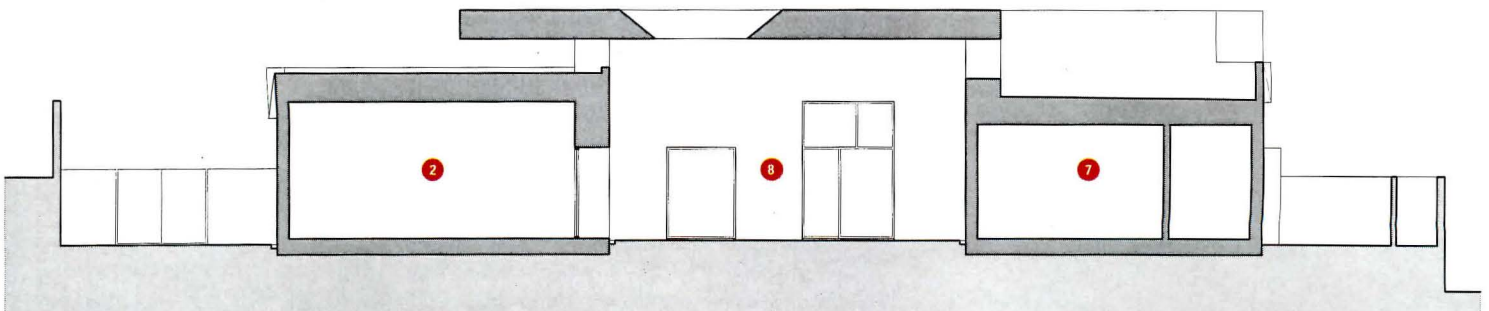
GENERAL CONTRACTOR: Merlin Contracting and Development **COST:** \$1.1 million

PHOTOGRAPHER: Richard Barnes



Plan 1"=11'3m

- 1 entrance
- 2 living room
- 3 kitchen
- 4 bedroom
- 5 library
- 6 studio
- 7 master bedroom
- 8 courtyard



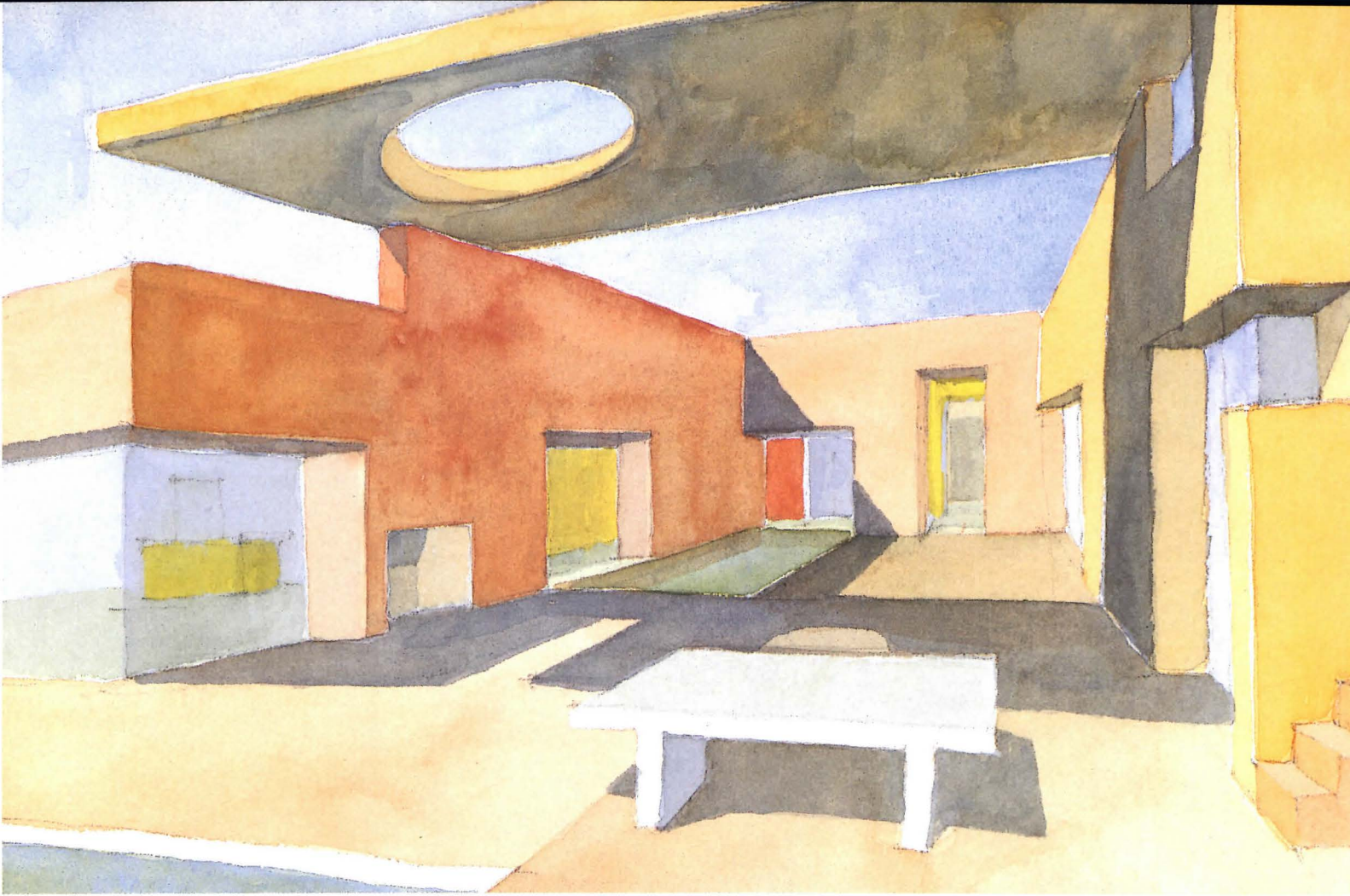
East-west section 1"=6'2m



with color, texture, and indigenous landscape.” A large canopy, pierced by a round “sky hole” that lets the sun track a shape on the walls below, shades the courtyard and makes it usable almost year-round. When things get too hot, Thomas can retreat into either a large combination living room, dining room, and kitchen (“At parties, everyone ends up in the kitchen anyway,” he says), or a more private entertainment center. The bedroom wing balancing these spaces is, according to Mack, “equal to but not the same as” the public wing: The two sides of the house—bedroom and living—face each other across the courtyard, connected by an entry hall that separates this captured space from the street.

Though it is a large house, both in terms of square footage and in the generous volume of its spaces, the Thomas House does not have much of a sense of hierarchy or differentiation. Space flows without effort through great, blocky rooms. The strong blues, reds, and even purples—a part of the architect’s regular vocabulary that appears here on both interior and exterior walls—resonate with the massive and richly hued mountains that surround Las Vegas. Mack plays this massiveness, which he carries through in the concrete block and stucco construction (“It’s built like a casino,” he jests), against the layering of walls, which on the interiors are covered in Venetian plaster. Mack visually lightened the walls by floating them on an aluminum reveal above the self-leveling concrete floor poured after the walls were in place. The ceiling is heavy and modeled to contain lighting fixtures, but uniform in its height of 12 feet throughout the public rooms. Since there are no views out of the compound, one is enclosed within Mack’s family of rectilinear planes and volumes that have no reference other than their own shifting presence.

Mack has made a monument to domesticity in the limbo of Las Vegas. What he has not banished from his carefully crafted realm is a sense of artifice. The calibration of so many pieces without a significant change in scale or focus makes it seem as if this whole realm of finely honed finishes is just a mirage. This house is not a statement, but a retreat. Here both the owner and the architect can break from their battle to make Las Vegas—or any of the fast-growing cities of the American Southwest—real. Perhaps these shifting walls and moments of massiveness can move out through the sand, sage, and dull subdivisions around them to mark off more than an oasis of civilized living. ■



Another sketch by Mack (above) and view of courtyard (below right) demonstrate how light pierces oculus to illuminate patio. Shifting, Barraganesque composition of brilliantly colored planes extends beyond house and courtyard to garden (below left), where stone spheres and fountain also evoke the late Mexican master. Canopy with oculus (facing page) frames outdoor room at edge of pool.



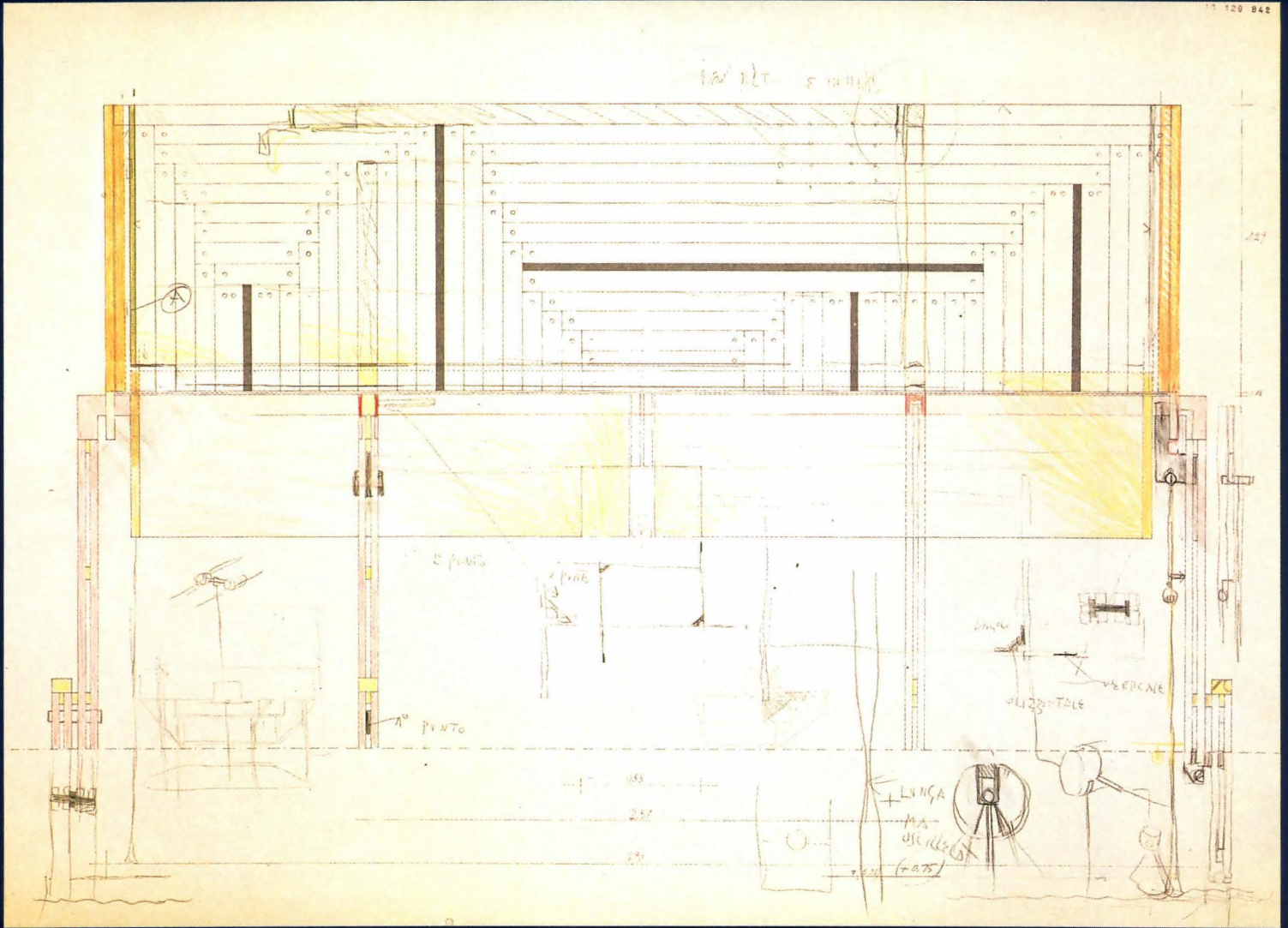


The Trouble With Scarpa

An ambitious survey at the Canadian Centre for Architecture underscores the difficulty of locating Carlo Scarpa in the modern canon.

By Raul A. Barreneche





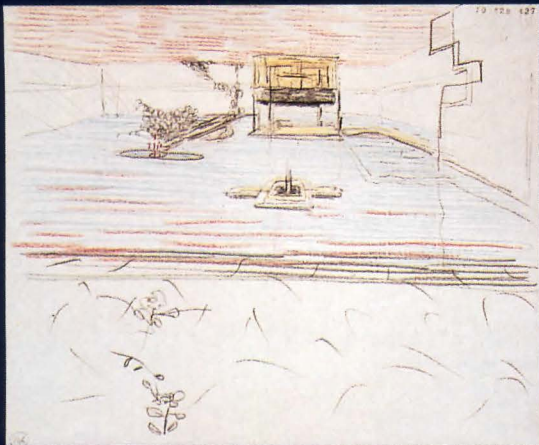
Photograph by Guido Guidi (facing page, top); Carlo Scarpa with sculpture of Santa Cecilia (facing page, bottom), Museo di Castelvecchio,

Verona, Italy (1956-73); and section-elevation with detail studies (above) of water pavilion, Brion Family Tomb, Treviso, Italy (1969-78)

Carlo Scarpa is among the most troublesome architects to pin down historically. Look him up in grand surveys and you'll find scarcely a footnote on the Italian modernist's 45-year career. Yet Scarpa (1906-1978) looms large in the popular imagination of many contemporary architects. There's hardly a young designer who hasn't been smitten by the luxurious materials and fastidious details of his work, the most famous of which, the Brion family tomb near Treviso, Italy, is something of a cult classic in architectural circles. Why does this enigmatic figure remain an elusive presence in the history of modernism? A sweeping survey of Scarpa's oeuvre, on view through October 31 at the Canadian Centre for Architecture (CCA) in Montreal, tries to make sense of the architect's fluid reputation. The show casts Scarpa as a mediator between history and modernity, a role that doesn't play out in all of his works and that ignores other qualities that make his esthetic so attractive.

The CCA's exhibition is titled "Carlo Scarpa, Architect: Intervening with History," and it is ostensibly about the designer's particular approach to negotiating the complex historical fabric in which he often worked. But neither the sprawling exhibit—which encompasses 150 original drawings, four study models built expressly for the event, and 80 luminous images by Italian photographer Guido Guidi, commissioned by the CCA for the show—nor the catalog, published by the CCA and Monacelli Press, makes history their exclusive focus. Indeed, by the end of both the show and the book, you've forgotten this is an exhibition about history at all.

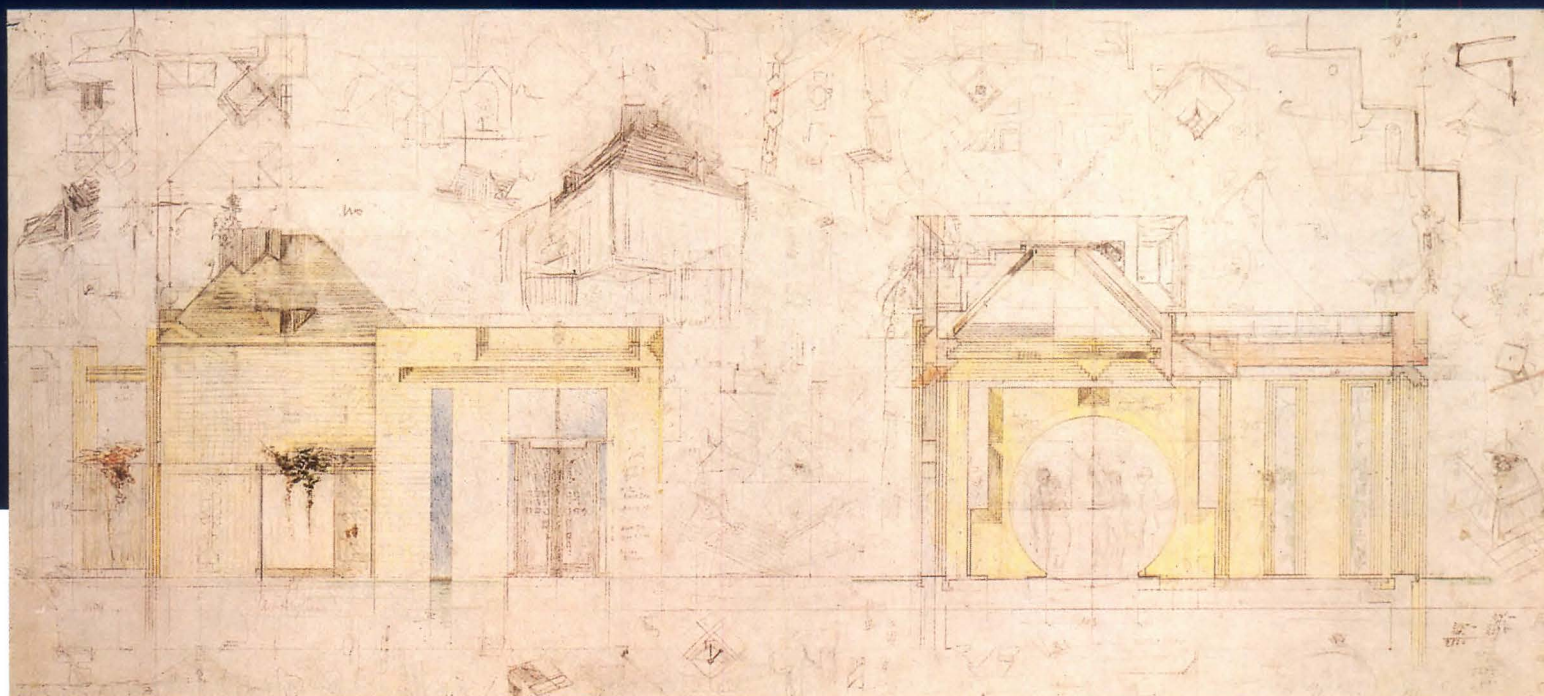
Scarpa was a modernist, but didn't subscribe to the spare, machine esthetic of his contemporaries. He was rational in many ways, but gave in too freely to the passions of craft and the sensuality of materials to be deemed a proper rationalist. Not decorative so much as carefully crafted—by hand, not machine—his work was nonetheless derided by his



This page, clockwise from left: Perspective sketch of pool and water pavilion at Brion Family Tomb, Treviso, Italy (1969-78); installation view; and northwest elevation and section with roof study of chapel



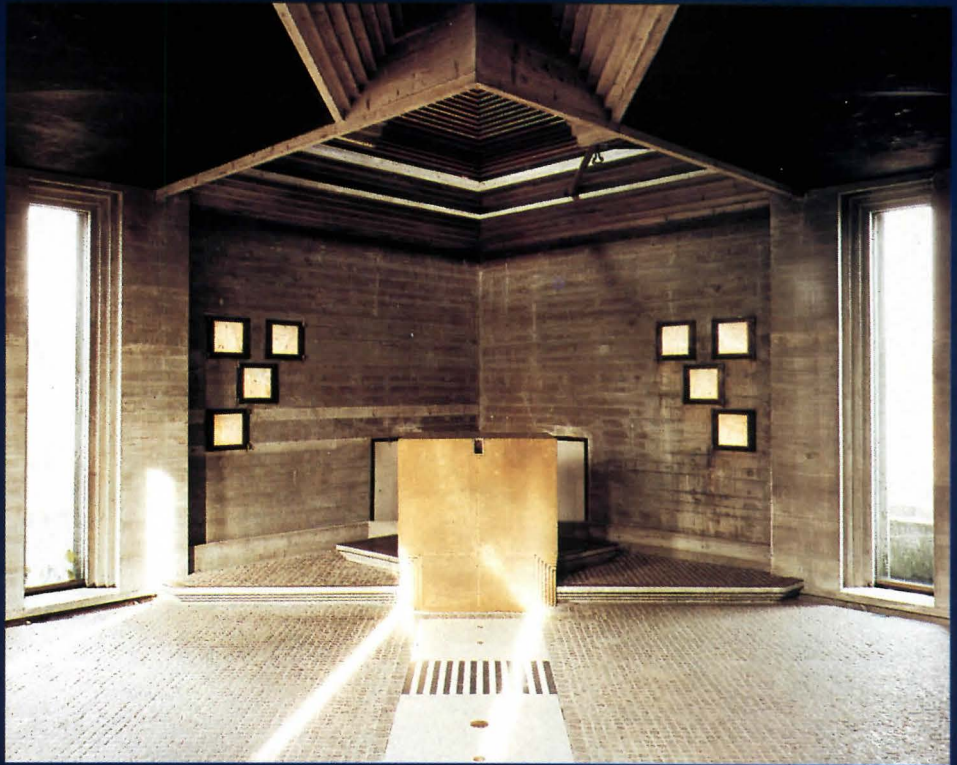
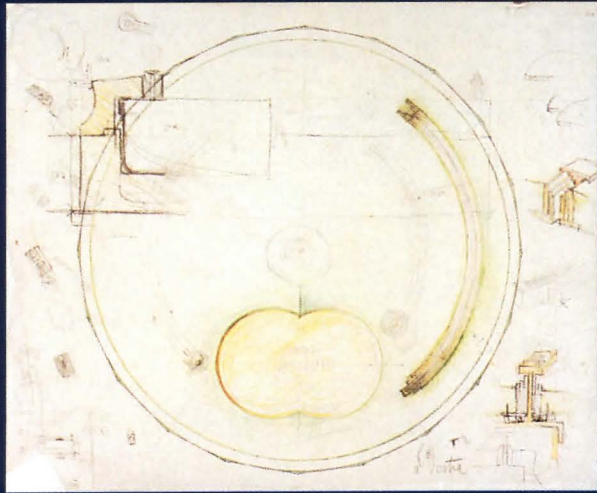
The Brion family tomb is the subject of two large galleries and roughly a third of the show's catalog. Far from relating to history in built terms, the Brion mortuary is an inwardly focused place completely of Scarpa's making.



peers as ornamental, precious, and self-indulgent. Even worse, in the forward-looking 1950s and 1960s, Scarpa looked to the past, from ziggurats and mastabas to the sweeping organic forms of Frank Lloyd Wright, whose work "ravished" the Italian architect and "swept him away like a wave," as he once declared. In short, Scarpa was caught between the past and the future, an exile from the high modern fraternity. "Scarpa was never an enemy of modernism or an advocate of historicism," writes curator Mildred Friedman, in the catalog's closing essay. "He believed that architecture must, above all, be an expression appropriate to its time."

The exhibition begins in a dimly lit hall displaying an almost sinister photo (page 90) of a black-clad Scarpa staring up at a medieval sculpture of Saint Cecilia—the architect literally confronting history. Also on display are Guidi's photos of the Brion tomb and the Museo di Castelvecchio in Verona, as well as cigar box sketches and a pair of Scarpa's enormous metal T-squares. From its inception, the exhibit sets up the disparate vantage points established by a mix of media.

From the entry hall an enfilade of spacious galleries unfolds, the walls filled with framed original sketches. Guidi's photos are displayed in



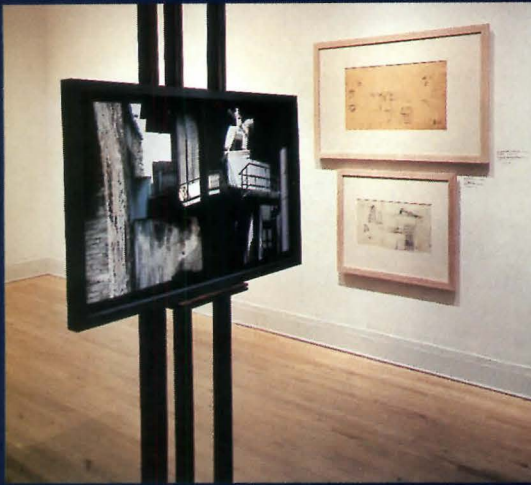
Clockwise from above:
 plan and detail sketches
 of Brion Tomb chapel
 font; photograph
 by Guido Guidi; and
 exterior photograph of
 chapel by Guido Guidi

metal cases or *overwrought Scarpaesque easels* designed by exhibition collaborator and Scarpa fanatic George Ranalli. There are also four pristine wooden models built by Ranalli's New York City studio. The groupings are arranged chronologically by project, from the renovation of the Palazzo Abatellis in Palermo (1953-54) to the Brion tomb (1969-78). No medium is given importance over the others; the combination of sketches, models, and photos convey multifaceted views of Scarpa's sublime work. The lack of hierarchy suggests that the kinds of information they relate are equally important: how Scarpa solved the physical problem of adding to ancient contexts, how he detailed materials, the quality of light or mood of his spaces. But according to the show's mandate, it is issues of history that should dominate the proceedings.

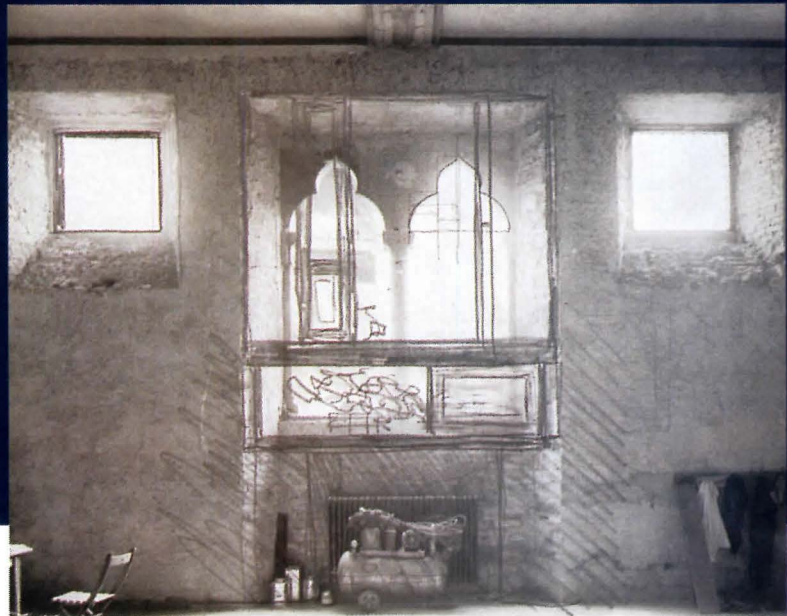
The drawings command the most attention by their sheer number and visual richness. They reveal an important part of the architect's working

method: Scarpa could draw with both hands at the same time and in the same scale. Fantastically, he could sketch a floor plan with his right hand while simultaneously working out the corresponding section or elevation with his left. The drawings on display are truly working documents that reveal his prodigious design process. Many sheets contain a single large drawing bounded by countless little sketches around its borders.

These drawings shed light on Scarpa's working methods, meticulous detailing, and conceptions of space; but it is Guidi's luminous photographs and Ranalli's models that best convey the architect's stance toward juxtapositions of history and modernity. Presentations of Scarpa's Canova plaster cast gallery (1955-57), his restoration of the Castelvecchio Museum in Verona (1956-73), an addition to the Banca Popolare's headquarters in Verona (1973-81), and his Olivetti showroom (1957-58) and Palazzo Querini Stampalia (1961-63) in Venice reveal a



Clockwise from left: installation view; Guido Guidi photograph of Museo di Castelvecchio exterior, Verona, Italy (1956-73); and study sketch of gallery interior; plywood model by George Ranalli showing Cangrande equestrian statue (at center)



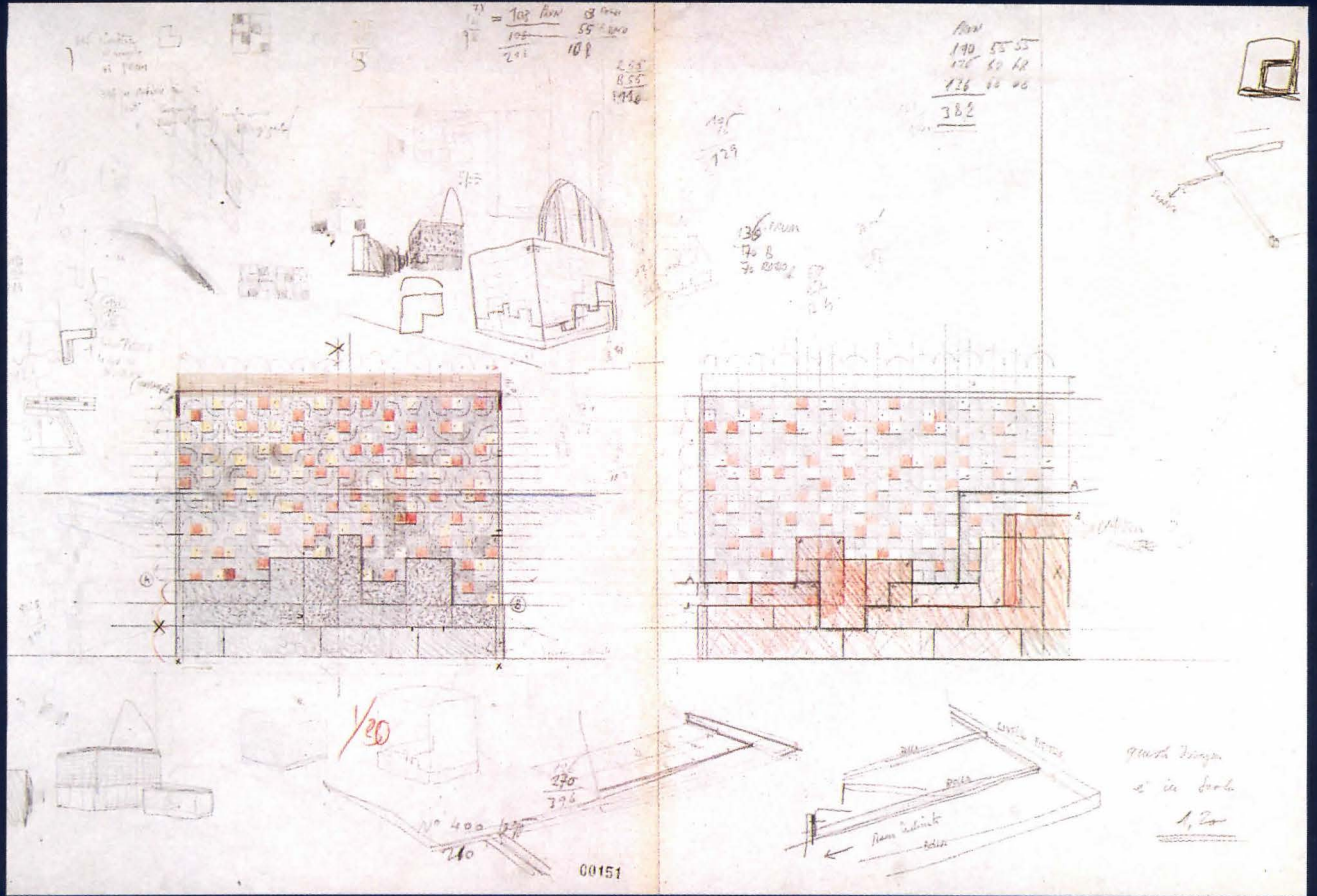
range of strategies for adapting to historic conditions. In each of these, Scarpa's architecture slips seamlessly but not mutely into and around old buildings and streets. In the Querini Stampalia project, for instance, the architect contends with the confines of a 16th-century Venetian palazzo, inscribing a sequence through a restructured interior leading to a newly created garden. In the Banca Popolare addition, Scarpa creates an architecture of walls that interprets and literally reflects history in its rhythm of projecting windows. Images and models of such projects reinforce the show's overarching theme quite well.

Scarpa's role as mediator between modernism and history all but disappears in the lengthy presentation of the Brion family tomb, the subject of two large galleries out of six in the exhibition and of roughly a third of

the catalog. Though it is arguably his masterpiece and certainly his best-known project, the necropolis follows Scarpa's earlier projects only in its chronology. The Brion mortuary is a tabula rasa surrounded by Venetian cornfields, an inwardly focused place completely of Scarpa's making. Though it brings to light many of the architect's ideas about symbolism and narrative, it certainly has no physical historic context with which to contend. In giving so much coverage to this project, the latent themes of craft and detail lurking in the other half dozen or so works on display come rushing to the forefront. The theme of history, which seems artificially imposed on a survey of the architect's few built works, suddenly unravels.

It is impossible to discuss Scarpa's relatively small oeuvre without a lengthy presentation of the Brion tomb. Therefore it is imperative that its

Elevation of south wall of *sacello*, or treasure chest, with studies of paving patterns, for Museo di Castelvecchio



Scarpa could draw with both hands at the same time and in the same scale. Fantastically, he could sketch a floor plan with his right hand while simultaneously working out the corresponding section or elevation with his left.

presentation reinforce the exhibition's goals, not detract from them. Perhaps the show's organizers could have used the themes of time and memory, which also play out strongly in this particular project, to frame the entire exhibition and successfully weave the Brion tomb into a coherent narrative.

Why not simply call the show a retrospective? After all, there has never been such a high-profile, comprehensive presentation of Scarpa's work. The curators could have discussed his historic interventions on equal footing with other themes. Rather than dispelling Scarpa's enigmatic air and framing him with a specific point of view, the show could have celebrated the architect's complex, multifaceted nature and appeal, which play out in Friedman's essay. Her text is the most original aspect of the show. It presents the kind of inclusive analysis that could have driven the entire exhibition. Friedman traces elements of Scarpa's influence on a

new generation of architects, including Steven Holl, Morphosis, Shim Sutcliffe, and Tod Williams and Billie Tsien. These young modernists carry on other aspects of Scarpa's spirit, according to Friedman: Not only are they drawn to his old-fashioned notions of craftsmanship, but also to his conviction of the architect as master builder, and the *gesamtkunstwerk* of designing their environment in toto, from forks and knives to exhibitions and, of course, buildings. Friedman's essay captures the essence of Scarpa's appeal in broader terms, which includes history.

The CCA is the exhibit's only North American venue, which is a shame, since it is well intentioned, beautifully executed, exceedingly informative, and bountiful in its presentation. CCA's exhibit doesn't set straight this profoundly problematic figure in modern architecture, nor suddenly transform him from cult figure to mainstream modernist. It does shed deserved light on the work of this misunderstood master. ■



Murcutt's outback art center (these pages), with its spacious verandas, acts as architectural mediator between cultivated landscape of lawn and natural bush beyond.



Between Two Worlds

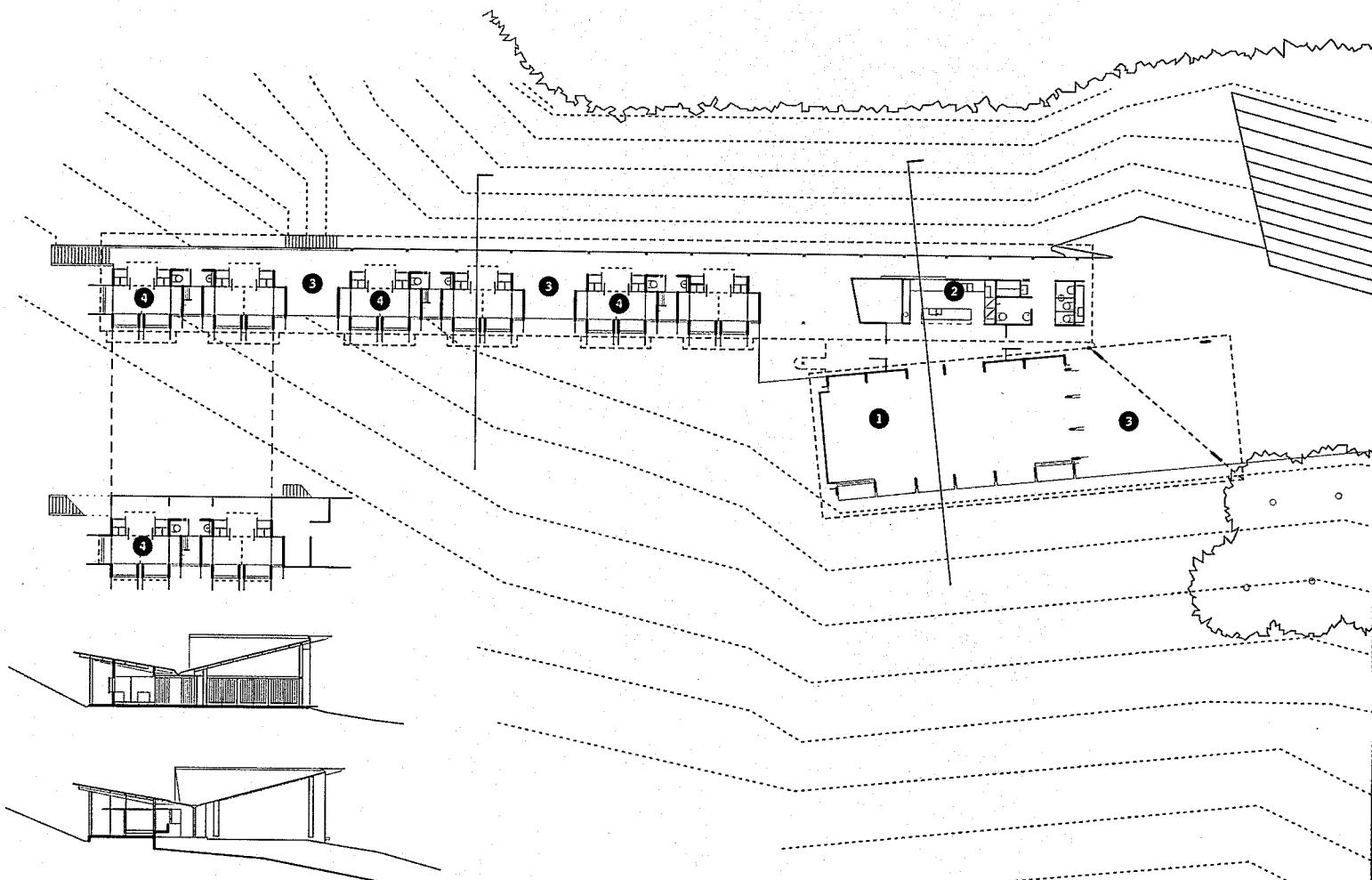
Glenn Murcutt's newest building reconciles European gravitas with Australia's frontier spirit. By Philip Drew

Many Australians acclaim **Arthur Boyd** as their country's greatest painter, but his most significant legacy may ultimately prove to be a new art education center designed by architect Glenn Murcutt on the late artist's ranch in the bush 180 kilometers south of Sydney. Boyd acquired the 1,100-acre homestead in 1971 and spent two decades painting the surrounding landscape. He then bequeathed the property to the Australian government in 1993 to be developed as an art center.

Boyd's art spanned two worlds: a weighty European artistic heritage of cultivated landscapes and the artist's interpretation of the native Australian landscape as dark, weird, and tormented—lacking any rules or guideposts and arising out of Boyd's own convoluted intuition. The Australian-born artist's life reflected a similar division between his homes in Australia and Suffolk, England. The siting of Murcutt's \$2 million art education center echoes this contrast between man-made and natural landscapes: The Sydney-based architect placed the building in a narrow gully along the Shoalhaven River, between native eucalyptus scrub climbing a hill to the west, and a grassy, tree-planted slope to the east that spills toward the river in the style of an English lawn.

The purpose of the center is to bring schoolchildren from diverse backgrounds to experience nature by sketching, playing music, and performing theater in the

Murcutt, working with wife Wendy Lewin and former student Reg Lark, divided art center into two blocks: dormitory wing (facing page, top, at left) and multipurpose hall (at center). Colonnade fronting multipurpose hall heightens building's resemblance to Greek temple (facing page, bottom).



East-west sections

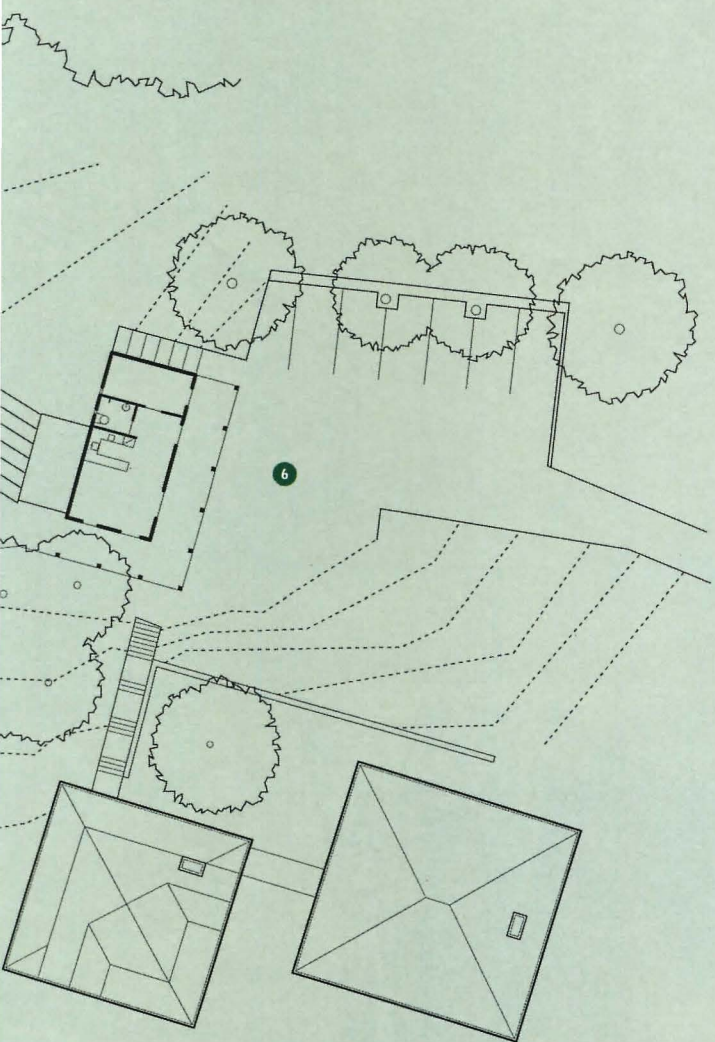
Site plan | 13' / 4m

- ① multipurpose hall
- ② kitchen
- ③ veranda
- ④ bedroom suite
- ⑤ amphitheater
- ⑥ existing homestead

countryside that Boyd painted. Murcutt—collaborating with architects Wendy Lewin, his wife, and Reg Lark, a former student of Murcutt's—has provided an outdoor amphitheater, a multipurpose hall, and an adjacent dormitory for 32 students, facilities that enhance the very special, dual character of the site.

The road to the center climbs a low hill on which sits the original 1890s homestead and Australian architect Andre Porebski's library pavilion (1973-74). The old garage that Boyd converted into his studio sits further up the hill, between the existing buildings and Murcutt's new art center. Only after emerging from under the low, east-facing veranda of the studio does Murcutt's hall come into view, its soaring, winglike roof a grand gesture of greeting to arriving students.

The hall rests on a broad, brick-paved terrace, which is bounded by the amphitheater to the west. The terrace



also connects to the studio and the other existing buildings beyond. Despite modern materials such as a corrugated-steel roof, the placement of the hall on the *pseudoclassical* stylobate of this terrace, along with the reassuring staccato beat of the concrete colonnade that forms a veranda facing the river elevation, recall an ancient Greek temple, which comes as a total surprise in the Australian bush. The hall does not touch the earth lightly; it stands above it with an almost sacred aloofness, a heavy formality that is entirely new in Murcutt's work.

The inclined, white-painted wood soffit of the hall's roof visually interrupts the upward movement of the hill—an effect best appreciated from the riverbank below; the dramatic projection of the knife-edged roof momentarily upstages the space behind it. The soffit continues past slatted sliding doors of recycled wood to form the ceiling of a rectangular space seating 80 for

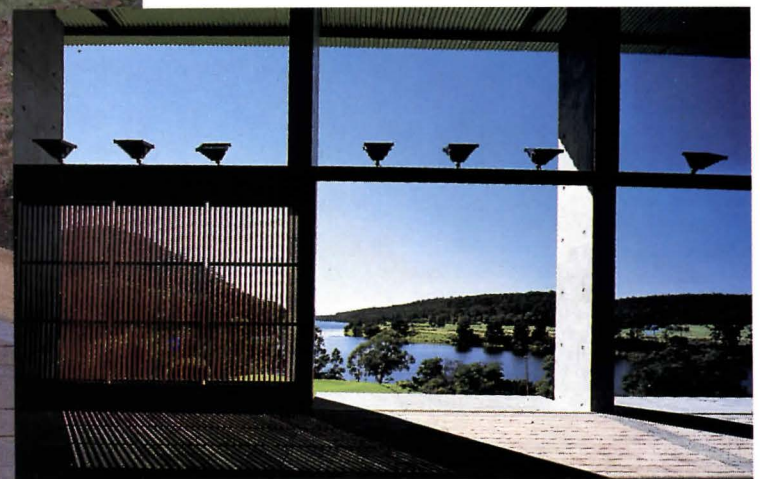
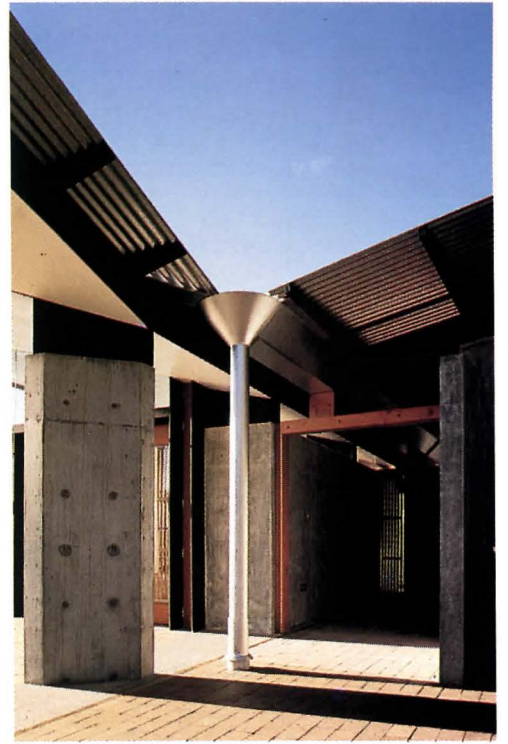


meals or 100 for concerts. This hall's austere interior of gray brick pavers and concrete walls does not draw attention to itself. Rather, it deflects the eye from inside to the surrounding landscape to the north and east, to the Shoalhaven glittering in the sunlight.

The river swings around and changes direction immediately below the new buildings, continuing for a short distance before changing direction again. The tilted axis of the building's dormitory wing picks up this last change of direction in the river's course. A kitchen behind the social hall connects to the residential wing, which subdivides into three dormitory pods along a west-facing veranda, with east-facing verandas between each pod. A fourth dormitory pod tucks into a basement level at the south end. Each wood-lined chamber sleeps eight children in two rooms of four beds; a shared bathroom divides the two bedrooms in each suite. Expression and function coincide in white-painted concrete sun-shading blades separating each window alcove: They introduce a driving rhythmic beat to the facade, blinker each cantilevered bed alcove for privacy, and wake the students by admitting only early morning sun. The warm wood tones and detailing of the

Sloping roof of hall (below, at left) meets sloping roof of kitchen block (at right) in columnar metal drainpipe (facing page, top). Broad terrace connects hall with outdoor amphitheater built into side of hill, and to original homestead buildings. Sharp overhanging roof (facing page, center) and wooden partition screens (facing page, bottom) shade multipurpose hall.





Staircase (below) leads to veranda that lines dormitory wing (facing page, center). Dorm rooms' concrete fins and operable wooden shutters (facing page, top) help modulate sun and breezes. Each room houses four beds in sleeping alcoves (facing page, bottom).



fenestration—windows within windows—give the residential wing an intimate, monastic character that is distinct from the more monumental social hall.

As a transitional device, the verandas that consume so much space in both the large hall and the dormitory wings act as intermediate spatial and climatic zones—a region of safety between building and nature that is half inside, half outside. Sited between the cultivated homestead landscape and the native bush behind it, the new art education center restates Boyd's divided relationship with Europe and Australia. In this context, Murcutt's verandas not only encapsulate Boyd's cultural and artistic predicament, but act as signposts directing us to the landscape he loved. Murcutt's building does not so much echo the division between the two landscapes as provide a permeable screen to mark the boundary of their separation. ■

Philip Drew is the author of Touch This Earth Lightly: Glenn Murcutt in His Own Words (Duffy & Snellgrove, 1999).

**ARTHUR AND YVONNE BOYD EDUCATION CENTRE, "RIVERSDALE"
WEST CAMBEWARRA, NEW SOUTH WALES, AUSTRALIA**

CLIENT: The Bundanon Trust

ARCHITECT: Glenn Murcutt & Associates, Mosman, New South Wales, Australia—Glenn Murcutt (principal)

ASSOCIATE ARCHITECT: Wendy Lewin; Reg Lark Architect, Cronulla, New South Wales, Australia

LANDSCAPE ARCHITECT: Schaffer Barnsley

ENGINEERS: James Taylor & Associates (civil and structural); Dr. Peter Bacon, Woodlots & Wetlands Co. (water management and sewerage); E. Shelmerdine & Partners (electrical); Harris Page (hydraulic)

CONSULTANTS: David Wallace, Northcroft (quantity surveyor); Derek Hendry Group (ordinance); The Bundanon Trust (heritage)

GENERAL CONTRACTOR: Berg Brothers

COST: \$2 million **PHOTOGRAPHER:** John Gollings/Esto



Sixty second guide to Belden Brick:

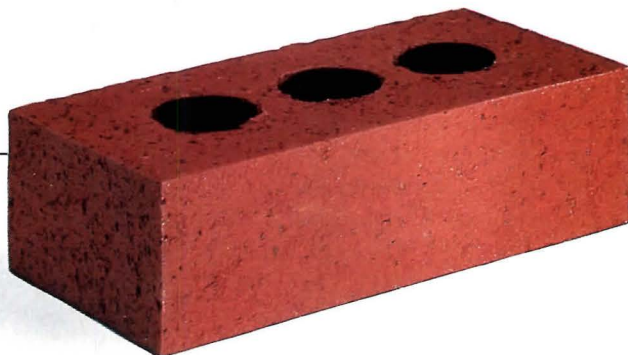
COLORS



Belden Brick is made in over 116 colors that include 2 choices in black, 28 browns, 7 tans, 8 buffs, 3 creams, 18 grays, 16 pinks, 26 reds, and 8 whites.

In addition, it is made in 12 different textures, although not all our brick is made in the same range of textures.

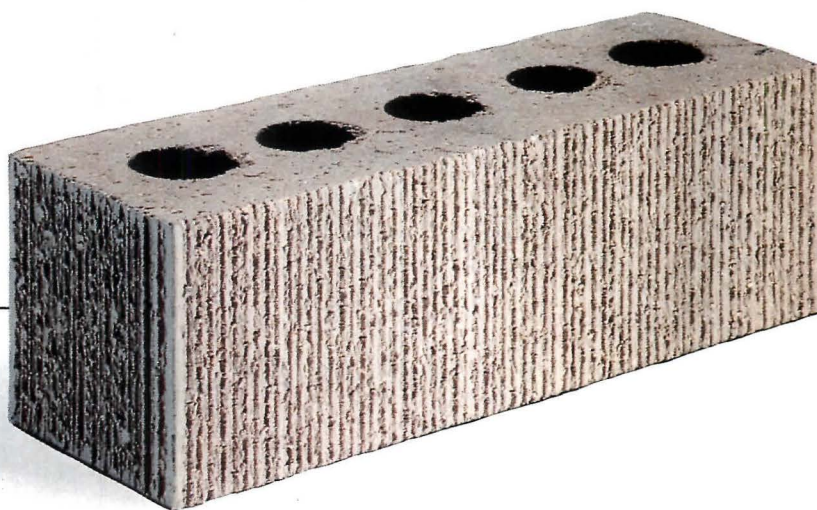
Belden also offers a choice of extruded brick or molded brick (with the character of hand-made brick.) Each category includes a wide range of colors and textures providing more than adequate design latitude.



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architecture

Technology + Practice



PRESERVATION

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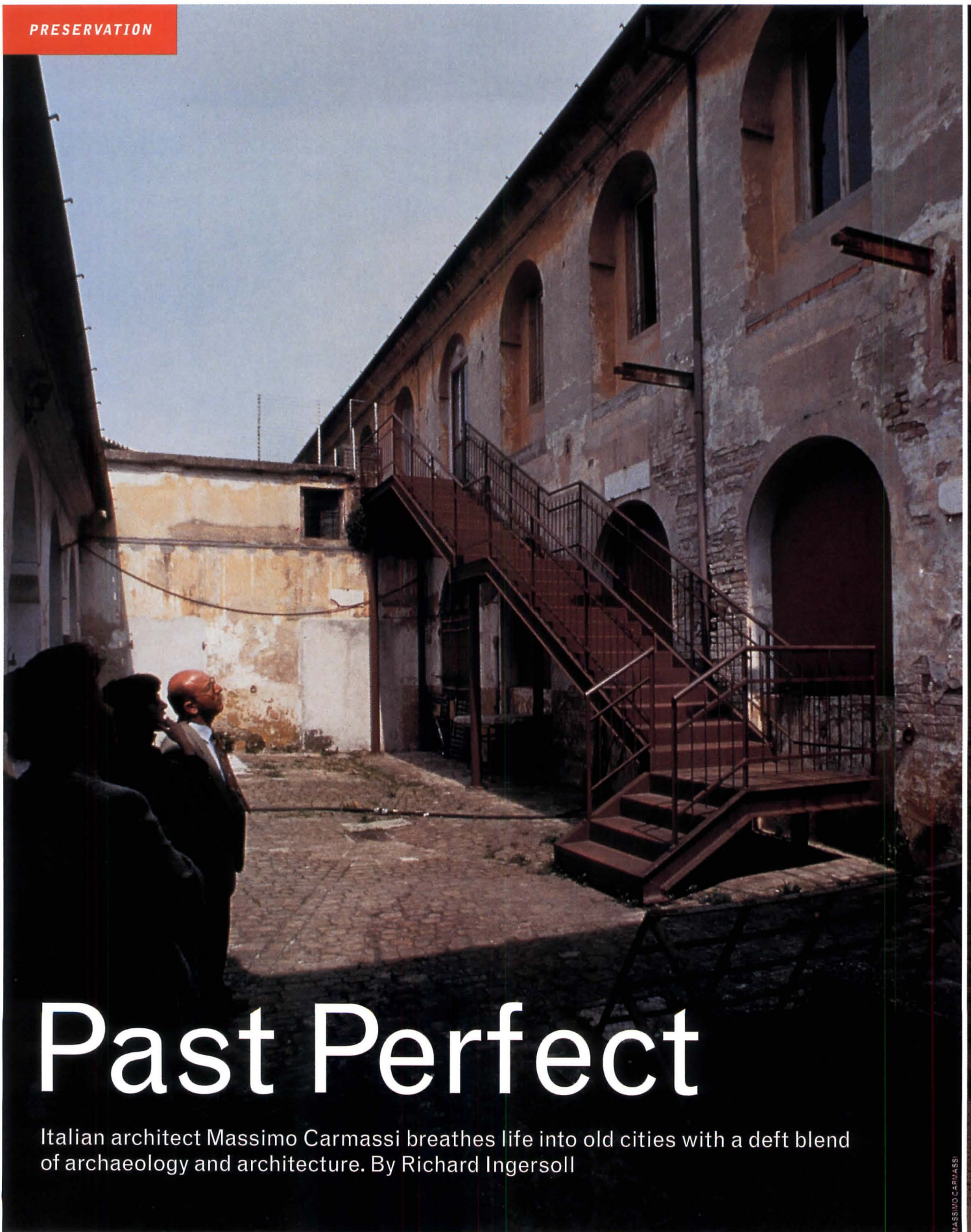
GREEN SHEET

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PRODUCTS

123 Take Note

Historic open-air market (above left) lies behind east wall of former slaughterhouse in Adriatic city of Senigallia, Italy. Italian architect Massimo Carmassi inserted library facilities (above right) while preserving building's rough-hewn character.



Past Perfect

Italian architect Massimo Carmassi breathes life into old cities with a deft blend of archaeology and architecture. By Richard Ingersoll

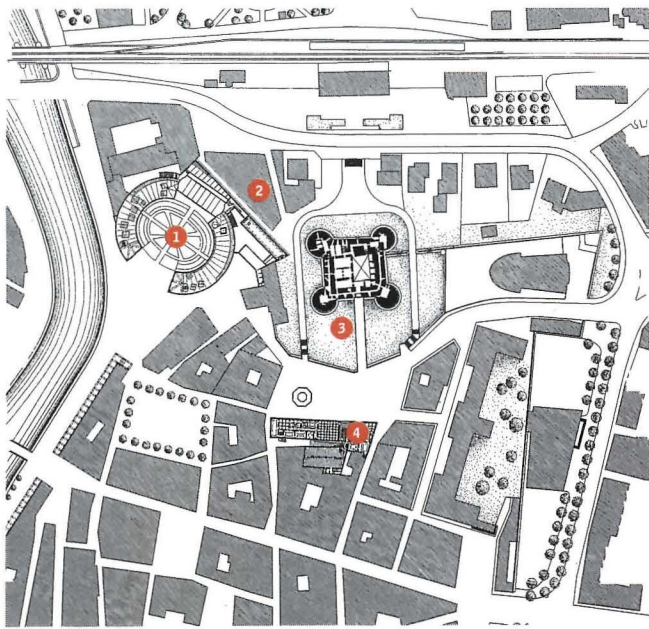
MASSIMO CARMASSI



Entry courtyard of Senigallia's marketplace and slaughterhouse before (facing page) and after Massimo Carmassi transformed it into library complex (this page). Background entry stair follows curve of south wing.

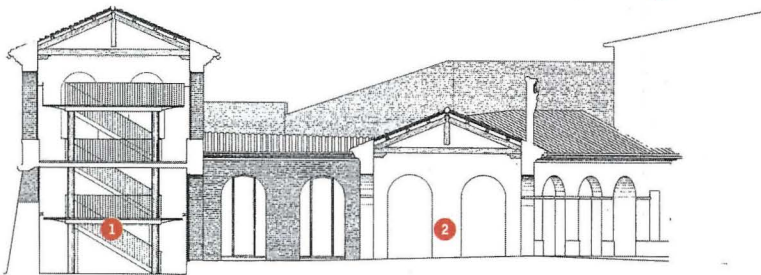
Massimo Carmassi has emerged as a leader in contemporary Italian architecture as much for his radical restorations of historic buildings as for his superb new work. His restoration method, displayed in the market and slaughterhouse he recently updated in the small Adriatic city of Senigallia, might be called "lived-in archeology." He scrupulously conserves, purifies, and consolidates what is old while invoking the flexibility of modern furniture.

Carmassi frankly acknowledges independent layers of time. He prefers to leave old buildings as they are, rather than rebuild them as they might have been. "An historic building," he explains, "is not just an historic artifact but a design in which all of the periods of a building, including our own, can be brought together into a balanced unity."



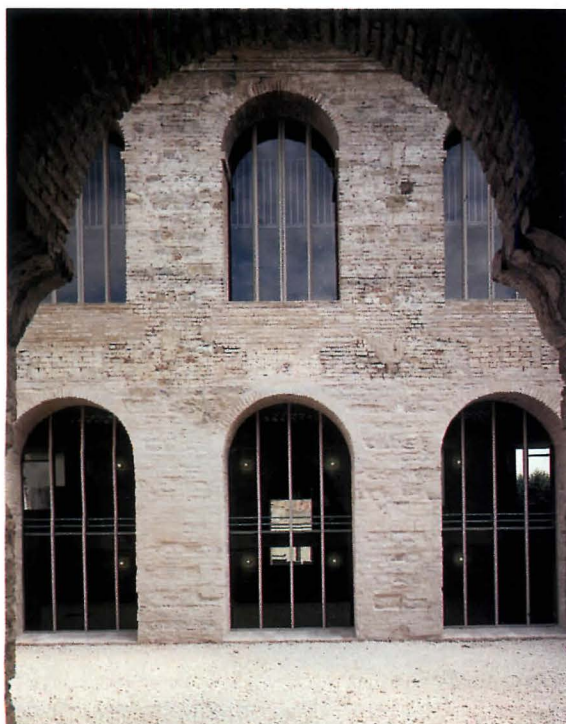
- 1 Foro Annonario
- 2 Slaughterhouse
- 3 Rocca Roveresca
- 4 Palazzo Del Duca

Site plan | 165'/50m



- 1 library stacks
- 2 café

North-south section of former slaughterhouse | 11'/3m



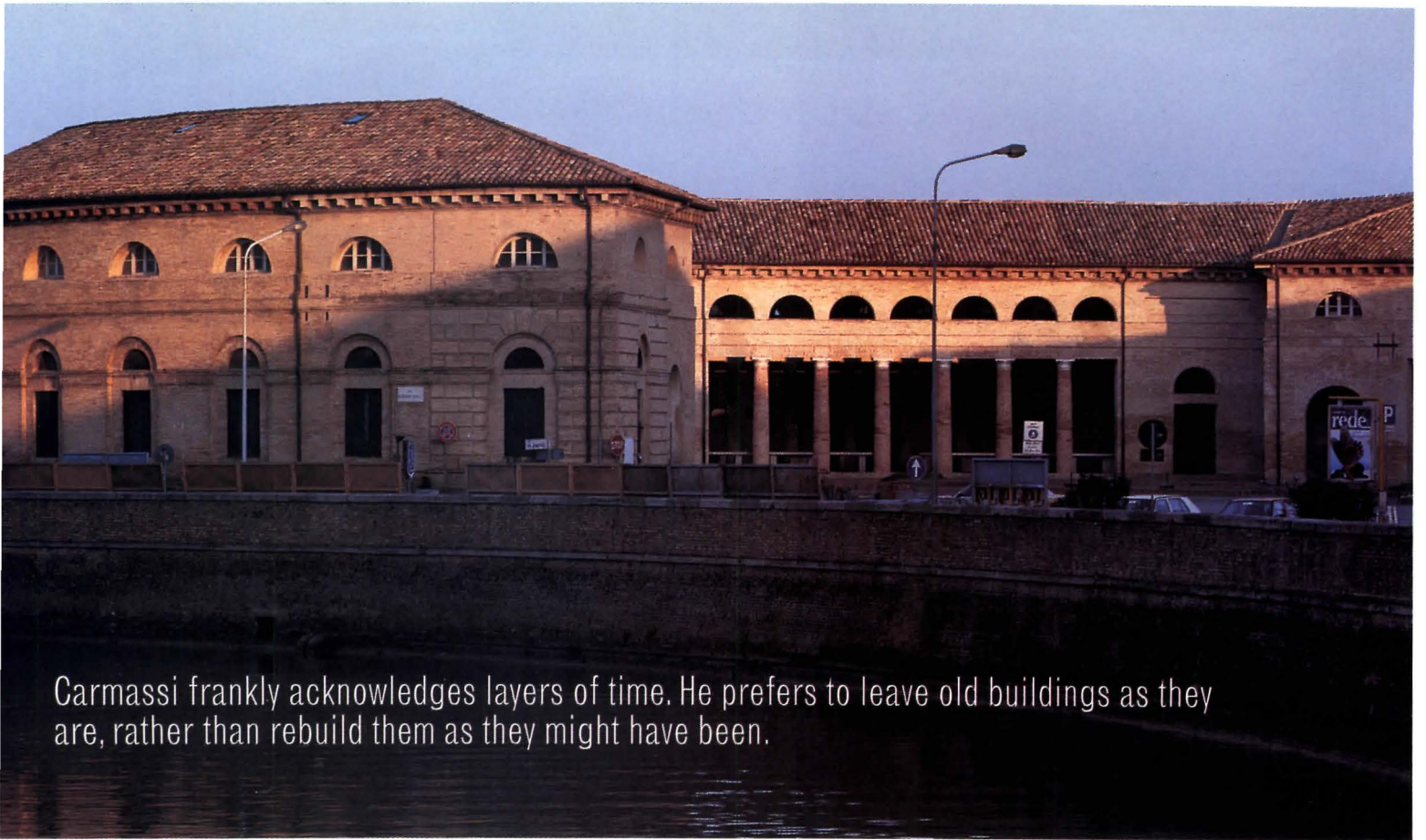
West facade of library faces **entry courtyard** (left). Top floor of library contains 19th-century **wood trusses** (right). Foro Annonario's **colonnade** looks northeast across Misa River to city center (above right).

By juxtaposing the solidity, mass, and authentic materials of old structures with the lightness, transparency, and comfort of modern technique, Carmassi achieves what literary critic Mikhail Bakhtin called a "chronotope," a sustained overlapping of different times.

Carmassi has a remarkable talent for modernizing old buildings without compromising the spirit of the past or present. For example, the restoration of Senigallia's early 19th-century market hall and adjacent slaughterhouse involved the insertion of a public library and historic archive into the market's upper story and rear court. Within the original neoclassical order, Carmassi installed a casual new order of steel frames, glass planes, brass details, and cypress-clad boxes.

Foro Annonario

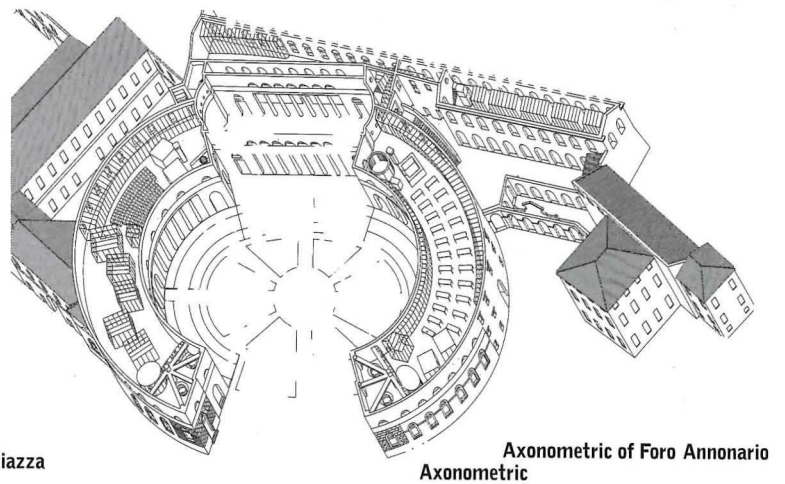
The marketplace in Senigallia resembles a miniature St. Peter's Square, composed of twin curving colonnades surrounding an elliptical piazza, with a grand double-height central hall on the central axis. Built in 1831 as the Foro Annonario (a reference to the ancient Roman welfare system), it was designed by Pietro Guinelli. A generation later, the architect's nephew added an attic story above the Doric colonnades for lodging soldiers. The slaughterhouse stood as a separate wing with its own courtyard behind the market piazza. The Foro Annonario complex wedges into one of the angled bastions of the town's 16th-century fortifications, next to the famous Rocca Roveresca, where Cesare Borgia slaughtered his mutinous captains in 1501. The wings of the piazza open onto a small river once used to transport goods from the seaport to town.



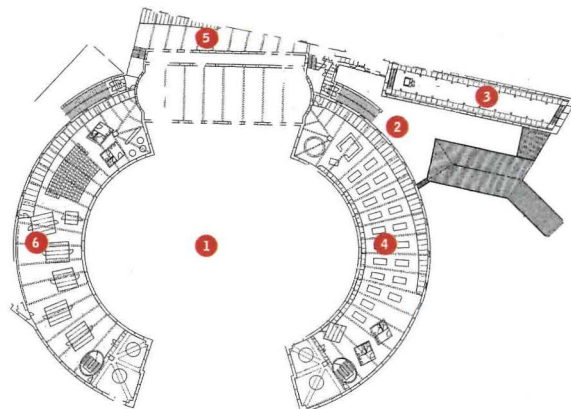
Carmassi frankly acknowledges layers of time. He prefers to leave old buildings as they are, rather than rebuild them as they might have been.

When Carmassi came to the project in the mid-1990s, government preservationists had already restored half the market buildings. The difference in Carmassi's approach is evident in the earlier restoration's substitution of the original rotting king-post truss timbers with heftier beams that satisfied current seismic and static requirements. By contrast, Carmassi left his portion of the market building's original timbers intact, scraping away the rotted wood and inserting reinforcing rods within the beams to satisfy the same structural requirements. Inspired by his earlier experience in clearing away the clutter from the walls of Pisa, Carmassi convinced Senigallia city officials to eliminate superfluous 20th-century sheds on the rear facade of the complex, thus exposing the solemn, battered brick wall of the renaissance fortification that serves as the foundation for the former slaughterhouse.

The lower-story colonnade on the piazza of the Foro Annonario still serves as a market; it is undisturbed by the new library above. The public entry to the library is through a gateway on the perimeter of colonnade's southern wing. Carmassi provided handicap access by installing a special elevator flanking the stairs that access two slightly different levels of the market building's upper story. Both stairs and elevator enter the upper level via a translucent corridor space partitioned by steel-frame and glass. Carmassi calls it a "corridor access point," or "buffer." One direction gives onto a curving wing used for the reading room; the other leads to a lobby



- 1 market Piazza
- 2 entry court
- 3 library stacks
- 4 reading room
- 5 café
- 6 offices



Debut

Carmassi Studio Di Architettura



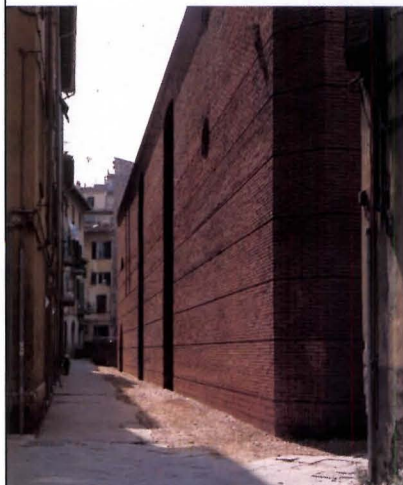
Founded: 1990
Location: Florence, Italy
Staff: six architects, one engineer, three interns
Principals:
Massimo Carmassi, Gabriella Ioli

Massimo Carmassi is among the few contemporary Italian architects to overcome an epochal crisis in the profession. Born in Pisa in 1943, he has produced consistently high-quality public work. As the director from 1974 to 1990 of the Projects Office, a municipally funded architectural agency, he undertook a complete survey of Pisa's historic patrimony, producing with university students a meticulous set of drawings at 1:50 and 1:20 scale that describe the intricacies of the Gothic city, which, in its 14th-century prime, swelled to a population of 50,000. His utopian project to restore the walls of Pisa by clearing away inconsequential 20th-century buildings is part of a civic campaign to clarify the plan for a city that has grown to 100,000 inhabitants.

With his wife, Gabriella Ioli, Carmassi has participated in more than 100 restorations of historic buildings in Pisa, ranging from small town houses to a 19th-century neo-classical theater. Along the way, he has garnered dozens of commissions for housing, schools, and cemeteries—each of which he attempts to integrate with the urban fabric by incorporating long, uninterrupted walls. Both his approach to renovating old buildings as “inhabited archeology” and his ideas for new buildings based on historic types intertwine in their design method of juxtaposing *solid masonry walls* with light steel and glass attachments.

Carmassi attempts to reconstitute the city with buildings that have permanence, reviving ancient masonry techniques, such as “muro a sacco” (parallel masonry walls with reinforcing in between), while bringing the accessibility and transparency of modern life to every project through the use of transparent steel and glass.

It is no secret that the architectural profession has been losing credibility in Italy since the mid-1970s. In 1994, Pier Luigi Nicolini, editor of *Lotus*, published a scathing assessment of the field (*Notizie sullo stato dell'architettura in Italia*, Torino: 1994). He demonstrated how top-heavy bureaucracies, corruption, and technical incompetence brought Italian architecture to paralysis. Carmassi's answer has been to cultivate local historic urban projects and restore them with his uniquely creative methods. Plus, he contributes the rigorous design of new buildings that create an uncompromised sense of urban boundaries. Since moving to Florence in 1996, where he occupies a 15th-century palace near the Ponte Vecchio, Carmassi has received commissions from Fermo, Arezzo, Rome, and Mantua. His battle for the walls of Pisa and his reaffirmation in each project of a “mural” approach to urban identity offers a lesson of silence and clarity for civic architecture as a defense against the noisy, degenerative urban form. *R.I.*



Carmassi's **S. Michele complex** stands on Pisa site abandoned since World War II.

with a café enclosed in a second glass-paneled space. A similar glass-enclosed corridor leads from this latter space into the other curved wing used for the library's lecture hall, historic archive, and offices. The upper stories of the curved wings were uncomfortably low; Carmassi's additions have remedied its compressed feeling. Among other things, he stripped away the false ceilings hung from the rafters for the past decades to reveal the chestnut king posts, thus amplifying the sense of height. Carmassi enhanced the daylight entering from knee-high semicircular lunette windows that predate the upper floor by affixing ceiling-high panels of sandblasted glass along the concave walls overlooking the piazza. This addition changes the scale of reference from the tiny lunettes to head-high milky panels.

Dividing walls

Instead of creating wall partitions to indicate separate functions within the library, Carmassi revived a concept dear to Louis I. Kahn: creating buildings within a building. The public bathrooms at the far end of the southern wing reside in euclidian cubes clad in thick cypress panels. The offices and meeting rooms sit within transparent glass boxes set in thin steel frames that isolate them acoustically while exposing them to view. The emergency stairways at the end of each wing are placed in elliptical shafts clad in highly reflective simulated marble. Carmassi contrived an illusion of depth in the library's two wings by arranging the numerous freestanding structures in skewed relationships that reveal complex interior vistas. He packed the library's stacks into the former slaughterhouse in the rear court. This structure underwent radical interior alterations as it was of less historic importance. Carmassi completely gutted the building and lowered the interior ground level four feet to accommodate the four-level library stacks. An independent concrete structure—essentially a separate building—inserted into the shell of the old one supports the stacks, which are contained in sliding steel cases. This structural autonomy solves the problem of great live loads and fire safety while offering a kinetic play of light in the reveals between the original walls and the steel frames that articulate the four floors and stairways.

The two library wings contain similar materials, such as milky translucent panels of glass and beige terrazzo floors, but each boasts its own distinct flavor. Two dozen reading tables with legs and sides clad in polished brass populate the southern wing's reading room. Glass partitions line both sides of the walls of this long space. They contribute to a warm glow ingrained in the cypress panels, brass details, and terrazzo floors. The other wing is distinguished by a dense clustering of transparent glass boxes. Throughout the project one never loses sight of the original structure. In the spirit of the chronotope, Carmassi brings the modern elements of speed, comfort, and transparency in tune within an historical shell. ■



**RESTORATION OF THE FORO ANNONARIO AND THE
SLAUGHTERHOUSE AS MUNICIPAL
LIBRARY AND HISTORIC ARCHIVE, SENIGALLIA, ITALY**
DATE: 1996-1998
DESIGN: Carmassi Studio Di Architettura—
Massimo Carmassi and Gabriella Ioli (principals)
COLLABORATORS: David Mount, Alessandra Ansuini,
Paola Pajalunga
STRUCTURE: Massimo Spadoni
MECHANICALS: Andrea Gaggiotti
PHOTOGRAPHER: *Mario Ciampi*, except as noted



South wing contains library **reading tables**, reference counter, and coat lockers (top left). North wing **lecture room** seats 80 (top right). Library offices reside within **glass-and-steel partitions** (above). Library's third level houses **compact shelving systems** (left).

lighting certification examination

NCQLP

National Council on Qualifications
for the Lighting Professions

Early Application Deadline:
August 20, 1999

Final Application Deadline:
September 17, 1999

Examination Date:
November 6, 1999



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Online Collaboration

Software developers bring improved Internet tools to a sparsely attended A/E/C Systems show. By Steven S. Ross

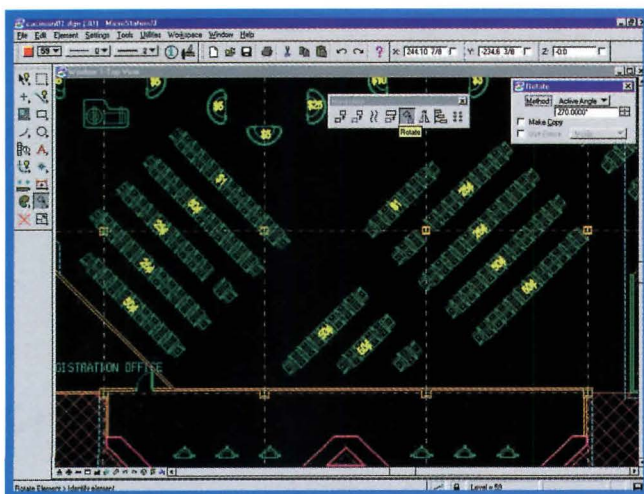
Many exhibitors at this year's sparsely attended A/E/C Systems show in Los Angeles were betting that architects want to collaborate online with clients, contractors, and consultants. Collaboration technology, for all its diversity and splendor, did not sit well with some architects at the show. The opinion of many was that they are being forced

to see so many variations on the collaboration theme, shown side-by-side for easy comparison of prices and features.

Collaboration software

The definition of "online collaboration" can vary widely, from simply storing electronic project drawing files where design firms and their consultants can access them for red-lining, editing, and other functions. The most comprehensive advance in collaboration software demonstrated at A/E/C was **Bentley Systems' ProjectBank**. It tracks and updates all drawing entities individually (CAD drawings are basically collections of entities—lines or groups of lines—illustrating a specific "object" such as a window or door) and maintains a project journal that logs every change. ProjectBank is being built into Bentley's MicroStation/J so that MicroStation DGN files can be tracked at the entity level by collaboration tools such as Bentley's ProjectWise. Although ProjectBank is free, ProjectWise is not. Its price depends on the number of users: \$50,000 buys a 25-user license (the next 25 users costs an additional \$5,000, 50 more for another \$5,000, and \$10,000 more for every additional 100 users). ProjectWise will include support for AutoCAD files.

Cyco Software's AutoManager WorkFlow 6.1 now comes with an Internet publishing tool that converts AutoManager WorkFlow—formerly only an internal document management and viewing program—into a collaboration system. Once published on the Web by the architect or other party, anyone can view the drawings with a free browser plug-in from Cyco. For security, Guardian by RightSoft works with Cyco's package to provide password protection. Cyco announced compatibility with AutoCAD 2000, MicroStation DGN, and many other file formats.

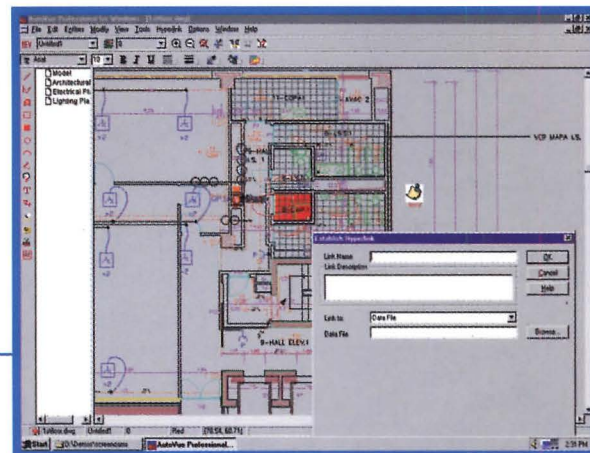


Multiple users can edit casino equipment plan at same time.

into this unfamiliar and potentially expensive arena by clients who wish to speed up the design and construction process, and who believe closer cooperation between architects and engineers will result in fewer construction errors and lower overall costs. They also worried that contractors, who tend to be more familiar with the technology already, will force architects to adopt collaboration tools that are more suitable for engineering than for architecture.

Nevertheless, the architects in attendance tended to regard the trend as inevitable, and welcomed the oppor-

Although the suite of features is often similar, there are many programs in the viewer/manager/collaborator category. Depending on a firm's past history with such software, one or another program may offer a more favorable upgrade price and more familiar interface. **AutoVue Professional from Cimmetry Systems** provides viewer programs with document storage and collaboration tools.



Users create hyperlinks to other documents, applications, script files, DDE servers, or DLLs.

space, for \$150 per user per month. Cubus will install server hardware and software at the firm's site as well. Prices vary, but firms can expect to spend \$35,000 for a server that can handle about 20 seats.

BlueLine Online's ProjectNet has a price structure that better serves firms with many users: \$1,500 per project for up to 50 users. The company also offers a robust "enterprise" solution (custom servers dedicated to ProjectNet). Large architecture firms Bechtel & Hellmuth and Obata & Kassabaum use this service.

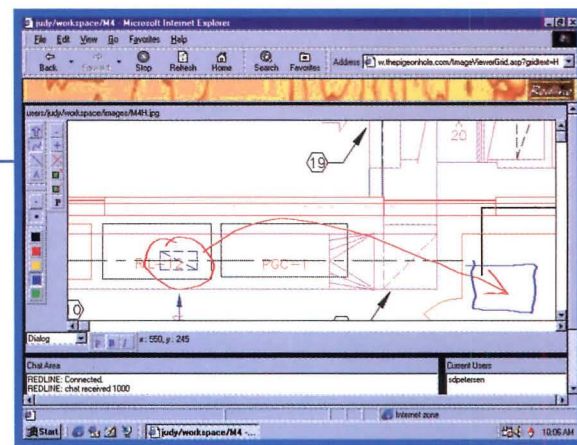
Adaptive Media's Envision 3D has a viewer optimized for viewing and red-lining even large 3-D models on the Web, as well as a new feature for simultaneous viewing and mark-up on the Web by multiple collaborators. Kamel Software's FastLook Plus has good drawing tools and integrates particularly well with AutoCAD.



Engineers, buyers, and suppliers manage complex product data in manufacturing plant.

Web tools and services

These companies offer a wide range of services at a wide range of prices, depending on whether a firm wants to store electronic files on an in-house server or rent server space from a commercial provider. **ThePigeonHole** rents space on its server at prices from \$16 per month for 5 MB, and \$89 per month (\$890 per year) for 50 MB; each user pays \$9 per month. The fee includes use of a red-lining tool, a viewer for AutoCAD DWG files, drawing management software, a DWG-to-JPEG converter that allows DWG files to be viewed in any Web browser, and e-mail tuned for sending and receiving very large files. For really large projects, they sell an entire server system and fast Internet connection, maintained at ThePigeonHole, for \$18,000 plus a setup fee plus \$900 per month (minimum one-year contract). Firms access the server remotely, using Symantec's pcAnywhere software.



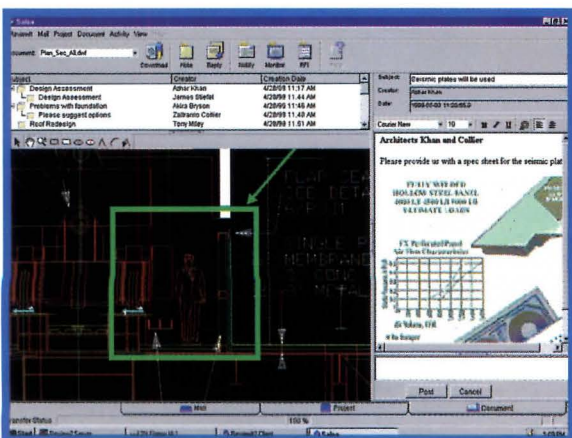
Team members view and discuss drawings simultaneously via Internet.

AdvantageNet from Emerging Solutions can handle drawing files, but is particularly good on the construction and project management side. Unlimited projects can be stored in its system at a cost of \$300 per user per year. Another product tuned for construction, but useful for architects, is **In-Site from BidCom**. It includes file viewing and mark-up along with contract bidding and administration. **Prolog, from Meridian Project Systems**, is a family of products for Web collaboration and project site management. A version of its software works on pocket computers running Windows CE and HP operating systems. Costs are comparable to the other services mentioned.

ActiveProject from Framework Technologies offers a full Web publishing and project management solution with built-in templates. The entry point, including server

ReviewIt by Cubus

also maintains servers either at its site or on the firm's server on a yearly lease. The price structure favors offices with data-heavy projects and few users needing access. An unlimited number of projects can be stored on the Cubus server, using an unlimited amount of



Architects receive, then review specifications next to drawing detail.

favors offices with data-heavy projects and few users needing access. An unlimited number of projects can be stored on the Cubus server, using an unlimited amount of

software for up to 15 collaborators and unlimited passive users, is under \$17,000. ActiveProject itself cannot handle all project management chores, although it is terrific for publishing project Web sites. Now it also has a direct link to Expedition 6.0, the project and contract management package from Primavera.

Tools to make it happen

A/E/C vendors also presented new tools to help firms get project data and CAD files online and hardware upgrades for more powerful computing. Rasterex unveiled its **RxReproScan** software, which keeps track of documents as they are scanned, and **RxAutoImage**, which brings scanned files into AutoCAD 2000. Once inside AutoCAD, the scanned raster files appear merged with CAD entities for on-screen viewing. Autodesk showed a raft of updated products designed to work with or alongside AutoCAD 2000. **CAD Overlay 2000**, like **RxAutoImage**, is a program for overlaying raster drawings with CAD-editable vector entities. **Lightscape 3.2** now supports AutoCAD 2000 DWG files and has better compatibility with Autodesk's animation tools: **3D Studio VIZ** and **3D Studio MAX**. Entities drawn in 3D Studio VIZ can be exported back to AutoCAD 2000.

Silicon Graphics (SGI), which usually shows the most powerful computers at A/E/C Systems, occupied a large room set apart from the show floor to exhibit its new Pentium III-based line for super-power users. The SGI Visual Workstation 540 machines support up to four Pentium CPUs in the same box, with amazingly fast and flexible graphics. The typical entry price is approximately \$6,000 for an SGI machine with a fast (550 MHz) processor, large (9 GB) hard drive, and high-end graphics.

State of the industry

For all the new efficiencies incorporated in new and upgraded tools, and despite the potential of the object-oriented paradigm (*Architecture*, June 1999, pages 129-131), CAD technology for designing buildings is far from a mature market. During the keynote panel discussion, Graphisoft president and CEO Gábor Bojár suggested that if the construction industry spent proportionately as much on computerization as the automotive industry, the market for CAD and other tools would increase six-fold. This year's show certainly suggested he may be right. Many CAD vendors, along with giants Autodesk and Bentley, were competing for a share of the market.

Graphisoft itself is working on a follow-up to ArchiCAD 6.0. The next version will feature file referencing—an extension of the virtual building model that simplifies updating repeating building elements while allowing fewer duplicates in the project files. Other programs use XREFs on the drawing level to allow limited sharing of documents, while **ArchiCAD's TeamWork** functionality enables much more flexible definition of work-

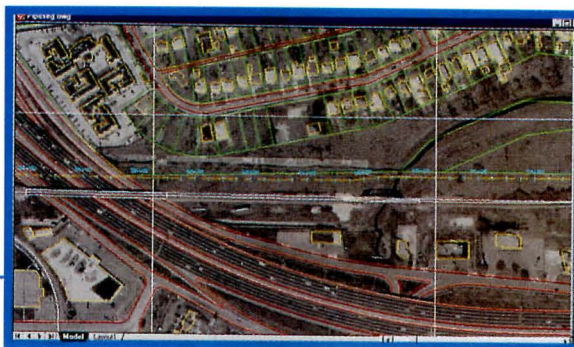
spaces, access rights, and responsibilities. The new version will also have a built-in browser with previews for accessing electronic catalogs of building objects. Bojár also said Graphisoft will be releasing tools for third-party developers that enable the use of parametric building objects (based on the parametric Geometric Description Language used inside ArchiCAD) within other A/E/C CAD vendors' products, including Bentley and Autodesk.

Despite the rich array of products at the show and Bojár's vision of a more productive and robust CAD industry on the brink, attendance at the show was down by a third from last year. Why the drop? Maybe business is so good that architects, engineers, and contractors were too busy to come. Perhaps they'd rather attend the many regional and international exhibitions A/E/C Systems itself has spun off. Or maybe they are using the Internet more to comparison shop.

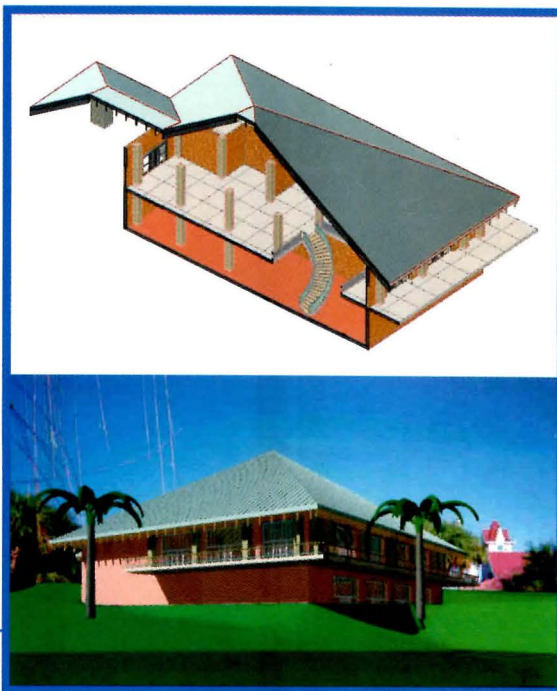
A/E/C itself unwittingly highlighted why these shows are useful for some things and not for others. On one hand, it's hard to imagine architects being able to explore and compare the emerging collaboration technologies as thoroughly and efficiently as they did in Los Angeles. However, for CAD and computer hardware, where the technology is becoming familiar and improvements somewhat incremental, many architects might find vendors' Web sites and magazine advertising to be a reasonable substitute.

Some exhibitors say (off the record, for now) that next year's show, which will be held in Washington, D.C., and should attract many federal employees, will be the last if the slide in attendance does not turn substantially upward. ■

Steven S. Ross is an associate professor at Columbia University's Graduate School of Journalism.



Designers plan new infrastructure development using photogrammetry.



ArchiCAD 6.0 team's beach resort won Architectural CADD Cup for Best Overall CAD software at 1999 A/E/C Systems show.



Down in Front

Nine years after the Americans with Disabilities Act became law, architects and lawyers are still arguing over its meaning. Is help on the way?
By Michael Cannell

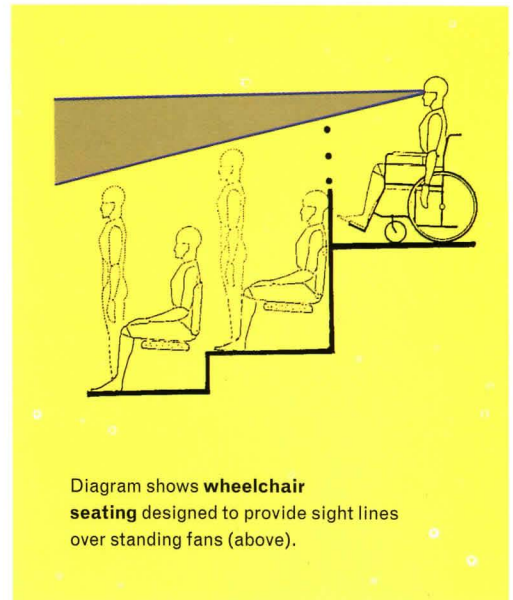


Diagram shows **wheelchair seating** designed to provide sight lines over standing fans (above).

When it comes to love scenes and galactic shoot-em-ups, closer can only be better, right? Not necessarily, says the U.S. Department of Justice (DOJ). The department's civil rights attorneys slapped movie theater giant AMC Entertainment with a lawsuit last January for failing to provide wheelchair users access to newfangled stadium-style seats perched on 18-inch risers for unobstructed views. Wheelchair patrons are instead forced to sit down front, straining their heads upward for a glimpse of the action. "This is a matter of basic fairness," said Bill Lann Lee, acting assistant attorney general for civil rights. "People who use wheelchairs to go to the movies pay the same price as everyone else. They should have access to seats of comparable quality to those available to most other persons."

After negotiating in private with AMC for seven months, the DOJ charged the theater chain with violating the civil rights of disabled customers in the newest of its 219 theaters. "We were stunned," says company spokesperson Brenda Nolte, who first learned of the suit in a press release. "We showed them more than two dozen drawings, but we couldn't satisfy their evolving definition of compliance." AMC countersued the DOJ in April, charging that the department's interpretation of the Americans with Disabilities Act (ADA) amounts to an illegal policy change. "They demanded that all future construction comply with their standards," says AMC Attorney Bob Harrop. "But nobody seemed to know what that meant."

Although the DOJ has yet to sue AMC's architects, the American Institute of Architects (AIA) has weighed in, arguing that architects in compliance with local building codes should not be subjected to the ill-defined standards of civil rights laws. "This is an excellent time for us to express our frustration," says AIA Vice President of Government Affairs Jim Dinegar. "Architects want

“A building code deals with inches and concrete, but civil rights is a broad, sweeping concept.”

to comply with the ADA, but the Justice Department stonewalls us every time we ask for clarification. It's like musical chairs, and architects are the ones left standing.”

The age of accessibility

This spring's legal dustup was the latest salvo in a long-standing wheelchair war. Ever since George Bush signed the ADA into law nine years ago, architects and government lawyers have wrangled their way through a muddled marriage of building codes and civil rights. Their feud centers on the exact definition of accessibility, and who is responsible for it. Architects would naturally prefer the certainty of a fixed set of regulations, but they won't get it anytime soon. The ADA was enacted as a civil rights law, which means anyone can, in theory, invoke it when they feel they've been discriminated against. “A building code deals with inches and concrete,” says John Wodatch, chief of the DOJ's disability rights section, “but civil rights is a broad, sweeping concept.”

If government lawyers are cracking down with particular zeal, it's for understandable reasons. Handicap access is known to be the personal peeve of Attorney General Janet Reno, who suffers from Parkinson's Disease, a degenerative condition expected ultimately to land her in a wheelchair. What's more, Reno's mother used a wheelchair in the last years of her life, and she harshly regretted the plans she'd drawn as an amateur architect for the family's Florida home. “She hadn't designed it to be accessible,” Reno says, “and I cursed it every single day.”

The ADA arrived on the scene like a cryptic form of regulatory haiku: Everybody interpreted it their own way. Title III of the legislation, which addresses public accommodations, says it's illegal to fail to “design and construct facilities...that are readily accessible to and usable by individuals with disabilities.” At first, the AIA argued that the phrase absolves architects, since by definition they only design buildings. “It was not our brightest-shining moment,” Dinegar concedes. “Our stance was that responsibility for compliance lay with the owners. They're paying architects to design. If [the owners] chose not to comply, we felt it lay outside our authority.”

Not surprisingly, the AIA's literal reading of the law did not go unchallenged. In 1996, an advocacy group called the Paralyzed Veterans of America (PVA) sued Ellerbe Becket, one of the country's oldest and largest design firms, for violating the rights of fans in wheelchairs in six stadiums and arenas designed after the law went into effect in 1992.

The law says that wheelchair locations must offer “lines of sight comparable to those for members of the

general public.” PVA argued that up to 80 percent of wheelchair locations in Ellerbe Becket venues did not have lines of sight over standing spectators. “When spectators stood to watch the Wizards and Caps at Washington's MCI Center, disabled fans couldn't even catch a glimpse of the game,” says PVA in-house architect Kim Beasley. “There were no locations available to them with unobstructed sight lines.”

Nonetheless, a federal district court judge dismissed PVA's lawsuit in July 1996, accepting the AIA's argument that the ADA was never meant to hold architects liable. The DOJ was following the case carefully, and it expressed disappointment. “If a client told you to design a building with one fire exit when two are required, or to use a design that was structurally unsound, we'd expect you to tell your client that you could not participate in creating such a safety risk,” Janet Reno told a group of architects.

Three months after the district court rebuffed PVA, the DOJ filed its own lawsuit against Ellerbe Becket, claiming the firm “engaged in a pattern or practice of discrimination.” Ellerbe Becket maintained that the law is vague and open to interpretation. Once again, the firm moved to dismiss the suit on grounds that architects are not specifically named as liable parties. This time the judge disagreed. The parties settled in April 1998, with Ellerbe Becket agreeing to abide by the DOJ's recommended sight lines in all future construction.

“Our view is that all parties who participate in new construction and alterations, including architects, are liable for any violations of the ADA standards for accessible design,” Bill Lann Lee told a disabilities group last year. “That's why our lawsuit against Ellerbe Becket was so important.”

The settlement forced the AIA to accept that architects must legally comply with the ADA. “There's nowhere to hide,” says Gilbert Oberfield, chairman of the New York AIA's interiors committee. “We often find ourselves in the uncomfortable position of telling owners what the law means. But it's no longer debatable. A crime is a crime. You can't indemnify yourself.”

New guidelines

The debate has now shifted to the ground rules of compliance. The AIA contends that architects want to conform, but the DOJ won't tell them how. Local building codes offer no protection. AMC Entertainment, among others, followed local code and still got sued. The DOJ can certify state codes as complying with the ADA, but so far only four states (Texas, Maine, Washington, and Florida) have managed to shepherd their applications through the department's lengthy review process. (A handful of additional state applications are pending.) Even the advice dispensed by the DOJ's technical-assistance hotline is not legally binding. “We're trying to comply,” Dinegar says, “but Justice leaves us guessing at every turn, and then they call us on the carpet. We're nine years into a major piece of legislation and these kinks still



AMC Entertainment **confined wheelchair users** to front-row seating at its Promenade 16 Theater in Woodland Hills, California. The location forces patrons to look up at screen at up to 55-degree angles.



Photograph used by disabled advocates in lawsuit to demonstrate **obstructed sight lines** at Ellerbe Becket's First Union Center in Philadelphia. Advocates charged architects with hiding wheelchair seating beneath three removable rows of seats, so that as many as 48 seats had to be folded up to accommodate disabled customers.

haven't been worked out." The only sure way to know if you're in violation, Dinegar says, is to wait for government lawyers to knock on your door.

Fortunately, help may be on the way. The U.S. Access Board, a federal advisory agency, has drafted a revised version of design recommendations known as the ADA Access Guidelines (ADAAG). The new ADAAG will be the first comprehensive update since the original ADAAG came out in 1991, and it represents a major step toward a single national standard. It should clarify much of the ADA and integrate it with local building codes when the DOJ publishes the final version late next year.

Still, the new ADAAG is only a set of recommendations; it offers no safe harbor against the threat of lawsuits. In fact, its guidance will strike many as arbitrary. "It's not going to work for everybody," says architect and ADA consultant Robert Lynch, "but you've got to draw the line somewhere." The courts will continue to base their rulings on an architect's "good faith" effort, or their diligent adherence to the spirit of the law. In other words: If you can design a building so that the handicapped can use it as fully as able-bodied people, but you choose not to, then you're in violation.

If the Byzantine access rules still baffle architects, it may be because the AIA has been slow to provide leadership. "They dropped the ball in the past," says Jack Catlin, former chairman of the U.S. Access Board. "Instead of tackling the issue before it got to court, they stuck their heads in the sand and wished it away." In fairness, the new administration working under recently appointed AIA CEO Norman Koonce has addressed the issue more aggressively, consulting with the Access Board and educating constituents.

If there is a new spirit of cooperation, it hasn't stopped the DOJ from litigating. Two months after suing AMC Entertainment for barring wheelchair access to stadium-style seats, the DOJ brought a similar suit against Cinemark USA, the nation's fifth-largest theater chain. "They're giving disabled people the worst seats in the house," says James Wiseman of PVA's New York chapter. "You wouldn't tell black people to sit only in the front of the theater. But in a de facto way, that's what they're doing to disabled people." The pending litigation against AMC and Cinemark seeks court orders forcing the theater chains to construct new theaters so that people in wheelchairs have access to stadium-style seats. As of this writing, no trial dates were scheduled. So far, no movie-theater architects have been sued. "But I wouldn't rule anything out," the DOJ's John Wodatch warns.

DOJ lawyers hope that enforcement will promote a new ideal known as "universal design." It is no longer enough to provide separate facilities for the 50 million Americans with disabilities. Janet Reno's stated goal is to integrate the disabled into all public facilities. "This is a position we feel strongly about," Reno says. "We have defended it in court, and it is one that we will continue to defend whenever necessary." ■

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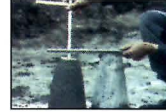
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A highway-maintenance facility struggles to meet new county-mandated environmental regulations.

By Chris Hammer

It's Not Easy Being Green

Environmentally responsible design solutions are rarely 100-percent attainable, especially if the building type is a municipal plant that consumes water voraciously. In February 1999, the Hennepin County, Minnesota, Board of Commissioners began reversing a history of resource depletion by adopting sustainable architecture standards for all county design and construction projects. The county then selected the new \$24 million, 242,000-square-foot Hennepin County Public Works Facility in Medina (above), in design development by Minneapolis-based Architectural Alliance, as its first official “green” building project. In an unusual show of public-private collaboration, the architect and client worked together to develop sustainability standards over the course of the project. “The public works facility became a laboratory where the architect and the county tested and implemented ideas for sustainability at many levels,” explains Thomas DeAngelo, principal of Architectural Alliance.

The facility houses 300 employees as well as all support functions for the design, operation, and maintenance of the county’s road and highway system. It also serves as the dispatch center for roadway maintenance and emergency operations. The building program included space for offices, vehicle storage, maintenance, warehousing, and fabrication.

Water conservation and recycling and wetlands restoration dominated the county’s sustainability priorities. Instead of burdening Medina’s sewage system with the new plant, the county chose to treat domestic wastewater in-house. The architects specified the compact Zenon Cycle-Let system for water treatment. Waste from toilets and sinks is broken down with bacteria, then run through carbon and ultraviolet-light filters. The recycled water is then used in the toilets. Any surplus water or solids from the first processing stage are pumped to an on-site mound leaching field.

The county and the architect chose another system to recycle the huge amounts of water used to wash dirt and salt off highway maintenance trucks. A thermo-oxidizer converts dirty water from the truck-wash bays to steam and then flashes off grease, oils, and fuels. Salt and sand settle to the bottom and are collected and reused on the roads. The county prudently purchased the largest thermo-oxidizer available, but it proved unable to keep up with demand. To correct the problem, officials installed a storage tank to feed the dirty water slowly to the thermo-oxidizer so as not to overload it. Without this adjustment, excess sludge and water would have had to have been hauled to a nearby municipal sewage system, thus defeating the county’s conservation efforts.

As part of the 146-acre site development, Hennepin County converted 99 acres of farmland back to prairie grassland and replaced wetlands disrupted by the facility’s construction. The architects also designed a retaining pond to collect runoff from the building’s paved surfaces. The collected water is then released slowly into the wetlands through a gate valve, thus preventing the pond from flooding the wetlands.

The county is using this building as a test case. Officials will analyze data from the recycling systems’ performance and compare it with that of the previous plant to determine energy savings. They already know water consumption has been reduced by 75 percent, but it will take time to determine whether this will recover the cost of the recycling systems.

Those conclusions will in turn influence the evolution of the county’s sustainability standards, which will be based on measurable successes rather than arbitrary restrictions.

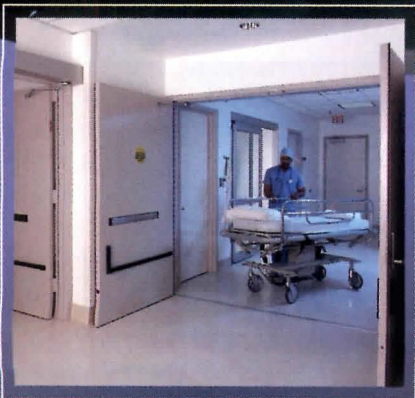
San Francisco-based consultant Chris Hammer publishes GreenClips, an online newsletter about environmental issues.

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PRODUCTS



CLOCKWISE FROM TOP LEFT: **Master View** It is a new era for the View-Master, that childhood wonder, thanks to architects Michael Kaplan and Gregory Terry's View* Productions, which has begun to document works by great architects, including Bruce Goff and Frank Lloyd Wright. The 3 $\frac{1}{2}$ "-diameter View-Master reels contain seven pairs of color transparencies taken by a stereoscopic camera that reproduces the object realistically in three dimensions. Architects can commission disks to document their own work. *Circle 297 on information card.* **New in the Hood** Silex is one of six new kitchen hood designs from Berkeley-based architect Fu-Tung Cheng. All hoods are constructed with 16-gauge stainless-steel, feature two low-voltage halogen lamps, and accommodate two types of blowers. Technical support is provided by Cheng Design. *Circle 298 on information card.* **Tight Fit** German-based Bendheim, a leader in specialty glass

since 1927, introduces a new line of glass fittings that work solely in compression, eliminating the need to drill into the glass. Each clamp is fitted with a gasket so there is no glass-to-metal contact, and the fittings accommodate more than one glass thickness. Archia, shown, slants up to 30 degrees, and can be installed with a screwdriver. The fittings come in numerous shapes, sizes, colors, and finishes, including zinc, brass, and stainless steel. *Circle 299 on information card.* **Once Again** Re-play, pictured, is one of six new designs in the Redux fabric collection from DesignTex. Redux offers a 100-percent solution-dyed, recycled polyester fabric constructed solely from post-industrial waste. The unbacked Redux textiles are made from a single fiber and can be recycled ad infinitum. These fabrics are light-fast, color-fast, and can be scrubbed and cleaned without degrading. *Circle 300 on information card.*

Compiled by Joelle Byrer

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	2nd Q 1999	2nd Q 1998	2nd Q 1999	2nd Q 1998	2nd Q 1999	2nd Q 1998
Atlanta	\$ 75.84	73.98	80.14	79.16	68.06	66.71
Boston	100.53	98.41	106.22	105.49	90.20	88.07
Chicago	95.30	92.24	100.69	98.71	85.51	83.34
Dallas	74.39	72.14	78.60	77.20	66.75	64.91
Kansas City	83.99	79.56	88.74	85.14	75.36	71.58
Los Angeles	94.78	93.32	100.15	99.89	85.05	83.42
New York City	114.75	112.83	121.25	120.31	102.97	102.01
Phoenix	77.64	75.81	82.04	81.13	69.67	67.60
St. Louis	88.19	85.32	93.18	91.30	79.13	76.82
San Francisco	106.78	104.50	112.83	111.83	95.82	93.84
Seattle	90.84	87.99	95.98	94.16	81.51	79.07
Washington, D.C.	82.27	80.25	86.93	85.43	73.82	72.55

Each month Architecture takes a snapshot of U.S. construction – looking at average costs and upcoming projects for different building types. News on projects is provided by Construction Market Data and cost information by R.S. Means – both CMD Group companies.

NOTE: Cost comparisons shown here are for the basic building without site work, 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

YMCA of Gahanna

Location: Gahanna, OH
Project Value: \$4.5 million
Size: 50,000 sq ft, 1 floor above grade, 1 structure
Current Project Stage: Schematics
Status: Schematics in Progress; Bid Schedule Not Set
Project Scope: Prototype Design YMCA to Include Natatorium, Gymnasium, Educational Rooms, Day Care Facilities, Outdoor Recreational Facilities, Offices
Associate Owner: Gahanna City Engineer; Raleigh Mitchell; 200 Hamilton Road; Gahanna, OH 43230
Phone: 614.471.6919
Architect: Moody Nolan; Mark Bodien; 1776 E Broad Street; Columbus, OH 43203-2039
Phone: 614.253.2623; **Fax:** 614.253.8003

Creeks at Beechwood

Location: Highway 114, Fort Worth, TX
Project Value: \$20 – \$25 million
Size: 250,000 sq ft, 305 units
Contract Type: Negotiated
Current Project Stage: Design Development
Status: Design Development in Progress; Subbid Schedule Not Set
Project Scope: 18 Hole Golf Course, 10,000 sq ft Club House, 6,000 sq ft Cart Storage Facility, Hotel Includes 18,000 sq ft of Meeting/Conference Space
Owner: Beechwood Co.; Carl Schwab; 3838 Oak Lawn Avenue, Suite 1000; Dallas, TX 75219-4511
Phone: 214.521.8300; **Fax:** 214.521.8339
Architect: Three Architects Inc.; Brian McGauley; 5401 N Central Expressway, Suite 300; Dallas, TX 75205-3348
Phone: 214.559.4080

Oregon Municipal Buildings

Location: Oregon, WI
Project Value: \$4.5 million
Size: 42,000 sq ft, 2 floors above grade, 3 structures
Current Project Stage: Design Development
Status: Design Development in Progress; Bid Schedule Not Set
Project Scope: 19,000 – 20,000 sq ft New Police Station, 6-Bay Expansion at Public Works Garage & Office Addition & Alteration at Village Hall
Owner: Village of Oregon; 117 Spring Street; Oregon, WI 53575-1494
Architect: Vierbicher Associates; Dan Feller; 400 Viking Drive; Reedsburg, WI 53959
Phone: 608.524.6468

Nicholasville City Hall

Location: Walnut Street, Nicholasville, KY
Project Value: \$2.4 million
Size: 15,000 sq ft, 2 floors above grade, 1 structure
Current Project Stage: Schematics
Status: Schematics in Progress; Bid Date Not Set
Project Scope: City Government Office Building
Owner: Nicholasville City Council; Mayor Sam Corman; PO Box 450; 517 N Main Street; Nicholasville, KY 40356
Phone: 606.885.9473
Architect: Brandstetter Carroll Inc.; Monica Sumner; 2363 Chauvin Drive; Lexington, KY 40517-3917
Phone: 606.268.1933; **Fax:** 606.268.3341

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Century City West Office Building

Location: Clairmont Road & Interstate 85, Atlanta, GA
Project Value: \$14 – \$19.5 million
Size: 230,000 sq ft, 10 floors above grade, 1 structure
Current Project Stage: Schematics
Status: Schematics in Progress; Bid Schedule Not Set
Project Scope: Offices, Fitness Center, Parking Deck, Storage Area, Restrooms, Lobby
Owner: Gray Properties; Chris Gray; 3103 Clairmont Road, Suite A; Atlanta, GA 30326
Phone: 678.482.0050; **Fax:** 678.482.0051
Architect: Diedrich/NBA; Dale McLain; 1 Buckhead Plaza; 3060 Peachtree Road NW, Suite 600; Atlanta, GA 30305-2240
Phone: 404.364.9633; **Fax:** 404.364.0064

101 Constitution Avenue

Location: Constitution Avenue & Louisiana Avenue NW, Washington, DC
Project Value: \$200 million
Size: 500,000 sq ft, 10 floors above grade, 5 floors below grade, 1 structure
Current Project Stage: Schematic Drawings
Status: All Plans in Progress; Bid Schedule in Progress
Project Scope: Office Structure with Below Ground Parking Structure
Owner: United Brotherhood of Carpenters and Joiners of America; Randy J. Sowell; American Realty Advisors; 700 N Brand Boulevard, Suite 300; Glendale, CA 91203
Phone: 818.545.1152; **Fax:** 818.545.7259
Architect: Shalom Baranes Associates; Shalom Baranes; 3299 K Street, NW; Washington, DC 20007-4415
Phone: 202.342.2200; **Fax:** 202.342.1569

My neighbor has been “restoring” the house next door for almost four years now, a project he will not finish until death takes pity on him. He’s had several crews quit after he ordered them to tear down and rebuild the same walls over and over. His hammering and scraping is an urban lament that will eventually drive everyone as insane as he is.

I asked an architect if there is a name for this kind of neurosis, but the best he could come up with was the old Freudian saw: “anal compulsive.” There must be medical literature on this kind of behavior; it has such a rich history. The stories of Daedalus, Ludwig the King of Bavaria, and the Winchester Mystery House spring to mind. For lack of a ready label, I will call it the Labyrinth Syndrome.

Daedalus, the builder of the Labyrinth at Minos, was surely creating a metaphor for the meaning of human life: The elusive Minotaur was only a slender hope held out to the lost wanderer. The Labyrinth itself was infinite and took the lifetimes of many builders to expand. Its meaning was in its construction; it could never cease because if it did,

Architecture Nervosa

Sometimes the importance of
the act of building outweighs its results.

By Andrei Codrescu



Carpenters worked for 38 years—until owner Sarah Winchester’s death in 1922—on ever-expanding **Winchester Mystery House** in San Jose, California.

the builders’ lives would become meaningless. Many religious buildings are likewise the work of lifetimes, and are never finished.

The creation of vast structures to aid humans in their unending struggle against the wilderness demands a recognition of our link with nature; that link is flesh and blood. We know that any shelter that is not a cave somehow transgresses the natural order and offends the gods, who must therefore be placated with acts of sacrifice.

In the Romanian myth of “Master Builder Manole,” the walls of the great church that Manole and two other masons are raising will not stand until a living human is buried within. The masons agree that the first of their wives to bring them lunch the next day will be the sacrifice. Master Manole, unlike the wily, older builders, does not warn his young wife to stay home and she becomes the innocent victim whose cries, the story tells us, can still be heard on moonlit nights issuing from the walls, asking “Why?” over and over. The walls of mighty churches, the supports of great bridges, and the towers of palaces are all said to contain sacrifices, even if accidental. The victims’ “whys” issue perpetually from their depths, but the answer is not forthcoming.

That knowledge decayed in history from ceremony to neurosis. Mad King Ludwig knew only that the fantasy he saw in his mind had to be reproduced in stone, no matter what the cost. When Sarah Winchester, heiress to the rifle company fortune, built the Mystery House in San Jose, California, she feared that the end of the construction would mean her death, so she ordered stairs that go nowhere and tiny rooms without windows. The builders of the Labyrinth had a precise idea of the terror symbolized by the Minotaur at the center of the structure. Winchester had lost the connection to anything bigger than herself. The universe had shrunk considerably. At the end of that history, there is my neighbor who is driven neither by awe of the sacred nor fear of death. He is just the victim of an old compulsion that makes him tear down walls and rebuild them. He has become the neurosis itself, the Labyrinth syndrome in action. ■



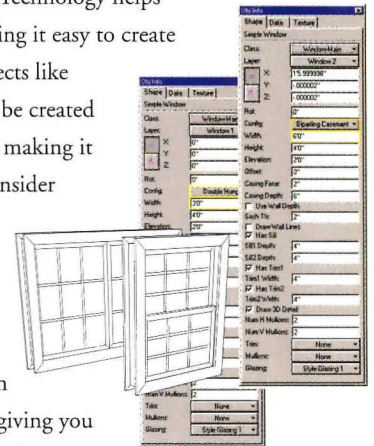
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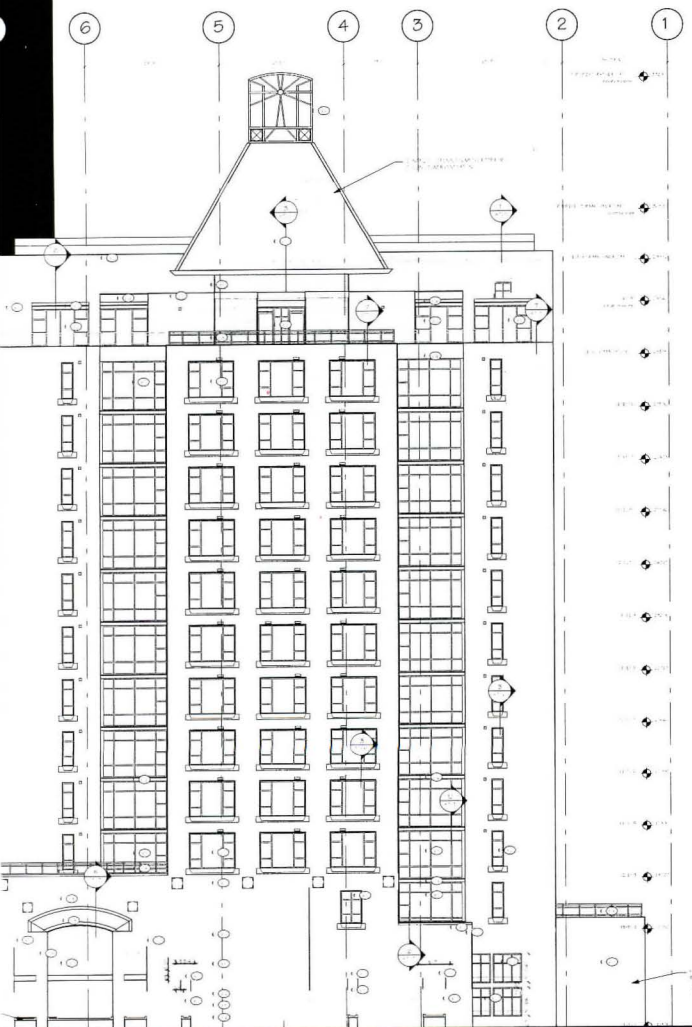


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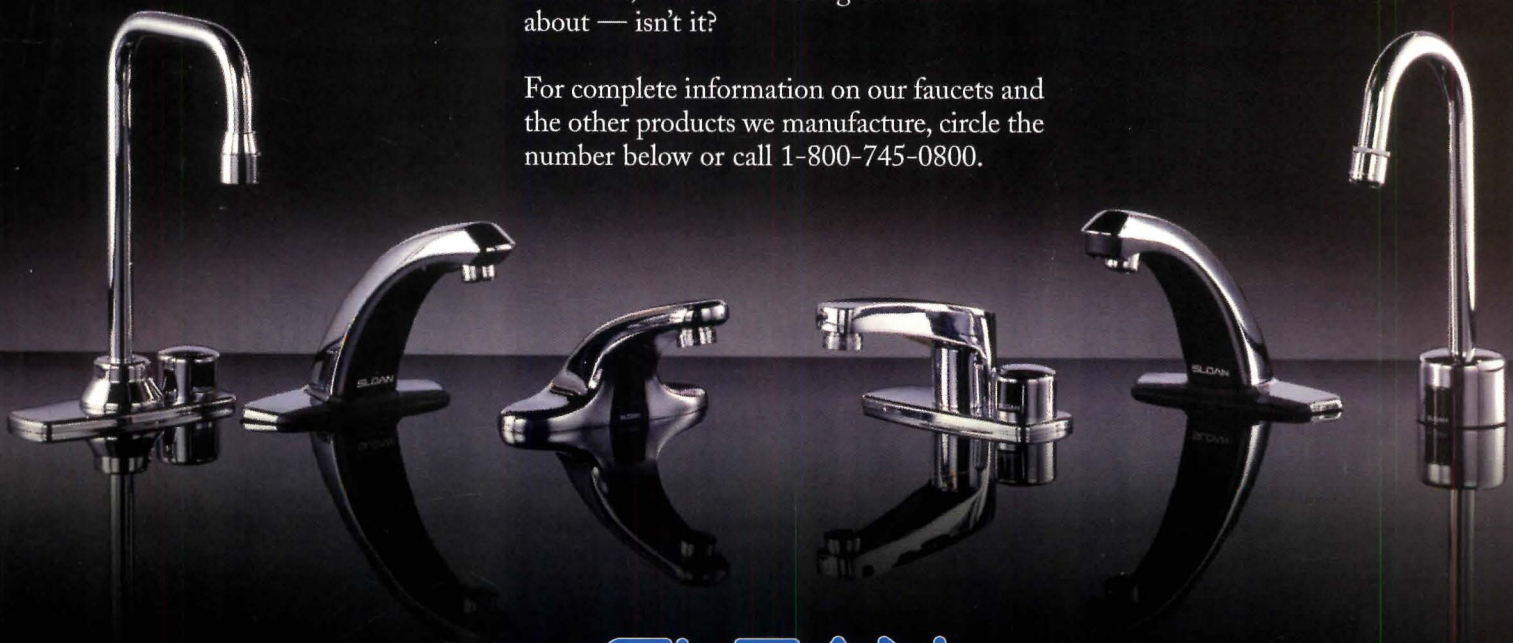
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