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THE SCHOOLS: WHAT'S
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NEVER SEEN HIM



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Dana Cuff



Catherine Slessor



Timothy Greenfield-Sanders

“More than hard news,” says German photographer **Peter Bialobrzewski**, who shot green chemist Michael Braungart for this month’s Practice section (page 53), “I am interested in the story behind the story. There is no objectivity in photography; at the end of the day *you* interpret the world, *you* are at its center.” In addition to editorial work for German magazines *Der Spiegel* and *Geo*, among others, Bialobrzewski has traveled to India seven times in the past three years, to document scenes of Eastern mysticism. His collection of 37 color images from those trips, *XXX Holy-Journeys into the Spiritual Heart of India* (Krusse Verlag), will be published in the U.S. this fall.

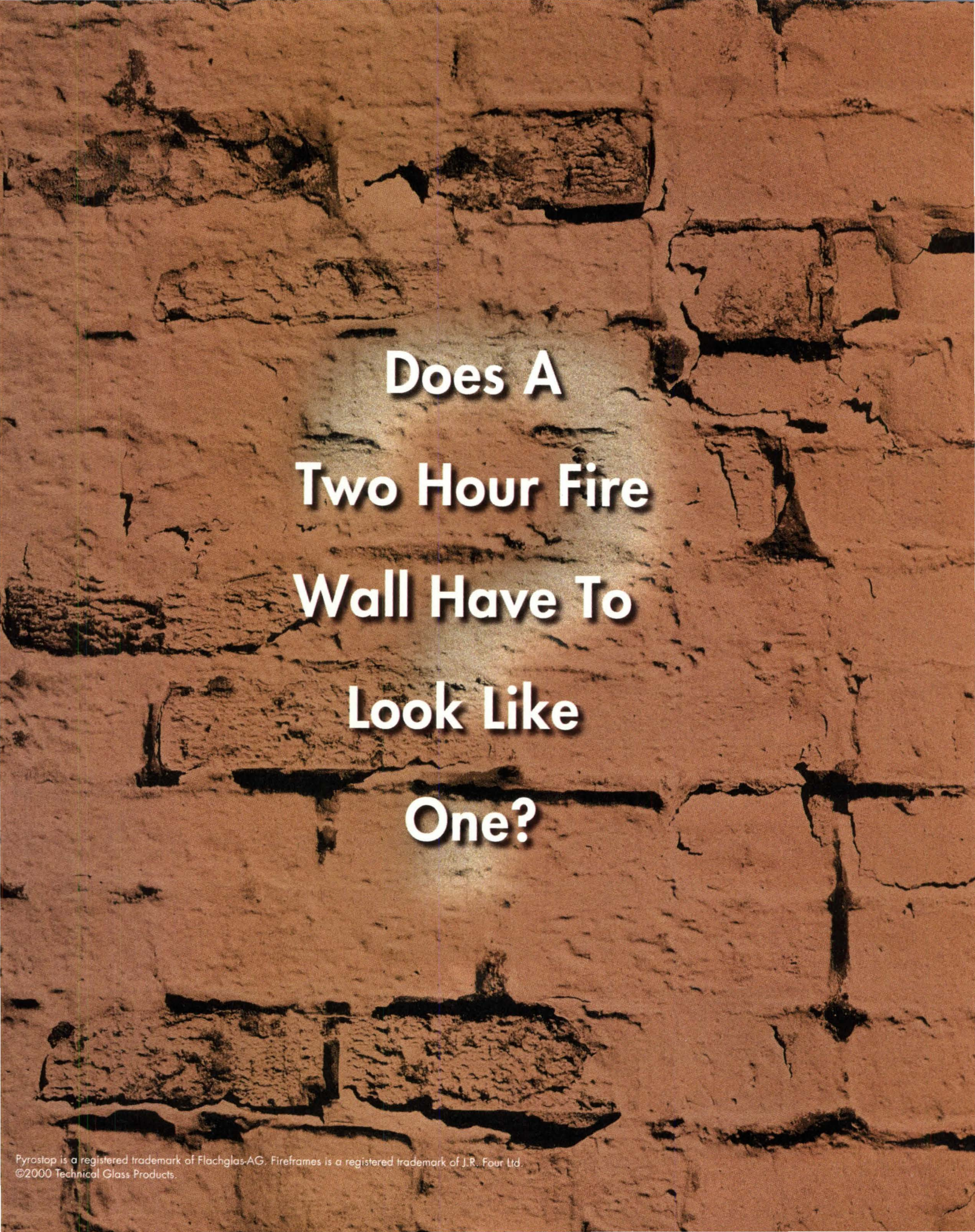
Dana Cuff considers herself an intermediary between the world of practice and the university, a role that allows her to see their respective strengths. “Practices and schools have a lot to offer one another,” says Cuff, professor and acting chair at UCLA’s department of Architecture and Urban Design, and author of *Architecture: The Story of Practice* (MIT Press, 1991). “Practices are far more entrepreneurial than schools. Conversely, schools are using computers in more advanced ways.” For this month’s issue, Cuff writes about the changing nature of the academic studio for our Culture section (page 76). Her new book, *The Provisional City* (MIT Press), will address postwar residential development and will be published this fall.

“If I could photograph anybody in the world,” says photographer **Timothy Greenfield-Sanders**, “it would be Marlon Brando.” It seems as if the portraitist has shot every other celebrity, plus a roster of politicians and artists. His subjects include Orson Welles, Hillary Clinton, Wayne Gretzky, and Willem de Kooning. Greenfield-Sanders’s first feature film, *Lou Reed: Rock and Roll Heart*, won a Grammy in 1999. This month, he shot the young faculty at Columbia’s Graduate School of Architecture, Planning, and Preservation (page 94). A 1974 graduate of

Columbia himself, Greenfield-Sanders says, “By doing this shoot, I felt like I was doing something for my school.” His work is included in collections at New York’s Museum of Modern Art, the Metropolitan Museum of Art, the Whitney Museum, and the National Portrait Gallery, among others.

Christopher Procter is the rare architect who found his way into city government. After completing his Master’s Degree in architecture and planning at Harvard, Procter acted for four years as lead urban designer for the northern portion of the Boston Central Artery/Tunnel project before returning to his native Australia. He now serves as deputy director of city projects for Sydney. “Public office is not my long-term vocation,” he says. “I was lured to government because of the building program.” This month, Procter writes about the Olympics’s effect on host cities for our Culture section (page 73). “The Olympics in Sydney were a catalyst to get building programs completed. We appointed architects with whom we could work in a close relationship. That way, the city could share authorship for the work we, the client, initiated.”

“I’ve been in London since 1984, and I can’t remember another time when so many projects were being built,” says **Catherine Slessor**, managing editor of the *Architectural Review*. “It was pretty moribund for a while, but lottery funding and the millennium have added a lot of impetus for new construction.” For this issue, Slessor writes about the Peckham Library, one of London’s newest architectural works (page 136), as well as Frank Gehry’s new towers in Düsseldorf (page 118) and a News story about Glasgow’s year-long architecture celebration. This October, Slessor will publish two books, *Concrete Regionalism* (Thames & Hudson), about the architects Antoine Predock, Tadao Ando, Riccardo Legorreta, and Wiel Arets, and *Contemporary Staircases* (Mitchell Beazley).



**Does A
Two Hour Fire
Wall Have To
Look Like
One?**



Now Playing: Revenge of the Bureaucrats!

By Reed Kroloff

Remember California's nasty Proposition 224, which aimed to keep all state-funded construction projects away from private-sector architects and engineers (July 1998, p. 11)? It's baaa-ack. And this time, the monster is bigger, uglier, and much more dangerous. Touted by its sponsors in the U.S. Congress as an attempt to protect the government from unscrupulous private-sector contractors, the "Truthfulness, Responsibility, and Accountability in Contracting Act," or TRAC (S. 2841, HR 3766), recently introduced by Senator Charles Robb (D-Virginia) and Representative Albert Wynn (D-Maryland), directly threatens private-sector architects' access to federal contracts.

Legally, the legislation would still allow government agencies to award contracts to private-sector firms, but practically, the game would be over before it started. Under TRAC, agencies contemplating private-sector hires would first have to conduct a cost-driven public/private competition. To win, non-government architects would have to prove that they could save the feds at least 10 percent. Their government counterparts would of course enjoy an almost insurmountable advantage, as they can ignore little overhead items like rent, insurance, marketing, and, oh yes, profit. Should the private-sector architect somehow prevail, they would then have to demonstrate that their service would protect Washington from "extraordinary economic harm." That's right. In order to get that government job, you'd not only have to sell yourself cheap, but prove you could save Uncle Sam from financial ruin as well. Holy federal labor union protection rackets, Batman!

Sadly, job protection does indeed simmer beneath TRAC's veneer of fiscal responsibility. Mr. Wynn's district comprises most of the Washington suburbs

that the bureaucracy calls home, and they're none too happy about the 400,000 jobs the Clinton administration has trimmed from the federal payroll. Mr. Robb's state also borders the District, so he feels their pain as well. Both men are up for reelection.

Currently, TRAC is bottled up in committee, where it will no doubt be chewed over and rewritten. But don't get too complacent: Representative Wynn has enlisted 193 cosponsors for the bill in its current form. Although the Republican-controlled Congress is unlikely to favor such an obvious big government proposal, don't look to them for too much sympathy: AIA campaign contributions have traditionally favored Democrats.

If this legislation passes as it is now written, you can kiss Washington's \$4 billion backlog of projects good-bye, and with it, a significant portion of this profession's business. Further, TRAC would jeopardize Washington's ability to modernize or even maintain its own facilities, unless the government plans to staff up on architects in a big way. Finally, the proposal flaunts 30 years of federal policies intended to encourage qualifications-based hiring.

When Proposition 224 loomed in California, I lambasted the AIA for its pitiful response—the national office contributed only chump change toward defeating the measure, and even that was sent late. I'm pleased to report that AIA is off to a much better start with TRAC. I learned of the legislation through AIA's Web site; President Ron Skaggs has already written Robb, Wynn, and other Congressional players; and the Institute has sample letters ready for architects to mail in (visit www.e-architect.com and click on government affairs).

I applaud Representative Wynn and Senator Robb for their desire to rationalize the government's contracting system; no one wants thousand-dollar toilet seats. But protecting an excessive bureaucracy is not the answer to excessive billing. Tighter scrutiny is, and that is a goal architects can support. This profession provides worthy, cost-effective service to our nation, and Congress needs to appreciate that. The AIA and the profession at large must work much harder to ensure that the message is delivered. Start today by writing to your congressional representatives to strongly condemn the current wording of TRAC. While you're at it, let them know why they should think your letter, your contribution, your vote, and your profession matters to them. ■

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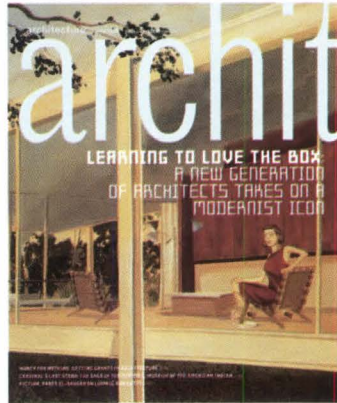
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A Principled Principal

As much as I normally enjoy your excellent columns, I find your musings about the Blanton competition rather sad and defeated (June 2000, page 15). The issue is actually much more straightforward than you describe (such lesser-evilist arguments often require elaborate side-stepping): An entry to this competition is necessarily an endorsement of the competition. Your hedge that it was merely “a single member of the university hierarchy” that derailed the process is immaterial. A refusal to submit a design is not a “punishment” for the university; it is a principled stand, so, good for Moneo.

Aaron McDonald
New York City

Don Hejduk

As I read with great interest your editorial (July 2000, page 15) coming to work this morning, I was still digesting the recent news of John Hejduk’s death.

As one who grew up in the NYC region, got trained along the fabled “Yale—(NYC, unspoken)—Penn Axis” on the cusp of the Rudolph-Moore regimes, my education and that of my contemporaries in New Haven included direct exposure to both Hejduk and Colin Rowe by visits and lectures as well as exposure to the then-young visiting

critics Charles Gwathmey and Richard Meier. The latter two, together with the then not-so-widely-known Peter Eisenman, were under Hejduk’s wing as young critics at Cooper Union. I would suggest that the “Godfather” John Hejduk published works and pedagogy “informed” by the philosophy, practice, and teaching styles of all three, as did “Godfather” Colin Rowe (perhaps most with Eisenman?). Surely his masterful intervention at Peter Cooper’s building was/is as influential as was Rudolph’s earlier structure for those of us in New Haven. I hope that your next issue will include another of your high-caliber pieces on John Hejduk. Again, thank you for your continuing wise stewardship of *Architecture*.

Jeremy Scott Wood
Boston

Theory Lives!

Reed Kroloff’s editorial in the July issue (page 15) cites some of Peter Eisenman’s remarks at the last ANY conference as evidence that he is “calling it quits” on theory. If Eisenman’s statements are considered against the backdrop of his recent public lecture series at Cooper Union, “An Architect’s Re-Vision of History,” Mr. Kroloff’s interpretation misses the point. Those lectures sought to free architectural discourse from the thrall of 19th-century German idealism, which subsumed it in an all-encompassing force of history. By demonstrating that Palladio’s work employs a set of rhetorical devices privileging no single reading and thus destabilizing any possible “ideal,” Eisenman made a convincing case for architecture as an autonomous discourse. It would be more reasonable, therefore, to suppose that Eisenman meant his ANY remarks as an admonition to those who, in the guise of architecture, engage in technological hijinks merely in order to appeal to and comment upon current generalized sociocultural trends. In this

context, far from indicating a capricious abandonment of the theoretical, Eisenman’s statements that “we’ve exiled ourselves from the discussion of architecture” and “architects should stick to architecture” reinforce a well-established commitment.

Eugene Brogyanyi
New York City

Hail to the Chief

Absent any other substantial coverage of the Indian museum fiasco, and the silence of the AIA especially odious, “Cardinal Rules” (July 2000, page 60) was a very welcome surprise. Overdue by a year or two, but there it is in print and not badly done. Aside from a few intimations that Douglas Cardinal is some kind of a freak or at least kind of esoteric, it is a good review of a shameful episode.

At the Bruce Goff exhibit opening in Chicago a few years ago, I asked Cardinal what he meant by organic architecture. He replied, accurately I believe, “capable of growth.” I do not think he had in mind the growth of a column or other tumorous “improvements.”

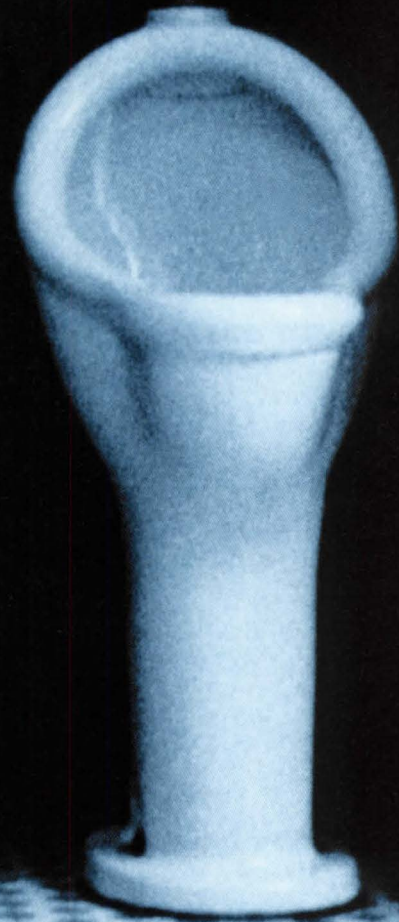
I do not think that Cardinal is a Howard Roark in the pejorative sense, although the successor architect might well stand in for Peter Keating, *Fountainhead*wise. Who, pray tell, should determine the design, the concept, the construction, and yes, the light switch plates? Either trust the architect and further the work for such an important civic building, or just buy a \$400 computer program like Chief Architect and do it yourself.

Bob Tieger
New York City

Grants for Grabs

I noticed that your list of foundations in “Taken for Granted” (July 2000, page 78) neglected to include the James Marston Fitch Foundation. The Foundation awards mid-career grants to pro-

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professionals who are doing innovative research and creative design that advances the practice of preservation.

Margaret Evans
Executive Director,
James Marston Fitch Charitable
Foundation
New York City

I agree that grant writing is a critical tool in advancing architecture and design in unconventional explorations and programs. For example, the Auburn Rural Studio was started with a grant from the Alabama Power Foundation. This summer, Auburn received another grant from the Jessie Ball DuPont Foundation to start a multidisciplinary program called the Outreach Studio. In our internship program, funded through a grant from the Corporation for National Service, we train young designers in grant writing as a tool in community design. None of these programs would exist without grants. I appreciate your engaging in the discussion of this important design tool.

Bryan Bell
Executive Director, Design Corps
Gettysburg, Pennsylvania

CORRECTIONS

The associated architect on the University of Alaska Museum is GDM Inc. (August 2000, page 38).

The title of Farès el-Dahdah's doctoral dissertation is *Building Affects: Architecture's Amorous Discourse* (July 2000, page 11).

A design team led by Dallas-based Booziotis & Company, and also including The Hillier Group's Washington, D.C., office and interior designer Andree Putman, has redesigned automaker Cadillac's showrooms (July 2000, page 49).

HGA of Minneapolis is the design architect of the McLean Environmental Living and Learning Center at Northland College in Ashland, Washington (June 2000, page 35).

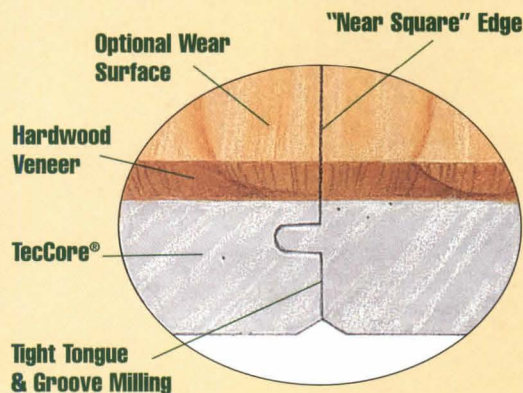
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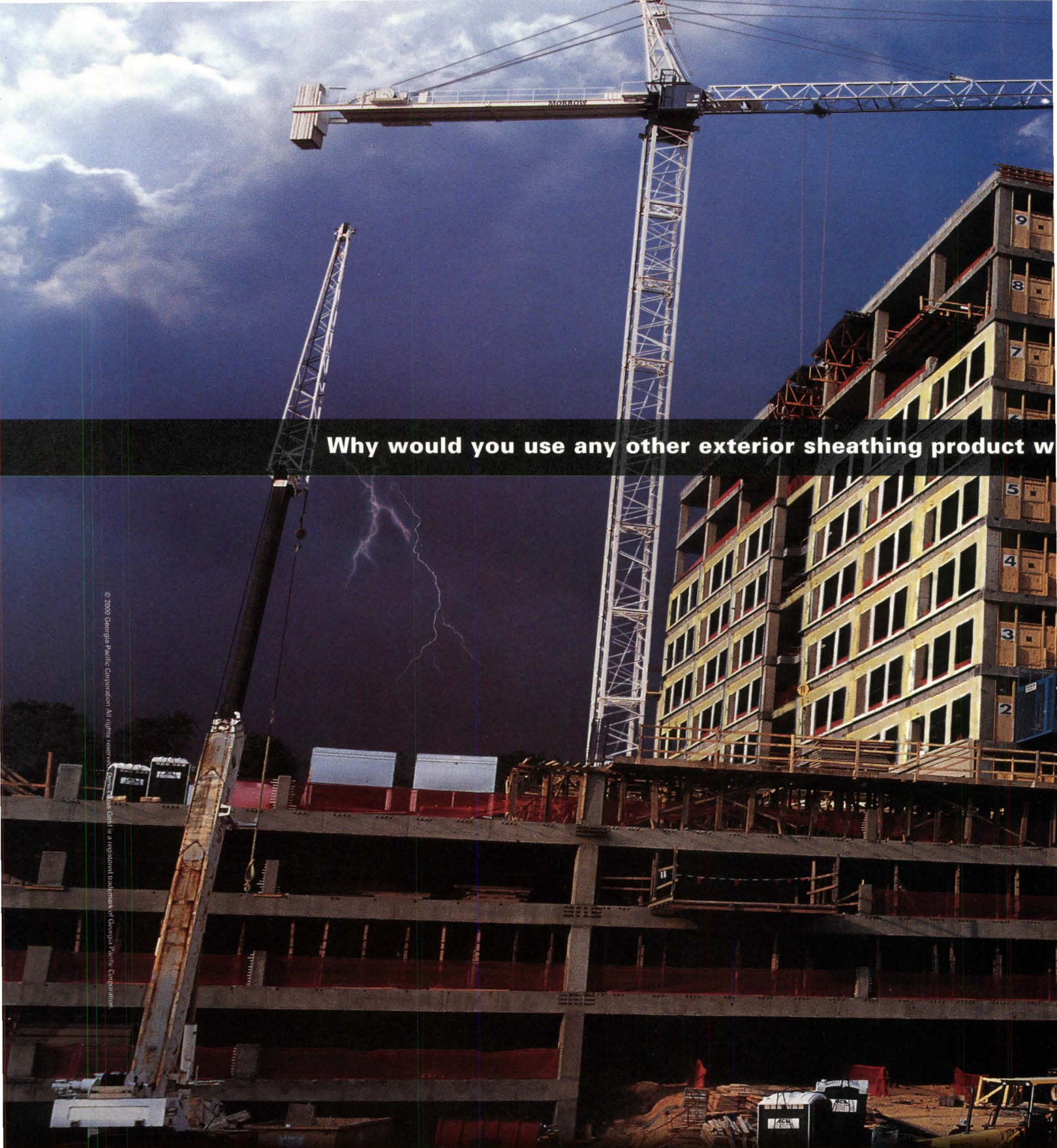
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Ice Cream Takes a Dig at Big Dig
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FEMA: 87,000 Structures Threatened By Erosion

Politics Last year, the National Park Service spent \$9.8 million to move the landmark Cape Hatteras Lighthouse 2,900 feet out of harm's way on North Carolina's Outer Banks. That healthy sum could look like chump change if a report issued in June by the Federal Emergency Management Association (FEMA) proves accurate. According to the study, fully one-quarter of the buildings within 500 feet of the nation's shorelines—an estimated 87,000 structures—could be lost to erosion over the next 60 years. The lion's share of these reside along the Atlantic and Gulf coasts, where a good storm can swallow up a hundred feet of beach in a day.

The sobering report comes as climatologists are predicting a cycle of severe hurricane seasons. Meanwhile, a 20-year coastal building boom has pumped up development by as much as 60 percent in some high-risk areas. (More than half the U.S. population now lives within 50 miles of the water.) The report, requested by Congress in

On August 30, 1999, Hurricane Dennis became the final straw after years of beach erosion for this coastal cottage in Holden Beach, North Carolina.

1994 as a tool to reevaluate national flood insurance policies, estimates that, barring further development, erosion will cost coastal property owners about a half-billion dollars over the next six decades; further development will up the ante.

What does this mean for shoreline development in the coming decades? Insurance rates could double to reflect the full cost of erosion, and tighter regulations could limit or forbid building in certain high-hazard areas. And when all else fails, say architects familiar with the nation's more hazardous coastlines, be prepared to pick up and go. "It's in our clients' best interest to build small enough and light enough so that a structure can be moved," says Wilmington, North Carolina, architect Cothran Harris. "FEMA is sounding an alarm: A beach house had better be portable." *Liz Seymour*

Greensboro, North Carolina-based Liz Seymour has contributed to Metropolitan Home, Southern Accents, and The New York Times.



Glasgow Architecture Year a Bust

Economics Was Glasgow's Year of Architecture and Design worth it? A report by a London-based consultancy says no. The ambitious \$60 million program of more than 300 events and exhibitions (October 1998, page 29) was intended to promote architecture and boost the city's economy. Although there were notable accomplishments—the construction of the Lighthouse, a \$20 million architecture and design museum, and a permanent Homes for the Future exposition (above)—the festival failed to capture public attention and created only a handful of new jobs.

DTZ Pieda, an independent market research firm hired to evaluate the festival, found that although the "qualitative and aspirational aims of the program had been met," as few as 10 full-time jobs resulted. Moreover, fully three-quarters of Glasgow residents could not recall attending any exhibitions or events. The report provoked disagreements from organizers and the design community over the benefits of Glasgow 1999. "I think it is disingenuous to suggest the festival failed because of job-creation figures," griped Stuart MacDonald, director of The Lighthouse. "The design community has benefited significantly by raising the profile of the work being done here and seeing new products achieve success on the open market."

Liz Shiel, DTZ Pieda's director, acknowledges that it may be too early to gauge the Year of Architecture's impact. Further, she says, those surveyed (residents, tourists, and U.K. firms) found it difficult to quantify that impact with such indicators as jobs created. "And anyway, there wasn't a job-creation target," commented Shiel. "It had a much more subtle effect—it was more to do with raising the profile of architecture and design in the city." *Catherine Slessor*

Shortlist

New York Times Leaving Times Square

After 87 years and more than 30,000 daily editions, *The New York Times* will leave its namesake Times Square in 2004 for a high-rise headquarters a few blocks away. The new building, to be located between 40th and 41st streets across Eighth Avenue from the Port Authority bus terminal, will encompass 1.3 million square feet (700,000 of which the *Times* itself will occupy) and 40 stories. The paper has invited London's Norman Foster, Italian architect Renzo Piano, Cesar Pelli & Associates, and a team made up of Frank O. Gehry & Associates and Skidmore, Owings & Merrill to compete for the plum commission.

The *Times* moved to the triangle bounded by Broadway, 42nd Street, and 7th Avenue in 1905, after having bounced among several Lower Manhattan addresses for the first half-century of the paper's history. Before the paper's arrival, Times Square had previously been known as Longacre Square, or, more commonly, "the Tenderloin." In 1913, the paper moved to its present headquarters at West 43rd Street and Broadway.

The Gray Lady will select an architect next month. Construction is scheduled to begin next year with hopes of moving into the new headquarters in 2004. What will happen to the existing Times Building? Catherine Mathis, a *Times* spokesperson, confirms that it will be sold. Then what should we call the Square after the *Times*' departure? Let us be the first to propose MTV Mile. *Mickey O'Connor*

National Average Hourly Pay Rates for Urban* Architectural Offices

*cities of more than 100,000

	range (lowest to highest)	number of staff			
		(1 to 6)	(7 to 16)	(17 to 45)	(46 or more)
principals	\$22 to \$80	\$36	\$41.50	\$53.50	\$65.60
associates	\$16 to \$55	\$31	\$35.50	\$35.75	\$43
project managers	\$16 to \$52	\$24.20	\$27.50	\$33.50	\$35
staff architects	\$16 to \$41	\$25	\$27	\$27.70	\$29.30
CAD managers	\$15 to \$39	\$18.50	\$21.60	\$24	\$29
senior designers	\$13.50 to \$35	\$19.10	\$22.50	\$22.70	\$24
intermediate designers	\$13 to \$30	\$16.10	\$19	\$19.50	\$20.50
spec writers	\$14 to \$35	\$18.20	\$21	\$24.50	\$25
construction reps	\$13.50 to \$37	\$17.50	\$20.50	\$24	\$26.80
senior drafters	\$12.20 to \$22.75	\$18.50	\$19.50	\$21	\$23
intermediate drafters	\$7.60 to \$18	\$15	\$16.50	\$17.25	\$17.50
intern/entry drafters	\$7.70 to \$18	\$11.50	\$13.50	\$14.50	\$15
secretaries/clerical	\$7 to \$18	\$8.50	\$11.50	\$12	\$14

Workload High, Pay Follows

Salary Plenty of work and an unprecedented demand for qualified employees in A/E firms are driving up architect's wages at all levels, according to a recent survey conducted by Orinda, California-based pollster Guidelines.

Entry-level positions have exhibited the strongest salary gains, according to the survey's more than 700 respondents. CAD operators and architecture and engineering students, for example, receive 8 to 10 percent more than they did two years ago. Base pay in mid-level professional positions increased by 3 to 4 percent. Although senior-level salaries rose only modestly, firms compensated them with substantial bonuses, profit sharing, and promotions.

Anecdotal evidence corroborates the findings. "We've seen an increase in firms hiring students in architecture programs on a part-time basis because it's been so difficult to fill positions," says Kermit Baker, the American Institute of Architects' chief economist. "We get calls from our chapters all over the country asking for help recruiting people." Rising salaries have even encouraged some firms to sub CAD work out to cheap labor in foreign offices.

Compensation at Skidmore, Owings & Merrill in certain specialties, such as computer information technology, shot up by 10 to 15 percent each year, says the firm's president, Ken Brown. He cites an emerging trend: the exodus of talented people lured to e-commerce by stock options. "If someone wants that kind of opportunity," he admits, "there's not much you can offer to keep them."

Buzz Yudell, a principal at Moore Ruble Yudell in Santa Monica, California, agrees. Overall, the firm's salary raises increased by 7 percent, with starting salaries in junior positions and those for upper-level personnel posting the greatest gains. "But the most important thing for us has been to improve the quality of the workplace. We've got a big outside garden for meetings, a library, lots of informal places to meet. We're trying to make this a place where people feel passionate about what they're doing." *Bill Heavey*

Arlington, Virginia-based freelance writer Bill Heavey writes about construction and economics.

Buzz

Japanese architect **Kazuyo Sejima** was surprised to learn she had been selected to participate in an invited competition to renovate the **Museum of Contemporary Art (MCA)** in Sydney, Australia—especially since she had received the commission three years ago and was hard at work on a scheme. Apparently, MCA thought the 1997 competition had been premature and, without consulting Sejima, started over again.

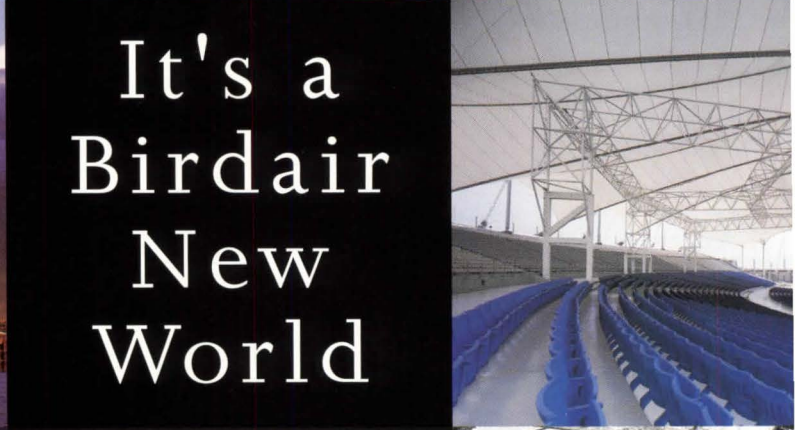
The Donald's Trump World Tower next to the United Nations complex has topped out at 90 stories, making it the tallest residential building in the world. It also boasts the most expensive apartment ever purchased, at \$38 million.

The Getty Trust has announced \$1.4 million in grants to assist Los Angeles-based historic buildings and cultural organizations, including **Frank Lloyd Wright's** Samuel Freeman House (1924) and the Griffith Observatory (1935), both in Hollywood.

Architecture students at the **Massachusetts Institute of Technology** and **Habitat for Humanity** have collaborated on schemes for transitional housing for victims of the 1999 earthquake in Turkey.

Spanish architect **Rafael Moneo** has been selected to design an \$18 million studio building at **Cranbrook Educational Community** in Bloomfield Hills, Michigan.

Cambridge, Massachusetts-based **Tsoi/Kobus & Associates** will design a 150,000-square-foot earth and planetary sciences building at **Washington University** in St. Louis.



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Blanton Museum Shortlist Short on Innovation

Shortlist In July, eight months after Herzog & de Meuron resigned from the commission to design the Jack S. Blanton Museum of Art, citing irreconcilable creative differences, the University of Texas at Austin (U.T.) has drafted a second, much more conservative shortlist for the \$60 million job. The new roster—Michael Graves & Associates, Hammond Beeby Rupert Ainge, Carter & Burgess/Hartman Cox, Kallman McKinnell & Wood, Overland Partners, and Porphyrios Associates—signals that U.T. wants out of the hot seat it landed in after chasing away the daring Swiss modernists. (Spanish architect Juan Navarro Baldeweg withdrew from the shortlist to concentrate on a performing arts center in Madrid.)

The museum's architectural advisory committee offered only hazy rationale for the seven firms they selected from a pool of 31 in a mid-July, closed-door meeting (at right). U.T. president and committee chair Larry Faulkner dodged questions of style by dispatching a news release that outlined the committee's focus on work experience, particularly with institutional clients. "It would be fair to say we left the aesthetic filter off," Faulkner said when challenged.

At least one committee member acknowledges outright that the university is seeking an architect who will respond directly to U.T.'s Mediterranean-style grounds. Said Blanton Museum Director Jessie Otto Hite: "This time we did give more emphasis to firms that would contextualize a design within the existing architectural idiom of the campus."

The university's resistance to architectural innovation has left one victim of the debacle nonplussed. "The architecture profession clearly got the message," said Lawrence Speck, who quit as dean of U.T.'s school of architecture in protest of the university's treatment of Herzog & de Meuron. "With a few exceptions, those with an independent mind did not apply; those with a conservative approach did. I'm afraid we won't get a building that will put Austin on the cultural or artistic map." *Jeanne Claire van Ryzin*

Jeanne Claire van Ryzin writes about the arts for the Austin American-Statesman.

Allen, Olshin, Lawson-Bell & Associates, Philadelphia

ArchiTexas, Dallas

BGM Arquitectos, San Sebastian, Spain

John Blatteau Associates, Philadelphia

Booziotis & Company Architects, Dallas

Carter & Burgess / Hartman Cox, Fort Worth, Texas/Washington, D.C.

Cenicacelaya & Inigo Salona Arquitectos, Bilbao, Spain

Eskew + Moore Andersson, New Orleans

Alexander Gorlin Architect, New York City

Michael Graves Architect, Princeton, New Jersey

Alan Greenburg, Architect, Washington, D.C.

Hammond Beeby Rupert Ainge, Chicago

Hillier Group, New York City

E. Verner Johnson and Associates, Boston

Philip Johnson/Alan Ritchie Architects, New York City

Kallmann, McKinnell & Wood Architects, Boston

Legorreta Architects, Mexico City

Navarro Baldeweg Asociados, Madrid

Olson Sundberg Architects, Seattle

Overland Partners, San Antonio

Pei Cobb Freed & Partners, New York City

Perkins and Will, Chicago

Porphyrios Associates, London

Antoine Predock Architect, Albuquerque

Richardson Robertson Partners, Los Angeles

David M. Schwarz/Architectural Services, Washington, D.C.

Thomas Gordon Smith Architects, South Bend, Indiana

Robert A.M. Stern Architects, New York City

Elias Torres Tur, Barcelona, Spain

Tusquets Diaz & Asociados, Barcelona, Spain

Venturi, Scott Brown Associates, Philadelphia

The Atlanta office of **HOK's Science + Technology Group** has designed an \$80 million biomedical research facility at that city's **Emory University**.

SITE is converting a former auto speedway in Monza, Italy, into a public park and museum of the history of car racing.

Following the lead of Lucerne, Switzerland; Chicago; and New York City, which have each hosted herds of cow sculptures, St. Paul, Minnesota has littered its streets with 75 enormous Snoopys. Despite nostalgia for recently departed "Peanuts" creator (and hometown hero) **Charles Schulz**, the locals hate 'em. Two have even had their legs broken. **Patrick Seeb**, executive director of the Riverfront Corporation, which sponsored "River Captain Snoopy," speculated that the statue had been "overhugg[ed]," but assures well-wishers that the sculpture has been sent to "Snoopy hospital." "I just hope, because he's a river captain, he doesn't come back with a wooden peg leg and a patch over his eye," Seeb told the *St. Paul Pioneer Press*. Good grief!

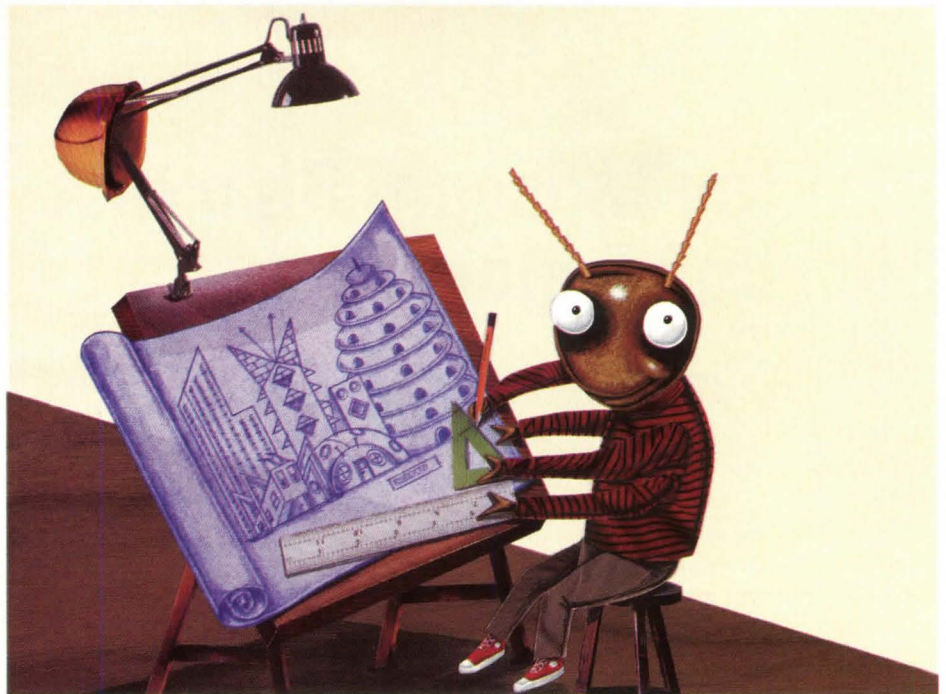
Renzo Piano is working on a \$900 million London high-rise that, when completed, will be Europe's tallest building, at 87 stories

Architects **Stan Allen** of New York City and **James Corner** of Philadelphia have won the commission to design a new garden for the French Embassy on Fifth Avenue in Manhattan.

John Walsh, director of the **J. Paul Getty Museum** and vice president of the **Getty Trust**—and the man who built **Richard Meier's** Getty on the Mount—is retiring, to be replaced by **Deborah Gribbon**, Getty's deputy director and chief curator.

Bugs Funny

Bibliofile In *Roberto the Insect Architect* (Chronicle Books, 2000), the title termite faces an existential crisis: Roberto would rather build with lumber than lunch on it. Author Nina Laden credits her father with the idea of an insect with designs on design. As a child, he told her that termites ate wood as an expression of creativity. The charming book combines clever wordplay, exuberant illustrations, and the inevitable message about following your dreams. "Children are naturally fascinated by building things," notes Laden. "I want them to pick it as a career." Look for cameos by Hank Floyd Mite and Fleas van der Rohe. *M.O.*



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Diplomacy

Reciprocity Negotiations Advance

American architectural groups moved to protect U.S. markets from foreign competition during talks with their European counterparts in April. The negotiations, conducted in Washington, D.C., as part of an initiative by the Office of the U.S. Trade Representatives to reduce economic barriers between the United States and the European Union (E.U.), centered on whether European registration requirements are as stringent as their American equivalents. Officials of the National Council of Architectural Registration Boards (NCARB), which administers a standardized registration exam in this country, say they aren't. (European architects require only a university degree and practical experience for licensure—no exam.)

Although the talks ended in an impasse, the participants agreed to use a draft of a 1999 International Union of Architects (UIA) Accord regarding international practice as the basis for further discussions. "It creates a framework of topics for architectural licensing jurisdiction worldwide to compare their differences and come to an agreement on how requirements can be made equivalent," states James A. Scheeler, who represented the American Institute of Architects (AIA) at the April meetings.

While American officials deny any protectionist posture, the accord suggests otherwise: Foreign architects would still have to pass NCARB's exam or partner with a local firm to practice in the United States. But April's meeting opens the door for future discussions on reciprocity. As the participants scramble to prepare formal position statements, Trade and the E.U. are at least one step closer to a negotiated agreement. "This is not a quick-fix type of process," notes the AIA's Scheeler. "We're just at the beginning point." *Edward Keegan*

The U.S. Department of Transportation has awarded a student team from the Southern California Institute of Architecture with a Design for Transportation National Merit Award for its project, *The Bike Stops Here*, a series of public bicycle racks for downtown Los Angeles.

The United Nations is hinting that it may build an entirely new facility instead of repairing its aging East Side modernist complex. Estimated price tag: \$1 billion.

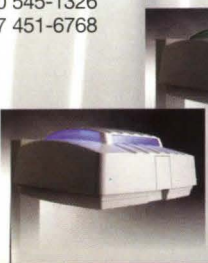
Maya Lin will craft a \$3 million outdoor plaza and main entrance for **UC Irvine's** School for the Arts.

Queen Elizabeth II awarded the Order of the British Empire to **Corrine Swain**, planning director at **Ove Arup** in London.



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Modern Dollhouse Is Sweet Home



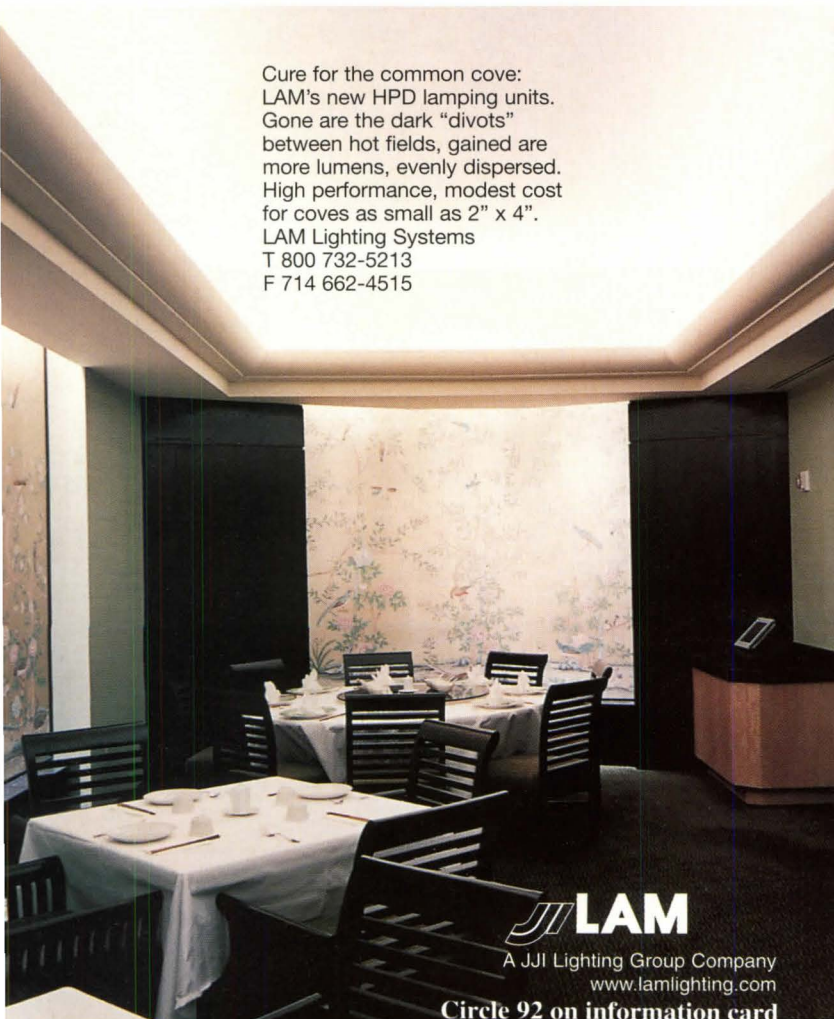
Toy Story When your Museum of Modern Art holiday catalogue arrives, check out the cover. What appears to be a Miesian architectural model is actually the Kaleidoscope House: a 1-to-12 scale, three-level, two-bedroom dollhouse. Distributed by Bozart Toys, an independent toy company, the toy house features, among other grown-up architectural flourishes, sliding transparent colored wall panels. It comes with furniture designed by Dakota Jackson, Ron Arad, Karim Rashid, and Keiser/Newman and original artworks by Peter Halley, Carroll Dunham, Cindy Sherman, and Mel Kendrick. Oddly, also included are "realistic action figures" of the house's creators, architect Peter Wheelwright and artist Laurie Simmons.

For Wheelwright, principal of PMW Architects and chair of Parsons School of Design's department of architecture, the project was a natural extension of building an architectural model. He collaborated with Simmons, who frequently uses dollhouse imagery in her fine art photography. The pair's future plans for the house include historical

groupings of modern furniture in association with the Vitra Design Museum, house additions, and additional family, friends, and pets. But will kids like it? "We like to introduce things to the world," says Larry Bozell, Bozart's president. "So if we can sneak some architecture to the kids, so be it." *M.O.*

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Colosseum Reinstates Performances

Curtain Call In July, Rome's ancient Colosseum—long a crumbling relic of the Roman Empire—hosted its first dramatic performance in more than 1,500 years. Unlike the recent box office hit *Gladiator*, however, the entertainment did not include sacrifice or bloodshed. Over the Colosseum's excavated subterranean tunnels, the Italian Culture Ministry erected a 4,300-square-foot stage for theatrical and musical performances. The debut schedule, a drama festival called *The Sophocles Project*, included works by the Greek National Theater, the Dramatic Arts Center of Tehran, and the Santa Cecilia Academy. *Sarah Palmer*



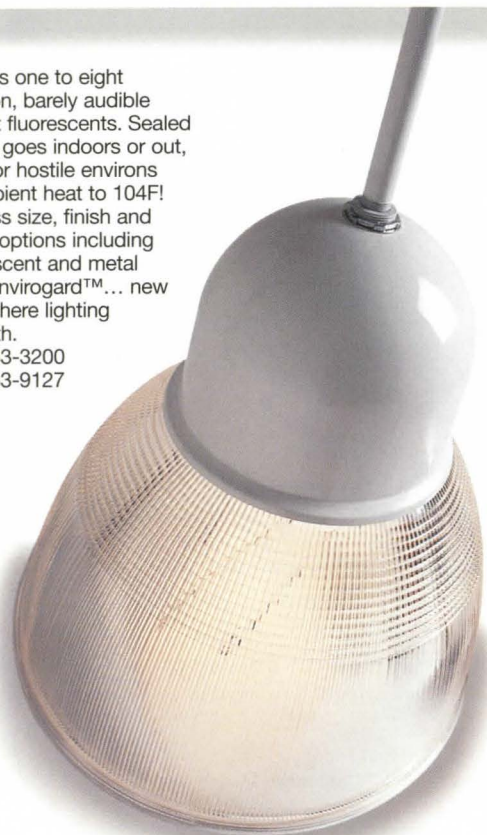
Populated with props for a July 2000 performance of *Oedipus Rex*, the Colosseum's new stage reimagines what was once the gladiator's view.

San Francisco's taste police are consulting with the news that **Malrite Company**, a Cleveland-based museum developer, is planning a 70,000-square-foot, \$30 million venue called the **San Francisco Interactive History Museum** originally planned to include a Las Vegas-style scale model of the Golden Gate Bridge, fake fog, a tram with Volkswagen Bug-like cars, and a re-creation of the 1960s-era Haight-Ashbury district.

The historic **Zachary Scott Theatre Center** in Austin, Texas, has chosen **Steven Holl Architects** to design a new 500-seat theater.

Italian architect **Andrea Ponsi** has won the commission to design a new facility for the **Palos Verdes Art Center** in Rancho Palos Verdes, California.

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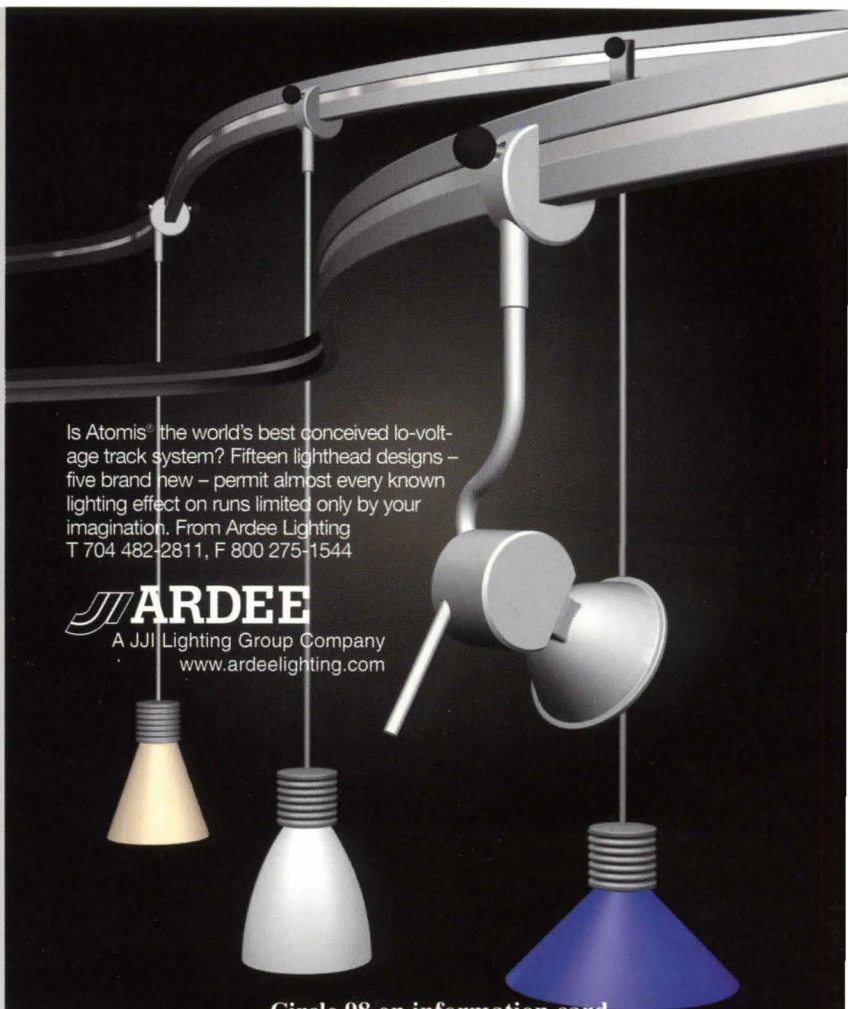
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Artists Create Building That Sings



Frozen Music Two Canadian artists have taught a building to sing. Last fall, architect Thomas McIntosh and composer Emmanuel Madan proposed transforming one of Montreal's defunct grain elevators, Silo #5, into a huge interactive electronic instrument called a "Silophone" (September 1999, page 53). Amazingly, the project has come to fruition.


Anybody with Internet access and RealPlayer software can go to www.silophone.net and "play" the Silophone. Users upload sound files, sending a signal to computers in Silo #5 that project sounds—current options include a crying baby and Big Ben's bells—into the building's cavernous reinforced concrete interior. Throughout the space, Silophone's engineers have strategically placed microphones, which catch the sounds

Silo's cavernous interior (above left) is perfect for reverberation; architect Thomas McIntosh installs microphones (above right) to amplify uploaded sounds.

as they reverberate over more than 20 seconds. The improvisational layering of these noises is broadcast both over the Internet and FM radio waves.

Silophone's creators hope the Web site will draw attention to preserving Silo #5, built in 1958, through the interest it generates. "Anytime somebody accesses the Web site," McIntosh avers, "the silo becomes firmly established in his or her mind as an important and useful piece of architecture." You can visit the site until next June, around which time McIntosh and Madan will launch a North American tour of a symphony performed by dot-matrix printers. *S.P.*

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Green for Green

Green Laws

Inspired by Fox and Fowle's *Condé Nast* high-rise headquarters in Times Square (August 1998, pages 116–119), which raised the bar for energy efficiency and indoor air quality in American skyscrapers, New York has become the first state to offer tax credits for the construction of "green," or eco-responsible, buildings. "New York's tax credits have lit the fuse," says Christine Ervin, president of the nonprofit U.S. Green Buildings Council, "sending a signal to the rest of the country that green buildings deserve public attention and funding."

The legislation offers developers a credit of 5 percent of the cost of new construction (up to \$7.50 per square foot for exterior work and \$3.75 for interior work) for buildings that are larger than 20,000 square feet, that are first occupied after

January 2001, and that meet specific environmental criteria. It also provides credits for fuel cells, integrated photovoltaics, green refrigerants, among other special features.

However, as even the legislation's proponents acknowledge, the tax credit's effectiveness is limited by a state-imposed cap of \$25 million over five years—an amount that could be exhausted by a handful of large office towers. Similar legislation, however, is in the works in Maryland and California, proving that New York's green tax credit program might be more significant for the precedent it sets than the funds it provides. *Andrew Blum*

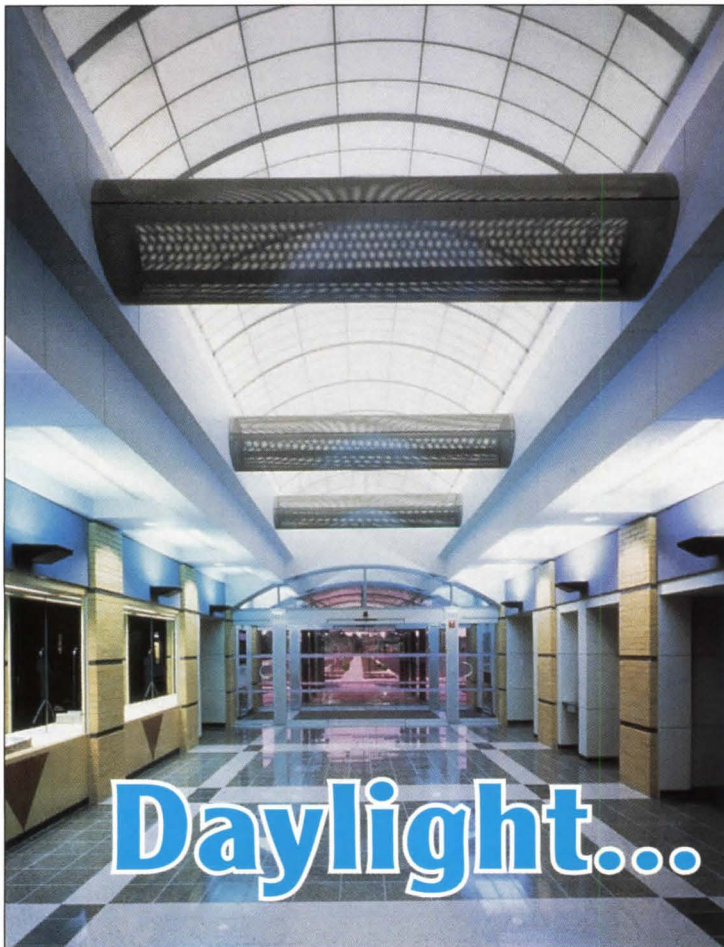
New York City-based Andrew Blum has written about architecture for The New Yorker and Metropolis.

Researchers at a Russian antivirus company have isolated a computer virus in copies of AutoCAD 2000 called "ACAD.Star" that is the first known virus to target design software. Don't panic: The virus is largely harmless.

This month in Americus, Georgia, former **President Jimmy Carter** will help **Habitat for Humanity** complete its 100,000th house.

Michael van Valkenburgh Associates of Cambridge, Massachusetts has received the commission to design a garden, skating rink, fountain, and café terrace for a housing development in the city's Kendall Square district.

New York City-based **Robert Henry Architects** will design a full-service health spa on Amelia Island in Florida.



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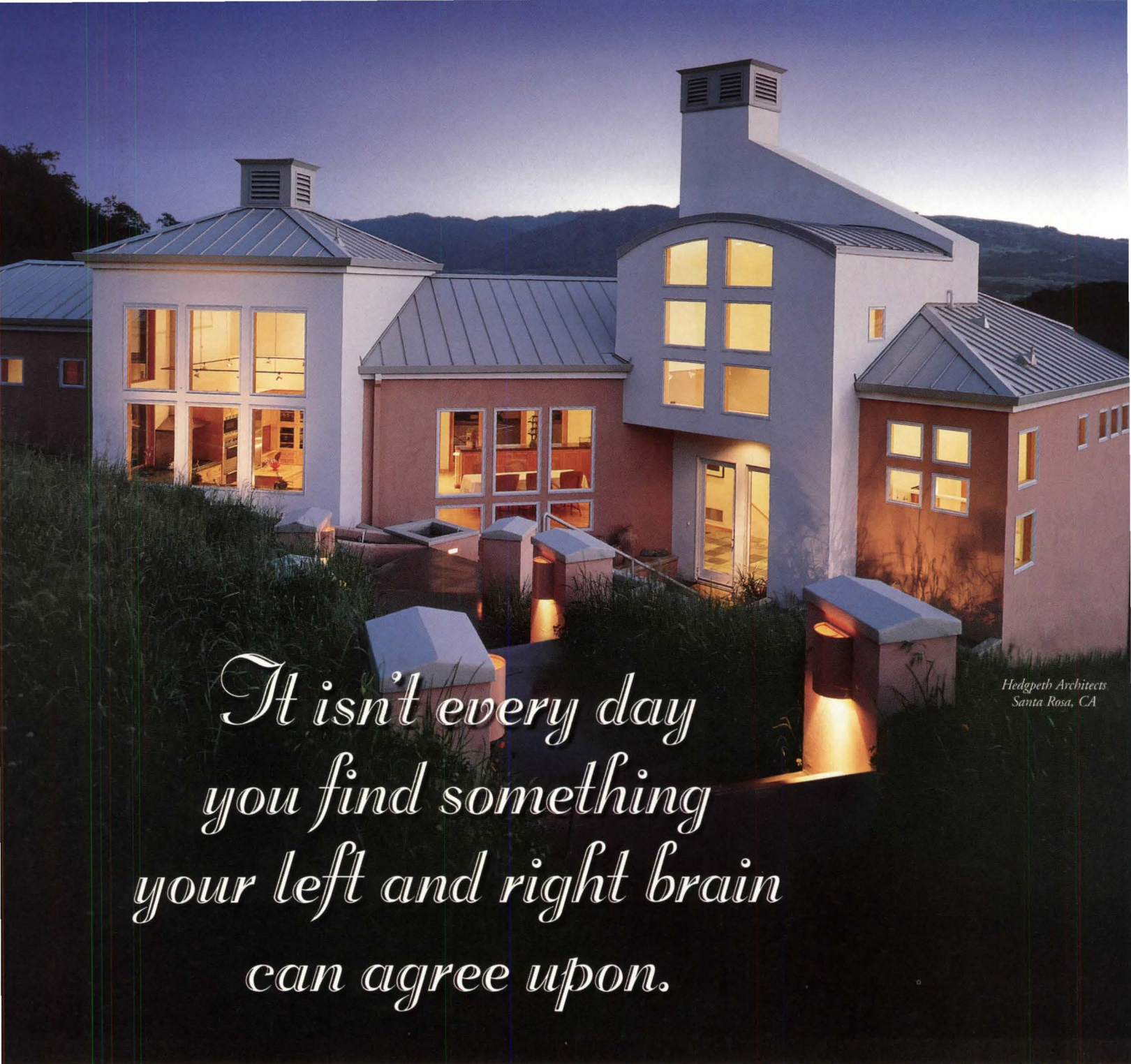
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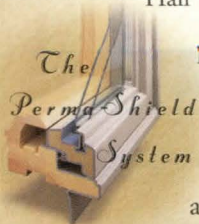
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Ice Cream Takes a Dig at Big Dig

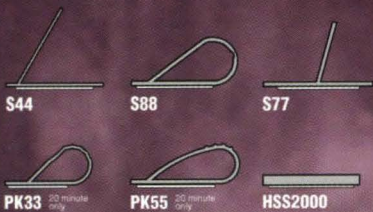
Dig In! "You could finish the Big Dig faster with a spoon," crows a billboard alongside Boston's Central Artery. The tagline mocks the interminable pace of the Big Dig, a multibillion-dollar construction project that is depressing a 7.5-mile section of elevated roadway, throwing the city's already labyrinthine streets into chaos. The billboard is part of a winking new ad campaign from Brigham's Ice Cream, a New England establishment since 1914. Its newest flavor, The Big Dig (vanilla ice cream with caramel, fudge brownies, and chocolate chunks) honors the maddening project, which is expected to continue through 2008. The ice cream will be in stores for at least as long. *M.O.*

A poll of 720 architecture firm employees by **OfficeTeam** indicates that more than 70 percent feel that office politics in architecture firms have increased over the last five years. Interestingly, when the responses of firm principals are isolated, that number drops to only 12 percent.

Atlanta's **Lord, Aeck & Sargent** has opened a satellite office in Ann Arbor, Michigan.

L.A.'s **Johnson Fain Partners** is designing a North American headquarters for dot-com **Experian** in Costa Mesa, California.

OBITUARIES: Spanish modernist **Saenz de Oiza**, 81; Uruguayan modernist **Eladio Dieste**, 83 (October 1998, pages 57-59); **Leslie Martin**, designer of Britain's Royal Festival Hall (1951), 91.



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Calendar

Exhibitions

Los Angeles

At the End of the Century: One Hundred Years of Architecture at the Museum of Contemporary Art through September 24 (213) 621-2766

London

Brand.New examines design and consumerism at the Victoria and Albert Museum; October 19 through January 14 www.vam.ac.uk

Buckminster Fuller: Your Private Sky at the Design Museum through October 15 (207) 403-6933 www.designmuseum.org

Miami

Design Matters a show celebrating International Design and Architecture Day (October 1, 2000) opens September 14 at the Museum of Contemporary Art (305) 893-6211

Montreal

Shaping the Great City: Modern Architecture in Central Europe, 1890–1937 at the Canadian Centre for Architecture through October 15 (514) 939-7000

New York City

The New York Century—World Capital Home Town, 1900–2000 at the Museum of the City of New York through February 4 (212) 534-1672

The Opulent Eye of Alexander Girard at the Smithsonian Cooper-Hewitt, National Design Museum September 12 through March 18, 2001 (212) 849-8400

Masterpieces from the Vitra Design Museum: Furnishing the Modern Era opens October 10 at the Smithsonian Cooper-Hewitt, National Design Museum (212) 849-8400

The Draftsman's Art: Master Drawings from the National Gallery of Scotland at the Frick Collection; December 12 through February 25, 2001 (212) 288-0700

Pittsburgh

Aluminum by Design: Jewelry to Jets at the Carnegie Museum of Art; October 28 through February 11, 2001 (412) 622-3118

Philadelphia

From the Beginning: Mitchell/Giurgola Architects and MGA Partners, Architects 1958–2000 at the University of Pennsylvania through September 27 mkeefe@mgapartners.com

Master Works of Philadelphia Architects: Highlights from the Collections of the Athenaeum at the Athenaeum through October 13 (215) 925-2688

San Francisco

Experiments: Recent Acquisitions of the Permanent Collection of Architecture + Design at the San Francisco Museum of Modern Art through October 17 (415) 357-4000

Washington, D.C.

Nature Constructed/Nature Revealed: Eco-Revelatory Design at the National Building Museum through October 22 (202) 272-2448

Conferences

Structures for Inclusion: Designing for the 98% Without Architects at Princeton University; October 7 (717) 337-1447

Preserving the Recent Past Philadelphia; October 11–13 (202) 343-6011

Seventh Conference of the International Association for the Study of Traditional Environments Trani, Italy; October 12–17 www.arch.ced.berkeley.edu/research/iaste

Uniting the Useful with the Beautiful: The Architecture of the Arts and Crafts Movement Pattee, Iowa; October 19–21 www.hotelpattee.com

Building Virginia 2000, Richmond; November 2–3 (804) 644-3041 phassard@aiava.org



The Canadian Centre for Architecture in Montreal presents **Shaping the Great City: Modern Architecture in Central Europe, 1890–1937**, an exhibition surveying the different strains of modernism that reflected and shaped the many national and multinational identities of the Hapsburg Empire. Designed by Coop Himmelblau, galleries modeled after the bustling streets and busy public places of the era are filled with 400 objects and animated with slide and film projections. In looking at the city as a model of society and as the generator of a vibrant culture, the exhibition uncovers a remarkable story of invention, experimentation, sophistication and imagination in the works of Otto Wagner and many Polish and Czech architects. The exhibition runs through October 15 and moves to the J. P. Getty Museum in Los Angeles on February 20. For more information, call (514) 939-7026 or visit cca.qc.ca.

Chicago Design Show
Chicago; November 2–4
www.merchandisemart.com

(Re)Viewing the Tectonic: Architecture/Technology Production ACSA East Regional Conference Ann Arbor, Michigan; November 3–5 fax (734) 763-2322

Computers for Construction 2000
Anaheim, California; November 6–9
(800) 451-1196

Vertical City: New Challenges for 21st Century Mega-Cities Madrid; November 7–10 (34) 91 366 61 70 wpa@tsai.es

International Preservation Trades Workshop Harrisburg, Pennsylvania; November 13–15 www.ptn.org

Build Boston Boston; November 14–16
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Competitions

48th Annual P/A Awards sponsored by *Architecture*. Deadline December 1 (646) 654-5765 (see page 147)

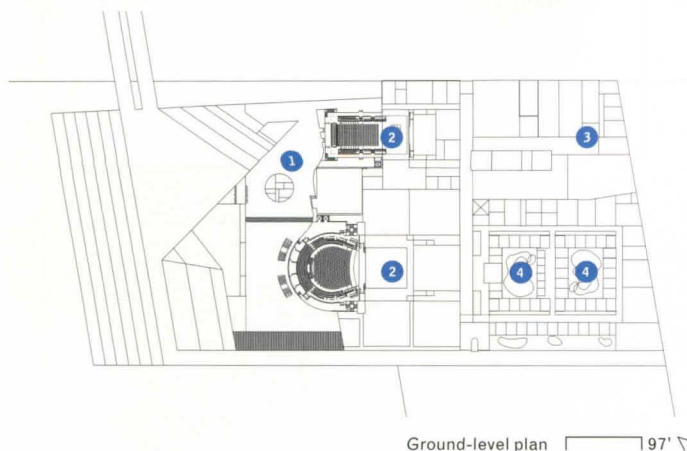
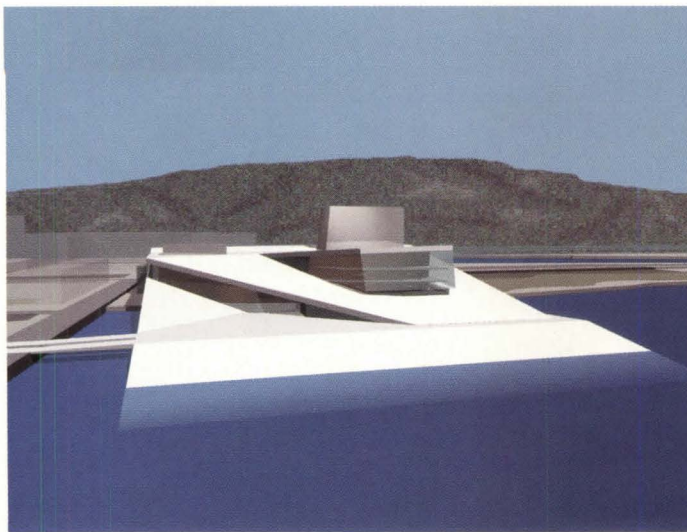
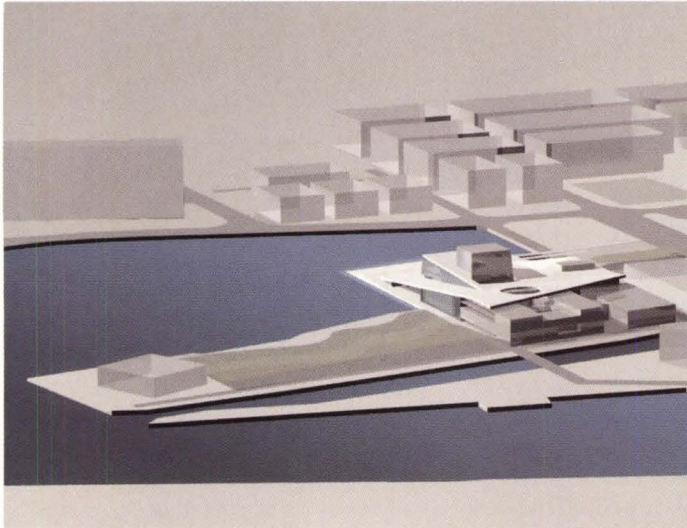
New York: The Masques of the City/Brooklyn Heights Promenade Sponsored by the Urban Studies and Architecture Institute. Deadline October 31 (212) 727-2157

[Re]Vision Isla Vista Competition
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Graphisoft Prize The seventh annual competition to promote innovative use of CAD software in architecture among students and non-students worldwide. Registration deadline October 20 www.gsprize.com

On the Boards

Snøhetta, The Norwegian National Opera House, Oslo, Norway



Ground-level plan 197'

The Norwegian National Opera has been trying to gain governmental support for a new house in Oslo for more than 80 years. In 1998, when it seemed as though parliament was finally ready to commit the necessary funds, the plan fell apart over an issue more central to the city's identity than any cultural institution: its waterfront. In Oslo, it had become basically inaccessible. One proposed site for the opera house, Bjorvika, is in the middle of a cargo container yard that is part of Oslo's port. The arguments were clear: growth via an open waterfront and tourism or growth via trade and goods? After a year of wrangling and deal-making, the legislature approved the Bjorvika site and the \$230 million it will take to transform it.

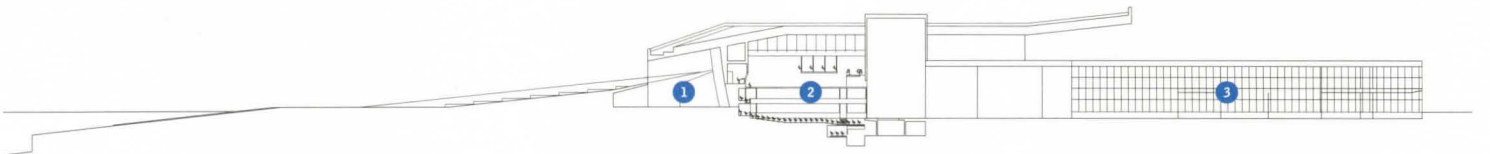
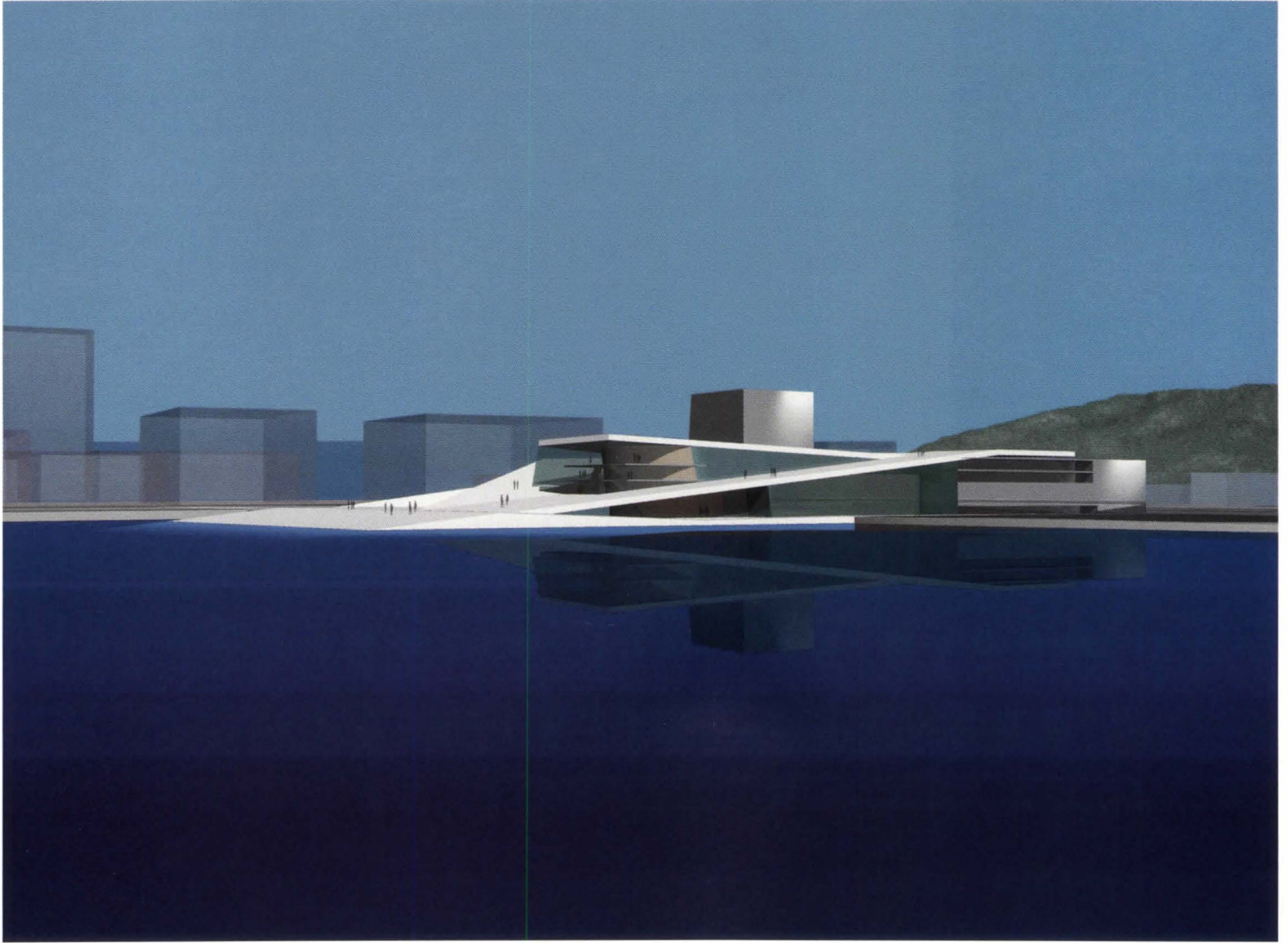
The results of the competition to design the new opera house were just announced, and out of the 233 entries, local firm Snøhetta (November 1998, pages 136–141) came in first. Their plan takes the changes in Bjorvika seriously, knowing that by 2008, when construction is scheduled to be completed, the whole area will be transformed: The freeway that now runs through it will be submerged in a tunnel, and the docklands will have given way to

offices and residential buildings. Craig Dykers, a principal at Snøhetta, says that the firm wanted to incorporate an awareness of the landscape into the design, and so looked to its more permanent features: the Oslo fjord, the Aker peninsula, and Ekeberg, a hill that rises up just behind the site.

The solution is simple: The architects clustered 345,000 square feet of program—two theaters, a lobby, and support spaces—in the center of the site and draped them with a plane that is both roof and floor. This ramp-like covering zigzags from the top of the building, down alongside the glass walls of the lobby, and then straight down into the fjord. In winter, the opera house's relationship to the landscape will become explicit: As the waters freeze, the ice will slowly creep up the base of the barrier-free ramp as if the glaciers that shaped Norway are once again on the move. The theater spaces are all clad in stone, and the back of the house functions in stainless steel. Inside, the imagery suggesting shifting ice ends, and becomes soft. Every surface is covered in wood. But the opera house ultimately looks outward to the newly rediscovered water: "One seldom thinks of landscape in urban areas, but it shouldn't be that way," says Dykers. "The tilted and awkward landscape is reflected in the building."

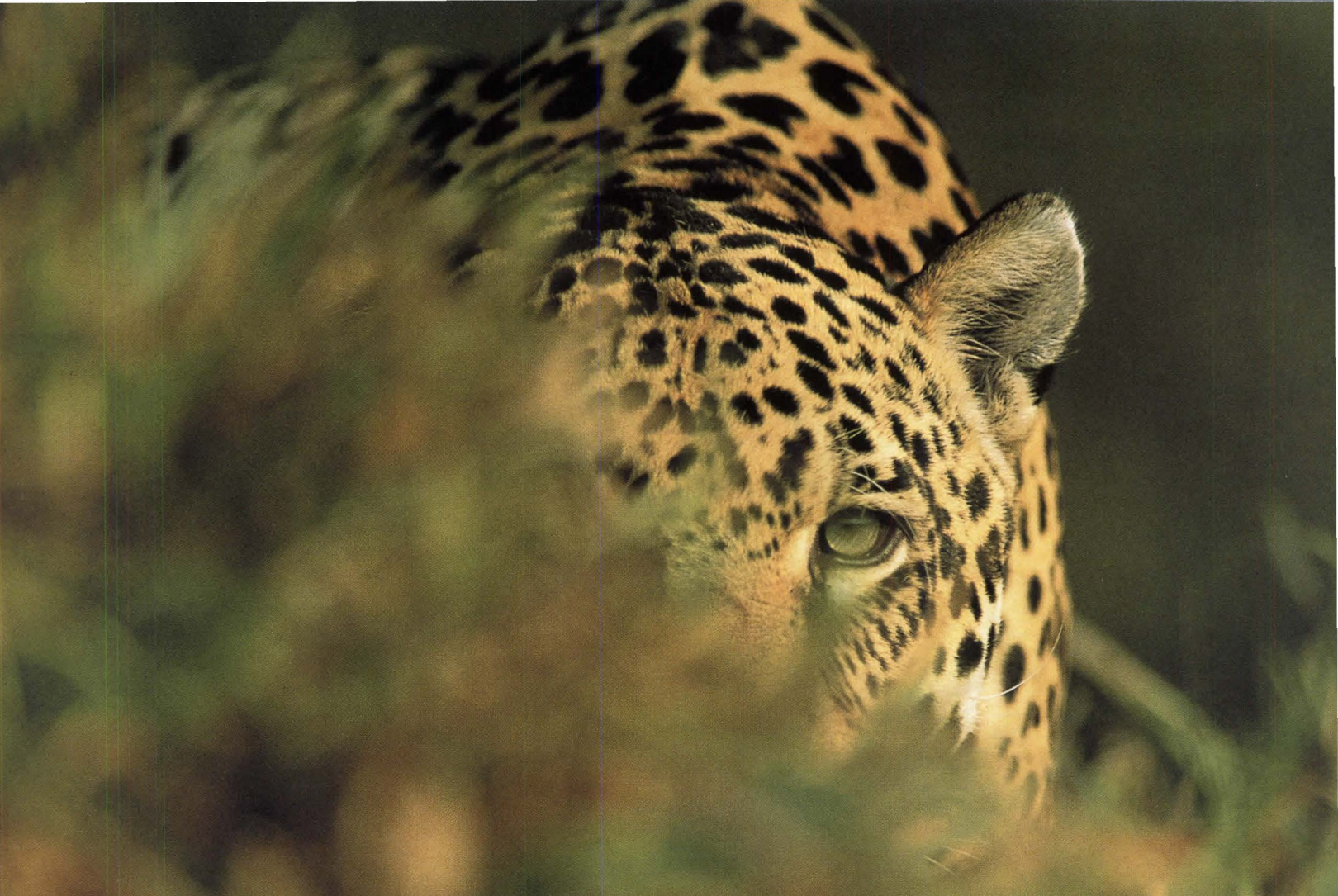
Anne Guiney

- 1 lobby
- 2 auditorium
- 3 support spaces
- 4 gardens



Section | 89'

- 1 lobby
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practice

“That’s the idiosyncratic nature of Route 66, and we don’t want to meddle with that.”

Preservation p. 58

“It may seem strange to turn these majestic rooms over to kids with sneakers and Shania Twain posters, but there’s a business logic behind it.”

Business p. 62



Upcycling the World

Chemist Michael Braungart says an eco-conscious future starts with design.

Michael Cannell talks to the activist behind the next industrial revolution.

Green Michael Braungart is a revolutionary disguised as a chemist. If he had his way, we would abandon current recycling efforts as futile exercises: We still waste billions of tons of raw materials a year. In place of our crude system, Braungart wants everything—products, buildings, cities—to be rethought. All would be redesigned to return mate-

German chemist Michael Braungart, seated in the Hamburg office of McDonough Braungart Design Chemistry, says fines and regulations can’t save the planet. The answer to our environmental problems: better design.

rial benignly to the earth or be recycled. Cars, television sets, and other products would be owned by the manufacturer, who would reclaim the items at the end of their useful lives and remake them into new products.

Braungart gravitated toward chemistry during high school in Tuttlingen, Germany because he had a crush on the teacher. In the mid 1980s, while working for Greenpeace, he used his doctorate in chemical engineering to address environmental problems (eliminating CFCs from refrigerators, removing bleach from paper pulp).

Everything efficient tends to be ugly. Imagine, for example, an efficient Mozart, or an efficient Van Gogh, or an efficient Italian meal, which might consist of a tablet and a glass of water.

In 1986, Braungart lowered himself down a smokestack at Ciba-Geigy's Basel, Switzerland plant to block production until the chemical giant renewed its emissions permits. Chairman Alex Krauer invited Braungart and other activists into his office to discuss improvements.

The episode helped persuade Braungart that partnership solves more problems than protest. In 1987, he founded the Environmental Protection Encouragement Agency (EPEA) to help Ciba-Geigy and other companies improve their products.

In 1991, Braungart met William McDonough, America's most visible advocate of green architecture, at a rooftop party in New York's East Village; they discovered a mutual conviction that designers—not consumers—are responsible for environmental decline. "It's not the person who throws away a Coke can that's the problem," Braungart likes to say. "It's the person who designs a Coke can that can't be throw away.

Based on this radical premise, the chemist and architect launched McDonough Braungart Design Chemistry (MBDC) in 1995. Their mission: to patent and produce new products—biodegradable upholstery, nontoxic shower gels, Nike sneakers that disintegrate into soil nutrients—for what they called "the next industrial revolution," the coming era of eco-conscious design that eliminates waste.

Michael Cannell: You've said that buildings should be designed like trees.

Michael Braungart: Yes, they should communicate with the surrounding neighborhood, they should be habitats for other species, they should be climatized on natural principals, they should renew natural resources, they should produce air and water rather than be merely efficient.

So eco-conscious is not synonymous with efficient?

Everything efficient tends to be ugly. Imagine, for example, an efficient Mozart, or an efficient van Gogh, or an efficient Italian meal, which might consist of a tablet and a glass of water. If you make buildings energy effi-

cient they turn into toxic gas chambers.

Why should the environment be efficient? Nature isn't efficient. Efficiency means a standardized, one-size-fits-all architecture. It means a language of guilt—avoid, minimize, reduce, and prevent. Variation and diversity may not be efficient, but they're highly effective.

Should everything be recycled?

Building materials are by far the single biggest source of waste. Forty-six percent of the material waste stream comes from buildings. Intelligent design would eliminate waste. My colleagues and I identified 4,360 different chemicals in a television set. Do you really want to own those chemicals, or do you want to watch TV? Televisions and other products could be designed to be disassembled. Then their valuable metals, chemicals, and other components could be recirculated by industry to make new products.

You're advocating an entirely new form of recycling?

Current recycling is actually what we call *downcycling*—reducing the quality of a material over several lifecycles until it is no longer useful. When car steel is recycled into building material steel, for example, it is melted down with other materials, such as copper. This copper content destroys the steel's stability. As a result, new steel must be added to make the metal strong enough for its next use. These things are not designed to be recycled. They're forced into primitive recycling processes after they've been used. Their original quality is lost.

If today's recycling is downcycling, then what's upcycling?

Korean rice husks used as packing for stereo components are now being reused as building insulation. Shipping is free because it travels with the stereo, the insulation is non-toxic, and we eliminate the concept of waste. After use as insulation, the rice husks can be used again as bricks. We've also developed a pulp from newspapers to be recycled into building insulation. We use the intelligence that already exists in those materials.

Are Americans ready for upcycling?

Americans tend to equate recycling with sex. New materials are called virgin materials. How can you use a material that's already been used by someone else? When it comes to recycling, Americans have so many rules. Don't litter or you'll get a \$1,000 fine! Environmental regulations and fines are proof the system isn't working. The fact is, we all enjoy littering because it shows we were there—like a dog peeing on a tree. We acknowledge that people like to throw things away, so we invented an ice cream packaging that degrades within five days. It contains seeds of rare species, so you act like a songbird spreading seeds as you litter. ■

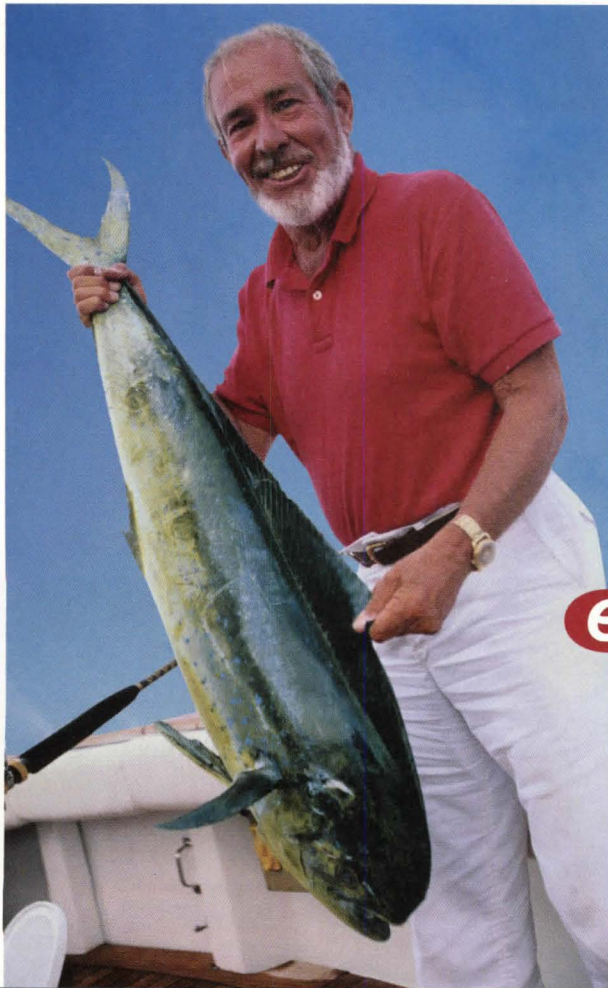
Braungart once lowered himself down a smokestack to halt chemical production. Today, he helps corporations (Nike, Herman Miller, Steelcase, among others) incorporate environmental awareness into their business practices.



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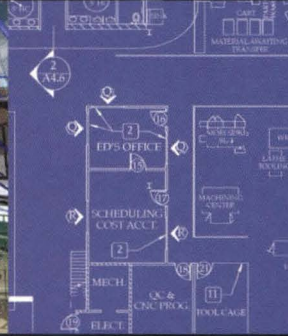
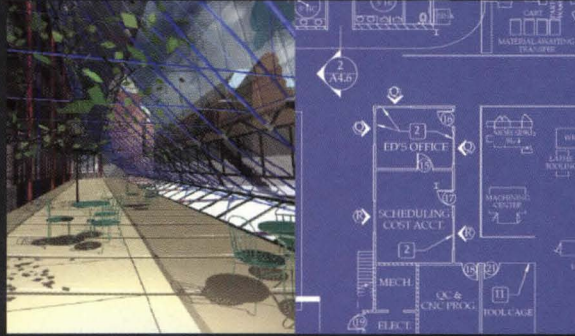
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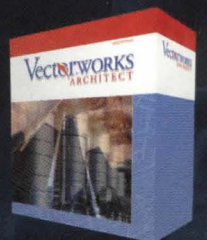
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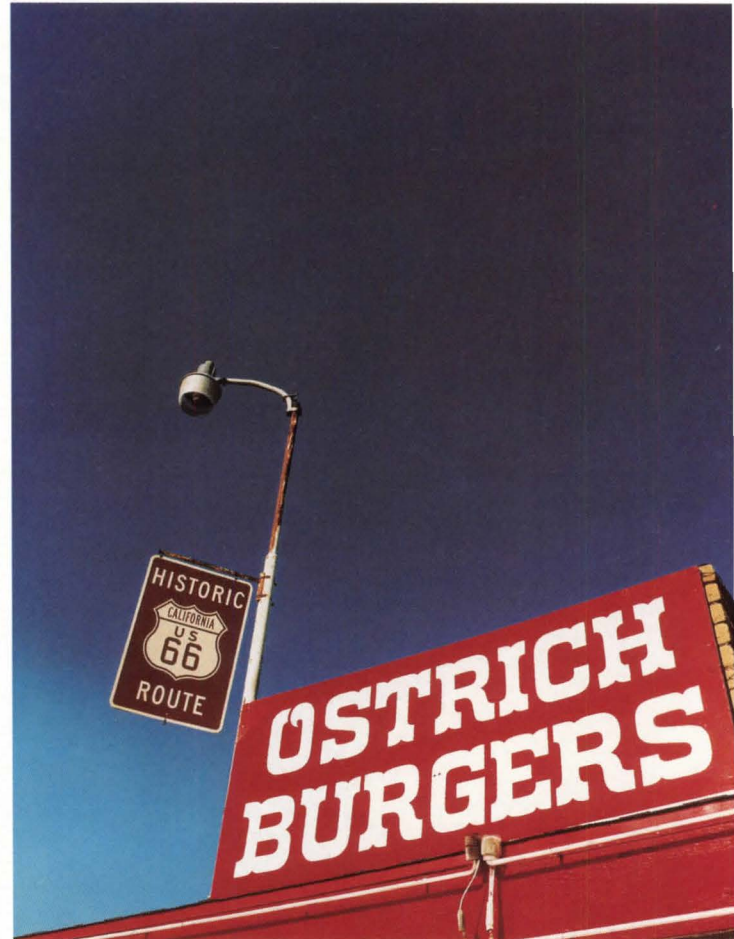
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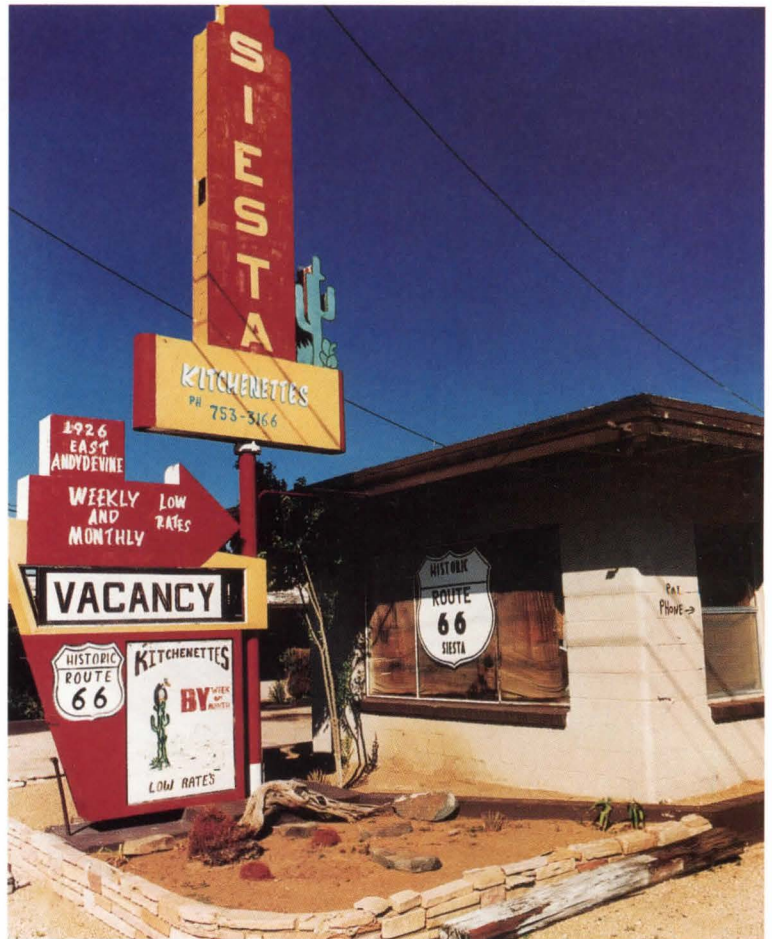
Route Structure

The Route 66 Preservation Act may spark a Mother Road revival. **Alan Hess** gasses up.

Preservation Thanks to Bob Dylan, John Steinbeck, and Henry Fonda, Route 66 is piled as high as Ma and Pa Joad's truck with the baggage of American myth. This 2,400-mile highway combines the unfettered freedom of cowboys, the neighborliness of Thornton Wilder, and the open-road adventure of Jack Kerouac.

Starting in the 1960s, the winding route from Chicago to Los Angeles was gradually replaced by smoother, speedier interstates. The last remaining section was decommissioned in 1984, relegating main streets, motels, neon signs, coffee shops, diners, and gas stations to various stages of dilapidation far from the new interstate tourist routes.

To prevent Steinbeck's Mother Road from vanishing into its own myth, Congress passed the Route 66 Corridor Preservation Act of 1999 last fall. The act provides \$10 million in spending per year (starting this year) to preserve the road's "idiosyncratic nature." How that will be accomplished



Get your kicks: A federally funded Route 66 preservation project will restore signage, structures, and roadbeds from the shores of Lake Michigan to the Santa Monica pier.

is still unclear. The National Parks Service's Long Distance Trails Group, which administrates the program, says it could include restoration of roadside structures, conservation of original roadbeds, new signs, interpretive plaques, economic revitalization and an international tourist marketing push. "Right now, we're just trying to preserve everything we can," says David Knutson, executive director of the Historic Route 66 Federation, a nonprofit preservation group based in Tujunga, California.

Route 66 has already benefited from local grassroots efforts in the eight states it crosses. A Main Street district in Amarillo, Texas, revived itself with antique stores and restaurants trading on nostalgia. Clinton and Elk City, Oklahoma, and Victorville, California, all have Route 66 museums. Most famously, the 1974 Cadillac Ranch west of Amarillo evokes the vanished snake farms and mystery plots that once lined the route.

As the road's first extensive preservation effort gets underway, offi-

cial at the Long Distance Trails Group are asking themselves: Can a myth be visited, much less preserved? If so, should the ribbon of highway be kept alive or preserved under glass? "We can't have 2,400 miles of Williamsburg," says Knutson.

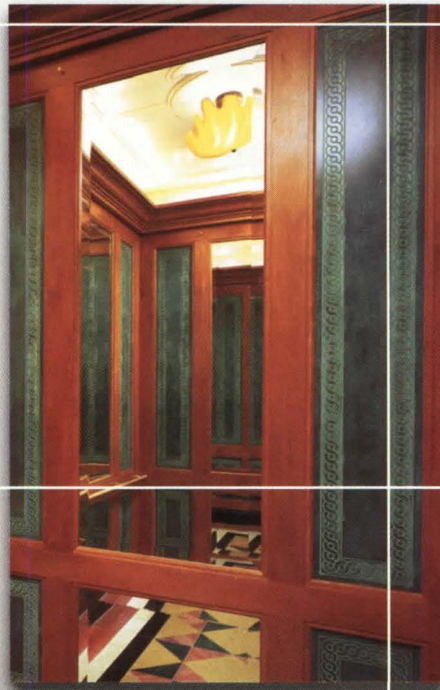
What is the true Route 66, anyway? Is it the Okie's Highway of Tears, the hipster trail of Bobby Troup's hit song, or the vacation wonderland of mid-century station wagons? Does it reside with car enthusiasts, mom-and-pop businesses, or historians? There is no other route like it, and it has a vast range of appeals. "That's the idiosyncratic nature of 66 itself," says David Gaines, superintendent of the Long Distance Trails group, "and we don't want to meddle with that." ■

Alan Hess is the author of Googie: Fifties Coffee Shop Architecture (Chronicle Books, 1986).

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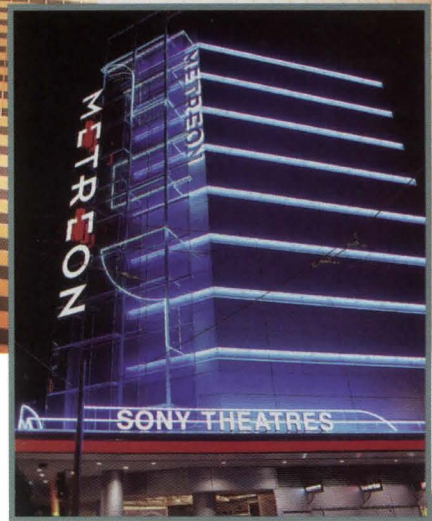
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Going Dotty

Will the dot-com moguls be the next great architectural patrons? **Michael Cannell** inspects a wired-up Internet mansion.

Business In 1873, 42-year-old Oliver Ames inherited one of America's great robber baron fortunes. His father, Congressman Oakes Ames of Massachusetts, parlayed profits as a prosperous shovel manufacturer into a sprawling railroad empire. (Oliver himself served as president of the Union Pacific when it met the Central Pacific at Promontory Point, Utah, in 1869, to complete the transcontinental railroad.)

Four years before becoming governor of Massachusetts in 1886, Oliver Ames asserted his position and power in aristocratic Boston by erecting one of the city's most imposing residences, a 25,000-square-foot mansion prominently located at the busy Back Bay intersection of Massachusetts and Commonwealth avenues. Designed by German architect Carl Fehmer, the richly carved brownstone home was inspired by 16th-century chateaus.

The Ames family amassed a fortune from an onrushing new technology that connected communities with unprecedented speed. In a pleasing case of déjà vu, the Ames mansion now houses the 21st-century analog: Dot-com whiz kids and Internet entrepreneurs toil among the gilded parlors and wood-paneled bedrooms. Venture Capitalist Stephen Roy bought the property in 1996 for \$2.75 million. It was last used as a private residence in 1926. Since then, it has housed a coffin manufacturer and administrative offices for Emerson College.

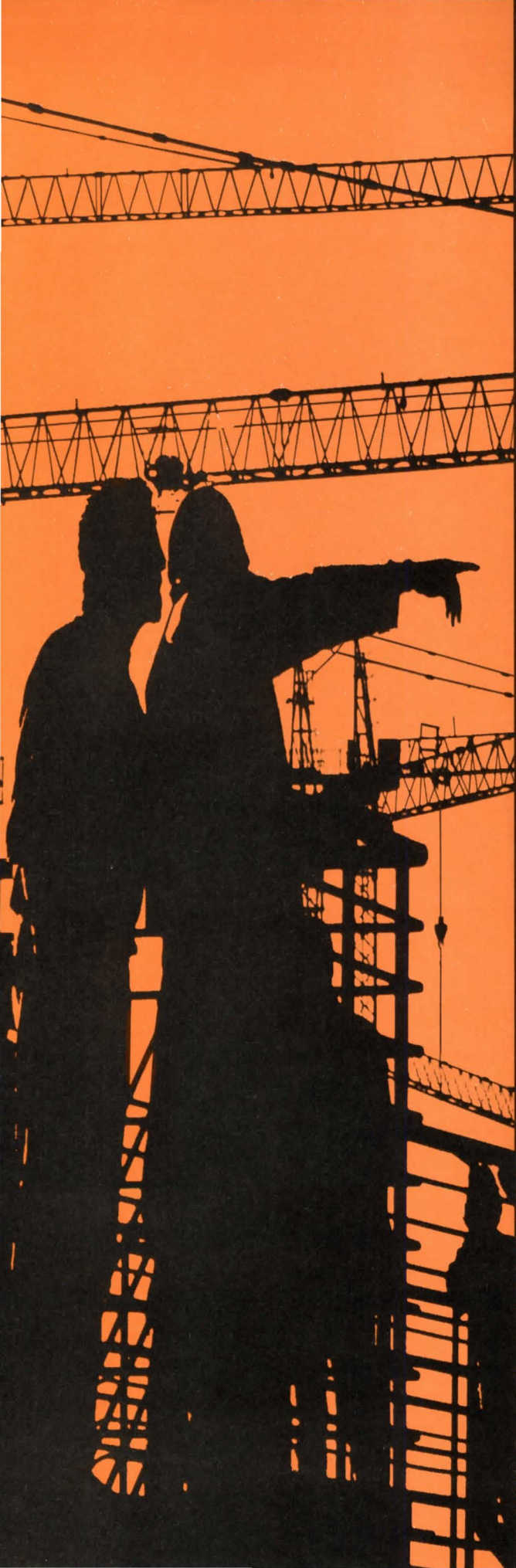
In its new incarnation, the Ames mansion serves as an Internet incubator, the temporary home of a dozen or so start-ups groomed for the marketplace with up to \$2 million in "mentor capital," as well as coaching from lawyers and accountants. In return for housing and nurturing the fledgling firms for up to a year, Roy and his partners receive equity in their business.

Until now, the Internet bonanza has gone without its own architectural identity. If Silicon Valley had any common esthetic, it would be parking lots sprawling among tinted-glass office parks and "campuses" that act as spartan containers for Internet giants like Sun Microsystems and Oracle Corp. Meanwhile, in New York's Silicon Alley and San Francisco's South of Market district (SoMa), fledgling dot-coms set up stripped-down electronic sweatshops in fringe commercial buildings and converted industrial lofts.

The Ames Mansion is an early hint that the inheritors of the New Economy may finally be outgrowing dorm-style trappings to find their own design conscience. If nothing else, Stephen Roy and other Internet entrepreneurs have come to value architecture as a recruiting tool as they scramble to attract *the best and brightest* young talent. "The



Railroad magnate Oliver Ames built his mansion (top) on a prominent corner of Boston's Back Bay in 1882. After an \$8 million renovation, it now houses dot-com entrepreneurs. A giant fireplace with caryatids supporting the mantel and relief figures from Greek and Roman mythology dominates the main floor vestibule (bottom).



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quality of people you attract depends on the quality of what you provide them,” says architect Guy Grassi, who supervised the painstaking \$8 million renovation while discretely adding T-1 Internet connections and other upgrades. “It may seem strange to turn these majestic rooms over to kids with sneakers and Shania Twain posters, but there’s a business logic behind it: Let’s give them what nobody else can offer. After all, these 23-year-olds are the Oliver Ameses of the 21st century.”

The strategy works. By the time the Ames mansion reopened its doors last February, Roy had enticed a houseful of savvy young MIT programmers from across the Charles River by offering them wood-paneled drawing rooms with chandeliers, stained-glass windows, and gilded mosaic ceilings embedded with Tiffany opals. “If you’re going to work 17 hours a day, why not be surrounded by beauty?” Roy asks. “Better to work next to the fireplace than under acoustical tile in some industrial park out on the Interstate.”

The Internet has generated unprecedented wealth, and some of the new media millionaires will surely distinguish themselves as modern Medicis. But for now, architects scouting for work among the thousands of dot-com clients in need of architectural help (Boston alone has 646 Internet firms) must contend with the pitfalls of a young and volatile field. Most startups are plagued by unstable budgets. And while the venture capitalists that back dot-coms are willing to bankroll real estate costs, which, in San Francisco’s SoMa district, go as high as \$75 a square foot, they tend to resist any elaborate architectural fees on top of rent.

When they do secure fit-out and construction funding, the young and inexperienced dot-com techno-wizards are all too prone to miscalculate their budgets, a flaw that can scotch architectural ambitions. “Most dot-commers have never been through this before,” says Jane Smith of Harris Smith Design Inc., a New York firm that caters to dot-com clients. “They have no idea what things cost.” It’s harder still for young managers to predict their needs when their fledgling firms could easily quadruple in size—or wither and die—in a fiscal blink. To protect themselves while working with clients who could be gone tomorrow, some architects are demanding up to 20 percent of their fee up front.

Dot-coms are invariably in a desperate rush, and downtime means disaster. For architects, this means inventing entirely new ways of working. Peter Black, a principal who heads a special dot-com team within Mancini and Duffy, speeds up delivery by foraging for light fixtures and other hardware himself in surplus stores around New York City’s Chinatown. He also eliminates time-consuming back-and-forth by involving clients in charrettes. “We lock them in a room,” he says, “until we’ve got a design that’s ready for documents.”

It’s this direct relationship with the client, free of the meddling intrusion of interior designers and construction managers, that appeals to architects riding the dot-com roller coaster. And, of course, they are working among wealthy, open-minded clients. “If you build up a good relationship with them now, they could be great patrons for a long time,” says Peter Black. “We might get lucky and find the next Michael Dell or Bill Gates.” Or the next Oliver Ames. ■



Preservation

Author Edith Wharton’s Monument to an American Renaissance Undergoes Restoration

Edith Wharton, chronicler of 19th-century manners and the first woman to receive the Pulitzer Prize, is at last receiving recognition as an arbiter of architectural taste.

In addition to more than 10 novels, a collection of poetry, and travel books, Wharton wrote two overlooked design books, *The Decoration of Houses* (1897) and *Italian Villas and their Gardens* (1919).

Wharton’s own 1902 country home, known as the Mount, located in Lenox, Massachusetts, is now undergoing a three-year restoration. It will open in time for its centennial as a cultural center dedicated to Wharton’s literary and architectural writings. A National Historic Landmark, one of just 5 percent dedicated to women, the Mount received a \$2.8 million federal grant to fund its preservation.

The Mount embodies the classical principles of harmony, order, and proportion Wharton espoused in her writings. It is “a design laboratory that blended in a sensitive and intelligent way the ideas of the American Renaissance,” says Scott Marshall, the Edith Wharton Restoration’s vice president and historian.

Wharton considered the Mount her masterpiece, far surpassing her popular novels *The House of Mirth* and *The Age of Innocence*. It was meant to answer both the confusion of Victorian eclecticism and the opulence of the beaux arts. Wharton oversaw the designs of architect Frances V.L. Hoppin, interior designer Ogdon Codman Jr., and landscape designer Beatrix Jones Ferrand, her niece and a founding member of the American Society of Landscape Architects. Says Marshall, “The house was an autobiography.” *Alan G. Brake*

culture

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on the Venice Biennale
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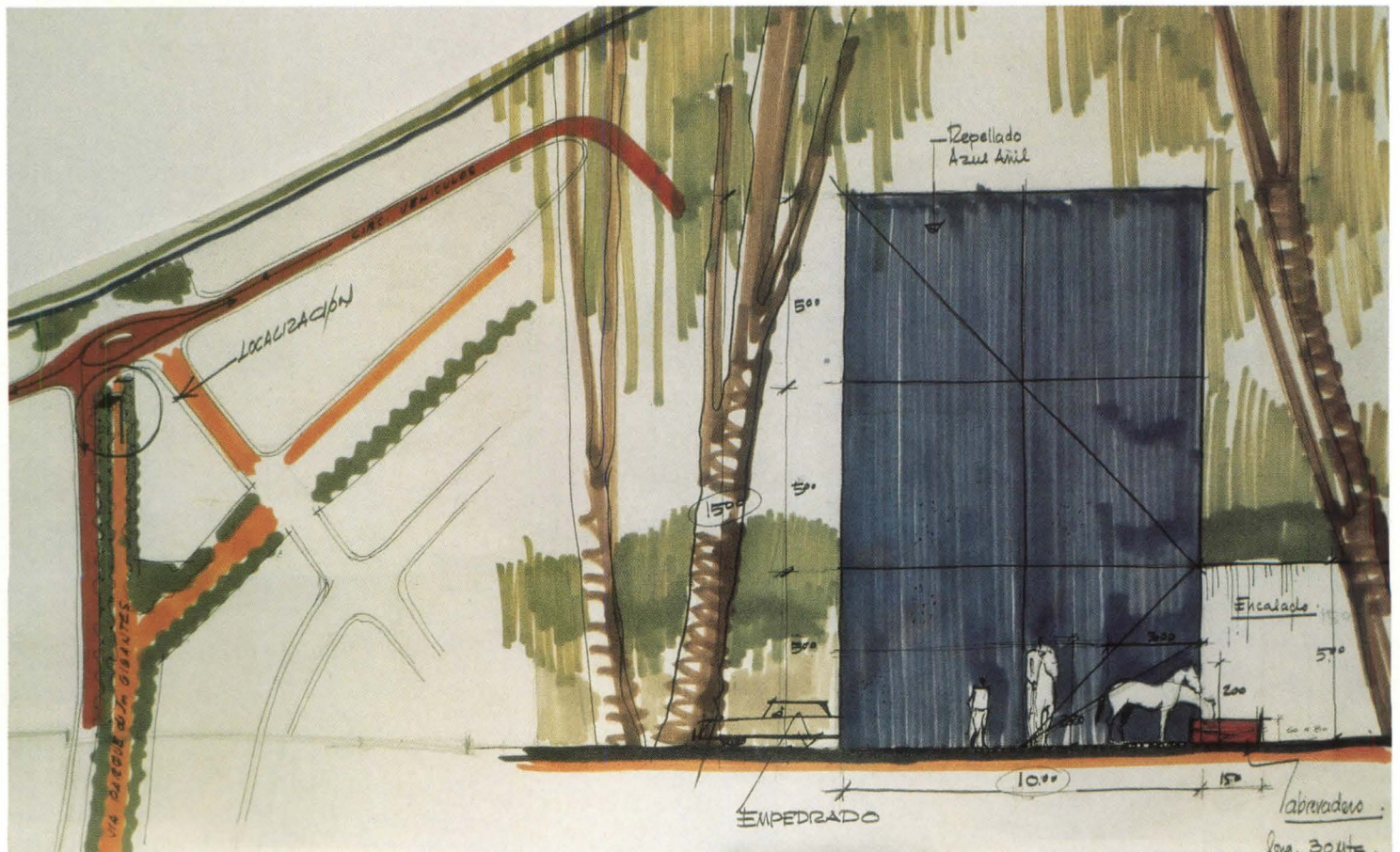
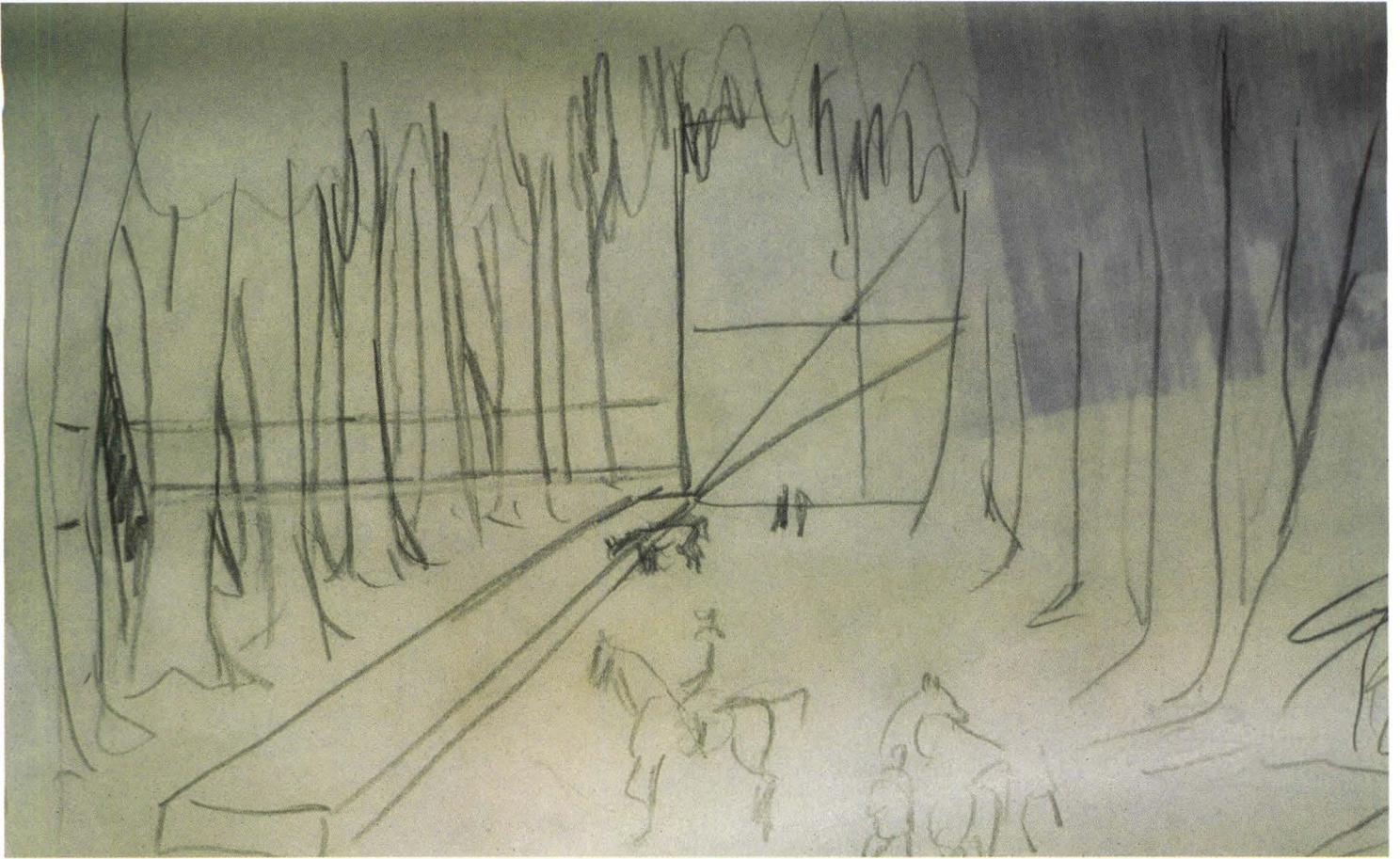


Drawing New Conclusions

With never-before-seen drawings, an exhibition on Luis Barragán sheds new light on the old master. **Richard Ingersoll** reports.

Review **Luis Barragán: The Quiet Revolution**, Vitra Design Museum, Weil-am-Rhein, Germany, through October 29.

In 1995, when the majority of the archives of Luis Barragán (1902–1988) were acquired in New York and shipped to Switzerland, many in Mexico were outraged at what seemed a depredation of their national patrimony. Four years later, however, it is obvious that the documentary affects of



Mexico's most famous architect—which include 13,500 drawings, 15,000 original photographs, countless models, and several hundred memorabilia—could not have found a better home, comfortably couched in the architectural preserve of the Vitra Corporation, the preeminent manufacturer of modern furniture. Federica Zanco, founder of Vitra's newly established Barragán Foundation, and its curator Emilia Terragni have worked tirelessly to catalogue the collection, open it to scholarly inquiry, and present its most salient artifacts in a major exhibition, titled *Luis Barragán: The Quiet Revolution*. (The show, now on view at the Vitra in Weil am Rhein, runs through October and will travel next to Vienna, then London, Berlin, Rotterdam, Tokyo, and several Latin American venues.) Comparisons between the Barragán Archives and the Elgin marbles will prove inappropriate, ultimately, for this carefully structured exhibition will inspire deeper interest in Barragán's original works in Mexico and may even lead to improvements in their conservation.

Barragán's mature works—those that follow the completion of his own houses and gardens in the Tacuyaba district of Mexico City, dating from 1940 to 1948—hold a unique place in the history of 20th-century architecture. Composed of interlocking orthogonal planes, they approximate the greatest modernist ideas of the de Stijl movement and of Mies van der Rohe. Yet the plans of his houses were surprisingly traditional, comprised of discrete rooms served by corridors. Despite Barragán's shocking juxtaposition of walls painted in bright saturated colors, such as magenta against ultramarine blue, his ulterior goal was to gratify a conservative clientele, and perpetuate a conservative atmosphere of comfort, privacy, and silence. These aspects of his work have been well explored in architectural histories, but his process has remained relatively unexamined, due to the lack of access to the materials now assembled in this exhibition.

With extraordinary rigor, the curators have organized a massive amount of original and largely never-before-seen graphic materials, as well as period photographs. Complementing this material are interactive digital displays of seven notable Barragán works—Casa Barragán, Casa Prieto López, Casa Gálvez, Casa Egerström, two houses on Avenida de las Fuentes in Pedregal, Tlalpan Chapel and Convent for Capuchin nuns—which are meant to convey a sense of their spaces, colors, and details. Users can navigate the building's plan, clicking arrows that summon photographs of a variety of views. The organizers also commissioned a video that allows visitors to see the most famous projects in situ. Though these added visual materials don't really do much in the way of making it *continued on page 150*

Barragán was the developer and designer of the residential subdivision of Las Arboledas (1958–63), just north of Mexico City. In it he provided three “halting places” for riders and their horses to rest. One of them, El Bebedero, features a wall from which a drinking trough extends into a landscape of eucalyptus, which he wanted to preserve. The pencil drawing (facing page, top) was one of the design's earliest sketches, drawn by Barragán himself. The felt-pen drawing (facing page, bottom) was executed later by draftsmen in his office, and shows the project as it was eventually built, with the trough moved to the right side of the wall.



Review

La Beauté, in Avignon through October 1.

Though many might deride beauty as a frivolous pursuit, the organizers of the exhibition *La Beauté*, held throughout the town of Avignon, insist that the force of beauty is not to be underestimated—that, in fact, it may be seen as a prime motivator and criterium for our cultural production. With this premise, the event's general commissioner Jean de Loisy invited nearly 100 leading artists across disciplines—fine art, fashion, architecture, music, performance art, literature—to create installations or environments that would reflect the world or ideas of beauty that inspire them.

The entire city of Avignon has been given over to the cause of beauty. The musty rooms of the Palais des Papes have become grand backdrops to installations by artists Bill Viola, Anish Kapoor, Nam June Paik, and Sarah Sze. Ten rooms of the palace were opened for the first time for the show. Rebecca Horn

claimed the kitchen to install a reflective oculus in the round room's ceiling. James Turrell illuminated the city's historic bridge, the Pont du Garde, transforming this relic of the ancient aqueduct of Nîmes into a contemporary light sculpture.

The exhibition was also an occasion for the Clos de Trams, a switching station, to be transformed (permanently) into an art space. In it, French architect François Roche created luminescent walls of blue bottles (above). Another intended permanent installation is a small building in a public garden, the Pavillon Gourmand by Gaetano Pesce, which will replace the site's old café with a lightweight structure composed of molded silicon walls.

As architects in the concurrent Venice Biennale ponder the relation of ethics to aesthetics, *La Beauté*, while scattered and even forced at times, is provocative because it highlights precisely its own elusive quality. The ancients and Renaissance thinkers believed beauty to be a function of absolute principles; only centuries later were their ideas challenged by renegade empiricists who insisted that beauty was subjective, a product of circumstance and convention.

The show doesn't come any closer to defining beauty, but that would be impossible—and that's the point. *Cathy Lang Ho*

The Electric Cool-CAD Auto Test

At the 7th Venice Biennale, architecture approaches art. **Cathy Lang Ho** makes sense of the *mélange*.

Archipolloza The centerpiece of the seventh Venice Architecture Biennale is a 90-meter-long screen that displays a stream of images from the world's megacities—Cairo, Mexico City, Hong Kong, and others—places where human presence is most extreme. Portraying a world of chaos and unrest, the footage serves as a foreboding backdrop to the work and ideas of the distinguished architects invited to participate. There's a sense of inevitability in the images—of endless favelas, trains trailing through barren landscapes, power plants churning smoke. They seem to implore, “don't let this be the destiny of all the world's cities.”

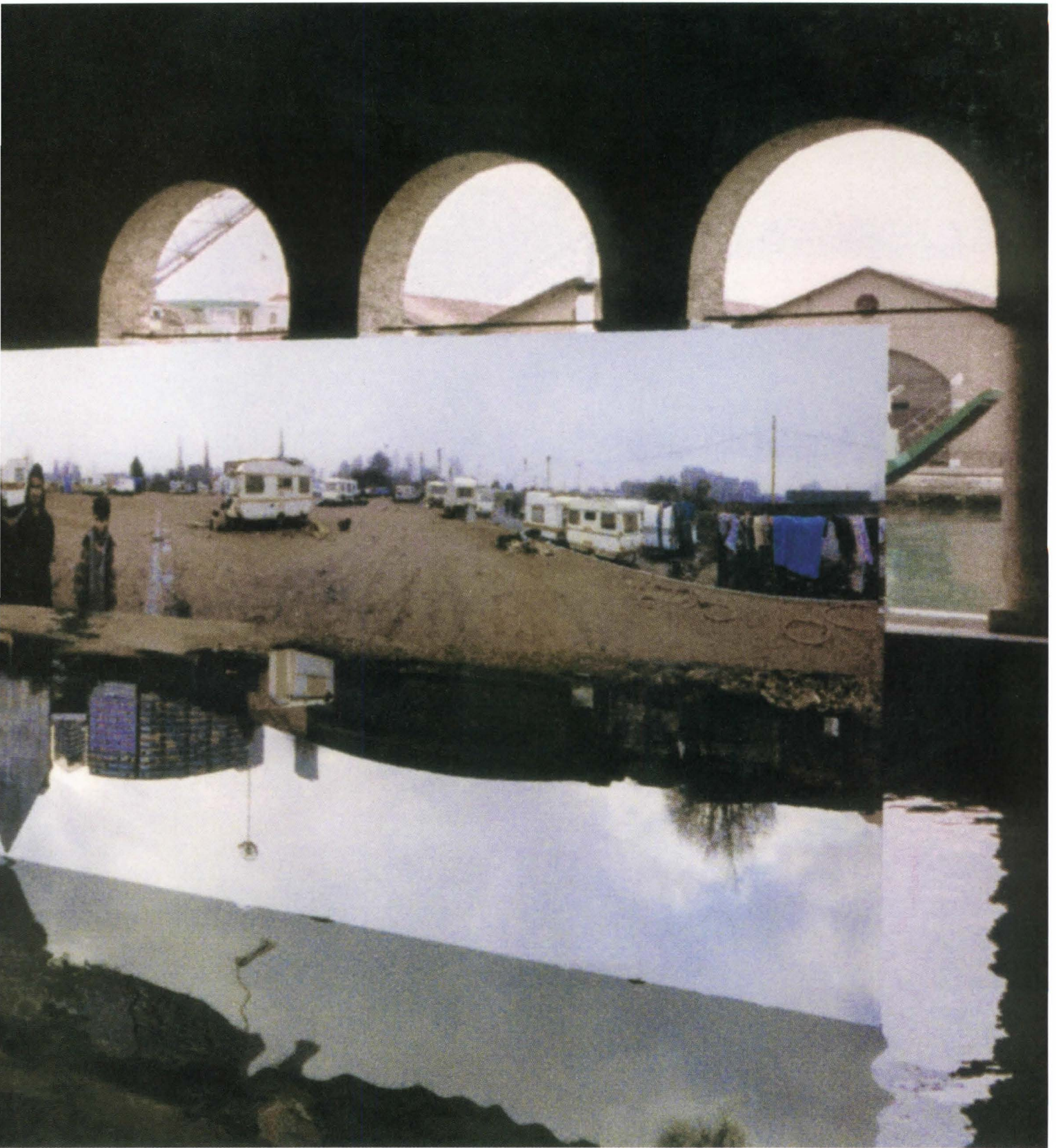
Biennale director Massimiliano Fuksas chose the theme “*Città: Less Aesthetics, More Ethics*” to counter architecture's potential to be self-absorbed and object-oriented, and to force a dialogue between architects' work and the contexts and processes of which they are a part.

Plenty of displays focus on traditional social equations, such as Sweden's pavilion on housing, and Brazil's and Romania's on urban preservation. Others expand on the interpretation of ethics—to concern ecology, as Chinese architect Yung-ho Chang does with his urban bamboo gardens; or spirituality, as Hans Hollein and Arata Isozaki attempted with their Zen tableaux. If anything stands out, however, it's the prevalence of the computer, which consistently poses questions of the changing nature and processes of the profession itself. But as one Italian critic observed, if the plug at the Biennale were pulled, there'd be no architecture. Such projects raise a dilemma: If architecture were to exist only in the virtual realm, its ethical implications would remain purely theoretical.

A refreshing antithesis to the projects that center on man's place in a virtual world are those that ground him in the actual one. Shigeru Ban's paper houses from the Kobe earthquake and reconstructed prefab post-war houses by Jean Prouvé reassert the need for real building technologies that solve persistent social problems. To the French, it's *politics—not architecture—that* will improve the world: Its pavilion's walls are covered with letters that debate how to deal with the hand-to-mouth existence that characterizes one-third of the world's population.

The Biennale's cornucopia of impressions adds up to humankind's self-inflicted chaos. But, as Fuksas observes, “Chaos is not disorder; it is a ‘sublime’ order, which, in the evolution of physics, finds greater laws than those of simple geometry.” Previous attempts to impose order on cities have routinely failed. The Biennale's heterogeneity of messages, media, stances, and styles only invites more change, more questions, more variety, and, one hopes, more ethics. ■





So preponderant were the multimedia installations at the Biennale that it elicited more comparisons with the previous year's art Biennale than to other architecture exhibitions. Brussels-based photographer Marin Kasimir's dual panorama is installed at the dry docks of the historic Arsenale, where the Venetian fleet was built centuries ago. Titled *Révélateur...more|less... 1997|2000*, a settlement of gypsy caravans is the flip image of new development, which appears permanent but will, of course, become obsolete. Both scenes were photographed at the edge of the new commercial developments of Lille, France. Like other installations throughout the Biennale, this piece explores strategies of survival.

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Event City

Hosting the Olympics helps cities jump-start large-scale urban renewal.

Christopher Procter susses out Sydney's plan.

City Every four years, galvanic stirrings of nationalism, fiscal extravagance, and logistical explosions erupt in the city that hosts the Olympic games. More than merely a chance to promote their own image and attract tourist dollars, cities have come to regard the Olympics as an occasion to accelerate urban development and renewal.

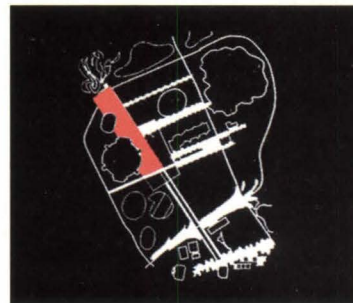
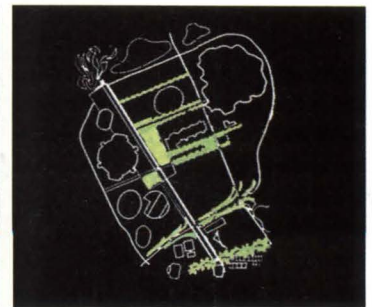
As with international expositions and world fairs, the Olympics asserts itself in cities in a variety of ways. One model has been to create a single bundle of venues, usually strategically located in a region deficient in amenities. The typical plan is a self-enclosed Olympic site with a clearly defined "inside" and "outside," with an arterial road infrastructure circumscribing it. Munich in 1972 took this approach (with its athlete's village and side venues within walking distance), as did the Lisbon World Expo of 1998 (located at the city's periphery).

The opposite model disperses venues throughout a metropolitan region, spreading the benefits (as well as, perhaps, the inconveniences) among the population. As in the first model, decisions about building locations are based on attempts to redress urban or civic deficiencies (for example, to satisfy latent demand for open space or recreational

facilities). Barcelona's 1992 Olympics is the most successful example of this approach, and, in plan, it also resembles Atlanta in 1996 (though there most of the venues were preexisting and simply recruited or renovated for new use).

The Sydney 2000 Olympics draws from both models, resulting in an interesting hybrid brand of "event urbanism." In the city of Sydney proper, the Olympics will make use of existing infrastructure, such as the exhibition and convention halls, and football stadium. Venues are also scattered throughout Sydney's larger metropolitan area, but most are concentrated at one specially developed venue, in Homebush Bay, a borough 10 miles west of Sydney. Homebush Bay was, until recently, a neglected, underused and contaminated semi-industrial landfill. It is now home to a 1,900-acre Olympic superblock comprised of more than a dozen major constructions, including the main Stadium Australia, an athlete's village, train station, swimming facilities, tennis center, as well as a 750-acre Millennium Parklands, which, by the time it is completed in 2010, will be one of the world's largest urban parks.

What is compelling about the preparation of Homebush Bay and Sydney for the 2000 Olympics is how its organizers managed a dual approach, with new construction and improvements that amplify the unique differences in geography, ecology, and urban settlement between the two locales. Both places could not be more different. Contrast the sparsely populated, sprawling Homebush with the dense urban core of Sydney, which has a municipal area of 1,500 acres. The city is an alternating lattice of high- and low-intensity commercial, pedestrian, and vehicular activity. While cars circumscribe the perimeter of Homebush Bay and pedestrians traverse its center, Sydney is crisscrossed everyday by roughly as many cars (half a million) as people.



Landscape architect George Hargreaves consulted on the master plan of the Olympics' primary venue at Homebush Bay, an underdeveloped outer district of Sydney. It combines three "moves": red signifies a paved central plaza; green connotes landscape to connect with the surrounding parklands; and blue celebrates the water on the site.

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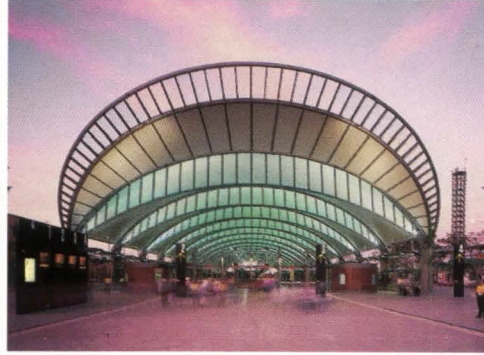
Angie Lee, AIA, IIDA

*Principal, Director of Corporate Practice
OWP&P*

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At Homebush Bay, new structures include small service buildings (left) which are simple masonry blocks topped by an eye-catching fabric roof (Durbach Block Murcutt Architects); the Olympic Park Railway Station (center) which links Homebush to Sydney (Hassell Architects); and a lively landscaped plaza with a water folly (right), the Northern Water Feature (Hargreaves and Associates).

While Homebush Bay has elements of Munich (a supersized enclave set off from the community, though served by new regional transportation infrastructure), Sydney received Barcelona-like attention, with needed amenities, such as new plazas and recreation centers, introduced to targeted, needy areas. This solution was not necessarily inevitable; it had to be forced, against bureaucratic limitations, fiscal constraints, and public resistance.

Homebush Bay faced similar obstacles. After years of struggle and wrong-headed planning, in 1996 the local government finally formed the Olympic Coordination Authority (OCA) to reduce the number of agencies involved and accelerate action. A Design Review Panel was also founded, in 1997, to balance design decisions that had, until then, been guided only by issues of cost and construction. That same year, as the Olympic date loomed closer, the organizers realized that they had “a master plan without leaders,” as one city architect recounted. “As is often the case in times of dispute, it was necessary to bring in an outsider.”

American landscape architect George Hargreaves was recruited to reappraise Homebush Bay’s planning. The fact that the outsider was a landscape architect would have a profound impact. With experience in renovating abused landscapes, Hargreaves recast Homebush Bay from its initial conception—as an urban core surrounded by landscape—to a more integrated plan with “fingers of landscape” extending into its center. By evoking the local topography, he subverted the distinction of inside from outside typical of other Olympic and international event sites—and for that matter, common to the cores of established cities, such as the Hague, Brussels, and Boston. Though many elements of the master plan, such as the network of streets, land subdivision, and the positions of stadia, were immovable by the time Hargreaves was brought on, he at least insisted that the plan be attuned to the shape and scale of Homebush Bay’s natural landscape, and adopt a formal language that would make sense of the buildings and spaces within it.

Hargreaves’ approach was consistent with the green ethic that many of the architects adopted in their building designs. From the beginning, the Olympics at Homebush was meant to remediate a damaged site, and to serve the community long after the games end. The athlete’s village

will be converted immediately into a housing estate, and the venue itself will become densified, with buildings added over time.

Sydney’s real estate was growing even before it won the Olympic bid in 1993. Its population saw a threefold increase since 1990, which created great demand in the residential market. In the last seven years, 5.2 billion dollars’ worth of private commercial and residential development has been built. Concurrent with the spike in private building, Sydney’s Mayor Frank Sartor initiated a three-year, \$216-million program of improvements to the public realm. These projects stalled, however, and only the impetus of the Olympics was able to fast-track the programs financially and politically. Sydney now boasts numerous new plazas, beautified streets, three new parks, five community centers, 10 cultural and sporting venues, new street furniture, and 11 art installations. Public construction—as well as private development corresponding closely to the desires of the OCA—have given Sydney its most effective and socially enduring urban development legacy in the city’s history.

While Olympic programs could easily amount to confections of urban trifles, they can also be showcases of fiscal prudence and enlightened community enhancement. Most of the public construction in Sydney increased the quantity and quality of open space. (Private developers were required to provide open space as a condition of any new construction.) At Homebush Bay, meanwhile, the government enlisted the private sector to build, own, and operate several venues that will provide revenue for the state in the short term, and serve as equity for the investors in the long term. With the government’s backing, the public expected new facilities to be functional and permanent, and not demanding of public funds. This is a far cry from the first modern games, resurrected by Pierre de Coubertin, who funded the 1906 Paris games in the spirit of the wealthy patron-industrialist. Or from Montreal 1976, which left the city bankrupt. Los Angeles 1984 was the first to eliminate the big-ticket items, like new construction, keeping its entire budget to about \$500 million. But Los Angeles also did not gain new train stations or recreation centers or improvements to its infrastructure—amenities which will continue to please the public long after the last national flag is waved. ■

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*"Brilliance is that unpredictability.
It can never be figured out;
better to celebrate it."*

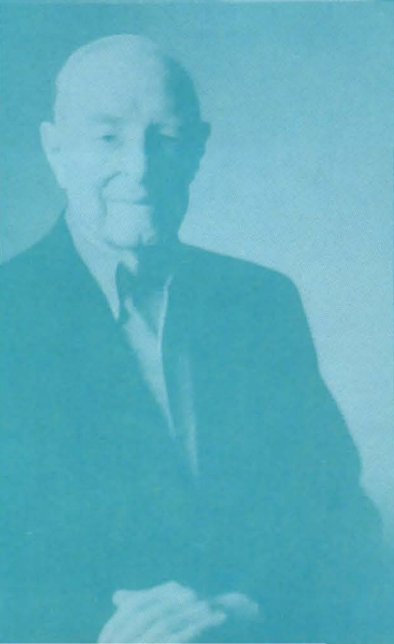
JOHN HOCKENBERRY *Correspondent, Dateline NBC*



applied **brilliance** conference

What do a movie producer, a Native American traditional faithkeeper, a former NATO ambassador, a futurist, an economist, a business consultant, a media expert, and Deepak Chopra have to do with design?

A lot, according to Craig Reiss, president of the Design Group. "Good, effective, worthy design never occurs within a vacuum. Design, by definition, is an expression of context," Reiss said, kicking off *Architecture and Interiors* first Conference on Applied Brilliance, held at the Ritz-Carlton in Laguna Niguel, California, this June.



architecture

interiors



From right: Steve Schmidt, founder, OfficePlanIt.com, Stanford Hughes, principal, Brayton & Hughes Design Studio and another guest
From left: Kim Holden, principal, SHoP, and Mario Gooden, partner, Huff + Gooden, with other guests



From left: Dorcus Roehrs, associate, The Switzer Group, Art Gensler, CEO, Gensler, and another guest



On left: Tom Stone, president, T.F. Stone, with other guests

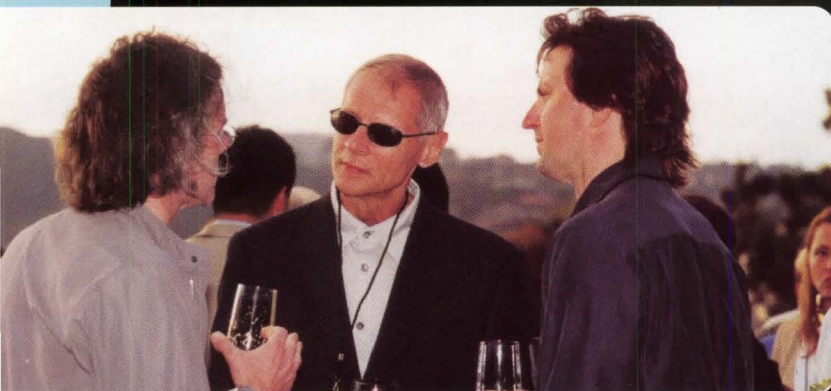


From left: David Levy, inventor, and Don Dolan, executive vice president, Masland Contract



From left: Debra Lehman-Smith, partner, Lehman-Smith + McLeish, and Richard Brayton, partner, Brayton & Hughes Design Studio

From left: Kurt Andersen, co-founder, Inside.com; Peter Guber, chairman, Mandalay Entertainment; DeeDee Gordon, co-founder, Look-Look; and Virginia Postrel, editor-at-large, Reason



From left, Juergen Riehm, principal, 1100 Architect; John Lijewski, principal, Perkins + Will, and another guest



From left: Michael Maccoby, president, The Maccoby Group; Nick Graham, CEO, Joe Boxer Corporation; Greg Furman, president, Furman Communications & Marketing; Len Ellis, director, interactive integration, Y&R 2.1 Arthur Gilmore, executive director, Interbrand

Standing: Michael Schroeder, partner, Langdon Wilson Architecture Planning



In foreground, Larry King, managing principal, IA; in background, Reed Kroloff, editor-in-chief, Architecture, & Julie Lasky, editor-in-chief, Interiors



Mary Douglas Drysdale, president, Drysdale, Inc.



Far left: Robin Ellerthorpe, director, facilities consulting, Wicklund, Pigozzi & Peterson, with other guests



Left to right: Les Wallach, architect, Line + Space; John Kane, Architekton; Michael Schroeder, partner, Langdon Wilson Architecture Planning; Paul D. Spreiregen, architect, Paul D. Spreiregen Architects

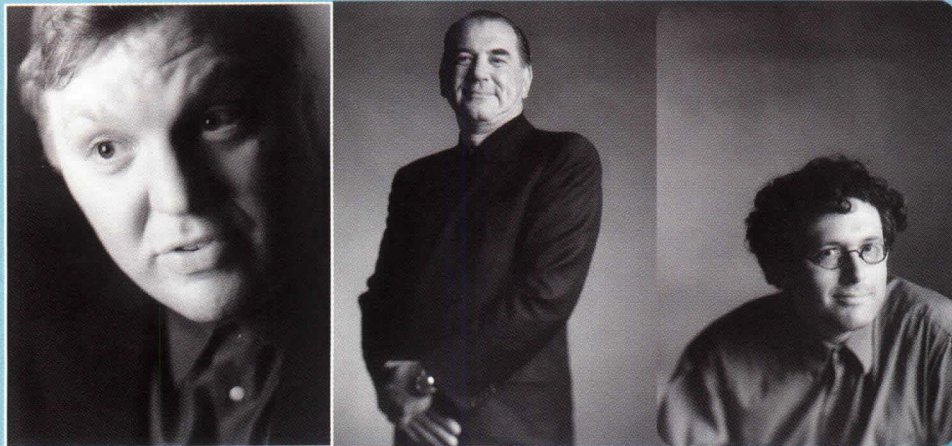


Applied Brilliance Conference

The two-day Applied Brilliance conference was staged for over 200 of the best and the brightest in the design industry. Its intention was to gather leading architects and designers to explore the application of brilliance from disciplines outside design professions and its transformational effect. The meeting was hosted by editors **Reed Kroloff** (*Architecture*) and **Julie Lasky** (*Interiors*). It was sponsored by industry

said that as the economy flourishes and technology advances at an unprecedented pace, an American renaissance has emerged, with designers and architects at its core. These are the people with the power to change the world, because they determine the way society thinks about itself and its surroundings. *"We exist in a moment where design seems to be at an intersection with a lot of the culture,"*

ganized and dysfunctional, and therein lies the opportunity for creativity and innovation," Levy said. When brilliance does happen in any field, including architecture, it should be patented, he added. Levy's projects include a miniature ergonomic keyboard, a posture self-monitor, and a portable awning system. Because architects play a key role in shaping and *"inventing buildings,"* they should fight for patents just



From left: John Hockenberry, Gary Fields and David Levy

leaders who worked alongside designers and architects to tackle the issues that affect creativity and innovation.

The opening keynote address set the tone for the meeting and created a platform for the other keynotes and the four daily "brilliance" sector panels. *"Design is an artistic interpretation of all that is brilliant and worthy around us. Brilliance of thought is occurring in many, many fields, and sooner or later those developments will cross paths with design, and that is why we're here—to facilitate that process; to discover each other's brilliance."*

John Hockenberry, Dateline NBC correspondent, relayed these sentiments. He

Hockenberry said. *"There is an extraordinary confluence between America's sense of itself and what it thinks about space and community. And for answers we're turning to design."*

Hockenberry urged attendees to find *"that magical moment that is brilliance,"* adding that in order for design—or anything—to be brilliant it must occur not gradually, but unpredictably; it must be a surprise and a phenomenon. Companies often talk about brilliance as something that can be bottled, grown, or learned, reducing it to another corporate cliché, he said. *"In the corporate language, everybody has to be brilliant and different. You hear the corporate phrase 'You must be distinct or you will be extinct.' These commandos of conformity scare me,"* he said. *"There's a sense that we have to be both renegades and part of some larger prosperity at the same time. But brilliance is that unpredictability. It can never be figured out; better to celebrate it."*

Inventor **David Levy**, the second keynoter, spoke on the parallels between inventors and designers. *"The way we see the world is as a complete and utter mess. Most people see the world as organized and functional. We don't. We see the world as disor-*

as he does, Levy explained. *"There's a power that comes from taking an idea and turning it into a property you can buy and you can sell. People don't know the power of intellectual property and don't use it to its full potential,"* he said. *"This is the world that awaits you. Invention is fun; and architecture and design can be adapted to patents."*

The closing keynoter was **Cary Fields**, president and CEO of We Media, an interactive multimedia company and publisher of *We*, a magazine for disabled individuals. As an advocate for the 54 million disabled consumers in America, Fields urged designers to apply their brilliance to improving the quality of life for people with special needs. He added that technology will help establish a level playing field for disabled people. *"The computer is the ultimate prosthetic. The disabled are equal to everyone with communication,"* he said, urging architects not to forget about this powerful group of consumers. *"All of you architects and designers have something to do with this field. In the 21st century you have an extraordinary opportunity because it's all about accessibility, and that's something you can apply every day. You are the artist, you can make a difference. It is in your hands."*

Your entire program team did a great job of finding topics and speakers that will help those in the design profession to be more comfortable getting out of our traditional comfort zone.

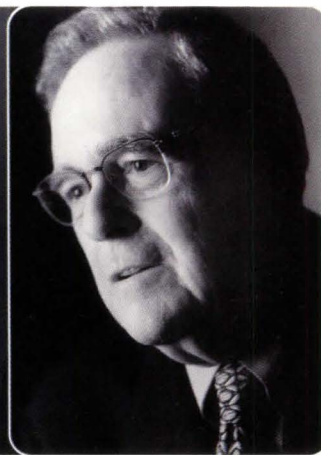
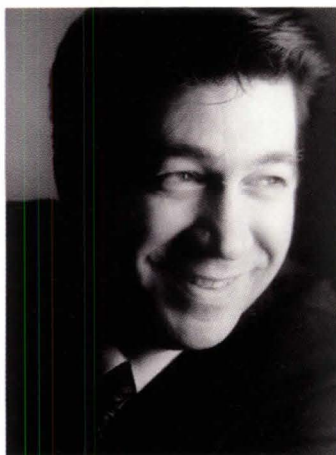
Bob Tindall *President*
Callison Architecture

All of us who attended came away feeling it was the best conference we'd been to in years. I developed writer's cramp trying to take notes. The concept for the program was just what the profession needed and the fact that we didn't waste time talking to each other about design, but talked about far more important issues, was what made it so special. You stimulated us, you challenged us, and you educated us. It was an honor to be a part of it and I thank you.
M. Arthur Gensler Jr., FAIA, FIIDA, RIBA
Chairman and CEO Gensler

"The first definition of brilliance, in the dictionary, is, illumination and glitter. Brilliance is a combination of knowledge, discovery, and illumination but it is also something that glitters."

MICHAEL MACCOBY *President, The Maccoby Group*

The Practice



From left: Arthur Gilmore, Len Ellis, Gregory Furman and Michael Maccoby

One of the biggest challenges facing the design community is that of building a practice in a progressive way, so that its business is poised for the future. The new economy has changed all the rules, and The Practice speakers provided a blueprint that pointed in the right direction—both creatively and profitably.

The new millennium with its service-and-information-driven economy has spawned a different breed of leaders. *"They are the productive narcissists,"* said **Michael Maccoby**, a consultant on leadership and organization. *"And they get a bum rap."* Maccoby was the keynote speaker for The Practice segment. Panelists included a marketing consultant, a branding expert, and the CEO of an apparel company. They discussed brand identity, the militant consumer, and the dramatic shift in the psychological profile of today's corporate leaders.

At the start of the last century, America's business titans—Rockefeller, Ford, and Carnegie—transformed the entire landscape—from the way we work to how we travel—with primarily predatory tactics, Maccoby said. However, during the last few years, business has undergone a complete metamorphosis, with information tanta-

mount to last century's steel or oil. Now, 75 percent of all jobs are in service industries. Today's emerging leaders are Steve Case, Jeff Bezos, Andy Grove, and Bill Gates. These leaders fit the profile of the productive narcissist, Maccoby said. *"The characteristic of these emerging leaders is that they have no respect for the existing situation. They have a lot of aggression and lots of new ideas. They are self-promoters and visionaries,"* Maccoby said. *"These brilliant, innovative leaders today are not listening. They're creating. These are the people who want to change the world."*

A narcissistic leader has a tremendous drive for freedom and independence. So the narcissist is usually involved in a business or discipline that he loves—a big advantage. They're freer, more daring, and want to change the world. Successful narcissistic leaders need three things to achieve their goals, Maccoby said. First, they need to proselytize and ignite the entire organization so their vision is shared. The narcissist must inspire cultlike fervor among his or her employees. Next, they need a sidekick—a faithful somebody who is obsessive and will sweat the details. Lastly, these leaders need to understand themselves. Since these narcissists have their own visions, they're going to want this

to seep into every part of their life, including their office space and the buildings they work and live in. That's when designers come into play. *"These brilliant, innovative people are creating. More and more, we are going to see people who want building designs that meet their visions,"* he said. But, Maccoby cautioned, it's not easy to work with these people. *"Brilliant narcissists don't think about people and how to react to them."* You must show a narcissist a lot of empathy. If you have a great idea, convince him it was his idea. Expect to be called anytime, day or night. Neither seek nor expect any credit or appreciation. You might ask yourself why you'd want to work for someone like that? Because, Maccoby pointed out, the rewards are tremendous. *"These are the innovators who are applying the opportunity for applied brilliance for the rest of us."* But if you feel that you couldn't stand working for these people, consider Maccoby's suggestion: *"Become a productive narcissist yourself!"*

Famous architects and designers are traditionally identified by their buildings and projects, but the need for branding goes much deeper today, said **Arthur Gilmore**, executive director of Interbrand, a branding consultancy. Brands must provide function-

al as well as emotional benefits. Brands that touch people command a premium price. The toughest task in today's business climate is not merely establishing the brand, but differentiating it. With the incredible availability of information and knowledge, differentiation is more challenging than ever, Gilmore said.

He offered several clear-cut strategies for rising above the brand morass. First, the brand platform itself must have a uniformity of thought and message. Next, you must establish a solid brand platform, while keeping it elastic enough to foster future development. Thirdly, establish parameters for identity. What are the boundaries of the brand? They must be accurately defined to avoid brand dilution. A well-crafted brand can change the way people think. It can communicate and reinforce values, inspire and impassion consumers, employees, and even competitors, he said.

Gilmore added that many of today's brands have a boring sameness about them, whether in the computer business or soft drinks. Most need a "personality" infusion. Designers can help clients be true to their own brand essences by protecting brand identity through good design. In the end, he said, "*branding is so much more than a logo. It's in everything you do.*"

Few would argue the sentiment that the Internet may represent the biggest forward leap in technology since the wheel. **Len Ellis**, director of interactive integration for Young & Rubicam's 2.1 division, said that the Internet might be the most powerful link between mind and machine. So close is that link, Ellis postulated, that many "netizens" actually "*feel themselves inside the screen.*" Computer users envision themselves in that monitor shuffling through file folders just as kids believe they're chasing aliens in a computer game. They have their "*hand on the mouse, their eye on the screen, and their brain in between,*" he said. "*Objectively it's virtual, but subjectively it's very real.*" While this isn't a real physical environment, of course these spaces are organized with entrances, exits, and ways of moving forward, back, up, and down. The organization and structure of these spaces are very much part of the web experience, he said, adding that no one is dealing with this very seriously.

"*The architecture of these environments will very much be at the center of things for decades to come,*" he said, noting that architects and designers have a lot to contribute. "*We're all going to be spending a lot more time there, and there's a crying need*

Thanks so much for making the Applied Brilliance Conference one of the strongest events of the year. It was a fantastic concept and was carried out in a professional, yet laid-back manner. It was great to see everyone and to meet new individuals with the intent of sharing knowledge and "brilliance."

Charles Plymale Senior Associate AI

I want to thank you again for providing one of the most stimulating conferences imaginable. The quality of the panelists and the thought-provoking ideas and information that were presented are much like the irritant to the oyster. My mind grew a pearl during the incredible experience you provided to all of us.

Tommy Stone President TF Stone, Inc.

I did not think it was possible to create a new kind of professional conference, although you did it with incredible style, grace, intellect, and organizational skill. It was an honor to attend a series of presentations that allowed the guests themselves to cross-pollinate ideas and concepts from other professions rather than have slogans and mantras recited to them. I have come away with a fresh attitude about my place in the design world and the belief that it is possible to make a difference in the way my practice affects others.

Gregg Pasquarelli Principal
SHoP/Sharples Holden Pasquarelli

to make these virtual environments a lot better than they are today. Architecture and design are the only disciplines with any systematic expertise in design of space and design with space. The biggest development project of the 21st century is ripe for that kind of involvement," Ellis said.

There's nothing virtual about the wealth that's been generated by high technology and dot-com companies, said **Gregory Furman**, president of Furman Communications and Marketing. His view is that the affluent constitute one of the most significant emerging markets today. Their power in the economy is visceral and their life choices have wide-ranging impact. In the '70s, the United States was home to about a dozen billionaires. Today, that number has multiplied to 170. And millionaires have become commonplace. By the year 2010, 115 million baby boomers will be over 50, with totally unprecedented discretionary spending habits, Furman said.

The wealthy used to be quite a homogeneous, rarefied group, but now entertainers, athletes, Silicon Valley entrepreneurs, and corporate executives amass staggering wealth. How has that changed the way mar-

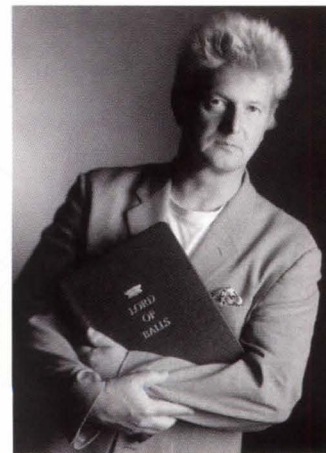
keters do their job? Furman said that there's a new, "*militant*" consumer out there. The Internet has enabled everyone to understand and research a product like never before. "*They're web-enabled and web-informed to a degree that their understanding of your product and service is awesome,*" he said.

In years past, brands were distinguished not only by price point, but by quality as well. As manufacturers achieve quality parity, "*brands cannot live by brand alone,*" Furman said. Who will emerge with the biggest market share? Those who provide the best service.

"*The brand is the amusement park; the product is the souvenir,*" is **Nicholas Graham's** mantra. "*Brands are emotional; they're places you go to. The T-shirt is the souvenir we take home with us to remind us of our day.*"

Graham, CEO of Joe Boxer Corporation, a multimillion-dollar company selling 17 million pairs of underwear annually, said a brand—like an amusement park—should be an overall feel-good experience. Using humor and a creative approach to marketing, Graham has been able to differentiate Joe Boxer in the apparel world and stay true to its brand essence. In order for your brand to succeed, consumers must feel some type of emotional attachment. "*We've always been into emotional revenue,*" he said. The company has captured this through their underwear's graphics, the Internet, celebrity sponsors, charity events, and some wacky campaigns. Graham has dressed as a stewardess, held a fashion show in Reykjavik, Iceland, and allowed browsers to strip him down to his underwear on his website, all in the name of emotional revenue. A few years ago, he unveiled the world's largest e-mail, displayed on Times Square. Anyone can go to his website and arrange to have a message flashed from the company's 42nd Street billboard.

Integral to Graham's formula is his passionate belief that for business to be successful, it must give back to the community and use its resources to improve the overall quality of life. To that end, Joe Boxer has been active in a wide range of charitable projects, including a Joe Boxer taxi in New York City that contributes all of its fares to funding breast cancer research.



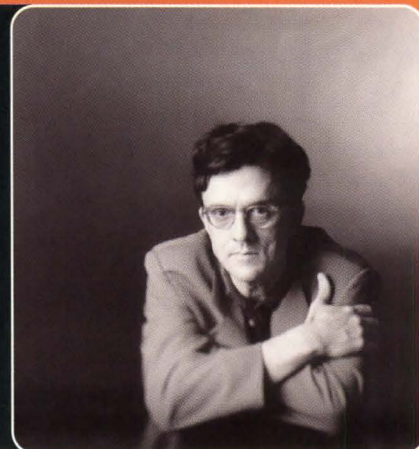
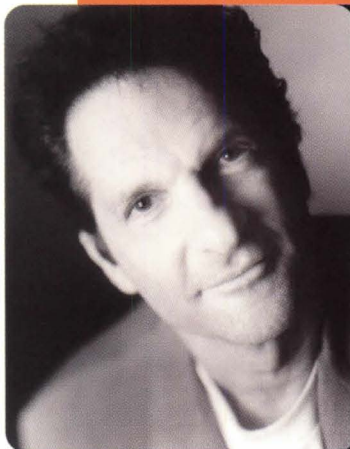
Nicholas Graham

"Brilliance is only possible when major failure is possible.

If we can't fall on our faces, we can't fly to the moon."

KURT ANDERSEN Co-Founder, Inside.com

The Culture



From left: DeeDee Gordon, Peter Guber, Kurt Andersen

The seminal cultural trends that affect design professions and personal lives were the next issues explored, in the panel on The Culture. Speakers included a theorist on cultural trends based on economic patterns, a marketing expert on Generation Y, and a movie producer. Together they addressed the seismic shifts and identified the change agents in our global culture that have an impact on design and architecture.

While the '60s experienced a breakdown between high and low art, the millennium is witnessing an obliterating of the lines between real and fake, the authentic and the synthetic. This is due largely to the pervasiveness of the digital age, affecting how we shop, work, play, watch movies, read books, and listen to music. "It's getting harder and harder to make the distinction between real and fake; and fake as a pejorative word is losing ground," said Kurt Andersen, an author and the co-founder of Inside.com, a web-based publication covering popular media. Andersen was the keynote speaker for The Culture.

"We are kind of living in a virtual reality," Andersen said. "We shop in virtual book-

stores. We buy cars in virtual dealerships. We have virtual stockbrokers. We believe impossible things because they're depicted by digital reality." Architecture and design are not immune to this shift in attitude, Andersen said. Look at Las Vegas and Disney's planned community—Celebration, Florida—which are often dismissed as fake, and therefore less valid than the carelessly planned "helter-skelter laissez-faire bits and pieces of a city on the outskirts of towns," he said. "Whatever you think of Celebration, an easy rejection of it as fake is a problem. If that's a fake, and if the sprawl that one sees in this very county is real, give me fake," Andersen said.

"Think about Las Vegas. Eighty years ago Vegas was a very real Old West town. Then, it had a tourist-trap makeover and became a larger-than-life fake version of itself. Then in the '50s, it became a low-production-value fake glamorous city with a mythology that was part Old West, part Imperial Rome, part Jetsons." Now, however, it has become real again, and he views Las Vegas as one of "the most exciting urban towns" in this country, redefining the fake and the real. "Vegas has gone from real to fake to a different kind of fake to something that's real," He noted, adding that Vegas' allure

has never been more appealing than now, when there's a dichotomy between larger-than-life attractions and the insular world of cyberspace.

Another cultural trend is the "simultaneity of things getting bigger and bigger and things getting smaller and smaller; the middle being less interesting and less appealing to audiences and the public. People want it all. They wanted to be awed. This sort of magical realism that used to be fiction is where we're living, in a certain sense, making fantasies more real," Andersen said. "At the same time, the digital experience is small. One is sitting at a desk, alone. It's an isolating experience instead of sensual. There is a different kind of limitless possibility." The computer in essence becomes a portal from the small to the virtual infinite. And the limitless possibilities of cyberspace are especially available to designers who were once confined by space, Andersen said. "For all the talk about creativity pouring into our lives, no one's cracked the design code yet. This medium is here to stay; and there is room for someone to become the genius of these days. In design terms, we're playing checkers at best, and it should be a three-dimen-

sional chess game," Andersen said. "Architects and designers are the ideal people to design websites, but I don't think they are involved yet."

While technology is changing the way people look at the world, it's biggest impact may be on the young people, who crave more information than ever before, according to **Dee Dee Gordon**, co-founder of Look-Look, a youth marketing consultancy. Generation Y may be the most significant generation since its parents, the boomers, she said. These are the future clients for designers and architects, and Gen Y is already having a profound impact on our global culture. Gordon called the insatiable quest for information the "viral learning trend." Young people are not threatened by information overload, but rather seek out more information and thrive on its abundance.

"Kids are embracing this new information and wanting to learn. They're not overwhelmed by the huge increase in access to information that they get off the Internet or reading magazines or DirecTV," she said. Because of the World Wide Web, during the last few years there's been a monumental shift in the things kids want to learn about, she said, noting that these kids spend about 10 percent of their working hours online. "A few years ago, when we did all this research, we asked kids what they wanted to learn about, and they'd go, 'how to play an instrument, how to paint, how to make a movie.' Everything fell within the arts and entertainment categories. Now there is a focus on collecting information and learning. The diversity of interests is broad and surprising. They span from biotechnology to anthropology to religion. Never before have young people had access to so much information, and they have access to information they didn't know about."

Today's youth are the antithesis of Gen X, the generation considered to be self-entitled and self-oriented, she said. By contrast, Gen Y is supporting causes they believe in, including environmentalism and the fight against political injustices—from the World Trade Organization to Tibet, Gordon said. "For youth, knowledge equals empowerment. We see a lot of young people protesting. Of course, the more information they have access to, the more they know, the more they question. They're speaking out against injustices and bad business practices in big corporations and brands that they buy," Gordon said. For instance, young people are making their own fashion statements by taking duct tape and covering up all the brand logos. "You'll

see Calvin Klein underwear with parts of the name blocked out with duct tape. Or you'll see the polo player with no head because the threads have been removed. They're definitely speaking out in their own way," she said. What does this mean for the future? "They'll be the ones with great ideas and will flourish creatively."

Entertainment is America's largest cultural export, and the pervasive impact of entertainment on our culture is profound. **Peter Guber**, chairman of Mandalay Entertainment, echoed the importance of creativity in filmmaking and design. "Your ego often blocks you out of true creativity. You must embrace uncertainty; let go at the top and make sure what you're doing has a certain four-letter word attached—fear. And what is fear? Fear is false evidence appearing real," Guber said.

There are many similarities between architects and filmmakers, he pointed out, adding that both disciplines are immersed in the entertainment business. "Story is the way we are wired to see the world. It's the ohhs and ahhs of the heart that are going to make a difference. We are all in the emotional transportation business. In movies, to succeed in business, you have to tell a story and tell it well. People don't remember facts; they remember stories. Men and women create stories of how people will feel about a building. Some stories change lives. Some stories change the world."

How do cultural trends emerge as a result of economic factors? **Virginia Postrel**, an author and editor-at-large of *Reason* magazine, analyzed these issues, revealing how today people are largely communicating through their senses. She adds that design is creeping into everything in our culture creating what she calls the "aesthetic economy" or the "aesthetic society."

"This is becoming an increasingly important part of our culture, our society," Postrel said, adding that it's evident in everything—from Starbucks, hotels, corporate parks, restaurants, and iMac computers to company memos and Nokia phones. Even credit cards aren't immune. "Nordstrom hired a design firm to make zippy-looking cards," she said, holding up a few cards. "They think that somehow if they make their cards prettier and interesting looking, you'll buy more." She believes that the new aesthetic is enthusiastically embraced by the average consumer. "Compared to moments in the recent past, there is an increasing and widespread interest and sophistication about aesthetics. There is much greater confidence on the part of people in their

individual style. There's more diversity and more aesthetic diffusion throughout society, which makes it possible to have different taste cultures. Taste is not a class signifier the way it was. Today it is more likely to be a sub-cultural or individual identifier."

This trend is reflected on a personal level. For example, cosmetic surgery has increased by 153 percent from 1992 to 1998, with liposuction the most common operation. In a recent survey, 50 percent of women and 23 percent of men admitted they would have some type of cosmetic surgery if it didn't cost anything. Also, the number of nail salons—now a \$6 billion industry



Virginia Postrel

employing 200,000 people—has doubled during the last decade.

As aesthetics becomes an increasingly large component of the economy, this is both good and bad news for designers, Postrel said. "As consumers we really like aesthetics. We really like to be in pretty environments. We really like to look at pretty people. We like to look at nice looking graphics. We like the whole sensory experience of look and feel," she said. "But as producers of design it's a lot of work." She added that "it is possible to embed aesthetic skills in to software available to everyone," which may create an aesthetic standard that could result in the homogenization of good design and result in a subversive sameness that stifles true creativity and good aesthetics.

I returned to Portland invigorated, inspired, and reminded of that which matters most—clarity of purpose, integrity, creative and strategic genius, willingness to take risks, the importance of talent and attitude, and concern for the larger "we" (i.e., community, globe). Expansive stuff, all made possible through the brilliance of the people behind this conference.

Pat Harrington Managing Principal
BOORA Architects

"Suddenly we have become a force with nature and one of the principal sources of earth change, and if present trends continue, we humans are destined to change the global environment more radically in the next century than at any time since the Ice Age."

DR. NOEL BROWN *President, Friends of the United Nations*

The Planet

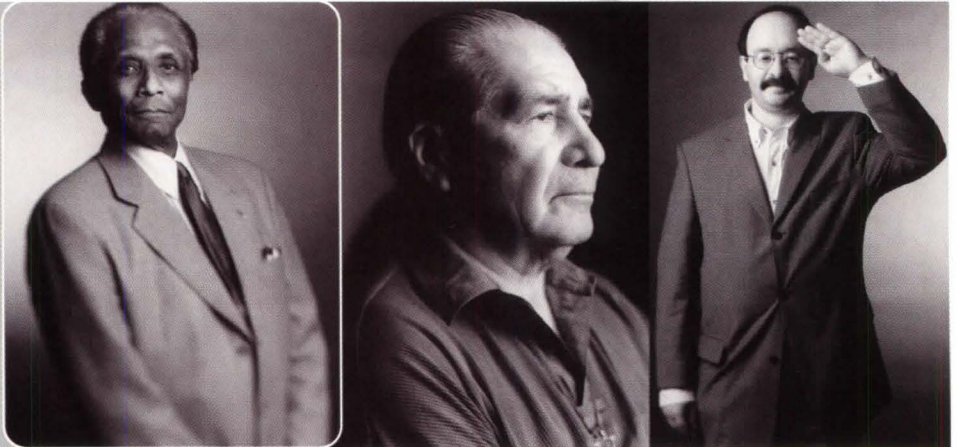
The conference then moved from tactical and business issues to a larger arena. Sustainable solutions in design have evolved from trend to necessity. But the greening of the planet's buildings, homes, and offices still has a long way to go.

A population explosion. Acid rain. Ozone depletion. Insects. Bacteria. Viruses. Pesticides. Carbon monoxide. Greenhouse gases. As the 21st century shapes up into an urban century crammed with mega-cities, automobiles, and lightning-fast technology and transportation, we could be moving toward extinction, said **Dr. Noel Brown**, president of Friends of the United Nations, a nongovernmental organization dedicated to advancing the cause of the United Nations.

Brown, along with a global statesman, a physicist, the CEO of a policy center and the head of the Onondaga Nation, tackled the most serious issue of the conference — the state of the planet. The consensus: The earth is in trouble. However, the emerging information economy is producing smarter people and more leaders who just might have the answers.

We're becoming a full-occupancy planet and we might breed ourselves into oblivion, Brown said. With 6 billion people on earth, there are more people now alive than have ever died. *"In the last 100 years, thanks to antibiotics, the numbers have exploded. We can look forward to living into our 90s and beyond,"* he said. *"But we must come to a better understanding that this planet was not designed with just us in mind,"* he said. *"Just how much longer can the natural order maintain human enterprise?"*

The "sick earth syndrome" has never been more evident than now, Brown said. Acid rain, in particular, should be of special concern to architects because it might obliterate the world's most significant monuments. *"An entire culture may be effaced by acid rain. In Rome and Athens, important*



From left: Dr. Noel Brown, Chief Oren Lyons and Amory Lovins

monuments have the texture of soggy plaster. In Germany, the great cathedral of Cologne's surface is flaking. We call it the stone leprosy syndrome."

But that's not the only challenge facing this generation. Because of a buildup of greenhouse gases, the planet is getting warmer, with 1998 holding the record as the hottest year on record. Also, atmospheric concentrations of carbon dioxide reached their highest levels in more than 160,000 years during the 1990s, Brown said. *"This is something we humans have to take responsibility for,"* he said, noting that if we do, perhaps we can reverse the trend.

Because we are an urbanizing world with faster modes of transportation than ever before, we are experiencing another environmental hazard. Brown calls it the specter of bio-invasion. *"There's no place on earth that cannot be reached within 24 hours. Hitching rides on ship cargos, in planes and cars are millions of insects, bacteria, and viruses. They're moving faster and threatening the health of millions of people,"* he said, pointing to the recent outbreaks of *E. Coli* and encephalitis, as well as the swarms of killer bees, mosquitoes, and long-horned spruce beetles.

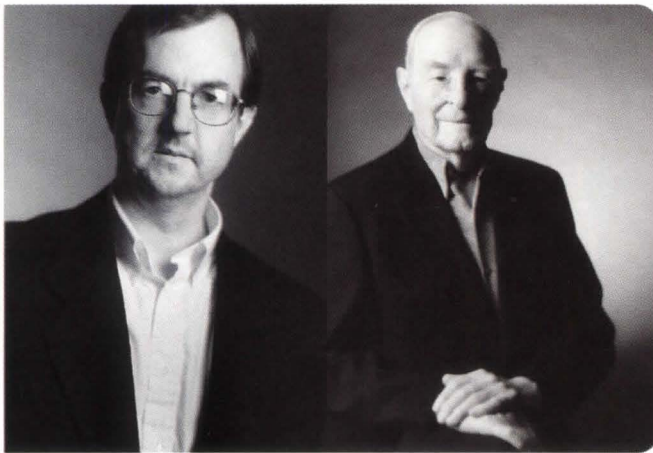
But all is not doom and gloom. Brown tempers his concerns with cautious optimism. *"Trend is not destiny,"* he asserts. Through the use of technology we can model and now have the ability to make long-term forecasts. It is possible that we can reverse trends. Brown said he's seeing flickers of hope on the horizon. *"After all, whatever we may or may not be, we are a problem-solving species. Whereas we cannot escape the past, neither can we avoid inventing the future,"* Brown said. *"We can create new environments that are ecologically sound, aesthetically satisfying, economically rewarding, and that favor the growth of civilization. In other words, the logical future based on extrapolation of existing trends is not inevitable. Neither is doomsday."* And this is where designers come in, Brown said. *"If we can envision a sustainable future, possibly, just possibly, you may be able to design it. Here is a challenge that requires the best of applied brilliance—applied wisdom."*

Amory Lovins, co-founder and co-CEO of Rocky Mountain Institute, an independent nonprofit resource policy center, agreed that designers can play a key role in reversing trends if they adopt his theory of "natural capitalism."

"The logic of the first industrial revolution was very simple. It was a time of a relative scarcity of people, and that limited progress. The solution was to make people about 100 times more productive. The logic remains perennially valid. In the next industrial revolution, which is already under way, we will have the people, but scarce natural resources." He believes that natural capitalism, which replenishes natural resources rather than depleting them, is the only hope for the future. "The secret to great design is not to compromise. We're told that design is the art of compromise and trade-off, and not getting what you want," he said. "If you

stitute for using trees. You've got to be thinking in those terms," he said, adding that in 36 years, old-growth forests will probably be extinct. "I don't think we're at the point of no return, but we're getting there, and we're getting there fast."

While the age of technology is forcing people to think globally, even this may be limiting, he said, explaining that his culture measures a human life as being somewhere between those of an ant and a mountain. *"Perspective is important: If you're going to predicate all of your decisions on the lifetime of a human being, you're going to cut yourself short. I think we're still a biological*



From left: Bill Rus and Harlan Cleveland

find yourself needing to compromise or trade-off on a design, it probably means the design intent was not correctly stated."

Rocky Mountain Institute has more than 100 case studies demonstrating that when design takes the environment into account, it also yields market and financial benefits. Lovins pointed to Village Homes, a planned community, built in Davis, California, in the 1970s. There, for instance, a greenway between the houses has a dip in the middle, providing a natural drainage swale, which soaks up water during rain, but lets it run off before mosquito larvae can hatch. As a result of this design, there was no need for underground pipes, which translated into an \$800 savings per house. This was then used for landscaping, parks, and orchards.

Remember that nature offers the best solutions, Lovins emphasized. After all, *"Spiders make silk tougher than Kevlar and they don't need vats of sulfuric acid. If we look at nature as teacher, we'll have life-friendly substitutes."*

Chief Oren Lyons, head of the Onondaga Nation, reiterated these sentiments, adding that designers and architects must search for other materials and other ways of doing business. *"You have to come up with a sub-*

experiment," Lyons said. He added that his culture adheres to the philosophy that any decision made today is also being made for the children seven generations from now.

While we talk about saving the planet, we must remember that the earth will always win over humans, he said. *"The earth does not need us. We're parasites. In time, the earth and the law of regeneration will prevail. Now it's time to change direction. If there's going to be a future, it's coming from people like you."*

This decade is witnessing a historical spread of global knowledge that is responsible for a skill revolution, a global fairness revolution, and the breakdown of authoritarian and totalitarian systems, said **Harlan Cleveland**, president emeritus, World Academy of Art and Science. *"This widening spread of knowledge is providing so many more people with the attitude and ambition of leadership. Pyramids and command and control systems are on their way out; consultation and consensus are increasingly in," he said, adding that this knowledge is available to everyone, making human rights a more important issue than ever before. "The spread of knowledge shows the disadvan-*

It was a pleasure to share with fellow attendees the presentations, panels, and discussions, centered on these dynamic, changing times. The fact that the presenters were from outside architecture (although totally related) made the event even more meaningful. An impressive agenda carried out with the highest level of professionalism.

Richard W. Hobbs, FAIA, Resident Fellow The American Institute of Architects

Kudos to you and all for a brilliant, very informative conference – one that I extremely enjoyed and garnered a great deal of information from. In fact, some of the material has changed the way of thinking on the direction our firm is taking.

Chester A. Widom, FAIA, Principal WWCOT, Former President, AIA

I have attended many different and disparate conferences over the years, but yours was truly unique. In today's marketplace, marketing experts say it is the "experience" that makes the sale or product memorable. I believe that the experience you shared with all of us will remain in our hearts and minds for some time.

Jo Heinz, President Staffelbach Designs and Associates Inc.

taged in every society what they're missing."

Cleveland went on to say that information is fast becoming the world's most dominant resource. *"Information will play a role that physical labor, land, stone, bronze, and minerals once played. We'll have to burn into our consciousness how very different information is from all its predecessors, as civilization's dominant resource expands its use."*

This move from a material-based economy to an information-based economy is the best thing that's happened to society in a long time, said **Bill Rus**, senior analyst at Autodesk. After all, he said, *"most sustainable cultures have always been light on infrastructure and heavy on information."* What does this mean for architects and designers? Well, they know more than ever before and therefore have more choices. Instead of just encouraging a client to build an eco-friendly house, now a designer—who is better informed than ever before—must look at all aspects of building. *"Is there a better choice of building material? Is this the right paint to recommend?" he said. "You have thousands of opportunities every day to make a difference; you just have to choose to do".*

The Future

The discussion among the participants was the greatest benefit. By having the presenters remain involved throughout the conference as participants, we were able to have casual discussions that expanded the experience of the presentation. What I will remember most, from this conference, is your infecting all of us with the three-letter virus "fun." I hope that we are never cured.

Richard Y. Pace, AIA Managing Principal
Van Dijk Pace Westlake

The conference was mind expanding and exactly what the profession needs. I remain intensely passionate about the future of the profession, redefining the profession, the importance of design and opportunities for designers to contribute to a larger set of community policies. We need more voices singing the same tune rather than not! I hope you will permit the AIA and me to add to the chorus!

On to Applied Wisdom!

Gordon H. Chong, AIA
2000 Vice President

I can't think of any other conference I have enjoyed as much, although I am also trying to think of a conference I've actually enjoyed. Like a great dinner party on a massive scale, you selected the guests well, laid on creature luxuries together with stimulating and provocative speakers, and created the stage for a wonderfully synergistic exchange of ideas and beliefs.

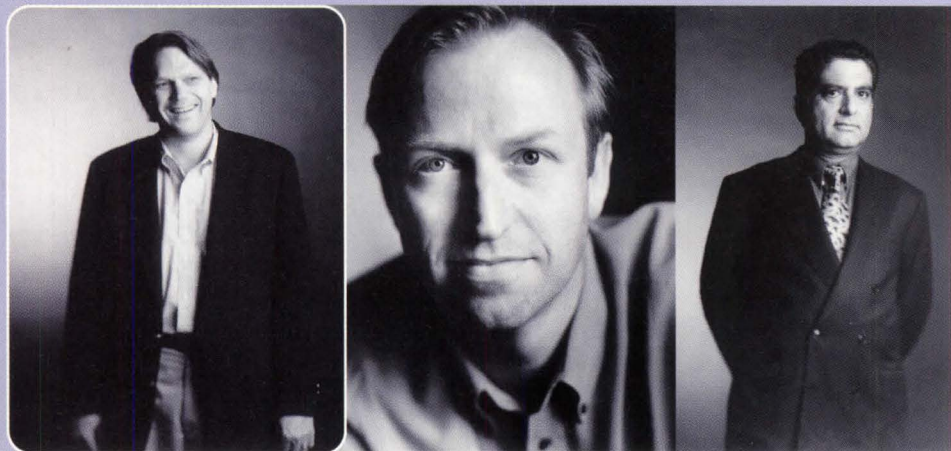
Clive Wilkinson Principal
Clive Wilkinson Architects

Applied Brilliance then moved off-planet. Although we might not be ready, we can always be prepared for the future. A visionary's perspective set the scene. **James Taylor**, futurist and author of *The Visionary's Handbook*, defined brilliance as "beautiful and useful. Brilliance takes the practical and synthesizes it with the impossible."

Taylor, a futurist who prefers to call himself a "presentist," was the keynote speaker for The Future. He discussed how the online revolution is helping people create their own extremely specialized worlds. "There has never been a time in history where brilliance

How did we go from merely being top-of-the-food chain animals to learning to speak? Two things occurred, Taylor said. "First, we learned to organize. Then, when we desired to acquire stuff, we needed words to describe what we acquired." The accumulation of this "stuff" necessitated the invention of pockets, which, once at capacity, forced people to think about a bigger place for possessions. In fact, he said, 70 percent of our homes are relinquished to the storage of stuff. And why do we want all these things? "Because it symbolizes power."

This is how the world is united, Taylor said. Everyone — from the richest members of roy-



From left: James Taylor, Jerry Michalski, Deepak Chopra

is more important. The amount of information available to the average individual today exceeds their capacity to absorb," he said. "So instead of the old days when there were three television channels plus this other one with dancers, and the curriculum was 100 percent homogeneous across the country, today each person gets to invent their own reality, and then go find the media to service it.

"In other words, the foundation upon which society depended for cohesion is dissipating. The question that we face is how to bring brilliance to this problem. We must draw conclusions about what matters, because if we don't, the world will draw those conclusions for us."

To illustrate this point, Taylor cited one of his clients — AskJeeves.com, the high-powered search engine. AskJeeves is perfecting a technology that will book you a flight to New York and ask you what cuisine you'd like for dinner when you arrive. It will then access *Zagat's*, *The New York Times*, and culinary magazines, suggest a restaurant, and reserve a table. "We'll forget how to make a restaurant reservation in six months." But what to do with all the extra time afforded by Jeeves and similar technology. "Well, we're going to be brilliant, of course," Taylor said.

alty to the poorest of the poor in Third World countries — wants sofas, chairs, clothes, media centers. "We are becoming more and more one culture by virtue of our ambition to own the same things," he said. As the leading nation purveying stuff, "we are responsible for developing, disseminating, and diffusing the ideas that help the world decide what's important to own, what's important about the experience of ownership, and what's important about the experience of sharing with others," Taylor said.

To do this, we must be visionaries by knowing what we love and what we believe in, he said. "Brilliant people have no fear of edges. It's not about the depth of their IQs, although I can see that intelligence is part of the game. It's about the willingness to go to the edge and not be afraid." Trust is a key factor in being a visionary. Taylor said you must trust not only in your ideas and ideals, but also, you must trust in the fact that people aren't going to change. "In 10,000 years we haven't changed at all. At Y1K we were a little shorter. Our average life-span was 30 years," he said. "But we wanted love, self-esteem, recognition, and responsibility. We want the same things now. The whole world is changing around us, but we're remaining the same."

In the old economy, success meant doing or making the same thing year after year, decade after decade. Today, companies that are high performers generate more than half of their revenues from constant turnover in new products and services, said **Trevor Davis**, director of creativity and innovation for PriceWaterhouseCoopers. Davis has mastered the ability to quantify creativity and prove that companies that are more creative are not only more successful, but also more profitable.

In this new paradigm, everything is turned upside down. Leaders are those who were traditionally considered followers in the old hierarchy, he said. The sequence of brilliance has flattened — reliance on the corporate Einsteins is waning, and “Eurekas” are bubbling up from the lower regions of organizations. Companies that formerly sought to add quality to their existing ideas now seek a greater quantity and diversity of new ideas. Design is playing a fundamental role. With the Internet, presentation of content is increasingly important, and customers often find satisfaction through good design. Successful companies are “making innovation and design a core competency; recruiting and promoting people who build a stock of new, useful, and stylish ideas; and building design into the corporate strategy,” Davis said.

Elsie Maio, an expert in holistic corporate branding, sees a powerful need for brilliance with a conscience. Pointing to the plight of the tobacco industry, the World Trade Organization protests in Seattle, and the quandary of the World Bank, she observed that the need for organizations to take an ethical stand will grow as technology skyrockets into the biotechnology arena. We are hurtling into an age where not just data, but genes — and all they produce — may be patented and owned by corporations.

In the very near future, brand acceptance and corporate loyalty will not be enough, Maio predicts. Companies will need to adopt a humanizing identity to cultivate the crucial relationship between customer and brand. This will be especially true with the next generation of consumers, who are already noted for their burgeoning social and political consciousness. “Can you imagine corporations positioning themselves around char-

acter? Well, we'll see that in the future,” she said. “And the second aspect is that there has to be authenticity to it.”

Sociate is an industry analysis, technology exploration, and brainstorming consultancy. Its president, **Jerry Michalski**, said that the Information Age is already yesterday's news. Actually, we're in the Relationship Age. Transactions — even those on the outer fringe of cyberspace — are the by-products of good relationship. As a matter of fact, he suggested that people replace the word information with relationship. There will be a positive attitude shift when companies establish a “relationship technology department,” he said. “When you look at the world, information decays quickly. People in organizations must build and maintain relationships. If two service providers, makers of goods, or providers of professional services, who otherwise are equal, are vying for my business, I would probably buy from the one I have a better relationship with,” he said.

Spending much of his time consulting with a plethora of companies has colored Michalski's view of business and culture. He feels that belief systems are spread virally and that we are at the dawning of a brand new Internet-induced belief system. Since the days of Plato and Socrates, worldviews have been Cartesian, Western, mechanic, hierarchal, and male, he observed. “The Internet may actually penetrate the world and infect it with another world — one that is less certain, squishy, systemic, distributed, feminine, spiritual, mystical,” he said. “These worlds must mesh together. We are in that transformation.”

The mystical is something that **Deepak Chopra**, founder of the Chopra Center for Well-Being, is thoroughly acquainted with. The world-famous author and motivational speaker tracked our evolutionary progress from being hunter/gatherers to farmers to citizens of the Industrial Age and the

Information Age. Now we're in the age of relationships, which should eventually lead to an age of awareness, consciousness, and, finally, an age of wisdom.

“Knowledge is information woven round context and meaning,” Chopra said. “Wisdom is beyond knowledge. Wisdom is the knowledge that nurtures the web of life.” As we move into these new ages, Chopra cautioned, we must do so from a new, less ego-based perspective. The Darwinian, survival-of-the-fittest evolution is nearly over, he said, predicting that soon our evolution will concern our consciousness and our awareness. The environments that designers cre-




From left: Trevor Davis and Elsie Maio

ate tomorrow must not only affect health, but they must be healing. He pointed toward hospital studies which have proven conclusively that wounds heal more slowly when a patient's primary view is of a parking lot. “If you look at something beautiful, your surgical wounds heal faster,” Chopra said, urging attendees to “create healing environments.”

Chopra concluded, “We need to think of ourselves not just as a skin-encapsulated ego, not just a physical body. I am the environment. I am the emotions, the mind, the soul, ultimately the spirit, and ultimately I am you. Unless we can think like that — whatever our endeavor is, architecture, design, whatever, our pursuit will be frozen in a very obsolete worldview. That worldview has no relevance. If we stick to it we risk our extinction. If we take the quantum leap, and actually for the first time we have the technology and the information to do so, we will discover the context and meanings that can nurture all of us.”

“There has never been a time in history where brilliance is more important, because how that brilliance gets used, stored, understood, and interpreted depends upon the people who give it thought, meaning, and its collective value — its sense of rapport.” JIM TAYLOR *Futurist*

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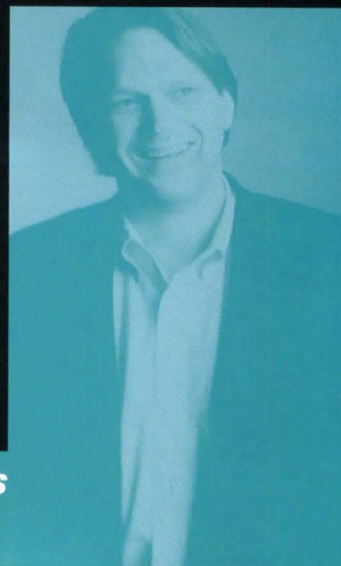


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Applied Brilliance 2001 is scheduled for May 6 to May 8, in Sedona, Arizona. For more information, contact Deborah Patton, Vice President, Marketing Services, The Design Group, 770 Broadway, New York, NY 10003. Phone [646] 654-5755, email, dpatton @ bpicomm.com

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architecture



Digital architecture is straddling the line between vision and reality. It's been years since the first crude computer renderings hinted at the fledgling medium's possibilities for architecture, but the increasingly rich, pixelated world of the computer screen has been slow to translate into habitable form. The technical intricacies of how to build a computer-age architecture, and what the results should look like, are quandaries occupying some of the keenest minds in contemporary architecture. In this issue, *Architecture* assays the ideas and products of three pioneering centers of investigation: the design studio of Frank Gehry, the corporate offices of NBBJ, and the wired classrooms of Columbia University. They are leading architecture into brave, digital worlds.

Bernard Tschumi, dean of Columbia University's Graduate School of Architecture, Planning, and Preservation.

After years of gray eminence, Columbia University's Graduate School of Architecture, Planning, and Preservation has gotten red hot, as the premier academic incubator for architecture designed on, and with, the computer. Not that the digitized turf is Columbia's alone. The Massachusetts Institute of Technology's Media Lab, in particular, has conducted important investigations in computer technology. But the Media Lab is principally a research institute; Columbia, as its formidable dean, Bernard Tschumi, points out, is a school of architecture in the more traditional sense, and thus better positioned to reach the profession. Behind the ivy-encrusted walls of its McKim, Mead & White-designed building, a tight group of alumni and former and current professors—including Sulan Kolatan and William MacDonald, Greg Lynn, Hani Rashid, and Jesse Reiser—have built considerable reputations (though, as of yet, few actual buildings) as digital pioneers. While the entire faculty doesn't fall into this camp, and some even oppose it, Columbia can safely be held responsible for the dominant architectural style of the early computer age—the blob—and its attendant, and often divergent, philosophies.

When Tschumi became dean at Columbia in 1988, deconstruction was the movement of the moment. Architects like Zaha Hadid, Peter Eisenman, and Wolf Prix were twisting the Cartesian grid into unheard of configurations, and the computer provided, at best, an efficient alternative to the drafting board for rendering complex geometries. "Columbia was known as the Decon school," recalls Gregg Pasquarelli, a student of the early '90s who has since become a Columbia professor and cofounded the P/A Award-winning firm SHoP/Sharples Holden Pasquarelli. Dazzled by the possibilities of new modeling software like Alias/Wavefront—originally developed for other industries—a pack of faculty and students led, according to one professor, a "near rebellion" in 1993 against the limiting, proprietary drafting software Columbia was then using. Tschumi saw an opportunity in the unrest, and quickly convinced the university to invest in modeling programs as well as Silicon Graphics and Macintosh computers powerful enough to operate them.

Three young professors, Lynn, Rashid, and Scott Marble, volunteered in the fall of 1994 to teach "paperless" studios dedicated to the new hardware and software. "No one had any computer

experience," recalls Rashid. "I held up a floppy disk and asked the students if they knew what it was." Few did, and not many of the faculty did either. To guide the professors, Tschumi instituted a new model of teaching assistant: computer-savvy students called "digital assistants." Some of the early student adapters, like Ed Keller and Pasquarelli, found themselves in the unusual position of teaching their teachers, many of whom took what they learned about the computer back to their own practices. In the midst of this unusually collaborative, mutually instructive environment, a strange thing happened. The software soon proved to be more useful than a mere rendering tool; it started to inform, and transform, the design process.

Programs like Alias/Wavefront, Softimage, and the newer Maya all have different inherent capabilities that lend themselves to the creation of architecture. Certain features will, for instance, create fluid diagrams out of information fed to them by the designers. The possibilities and variations are nearly endless: circulation routes across a site, requirements of a building program, or even non-architectural data such as weather patterns. The resulting abstract, amorphous diagrams can then serve as the basis, more or less literally, for a building's design.

"They all looked the same," recalls Lynn, echoing a common criticism of the early investigations into digital form. "It's the technology. We were figuring out the limitations of the

software. It happened in every other industry: For a while all cars looked like the Taurus. It'd be naïve to think it wouldn't happen in architecture." The results might have appeared similar, but remarkable differences of intent lie hidden beneath the gorgeously enameled, undulated surfaces the computers generated. Good academics all, Lynn, Rashid, Reiser, Kolatan and MacDonald, and others at Columbia have developed strong, sometimes conflicting theories about their formally kindred experiments in digital architecture. But it was Lynn's landmark 1995 essay, "Blobs," that lent a name to the phenomenon, making a sort of poster child—cum-whipping boy of its author. Lynn took on the architecture of Tschumi, his dean, and Eisenman, in whose office he had worked, for seeking complexity in architecture by distorting familiar grids and platonic forms. He offered "a critique of Cartesian reductivism

THE COMPUTER SCHOOL

IN ONLY SIX YEARS,
COLUMBIA UNIVERSITY'S GRAND
EXPERIMENT IN DIGITAL
DESIGN HAS LAUNCHED A
MOVEMENT. BY NED CRAMER AND
ANNE GUINEY

Portraits by
TIMOTHY GREENFIELD-SANDERS



Columbia Dean Bernard Tschumi's team of studio critics includes Lise Anne Couture and Hani Rashid, partners in Asymptote; P/A Award-winner Karen Bausman; and Mark Rakatansky (front row, left to right). Also pictured are recent hire Michael Bell, who heads Columbia's second-year housing studio; Laurie Hawkinson of Smith-Miller Hawkinson; Ed Keller, class of '94, acting director of the Advanced Architectural Design program; and Evan Douglis, curator of the Columbia architecture galleries (back row, left to right).



Other Columbia faculty and alums include: Kadambari Baxi and her partner Reinhold Martin; Gregg Pasquarelli, class of '94, one of the five cofounders of SHoP/Sharples Holden Pasquarelli; Kimberly Holden of SHoP, class of '94; and Christopher Sharples of SHoP, class of '90 (front row, left to right). Behind them are: Eden Muir, who heads Columbia's experimental Digital Design Lab; William Sharples of SHoP, class of '94; and Coren Sharples of SHoP, class of '94 (back row, left to right).



Sulan Kolatan of Kolatan/MacDonald Studio, class of '83; Winka Dubbeldam of Archi-tectonics, class of '92; historian Mark Wigley; Frederic Levrat; Victoria Meyers of Hanrahan Meyers (front row, left to right). William MacDonald of Kolatan/MacDonald Studio, class of '82; Scott Marble of Marble Fairbanks Architects, class of '86; Karla Rothstein, class of '92 and partner of SR+T Architects; and theorist Stan Allen (back row, left to right).

from within a Cartesian horizon." "Blobs" achieved continuous complexity that could not be reduced to any simple form or forms. The article was perceived, if not by Lynn's immediate colleagues, then by fascinated outsiders, as a manifesto for what was rapidly becoming a movement.

The seductive imagery that began to emanate from the studios of Columbia and the offices of its faculty seemed to many in the mid-1990s like digital sonograms hinting at the future of architecture. Tschumi attributes this sudden notoriety in part to Columbia's centralized location in New York City, which offered his ambitious faculty ready access to critics, museum curators, and magazine editors, as well as to a constant quorum of resident and visiting star architects. The exchange between Columbia's teachers and students expanded to encompass outsiders, influencing even the mighty Eisenman. Foreign architects—the British firm O.C.E.A.N., for instance, and Lars Spuybroek of the Dutch firm NOX—adopted the software to produce their own variations on the blob. By June 1997, barely three years after Tschumi's initial investment, *Architecture* would run a cover story on the blob phenomenon with renderings by Lynn and Eisenman. The magazine has subsequently published the two most significant built projects to arise out of Columbia's computer culture: the O/K Apartment (September 1997, page 114), designed by Kolatan and MacDonald, and the Korean Presbyterian Church (October 1999, page 88), designed by Lynn with Douglas Garofalo and Michael McInturf. *Architecture* also featured the Guggenheim Virtual Museum (May 2000, page 156), designed by Rashid with his partner Lise Anne Couture—a Web site, not a building, but nonetheless a project with an actual client and real programmatic requirements.

The blob continues to spread. "Large corporate firms buy dozens of copies of *Abstract*," Columbia's student journal, maintains Keller. Tschumi notes proudly that recent Columbia grads are being snapped up by architecture programs across the country. Lynn is commuting between teaching gigs in Los Angeles and Zurich, and Reiser has decamped to Princeton. Tschumi, in turn, has hired several recent graduates, such as Winka Dubbeldam, Keller, and Pasquarelli, who are equally, if differently, entrenched in the school's philosophy of the computer. But Tschumi has also lured Mark Wigley from Princeton and Michael Bell from Rice, strong theorists who don't really align themselves with the school's computer camp—making apparent the resourceful dean's interest in keeping the school's curriculum, and faculty, balanced through its next stage of development. He has been careful to keep paperless studios in the minority at Columbia's three-year graduate program, and is


only now introducing the computer to first-year studios.

But sit in on any second- or third-year review in the past few semesters and you would find students who, often of their own initiative, produced their work in Maya or Softimage.

This summer, Lynn, representing UCLA (where he now teaches part time), and Rashid, representing Columbia, collaborated with students on a pair of installations for the United States pavilion at the Venice Architecture Biennale. Their participation in one of the international cultural community's principal events may seem like an imprimatur of the first order, and it was, but the show also revealed the perils of getting so much attention, so soon. In a *New York Times* review, critic Herbert Muschamp gave voice to a common criticism of Columbia's computer culture—it's almost total inability, thus far, to produce actual buildings: "Cities are still social condensers," Muschamp wrote in response to Rashid's installation, which incorporated a giant, real-life mock-up of a computer wire-frame drawing. "Bodies still require bricks and mortar structures. If they don't concentrate on developing new forms in the material city, today's architecture students could end up as low-level consultants at Industrial Light and Magic."

Everybody gets the picture, it seems, and now they want to walk around in it. Unfortunately, the construction and development industries move at a glacial pace compared to the computer industry. Columbia's computer gurus have been slow to earn the commissions and uncover the building methods necessary for translating their renderings into realities. When asked the next step for his faculty, Tschumi is quick to respond: "constructability." MacDonald asserts that the technology already exists for mass customization—the ability to mass-produce irregular building components with the same facility as standardized parts—and it does. Frank Gehry, who is conducting his own equally significant investigation into the computer as a design tool, has already employed a computerized milling process to create the curved form work for one of his three undulated Düsseldorf office towers (this issue, page 118).

The early days of Columbia's digital revolution are past—the laws have been rewritten, and now comes the challenge of putting them into effect. No matter where his faculty takes their computer investigations, Tschumi can safely claim to have fostered one of architecture's most significant forays into the digital age. Rarely in any generation does a single academic institution have a sweeping effect on the profession at large, the way Harvard did in the '50s, under Walter Gropius—and the way Columbia has over the past six years. "Bernard has already done it once," says Lynn. "Now he has to do it again." *N.C.*



For this summer's Venice Biennale, Greg Lynn Form created an installation based on the Embryonic House, a 3-year investigation into the mass production of irregularly formed houses. On the wall of a gallery, Lynn installed a 1/3-scale mock-up of a possible version of the Embryonic House. Painted a shocking blue, the high-density urethane foam model was formed with a giant milling machine at CNC Dynamix in Switzerland, using coordinates directly derived from the computer.

GREG LYNN FORM

Greg Lynn is the principal theorist of all that is squishy, pliant, and soft in architecture—one of the few designers working with complex forms who has also written extensively about their properties, rationale, and possibilities. He is also one of the few with a major commission under his belt: The New York Presbyterian Church (with Michael McInturf and Douglas Garofalo; November 1999, page 88) in Queens, New York, was designed according to the ideas Lynn has been expounding in his essays.

However, while most of the digerati are quick to assert that their software is subordinate to their ideas, Lynn demurs. "At this point, I would have to say it is the software making the calls," he says. "There is a language of form that comes with the computer, and at first, you do what the software does well." Such thinking naturally hits a nerve with a lot of architects, who see it as tantamount to claiming that the design process is arbitrary. But Lynn is not suggesting that one just hits a button and—beep—up pops a building on-screen. Blobs are diagrams of data, physical representations of the programmatic pieces underlying any work of architecture. While a blob will deform and become increasingly irregular as more and more conflicting elements are incorporated into it, someone selects that data. In this roundabout, even collaborative way, architects exercise their role as moderators.

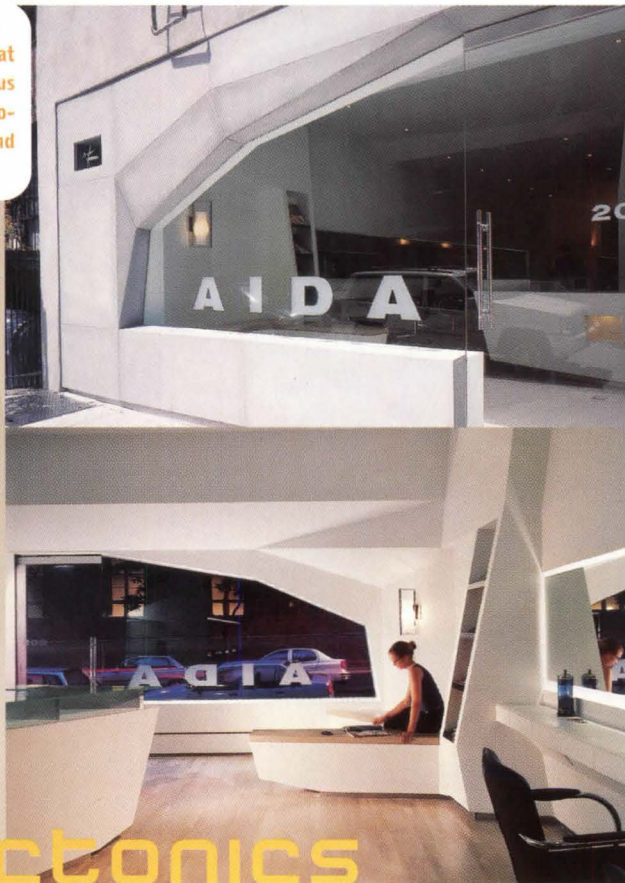
After spending the better part of a decade advancing his theories in Columbia studios, Lynn says he is now focusing more on practice. When the Presbyterian church was finishing up, he left New York City for Los Angeles, and has since "hunkered down and learned the principles of machining." Lynn has several commissioned projects in the works, including a chain store prototype, but much of his recent research has evolved through an experiment in mass customization called the Embryonic House: It is just as easy and cost-effective for a computer-driven milling machine to produce 1000 unique objects as to produce 1000 identical ones. The Embryonic House is accordingly many houses. And luckily for Lynn, machines capable of fabricating them are a lot more plentiful in Los Angeles: "It's incredible out here, because there is so much technology embedded in different design practices. It only took two phone calls to find a milling machine." A.G.



Dubbeldam has designed three 30-story residential towers for a Dutch developer that will dramatically cantilever over the Rotterdam harbor. The glass-faced towers, which contain split-level apartments, are an addition to a 1930s grain silo, which Dubbeldam will convert to house live-work units and a fitness club.

Dubbeldam is currently working on the expansion of a six-story Manhattan warehouse into a 76,000-square-foot loft apartment building with retail on its ground floor. Her 11-story addition will wrap over the top of the existing structure in pleated folds of glass that correspond to setback requirements, providing balconies and canopies.

For the Aida hair salon, Dubbeldam transformed a typical Manhattan storefront space by creating what she calls a “wrapper”—a conceptually continuous surface that folds and bends to accommodate programmatic elements such as lighting, ductwork, and countertops.



Archi-tectonics

Winka Dubbeldam came to the United States from her native Holland in 1991 to enroll in Columbia’s Advanced Architectural Design program. After working in the offices of Steven Holl, Peter Eisenman, and Bernard Tschumi, she started her own firm, Archi-tectonics. New York City provides fertile ground for this growing practice, considering Dubbeldam’s interest in the architectural implications of abstract forces like the stock market, socioeconomic migrations, and zoning. In studios at Columbia, she asks students to analyze the spatial and formal ramifications of these disembodied phenomena. “One way to express it is to think of a wall not as a smooth, blank plane, but as a membrane registering and reacting to these forces,” she says.

Her design for the Aida hair salon, which recently opened in New York City, is a small-scale investigation of this idea of the wall as a programmatically inflected volume. Within a typically long, thin Manhattan storefront, Dubbeldam created a continuous ribbonlike wall. It bends and bows to hold all of the salon’s func-

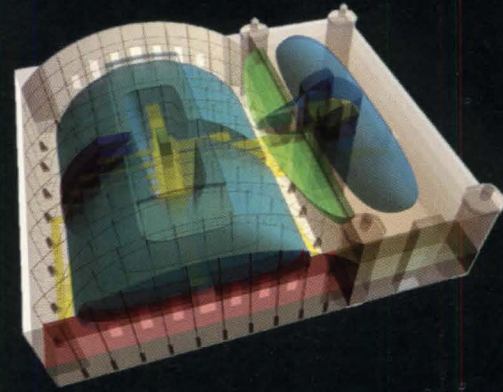
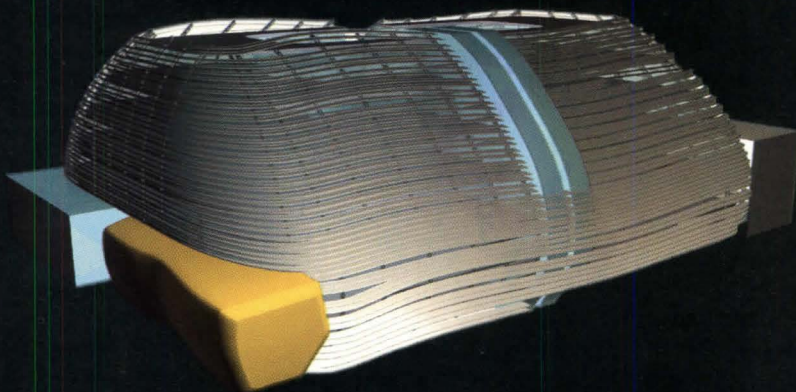


tional elements: sinks, cutting stations, mirrors, lights, storage, HVAC systems, and a changing room. It recesses slightly to accommodate backlit mirrors, and bulges out to form a bench in the waiting area.

Archi-tectonics is currently at work on the folded, 11-story façade of an apartment building soon to break ground on Greenwich Street in Manhattan; it is an addition to an existing six-story warehouse. To accommodate the city's setback requirement, Dubbeldam tilted the glass skin back at varying angles. Below that, the façade is pushed inward slightly to accommodate the building's entrance and ground floor retail. In the process of designing the inflected curtain wall, Dubbeldam relied on the computer simply to map out its complex, zoning-inspired geometries. "The computer should be a tool for studying the forces operating within cities," she says, "Software-driven investigations don't interest me." A.G.



To accommodate a growing San Francisco dot-com company, Asymptote is building a freestanding office structure in the cavernous interior of a former armory. In one version of the project, which is currently in design development, Asymptote has designed a skin of metal fins to filter sunlight into the gently curved office block.

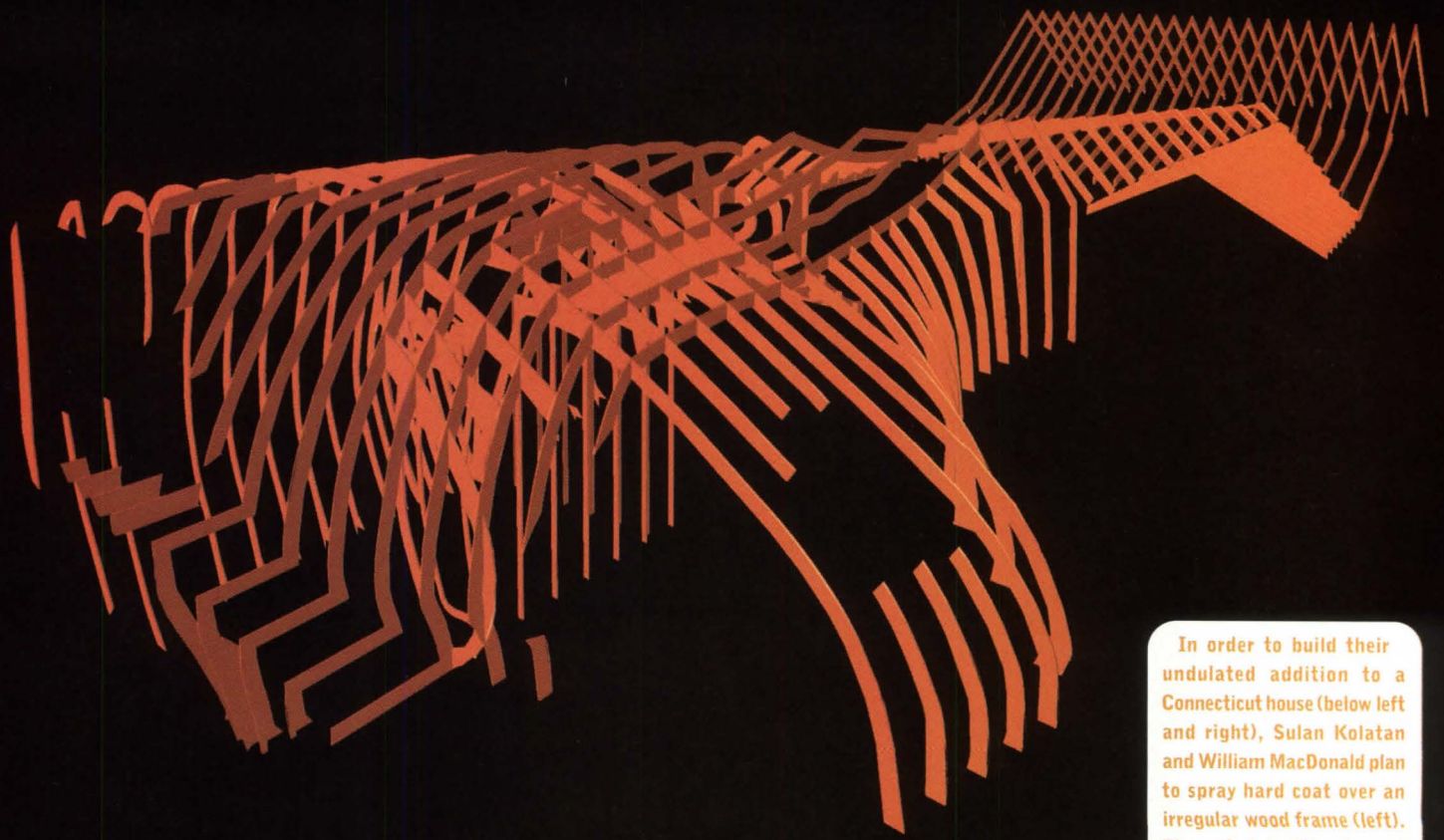


ASymptote

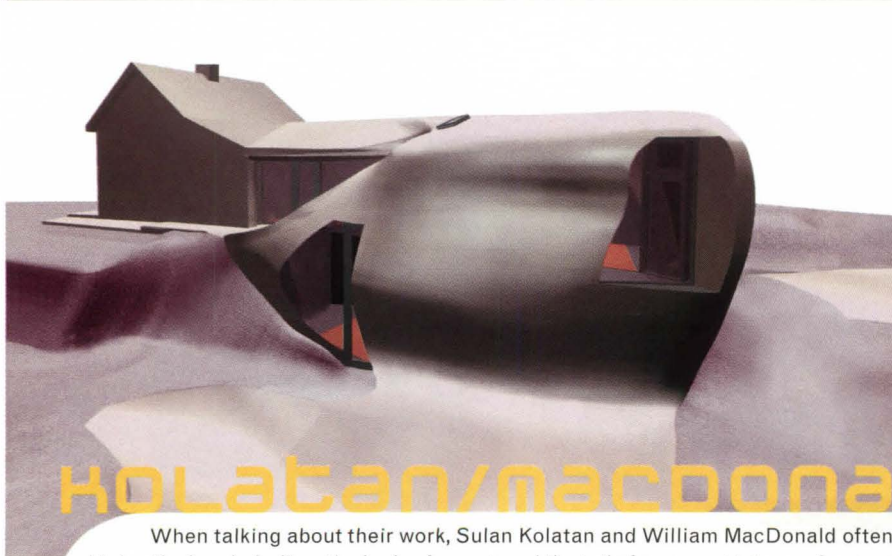
Hani Rashid and Lise Anne Couture of Asymptote have built almost as much in virtual space as they have on terra firma, but nonetheless rely on a fairly old-fashioned definition of their role: the architect as problem-solver. Rashid notes a similar pragmatic trend in his studios at Columbia, where he was among the first faculty members to teach a paperless studio: "Theory's influence is on the wane," he says. "When students are actively involved in the process of making things, [French philosopher Gilles] Deleuze isn't as compelling. They now create proofs, not theorems."

In their own practice, Rashid and Couture have staked out the digital realm as a place with problems that need attention. One of their best-known projects is the Virtual Exchange they designed for the New York Stock Exchange. Above the hubbub of the trading floor, a curving ramp leads to a blue glass wall of 60 LCD screens on which operators can view three-dimensional, constantly updated, computer-generated models of stock activity. Instead of just displaying individual stocks on a ticker, the Virtual Exchange allows people to monitor the market's behavior as a whole. Another recent project is the Guggenheim Virtual Museum (May 2000, page 156), an attempt to present the museum's collections online in a way that goes beyond a typical Web site's lineup of photos and text on a page. The architects have tried to re-create the sense of being in a building, where there are distinct places and a feeling of progression.

These two projects demonstrate Asymptote's mission to shape and ease the interaction between people and technology, to give comprehensible form to abstract things like stock information or the Web. The proliferation of sites for commerce, entertainment, and just about anything else is arguably transforming the Web into a new type of public space, creating fertile ground for the architect's imagination. According to Rashid, "People will think no more about entering a VR space than they do about picking up a telephone." A.G.



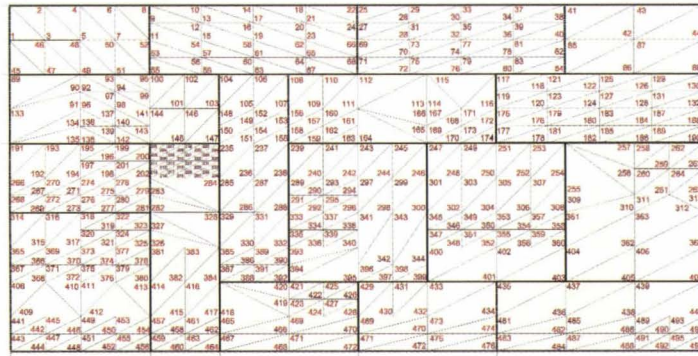
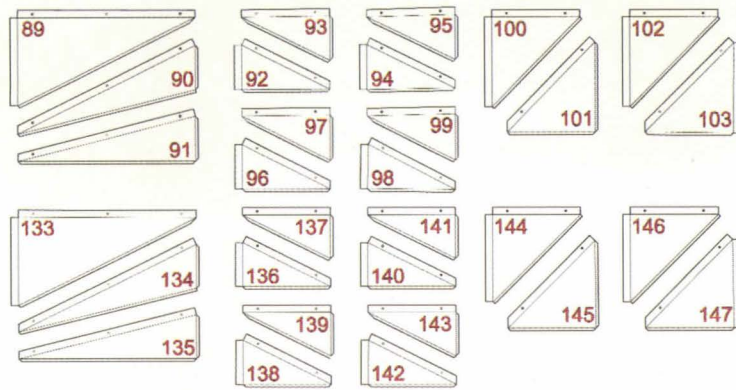
In order to build their undulated addition to a Connecticut house (below left and right), Sulan Kolatan and William MacDonald plan to spray hard coat over an irregular wood frame (left). The material will harden and take on structural rigidity.



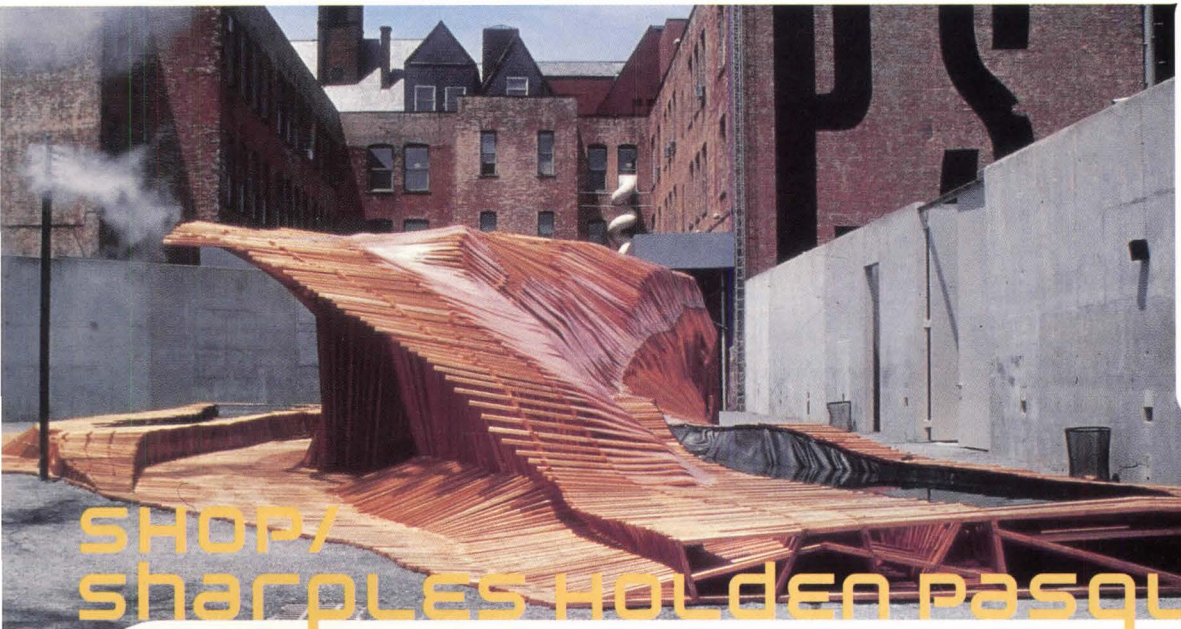
KOLATAN/MACDONALD STUDIO

When talking about their work, Sulan Kolatan and William MacDonald often cite the mythological chimera—a fabulous monster combining the head of a lion, the body of a goat, and the tail of a serpent into one fearsome animal—as a model. It appears in their designs as hybrid architectural forms that combine the functions of previously discrete objects. Their O/K apartment in New York City (September 1997, page 114) blurred the distinctions between such programmatic elements as bathtub and bed in a swirl of molded fiberglass. Like many of their colleagues at Columbia (Greg Lynn, for instance), the two are intrigued with the possibilities of mass customization, which is not the oxymoron it would appear to be. Thanks to the advent of computerized cutting and milling machines, it is no more costly to produce thousands of identical widgets than thousands of widgets with slight variations. Kolatan/MacDonald's Housings is a proposed series of mass-customized houses that incorporate desirable features—like a Jacuzzi, a golf course, or even something as workaday as good insulation—into their very form. Whereas in Levittown bay windows and backyard pools are tacked on to a standard model house, in Housings, the bay window and pool would give form to the bloblike house itself. On a smaller scale, the architects have already put the technology to work in a project that will go into construction this fall. The plywood ribs of the R House (September 1998, page 59) will be cut by a machine that is working directly from their computer drawings. The project is an amorphous addition to a traditional clapboard house in Connecticut, its form generated by merging data gleaned from the topography of the surrounding landscape, the geometries of the existing house, and the required program.

Though it is admittedly more “customized” than “mass”, the R House is an important start: It will be the first freestanding residence to employ computerized milling and molding processes toward intentionally blobby ends. A.G.



SHoP's temporary Dunescape installation (below) served this summer as a sort of pool house for dance parties at P.S. 1 Contemporary Art Center in Queens, New York. Wading pools punctuate its boardwalk-like structural surface of jointed cedar, which rises up to become a roof for changing rooms.



Architecture commissioned the A-Wall (right) to serve as its trade-show booth. SHoP designed a tessellated skin of 416 unique, triangular titanium plates (above left), that were stamped with a number and then attached to a conventional wood frame structure. The surface of the booth inflects to form shelves to display copies of the magazine and the boards of P/A Award-winning projects.

SHOP/ SHARPLES HOLDEN PASQUARELLI

When he and his classmates at Columbia first started using rendering software in the mid-1990s, Gregg Pasquarelli describes the initial reaction as a communal cry of "Wow!" Pasquarelli had worked with complex forms before, but until that point, all the projects were still hand-drawn. "I worked on the Yokohama Port Terminal and the Cardiff Bay Opera House competition entries with Greg Lynn," Pasquarelli recalls. "Even though both of those were originally done by hand, we drew them to look like computer renderings." The initial amazement over the computer's speed and facility led to a rush of experimentation, he says, but the tone is more levelheaded today: The computer is a fact of life, but faster doesn't automatically mean easier or better.

The question that still challenges digital progressives is how to get the designs out of the computer—how to work out the spatial and tectonic ramifications of non-Euclidean form. Pasquarelli now teaches at his alma mater, and tells his students that while the studio may be paperless, it is not objectless, and that they have to look beyond the seductive images on-screen. Confronted with the difficulty of building a blob, Pasquarelli and his partners at SHoP—the firm



he started with fellow Columbia grads William Sharples, Christopher Sharples, Coren Sharples, and Kimberly Holden—have even considered opening up a fabrication side to their practice, because most builders don't know how to approach their designs.

This summer, SHoP built Dunescape, a temporary pavilion of jointed cedar timber, outside the P.S. 1 Contemporary Art Center in Queens, New York, by printing out drawings at actual scale and using them as a template to cut the wood. The resulting structure is inextricably linked to its program: The architects took five elements of a day at the beach—umbrella, boogie board, surf, beach chair, and cabana—and abstracted them into one continuous form that suggests or actually performs all of these roles. SHoP also has two major projects in the works: Financing is progressing for the Museum of Sex in New York City, a 36,000-square-foot building devoted to the history of human sexuality (April 1999, page 92). And the young firm recently received the commission for the renovation and expansion of Columbia's art studio building, Prentis Hall. They are, with each completed project, bringing the blob one step closer to reality. A.G



ED KELLER

Ed Keller is credited by many of his Columbia contemporaries with leading the way for the integration of computers into design studios. While in the masters program there in the early 1990s, he and fellow student Sean Daly decided to support themselves by doing renderings for architecture firms. Keller invested in a then-rare Silicon Graphics machine and a Softimage package, and opened shop. As other Columbia students saw the drawings he was producing, they began to ask for access to the same kind of equipment, and in 1994, Dean Bernard Tschumi initiated the paperless studio.

Keller is now the acting director of Columbia's Advanced Architectural Design program, and says that while the computer has become a "grand equalizer" at the school, it should still be treated warily. About designs based on the modeling potential of software packages, he says: "It is a misleading approach to architecture, because questions can't be framed around form alone. If a student can't explain why a blob looks the way it does, he or she will get grilled."

When asked to provide an *explanation* for his own work, Keller says, "Right now, the tools people use to produce film, architecture, and interactive media are the



Keller developed the abstract, animated world of his multimedia *Hypnagogue* project—a sort of video game meets film—in collaboration with artist and musician Perry Hall. Hall's non-representational paintings make up the surfaces of many spaces, and his music serves as the soundtrack.

same,” and this overlap makes it possible to use the techniques of one medium to learn about the others. In the tradition of visionaries like Piranesi and Boullée, Keller and his collaborator Perry Hall have produced a conceptual project called *Hypnagogue*, a hybrid of film and of video games like *Myst*. As one moves through a series of realms, a fragmented narrative involving three characters emerges; time speeds up and slows down, physical boundaries and scales shift.

Hypnagogue provided a loose model for a studio Keller recently led at Columbia. Starting with readings in philosophy and film theory, and analyses of the way time can be manipulated within film (either within the narrative or through technical means), students set out to build an environment that would replicate the slippery quality of space and time within a dream. They changed the environment of a computer game called *Marathon*, but also tampered with its physics—gravity doesn't have to be steady and even, and objects might respond to a player's touch. “It's the weirdest studio I've ever done,” Keller admits. But, as he points out, there's a simple lesson to be learned from Columbia's iconoclastic digital curriculum: “how to use computers to think through problems.” A.G.

No one will mistake the new Reebok World Headquarters in Canton, Massachusetts, for one of those anonymous data-processing cubes that litter suburbia's woody fringes. A drive into the 42-acre Reebok campus, 20 miles south of Boston, reveals a four-story, curtain-walled spine, sweeping dramatically across the site. Seattle-based architects NBBJ designed the spine's curve and cant to suggest a fragment borrowed from the bowl of a sports stadium, a visual metaphor intended to create a commanding corporate presence that would awe visitors and inspire employees. NBBJ's well-honed, high-tech aesthetic meshed well with Reebok's self-image of technological innovation, and its aggressive efforts to reverse the decline that has plagued the sports apparel industry for several years.

NBBJ was one of three firms invited to present a scheme that would suggest, according to NBBJ design principal Steven McConnell, "not where Reebok is today but where it would be in ten years." Along with that overarching mandate, the company then challenged all three firms to return in nine days with a full-blown design concept. McConnell quickly assembled a 10-person team and began an around-the-clock charrette. Although the designers built rough Styrofoam models and sketched on reams of tracing paper, it was computer technology that made it possible for them to develop a sophisticated scheme rapidly. When the team returned to Reebok with an elaborate presentation, including three-dimensional computer renderings, fly-over animations, and an eight-minute video tape documenting the collaborative team effort during the charrette, they won the commission. Then Reebok told NBBJ that they had only eight months to produce all the construction documents for the 522,000 square-foot headquarters, half the time normally estimated for such an enormous and complex project. NBBJ expanded its team to 20 members and decided to test what digital advocates insist is the evolution of the computer from a speedy drafting device to a potent design tool. Notes McConnell, "We did almost all the designing on the computer—sketching, plotting, re-sketching."

Using sophisticated computer software, the designers manipulated complex curves quickly to create the building's dynamic forms. Then, they isolated one element of the building—the spine—for in-depth study and refinement, while assigning the four office blocks to more conventional development. Working with the Los Angeles-based engineering firm Advanced Structures Incorporated (ASI), NBBJ determined that the high-tech aesthetic they were after could best be expressed in glass and steel.

Visitors enter the headquarters across a bridge covered by a cantilevered glass canopy into the second level of the soaring spine, which stretches 350 feet and is divided into 12 bays defined by built-up steel columns or "masts." Seven bays are in a straight line, and five bays fan out from a 164-foot radius.

Two-thirds of the wall's height leans toward the spine's interior at 15 degrees and is glazed with standard insulating glass panels. The top third tilts to 43 degrees, becoming a skylight system, requiring laminated glass panels to comply with codes. The glazing in this

area has a striped ceramic frit pattern to provide additional solar shading. The gravity-defying lightness of the curved and canted curtain wall was achieved with a cable-truss system, which allowed for smaller mullions and created a tension that the architects believe suggests the stadium metaphor.

The NBBJ team warmed the spine interior with maple floors, a subdued palette of tans and grays for the carpet and walls, and dark cherry hand rails at the balconies and stairs. Sculptural, freestanding, steel-and-glass staircases punctuate the seemingly infinite horizontality of the spine. The architects also used Zolatone—a speckled, durable, sprayed coating—to finish the spine's interior columns. The columns are fire-proofed structural steel wrapped in ground-fiber-reinforced gypsum (GFRG), which is more easily formed into nonstandard shapes than poured concrete. The architects wanted a precise, smooth finish to temper the hard-edged glass and steel elements of the spine. The GFRG casings were formed by the fabricator in sectional halves and installed on site. The seams were erased with a thin coat of plaster and finished with a subtle gray Zolatone coating.

The façades of the office blocks, which protrude perpendicularly from the spine, are standard curtain-wall construction, enlivened with careful detailing. For some spandrels, NBBJ recessed metallic panels three inches behind light-blue insulated glass panels to create a shadow box. On sunny days, the shadows produced are sharp; on hazy days, they're soft. In other areas, fluted, pre-cast concrete panels create shadows and give depth to the surface of the wall. The four office blocks are recessed at the ground level to make them appear as if they're floating above the playing fields.

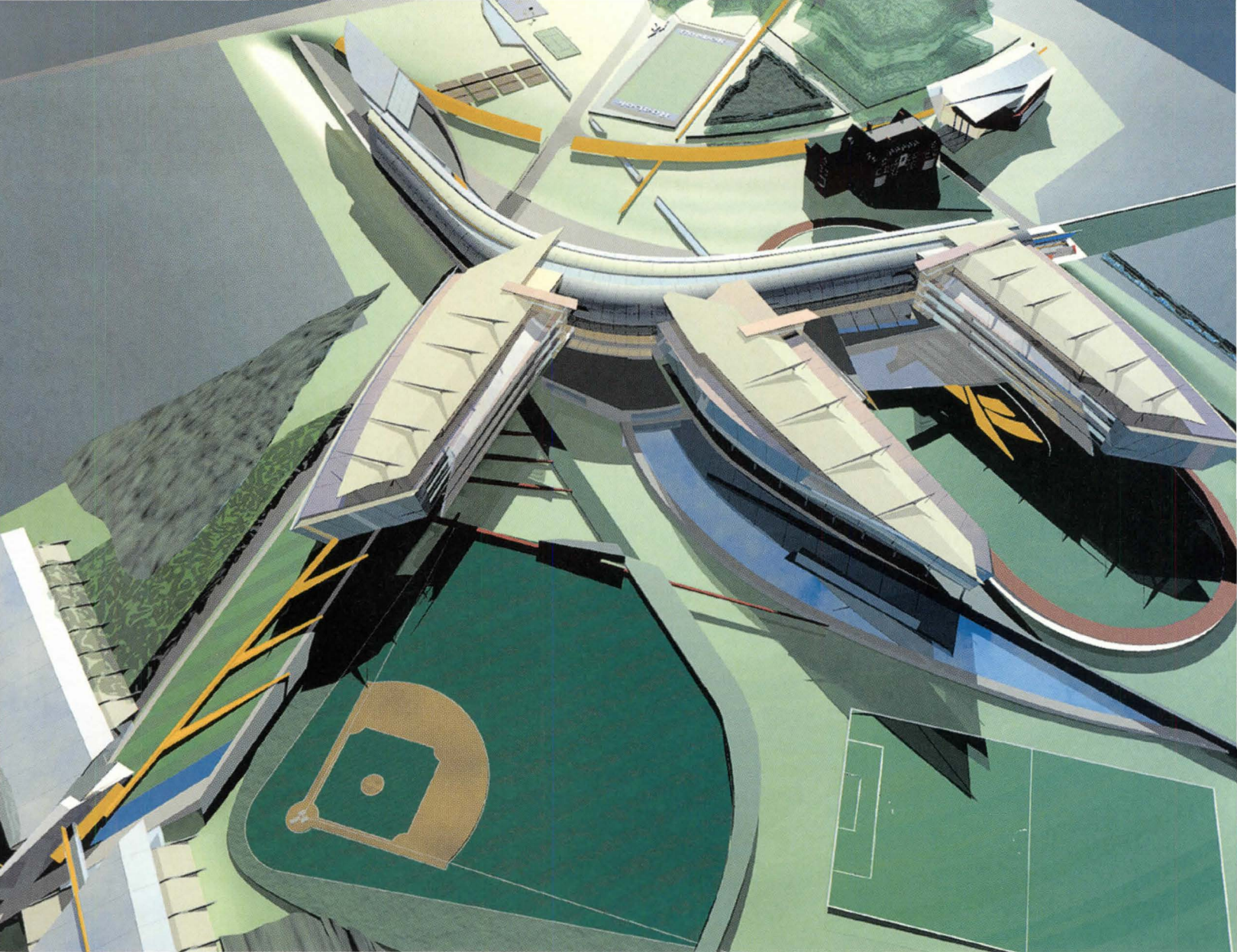
Computer renderings of schematic designs often look unbuildable, because they are usually produced in the conceptual stage of a design. The design evolves and the original parti morphs into more orthogonal forms, usually because of budget constraints and the limitations of construction. At Reebok, however, the physical reality is astonishingly similar to its virtual conception. The curving abstract images of the initial presentation lack materiality and even scale, but the original intent is strongly represented in the glass and steel final product. This is due to the fact that fabrication software has been gaining on 3-D-modeling and design software. For instance, in the case of Reebok's GFRG encased columns, the digital files were sent directly to the subcontractor without going through the construction-documents phase. (It should be noted that for legal reasons, a certain number of drawings must be included in the bid documents.) With regard to the spine curtain wall, computer outtakes from the ever-evolving "living" 3-D model were embedded in the working drawings in color, making the bidding and fabrication phases cost effective by eliminating the need for time-consuming shop drawings.

No amount of computer wizardry can provide a substitute for quality construction. Much of NBBJ's modernist ornamentation occurs in reveals, which align perfectly with joints, and delicately overlapping surface planes are beautifully crafted. The overall effect is one of sophistication and grace. ■

Fast companies

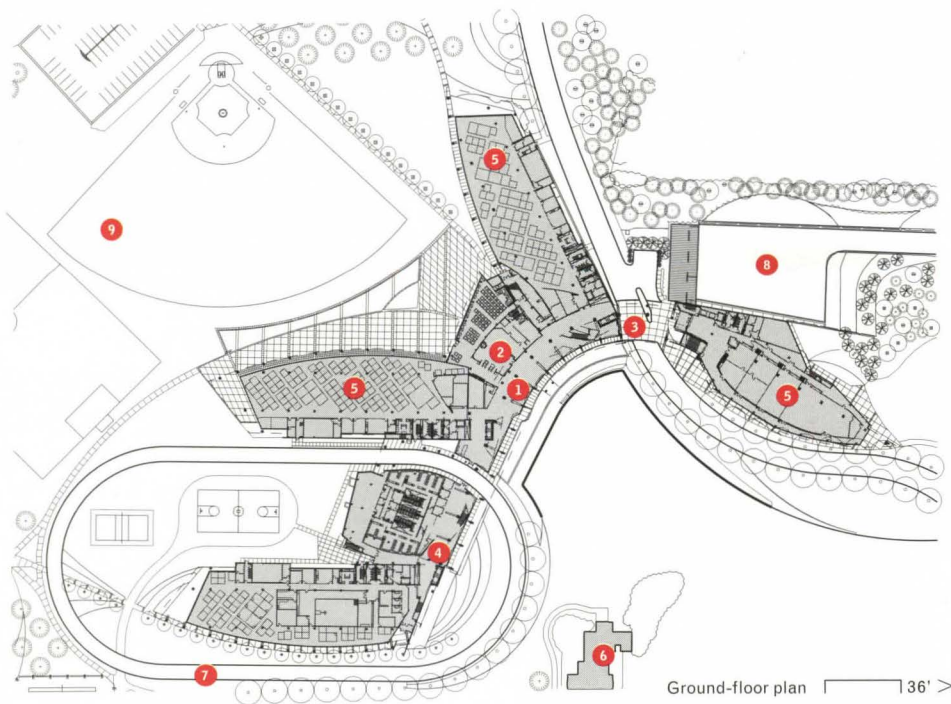
computer power gave
NBBJ the stamina
to deliver the new Reebok
headquarters in
record time. BY SARA HART





Using Alias Wavefront software on Silicon Graphics work stations, NBBJ produced a "living" model (above) for the competition that the architects continued to develop throughout the design process. Files were exported directly to the working drawings as color 3-D details. In some cases, they transferred specific files containing complex curvilinear geometries directly to 2-D AutoCAD drawings. A curving drive (facing page) brings visitors past Building 1 to the entrance, which is centered on the curtain-walled spine. Behind the spine, four office blocks (below and previous page) jut into a well-groomed landscape devoted to a half-dozen athletic activities, including a 400-meter running track that loops through an opening at the ground level of the complex.





- 1 spine
- 2 cafe
- 3 drive-through to parking
- 4 fitness center
- 5 office blocks
- 6 existing manor house
- 7 running track
- 8 loading dock
- 9 playing fields

Ground-floor plan | 36' >

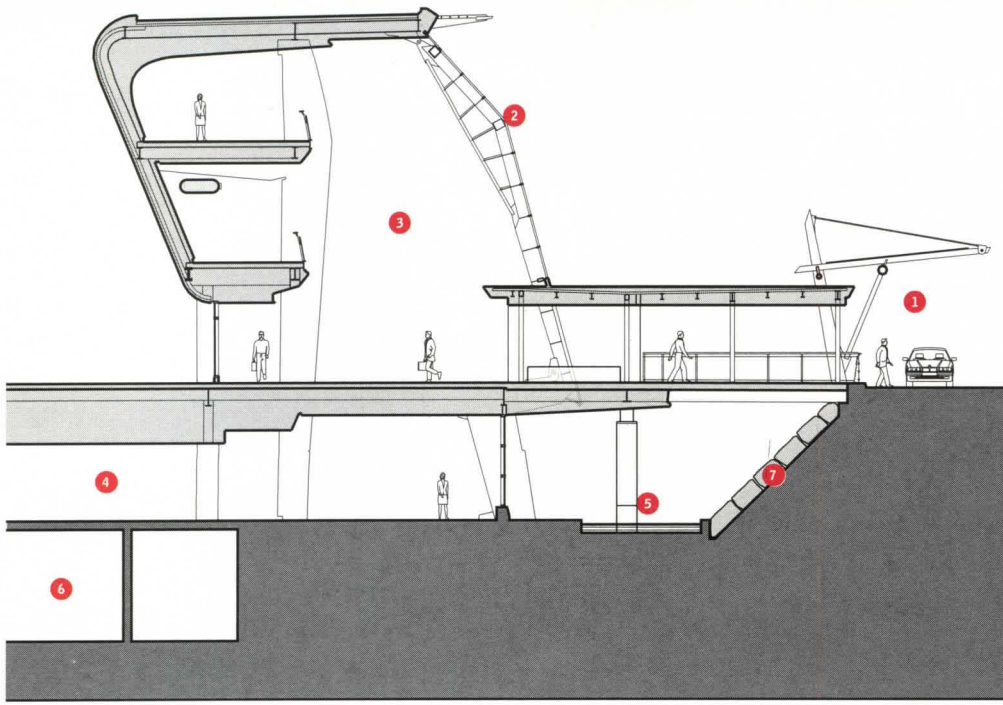


The spine's interior (facing page, top) is animated with shifting ceiling planes, protruding balconies, and openings that allow views into the cafeteria and the 37,000-square-foot fitness center (facing page, below left and right) that rests between office blocks. NBBJ intended this permeability to encourage serendipitous interaction among employees. Sculptural staircases (left) are comprised of continuous bent-steel plate treads and risers. Rough concrete pads rest deceptively like cushions on the treads. The balustrades are Zolatone-coated steel balusters infilled with thick glass planes so as not to obstruct the views or sunlight through the curtain wall. The landscape at the entrance (above) is carved out, separating the drive from the spine and creating a ravine to allow light into the cafeteria on the first level. At the second level, a bridge spans the ravine where a fountain gushes columns of water to the height of the bridge. The foundation walls of the ravine are built of large granite blocks, which were excavated during the Big Dig, Boston's mammoth, ongoing tunnel project, and are believed to have been part of an 18th-century structure. The architects chose the material as a reference to New England's ubiquitous stone walls.



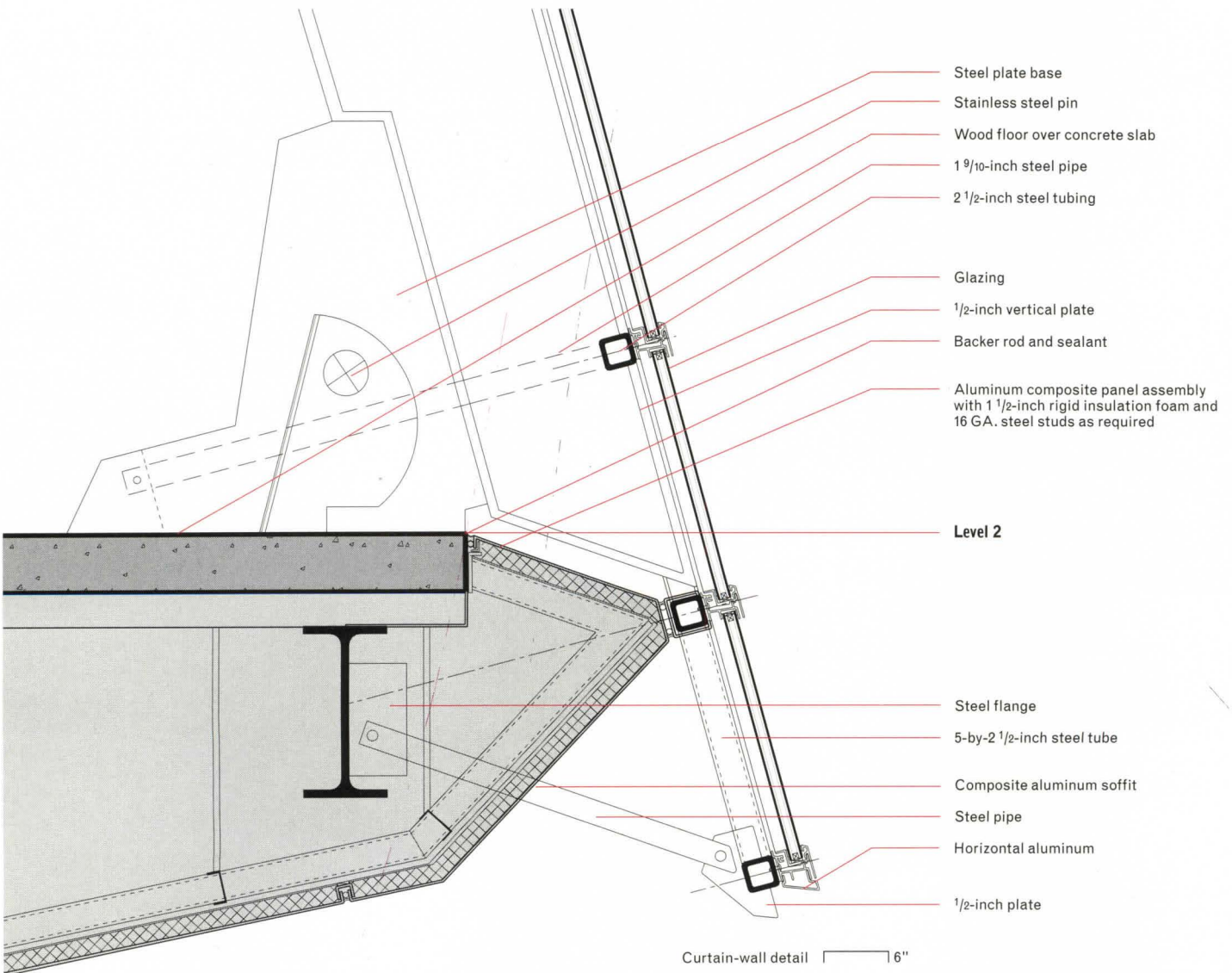


The spine's curtain wall (above) is a horizontal cable-truss system that transfers wind loads from the glass to the base and head of the masts. Since the curtain wall does not support the roof, it could be constructed without fireproofing. The trusses are constructed with standard $\frac{1}{2}$ -inch steel tubes and $\frac{3}{8}$ -inch-thick stainless steel. This strategy allowed smaller aluminum mullions to frame a glass module of 3 feet, 9 inches, by 10 feet. Vertical $\frac{1}{2}$ -inch cables threaded through steel tubes attached at intermediate joints along the masts carry the vertical load.



- 1 ceremonial entrance
- 2 curtain wall
- 3 spine
- 4 cafeteria
- 5 water feature
- 6 central plant
- 7 granite retaining wall

Section 19'



- Steel plate base
- Stainless steel pin
- Wood floor over concrete slab
- 1 9/10-inch steel pipe
- 2 1/2-inch steel tubing
- Glazing
- 1/2-inch vertical plate
- Backer rod and sealant
- Aluminum composite panel assembly with 1 1/2-inch rigid insulation foam and 16 GA. steel studs as required
- Level 2
- Steel flange
- 5-by-2 1/2-inch steel tube
- Composite aluminum soffit
- Steel pipe
- Horizontal aluminum
- 1/2-inch plate

Curtain-wall detail 6"



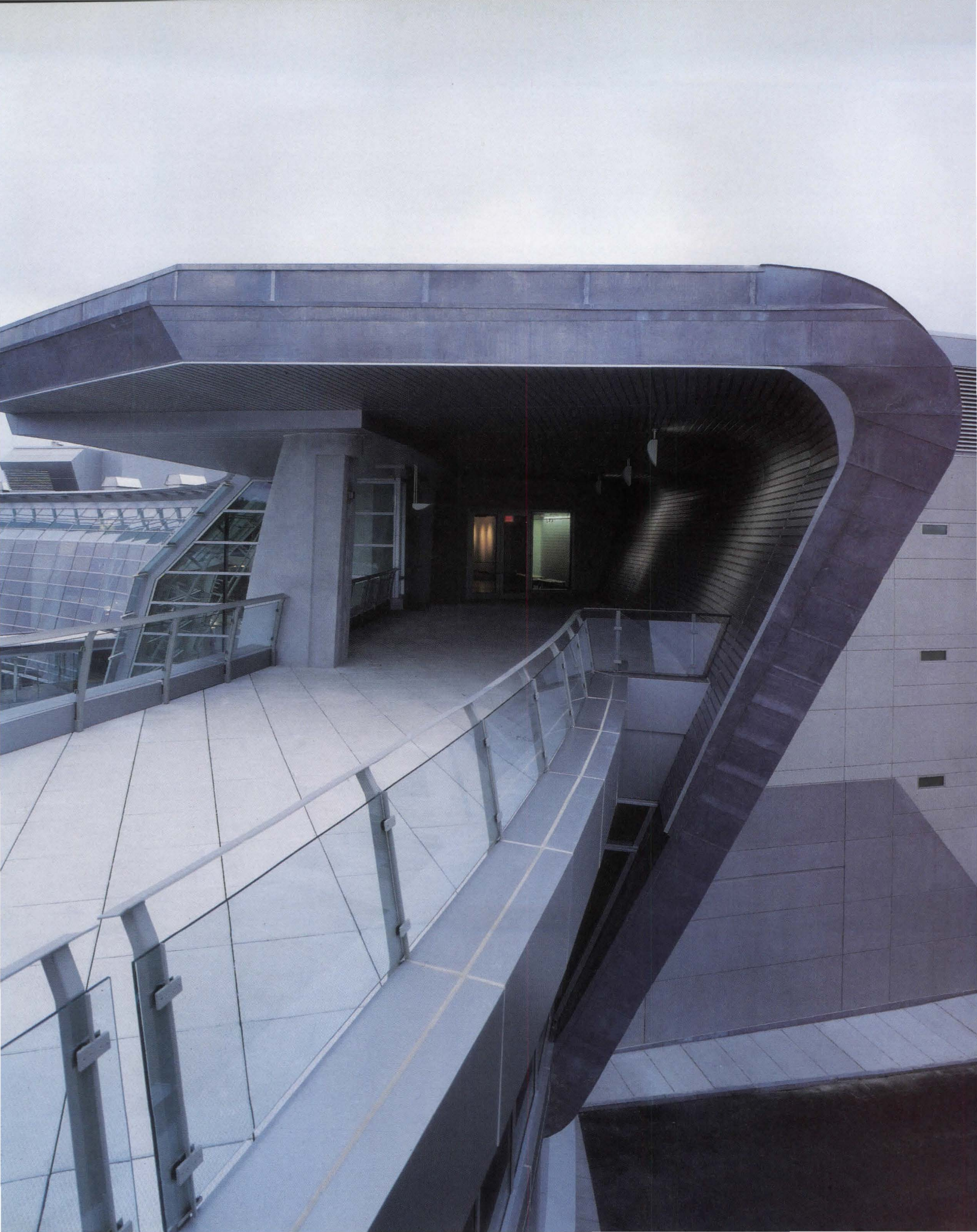
The spine roof (facing page) assumes a curving profile as it emerges between the office blocks. A lead-coated copper skin further distinguishes it from the other massing elements. Outdoor terraces provide informal gathering places for employee parties. The roof profile is expressed on the interior (above) at Level 4, and finished with maple slats.



REEBOK INTERNATIONAL LTD. WORLD HEADQUARTERS, CANTON, MA

CLIENT: Reebok International—Paul Fireman (president & chief executive officer); Douglas W. Noonan (director of corporate real estate & facilities); Edward Rybak (facility, planning and design manager); Credit Suisse—Carl Weatherly White
ARCHITECT: NBBJ; Seattle—Scott Wyatt (partner-in-charge); Richard G. Buckley (partner-in-charge of design-competition); Steven McConnell (design principal-in-charge); K. Robert Swartz (principal); Jonathan Ward (senior project designer); Nick Charles (senior technical architect); Reuben Gonzalez (construction administration lead); Jin Ah Park, Andy Bromberg, (project designers); Joey Myers (project designer—competition); Gary Schaefer (senior project architect); Chris Larson (senior project designer—interiors); Alan Young (senior project architect—interiors); Dave Burger (senior technical architect-interiors); Diane Anderson, Rob Anderson, Daniel Beyer, Frances Cirillo, Daniel Cockrell, Case Creal, Tessie Dantes-Era, Susan Dewey, Yumiko Fujimori, Rody Grant, Jay Halleran, Cecile Haw, Lisa Harrington, Cory Harris, Shiki Huangyutitham, Michael Kreiss, Dave Kutsunai, John Millard, Terrance O’Neil, Sarah Pelone, Leo Raymundo, Joe Rettenmaier, Derek Ryan, Janet Samples, Amy Sparks, Rae Ann Stewart, Carsten Stinn, Trisna Tanus, Alec Vassiliadis (project team) **LANDSCAPE ARCHITECT:** EDAW—Robert Shrosbree (principal); Kathy Kirby **LIGHTING DESIGN:** J. Miller & Associates Ltd., Jeffrey I. L. Miller (design principal); Shaun P. Darragh, MIES, LC; Michael J. Sherer **ENGINEERS:** Vanasse Hangen Brustlin (civil, traffic, permitting); McNamara/Salvia (structural); Cosentini Associates (mechanical, electrical, plumbing, fireproofing); McPhail Associates (geotechnical) **CONSULTANTS:** Advanced Structures (curtain wall design and structure); RWDI (fluid dynamic modeling); Cavanaugh & Tocci (acoustic design); Schirmer (code analysis); Lerch Bates (elevator design); Crabtree & McGrath (food service design) **GENERAL CONTRACTOR:** Turner/O’Connor—A Joint Venture
COST: Withheld at client’s request **PHOTOGRAPHER:** Timothy Hursley, except as noted

FARSHID ASSASSI (ABOVE)



Orderly, prosperous, and self-confident, Düsseldorf is one of Germany's richest cities. Its economy is dominated by financial wheeling and dealing, and its skyline by the towers of multinational corporations. But as if a tea dance had been gate-crashed by a can-can troupe, this sedate civic ambience has been ruffled by a trio of exuberant interlopers, deftly choreographed by Frank Gehry. The dance analogy is well rehearsed. Gehry's "dancing couple" headquarters for the Nationale-Nederlanden bank in Prague evoked comparisons with Ginger Rogers and Fred Astaire—one frothy swirling volume poised in a clinch with a suave partner—but this more recent project for a site on the edge of the Rhine is an altogether funkier affair.

While Ginger and Fred had to defer to Prague's 19th-century historic fabric by completing an existing city block, Düsseldorf's Zollhaven (Customs Dock) presented fewer contextual inhibitions. Formerly the site of warehouses, factories, and harbor installations, the area to the southwest of the city center is slowly being regenerated in a familiar pattern of urban recolonization. Gehry's brief was to provide speculative office space for the media, design, market research, and advertising firms that are expected to provide the crucial impetus for economic and social regeneration of the neighborhood.

For all his inventive appropriation of computer technology, Gehry still relies on the generative capacity of the sketch. His Düsseldorf project began life as a blotchy black pen rendering of whirling, indeterminate forms quickly captured on a paper napkin. This doodle has evolved into a trio of crumpled, abstract blocks ("father, mother, and child," he calls them) each distinguished and enlivened by different materials. The smooth white plaster of the largest, a 13-story structure, alludes to the traditional material of Düsseldorf's urban architecture, while the terracotta brick of the crystalline 11-story block is an homage to the muscular dock warehouses that originally occupied the site. Clad in smooth polished steel scales that irresistibly recall Gehry's titanium-skinned Bilbao Guggenheim, the lowest central structure, a seven-story block, is a sensuously shimmering mirror that reflects its larger neighbors.

Although each is an individual object-building, the towers are carefully arranged so as to create public space around them and permit through-views of the harbor basin and river Rhine. The site forms part of a long riverfront walk that sweeps into the center of town, and is a highly popular local promenade. On warm summer evenings it swarms with walkers, joggers, cyclists and skaters. Gehry's contorted towers are an inevitable focus of attention, especially the polished steel skin of the lowest block, which prompts occasional inquisitive fondling from passersby.

The translation of Gehry's ideas into built form is achieved through his now familiar design and construction process: Preliminary gen-

erative sketches—which often defy conventional geometric organization—evolve into a long series of handmade models. Then, using the CATIA program originally developed for the French aerospace industry to represent complex three-dimensional objects, the crude wood and cardboard models are scanned into the computer and digitally translated back into working models and drawings. The computer supplies all the data needed for the cut and structure of the building's outer skin. Used as an instrument of translation rather than as a generative device, the computer enables the representation and manipulation of that which cannot otherwise be drawn. But it is still only a tool. As Randy Jefferson, project principal on Düsseldorf notes, "Fifty years ago there were only pens and pencils for architects. Just because you could buy a pencil didn't mean you could create architecture. CATIA is not different."

Unlike the Guggenheim, which was built using a distorted steel frame covered with a lightweight curtain-wall façade of metal, glass, and stone—a wrapped-up roller coaster—the Düsseldorf towers have solid, load-bearing external walls made of reinforced concrete. For the smaller central block, Gehry achieved the eccentric, undulated form using

blocks of lightweight polystyrene (Styrofoam) milled and shaped by computer to produce 355 different curved molds that become the forms for the concrete. (The Guggenheim's stone cladding was also robotically milled.) Transcribed into reality through the computer, the precast panels have the exact shape of the design model and fit together precisely, despite their complexity. Computer-aided design has now become computer-aided manufacture. Buildings can now be sculpted and customized like car bodywork or aircraft wings.

Yet what makes Gehry's work so compelling is its capacity to raise the level of the real to the realm of the ideal. As Düsseldorf shows, his buildings, for all their calculated eccentricity, are essentially good-natured and capable of enlivening disregarded urban corners. Driven by a spirit of intuitive invention, his great gift is to challenge but not threaten, to generate order and disorder without tyranny. While other architects rush headlong into the sterile world of virtual space, Gehry's interest in computer technology is solely as a means of creating real, tactile architecture. He shapes rooms that can be used, figured spaces with centers that can be occupied, intimate alcoves and bay windows. (Though speculative offices, the Düsseldorf towers retain an intrinsic domestic quality, like warped or melted apartment blocks.) He celebrates space and the surfaces that define it, and the primitive beauty of an architecture that is not about technology, but about building. (Düsseldorf has a solid, crafted, tectonic quality; it is not simply flimsy scenography.) As a narrative of process and culture that conveys a vigorous sense of both sculptural and surface beauty, Gehry's work constitutes an architecture at once timely and timeless, contextual and totally personal. ■

DIGITIZING DÜSSELDORF

FRANK GEHRY'S RAISES HIS
COMPUTER DESIGN PROCESS TO
NEW HEIGHTS WITH
A TRIO OF GERMAN TOWERS.

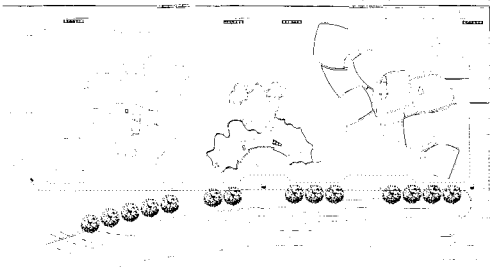
By CATHERINE SLESSOR



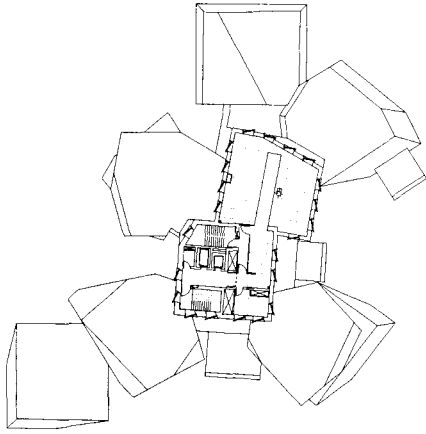


Gehry clad each of his three Düsseldorf office towers in a different material. Red brick wraps the faceted faces of the western tower (left); the undulated central block (center) wears mirror-finished stainless steel; smooth white plaster coats the 13-story eastern tower (right).

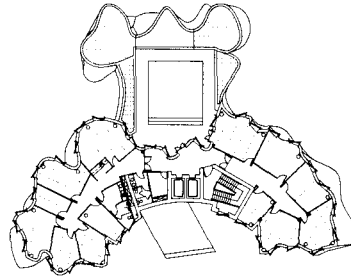




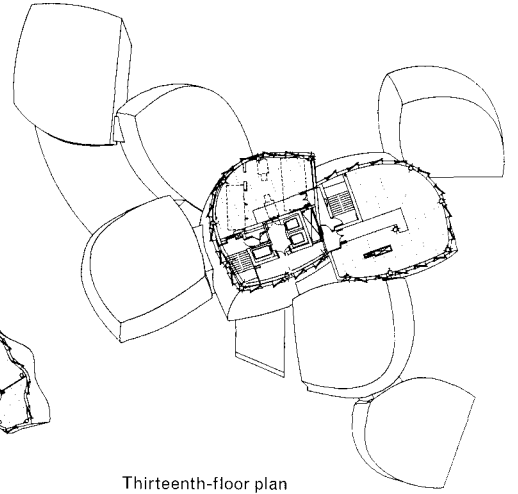
Site plan ^



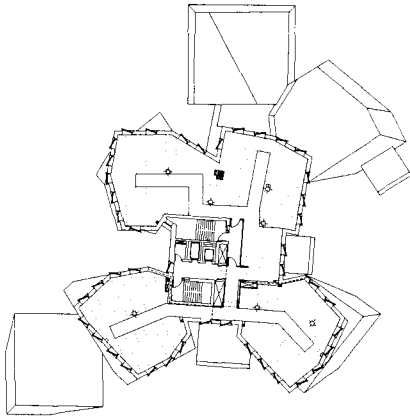
Eleventh-floor plan



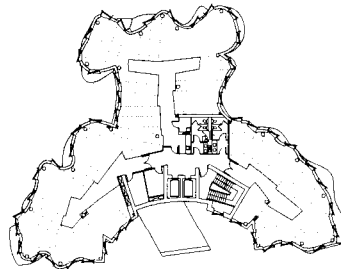
Seventh-floor plan



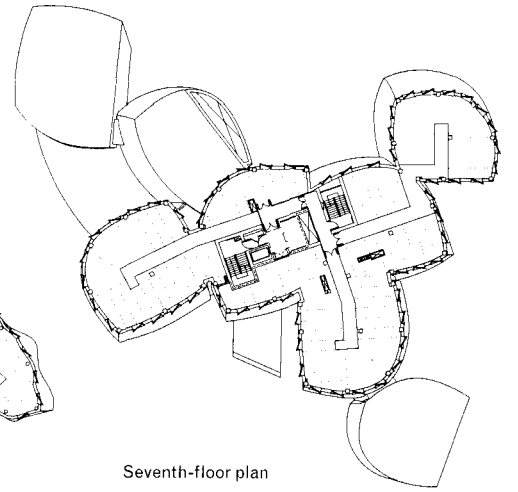
Thirteenth-floor plan



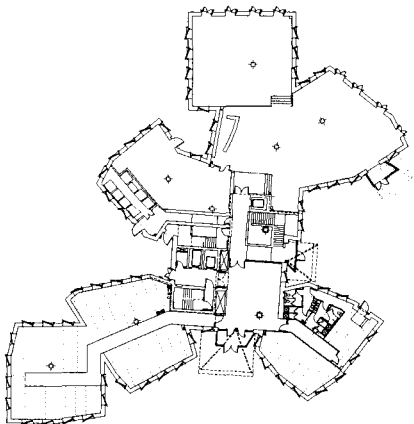
Seventh-floor plan



Fifth-floor plan

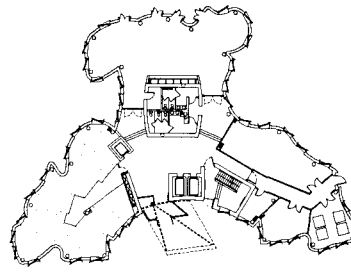


Seventh-floor plan



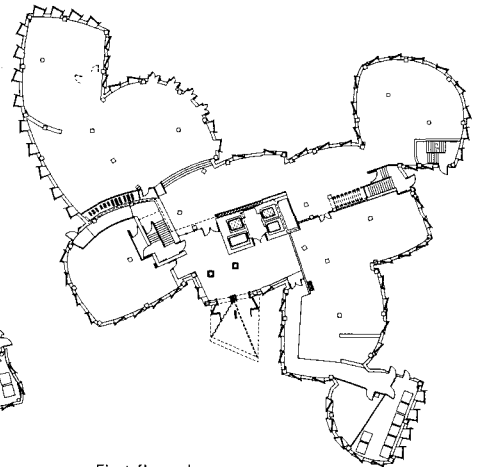
First-floor plan 1/30' ^

Brick Tower



First-floor plan

Steel Tower

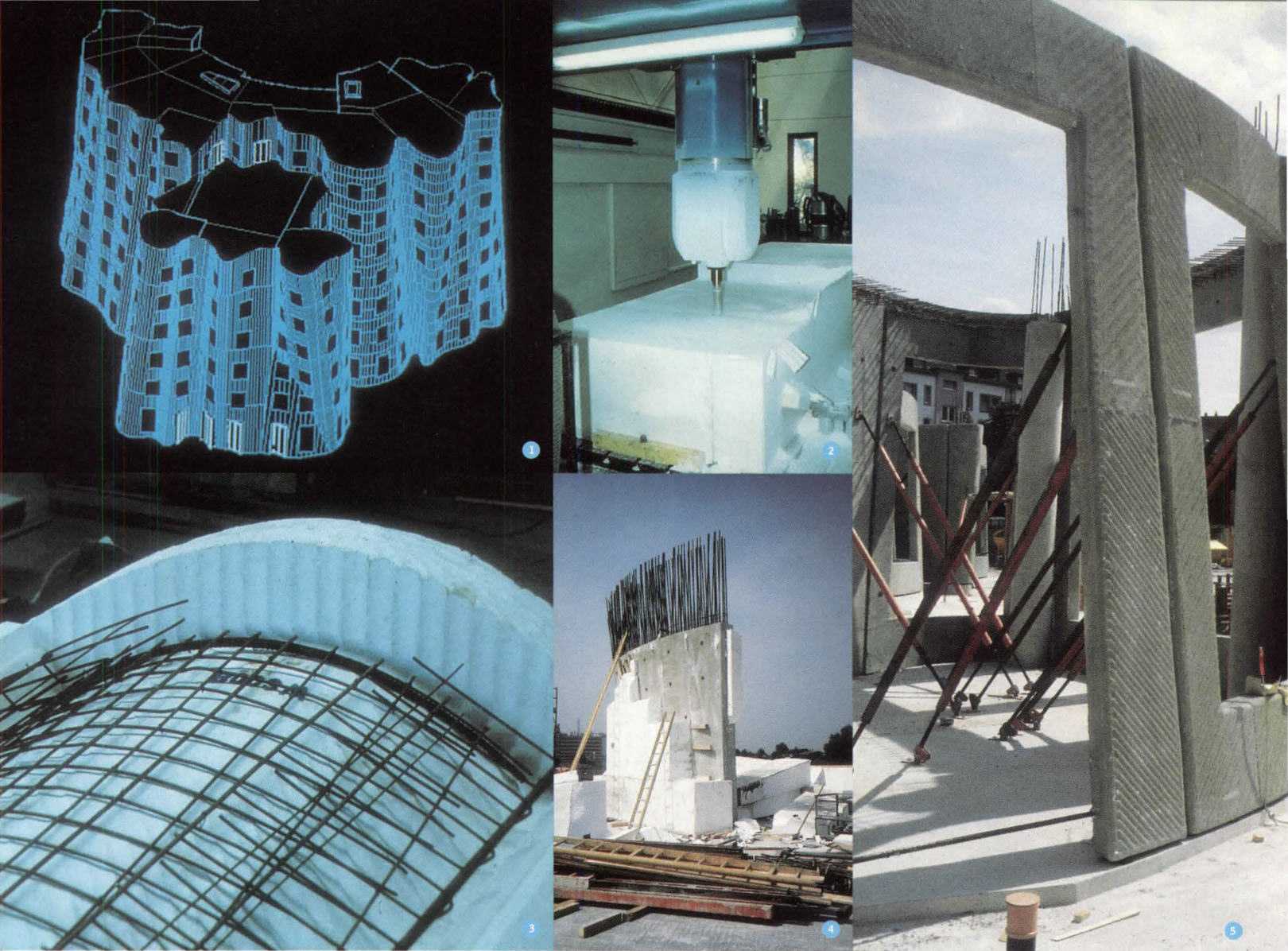


First-floor plan

Plaster Tower



Gehry's arrangement of towers (above) frames views from the city across the Rhine River. His positioning also creates small-scale urban plazas (top right) between the towers. Rather than customizing each window to fit the buildings' irregular surfaces, Gehry inserted standard windows into deep frames that project out of the façades and into each office (top left).



Taking information directly from computer drawings (1), milling machines cut giant pieces of polystyrene (2) into formworks for the concrete walls of the steel-clad central tower. After steel reinforcing is inserted into the formworks (3), the concrete is poured on site (4), and the formwork removed (5) to reveal the thin, undulated wall.

DER NEUE ZOLLHOF, DÜSSELDORF, GERMANY

CLIENT: Kunst-und-Medienzentrum Rheinhafen GmbH, Holzman BauProjekt AG; Düsseldorf, Germany—Thomas Reppen, Norbert Gams **ARCHITECT:** Frank O. Gehry & Associates, Santa Monica, California—Frank Gehry (design principal); Randy Jefferson (project principal); Tomaso Bradshaw (project architect); Craig Webb (project designer); Jim Dayton, John Goldsmith, Jeff Guga, Michael Jobes, Naomi Langer, Brent Miller, Joerg Ruegemer, Charles Sanchez, Bruce Shepard, Rick Smith, Eva Sobesky, Tensho Takemori, Larry Tighe, Lisa Towing, Scott Uriu, Flora Vara, Jeff Wauer, Kristin Woehl (project team) **EXECUTIVE ARCHITECT:** BMP—Thomas Beuker (principal); Christoph Haselhoff (project architect) **GENERAL CONTRACTOR:** Philipp Holzmann AG—Alexander Jonas (principal) **COST:** Withheld at client's request **PHOTOGRAPHER:** Christian Richters, except as noted



CATIA, the aerospace computer program that has helped engineers design supersonic jets, was instrumental in helping Frank Gehry realize the Guggenheim in Bilbao. But Gehry built the Guggenheim the way Gustav Eiffel constructed the Statue of Liberty, cladding its complex skeletal frame with a contoured skin. The space-age computer design process fell back on a highly laborious means of construction that hasn't evolved much conceptually since the late 19th century.

Through a highly intuitive path, Gehry has arrived at the same crossroads confronting other architects whose complex designs necessitate adapting old construction methods and materials, or adopting new ones. Architects conceiving buildings on screen, often with animation programs that encourage curvilinear forms, seem to have landed at a place between materials, where the old materials and construction methods are strained, if not actually obsolete, and the new ones have yet to appear. Charles and Ray Eames stood at the same junction when they reached the limits of bending plywood, and embarked on a search for a more cooperative, industrially practicable material. In the early 1950s fiberglass finally allowed the Eameses to realize the doubly curved monocoque forms that Charles had conceived with Eero Saarinen more than a decade earlier. Whether the vision is produced by hand, as in Frank Gehry's studio, or solely on screen, as with an upcoming generation of young architects, the issue of buildability is bringing into question the credibility of the new complexities. Like Gehry, some architects are trying to bring their cybervisions into real space by adapting new fabrication techniques to existing materials, but others have embarked on what New York City architect and Columbia professor William MacDonald calls "the search for the divine material."

Two New York City firms, both associated with Columbia University, have realized complex computer-generated designs in surprisingly common materials. Last year, Evan Douglass, director of the exhibitions program at Columbia, created a display podium for a show of Gaetano Pesce's product designs, using 5/8-inch-thick sheets of standard Homasote laid up face to face, to realize a free-

form design in which he purposely blurred the distinction between floor, wall, and ceiling. "The pragmatics of getting the design built helped determine my choice of materials," says Douglass. The computer profiled the Homasote sheets, which were cut and glued together and sanded into a shaggy, organic shape that proved thematically compatible with the squishy vases and jars that Pesce had designed in cast resin. The tactility and sheer weight of Douglass's solid piece gave the computer's characteristic abstraction a physicality akin to one of Gehry's cardboard armchairs.

The \$50,000 budget for a recent outdoor museum installation at New York City's P. S. 1, cosponsored by MoMA, also necessitated conventional rather than exotic building techniques and materials. Like Douglass, SHoP/Sharples Holden Pasquarelli took the off-the-shelf path in build-

ing the installation—a multi-purpose sunshade, wading pool, changing room, and banquette called Dunescape (page 104). The architects plugged standard 2-inch-by-2-inch-by-8-foot pieces of cedar into the computer as the given construction material. Using three-dimensional animation software, the architects generated a curvilinear design made of some 6,000 2-by-2s that stutter through space, describing curving surfaces and edges whose small incremental steps approach the fluidity of a curve. "The translation of the form into real space is closely tied to the computer," says Gregg Pasquarelli, who teaches at Columbia. The archi-

tects avoid the usual translation of complex curvilinear forms into structural bays that are filled in, as with the recent computer-generated New York Presbyterian Church in Queens, and Gehry's Experience Music Project in Seattle. SHoP's sticks form both structure and topography, though they technically don't close into a continuous membrane. "Everything is segmented, but it behaves like a curve," says Pasquarelli. The familiarity of the wood itself, not to mention its robust physicality and scent, makes the piece highly approachable, and psychologically removes the design from the abstract realm of the computer, placing it squarely in the courtyard of everyday experience.

The wood topographies of Dunescape suggest the labor-intensive form behind poured-in-place concrete construction,

BUILDING A BETTER BLOB

Architects are making
the leap from the
computer screen to
the construction site.

By JOSEPH GIOVANNINI

Contemporary architects are trying to get from this structural paradigm...



EAMES PLYWOOD DCM chair
1945

and the beautiful compound curves of such buildings as Saarinen's gull-winged TWA terminal at JFK, done forty years ago. "Concrete is fluid when poured. I love its surface, but between the cost and the effort of the forms, the weight and reinforcement, it gets complex and monolithic and you end up fighting the material," says Doug Garofalo, a Chicago architect who worked with Greg Lynn, Michael McInturf and Pasquarelli on the Presbyterian Church. Garofalo is currently researching a stainless steel mesh to materialize curved shapes that result from environmental and programmatic pressures. "The mesh behaves like a fabric that can curve in all dimensions, but it does have structure and can act and react according to the forces applied—it's a weave that can handle torque, for example," he says. "That's more intellectually satisfying than dropping mud and letting it dry." Garofalo envisions using the mesh as a rain screen over an impermeable membrane with a less complex topography.

"There are two interesting kinds of new materials," says Lynn, who teaches at Columbia and UCLA and in Zurich. "One is the new material for forming, and the other is the new material for building." The architect talks about high-temperature foams, rubbers, plastics, and composites that are shaped on, for example, beds of adjustable pins: "All these materials need a formwork, and a lot of materials research is going into the molds."

Lynn says that the building material that most intrigues him is "glue," meaning that a material like a polymer can receive "recycled paper and wood and almond shells and metal powder" and be vacu-formed or injection-molded in processes that maximize variable customization and formal possibilities. Lynn has actively researched alternative fabrication processes in the automotive and aeronautics industries, and for his generic Embryonic House (page 99), which is conceived as a monocoque shell, he is pursuing a ball-hammered aluminum, a process in which pellets are fired inside a chamber to shape aluminum surfaces.

The problem with a prefabricated monocoque is trucking it down a highway: Cutting up the building compromises its structural integrity. But MacDonald and his partner Susan Kolatan have designed a house addition to be made of a cast-in-place composite material (page 103).

Sprayed over an egg-crate armature cut numerically by computer (a CNC system), the material will form a monocoque structure that is self-sufficient without the egg crate (though the armature will remain a vestigial captive within the monocoque form).

The critical difference between Gehry and us is generational," says Hani Rashid of Asymptote. "He doesn't work within the digital media to generate designs. We start inside digital technology, and try for a seamless production." Rashid, who acknowledges the desire to step into the computer screen and occupy its luminous, ephemeral world, is trying to capture its effects—liquidity, flux, mutability—in real space. For the command center on the floor of the New York Stock Exchange, Asymptote created a digital trading environment of 60 plasma screens floating on a field of blue light, made of blue glass that evokes light constructed in pixels. The process involves neither intermediate translations between physical and digital models, nor a final translation into built reality through alien materials and construction processes. "Ideally, you move seamlessly from design to manufacturing to outcome," says Rashid. "The virtual environment of the Stock Exchange is crafted, and our medium is pixels. There was never an assumption that there was something else. There's a whole world of possibilities when you tie the idea to the medium, to the manufacturing process and the outcome."

If there is any ideal common to most of these designers, including Gehry, it's the conflation of structure and skin into the same complex surfaces, creating self-supporting forms that require no armature. "There's a lot of experience in airplane materials and technology in how to deal with gravity and structure in a skin," says Michael Dobry, Coordinator of the Graduate Industrial Design Program at Art Center College of Design in Pasadena, California. "In a plane, the material is there to get lift rather than stability, so it's very lightweight. In a building, it would be interesting to have a building whose live weight is greater than its dead weight." The idea of a structural skin not only implies a new material, but also geometries such as curves and folds that would enable a continuous skin to act structurally, obviating an independent static system: The skin alone does the heavy lifting.

In some ways the search for a material and form that unifies structure and skin is a counterrevolution to Le Corbusier's Dom-ino House, in which the master separated structure from skin. The new conflation is a return to the bearing wall, but one with freedoms that Corb never imagined possible. Architects could build many more exciting buildings on the Statue of Liberty paradigm, but complex surfaces with integrated structures promise a quantum leap of engineering elegance and intellectual satisfaction. ■

...to this one.



EAMES FIBERGLASS LA CHAISE
1948

A Clean, Well-Lighted Space

Thompson & Rose
bends Florida's intense
sunlight to its will
in the galleries
of a Tampa art center.
By Anne Guiney



The new Gulf Coast Arts Center administration and gallery building is carefully positioned to exploit the sun: Roof monitors face north to provide indirect light to the galleries within,



and a canopy covers the walkways between the building's two wings.

Apart from the beaches, Largo, Florida, looks like many other towns in Pinellas County—wide roads are lined by a succession of pastel stucco retirement communities, mobile home dealerships, diners, and donut shops that have grown up to serve the people who come here for the warm weather. One of the most heavily developed areas in the state, little remains of the citrus groves and piney woods that blanketed the area as late as the 1950s. This is the landscape into which Cambridge, Massachusetts-based Thompson & Rose Architects has placed an arts center that tries to modulate that most valuable local commodity, the sun.

The Gulf Coast Art Center's (GCAC) new museum and administration building is the first piece in a seven-phase plan to house a collection of regional art and provide studios for education programs. While the GCAC is an independent institution, the new campus was conceived as a component of a larger cultural complex: It sits on the edge of the 200-acre Florida Botanical Garden (which is currently under construction), the Pinellas Historical Museum, and Heritage Village. The latter is a collection of local "cracker architecture"—tiny dogtrots and saddlebags and other felicitously named house types—which were moved in from locations around the county and restored. The three comprise a cultural park of sorts that county planners hope will diversify Largo's attractions.

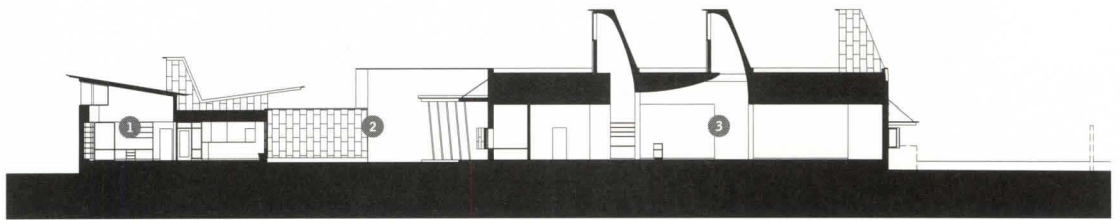
The central features of Thompson & Rose's design for the GCAC are direct responses to the sun and heat: The sawtooth monitors which diffuse the light also give form to the roof, while a canopy over the main path between buildings both shelters visitors and visually connects the separate



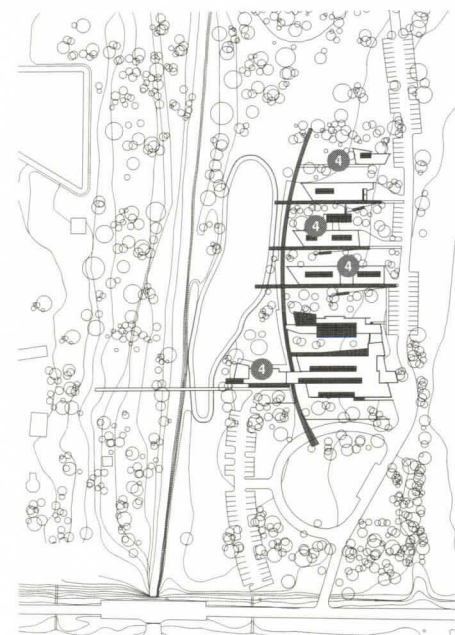
Tucked high up under a canopy on the south-facing side of the GCAC's administration wing, a bar of windows allows natural light into the office spaces without creating too much heat gain. A few larger openings at ground level look out onto the sculpture garden that sits between the wing and the galleries.



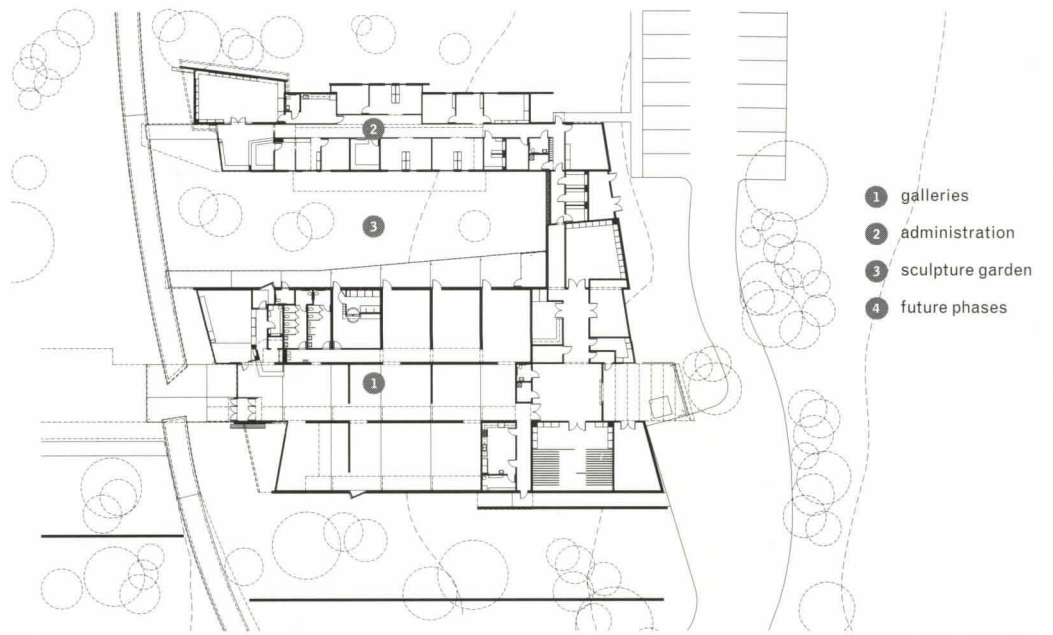
- 1 administration
- 2 sculpture garden
- 3 galleries



Section | 16'



Campus site plan | 150' ^



Floor plan | 32' ^

- 1 galleries
- 2 administration
- 3 sculpture garden
- 4 future phases

man-made lake (top and site plan, above left) that is part of the Florida Botanical Gardens lies just to the east of the museum and administration building. When the whole project is complete (site plan, above left), the GCAC campus will also have buildings for an auditorium, studios, a foundry, a tearoom, and houses for artists-in-residence.

structures. Even the modest materials dictated by the budget (\$105 per square foot) work within this logic. Pale yellow stucco covering the concrete-block bearing walls is easy on the eyes, and galvanized aluminum sheeting on the roof and entrance reflects a mottled and darkened version of the sky.

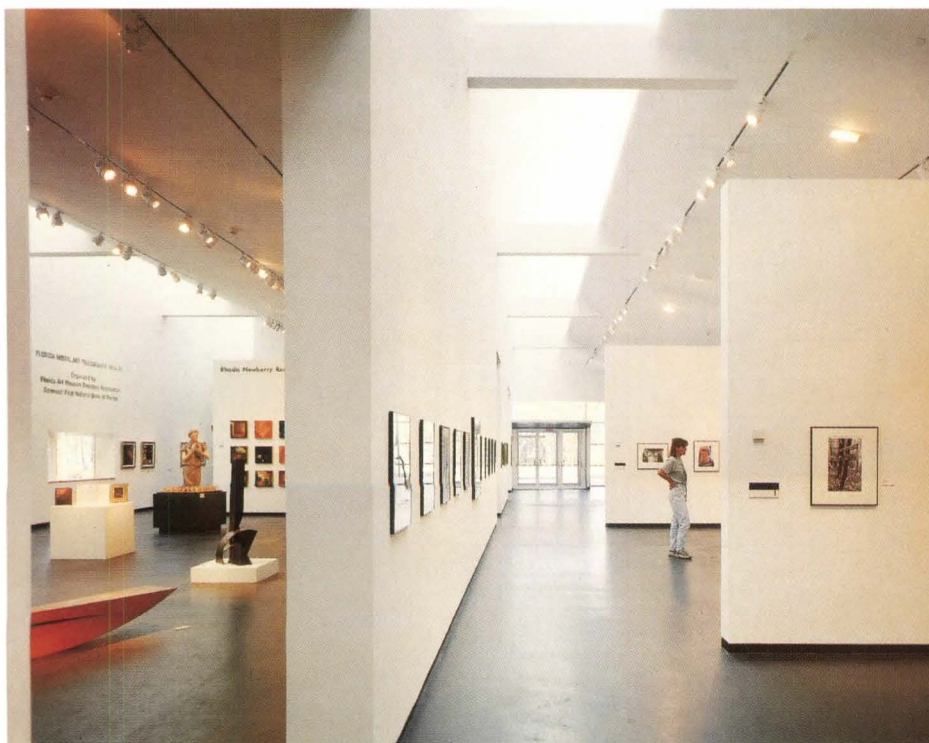
Each of the three rectangular galleries that make up the bulk of the museum building is skylit by the large north-facing roof monitors. The sunlight is diffused through baffles and washes smoothly down the walls, which are broken now and then by small windows set in at an angle. The architects use these openings to periodically reorient people to the outdoors, but within a tight frame. The curving walkway running along the front of the museum angles downward toward the view: People in the lobby looking out at the woods and gardens beyond will always see them through the frame of the canopy. "The project is about how you perceive the landscape," says Charles Rose. "It's not like Wyoming, where you want a wide-open, unbounded view."

Unfortunately, the landscape is something of a letdown. The site was originally covered in tall spindly pines with a dense understory of palmetto, and the dappled quality of the light that filtered down through the trees animated any surface it touched. Now one has only to walk over to the board-and-batten houses in Heritage Village to experience the effect. Not so at the museum, where—midway through the process—the county decided to cut down most of the pines and replace them with a more familiar mix of palms, asphalt, and grass. The result suggests the landscaping around a suburban branch bank more than a vital museum. Thompson & Rose's buildings are a thoughtful and clear response to the intemperate landscape, but the frame they form is more interesting than the view they bound. ■

GULF COAST MUSEUM OF ART, PHASE ONE, LARGO, FLORIDA

CLIENT: Gulf Coast Museum of Art, Largo, Florida

ARCHITECT: Thompson & Rose Architects, Cambridge, Massachusetts—Charles Rose, Maryann Thompson (principals); David Martin (project architect); Lucia Allais, Heidi Beebe, Brian Bell, Erin Cowhey, Franco Ghilardi, Chris Hoxie, Nicholas Papefthimiou, Mark Sanderson, Lori Sang, Takashi Yanai (design team) **ENGINEERS:** Ocmulgee Associates (structural); Bobes Associates (mechanical, electrical, HVAC); Pinellas County (civil) **GENERAL CONTRACTOR:** Peter Brown Construction **COST:** \$2.3 million **PHOTOGRAPHER:** Chuck Choi



The galleries sit in three parallel bars (above and facing page), and are lit primarily with sunlight diffused by curved baffles set perpendicular to the walls. The aluminum cladding on the

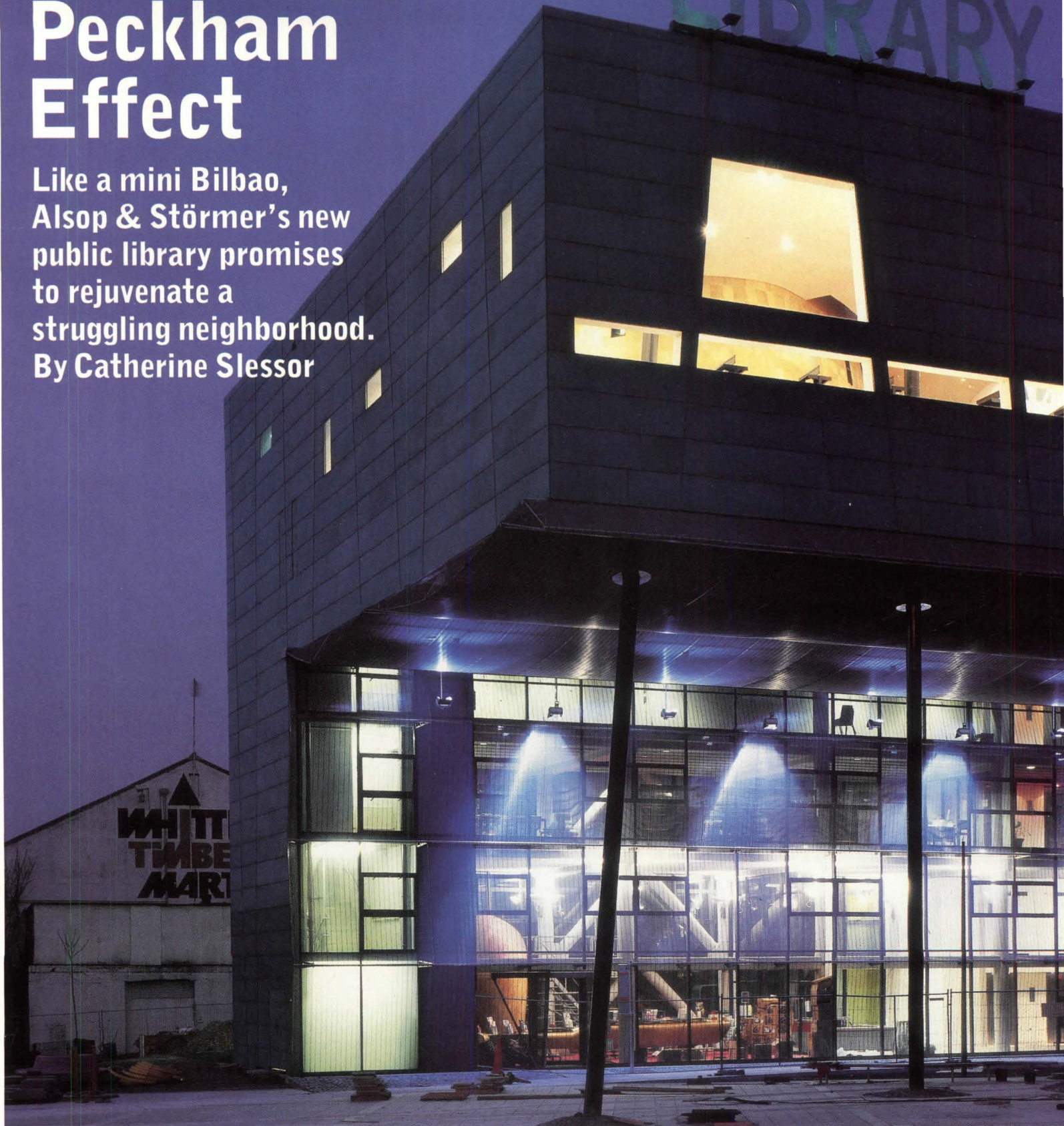


VISUAL ART FELLOWSHIPS: 1988-99
Organized by
the Museum Directors Association
First National Bank of Florida

roof folds over onto the front façade at the main entryway (at far right), and is visible through the corner glass window.

The Peckham Effect

Like a mini Bilbao, Alsop & Störmer's new public library promises to rejuvenate a struggling neighborhood.
By Catherine Slessor



The south elevation of the library defines a new public plaza in Peckham, a struggling suburb of London. Concrete-filled steel pilotis lift the library stacks and reading room 40 feet into the air.



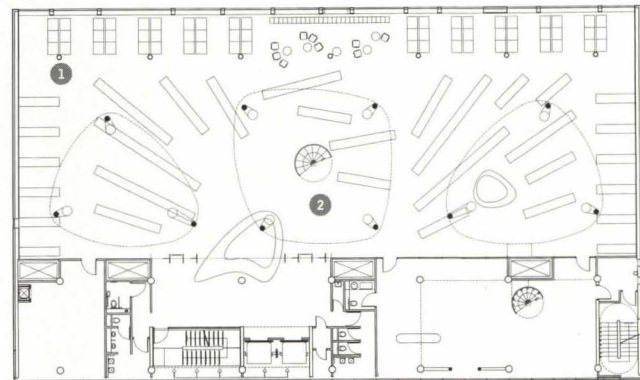
aluminum “canopy,” powder-coated in glossy orange, projects from the roof to provide additional shading and animate the roofline. Suspended floodlights cast a blue glow at night.



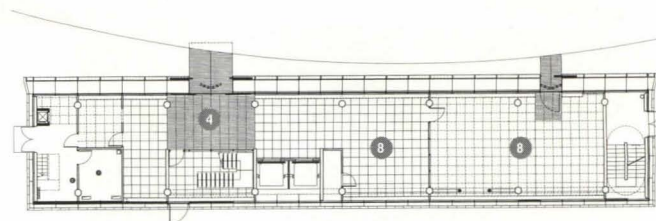
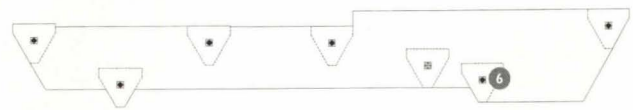
Something distinctly odd is going on in the London suburb of Peckham. Rearing up over a dilapidated skyline, lumber yards, and shops is a huge cerulean monster supported on angular, spindly legs. It's as though one of the fabulous creations from Archigram's *Walking Cities* has taken a wrong turn and ended up in southeast London. Yet this is no stray 1960s curiosity; opened in March, it is Peckham's new library and the showpiece project in a bid to regenerate this lively—but economically and socially distressed—London borough of Southwark. Designed by the London office of Alsop & Störmer, the library forms part of a major renewal program, which includes a public square, urban gateway, and health and fitness center. It stands out as a conspicuous beacon of renewal and enlightenment.

The Southwark Council chose Alsop & Störmer for the \$7.2 million project in part because of Will Alsop's competition-winning scheme for a public library in Swansea, Wales, which, though never built, demonstrated a bold, streetwise, and iconoclastic design philosophy. The new library has a similar edge. Its strong, almost cartoonlike form and eccentric use of materials ensure a high public profile. It also reflects Alsop's painterly approach to design. Each project begins with a series of vivid paintings, a process that allows him to explore and test ideas in a free-flowing, stream-of-consciousness way. The results are characteristically idiosyncratic and challenging. Having completed both a ferry terminal in Hamburg and a municipal building in Marseilles, *Peckham* is Alsop & Störmer's first major building on home soil since Alsop started his practice in 1979 (although the firm also designed the recent stainless steel and marine-blue tiled North Greenwich underground tube station on the Jubilee Line).

Set on the northern edge of a new public square, the five-story, 24,750-square-foot building is partly clad in a reptilian skin of jade-green patinated copper panels. On the north elevation the copper gives way to a shimmering kaleidoscopic wall of clear and colored glass. The building mass is composed



Fourth-floor plan

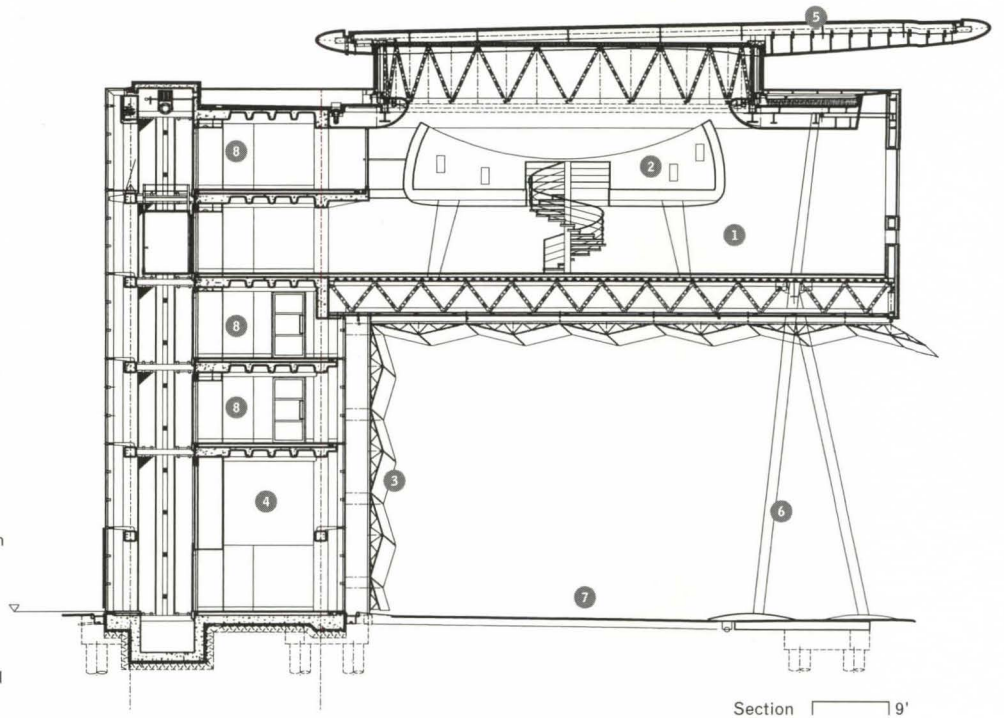


Ground-floor plan 116' V

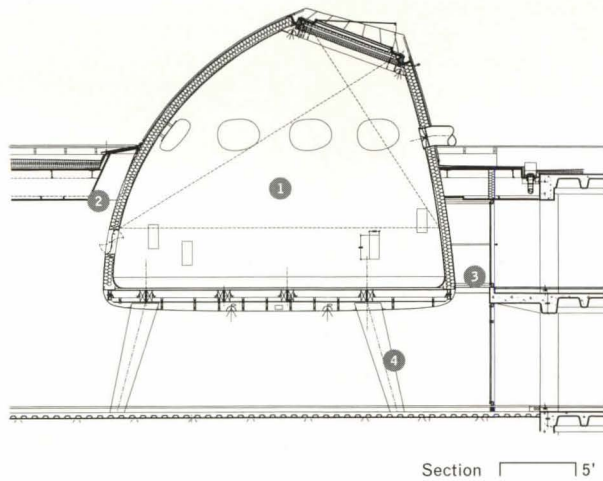
The north elevation (above) of the library is glazed with clear and colored laminated glass. The east and west façades (facing page) are clad in pre-patinated copper with green and blue glazing.



- 1 reading room and stacks
- 2 center pod
- 3 stainless steel mesh covering
- 4 lobby
- 5 powder-coated aluminum sun screen
- 6 steel columns
- 7 plaza
- 8 offices and informational services



Stainless steel mesh, folded like fabric and tensioned over brackets and support tubes, drapes across the soffit of the horizontal block and down the glazed entry façade.



- ① meeting room
- ② skylight
- ③ connection to vertical block
- ④ concrete columns

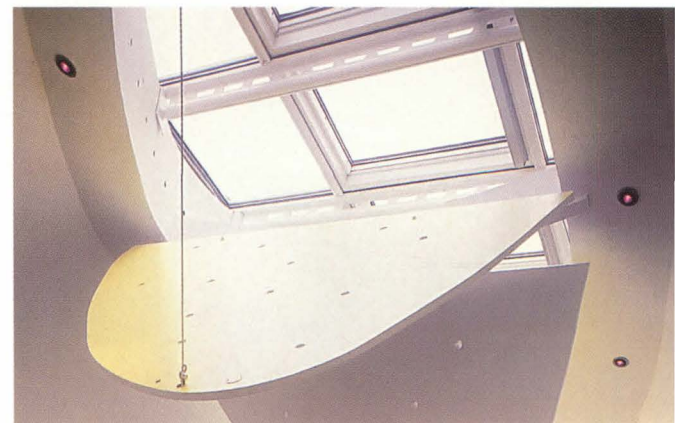
of vertical and horizontal volumes that form an inverted L-shape. Angled concrete-filled steel columns—12 inches in diameter—support the two-story horizontal element 40 feet above the ground. Both the undercroft of the library and the glazed south wall are clad in an external layer of fine stainless-steel mesh panels that are draped like undulating swaths of fabric, tempering its orthogonal mass. The projecting library creates a generous zone of shelter and shade in the landscaped square below. In summer, this public space will be used for open-air events.

Accessibility and openness were key factors in the design of the vertical block, and expansive glazing gives the entrance a welcoming transparency and permeability. At ground-floor level, a double-height space houses a forum for community advice and information. The four floors above contain a multimedia center for open learning, as well as staff offices and amenities.

Access to the library is gained by a glazed elevator that rises up through the vertical block as a postcard panorama of London unfolds to the north, filtered and transformed by the multicolored glass façade. Combining moments of drama and intimacy, the luminous double-height reading room and open stacks resemble a quiet attic room hoisted above the blare and throb of the streets below. Books still form the core of the facility, but it also has an extensive electronic dimension, with access to computerized catalogues, community information databases, and the Internet.

A trio of ovoid pods on angular concrete stilts stalk the main library space, eight feet off the floor. Pods on legs are a favorite device of Alsop. He has used these sorts of forms before—in the government building in Marseilles, for instance. At Peckham, spiral staircases lead to these bulbous containers, which variously house a children’s activity area, an African-Caribbean literature center, and a meeting room. The pods are clad with plywood panels stapled to prefabricated wood ribs, which form the shell’s profile. Two of the pods are topped by a glazed clerestory drum that brings light down into the library; the central African-Caribbean literature pod is open at the top and exposed to the gentle hum of activity below. The pods also create an internal landscape. *The two fully enclosed pods puncture the roof and are finished with aluminum skylights, while the central one is open—daylit by a drum-shaped skylight—and crowned on the exterior by a bright orange canopy, or “beret.”*

An intoxicating cocktail of form, materials, and architectural intuition, Peckham’s new library confounds the traditional (and now rapidly receding) conception of libraries as daunting, hermetic institutions. With the word “library” spelled out across the roofline in a modern, six-foot-tall steel font, the building broadcasts the message that it’s there for everyone. ■



In the reading room, three elevated pods topped by skylights are clad in plywood tiles on timber shells, and rest on concrete columns (facing page). Electrically operated “butterfly-wing” shutters




PECKHAM LIBRARY AND MEDIA CENTRE, LONDON

CLIENT: Education & Leisure Department, London Borough of Southwark

ARCHITECT: Alsop & Störmer, London, England—Will Alsop, Christophe Egret, Andy Macfee, Yael Gordon-Wide, Aldric Beckman, Junko Suetake (architect team); Southwark Building Design Services (project manager) **ENGINEERS:** Adams Kara Taylor (structural); Battle McCarthy (services)

CONSULTANTS: Jenny Coe, Southwark Building Design Services (landscape); Concord Lighting Design (lighting); Applied Acoustic Design (acoustics); Cowley Structural Timberwork (pods); Sashdawn (curtain walling and rain screen cladding); Littlehampton Welding (mesh screening); Cleveco (copper cladding); Fendor Hansen (internal glass firescreens); MW Contracts (roofing); Steel Options (architectural metalwork)

GENERAL CONTRACTOR: Sunley Turiff Construction (contractor) **COST:** Withheld at client's request **PHOTOGRAPHER:** Richard Glover, except as noted

<p>Debut</p>	<p>Alsop & Störmer</p>	<p>London, Hamburg, Moscow</p>
 <p>Principal: William Alsop</p>	<p>William Alsop established his architectural practice in London in 1979. In 1991, he teamed with Jan Störmer, who was then running his own practice in Hamburg, to form Alsop & Störmer. Since that time, the firm has developed a strong international reputation and a significant and diverse portfolio of completed projects, particularly in the leisure, transportation, and commercial sectors. The practice's most celebrated buildings to date include the Regional Government Headquarters building in Marseilles (affectionately know as Le Grand Bleu), the Hamburg Ferry Terminal, the Cardiff Bay Barrage and Visitors' Center, and the North Greenwich Station, an extension of London's Jubilee subway line.</p>	

acing page, top and bottom) modulate the levels of light and ventilation through the skylights. Sconces covered with woven steel braiding provide artificial light and acoustical absorption.

LIBRARY



The clear and colored glass units in the north elevation are glazed with structural silicone in an aluminum frame. The building's structural system is exposed reinforced concrete with waffle



lab ceilings. The main staircase is glazed on two sides. Glass lenses were cast into the precast concrete treads and risers to maximize light penetration.

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Deadline: December 1, 2000

Jury

Deborah Berke
Deborah Berke Architect,
New York

Brad Cloepfil
Allied Works Architecture,
Portland, Oregon

Nathalie de Vries
MVRDV, Rotterdam

Hani Rashid
Asymptote, New York

Mark Robbins
Director of Design, National Endowment
for the Arts, Washington, D.C.

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A five-member jury of distinguished, independent professionals will choose award- and citation-winning projects based on their overall design excellence and innovation. Entrants should interpret the call for outstanding work as broadly as possible. Entries, although currently unbuilt, must be "real" projects (commissioned by paying clients for execution). Judging will take place in January 2001; *Architecture* will notify winners shortly thereafter and will publish the winning entries in its April 2001 issue.

48th Annual P/A Awards

Deadline: December 1, 2000

Please complete and submit all parts intact with each entry (SEE ITEM 15 FOR INSTRUCTIONS). Photocopies of this form may be used.

ENTRANT

CONTACT NAME

ADDRESS

PHONE NUMBER

FAX NUMBER

E-MAIL ADDRESS

PROJECT NAME

PROJECT LOCATION

CLIENT

CLIENT PHONE NUMBER

ENTRY NUMBER (FOR ARCHITECTURE USE ONLY)

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subscription \$135 A \$155 VALUE

Category

CHECK ONE, SEE ITEM 17

CM

CU

ED

GV

HM

HR

HS

I

RC

RL

UD

I certify that the parties credited executed the submitted project and that it meets all eligibility requirements (1-6). I understand that *Architecture* may disqualify any entry that fails to meet submission requirements (9-20). If this entry wins an award or citation in the 47th Annual P/A Awards, I grant *Architecture* sole first publication rights to the project during construction or when fully complete, the choice of which is at *Architecture's* discretion (7-8). Signer must be authorized to represent those credited.

SIGNATURE

NAME (TYPED OR PRINTED)

Architecture will feature the winning entries in its April 2001 issue, as well as in seminars in several locations, and *Architecture* will provide information on winning entries to local and national media.

Eligibility

1 Who Can Enter

Architects and other design professionals practicing in the U.S., Canada, or Mexico may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in offices in those three countries.

2 Real Projects

All entries must have been commissioned for compensation by clients with the authority and the intention to carry out the submitted proposal. A project designed for a competition is eligible if it is the one proposal the competition's sponsor intends to build.

3 Architectural Design Entries

Architectural design entries may only include works of architecture scheduled to be completed after May 1, 2001. Indicate the anticipated completion date on the Project Facts Page (see item 10). Prototypes are acceptable if commissioned by a client.

4 Urban Design Entries

Urban design entries must have been accepted by a client who intends to base future development on them. Please include implementation plans and an anticipated time frame with your submission.

5 Verification of Client

The jury's decision to evaluate any submission will be contingent upon *Architecture's* verification that it meets all eligibility requirements. *Architecture* will contact the clients of projects selected for recognition. *Architecture* reserves final decision on eligibility and accepts no liability in that regard.

6 Providing Additional Materials

If the submission should win, the entrant agrees to make available further information and publication-worthy graphic material as needed by *Architecture*.

Winning Entries

7 Publication

Winners of P/A design awards or citations in any year grant *Architecture* first publication rights for their projects while under construction or when complete or substantially complete (at *Architecture's* discretion). Publication may not coincide with building completion, but *Architecture* retains first publication rights to the project for up to one year.

8 Award

P/A design award- and citation-winners will be announced first at a celebration in New York

City in early April 2001. Winning projects will be exhibited at that event, and may subsequently travel as a curated exhibition. Winners may be asked to submit a summary presentation for exhibition and travel purposes.

Submission Requirements

9 Binders

Entries must consist of legibly reproduced graphic material accompanied by adequate explanatory text in English. All entry material must be firmly bound in binders no larger than 17 inches in one dimension only, to a maximum of 11 by 17 inches (9 by 12 inches preferred). Avoid fragile bindings. Supplementary documents, such as research reports or urban design appendices, may be bound separately as part of the same entry. Slides should be submitted only as supplementary material. Videocassettes, CD-ROMs, models, and any unbound material in boxes, sleeves, etc., will not be considered.

10 Project Facts Page

To ensure clear communication to the jury, the first page of each entry binder must list project facts under the following headings: Location, Site Characteristics, Zoning Constraints, Type of Client, Program, Construction Systems, Funding, and Schedule. This information must include square footage, cost, and specific materials where possible. All project facts should fit on one page.

11 Documenting the Process

Entries should document the design process, as well as its result. *Architecture* encourages entrants to include copies of preliminary sketches, alternative preliminary schemes, information on context, precedents for the design, and excerpts from working drawings.

12 Research Behind Projects

We encourage including records of any research performed in support of an architecture or urban design project that is otherwise eligible.

13 No Original Drawings

Please do not send original drawings; *Architecture* accepts no liability for submittals.

14 Anonymity

To maintain anonymity in judging, no names of entrants or collaborating parties may appear on any part of the submission except on entry forms. Credits may be concealed by tape or other simple means. Do not conceal identity or location of projects.

15 Entry Forms

Each submission must be accompanied by a signed entry form. Reproductions of the form are acceptable. Complete the entire form and insert it intact into an unsealed envelope attached to the binder's back cover.

16 Photocopy

Please enclose one bound set of 8 1/2-by-11-inch photocopies of your entry. The first two pages should be copies of your entry form and the Project Facts Page, in that order. Secure the photocopies inside the back cover of your binder.

17 Entry Categories

Identify each submission on its entry form as one of the following:

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CU	CULTURAL
ED	EDUCATIONAL
GV	GOVERNMENTAL
HM	MULTIFAMILY HOUSING
HR	HEALTH-RELATED
HS	SINGLE-FAMILY HOUSE
I	INDUSTRIAL
RC	RECREATIONAL
RL	RELIGIOUS
UD	URBAN DESIGN

Mixed facilities should be classified by the largest function. There is no "miscellaneous" category.

18 Entry Fees

An entry fee must accompany each submission. The fee is \$100 for *Architecture* subscribers; nonsubscribers can submit an entry for \$135, which includes a one-year subscription to *Architecture*. Each entry after the initial entry is \$100. Make check or money order payable to *Architecture*. Canadian and Mexican entrants must send drafts in U.S. dollars. Fee must be inserted in unsealed envelope with entry form (see item 15).

19 Return of Entries

Architecture will return entries ONLY if they are accompanied by a self-addressed, stamped envelope. *Architecture* assumes no liability for loss or damage.

20 Entry Deadline

Deadline for sending entries is December 1, 2000. All entries must show a postage date as evidence of being in the carrier's hands by December 1. Hand-delivered entries must arrive at *Architecture's* editorial office (address below) by 5 p.m. on December 1. To ensure timely receipt, *Architecture* recommends using a carrier that guarantees delivery within a few days.

Address entries to:
Awards Editor
Architecture
770 Broadway
New York, NY 10003

Deadline:
December 1, 2000
Strictly Enforced

Studio Crit

continued from page 77

various schools, taught by architect-practitioners who once would have filled the role of design mentor for students. While research seminars have been a part of architects' education for decades, research-based studios supplant old expectations that students have of their faculties' star designers, and what they are to learn from them.

Digital studios create "moments" in the life of a project rather than solutions that once appeared fixed and stable.

With budding powers of observation, teams of students using advanced imaging techniques tweak designs in process, and wait for something worthwhile to appear. This is a new generation of empiricists. Surface and volume are manipulated into exquisite forms that resemble architectural space, after which some kind of program and structure may be assigned. This fundamentally alters the traditional problem-solving approach of studios—including the teacher's role in setting the problems, the role of the program, and the substance of the design investigation.

Brushes with greatness approach evanescence, as brand-name designers are flown in for short studio stints ranging from one day a week to a single-day charrette.

A highly mobile architectural workforce flies to project sites and their nearby schools. Proximity to major airports distinguishes those schools that can attract the best faculty from those that suffer connecting flights. Though schools have long imported strong designers, in the past they stayed for the length of the term. Schools now have to balance students' desire for star-studded programs, with their dissatisfaction concerning their sporadic face-time with teachers.

Studios investigate the capabilities of new technologies, be they computer-numerically-controlled (CNC) milling machines and the kinds of models they produce, or gels and the forms they take. There is a renewed sense of discovery coupled with a suspension of disbelief, since neither

students nor critics are sure of the architectural implications.

While they do not dominate studio teaching, these alternatives represent important variations on the traditional model. The classic academic studio as it evolved centered on a studio master—a practicing architect, who worked closely with novices for an extended period, and through demonstration and critique, nurtured the skills and talents needed to become an architect. These valuable ingredients cannot be taken for granted today. Most of academia's full-time studio faculty does not have active architectural practices in the traditional sense—due to a lack of opportunities (particularly true for those teaching outside major metropolitan areas, where the building markets are less lively), or deliberate efforts to engage in diverse activities, from publications to exhibitions. Furthermore, the structure of the university and its system of promotions thwart a double life, as does the relentless nature of practice.

As for the intensive interaction between master and apprentice, the most typical scenario is the studio that meets about three days a week for the course of a semester, with one faculty member for fifteen students. That's about 30 minutes with an instructor per week—more direct instruction time than students in other disciplines receive. Still, it is hardly enough time for students to absorb a way of working, and it is also too time-intensive for busy architects. Conscious of changing pressures and needs, schools that boast a roster of well-known designers are helping to redefine a more workable studio, through new models like short, intensive workshops and studios with teams of designers who teach in a serial rather than simultaneous format. Last year, UC Berkeley hosted three teams of young Los Angeles firms to conduct such studios.

To complicate matters, electronic media has steadily overtaken the drawings and diagrams that guided the studio; faculty find themselves reviewing work on a screen rather than on paper. Rapid changes in digital production yields a professoriat that is inevitably outdated but also potentially unsure about strategies of criticism. The younger the student, the more proficient in current software, thereby reversing the fundamental correlation *continued on page 151*

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The Finest Finish

Circle 138 on information card

Drawing New Conclusions

continued from page 69

easier to imagine the experience of Barragán's work, they do contribute an interesting dimension when considering the poverty of Barragán's graphic methods.

His drawings, mostly rendered in pencil or ballpoint pen, have neither the minimalist resonance of Mies' sketches nor the sense of space evident in Le Corbusier's or Louis Kahn's. They are neither conceptual diagrams nor simulations, but are more like improvised road maps. Instead of designing with precise drawings and models, he acted like a dramaturge, coordinating elements on the site until they matched his desire for the hushed, glowing atmosphere akin to a de Chirico painting. Most of his graphic output was, in fact, dictated by the architect to a draftsman, similar to the way he directed workmen on the site to try elements in different positions. Even the more finished drawings, such as the plan for Zocalo Plaza or a fountain for the unrealized Lomas Verdes development, were known to have been drawn by his assistants.

Seeing the difference between the drawings and the finished works makes one realize what an act of magic Barragán performed on site. Despite their apparent geometric rigor, his compositions were full of studied irregularities—adjustments which were made on-site—such as shifts in the axis to interrupt direct views, walls raised to create resonance with other walls, grills and perforated planes that allowed a foretaste of landscapes beyond.

However, in some ways, the exhibition could endanger Barragán's reputation, which had been elevated in the 1970s by the publication of the lush color photographs of Armando Salas Portugal, whose archive of 2,350 negatives was also acquired by the Barragán Foundation. In the case of three little-known projects for churches that remained unbuilt, for instance, the spaces and architectural articulation seem unexceptional when compared to the chromatic splendor of his masterpiece, the chapel and convent of Las Capuchinas in the Tlalpan district of Mexico City (1953–57). Meanwhile, the

huge models for the unrealized plan for the district of Lomas Verdes, conceived with Juan Sordo Madaleno (1964–67), show a collection of parallel oblong mid-rises stepping up a terraced slope that would have produced rather terrifying open spaces, something like those of La Défense in Paris. Their gigantic scale is quite unlike the intimate refuges that have made the gardens of Barragán's Prieto López House (1948) or the Galvez House (1955) so memorable. Other unrealized projects, such as the Oval Plaza (1971) or the high-rise tower for Palomar district of Guadalajara (1973), are oversized and thus disturbing—and surprising coming from Barragán.

Except for the Satellite Towers on the northern edge of Mexico City, designed with the artist Mathias Goeritz (1957), and the orange pylon that dominates the Macroplaza of Monterrey, designed with Raul Ferrera (1981–83), Barragán's late works were small in scale and private in nature. The secret of the magic in his most famous works derived from the fact that usually he was either the client himself or worked for close friends with whom he would not have to compromise. Many of Barragán's gestures—his palette of wild colors, as well as some of his mannerisms, such as heavy wood-beamed ceilings or pigeon holes in the parapets—have been widely copied, most notably by Ricardo Legorreta, and most frequently on a grander scale. But lost in the scale-shift is that inimitable quality in all his buildings, a quality Barragán called "penumbra," a state that draws power equally from shadow and light—which resulted from the intimate circumstances in which they were produced.

Luis Barragán: The Quiet Revolution makes the point that viewers should not be tricked by the showiness that can be made of his formal inventions, the emotional pandering of his chromatic playfulness, or the revivalism imbedded in his abstract transformation of religious and folk icons. Nor should they be troubled by the inconsequential means he employed to achieve his masterful work. His greatness, which the curators profoundly respect, lies in his ability to stage a metaphysical feeling that cannot be captured in words or images but must be experienced in time and space. ■

Studio Crit

continued from page 149

between wisdom and years of experience. Our initial rhetoric—that the computer was just another tool—has proven off-base and, though many try to help drawing survive, there's hardly an architecture department left that debates the predominance of drawing in a digital world. The paperless studio is here; it awaits the paperless faculty. In schools where teachers are more senior or removed from practice and thus impervious to market pressures to digitize, their students nevertheless clamor for AutoCAD skills so they can get jobs upon graduation.

This gets to the heart of the classic studio: It trains young architects for practice. But what practice? At the turn of the last century, while there was no homogeneous profession, there was greater conformity around a general model of architectural practice: Small full-service firms designed buildings of a limited range of types, using a limited range of technologies. Though a few large offices existed, the corporate firm was still on the horizon. Architecture was a gentleman's profession, and so the supply of practitioners was unlikely to exceed the demand. Now, as the range of architectural services expands and the number of architecture graduates who enter non-traditional careers con-

tinues to grow, the construct of "the architect" must evolve—as must design training.

Still, the next generation of architects will look back appreciatively upon the memorable studios of their own educations. Certainly, Arizona State University professor Dan Hoffman's former Cranbrook students and those now at Auburn University in Sam Mockbee's Rural Studio will carry into their professional lives formative lessons. A design-build studio with actual clients and a resulting built project is powerful not only for inherent reasons, but by contrast. When students from my own institution, UCLA, joined peers from Columbia University this summer at the Venice Biennale, they set up a working studio to show the world

not only its new (in this case electronic) form, but also the new things it could create.

Architecture clings to the traditional studio, not only because of the valuable lessons it imparts, but because it is a unique part of design culture. But at a time when educational and professional organizations alike are once again finding the gap between education and practice too large, we should celebrate the new forms studios are taking in schools of architecture. The studio will never disappear, nor should it. But the tenaciousness with which our profession has wed its identity to the studio can be counterproductive. Instead, let us liberate schools and practitioners to explore the new ways of architecture. ■

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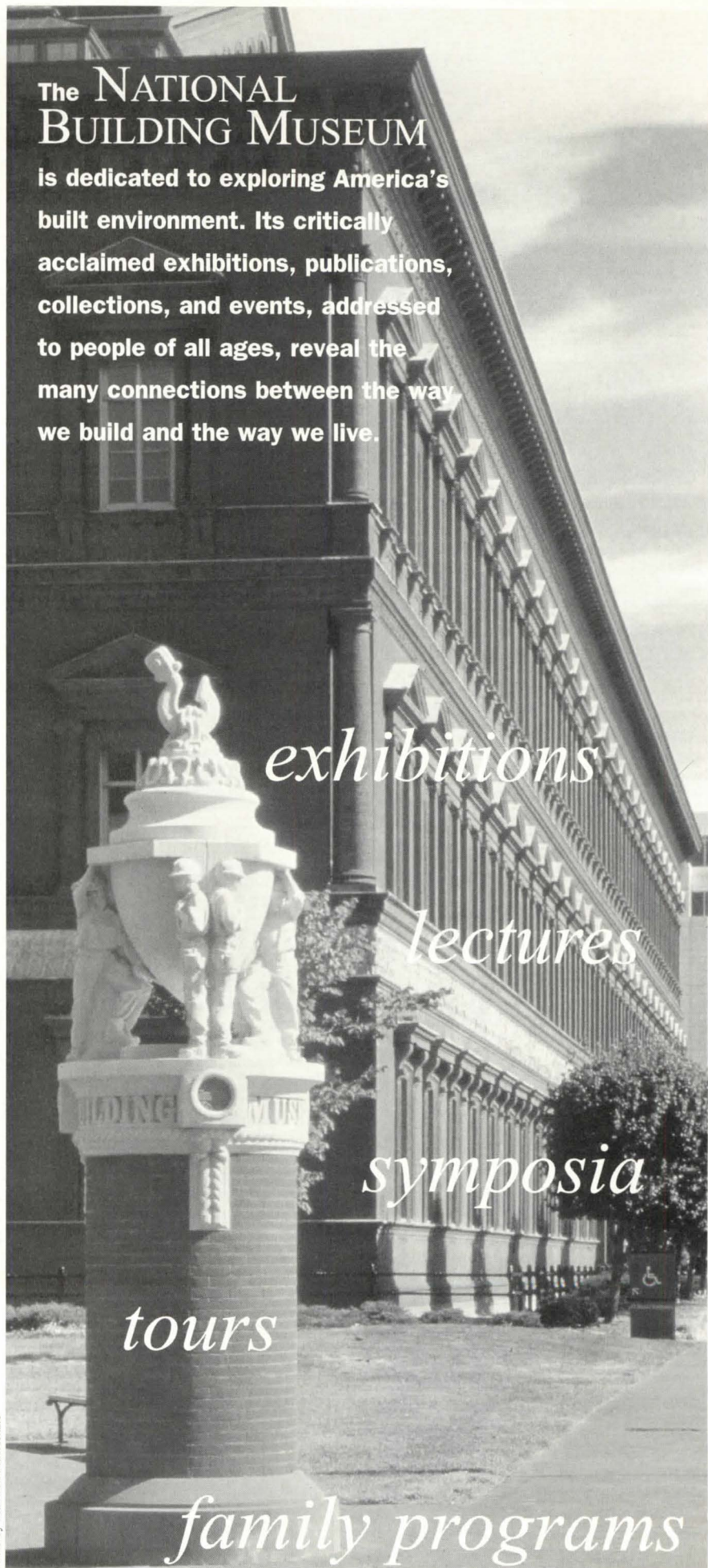
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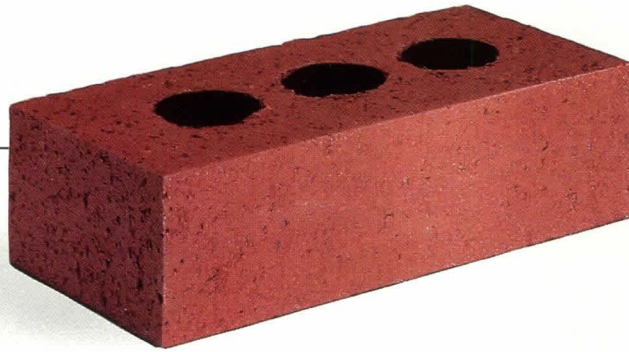


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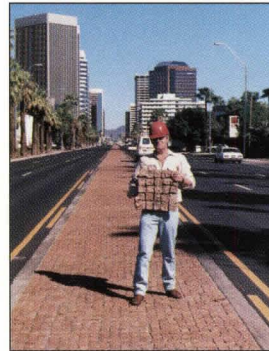
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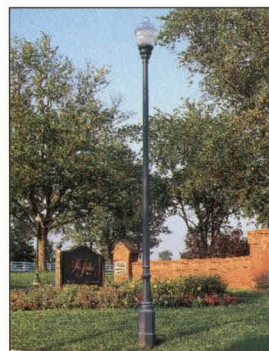
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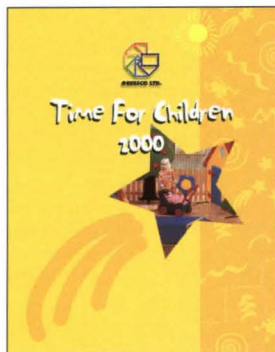
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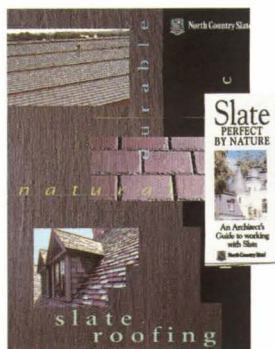
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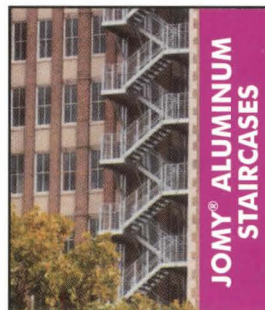
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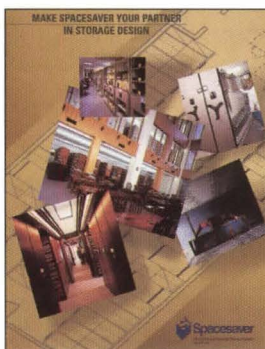
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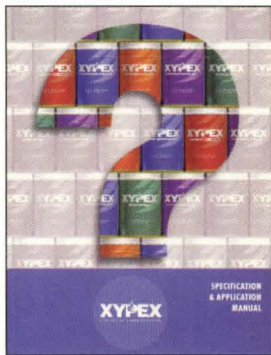
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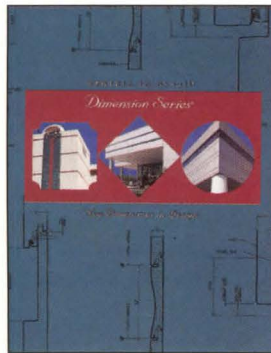
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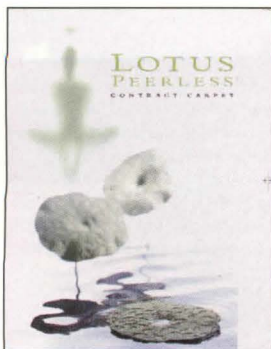
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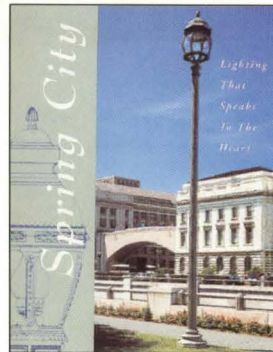
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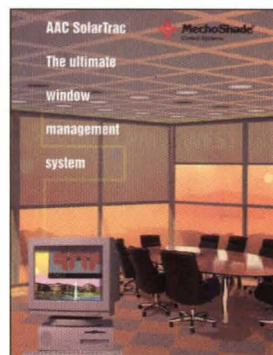
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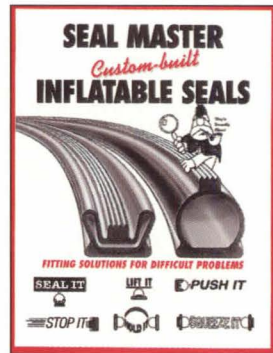
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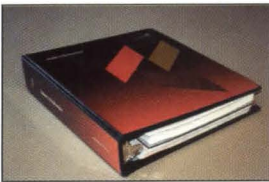
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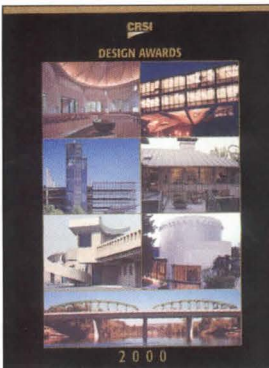
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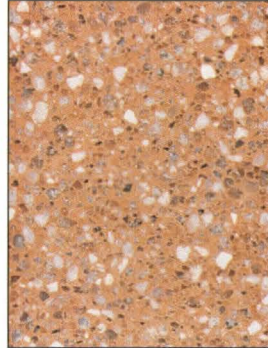
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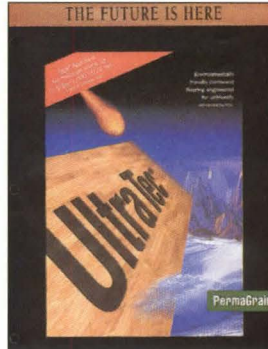
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War and Regret

The proposed World War II Memorial has won another victory in its fight to take hold of the National Mall. But at what cost? **Bradford McKee** takes the head count.

Sentimentality trumped good sense yet again in July, when the Commission of Fine Arts in Washington, D.C., gave its final nod to the World War II Memorial planned for the National Mall. The *Washington Post*, in a recent Sunday editorial urging the project on, praised the architect, Friedrich St. Florian, for his revising the design to include a “lighter, scaled-down scheme for the main plaza with its 56 circular pillars.” But, wait: “Main plaza”? “56 circular pillars”? That anyone would call this massive intervention “light” with a straight face only illustrates the capacity of its developer, the American Battle Monuments Commission (ABMC), to wear down the opposition. These champions, after all, won World War II.

But whether it’s the Tikal-like pyramids St. Florian originally proposed, or the final plaza with pillars (and two 41-foot-high arches and a 200-foot-wide stair sinking down six feet from the nearest street), the design has only been part of the problem. The site is equally vexing. Opponents of the design generally believe that the memorial does not suit the spare Rainbow Pool area, at the eastern edge of the Reflecting Pool opposite the Lincoln Memorial.

Two disturbing things became clear just before the Fine Arts Commission’s approval: First, architectural historian and memorial skeptic Judy Scott Feldman dug up some National Park Service papers specifying that the Rainbow Pool lies on the Lincoln Memorial grounds. In other words, it already is part of a memorial, and to build anew on this ground would trammel the sanctity of the Lincoln. And second, the Fine Arts Commission admitted that it didn’t merely approve the site; it suggested the site in 1995, at the project’s outset, when it determined that nearby Constitution Gardens wouldn’t work. Is the Fine Arts Commission trying to protect the Mall, or corrupt it? Its involvement in selecting this location raises issues of conflict that, it seems, we’re too late to resolve now.

The commission brushed off the testimony by Feldman and all other foes, even the World War II Veterans to Save the Mall. So nobody is pretending that this memorial wasn’t a done deal before the final presentations—which isn’t as sinister as it is obtuse: The National Capital Planning Commission, the other body that must approve the design, and surely will this month, is complaining out the other side of its mouth that we’ve run out of room for memorials in Washington’s monumental core, which, indeed, we have.

It’s a shame that the debate over this turned so nasty early on. The ABMC seemed largely deaf to the worthiest criticism of its opponents; but then again, the antimemorial crowd showed little in the way of decency and empathy in its countervailing arguments. Trust was the first casualty in the discussion, but the plain, pure glory of the Mall will suffer the greatest damage, saddled with a design that started out fatuous and now simply looks cowed. Americans have been raised to view the Mall as an inviolable space, secular yet sacred in the national memory. Now it seems as if nothing sacred is sacred anymore. ■

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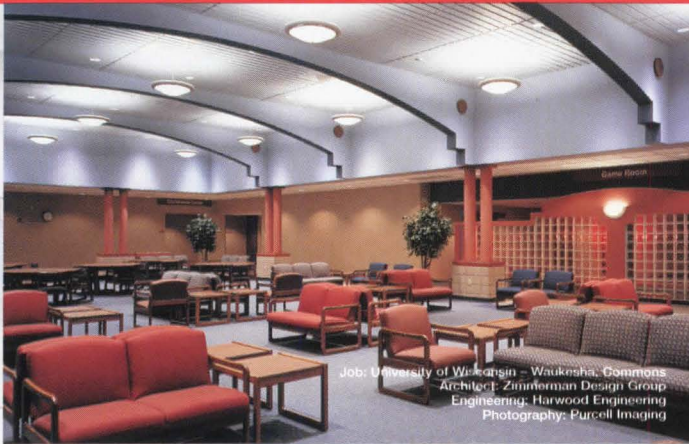
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