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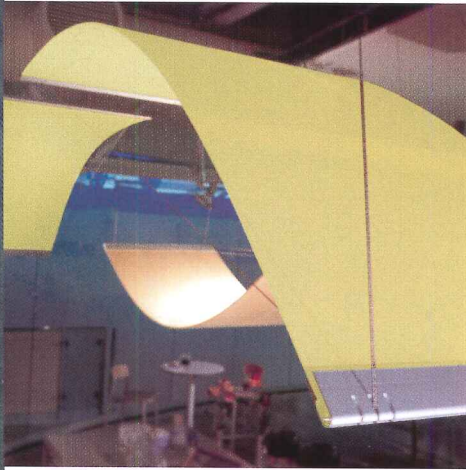
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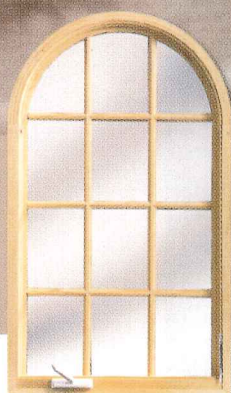
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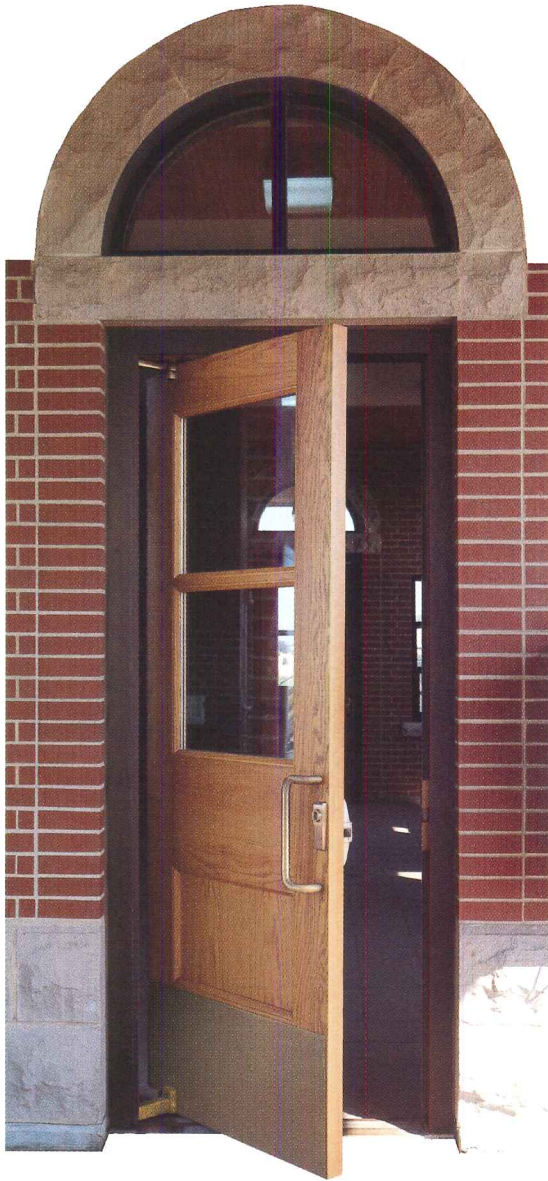
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SENIOR EDITORS

Robert Ivy, FAIA, rivy@mcgraw-hill.com
Ingrid Whitehead, ingrid_whitehead@mcgraw-hill.com
Anna Egger-Schlesinger, schlesin@mcgraw-hill.com
Charles Linn, FAIA, linnc@mcgraw-hill.com
Clifford Pearson, pearsonc@mcgraw-hill.com
Sarah Amelar, sarah_amelar@mcgraw-hill.com
Sara Hart, sara_hart@mcgraw-hill.com
Deborah Snoonian, P.E., deborah_snoonian@mcgraw-hill.com
William Weathersby, Jr., bill_weathersby@mcgraw-hill.com
Jane F. Kolleeny, jane_kolleeny@mcgraw-hill.com
Rita F. Catinella, rita_catinella@mcgraw-hill.com
Sam Lubell, sam_lubell@mcgraw-hill.com
Kristofer E. Rabasca, kris_rabasca@mcgraw-hill.com
Clara Huang, clara_huang@mcgraw-hill.com
Juan Ramos, juan_ramos@mcgraw-hill.com
Kevin Lerner, kevin_lerner@mcgraw-hill.com
Susannah Shepherd, susannah_shepherd@mcgraw-hill.com
Laurie Meisel, laurie_meisel@mcgraw-hill.com
Linda Ransey, linda_ransey@mcgraw-hill.com
Randi Greenberg, randi_greenberg@mcgraw-hill.com
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EDITOR AT LARGE
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CONTRIBUTING EDITORS

James S. Russell, AIA, james_russell@mcgraw-hill.com
Suzanne Stephens, suzanne_stephens@mcgraw-hill.com
Leslie Yudell
I-Ni Chen, Sophia Murer
Raul Barreneche, Robert Campbell, FAIA, Andrea Oppenheimer
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REPRINTS

James H. McGraw IV, jay_mcgraw@mcgraw-hill.com
Laura Viscusi, laura_viscusi@mcgraw-hill.com
David Johnson, dave_johnson@mcgraw-hill.com
Fuad Yasin, fuad_yasin@mcgraw-hill.com
Michelle Blashka, michelle_blashka@mcgraw-hill.com
Ellen Halfond, ellen_halfond@mcgraw-hill.com
Maurice Persiani, maurice_persiani@mcgraw-hill.com
Brian McGann, brian_mcgann@mcgraw-hill.com
Susan Valentini, susan_valentini@mcgraw-hill.com
Stephen R. Weiss, stephen_weiss@mcgraw-hill.com
Ike Chong, ike_chong@mcgraw-hill.com
Charles Pinyan, cpinyan@mcgraw-hill.com
Wilda Fabelo, wilda_fabelo@mcgraw-hill.com

EDITORIAL OFFICES: 212/904-2594. Editorial fax: 212/904-4256. E-mail: rivy@mcgraw-hill.com. Two Penn Plaza, New York, N.Y. 10121-2298.
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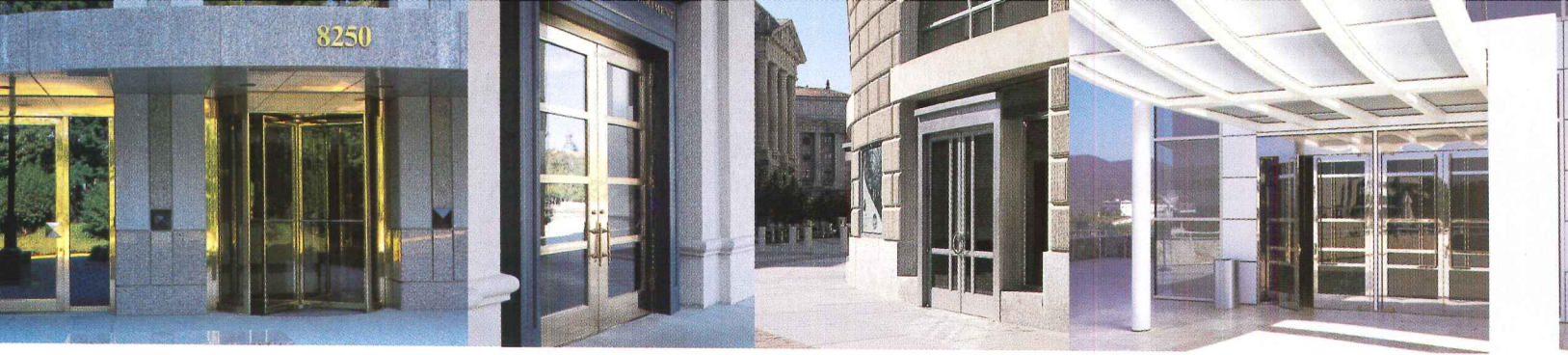
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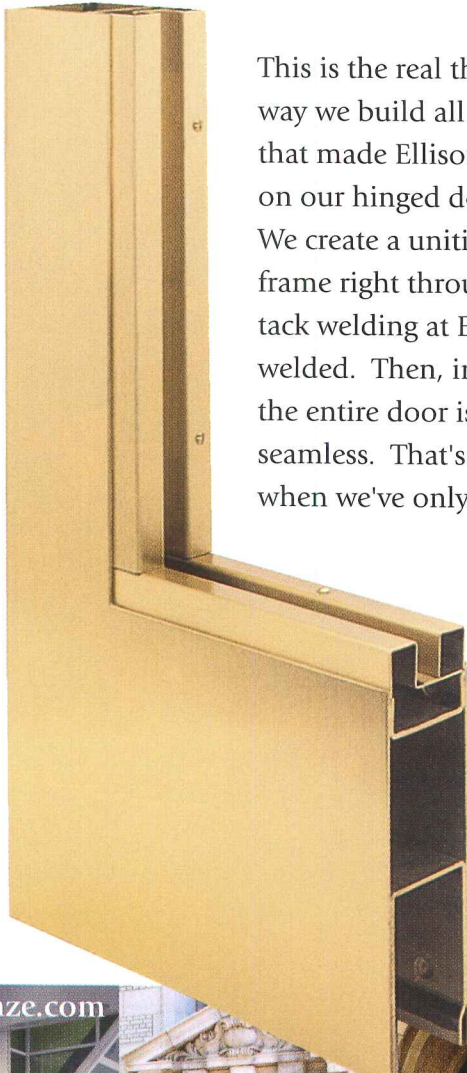
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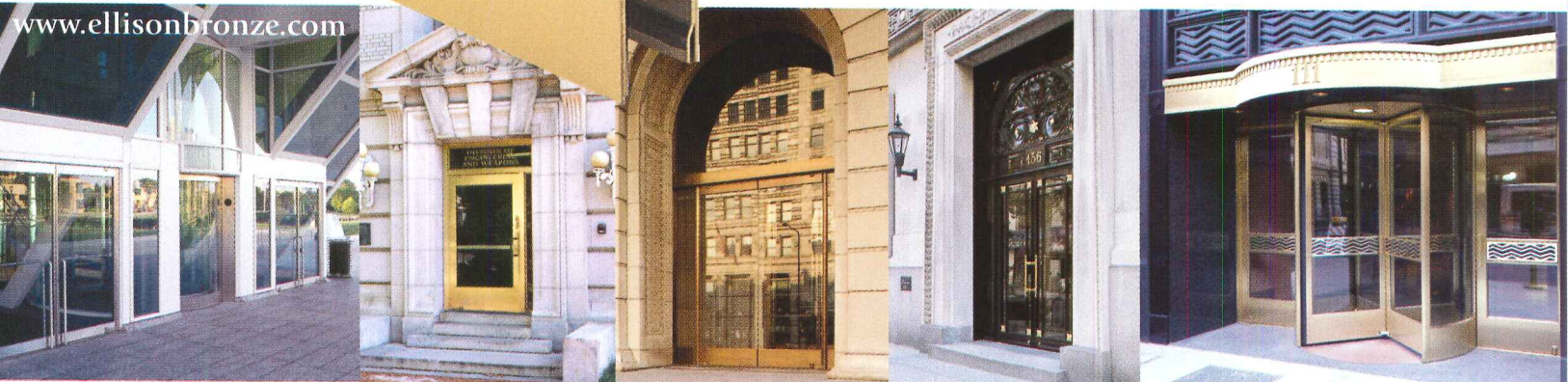
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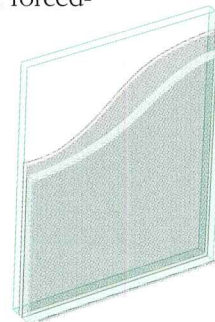


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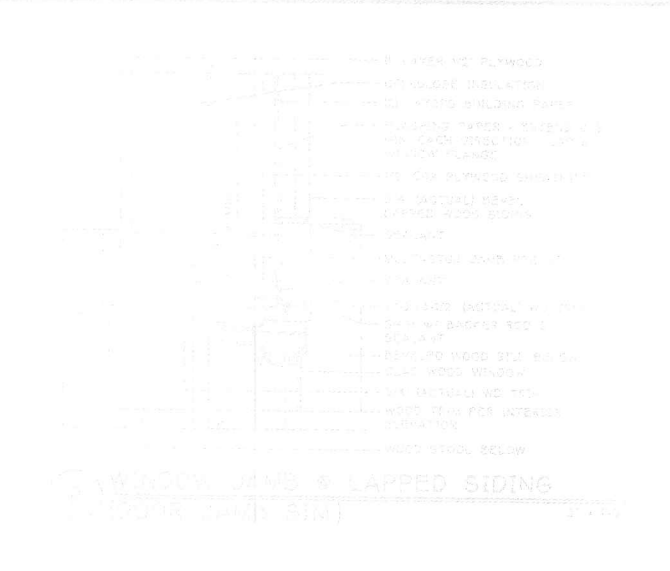
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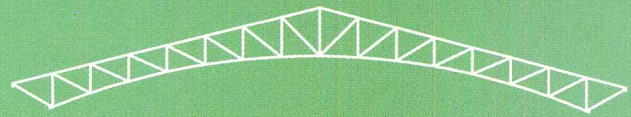
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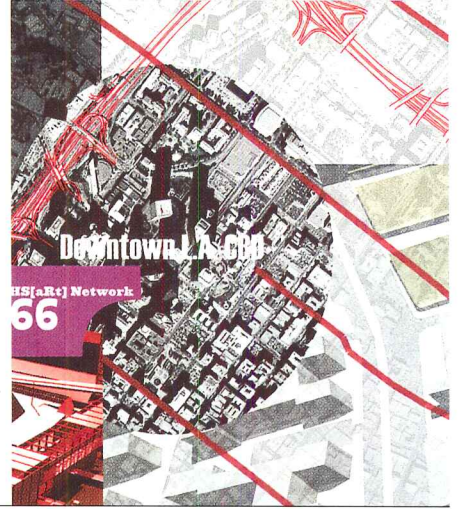
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Right: L.A. NOW Project. Image courtesy of Art Center College of Design

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You can find these stories at www.architecturalrecord.com, including expanded coverage of Projects and Web-only special features, such as "In the Cause of Architecture" and "Innovation," a new section devoted to new materials and methods that benefit architects.



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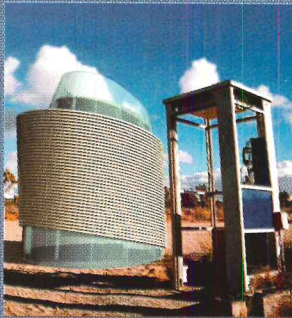
The projects this month on the Web are all about Los Angeles. Is that California city all grown up? Take a look at the Disney Concert Hall by Frank Gehry, the Sylmar Library by Hodgetts+Fung, and three renovated modernist houses in the California desert by Don Wexler.

Innovation

On the heels of our successful Innovation Conference October 8 and 9 in New York City, we present the Innovation section of archrecord.com. The purpose of this section is to expose the unnoticed and evaluate potential for major change. Both new materials and new ways of combining old ones are in development. Advances in materials science, increased private and public alliances, and the infiltration of digital technology into everything have conspired to create pockets of experimentation and unusual collaborations among architects, engineers, and manufacturers. We invite our readers to continue their own investigation.

World Trade Center

Rebuilding News. Get the latest updated coverage on the rebuilding process with news and insight.

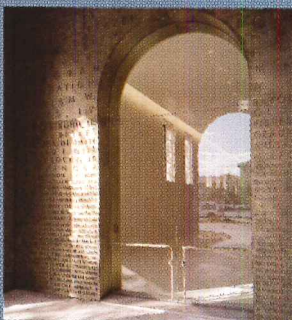


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In **DESIGN** we feature architect and writer Lance Hosey, who has a day job working for William McDonough + Partners, an environmentally conscious Virginia firm, and moonlights on his own architecture projects and writings. In **WORK**, we present Suchitra Van, the principal of Van Studio in New York City, which he bills as "a design studio for architecture, photography, and fabrication." He takes commercial photographs, having worked for Tillett Lighting Design and Maya Lin, as well as Lincoln Center.

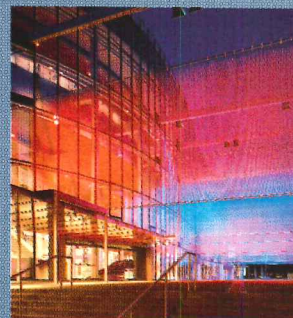
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Building Type Studies: University Buildings

The BTS is all about university buildings. This group features the importance of technology on college campuses, as well as clean, clear, elegant spaces, with projects including the Academic Center for Student Athletes at Louisiana State University, the Broad Center for Biological Sciences at Cal Tech, the University Technology and Learning Center at Lawrence Technological University in Michigan, and Princeton's Carl Icahn Laboratory Lewis-Sigler Institute.



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Lighting

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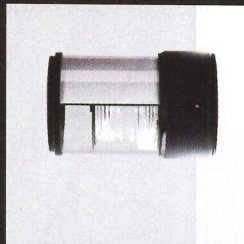
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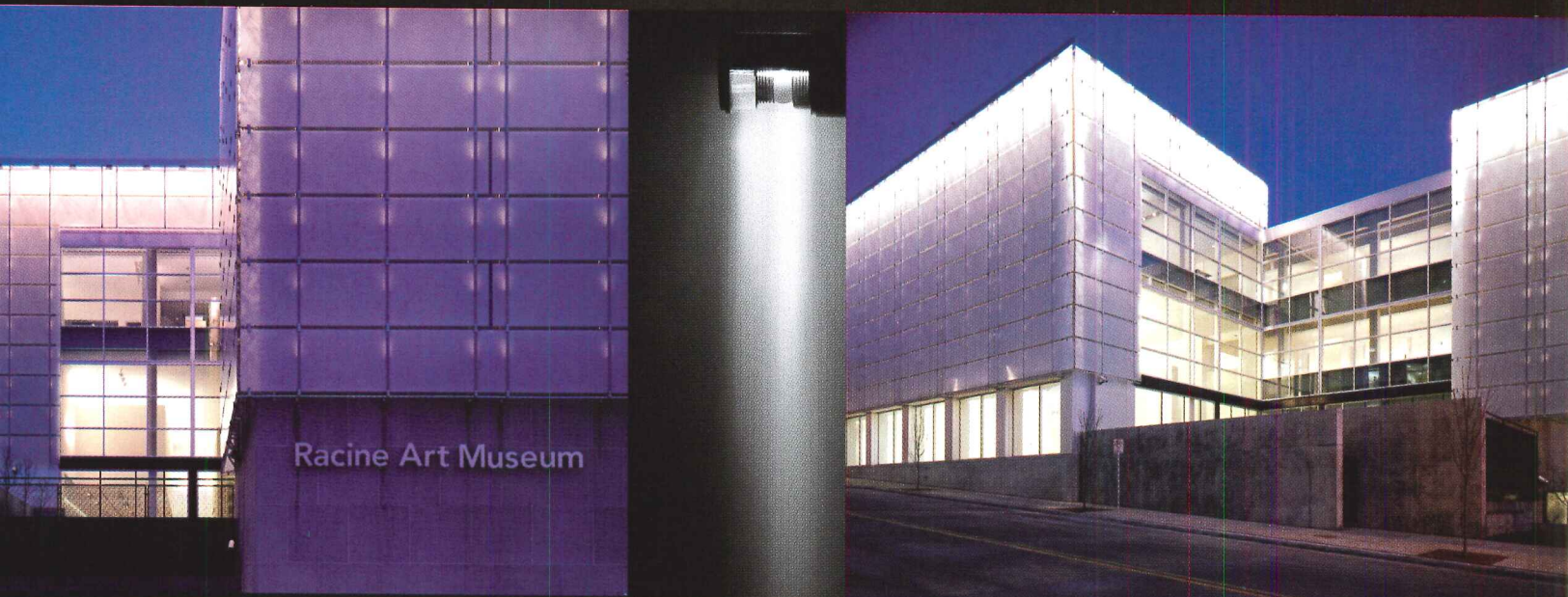
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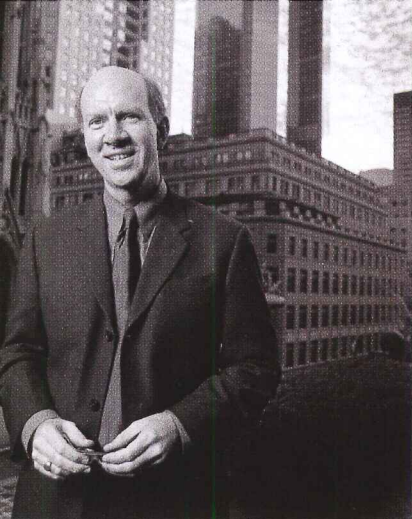
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A Musical Culmination

Editorial

By Robert Ivy, FAIA

The Walt Disney Concert Hall, which recently opened in Los Angeles, culminates and synthesizes several strong directions in contemporary architecture: a new freedom, unleashed by digital technology; society's need for cultural expression; Los Angeles's advancing urban trajectory; Frank Gehry's personal maturity as artist and architect, and the increasing mastery of the men and women who practice with him. Like the symphonic music it houses, the structure of Disney Hall knits together individual motifs, offering a coherent, polyphonic whole in a single, compelling work emblematic of this moment's whirling, unrealized aspirations.

Like other great works of architecture, the Disney Hall invites analogies, including comparisons to music. Several immediately come to mind. With its centralized, spectacular organ and broad, oval interior focused on a central stage; with its propensity to soar spatially and to embellish a spare volume with particular details; with its tendency toward ascendance and resolution, the interior of the Disney recalls the Baroque: the Bach of the St. Matthew's Passion or the chorales.

With its strong forms and gleaming appearance, the inclination might be to view the building as an isolated act of brio, of simply showing off. However, other antecedents hover overhead. Architecturally, the exterior envelope suggests kinship with Borromini or the later Corbusier, with its asymmetrical, balanced gathering of forces addressing the street. Yet Borromini-Corbu married to Gustav Mahler, whose great chordal sheets twist and crash and rise again like waves, as do the walls of the Disney.

Symbolically, the structure signifies the end of the freeway in a great metal leap—a steel temple to American aspirations of freedom and mobility that have coalesced in Los Angeles. Simultaneously, the Disney Hall brings a fully realized urban awareness, offering a rich variety of experiences to city dwellers and to visitors. The project abounds in points of view out to the larger downtown, including decks, apertures, full windows, a garden, an amphitheater, multiple staircases, and solid walls that provide a rectilinear podium or plinth to contain the complexity above.

While the development of the Disney has followed a circuitous path, its progress has been mapped in a clear succession of models in full public view. We thought we knew it well. Yet no familiarity with its development prepares the visitor for its unfolding array of surprises. To enter the lobby is to be confounded by opposing three-dimensional forces, in which curving walls drop behind strongly delineated structural members, and pathways offer promise of new experiences around a corner. This calculated spatial drama draws upward, away from the primary entrance to opposed oblong stairwells that ascend to skylit atria—two totally unexpected pathways of spiraling ramps with ocean-liner luxe.

The interior, for all its capacity, achieves grandeur and intimacy simultaneously. At no seat in the house, with the exception of the highest rows, does the space overwhelm. Instead, the hall offers a comforting sense of intimacy throughout, binding audience and performer in shared experience. While the acoustical qualities await a more complete analysis, initial reports suggest aural, as well as visual, presence.

Architectural historians may argue that only time can seal a building's worth, that what may seem appealing today may fade in tomorrow's daylight. The details will have to hold; it must not rust. However, the ambitious Disney Concert Hall warrants taking a critical risk. More demanding programmatically than the Guggenheim at Bilbao (whose planning it precedes), more powerful and fully realized, perhaps, than anything this architect has yet accomplished—sculpturally, urbanistically, and as an integrated unity of interior and exterior elements—the hall deserves calling by a word we use sparingly, if ever: Masterpiece.

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Letters

A lasting fabric

One of the fundamental issues in architecture we face as designers and builders has been time. Whether a building is truly "timeless" and adaptable to the future or merely done "on time" remains the choice of the designer, owner, and builder. This relationship between time and outcome was made most clear to me in the August and September 2003 issues of RECORD and made me pause to consider just what our current values have wrought.

In these issues, we were presented articles about space in flux at both ends of the spectrum of scale. At one end, we saw vastly expanding suburban periphery. On the other, rapidly changeable commercial interior installations. In both situations, it seems that the balance

has been tipped toward economy of time and money, especially at the expense of experience.

In either case, it seems that the built environment has nearly been reduced to a commodity by the insistent nature of the time value of money. This is evident in terms of both materials and style. Our suburban sprawl, fed by historically low interest rates, demands residential, retail, and commercial development that is neither interested in the vicissitudes of style nor in creating a true sense of permanence.

Have our laissez-faire attitudes saddled us with homes and buildings that crumble within a generation? While in the past it was acceptable for just the spaces in a building to be changeable, we now consider many of our building types disposable.

Should we be so ready to accept the impermanence of a plastic-bin-lined shoe store or big-box retailer? Where is the elegance and wonder in a warehouse gallery composed of dismembered and exposed shipping containers? I believe people can sense the relationship between the endurance of our spaces and the way we live. We are affected by this sense, and I wonder if, at a metaphysical level, the disposable nature of our built environment is harming our spirit. Simply put, if even our expectations of place and permanence are made unstable, then where can we find stability or a sense of home and community?

This is not to say that all we create is not timeless. It just appears that the fabric of our built environment is stretched too far and

too thin. Perhaps, though, there are ways for us to identify opportunities for the creation of the timeless. It can begin with something as simple as a thoughtful material decision, or a simple question about sustainability put to a client or contractor. Reuse can be wonderful and timeless, as in the case of the live/work loft or video-editing studio. We also know we can build more engaging tilt-ups, tighter tract homes, and sensible transportation networks that will create character and community. The question is: When will we choose to do it?

—David Burdett
Raleigh, NC

When mystery makes magic

I finally got around to reading Robert Campbell's critique in the August

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Letters

issue [page 59] and was stuck by a couple of his remarks: "Overall order on the one hand, invention and surprise on the other. A distressed grid is an ideal plan for a city." Also, "Working out a solution for yourself from the evidence before you. Discovering the city, inventing it, rather than learning how someone else has understood it."

A couple of years ago I was asked to present a short talk on architecture to a St. Louis elementary art class. Wracking my brain for several days in advance, wondering how to reach a group of 10-year-olds about a pretty sophisticated subject, I came to the realization that one of the things that I love about good architecture and city planning is a sense of mystery. Buildings and cities that encourage my further exploration by hinting at something wonderful around a corner or at a light-filled opening in the

city grid are like the mystery novel Campbell mentions. I decided to show slides of the hill towns of Italy, the ancient cities of Spain, and several buildings that have drawn me in because of a sense of mystery. The cities that work for me are places like San Gimignano in Italy and Santiago de Compostela in Spain, where each bend in the street might lead under a stone archway through a building built over the street to an open plaza with a fountain in front of a church. I suspect that most of these cities arose around their topography and, although there may be an underlying grid, it doesn't shout "Go this way!" Wandering these cities is a joy, and I always wish I could stay there much longer, enjoying these apparently unplanned irregular urban spaces. When a modern architect or city planner can create such mystery, he or she has created the kind of archi-

ture many people will enjoy. The elementary school students did.

—James T. Biehle, AIA
Inside/Outside Architecture
 Clayton, Mo.

Set point

Thank you for your article on set design in the September issue [Set Pieces, page 110]. It was exciting to read about architects providing innovative solutions to new challenges of spacemaking in a realm not traditionally accredited to architects. Creative architectural design can come in many sizes and from many different constraints. Raul Barreneche writes, "Set design is rife with technical requirements unfamiliar to most architects." But as we have seen from this article, unfamiliarity doesn't have to mean inferiority, but can instead translate into opportunity. Not only can exploration open our eyes, it can help us understand relationships in a world of interconnected space.

Hopefully, RECORD will continue to report on architects who take on

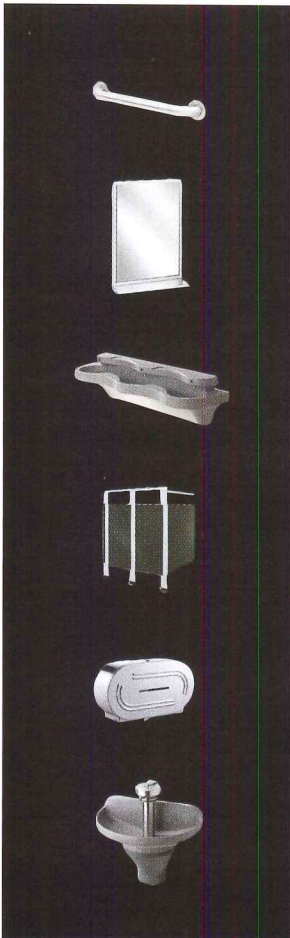
projects not traditionally associated with architecture.

—Dianne Kontos
 Chicago, Ill.

Corrections

In *Innovation*, a supplement to RECORD, the feature on technology transfer [page 47] omitted the cofounder of Panelite, Emmanuelle Bourlier. Credit should also have been given to Andreas Froech, independent director of material development, for his invaluable role in expanding Panelite's product line and material research capabilities. Panelite did not design OMA's "sponge" panel for Prada [October 2003, page 92], but developed a production process that gave OMA's complex organic design the potential for mass production. In October [News, page 40], ARO was mentioned as having been selected to design Detroit's Motown Museum; collaborators Rockwell Group and Hamilton Anderson Associates should also have been mentioned.

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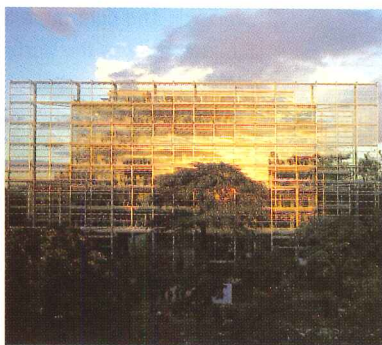


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Foster, Nouvel, and Maki Join World Trade Center Team



Foster's City Hall in London (left); Jean Nouvel's Cartier Foundation (center); Maki's Yerba Buena Center for the Arts (right).

On September 30, developer Larry Silverstein named Norman Foster, Fumihiko Maki, and Jean Nouvel to design high-rise office towers at the World Trade Center site.

The new team will join Daniel Libeskind (master planner), David Childs (lead designer of the Freedom Tower), and Santiago Calatrava (head architect for the transit station) in what has become an incredible array of architectural talent for the site.

Libeskind's master plan calls for five office towers, replacing the 10 million square feet of office space lost when the Twin Towers were destroyed. The choice of the new designers, Silverstein said, was the end of a six-month decision process.

"We are committed to making sure that all the new buildings at the World Trade Center are architecturally distinguished," Silverstein said in a written statement. "Lord Foster, Mr.

Maki, and Mr. Nouvel are universally recognized as three of the most brilliant architects in the world."

Foster, of Foster and Partners, has won the Pritzker Prize for Architecture and is known for works like the German Parliament building in Berlin and London's City Hall and Millennium Bridge. Maki, of Maki and Associates, has also won the Pritzker and designed the Kyoto Museum of Modern Art in Kyoto, Japan, the

Yerba Buena Center for the Arts in San Francisco, and the Asahi Broadcast Headquarters in Tokyo. Nouvel, of Atelier Jean Nouvel, has won the Praemium Imperiale Award for Architecture and designed the Lyon Opera House, and the Cartier Foundation and the Institute du Monde Arabe in Paris.

While some have argued that the new designers will further draw from Libeskind's creative vision, Childs, who advised Silverstein on the selection, said in the *New York Daily News*, "This is not an assault on Danny's talent." Libeskind was quoted in the same story, saying, "I certainly hope to contribute to some individual buildings." He later told RECORD, "It's exciting that architecture is not being treated as business as usual, but instead seen as something very special to inspire the public." *Sam Lubell*

WTC Briefs

Silverstein loses initial insurance bid World Trade Center developer Larry Silverstein's bid in court to collect a \$7 billion insurance settlement for the 9/11 terrorist attacks was rejected on September 26, marking a blow to the WTC reconstruction effort.

The United States Court of Appeals for the Second Circuit rejected Silverstein's argument that the two planes that struck the Twin Towers constituted two attacks and therefore warranted two insurance payments. Thus, Silverstein stands to receive a \$3.55 billion settlement instead of approximately

\$7 billion. A jury must make a final decision on the matter.

Howard J. Rubenstein, a spokesman for Silverstein, stated, "We are fully confident that a jury hearing all of the evidence will reject the insurers' attempts to avoid paying for the cost of rebuilding the World Trade Center."

Corbin Building will be saved The New York Metropolitan Transportation Authority has confirmed that the historic Corbin Building, designed by Francis Kimball, will be preserved.



The Corbin Building in Lower Manhattan.

The building came under threat because of plans for a new Fulton Street transportation center in Lower Manhattan.

"This is great news," said Robert Tierney, chairman of the New York City Historic Preservation Commission.

The ornamental brick and terra-cotta building is decorated with elaborate arches and large arcades and is an important part of New York's historic fabric (see next page).

Tsien resigns from LMDC board Billie Tsien, AIA, the only

architect serving on the Lower Manhattan Development Corporation's Board, has resigned.

Tsien, architect of the American Folk Art Museum in Manhattan and partner in the firm Tod Williams Billie Tsien, is the fifth LMDC Board member to resign.

"I feel very good about the small contribution I was able to make," said Tsien. But at this point, she added, her workload has to take priority. "I'd rather contribute to the world by doing my work than by being on a committee."

Tsien said she feels very confident about her replacement, who has not yet been announced to the public. *S.L.*

OFF THE RECORD

Herbert Beckhard, FAIA, and Frank Richlan, AIA, both partners in Beckhard Richlan Szerbaty + Associates, recently passed away within 13 hours of each other. Richlan died on September 10, and Beckhard on September 11, 2003. Michael Szerbaty, AIA, will be leading the firm.

Donald Trump has hired Adrian Smith of Skidmore, Owings & Merrill's Chicago office to design a 90-story, 1,125-foot-tall office-hotel-condominium tower along the Chicago riverfront.

The Peggy Guggenheim Collection in Venice has been expanded with the opening of a converted property on the site of the Palazzo Venier dei Leoni, at number 704 Dorsoduro. The expansion was inaugurated on October 11 and will include a new foyer, new exhibition galleries, and a new museum shop.

The Brooklyn Children's Museum, designed by Rafael Viñoly, broke ground on October 16.

Jazz at Lincoln Center, located at the Time Warner Center in Manhattan, has selected Rockwell Group to design its Ertugun Jazz Hall of Fame.

The Gansevoort Market District in New York City won designation as a historic district by the New York City Landmarks Preservation Commission.

Detroit opened the new Max M. Fisher Music Center, a \$60 million addition to Orchestra Hall.

JetBlue Airways is close to a tentative decision to use Eero Saarinen's TWA Terminal at JFK Airport in New York as a check-in hall, confirmed Richard Smyth, JetBlue vice president for JFK Redevelopment.

NYC 2012 announced a design competition for a New York Olympic Village.

Interview with Robert Tierney

Robert Tierney is chairman of the New York City Landmarks Preservation Commission

ARCHITECTURAL RECORD: The New York Metropolitan Transportation Authority has announced it will preserve the Corbin Building, the Francis Kimball masterpiece on the site of its proposed Fulton Street transit center. What was your role in this, and what is your response?

ROBERT TIERNEY: I made it my job on behalf of the City Landmarks Commission to make sure the Corbin Building was not demolished. This is great news. Now we have to follow up to be sure that it is not only safe, but whatever happens is sensible and coexists with the building. I really applaud all the



people who were involved with saving the building. Not only the advocates, but also the people in government who stepped up.

AR: Why is the building so important?

RT: First, because it's a wonderful, visible, important building. Second, the transit hub was one of the first things to be done to show we can recover. And right there in its domain was the Corbin Building. It's a symbolic gesture in light of the huge amount of impending development.

AR: What are some other threats to downtown's historic buildings?

RT: There's a lot that needs to be looked at, considered, and preserved. I don't want to single them all out, but there's a lot right around the Fulton Street area. For example, 67, 92, 94 Greenwich Streets; the Verizon Building, which is being brilliantly restored; 90 West Street, a

1907 Cass Gilbert building, which is being repaired and brought back into the fabric; Keuffel and Esser headquarters at 127 Fulton Street, which has a beautiful cast-iron storefront; the Fulton Building, 130 Fulton Street, is also at risk. A lot of these are not landmarked. Once they're not, the question is will you go into a full-blown landmark proceeding. It's a question of the priorities of the agency.

AR: Does Lower Manhattan's slated development represent a threat to the historic fabric of the area?

RT: The players are very interested in making major progress downtown, but I think it will not be at the expense of the history or the heritage at all. As we sit through these meetings and I talk to the people making these decisions, preservation is a major factor in all the deliberations. I'm not saying everything is on their map, but there will be no wholesale demolition. S.L.

Interview with Monica Iken

Monica Iken is the founder of September's Mission, a nonprofit organization advocating on behalf of victims' families in the design and planning of the World Trade Center Memorial. Her husband, Michael, died in the South Tower.

ARCHITECTURAL RECORD: What is your role in the redevelopment of the World Trade Center?

MONICA IKEN: I helped produce a mission statement for the Memorial Design Competition and was one of 13 people on the Family Advisory Council to help come up with the elements for a future site. I'm making sure the families are going to be as involved as possible.

AR: What space would you like to preserve at the WTC?

MI: We want the "bathtub" area, the space where the towers once

stood, and just beyond. This is where most of the remains were found. The space is sacred. We also want to preserve the World Trade Center's bedrock, because for us that is the final resting place for our loved ones.

AR: Do you think your wishes will be respected?

MI: Nothing will be built on the footprints of the towers. We're very happy about that.

AR: What about the subway tracks on the footprints? [The Port Authority will build tracks for its transit station on the footprints of the WTC.]

MI: Unfortunately, we really can't change the PATH situation. It's very difficult for people like us who lost their loved ones in the South Tower [where the tracks will be]. We just have to do it. The Port Authority has told us they can't change that.

AR: What other issues are you looking at?

MI: In any memorial there must be a projection of the number of people who will come. We think it will be the most visited memorial in the world. We think 9 to 12 million a year. We're seeing projections of

around 5.5 million. The whole idea is to experience the memorial, and if they don't build to projected numbers and people have to wait in line and get herded like cattle, then it loses its effectiveness.

AR: What problems have you faced?

MI: We've had some trust issues, where things were going to the media before the families knew about them. This has included the plans for the PATH station and the exit ramp in the middle of Ground Zero. We've resolved a lot of things. We continue to be vocal, and they understand they have to tell us when things are going on, so we feel that we're included and we won't feel the doubts. S.L.



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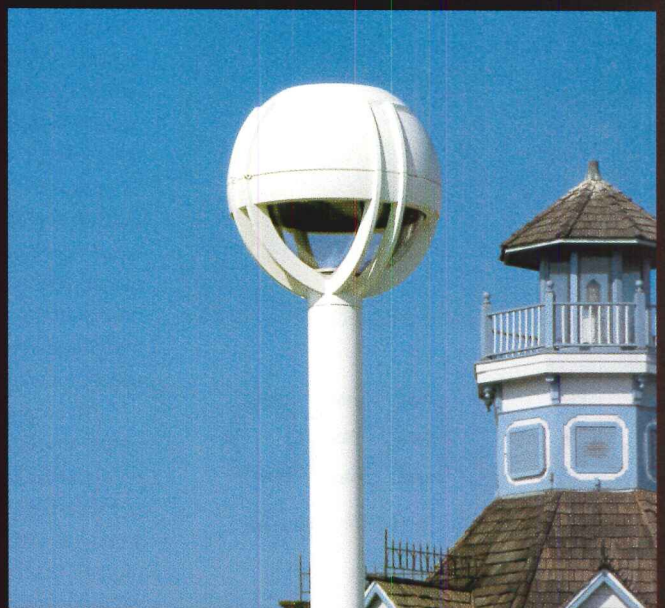
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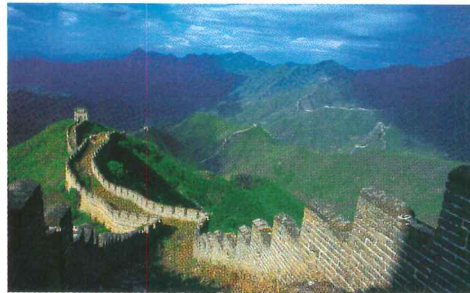
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Record News

World Monuments Fund Announces 2004 Watch List



California; the Great Wall of China Cultural Landscape, which remains largely unprotected; and all of historic Lower Manhattan.

The WMF is the leading nonprofit organization dedicated to preserving historic, artistic, and architectural heritage. For the first time, the WMF's list includes sites from every continent.

All monuments, nominated by local authorities or organizations, must display an urgent need

to be saved and have architectural or artistic significance. There must also be a clear vision of how to save them.

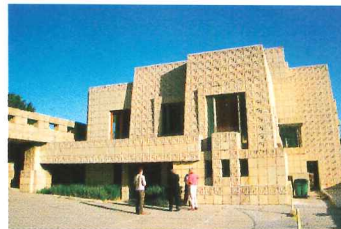
"Bringing endangered monuments to public attention can be a powerful catalyst for change," said WMF president Bonnie Burnham in a speech at the official announcement ceremony, which took place at the new Lever House restaurant in Midtown Manhattan—a good location, given Lever House's once endangered status.

"Without our help, these sites would still be floundering," says John Stubbs, WMF vice president. "I think our record of making a difference might be increasing. Practice makes perfect, and the field is certainly maturing." S.L.

On September 24, the World Monuments Fund (WMF) announced its 2004 World Monuments Watch List of 100 Most Endangered Sites.

The biannual list is designed to encourage action on behalf of threatened cultural-heritage monuments worldwide.

Sites include the 9th-century-B.C. Nimrud and Ninevah Palaces in Iraq; the 14th-century St. Anne's Church in Prague; Frank Lloyd Wright's rapidly deteriorating granite-block Ennis Brown House in



Great Wall (top); St. Anne's Church (middle); Ennis Brown House (bottom).

Herzog & de Meuron's Laban Studio wins Stirling Prize

The Laban Dance Centre in London has won this year's Stirling Prize, the Royal Institute of British Architects' highest honor. Designed by Swiss architects Herzog & de Meuron in collaboration with artist Michael Craig-Martin, the \$36.6 million, 83,958-square-foot building is a simple container double-sheathed in semi-translucent glass and colored polycarbonate panels that both diffuse and radiate light. The integrated color-and-lighting scheme gives the center a sense of playfulness and movement.

The Laban, which opened in February, is situated on a 2-acre site on Deptford Creekside in southeast London. The new facility, the largest purpose-built contemporary dance space in the world, consists of a 300-seat theater, 13 dance studios, teaching and rehearsal areas, a library, a 100-seat lecture theater, and a café-bar.



The Laban Dance Centre.

The Herzog & de Meuron design beat out stiff competition from five other short-listed buildings, including the Tiree Shelter in Scotland, by Sutherland Hussey Architects with Jake Harvey, Donald Urquhart, Glen Onwin and Sandra Kennedy; the Plymouth

Theatre Royal Production Centre, by Ian Ritchie Architects; BedZed in Surrey, by Bill Dunster Architects; 30 Finsbury Square in London, by Eric Parry Architects; and the Great Court at the British Museum, by Foster and Partners.

"[The Laban] hits you straight between the eyes as soon as you get there," says novelist Julian Barnes, a judge for the prize. "It has the same movement, youth, agility, pizzazz, front to it that its students have—it's very seductive." Herzog & de Meuron collected a \$33,300 prize for winning the eighth annual award. *Tony Illia*



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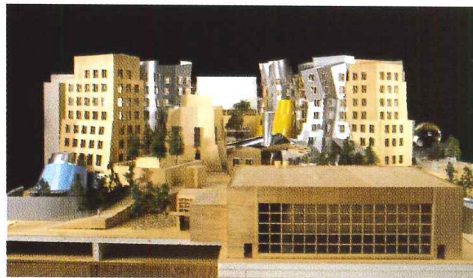
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Record News

Gehry Project near completion at MIT



A model of Gehry's Stata Center project.

The hoopla surrounding the opening of Disney Hall has obscured the fact that another major Gehry Partners project is nearing its debut. The Ray and Maria Stata Center at MIT, in Cambridge, Massachusetts, is entering the final phase of construction in anticipation of its opening in May 2004.

The 430,000-square-foot project is no mere building, but an agglomeration of structures that comprises a new community-within-a-community. The departments of Artificial Intelligence, Linguistics, Philosophy, and Computer Science, previously scattered throughout town, will now share close proximity in a unified scheme that will offer new opportunities for collaboration.

One of the primary objectives is to provide laboratories and research facilities while also providing separate educational and public spaces accessible to all of MIT. These two identities are expressed in the form of dual tower wings that rise from a two-story plinth. The top of the plinth forms an exterior terrace traversed by a corridor known as the "student street." Adjacent to the student street are a 350-seat lecture hall; two 90-seat, tiered classrooms; a pair of flat, 50-seat classrooms; a café; a child-care center; and an athletic facility.

The graduated elevations and variety of exterior materials, including brick, stainless steel, painted aluminum, and titanium, lend depth to the massing of elements. "We saw the upper terrace as an urban stage and the elements within that as actors upon that stage," says Craig Webb, the project designer.

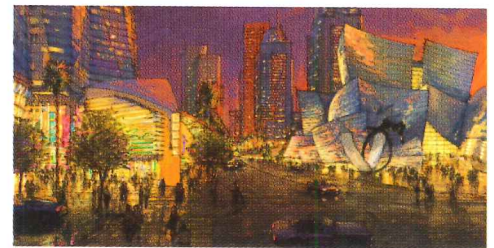
The Stata Center is one of a number of notable building projects under way at MIT, including Fumihiko Maki's 140,000-square-foot Okawa Center—an addition to the media labs. Meanwhile, Laurie Olin, Hon. AIA, the campus landscape architect, continues to refine the master plan for the Cambridge campus. *David Maurer*

Plans for L.A.'s Grand Avenue envision cultural centerpiece

The completion of Frank Gehry's Walt Disney Concert Hall in downtown Los Angeles has renewed the momentum of another long-delayed project: An urban-design makeover for Grand Avenue, home both to the concert hall and Rafael Moneo's Cathedral of Our Lady of Los Angeles. Other nearby structures include Arata Isozaki's Museum of Contemporary Art, Hardy Holzman Pfeiffer's Colburn School of Performing Arts, and the Los Angeles Music Center, a collection of three performance venues.

Grand Avenue is now essentially a steel bridge in the air. It ascends the slope of Bunker Hill, much of which has been removed to make room for high-rise buildings. As a result, Grand has little physical connection with the rest of downtown Los Angeles. Worse, with its narrow sidewalks, discontinuous street wall, and vacant lots, it is not pedestrian friendly.

The current scheme for Grand Avenue took form two years ago, from a one-day sketch session held by Moneo, Gehry, and landscape architect Laurie Olin. The original idea consisted of a wavy street that attempted to provide optimal views of



Plans for Grand Avenue in Los Angeles.

Disney Hall and the Music Center.

Los Angeles-based A.C. Martin Partners provided the final version of the master plan. Released in September, it proposes widening the sidewalks to 25 feet and reducing traffic from four lanes to two. It also includes a new pedestrian connection and a possible amphitheater, between Grand Avenue and the 18-acre Los Angeles Mall, a never-completed Beaux-Arts open space that lies about 30 feet below the elevated street. The largest ambition is the construction of four new high-rise buildings on Grand, including residential, hotel, and office towers. Los Angeles City and County are expected to issue an RFP shortly to developers. *Morris Newman*

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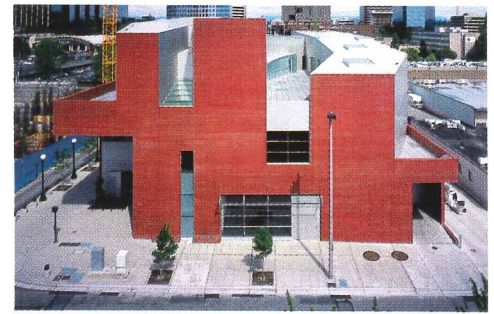
Record News

Financial woes close Bellevue Art Museum

The Bellevue Art Museum (BAM), near Seattle, abruptly closed on September 30, less than three years after it moved into its \$23 million building, by Steven Holl [RECORD, August 2001, page 80].

"Our aim is to have the museum reopen just as soon as possible, but it depends on when we can come up with a plan," said Rick Collette, board president. In addition to a perilous local economy, the museum's muddled mission is blamed for its failure to find an audience in this well-heeled but conservative Seattle suburb.

Never a conventional museum—it has no permanent collection—BAM began as a sidewalk art show and was housed in a megamall before moving across the street into the new, 36,000-square-foot, brick-red building. While Holl's design embraces the museum's divergent ambitions, crit-



The Bellevue Art Museum, designed by Steven Holl.

ics point to BAM's uneasy transition from populist community engagement to serious contemporary art venue, while maintaining its educational role for families, as the source of its struggle for visitors and donations. *Sheri Olson, AIA*

Noted architects leave NBBJ, start own firm

Three leading principals from the Seattle branch of NBBJ Architects, responsible for such local landmarks as Safeco Field, the Seattle Justice Center, and Key Arena, have opened an office of their own.

Dennis Forsyth, Rick Zeive, and Ralph Belton have joined forces with Portland's SRG Partnership to direct that firm's new Seattle office.

The trio has begun with two projects they began at NBBJ: a remodel of Washington's capitol building in Olympia, and the Bellevue Civic Center, each valued at approximately \$70 million.

According to Forsyth, the firm will focus on public buildings, particularly educational, civic, and health-care facilities, and will place particular emphasis on sustainable design. *Brian Libby*

California faces building code controversy

As California's recall election has riveted the nation, a potentially far-reaching, if less sensational, dispute has been simmering over the state's adoption of the NFPA 5000 building code, written by the National Fire Protection Association. Some construction professionals and public officials charge that the code will prove cumbersome. But backers respond that the criticism is overstated and that NFPA draws on a broader base of stakeholders.

Both the NFPA 5000, first published in October 2002, and the International Building Code (IBC), written by the International Code Council (ICC), represent an attempt to develop a single national code.

After hearing largely pro-IBC testimony, the California Building Standards Commission voted on July 29 to adopt NFPA 5000. Prior to California's vote, 26 states and many local jurisdictions had adopted the IBC, but NFPA 5000 had been adopted by only one city: Pasadena, Texas. The California Office of Statewide Health Planning and Development warned that "using a building code in California that is radically different from the rest of the nation will impose a tremendous burden on building owners and their consultants."

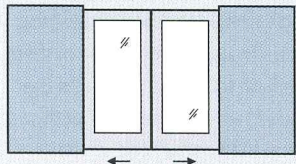
Other critics contend that the NFPA 5000 is cumbersome because it relies too heavily on references to other codes (rather than using enforceable language in the code itself), but the choice, for now, will stand, opening the door for the NFPA in other domains. "With California's vote, you'll see [NFPA] 5000 at least getting a serious consideration during the review process [in other jurisdictions], and that's all we're asking," says Gary Keith, vice president of building and life safety at NFPA. *Paul Rosta*

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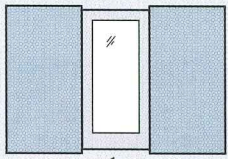
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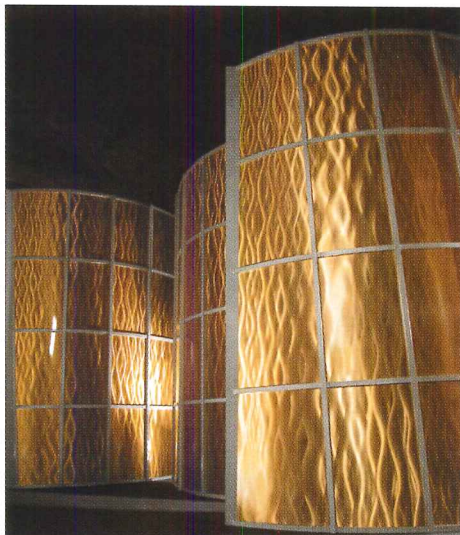
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Record News

Mies van der Rohe house discovered, mystery remains

This summer, barely two years after the Ludwig Mies van der Rohe exhibitions at MoMA and the Whitney Museum, in New York City, the claim that a previously unknown Mies villa had been discovered in the town of Krefeld, Germany, created a small sensation among architects and historians.

Apparently, in 1930, tie merchants Karl and Lilly Heusgen asked Mies to design a villa for them outside the city, which was finished in January 1933. In 1999, the building was sold to a local architect, Karl Amendt, who meticulously restored it.

The handsome white building overlooks a generous front lawn. Its first floor is dominated by the sequence of a hall and living and dining rooms, while the second contains the bedrooms. It partially protrudes beyond the perimeter of the first floor and is supported by thin steel columns in order to provide a sheltered terrace.

The Villa Heusgen is not mentioned in any publication on Mies, and no sketches or correspondence have been found. Lily Heusgen, who died in 1981, had claimed in private conversations that Mies agreed to their request for anonymity to avoid publicity. Rudolf Wettstein, a designer who supervised construction, became architect of record.

But two German architectural historians,



The Villa Heusgen, in Krefeld, Germany.

Christian Wolsdorf, head of the architecture department of the Bauhaus Archive in Berlin, and Jan Maruhn, who worked on MoMA's Mies show, have acknowledged Mies as the architect. They point out that the building contains too many elements that only he would have used at the time: the openly connected spaces, the tall doors of Makassar wood, the hidden position of the entrance, the long garden walls reaching out from the house, and even the impractical recessed ceiling lights.

Still, definitive evidence is elusive, and questions remain about who really designed the house. While we await more details of the mystery to surface, this sophisticated house is a great addition to the canon of exceptional Modern houses in Europe. *Dietrich Neumann*

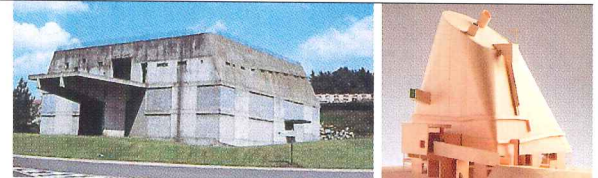
After long wait, construction resumes on Corbusier church

After 30 years, during which the Church of Saint-Pierre de Firminy-Vert sat unfinished and boarded up, Le Corbusier's last major European project will finally be completed. Construction on the 6,784,000-euro (\$7,690,000) project began in June.

Firminy is a suburb of Saint-Etienne, near Lyon. It was thanks to a meeting between Le Corbusier and Firminy's then mayor Eugène Claudius-Petit that the idea was launched to create an urban project bringing together habitation, spiritual life, culture, and sport. Today, Saint-Etienne Metropole is financing the completion of the church as well as the restoration of the entire Firminy-Vert complex, which constitutes an important architectural heritage for the city.

The *unité d'habitation*, surrounded by open green space, has a rooftop kindergarten. There is also a linear stadium building and, on the hill above, the cultural center with its arched roof.

While Corbusier designed the entire project,



Construction (above) and model (below) of the Firminy church.

his death in 1965 meant that he never saw it finished. The church wasn't begun until 1970, and in less than two years it was abandoned for lack of funds.

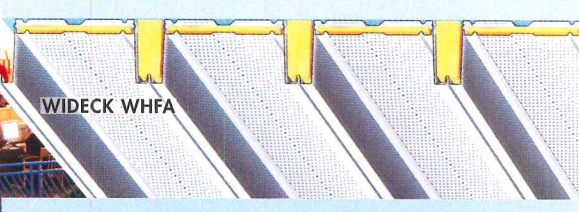
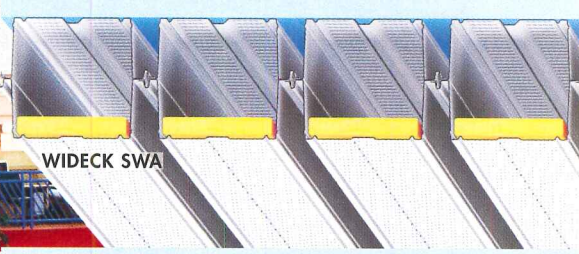
With only the bottom half built, the structure resembled a concrete bunker. At least 17 months will be needed to reinforce the existing building, finish the interior, and add the soaring roof shell.

Never used as a church, the program will now include a nondenominational place of worship, and about two-thirds of the structure will be used as an annex to Saint-Etienne's important modern art museum, including a center of research devoted to design and Le Corbusier.

José Oubrerie, who worked alongside Le Corbusier on the original Firminy-Vert, is supervising design questions from across the Atlantic. *Claire Downey*

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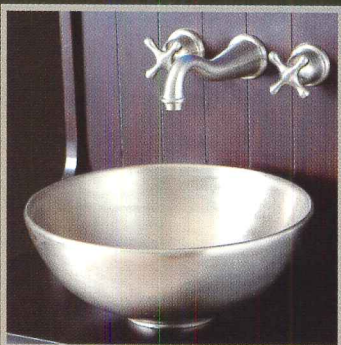
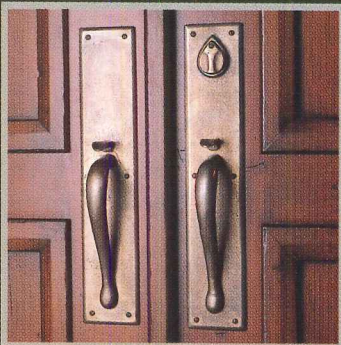
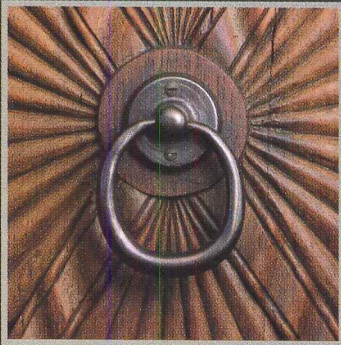
*Charles V. Park Library, Central Michigan University
Architects: URS Corporation, Grand Rapids, MI and Woolen, Molzan and Partners, Inc., Indianapolis, IN*

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Record News

Taipei 101 tower aims for height, but also safety

Taipei 101, a 1,667-foot-tall, \$700 million office tower projected as the world's tallest building, topped out its pinnacle on October 9 and is expected to be completed by the end of next year.

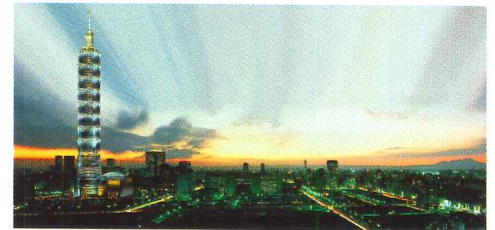
Developed by Taiwan Financial Corporation and designed by local firm C.Y. Lee & Partners, the building is competing with future structures like the Lotte World Tower II (1,620 feet) in Pusan, South Korea, and the Shanghai World Financial Center (1,614 feet) in China for the title of tallest skyscraper. But it has some obstacles that are much more contentious: earthquakes.

Taiwan is a very active seismological area, with regular earthquakes, not to mention the threat of typhoons. In March 2002, when the Taipei 101 was only half-finished, a quake measuring 6.8 on the Richter scale and centered 44 kilometers off the coast, toppled two tower cranes and killed five workers.

To counter movement, Turner Construction incorporated an 800-metric-ton spherical steel damper system on the 88th floor that will transfer energy away from the building. Other stabilizing elements include concrete-filled steel-box "super

columns," which are tied to a steel-braced core every eight floors with outrigger trusses. The structural system also includes a steel perimeter moment frame, and the core offers chevron and diagonal braces for further rigidity.

"It's a very demanding parameter for safety considerations," said Dennis Poon, managing principle at Thornton-Tomasetti Engineers, structural



A rendering of Taipei 101, seen from afar.

peer Consultants on the project (the local engineer for the project was Evergreen Engineers).

The design of Taipei 101, whose unique sloping walls are divided into eight parts, incorporates the Chinese pagoda form and the shape of bamboo flowers growing (these plants grow in different sections). When built, it will be taller than the current height champions, the 1,483-foot Petronas Towers in Kuala Lumpur. S.L.

Calatrava withdraws from Oakland Cathedral project

Nearly three years after being selected as the architect of the \$80 million, 1,800 seat Christ the Light Cathedral in Oakland, Santiago Calatrava has withdrawn from the project, likely to be replaced by Craig Hartman of the San Francisco office of Skidmore, Owings & Merrill, who had been the second choice of the cathedral's selection committee.

In a joint statement, the Oakland Diocese and Calatrava's office said that "with deep regret and continued mutual respect, the steering committee, the Diocese, and Dr. Calatrava have decided to end their working relationship." A spokesperson for the cathedral, Lee Nordlund, added, "Given that the search for an appropriate site for our cathedral has lasted several years, and given the need for Dr. Calatrava to focus on new, high-profile commissions in Atlanta and New York City, the decision to disengage helps everyone."

Calatrava's office declined further comment. Meanwhile, Brother Mel Anderson, a member of the original architect selection committee that chose Calatrava in 2000 and former head of the

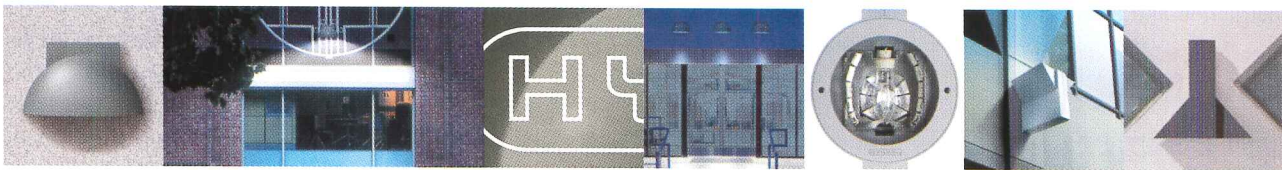
cathedral project for the Oakland Diocese, indicated that the split derived from a combination of Calatrava's frustration with the slow pace of the project and the Cathedral's concerns about potential cost overruns. "[Calatrava] just didn't think he could devote the time and energy necessary to do a first-class job, and that's the only kind of job that Calatrava wants to do," he said, adding that "he was unsure about our funding, whether or not we had the money to do it." Anderson also said the steering committee was concerned by rumors of cost overruns at the Milwaukee Museum of Art.

"The steering committee is taking its financial responsibilities very seriously, and that may have played in the decision," Nordlund said.

The selection committee, which included architecture critic Alan Temko and Stanford University chief architect David Neumen, remains supportive of Hartman, and Anderson said that Hartman has begun work on the cathedral. The archdiocese has not confirmed a decision and is expected to formally announce a new architect in mid-November. *Andrew Blum*

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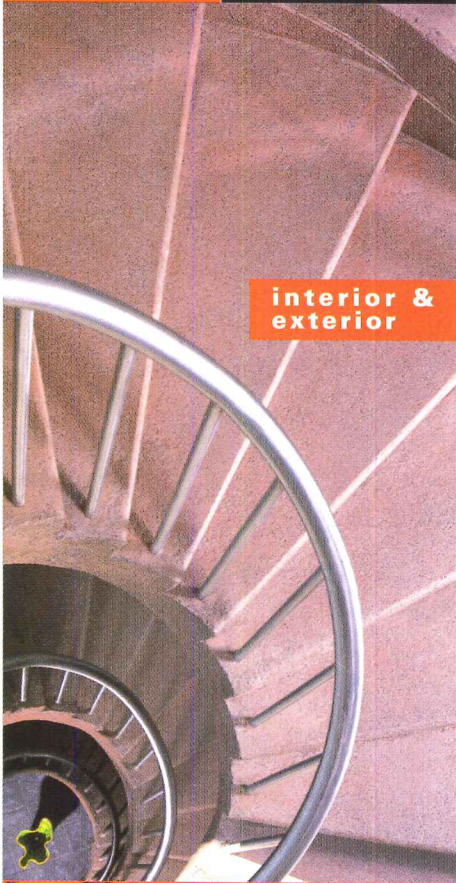
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Record News

Recently Opened

Jubilee Church, Rome, Italy

Parish Church of Dio Padre Misericordioso has been in the works since 1996, when Richard Meier, FAIA, won a competition to design it. Curved concrete folds highlight the memorable facade.

Architect: Richard Meier & Partners Architects. Opening: October 26.



Gluckman Mayner's Mori Art Museum (left); Richard Meier's Church of the Year 2000, aka Jubilee Church (above).

Mori Art Museum, Tokyo, Japan

A new contemporary art institution located within the Mori Arts Center at the top of the 54-story Rappongi Hills Mori Tower. It features a stone

entrance with an elevator ride to the museum on the top floors.

Architect: Gluckman Mayner Architects. Opening: October 18.

Overheard...

At the Boston Society of Architects Conference "Density—Myth and Reality," September 12–14, 2003. The conference included 400 participants and three keynote speakers.

"The love affair with the car is dead, but the marriage continues." —*Steve Kaiser, Transportation Engineer*

"Density is an emotional thing masquerading as a scientific ratio." —*Julie Campoli, principal at Terra Firma, quoting California architect Alex Seidel*

"When people are walking, something is right under heaven." —*Doug Kelbaugh, dean of Architecture and Urban Planning at the University of Michigan*

"The average American walks less than 1,000 feet per day, or less than the distance between 6th and 7th Avenues in New York City." —*Lance Brown, CUNY chair*

At a September 22, 2003, panel at the 92nd Street Y in New York City, featuring three of the celebrated Modernist architects known as the "New York Five." Richard Meier, FAIA, Charles Gwathmey, FAIA, and Peter Eisenman, FAIA were on hand for the event, as well as Alan Ritchie, a partner of Phillip Johnson, AIA, and John Diebboll, AIA, a partner of Michael Graves, AIA.

"The reason we're here is because we believe architecture changes the world," —*Peter Eisenman*

"There hasn't been a critical debate about the merits and the demerits," —*Peter Eisenman,*

discussing the lack of public input on the plan for the World Trade Center

"If I had won the competition and been put through what has happened to the scheme, I would have resigned." —*Peter Eisenman, discussing Daniel Libeskind's WTC plans*

"We're not just talking to architects. We're talking to a public that is interested in architecture." —*Richard Meier*

At the AIA New York Chapter's "Design-In," a 16-hour, 80-speaker marathon of architecture thinking and drawing held October 8, 2003.

"LEED and other standards are really training wheels. They cannot give us everything." —*Randolph Croxton, Croxton Collaborative*

"If you ask most folks in the arts field to name architects other than Frank Lloyd Wright, it's almost as difficult for them as naming the nine Democratic presidential candidates." —*Kinshasha Conwill, arts consultant*

"We're not going to get anywhere by just talking to other architects. We've got to get out there." —*Sherida Paulsen, FAIA, Passanella + Klein Stolzman + Berg*

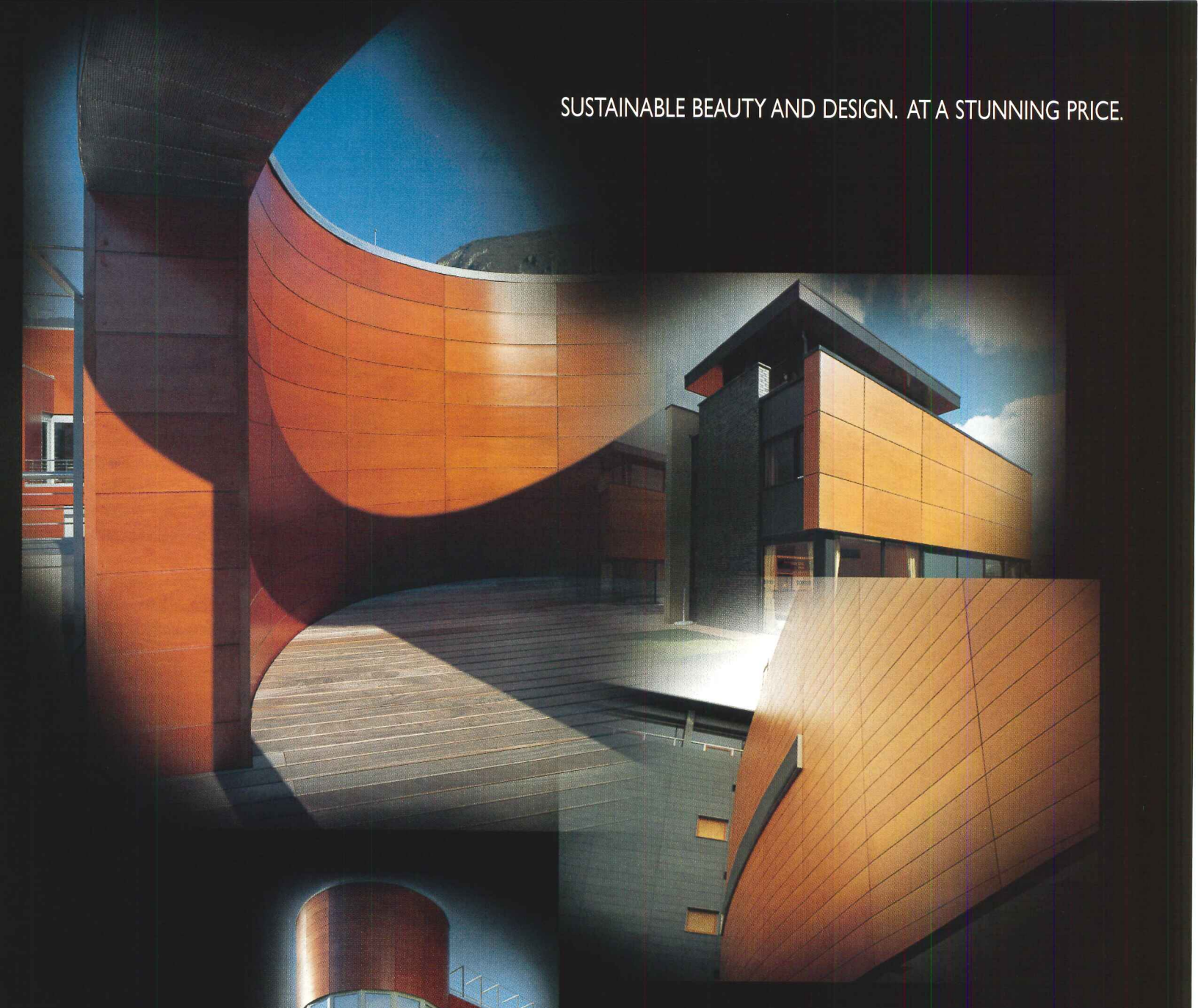
At the McGraw-Hill Construction Innovation Conference, October 8–9, 2003, in New York City.

"If [cars] are the answer, then I wonder what the question was?" —*Dean Kamen, inventor of the Segway Human Transporter (compiled by Sam Lubell, Barbara Knecht, and Diana Lind)*



Left to right: Alan Ritchie, Richard Meier, FAIA, Charles Gwathmey, FAIA, and Peter Eisenman, FAIA.

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Record News

Boston's massive North Point project under way



Part of Behnisch, Behnisch & Partner's plan.

The North Point Project in Cambridge, Massachusetts, one of the largest developments in Boston-area history, moved forward on September 18 with the naming of three firms that will design the initial blocks.

Located on a former rail yard, the 45-acre, 19-block, 5-million-square-foot mixed-use project will be carefully integrated into the surrounding city. A different architect will likely design each block, says Ken Greenberg, of Greenberg Consultants, an urban design firm in Toronto, who headed the competition and worked on the mas-

ter plan with CBT Architects of Boston.

"If we're successful, no one will really know where the boundaries of the site were. It offers a greater variety and diversity," Greenberg says.

The firms chosen from a group of eight are Behnisch, Behnisch & Partner, architectsAlliance of Toronto, and Steven Ehrlich. Other finalists had included Rafael Viñoly and Helmut Jahn.

Important elements of the winners' designs, Greenberg says, were environmental consciousness, a respect for human scale, and original use of materials. Behnisch, Behnisch's plan (left), for instance, utilizes unique glass cubes jutting toward the street, and the firm is one of the few whose U.S. buildings have obtained LEED Platinum ratings.

Construction is expected to begin late next year, and the next round of assignments "may not be that far away," says Greenberg. The project is roughly a 15-year effort, he adds. The development team is a collaboration of Guilford Transportation Industries and Spaulding & Slye Colliers. S.L.

Architecture controversies swirl in Philadelphia

Philadelphia business leaders, community groups, residents, and city officials are concerned about new, unseen plans the National Park Service has to alter Independence National Park and the surrounding neighborhood.

Overland Partners has been commissioned by the Park Service to design an 8- to 10-foot-high security fence around the southern portion of the park. The Park Service is also seeking to close a city street that runs between Independence Hall and the new block-long structure housing the Liberty Bell.

The Park Service has insisted in newspaper reports that the proposed fence is necessary to prevent a bomb-laden pedestrian from attacking the Liberty Bell or Independence Hall. Bob Shemwell, a principal at Overland, says the firm and Park Service's main concern was "how little can you do to be effective."

Although no one outside of the Park Service or Overland has seen the plans, opponents assume that they go beyond the security plans Olin Partnership proposed in an modification of the

existing master plan it finished for the park this year. Bollards and earthen barriers already prevent cars and trucks from driving into any portion of the park, and separate screening areas within existing structures would be used to search for concealed weapons. But the Olin plan does not require erecting a fence or closing a major city street.

"One of the things we wanted to achieve in the master plan was to bring this park back into the fabric of the city," says Weston. "It used to be a big dead area, especially north of Market Street."

Conflicts about security follow other issues in the area. First, about the future of the structure formerly used to house the Liberty Bell: The 28-year-old glass-walled pavilion that was designed by Aldo Giurgola will temporarily be used to screen park visitors, and the Park Service is trying to sell the structure, so far without success. Second,

it was recently discovered that the new Liberty Bell Center, designed by Bohlin Cywinski Jackson, rests on the site of slave quarters for George Washington's presidential residence. Although Congress has instructed the Park Service to commemorate the former slave site, no funds are yet available for design or construction. Jason Clampet



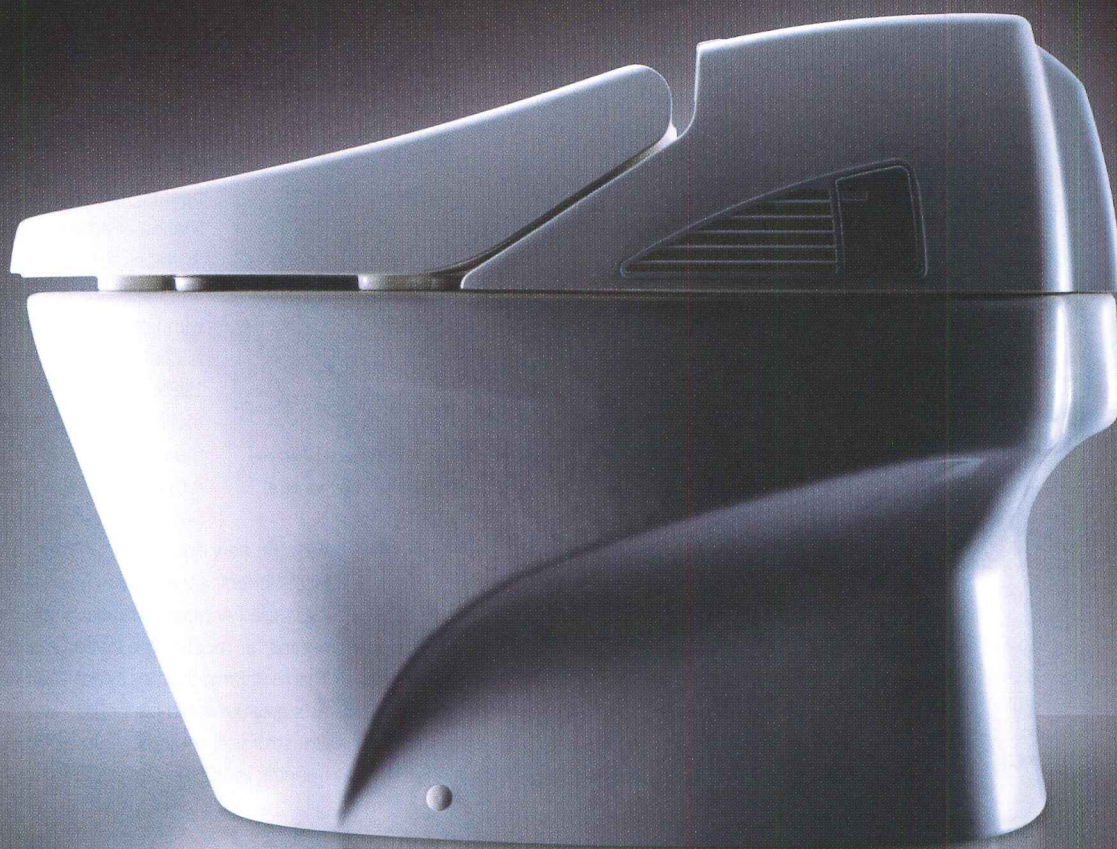
Olin's plans: bollards and low walls (purple), and screening centers (red).

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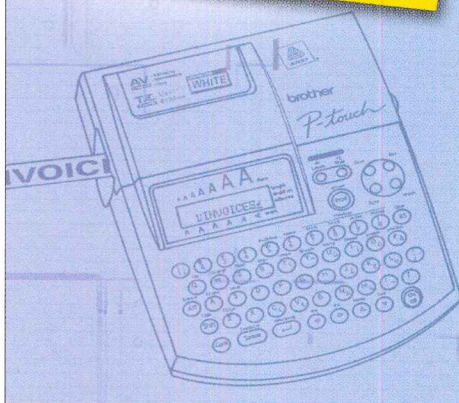
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Record News

After 25 years, Dallas Arts District finally flourishing

The Dallas Arts District is 25 years old and is only now coming into its own.

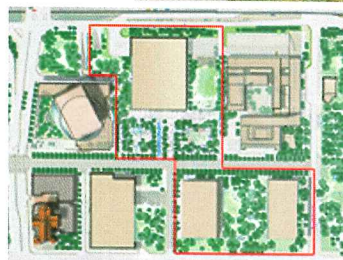
Currently in the works are the \$250 million Dallas Center for the Performing Arts, featuring an opera house by Foster and Partners and a 600-seat, multiform theater by Rem Koolhaas's Office of Metropolitan Architecture. Brad Cloepfil, AIA, is designing a \$30 million expansion of the Arts Magnet High School, while Renzo Piano's \$70 million Nasher Sculpture Center

opened in late October. That's quite an explosion of high design in a district where little has happened since the Dallas Museum of Art and I.M. Pei's Meyerson Symphony Center opened in the 1980s.

The new Nasher Center is home to one of the best private collections of modern sculpture in the world. It is an elegantly simple travertine and glass building containing five vaulted bays for galleries and offices, a gift shop, and a restaurant. From the galleries, visitors spill out into a 2-acre



linear garden designed by Peter Walker and featuring more than 350 indoor and outdoor sculptures, including major works by Calder, Suvero, Miro, Moore, Serra, and other modern masters.



Nasher (above), and future plans—opera, theater, and a third venue.

The Nasher opening followed by a month the publication of a new master plan for the 20-block Arts District by the Foster and Koolhaas offices in collaboration with French landscape architect Michel Desvigne. The plan builds on a 1982 plan that established the district's original guidelines. The heart of the quarter will be a grand plaza, roughly the size of London's Trafalgar Square, connecting the Meyerson

with the new opera and the renovated Arts Magnet High School. It would also incorporate a new and expanded Annette Strauss Artist Square, the setting for most of the district's outdoor activities. The multiform theater and a third venue for smaller arts groups would be located south of Flora Street. Construction could begin in 2006, with a grand opening in 2009. *David Dillon*

On the boards: Tschumi, Bing Thom chosen for major projects

Vancouver-based Bing Thom Architects (BTA) was hired in early October to lead the \$100 million redevelopment of the Washington, D.C., Arena Stage Theater near the Potomac River.

The plans include rehabilitating an existing 514-seat theater, reducing the other from 816 seats to 650, and adding a 200-seat experimental theater. Other additions include apartments for visitors and staff, a book store, a café, and new lobby joining all three theaters. Thom will also design a 170-foot cantilevered roof facing a new outdoor curving pool, enclosed by glass and wood.

"The more whimsical, curvy new Arena Stage will be a catalyst for the revitalization of the Southwest neighborhood, which was once fun but was then turned into a boring place," Thom says.



Renderings of Arena Stage (above) and the concert hall in Limoges (left).



Meanwhile, Bernard Tschumi Architects has won a competition to design a new 6,000-person concert hall for Limoges, France. The competition was

sponsored by the local government of Limoges. Situated on the outskirts of the city in a densely wooded area, the building will contain two surface envelopes, providing acoustic and thermal insulation. The inner envelope is to be clad entirely with wood, while the outer envelope will be made of polycarbonate panels to create a glowing, translucent surface. Support will be provided by a light wood-frame structure. The hall will open in July 2006. *Albert Warson and S.L.*



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News Briefs



San Diego Main Library.

San Diego Main Library may fall into shade

The \$149.5 million San Diego Main Library, expected to break ground in 18 months, may face significant shading from nearby development.

The library, which prominently features a southward-facing courtyard and gardens, will be the civic and cultural focal point of a 26-block ball-park-redevelopment district that is a public/private venture of the city of San Diego and the San Diego Padres.

In 1999, representatives of the Padres and JMI Realty, the district's master developer, agreed in writing that development west and southwest of the library "would be carefully controlled to avoid shadowing or other negative influences."

But in October, the San Diego Library Commission recommended that the City Council/Redevelopment Agency approve a proposed condominium project directly west of the library. Called Park Terrace, it is now proposed as two tiered towers of eight and 14 stories—exceeding Quigley's recommended eight-story height limit. *Ann Jarmusch*

Biltmore Theater returns

Designated a New York City landmark in 1987 but essentially dormant since, the Biltmore Theater reopened last month after an extensive renovation by Polshek Partnership and theater consultant Fisher Dachs.

Located in Midtown Manhattan, the Biltmore opened in 1925 and had a storied history of numerous productions until an arson fire closed the facility in 1987. It has reopened as a home for the Manhattan Theater Club. The \$35 million renovation includes enhanced seating with an increased rake on the orchestra and balcony levels, with a net reduction of seats to 650 from 1,000. A new lower-level space was excavated from rock.

Amenities include new lower- and upper-level lobby spaces and lounges, and a contemporary glass marquee was added on the exterior.

John E. Czarnecki, Assoc. AIA



The San Francisco Conservatory of Flowers has been rehabilitated.

Conservatory of Flowers in San Francisco to reopen

Rehabilitation of the Conservatory of Flowers, the oldest structure in San Francisco's Golden

Gate Park, has been completed after an eight-year effort. The whimsical Victorian structure was severely damaged in a 1995 storm.

The \$25 million rehabilitation, undertaken by Architectural Resources Group and Tennebaum-Manheim Engineers, involved


disassembly and reconstruction of the entire wood and glass building, which had also been damaged by extensive decay. The renovation also required a seismic upgrade that included testing of each redwood piece and the addition of steel reinforcements within the wood structure. *S.L.*



The renovated Biltmore Theater.

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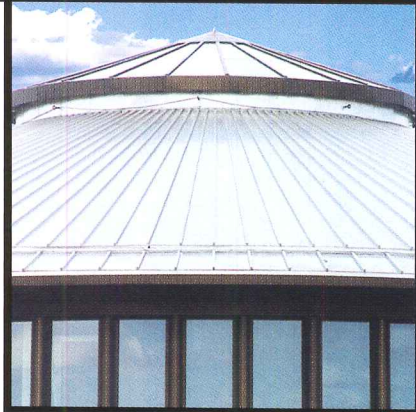
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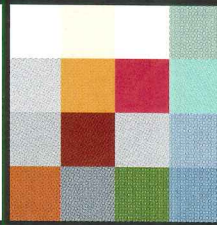
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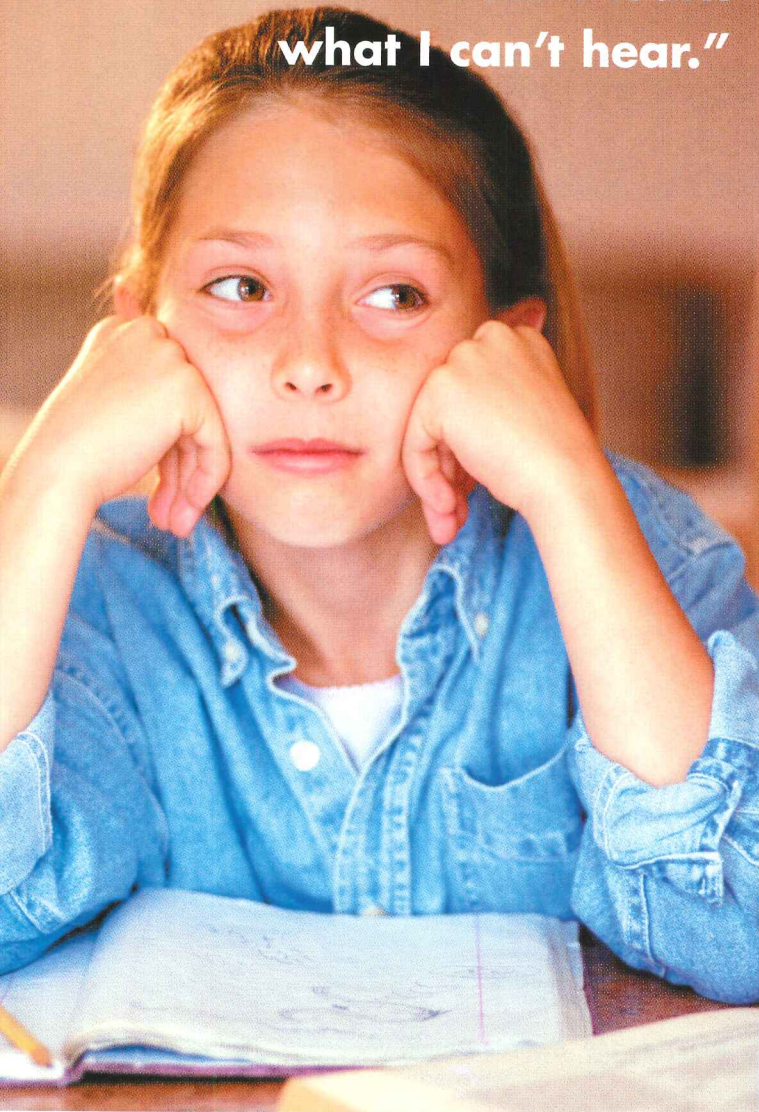


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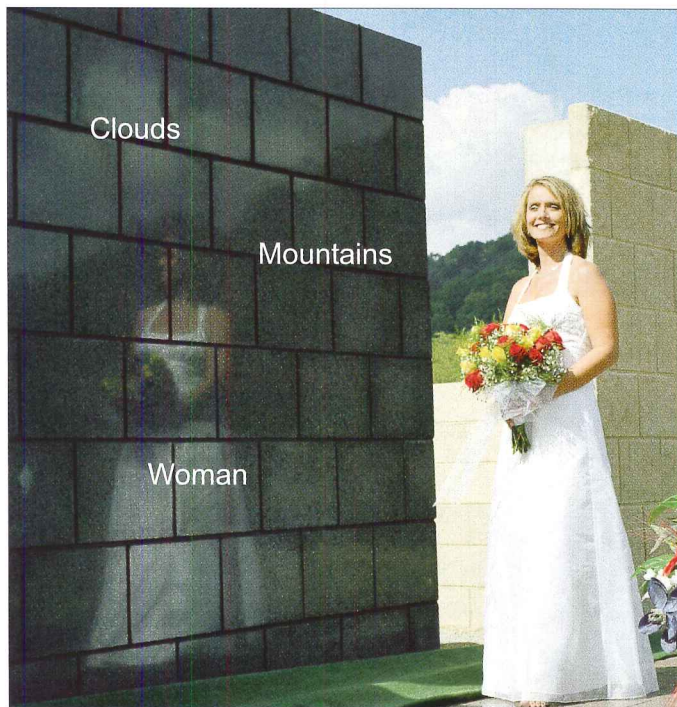
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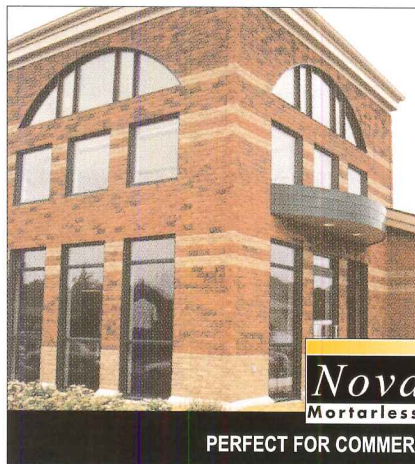
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New & Upcoming Exhibitions

Glass and Glamour: Steuben's Modern Moment, 1930-1960

New York City

November 7, 2003-April 25, 2004

Reflecting the elegance and dynamism of Manhattan, Steuben became synonymous in the mid-20th century with the Modern idiom, creating hundreds of designs by legendary artists. From functional tableware to singular exhibition works, the shows features almost 200 objects from important international museum and private collections. At the Museum of the City of New York. Call 212/534-1672 or visit www.mcny.org.

Suchitra Van Solo: Estrangement

New York City

November 7-December 31, 2003

An exhibition of photos by architect and photographer Suchitra Van. At Brandow's and Company, in New York City. Call 518/822-8932.

Designing: The Work of Chermayef & Geismar

New York City

November 11, 2003-February 2, 2004

A celebratory exhibition of the work of the legendary New York-based design firm led by Ivan Chermayef, Tom Geismar, and Steff Geissbuhler. Recognized for its high standards since the 1960s, the firm is responsible for such instantly recognizable symbols as the NBC peacock, the Chase Bank symbol, the Mobil red O, the Time Warner eye and ear, and other powerful trademarks. At Herb Lubalin Study Center of Design and Typography at Cooper Union. Call 212/353-4207 or visit www.cooper.edu.

Rowhouse Redux: Washington Architects Renew City Living

Washington, D.C.

November 14, 2003-January 18, 2004

The National Building Museum's seventh biennial exhibition and competition organized jointly with the Washington Chapter of the AIA. Through models and presentation boards, Washington-based architects will present their visions for the future of our homes in a context that is sometimes overlooked these days: the urban rowhouse. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Ongoing Exhibitions

National Design Triennial 2003:

Inside Design Now

New York City

April 22, 2003-January 25, 2004

The Triennial is a review of cutting-edge trends and future horizons in design practice, from architecture, interiors, and landscape design to product

design, graphic design, fashion, and new media. At the Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit www.si.edu/ndm.


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Dates & Events

and utopian communities, Grinnan uses moldable plastic and computer-altered images of corporate spaces to create large-scale photo sculptures and installations that envelop the architecture of the Whitney Museum at the Altria Sculpture Court on 42nd Street. Call 917/663-2453 or visit www.whitney.org.

Frank O. Gehry: Work in Progress Los Angeles

September 7, 2003–January 26, 2004

The exhibition highlights Gehry's unique design

process through an examination of his firm's current projects and commissions. At the Museum of Contemporary Art (MOCA). Call 213/626-6222 or visit www.moca.org.

Up, Down, Across: Elevators, Escalators, and Moving Sidewalks Washington, D.C.

September 12, 2003–April 18, 2004

The exhibition will explore how these ubiquitous technologies have transformed our buildings, our cities, and our lives. Though these devices

are mundane by virtue of our familiarity with them through daily use, *Up, Down, Across* brings to light the enormous impact they have on architecture and movement throughout the world. For further information, call 202/272-2448 or visit www.nbm.org.

Marcel Breuer: Design and Architecture Weil am Rhein, Germany

September 13, 2003–April 25, 2004

As designer and architect, Marcel Breuer was one of the most influential figures in the history of 20th-century design. This retrospective highlights the contribution the former Bauhaus student made to the field. The show also presents Breuer's somewhat neglected architectural output. It is the first exhibition to duly document both his design and architecture. At the Vitra Design Museum. Call 49 0 7621/702-3200 or visit www.design-museum.de.

Samuel Mockbee and the Rural Studio Birmingham, Alabama

October 5, 2003–January 4, 2004

The late Samuel Mockbee, founder of Auburn University's Rural Studio, was an idealist who put into practice one of the boldest programs in contemporary architecture. This exhibition includes three built structures, a selection of Mockbee's personal notebooks, a dozen models, photos of completed projects, and large-scale paintings by Mockbee. At the Birmingham Museum of Art. Call 205/254-2565 or visit www.artsbma.org.

Live Work: Skyline Street New York City

October 7, 2003–November 26, 2003

The AIA New York Chapter and the New York Foundation for Architecture present the New York Center for Architecture's inaugural exhibition, *Going Public: Public Projects*, a snapshot of architecture, engineering, and public art projects in design or recently built. Also, *NYC2012 Olympic Opportunities*, precedents and proposals for the Olympic Games in New York City. At the New York Center for Architecture. Go to www.aiany.org/design-in for more information.

Masonry Variations Washington, D.C

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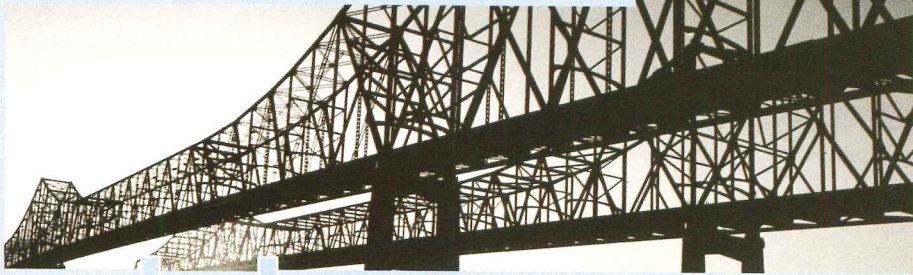
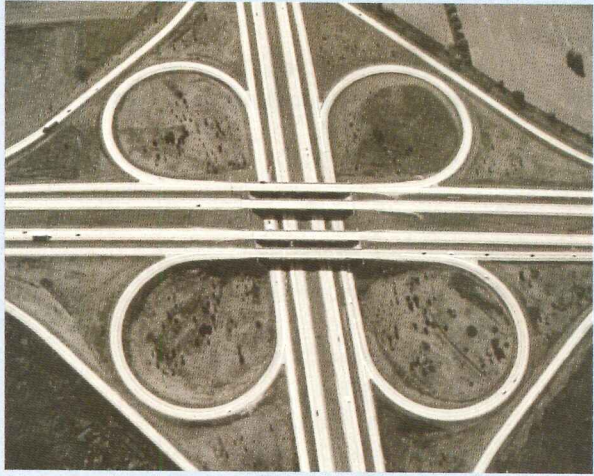
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Dates & Events

Lectures, Conferences, Symposia

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Brad Cloepfil Washington, D.C.

November 5, 2003

The founder of Allied Works Architecture in Portland, Oregon, will discuss his firm's work. The firm was recently awarded two prominent cultural commissions: the redesign of 2 Columbus Circle for the Museum of Arts and Design in New York City and the expansion of the Seattle Art Museum. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

NeoCon East: Inspiring Solutions for the Design and Management of the Built Interior Baltimore, Md.

November 6–7, 2003

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Tower and Office: From Modernist Theory to Contemporary Practice New York City

November 7, 2003

Inaki Abalos and Juan Herreros, architects from Madrid, will lecture at Columbia University as part of the School of Architecture lecture series. Visit www.arch.columbia.edu.

Concepts vs. Contexts Philadelphia

November 7, 2003

Concepts vs. Contexts will present two projects designed by Bernard Tschumi Architects, the recently completed School of Architecture in Miami and the master plan for EXPO 2004, an international exposition located in Paris/St. Denis, that will remain unbuilt. At the Tyler Gallery of Art. Visit www.temple.edu.

Alan Locke: The Practical Aspects of Sustainability Los Angeles

November 12, 2003

A principal with Los Angeles-based IBE Consulting Engineers, Alan Locke will discuss the practical aspects and issues of sustainable design and whether it may be an attitude rather than a legislated program. His more than 100 projects include Cathedral of Our Lady of the Angels, Los Angeles, Carmel Mountain Branch Library, San Diego, and Phoenix Central Library. At the Gin D. Fong FAIA Conference Center on the USC campus. Call 213/740-2092 or visit www.usc.edu.

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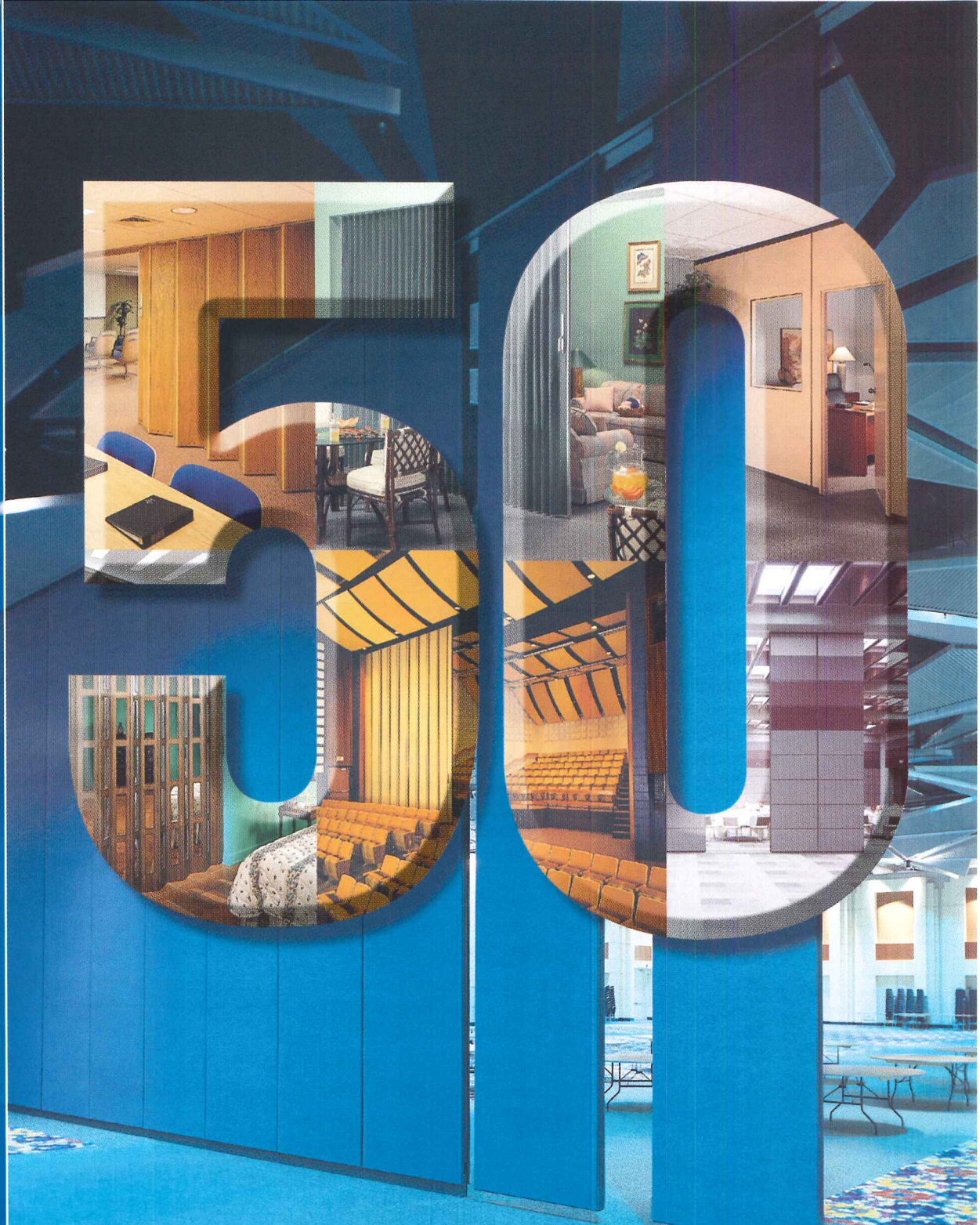
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Bill Mitchell: Me+ +: The Cyborg Self and the Networked City London

November 18, 2003

Cascading power outages, computer viruses, SARS, terrorist infiltration of transportation networks, and mobile phone conversations are symptoms of a new urban condition: inescapable network interconnectivity, which creates vulnerabilities. Mitchell, professor of architecture and head of Media Arts and Sciences at MIT, argues that we must respond by applying principles of ethical interconnectivity. At the Architectural Association School of Architecture. Call 4420/7887-0782 or visit www.aaschool.ac.uk.

Women in Design Conference Boston

November 18, 2003

Sponsored by the Women in Design Network, this year's conference will address the theme "Creative Process: A Continuum." Workshops will be organized around three design principals: design, practice, and personal growth. At the BuildBoston exhibition hall. Register at www.buildboston.com or call 800/544-1898.

Fast Forward: Your Ideas, Your Careers, Your Life Boston

November 20, 2003

Organized by ArchVoices and the Boston Society of Architects, Fast Forward is intended to inspire, inform, and promote both the everyday and extraordinary efforts of young architecture professionals. Featuring the founders of initiatives such as Architecture for Humanity, Blacklines,

DesignCitizen, Design Corps, and 306090. Visit www.buildboston.com or www.archvoices.org.

Toyo Ito: Post Sendai Mediatheque London

November 25, 2003

A lecture by Toyo Ito, whose use of fabric membranes, perforated aluminum panels, and expanded metal sheets perfectly exemplifies society's move to an increasingly mobile and informal urban lifestyle. At the AA School of Architecture. Call 4420/7887-0782 or visit www.aaschool.ac.uk.

The Pennsylvania Railroad, Penn Station and the Development of New York City New York City

December 2, 2003

Sanford Balick, a lawyer specializing in transportation and admiralty matters, will give an illustrated lecture on the influence of the railroad on the growth of the city. The conver-

sion of the General Post Office into a new Penn Station promises a new, inspiring space for rail travelers. At the Wollman Auditorium at Cooper Union. Call 212/353-4195 or visit www.cooper.edu.

Architecture and Memory: Memory/Works Boston

December 17, 2003

By examining projects that respond to historic/traumatic events, an architect/educator explores the relationship between architecture and memory and the meaning of memorials and monuments. At the Boston Public Library. For more information, call 617/951-1433 or visit www.bpl.org.

Competitions

Chi-Chi Earthquake Memorial Competition

Registration deadline: November 30, 2003

Submission deadline: December 15, 2003



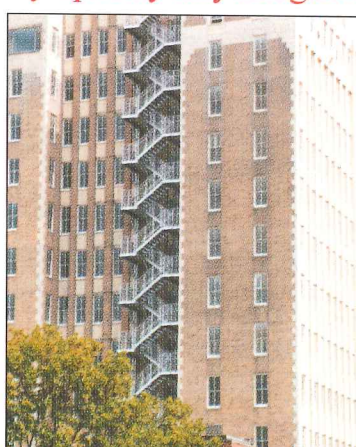
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Lectures

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Allied Works
Architecture,
Portland, Oregon

November 10
Léon Krier

November 16
David Macaulay
Award-winning author and illustrator

November 18
Julie Snow
Principal of Julie Snow Architects,
Minneapolis, Minnesota

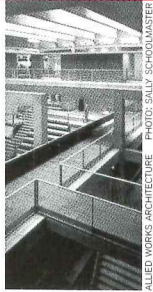


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Masonry Variations

Installations by Winka
Dubbeldam, Julie
Eizenberg, Jeanne Gang,
and Carlos Jiménez,
through April 4, 2004



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Dates & Events

The goal of this competition is to select a design proposal for the Chi-Chi Earthquake Memorial providing an innovative solution for the project that responds to the social, political, and cultural issues that developed in the wake of the disaster. For more information, visit <http://ccemc.921erc.gov.tw/english/rulesNregistration/Registration.htm>.

Palisades Glacier Mountain Hut Competition

Berkeley, California

Deadline: December 5, 2003

An international competition for the design of a 60- to 80-person wilderness-base camp facility for overnight stays near the trailhead leading to the Palisades Glacier in the Sierra Nevada Mountains of Central California. Visit www.ced.berkeley.edu/competitions.

Architecture in Perspective Competition

Deadline: December 5, 2003

The American Society of Architectural Illustrators' international competition honors today's finest works of architectural illustration. For submission guidelines, go to www.asai.ws or call 614/552-3729.

Groen Hoek: The East River Community Boathouse Competition

New York City

Deadline: December 5, 2003

The AIA Emerging New York Architects Committee (ENYA) announces the call for entries for Groen Hoek, an open international ideas competition to design a boathouse for the community of Greenpoint in Brooklyn, New York. For further information, visit www.aiany.org/committees/emerging/competition/competition.html.

39th and 40th IMCL Conferences Call For Papers and Invitation to Exhibit

Sarasota, Fla., and London

Deadline: December 10, 2003 (Sarasota, Fla.)

Deadline: December 20 (London)

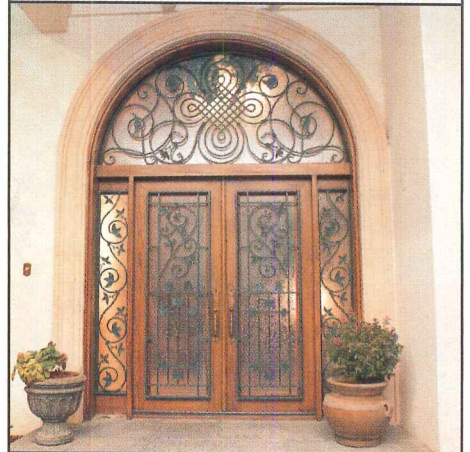
The International Making Cities Livable Conferences in Sarasota, Fla., and London (co-organized with the University of Notre Dame School of Architecture), are seeking papers and relevant work. For information and guidelines, contact Suzanne Lennard at suzanne.lennard@livablecities.org or visit www.livablecities.org.

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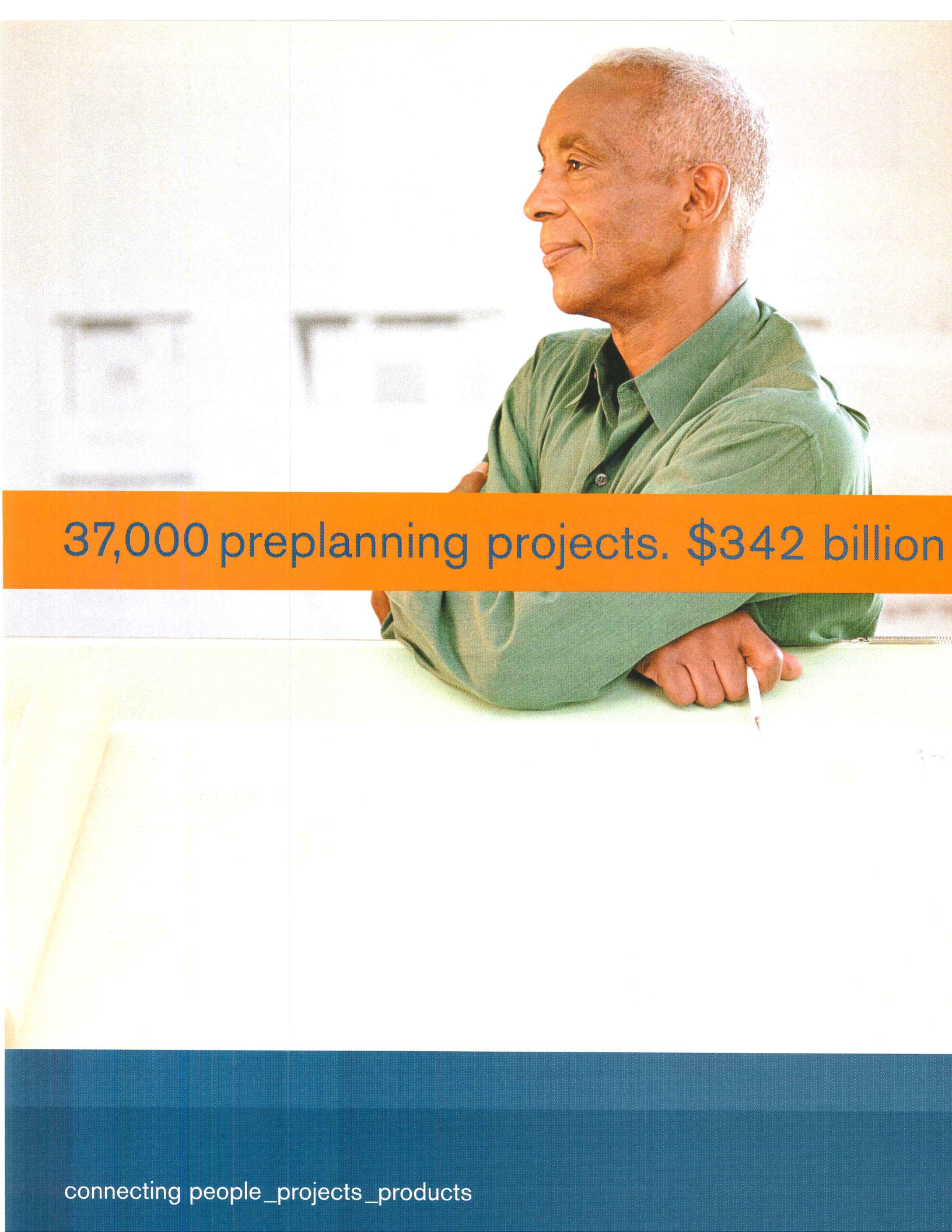
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archrecord2

FOR THE EMERGING ARCHITECT

We started archrecord2 with the idea that much of the good work being done by early-career architects never saw the light of day or the ink of a printing press. In **Design** this month, a Virginia architect who runs his solo career on the side discusses the relationship between his own work and the work he does for his employer. And in **Work**, we feature a second designer who felt as adept with a camera as with a pencil, so he incorporated photography into his studio.

DEPARTMENTS

DESIGN

Between communication and isolation



Upon reviewing the body of his independent work, Lance Hosey discovered something about himself.

"One of the things that has struck me recently that I haven't been fully aware of before," Hosey said, "is the relationship in my work between the individual and the community. I didn't set out to explore that, but I think it came out that way."

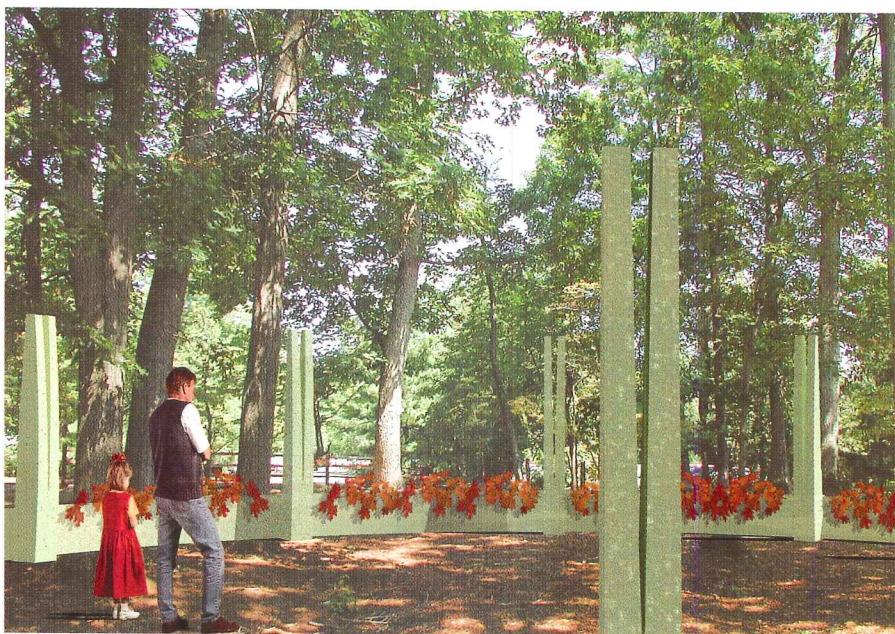
Hosey cites a writer's retreat he designed as an example. "The client is ambivalent about wanting to be concealed or revealed," he said. "The form ended up being a box with these operable louvers, but the ideas ended up being about a woman who is exposed in a field, but who is also trying to hide herself."

While Hosey does not try to hide himself, the metaphor of the relationship between the individual and the community applies to his career as much as to his work. While he does design and write in his own name and for his own purposes, he maintains a full-time job as an employee of William McDonough + Partners, an environmentally conscious Virginia firm.

"I haven't found that the body of work that I've built up on my own has been enough to coax me away from the enjoyment that I'm experiencing here," Hosey said of his firm. "At the same time, things come along that I want to do myself, and I manage to do it. I've been able to keep one foot in each world, and McDonough has been very supportive."

Hosey does have a desire to think through some architectural ideas on his own. In addition to his design work, he has published several articles in publications that include *Metropolis*, *CRIT*, and ARCHITECTURAL RECORD's online journal, *In the Cause of Architecture*. Despite this intellectual bent, however, Hosey thrives off human interaction, including that of his colleagues and his clients.

"I can't imagine designing in a vacuum," Hosey said. "I understand that a lot of architects would prefer that. They say, 'if you would just give me the money and the site and go away, then I'll be happy.' But frankly, I don't know what to do if I don't have something to respond to."



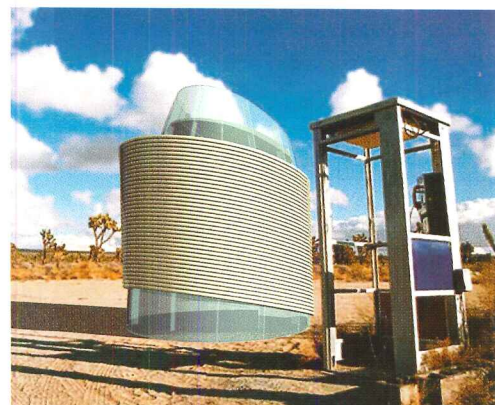
Monticello African-American Burial Ground Memorial, Charlottesville, Virginia, 2004

Hosey won a competition to design

this memorial to Monticello's slaves. The split pillars allude to the tradition of marking graves with stones or broken pottery.

HALO Communication Booth, competition entry, 2001

This structure, outfitted with a desklike ledge and a chair, serves some of the same functions as the classic phone booth, separating the user from his immediate environment while connecting him to another.



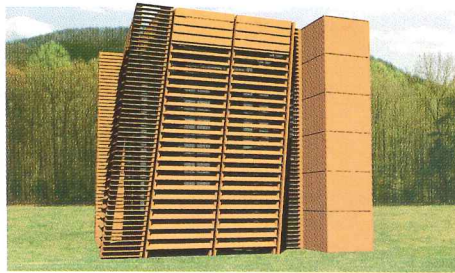
(continued from previous page) Hosey has written on the topic of whether or not an identifiable architectural style is a good thing, and he has come to the conclusion that something else should probably be more important.

"I would like to believe that the projects are really more about a set of ideas than they are about a particular form, and that form is derived from the circumstances of the project," he told RECORD. "I'm still fairly new at this, and if I get to the point where I can control form, then maybe I can answer the question of style more easily."

Meanwhile, Hosey feels content in his dual professional life as he wrestles with ideas of privacy in public places.

"These aren't completely academic ideas to me," Hosey said. "I'd like to work on building them, but one of the things that kept me from going out on my own is that I couldn't imagine sitting alone in a room by myself all day. I need to have that community around." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more of Lance Hosey's work, including his built work, and to submit your own projects.



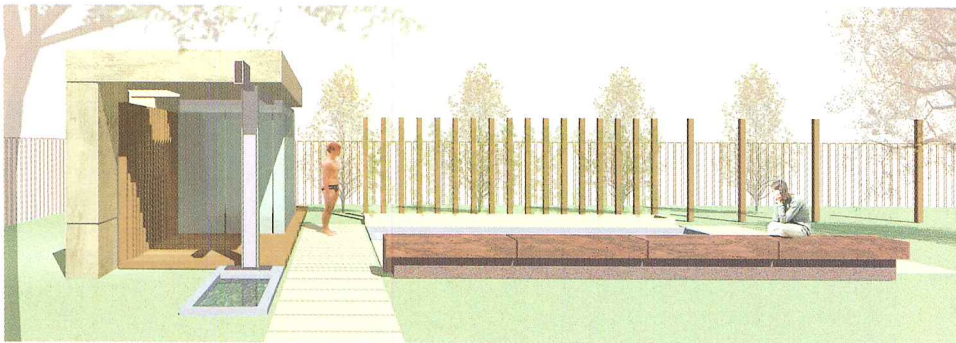
**Blind House,
Central Virginia, 2001**

Designed as a writer's retreat, this louvered box satisfies the writer's need for contemplation, yet the blinds can be opened to allow light in. The house provides working, sleeping, and eating areas.



**Pool House,
Washington, D.C., 2003**

The pool house and its plaza are arranged to be viewed from inside the main house. From there, a low stone bench hides the water. On rainy days, a spout on the pool house empties into a stone cistern.



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WORK

Many arts, one studio

Suchitra Van, the principal of Van Studio in New York City, boasts a fairly traditional architectural education and often he uses his skills in fairly traditional ways, designing apartment interiors or entering memorial competitions, just like any other architect trying to forge a career.

But to call Van an architect would be to limit him, by his own admission. He bills Van Studio as "a design studio for architecture, photography, and fabrication." Even that does not cover the extent of his interests. He takes commercial photographs,



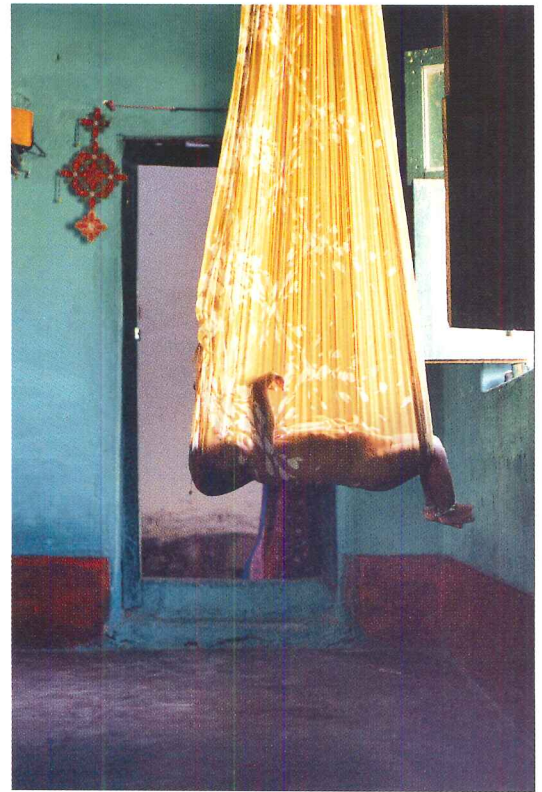
Shirts Drying, 2003, from the series *Estrangement*.

having worked for Tillett Lighting Design and Maya Lin, as well as Lincoln Center. He takes artistic photographs, having mounted gallery shows. He builds architectural models. He fabricates prototypes for other designers. And he designs his own products, and other objects, such as awards.

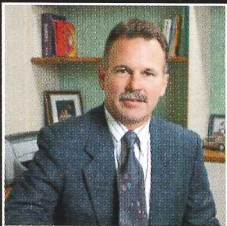
The images on this page represent a small selection of Van's artistic photography. *Sleeping Baby* was taken in India and won first prize in a competition sponsored by *Better Photography*. *Shirts Drying*, which is a part of the same series, was also shot in India. Both photographs were auctioned to support the South Asia Against AIDS Foundation. *Shirts Drying* was auctioned at Christie's auction house in New York City.

Recently, Van has begun a series of photographs showing New Yorkers in their living or working spaces. The photos show how people take the small spaces typical of New York City and make them their own by adding things that they love, much as Suchitra Van has taken the typical, narrow definition of architectural practice and carved out his own space. *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more stories about emerging designers' careers.



Sleeping Baby, 1999, from the series *Estrangement*.



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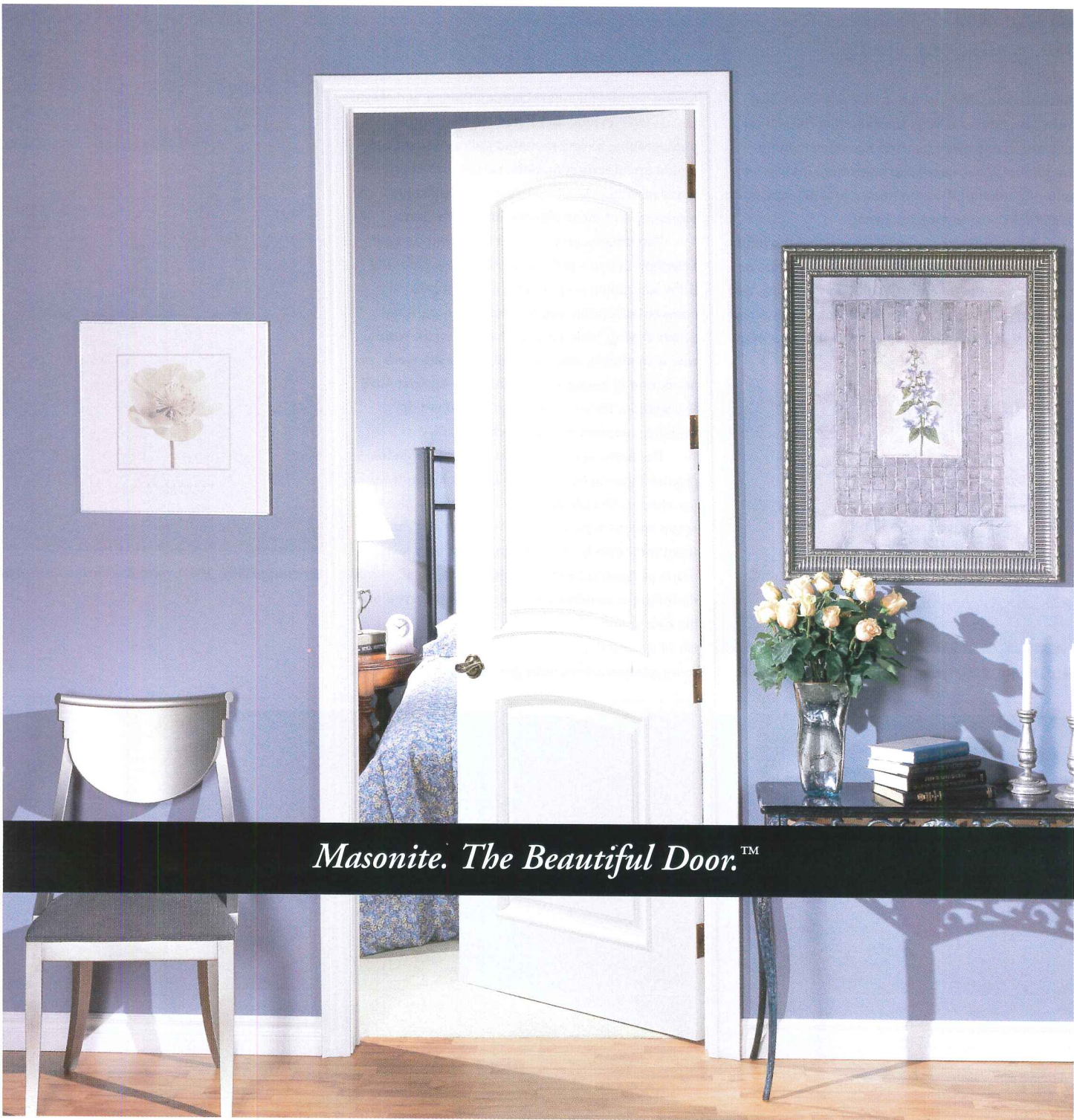
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Confessions of a competitions junkie, and why it may be time to kick the habit

Critique

By Michael Sorkin

DEPARTMENTS



Le Corbusier's entry in the League of Nations design competition in 1927 was disqualified on a technicality.

Why have architectural competitions? For practitioners, they offer the chance of a job without the grief of negotiation or self-promotion, and they can sometimes jump a small practice to the next level. For clients, competitions provide the opportunity to choose from many alternatives, show sympathy with architecture, and—in most cases—do it on the cheap. For the public, competitions carry the seal of meri-

Contributing editor Michael Sorkin practices architecture in New York and heads the urban planning program at City College of New York.

toocracy, seemingly outside familiar cronyism.

But the process is easily corrupted. For starters, there's something exploitative about the huge amounts of uncompensated work required to keep the system going. And there are plenty of opportunities for log-rolling, deal-making, back-scratching, insider-trading, and the rest. Juries can be dramatically affected by plane schedules, blood-sugar fluctuations, personality conflicts, and low-common-denominator compromises: Differences in taste cannot be adjudicated except by someone giving in.

Although I am a longtime sucker for competitions, a recent spate of bad experiences has given me pause. In this circumspect spirit, I offer a brief list of potential styles of abuse.

1. Bait and switch

There are several styles of this scam. On the client side, there's the premiate-Danny-Libeskind-hire-David-Childs gambit, often justified by the negotiations-with-the-winner-were-unsuccessful-therefore-we're-simply-hiring-whom-we-want rationale. On the architectural side, there's the answer-the-proposal-with-one-

team-show-up-at-the-job-meeting-with-another strategy. For instance, my office was recently asked to join a competition team by the London office of a large American design firm. I agreed. We did lots of work, sent it to them, and the "team" won the competition. Within a week, though, we had been both dropped (and stiffed), our usefulness at an end with the commission in hand.

Then there's the matter of juries advertised in promotions that fail to show up for the judging. How many architects have entered competitions because some sympathetic figure was on the jury, only to discover that s/he never appeared, or never had agreed in the first place? Competitions that enjoy high numbers of entries are often also subjected to preselection by the organizers, to save jurors—whose time is limited—from slogging through piles of entries that can quickly be determined to be uninteresting. Competition briefs seldom suggest that such procedures are likely to take place.

2. Selective punctiliousness

And who hasn't experienced the ritual race to the post office to get the midnight postmark to confirm the eligibility of an entry? Although one may growl at the extra few days local competitors sometimes have to hand-deliver their projects, the logic behind deadlines, format restrictions, and so on is clear: to level the playing field by assuring that no one has more time or space than anyone else.

But, the law is also an ass. Technical reviews of competition

Critique

entries can eliminate wonderful schemes on the basis of some trivial infraction or meaningless variation in format. Deadlines are also malleable. We recently invested much time and money on a very promising competition sponsored by the tourism bureau of a key Asian nation. Because of this summer's blackout on the east coast of the U.S.—an act of God if ever there were one—our entry was delayed in transit and arrived after the official deadline. Although we had notified the organizers of the situation and sent digital copies of all the material, and although our submissions actually arrived during jury deliberations, the authorities chose to stick to the letter of the law, and our work went unseen. Such strict construction is not simply unfair on its face, it is contrary to what one would think to be the self-interest of the

organizer: to be able to choose from as many well-worked-out schemes as possible.

3. Cover your butt

A frequent reason for competitions is to convey the appearance of sincerity about architectural quality and to offer the image of due diligence in

the pursuit of the public weal. This abuse is often particularly egregious in cases where juries lack independence or in which no actual jury is employed. The LMDC site competition for Ground Zero in New York City had a jury to select competitors but none to choose a winner, which was simply done by fiat. The current competition for the 9/11 memorial is genuinely "open," but the site and

program are so absurdly constrained by planning decisions already made that the project risks being no more than a tiny fig leaf for the giant shaft to rise to its north.

A particularly invidious form of this use of architecture as camouflage is the so-called "developer competition." New York had several such competitions over the years as the Transit Authority attempted to sell off its enormously valuable property at Columbus Circle. The competitions

ones, abundantly confirmed by the outcome.

4. Permanent winners

Norman Foster has been having a particularly strong run in New York lately. He was recently chosen by the Economic Development Corporation (with three other European offices, plus Steven Holl) to compete for the wonderful project of redesigning the Lower East Side waterfront. He was also invited to the LMDC site-planning competition for Ground Zero. And, he has now been approached by developer Larry Silverstein to do one of the shorter towers on "his" site. I do not begrudge the talented Lord Foster the opportunity to work in New York. However, his repeated presence on the list for these "public" projects speaks loudly of the constraints of the star system. It seems that the same six architects appear on every shortlist nowadays. This defeats another rationale for the competition system: that it mitigates the influence of both celebrity and fashion. If the same few architects

TECHNICAL REVIEWS OF COMPETITION ENTRIES CAN ELIMINATE WONDERFUL SCHEMES ON TRIVIAL PRETEXTS.

they staged weren't between architects, but developers, who were asked to provide combined architectural, programmatic, and financial proposals. While the decision that begat the current construction—made by insiders—supposedly took into account all of these factors, it was clear from the get-go that the TA took its fiduciary responsibilities more seriously than its architectural



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Critique

comprise every list, though, nothing new can happen.

There's another cadre of permanent competition winners. Just as President Bush explains no-bid contracts for Bechtel and Halliburton in Iraq on the basis of their being the only firms with the "capacity" to undertake the work, so too a very small group of engineers, construction managers, marketing and real estate consultants, and others appears on virtually every RFP and RFQ response for major projects in New York, and it's common knowledge that every team must include a heaping of old-boy chops to move ahead. A very senior official at the LMDC confided to me that the initial selection of Beyer Blinder Belle as site planners was of relatively small import to him. The real point had been to get their teammates Parsons Brinckerhoff as engineers, because that was the arena in which

the real decisions were going to be made, well out of view.

5. Second-place syndrome

One of our beloved myths is that the best competition entry—from the Chicago Tribune building to the League of Nations—always comes in second. And there is some truth

IN ALMOST EVERY COMPETITION, THERE WILL BE DOZENS OF SECOND-PLACE SCHEMES SUPERIOR TO THE WINNER.

here. I do not envy the task of the large jury sifting through the 5,400 entries for the 9/11 memorial competition, but I know that they will not pick the "best" project, but the best one they can agree on. There will be a vote, a learned democracy, and the appearance of fairness. Fairness, however, is not an aesthetic category. In these proceedings, though, it must substitute for one.

As a result, there will certainly be dozens of "second place" schemes that many will consider superior to the winner. This is what makes architectural competitions crapsnoots. Although calling the body making the choice a "jury" suggests a legal analogy—with all its implications of fairness and deliberation—an architectural jury lacks what is most fundamental to the real judicial process: a body of laws. Everybody simply brings their own. A "balanced"

administering justice—are no more intrinsic to decision making than the color of the courtroom walls. The rigidity with which these laws are sometimes enforced is simply displacement. Likewise, balancing the jury by whatever formulas of demography or taste that may seem "correct" does not assure a meaningful effect on the outcome, since fair play is a desirable quality only of the competition itself, not of the entries.

The limits of logic

Although we still cling to the basic tenets of functionalism to maintain the fiction that architecture can be judged on the basis of strictly rational standards, we all know that this has little to do with what really makes projects great. The discourse may provide a sense that a logical choice can be made, but logic itself only goes so far in artistic judgments. The best one can hope for is that on some jury some day, there will be someone who cares enough about a piece of our work that they'll put up the fight to make it a winner. ■

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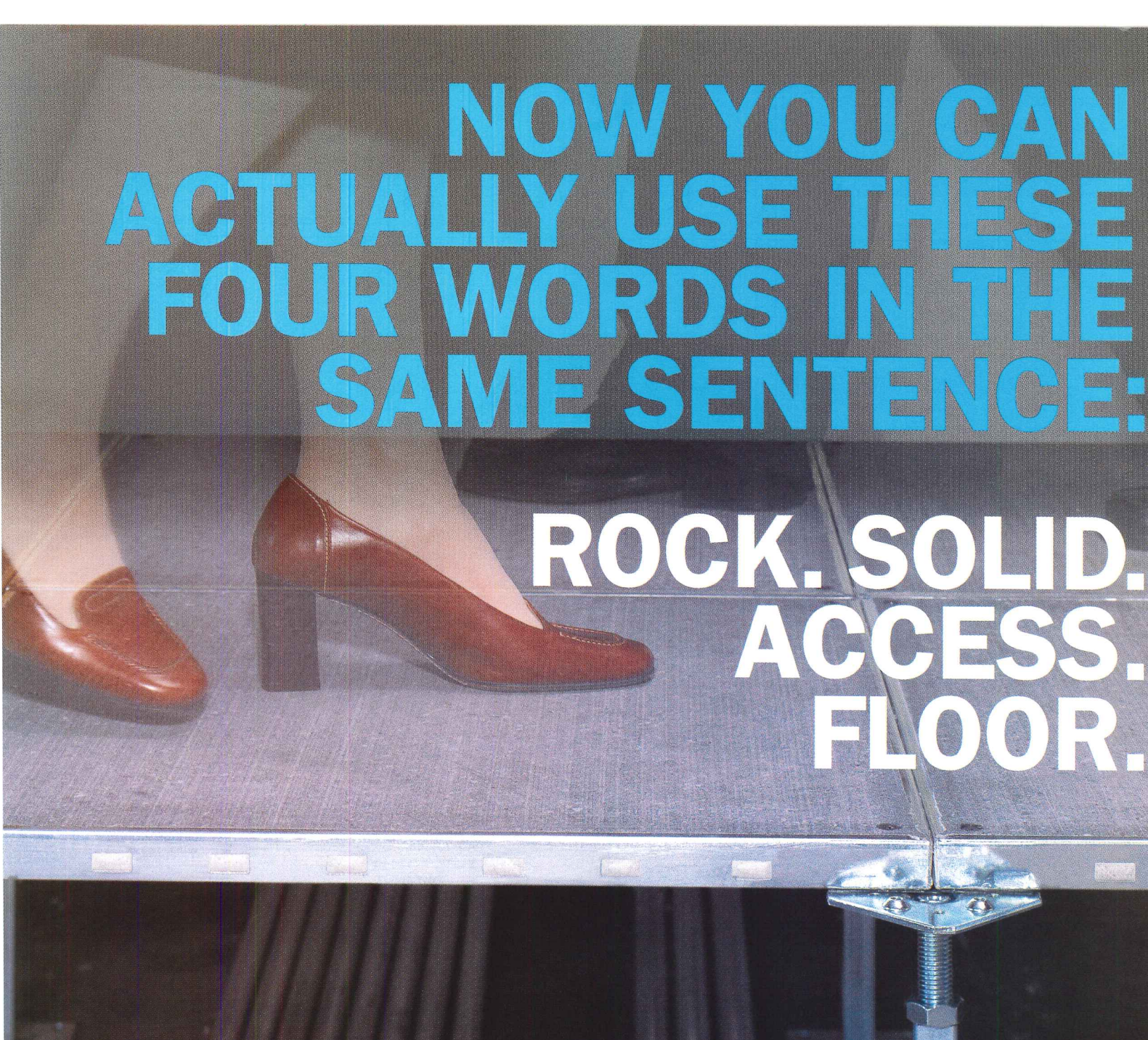


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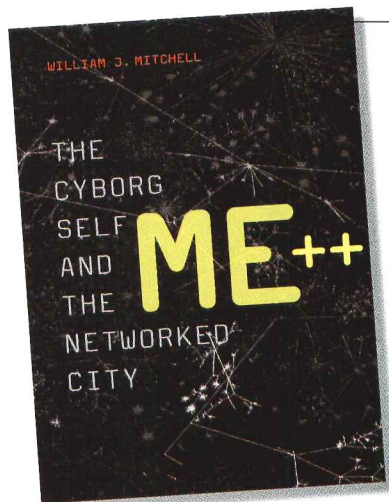
Books

ME++: The Cyborg Self and the Networked City, by William J. Mitchell. Cambridge: The MIT Press, 2003, 312 pages, \$28.

In his trilogy, *City of Bits: Space, Place, and the Infobahn* (1996), *e-topia* (2000), and now *ME++: The Cyborg Self and the Networked City*, William Mitchell puts a contemporary spin on Winston Churchill's maxim that we shape our buildings and our buildings shape us: "We shape our technologies, then our technologies shape us," he writes. *City of Bits* was prescient, but Mitchell's e-topia of "lean, green cities that work smarter, not harder" hasn't yet materialized. *ME++*, less daringly, describes the world as it is—brimming with opportunity while making possible various forms of havoc: viruses and worms, electronic tracking and surveillance, hacking and reprogramming.

As he has done in his previous books, Mitchell, head of MIT's Program in Media Arts and Sciences, floats clearly conveyed assertions on a stream of technological and historical detail, with erudite nods to ancient and current thinkers.

He ventures that as technology miniaturizes and dematerializes various functions such as computing, photography, and filmmaking, it transforms us into cyborgs with electronic appendages. The telephone, for example, by migrating to our pockets or belts has become an extension of our bodies and has moved "into the domain of fashion design and marketing." As electron-



ics become embedded in clothing and accessories, "the subtle skills of the clothing designer will be drawn together with those of the electronic engineer," Mitchell writes.

Meanwhile, electronic connectivity has become the defining characteristic of our time and has changed human identity from Descartes's "I think therefore I am" to "I'm linked therefore I am." Mitchell writes that for him, "disconnection would be amputation." Architects are discovering, he says, that ubiquitous, high-speed interconnectivity makes not for telecommuters but for mobile workers for whom "a quiet place under a tree can become a design studio. A subway car can become a place for watching movies ... In ways, then, we are returning to strategies and practices of preliterate, precapitalist times. Ancient Greek philosophers, for example, did not have offices and classrooms; they strolled with their students through the groves of academe."

More practically, as connectivity matters more, physical adjacency

(the library carrel next to the stacks, the workstation near the office copying machines) counts for less. And as virtual space becomes more important, it will become a more prominent part of actual space, if not merged with it.

What are the implications of *ME++* for the future? We'll have to wait for Mitchell's next volume. *Andrea Oppenheimer Dean*

Megaprojects and Risk: An Anatomy of Ambition, by Bent Flyvbjerg, Nils Bruzelius, and Werner Rothengatter. New York: Cambridge University Press, 2003, 218 pages, \$55.

Mega-Projects: The Changing Politics of Urban Public Investment, by Alan Altshuler and David Luberoff. Washington, D.C.: Brookings Institution Press, 2003, 368 pages, \$55.

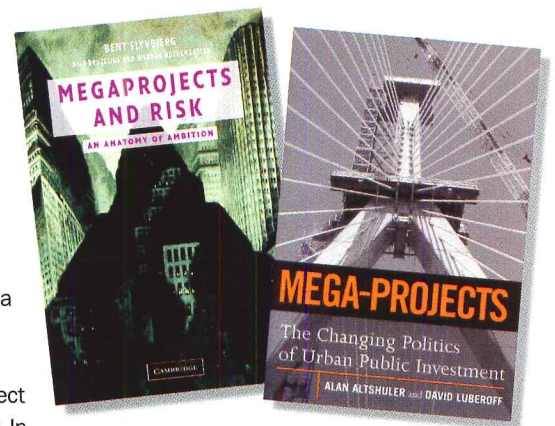
Projects forging high architecture with bold engineering are casting a steel-and-concrete web across Europe, linking regions and countries long separated by geography. There's the Channel Tunnel, or "Chunnel," between Britain and France, the Øresund bridge between Sweden and Denmark, the high-speed train network radiating from Paris, and the 2-mile Messina Straits suspension bridge under development that would connect Sicily to mainland Italy. In

fact, these and other European grand projects are making the amazing commonplace.

Megaprojects in the United States tend to be less ambitious, encompassing highways, airports, light-rail lines, and football stadiums. Occasionally, larger efforts find funding, such as the Central Artery suppression or Big Dig in Boston, the new international airport in Denver, and the transportation center planned for Ground Zero in New York City, which architect Santiago Calatrava will design. But they are the exceptions.

Two new books with nearly identical titles, one from European authors and one from Americans, look at megaprojects in their respective continents.

Megaprojects and Risk, by principal author Bent Flyvbjerg and two coauthors, takes a green-eye-shade perspective. Its conclusion is clear: Such projects may be nifty, but they are rarely worth the money. They show how business and political leaders routinely underestimate



Books

costs and overestimate benefits in order to get things built.

The authors examine in detail the Channel Tunnel, the Øresund Bridge, and the "Great Belt" that links Denmark with continental Europe and includes the longest suspension bridge in Europe (at least until the Messina Bridge opens). The Chunnel, built by a private consortium, has done particularly poorly. About 50 million passengers a year use it, the authors say, versus the 100 million predicted for its first year in 1994. Flyvbjerg argues for a more realistic method of project evaluation and gives an example in his last chapter.

Are such projects as bad as Flyvbjerg suggests? Even if they don't live up to their billings, they often pay for themselves by stimulating overall commerce and the economy. Transportation spending has long been a generous recipient

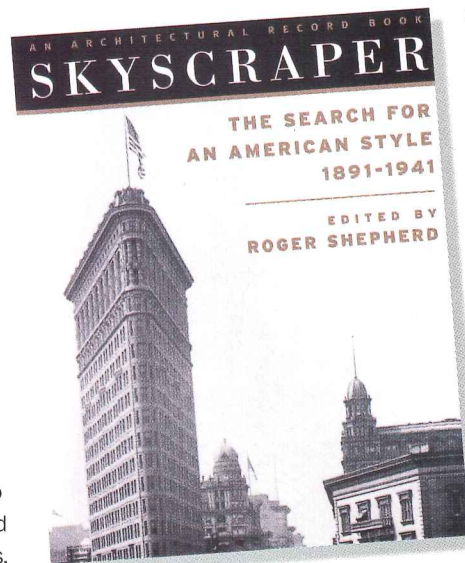
of government subsidies precisely because of this. The authors mention this argument but make clear their distaste for it.

Mega-Projects: The Changing Politics of Urban Public Investment looks at America's minor megaprojects from a political perspective.

Alan Altshuler and David Luberoff, both leaders of the Taubman Center for State and Local Government at Harvard, outline the history of U.S. government investment in highway, airports, rail, and other infrastructure since World War II. In the 1950s and 1960s, federal and state governments built big highways in and through cities and were ultimately met with a backlash. Infrastructure spending declined, the authors say, but also shifted in the 1970s and afterward to rail projects, convention centers,

and sports stadiums. No fans of post-war urban renewal, they are also skeptical of the worth of many of the newer projects, particularly rail lines.

As case studies, they examine Boston's Big Dig, the new Denver International Airport, and the Los Angeles subway line. Altshuler used to be the Massachusetts secretary of transportation, so the Big Dig chapter is particularly rich.



This book is a serious piece of scholarship, but it suffers, to a lesser degree, from the same flaws as Flyvbjerg's book. Altshuler and Luberoff too often cite only easily quantifiable indexes, such as cost per rider for rail projects and pay little attention to the overall economic contributions such projects make. They rarely examine how a major project functions in the context of regional urban-planning goals. Although they might argue otherwise, they implicitly endorse a very limited analysis of infrastructure spending. *Alex Marshall*

Skyscraper: The Search for an American Style 1891-1941, edited by Roger Shepherd. New York: McGraw-Hill, 2003, 297 pages, \$45.

Although the 9/11 attack on the World Trade Center was, among other things, a vivid demonstration of skyscraper vulnerability, both of the two finalists in the competition for

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Books

rebuilding the site proposed towers taller than those destroyed. Clearly, our fascination with the skyscraper as building form is stronger than logic and more enduring than the skyscraper itself. This new book illuminates that fascination in an unusual way.

"This is not a history of the skyscraper," Roger Shepherd, the book's editor, notes in the preface—and indeed it leaves unmentioned many important and interesting tall structures—but it is, in fact, a history of opinions about the skyscraper, being a compilation of criticism on that subject from a half-century of ARCHITECTURAL RECORD. It presents a wealth of clear thinking, good writing, lofty philosophizing, and perhaps unnecessary wringing of hands (a recurrent theme being "the problem" of the skyscraper). The list of authors is impressive, among them

Russell Sturgis, Ely Jacques Kahn, Lewis Mumford, and Frank Lloyd Wright. Represented in marginal excerpts are Philip Johnson, Talbot Hamlin, Herbert Read, Douglas Haskell, Le Corbusier, Fiske Kimball, Paul Philippe Cret, Erich Mendelsohn, Ralph Adams Cram, and more. Serving as the book's epilogue is a 1951 article by historian Henry-Russell Hitchcock, "The International Style Twenty Years After." And editor Roger Shepherd, author also of the 2001 *Structures of Our Time: 31 Buildings that Changed Modern Life*, adds an introduction to each of nine chronologically ordered sections, and has assembled a collection of vintage photographs. An interesting additional feature is that subtle bands of color key each reprinted article to the building that was tallest in the world at the time the piece was written: the 309-foot World Building

from 1890 to 1899, for example, and the 612-foot Singer Tower only from 1908 to 1909.

From this rich pudding of articles and excerpts, each reader will pluck some personal plums. Mine include the following:

Writing in 1896, Montgomery Schuyler, one of the founders of RECORD, suggested a legal height limit of 120 feet, and then three years later, apparently reconciled to greater height, complained that there was "more of conformity and homogeneousness among the 20-story buildings than there used to be among the five-story buildings."

In 1903, Claude Bragdon described Carrère and Hastings's recently completed Blair Building in New York (now destroyed) as "the finest flower which has sprung skyward out of the Beaux Arts hotbed."

In 1915, A.N. Rebori criticized Burnham and Root's Reliance Building in Chicago—and particularly its structure-concealing skin of white terra-cotta—as "not an artistic solution of the problem, but only

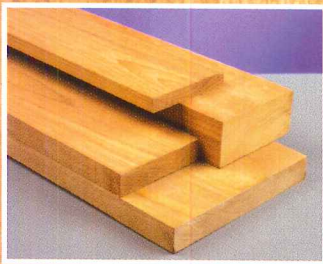
a statement of it."

In 1923, Louis Sullivan complained about the awarding of the second prize, rather than the first, to Eliel Saarinen's entry in the Chicago Tribune Competition. The decision, Sullivan writes, "has deprived the world of a shining mark, denied it a monument to beauty, to faith, to courage and to hope."

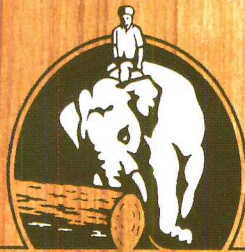
And in 1924, Harvey Wiley Corbett called Raymond Hood's new American Radiator Building in New York "a triumph of commercialism" and explained that this was no insult, for "commercialism in its present significance spells gradual freedom and liberty for the average man."

A frustrating thing, however, about this 50-year history is that it comes to an end on the eve of World War II. In the 62 years since then, many more skyscrapers have been built and many more RECORD articles have analyzed them. Let's hope Roger Shepherd is planning a sequel that will bring us up to date. *Stanley Abercrombie*

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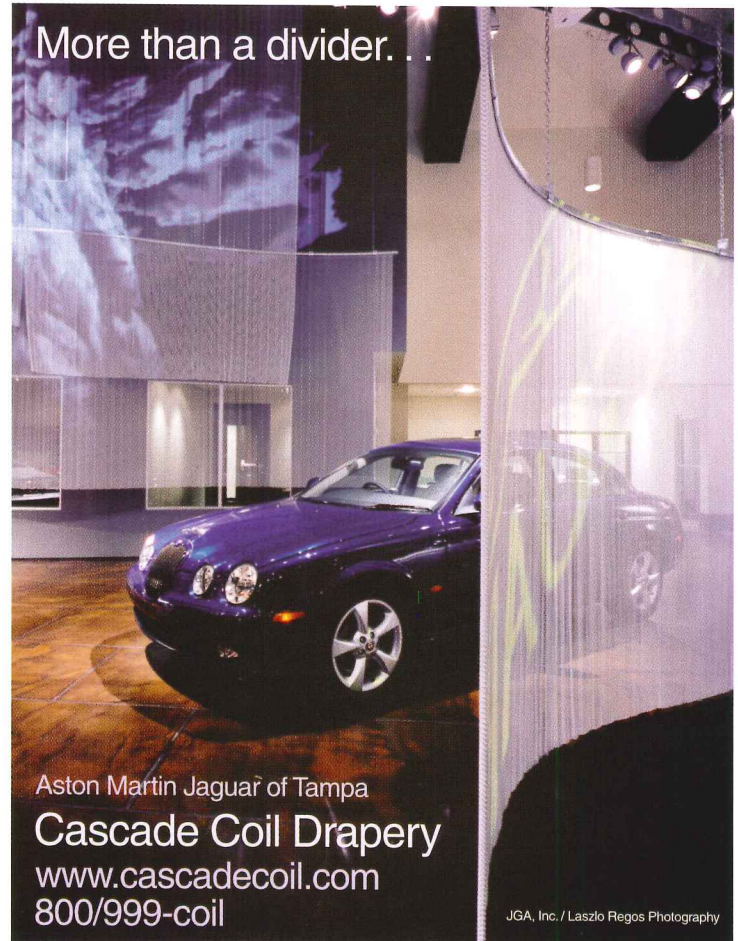
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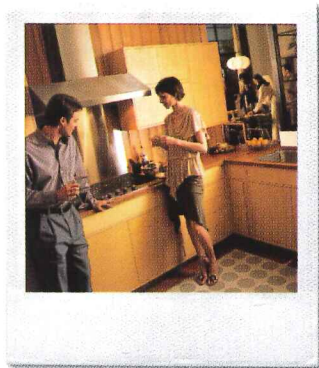
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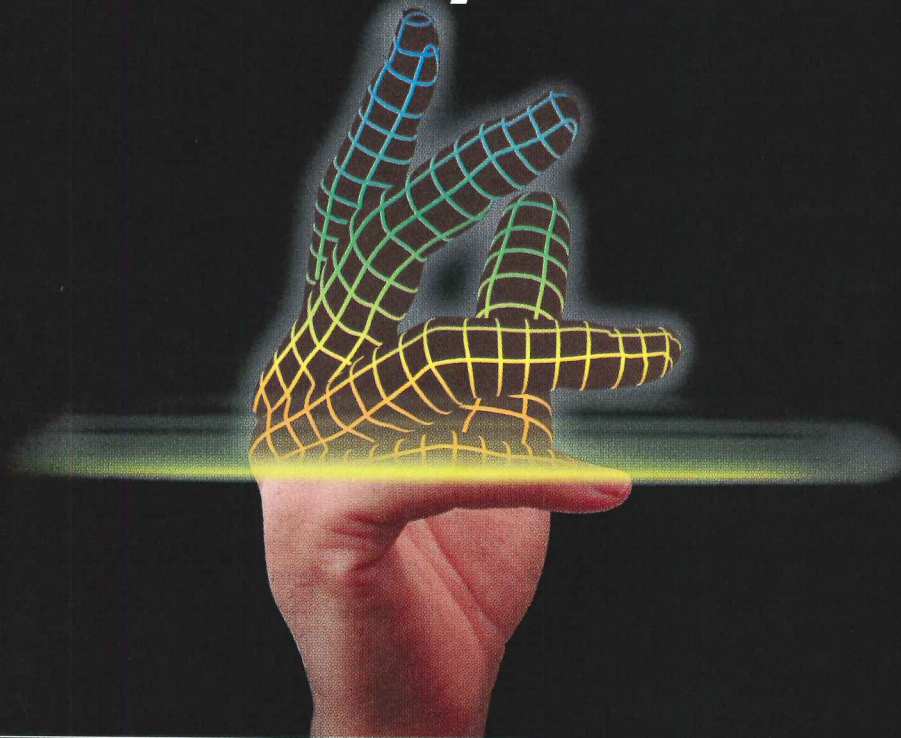


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Man on fire: A new film examines the work and life of Louis Kahn

Review

By Clifford A. Pearson

My Architect: A Son's Journey, directed by Nathaniel Kahn, produced by Susan Rose Behr and Nathaniel Kahn, distributed by New Yorker Films in association with HBO/Cinemax Documentary Films. Opens November 12 at the Film Forum in New York City, then in cities around the U.S.

The film begins with a man sitting at a microfilm projector, searching old issues of *The New York Times*. He finds what he's looking for—his father's obituary—and reads parts of it aloud. The last sentence states the deceased is survived by his wife, Esther, and a daughter, Sue Ann. No mention of a son.

Following this statement, Nathaniel Kahn's documentary film *My Architect* takes viewers on his personal journey in search of the truth about his father, Louis Kahn, a man he knew only as a fleeting but loving figure. Nathaniel was 11 years old when his father died in New York's Penn Station. Although one of the greatest architects of the 20th century, at his death Kahn was wearing a rumpled suit and carrying identification with his home address crossed out. The police took his body to the city morgue, and for two days the world didn't know he had died.

Like his attire, Kahn's personal life was anything but tidy. In addition to his wife, he maintained long-term relationships with two other women

and had a child by each: a daughter, Alexandra, by the architect Anne Tyng, and a son, Nathaniel, by the landscape architect Harriet Pattison. He juggled three families simultaneously, shuttling between houses just a few miles from one another but returning late each night to his wife. Charming and brilliant, needy yet giving, Kahn left a deep emotional wake behind him but never lost the admiration—and affection—of his three women or his three children.



Lou by Nathaniel's mother.

Dual roles for a director

Nathaniel's movie accomplishes a similar feat—churning up feelings of love and loneliness among the surviving people from his father's life, capturing the profound spirit of his father's buildings, and charming viewers in the process. Nathaniel served as both director of the film and its main screen presence, dual roles that could have created major problems but end up generating much of its emotional energy. Instead of an unbiased narrator or guide, Nathaniel is a participant in a family drama, someone whose existence was not even known by many of his father's friends and colleagues. In some of the film's most touching moments, he reveals his identity to people who knew or worked with Lou, and they respond with deep affection—evidence of their love for his father and their

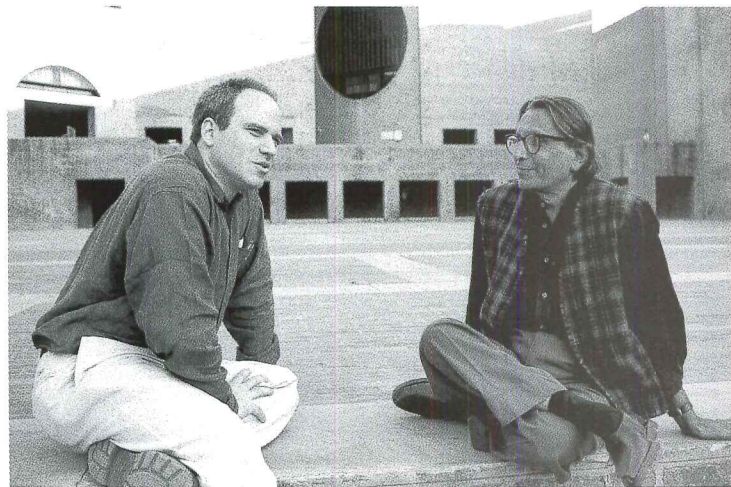
understanding of his conflicted personal life.

The film includes interviews with famous figures such as Philip Johnson, I.M. Pei, Frank Gehry, Robert A.M. Stern, Moshe Safdie, B.V. Doshi, Edmond Bacon, Vincent Scully, and former Jerusalem mayor Teddy Kollek, as well as architects who worked with Lou Kahn, including Jack MacCallister and Duncan Buell. Nathaniel talks with cabdrivers in Philadelphia who drove Lou around town and workers outside the capitol buildings Lou designed in Dhaka, Bangladesh. Perhaps most touchingly, he speaks with members of his unconventionally extended family, including his two half-sisters, his mother, and Tyng, his father's other mistress.

The people in the film talk of Lou Kahn the man, and Lou Kahn the architect. They talk about his work and how he created it. They recall private moments, such as Lou spending Christmas with his employee

MacCallister's family—not his own—and Lou designing a lovely house for Norman and Doris Fisher in a suburb of Philadelphia, but never one for any of his own families. The film combines archival footage of Lou lecturing at Penn, drawing in his office, and walking on the street, along with contemporary footage of Nathaniel's interviews and his journey to his father's buildings. By reaching out to the people who knew his father and trying to understand the buildings his father created, Nathaniel assembles a rich and affecting portrait of a man who changed many lives as well as the course of modern architecture.

Now 40, Nathaniel has made several documentary films and written and directed a play, *Owl's Breath*, which ran off-Broadway in New York City in 1989. A graduate of Yale, where two of his father's key buildings—the Yale Art Gallery and the British Art Center—stand as powerful reminders of Lou's genius, Nathaniel kept a wary distance from



Nathaniel Kahn speaking with B.V. Doshi in India.

Review

the field of architecture for most of his career. But about six years ago, he started working on *My Architect: A Son's Journey* and plunged into the world that always dominated his father's attention.

Asked why he finally turned his professional attention to his father, Nathaniel explains, "For a long time, I felt he was hanging around. When Lou died, it was so mysterious and there was so little evidence that he'd been in our lives that I almost didn't believe he was gone. The film had been rattling around in my head for a while. When I started working

on the script, I realized I didn't know enough about him. But the real guy is still out there. I should find him."

Confronting illusions

The film includes some emotional moments of Tyng and Pattison wrestling with their feelings toward Lou and confronting some of their illusions. "It's a very personal film," says Nathaniel. "I think finding that voice and finding the courage to ask those questions in the first person took me a while. You can see it in the film. I begin rather tentatively asking questions that are objective,

questions that anybody would ask. Only later do I find my own voice."

Like many other people, Nathaniel thought of Lou as both a person and "also a mythic figure." He could be down-to-earth one moment and philosophical the next. "He was charming with everybody," recalls Nathaniel. "He liked talking as much to cabdrivers or the guy who brought the newspaper as to other architects. He could be funny. But when he was uncomfortable, he became oracular and sort of mysterious and obfuscatory. That's when his language became highly poetic and a bit suspect, sort of tautological."

Making the film helped Nathaniel understand how his father worked. "I learned how much my father struggled in getting the right idea. Like me, he was slow. He needed time. And he needed people around him to think. He was not like Corbu, who would sit there and do nothing for a year and then suddenly one day he'd draw an entire project. Or Wright, who worked so fast his assistants couldn't keep the paper underneath his pencil. That was not Lou. Lou needed to talk a great deal about everything, try out things with people there, bounce ideas off them, and then late at night, maybe around 2 A.M., suddenly draw something."

This work process also helps explain Lou's personal arrangements. "He created a world around him that suited his creative process," states Nathaniel. "He needed to have several different compartments to work in, so he created several different places to go—some that were refuges and some that were more public. I have great sympathy for that, although it could at times be extremely hard on other people in his life."

As his subtitle suggests, Nathaniel structured his film as a journey and presents his interviews in linear fashion. While many recent documentaries cut back and forth between a set of "talking heads," *My Architect* shows each interviewee only once, then moves on to the next. While this strategy enhances a sense of discovery, it forced the

filmmaker to cut some great material. Other pieces and even entire interviews fell out for technical reasons or to maintain a tight flow. Speaking of these lost moments, Nathaniel expresses the painful limitations of his craft and his own skill.

"There are some gems that didn't make it into the film. Sometimes things that you really want to make happen just don't quite work," he admits. One omission that particularly hurts him, says Nathaniel, is an interview with Robert Venturi and Denise Scott Brown. "I had a fascinating talk with Bob and Denise, who spoke to me in a wonderful, personal way. Lou was very close to both of them. And Bob was extremely generous to my mother and very supportive of both of us."

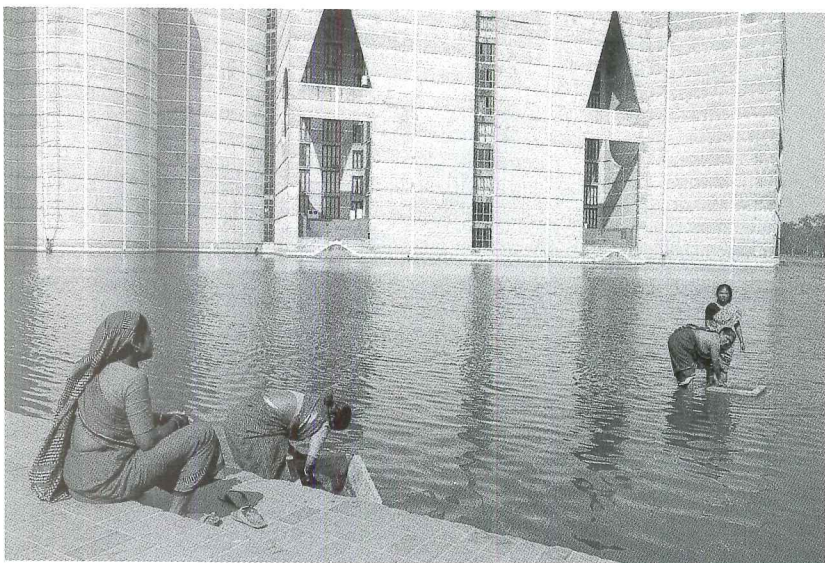
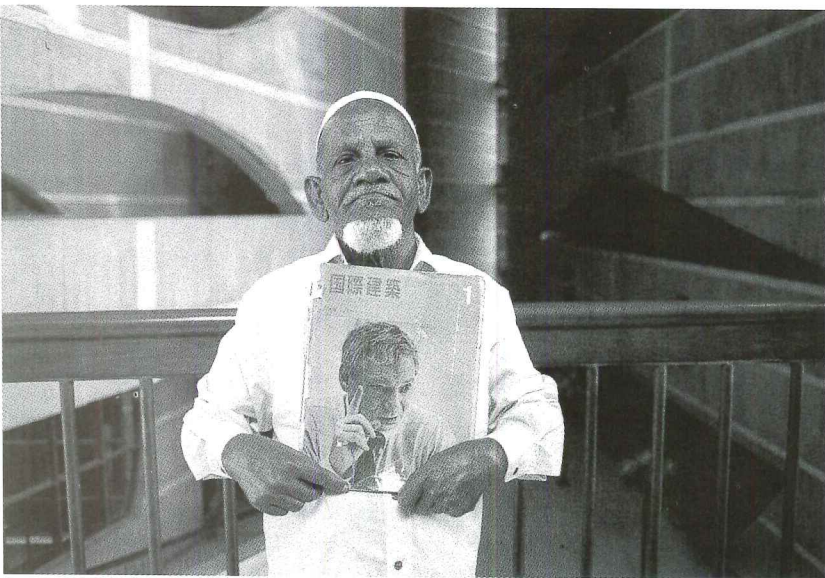
What started the journey

Nathaniel also cites a great interview with critic Paul Goldberger that didn't find a place in the film. "But Paul is in the film because the obituary he wrote for the *Times* is what starts it all. His words are the ones I'm reading in the beginning and what started my entire journey."

Another remarkable moment that ended up on the cutting-room floor, says Nathaniel, was the story Frank Gehry told about the one time he met Lou. "It was in the early '60s or maybe late '50s, and Frank went to a lecture Lou gave in California. Frank admitted he didn't understand everything Lou was saying, but he understood the passion and the fact that Lou was talking about an architecture of people. Afterward, he went up to Lou and threw his arms around him and hugged him. Lou looked at this stranger like he was a crazy nut, but Frank was so moved."

Nathaniel hopes to include some of this footage in the DVD release of the film.

The human element in Lou's work became apparent to Nathaniel only over time. "At first, I thought of my father's architecture as kind of remote. Then I started to see the romanticism of it. He used to talk about this all the time—that this courtyard here would be a good place for boy meets girl or that that



Pride and practicality: Bangladeshis view Kahn's buildings in Dhaka as a symbol of their democracy and a place woven into their daily routines.

VISIONARY.

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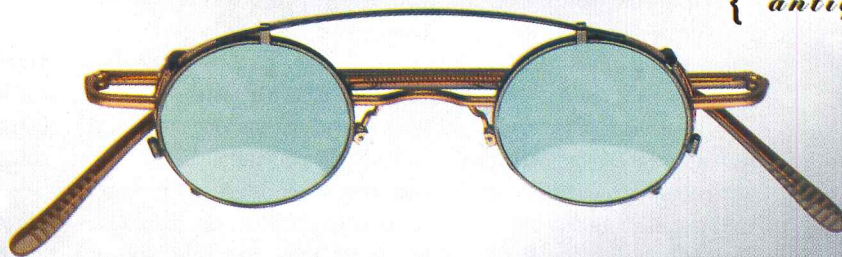
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Review

space there would be a good spot for an intimate conversation. Or he would design a stair landing with a bookshelf, so that if an old man is walking with his grandson, he can stop along the way, pull out a book, read a passage to the boy, and disguise the fact that he's old and needs a place to rest."

Unity out of chaos

Making the film also revealed to Nathaniel an intriguing contradiction between Lou's life and work. "Paul [Goldberger] said it quite beautifully. He said Lou wasn't a guy who knew how to choose. He couldn't take this or that. He wanted this and that. But in his architecture he sought unity, a unity that he certainly did not have in his life. Perhaps it took a certain amount of chaos in his life to create a space out of which he could find these peaceful, composed, singular kinds of buildings."

The intensity with which Lou lived and worked, especially at the end of his life when he shuttled back and forth to projects in India and Bangladesh, makes his son think of him "as a man on fire." Nathaniel

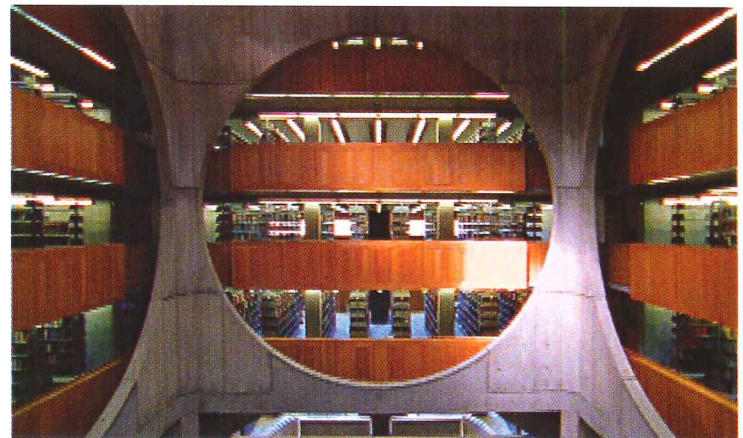
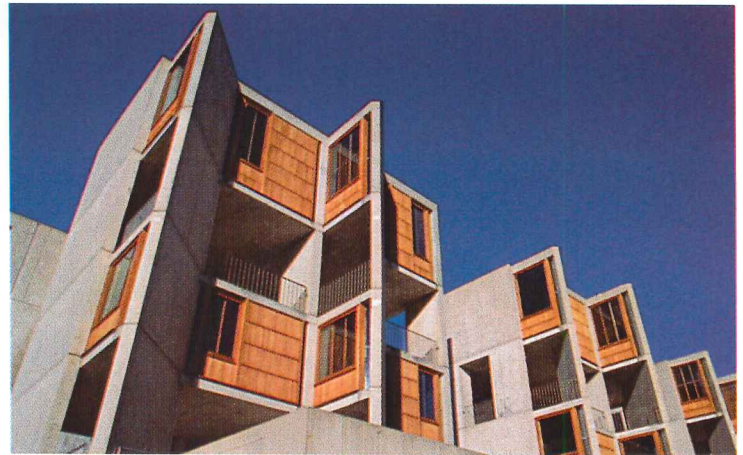
Susan Rose Behr; cinematographer Bob Richman; editor Sabine Krayenbühl; and Joseph Vitarelli, who composed the musical score. Behr did much of the film's research, and Nathaniel credits her with some important discoveries, such as finding the talkative cabdrivers, the client who hired Lou to design a boat for a floating orchestra, and the striking similarities between the old factories in the Philadelphia neighborhood where Lou grew up and the architecture he developed later in his life.

"No one had really spent any time looking at Lou's old neighborhood. So I drove there and wandered around. I looked at one old factory and immediately saw the Exeter Library in it." Behr also examined Lou's journey from Estonia to America and discovered that Kahn wasn't his real name. "Lou's father changed it after they arrived," says Behr.

Behr played another important role—that of emotional guide. "Making this film, Nathaniel had to examine some of the myths he had long held of his father. One of my roles was to help him confront these myths and question them. Frankly, I don't know if I could have made such a truthful film about my own life."

The challenge for Richman, the cinematographer, was capturing the essence of Lou's architecture and the personal nature of the son's journey. The extreme contrast between light and dark that characterizes much of Lou's work presented technical difficulties for a cinematographer. Instead of fighting or trying to compensate for these contrasts, Richman let them be part of the film, allowing the screen to go black on occasion.

For the personal aspects of the film, Richman understood the cinematographer must be "Nathaniel's surrogate eyes," especially when the director was consumed with being a participant in the film. Knowing



The film cites factories in Kahn's childhood neighborhood as precursors of projects such as the Salk Institute (top) and Exeter Library (above).

when to let the camera keep rolling, even as the people stop talking, was critical to several of the film's most charged moments.

A range of emotions

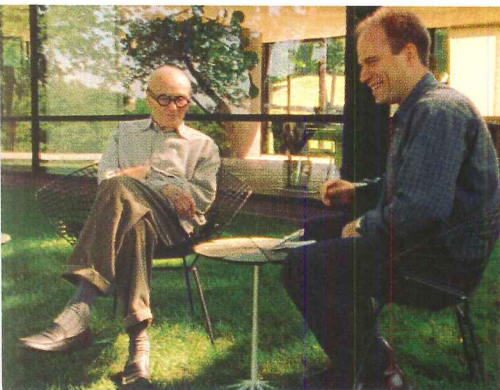
Looking back on the long process of making this film, Nathaniel says he has come to terms with a "more full range of emotions" about his father. "There are some days I'm angry with him and some days I just love him to pieces. Some days I'm still confounded by him and others that I just miss him."

Nathaniel's film and his journey end in Bangladesh, where Lou designed the country's capital complex in Dhaka. "One of the most astonishing things for me was to see how modern architecture, which has the reputation of being difficult to live with, was embraced with such feeling by the people of this poor country," recalls Nathaniel. "The people I met in Dhaka talk of Lou as a Moses, leading them toward democ-

racy. And I think it's terribly important at this time when we see all the strife between the Muslim world and the Western world, that the capital of a Muslim country was built by a Jewish architect, an American architect. And that the people there feel so strongly connected to these buildings."

Just before heading to Bangladesh, Nathaniel spoke with the Indian architect B.V. Doshi. "There's a wonderful moment when we're talking and he pauses and stops for a very, very long time. Then he gives one of the greatest lines in the film, when he advises me on my search for my father. He says, 'If you go into silence, you will hear him.' It still chokes me up now when I think about it, because it was such a thoughtful thing to say to a son. I also think it was a challenge, one that I am still taking up." ■

For more on Nathaniel Kahn, see *RECORD, Profile, June 2003, page 266.*



Nathaniel talking with Philip Johnson at the Glass House in New Canaan.

adds, "And of course, as a child in Estonia, he was literally on fire," referring to the accident that burned Lou's face and scarred it forever.

Like his father's profession, filmmaking is a collaborative effort, says Nathaniel. The core of the team that made *My Architect* included producer

Art and architecture: Three shows that display sculpture, products, and (some) buildings

Exhibitions

Frank O. Gehry: Work in Progress. *Museum of Contemporary Art at California Plaza, Los Angeles, through January 25, 2004.*

Those who have seen the myriad models Frank Gehry has fashioned over his career often wonder why he hasn't built a museum to house them. Now an exhibition at the Los Angeles Museum of Contemporary Art (MOCA) at California Plaza suggests why: The museum would have to be as big as the Guggenheim Bilbao. The MOCA show, *Frank O. Gehry: Works in Progress*, only covers a dozen of Gehry's current projects, unbuilt or in construction, yet its contents occupy 15,000 square feet—almost the entire space of the museum. One gallery is devoted to skyscrapers conceived for New York City: Gehry created 20 study models alone for the ill-fated Astor Place Hotel commissioned by hotelier Ian Schrager.

Altogether, the exhibition, which shows models, drawings, and sketches for such projects as the Le Clos Jordan Winery in Lincoln, Ontario; the Ohr-O'Keefe Museum in Biloxi, Mississippi; and the Princeton University Science Complex, among others, manages to display 300 items throughout the five galleries.

Brooke Hodge, MOCA's architecture and design curator, organized the show to open just before Gehry's Walt Disney Concert Hall (page 134)



A cast-fiberglass sculpture (top) steals the show at the Frank Gehry exhibition (above).

was completed across the street. MOCA consulted with Gehry's staff to design the installation, where models are arranged in an orderly manner on open shelving to resemble the straightforward, no-nonsense look of Gehry's own office.

While the scale of the assemblage is staggeringly impressive, the drop-dead centerpiece of the exhibition is a large, sinuous, suspended cast-fiberglass-paneled object, created for the exhibition with consulting architect Tomas Osinski. It

should be titled *Richard Serra, Eat Your Heart Out*, instead of the more prosaic *Sculptural Study*.

As Gehry explained in a lecture sponsored by the Sir John Soane Museum Foundation in New York last spring, three-dimensional models of all types are integral to his creative process. Gehry and his office use models to work out the programmatic issues, then Gehry starts sketching forms, reverting back to models as the design progresses. "After a while, you have a lot of models," he said. *Suzanne Stephens.*

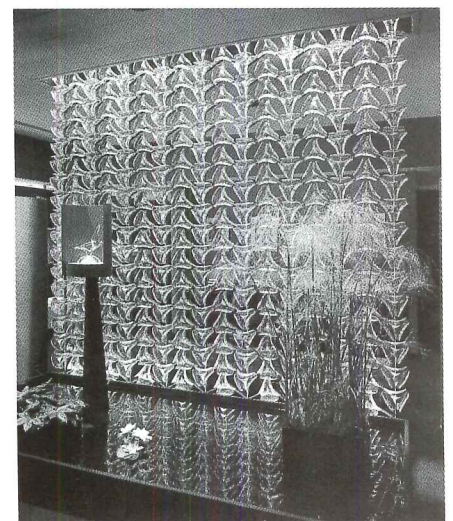
Glass and Glamour: Steuben's Modern Moment, 1930–1960. *Museum of the City of New York, November 7, 2003–April 25, 2003.*

Throughout the winter, a blue glow will draw visitors to the Museum of the City of New York on the outer limits of the city's famous Museum Mile. A repository for 1.5 million items of historical memorabilia from muskets to antique toy trains, the museum is not the kind of venue where one would expect to find luxury crystal. Yet it's now host to an exhibition about midcentury Modernism, cultural refinement, and opulence.

Corning is sponsoring the exhibition to commemorate the centennial of its Steuben Glass division, reviving the memory of a 30-year period of exuber-

ant creativity, which occurred during the heady prosperity after World War II. Curator Donald Albrecht chose 200 functional and iconic crystal pieces, including important designs from the 1939 World's Fair and engraved works by Isamu Noguchi, Georgia O'Keeffe, Salvador Dali, and Grant Wood. He created a fascinating narrative with vignettes composed of posters, photographs, and ephemera, which ground the objects in time.

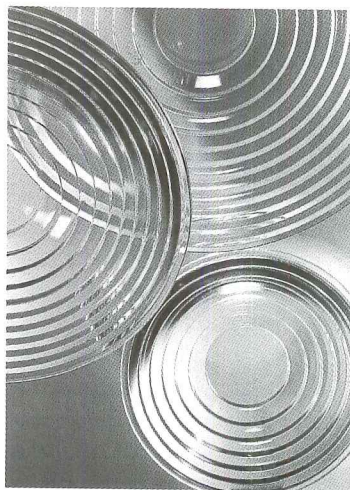
"Design is a key part of an exhibition experience and can often be just as much of the message the show conveys as the usual curatorial devices," explains Albrecht. "I actively seek out working with architects and designers who can bring a strong visual sense, as well as an editorial one that understands the period and context." He got what he needed with the New York architecture firm Keenen/Riley. Principal John Keenen,



Cascade Wall, which dates from 1959, once graced the Steuben Building in New York City.

Exhibitions

who has curated exhibitions himself, rejected the static configuration of the existing gallery and sculpted a new space within the 3,500-square-foot box. He built thick new walls against the existing ones, rendered them in dark blue materials,



Walter Dorwin Teague modeled these lens bowls after car headlights.

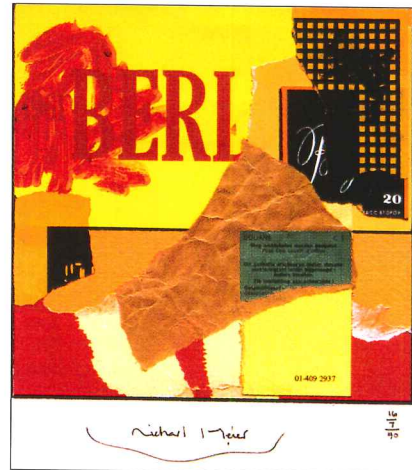
and carved vitrines within the new masses. A freestanding island, also embedded with vitrines, splits the rectangle along the long axis, thus drawing the objects closer to the viewer. At the end of the space, Keenen dropped a ceiling and created an apse. Here, rare, singular engraved pieces are exquisitely displayed, showing off the skill of lighting designer Anita Jorgensen, who exploits the highly refractive quality of Steuben glass and reveals a purity that makes visible the whole spectrum of a light wave.

Keenen and Albrecht end the show back where it began, with the *Cascade Wall*, a structure made of 300 glass flowers with metal stems that were originally reflected in a pool of water at the Steuben retail store in Manhattan. Even here in dry dock, it is a dazzling example of the successful union of art and industry. Sara Hart

The Undiscovered Richard Meier: The Architect as Designer and Artist. High Museum of Art, Atlanta, through April 4, 2004.

There are few rooms more glorious than the atrium of Richard Meier's High Museum, which brought Atlanta a jolt of bright-white Modernism 20 years ago. In July, the High closed for two months while construction began on Renzo Piano's companion building, which will more than double the museum's size.

To its credit, the High did not leave Meier's building in the dust, but used the short hiatus to bring it back to life. Although there were some alterations of the ground floor—to provide access to a planned bridge to Piano's building—most of the project's \$3.5 million budget was spent on loving restoration. Notably, galleries were returned to Meier's original configurations; skylights that had been hidden, because they



Like many of his collages, Berlin Douane uses things Meier collects on his travels.

admitted too much light, were exposed (thanks to screening materials that weren't available in 1983). And a Sol Lewitt mural, covering six walls that Meier had wanted to leave white, was retired. Now the light coming through the skylights and glass brick clerestory windows paints a dazzling mural of its own.

Which is why the title of a current exhibition at the High—*The*

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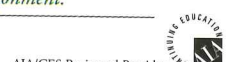
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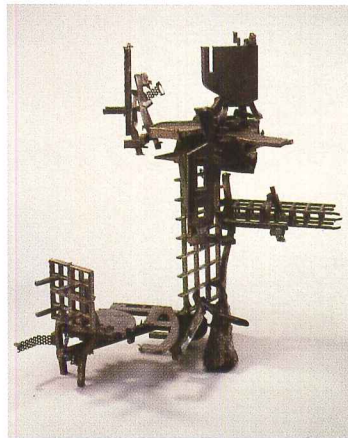
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Exhibitions

Undiscovered Richard Meier—has a double meaning. The entire museum, to anyone who last saw it with the accretions of two decades, fits the bill.

The exhibition itself, on the museum's fourth floor, focuses on work in three categories: furniture and products, collages, and sculptures. In the first group, along with vases, picture frames, and coffee tables, is a chaise manufactured by Knoll in 1982, whose curvaceous seat seems to emerge from a grid, like a ballet dancer breaking out of prison. The chaise is a microcosm of the show. Because, while Meier's products are—like his architecture—mostly based on grids, which he manipulates according to clear rules, his sculptures lack even a semblance of geometric order.

The catalog explains that Meier begins by taking pieces left over in his model shop, taping or



Meier created the stainless-steel sculpture *Schöntal* in 1993.

tying them together, then coating them in wax. The wax form is used to create a ceramic mold in which the stainless-steel sculptures are cast. Obviously, there's something going on here, psychologically: Meier is tearing up the grid—even the grid of his own buildings. And

with this show (organized by Meier and the Museum of Applied Art, Frankfurt), he is making sure the world knows about it. It's as if Meier, who has already had a stellar career as an architect of the rational, wants us to see that, given another lifetime, he could also have been Frank Gehry.

Isn't it enough to be Richard Meier? His products are sophisticated and arresting. (His *Tea Piazza* design from Alessi truly is a piazza.) A three-page essay on Meier's furniture lists, as his influences, no less than Josef Hoffman, Otto Wagner, Walter Gropius, Alvar Aalto, Ludwig Mies van der Rohe, Le Corbusier, Charles Rennie Mackintosh, Eileen Grey, Gerrit Rietveld, Frank Lloyd Wright, Charles Eames, Marcel Breuer, and Donald Judd—an exercise in name-dropping that suggests both false modesty and false bravado. While it's true several of his chairs are overly reminiscent of pieces by Wagner and Hoffman, they are all unmistakably by Meier—one of the few people in the world

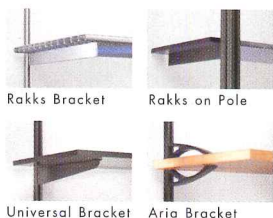
lucky enough to have built a successful career around a fixed aesthetic sensibility without any obvious compromising.

The great pleasure of the show are the collages, which represent the middle ground between the elegant products and the inelegant sculptures (the ego to the former's superego and the latter's id). Composed of plane tickets (first class), nude photos (female), and other ephemera gathered by Meier, they are close cousins of Constructivist drawings, a point emphasized by the recurrence of red fields and Cyrillic letters. They break no new ground artistically. But they are delightful explorations of ways in which Meier shifts and chips away at grids. In the exhibition, Meier's silver picture frames (made by Swid Powell in the late 1980s) are filled with photos of his buildings. But the collages, in wooden frames, are equally good representations of his architecture. Think of them as portable versions of the High Museum. *Fred Bernstein*



*Rakks wall-mounted shelving at Sweet & Associates Modern Furnishings, Cleveland, OH
Fixture Design: Christopher Hixson*

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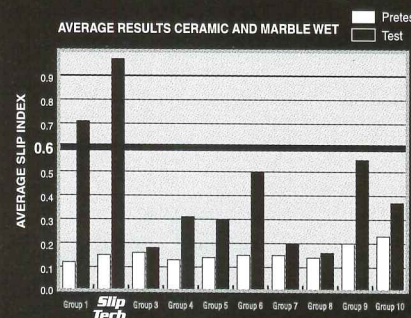


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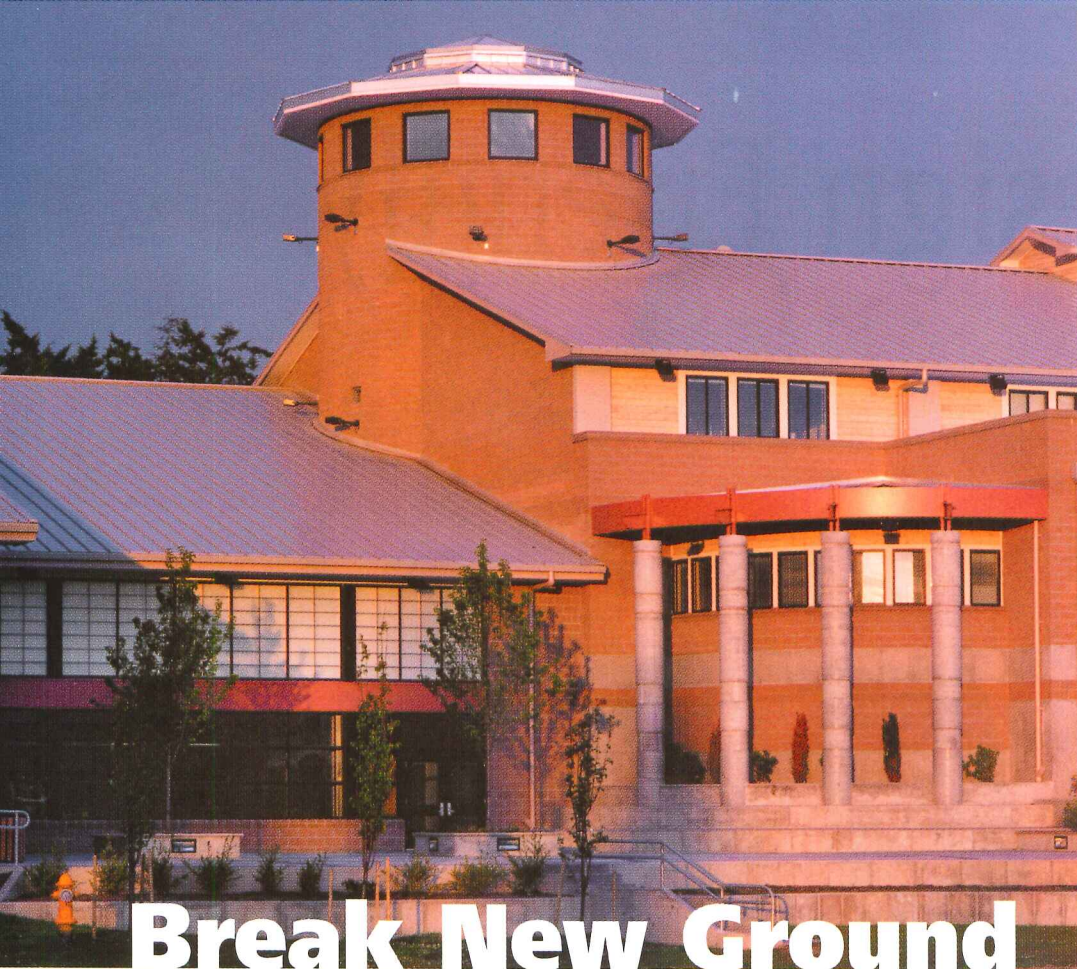
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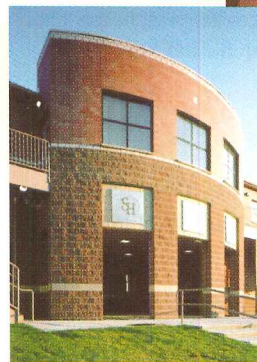
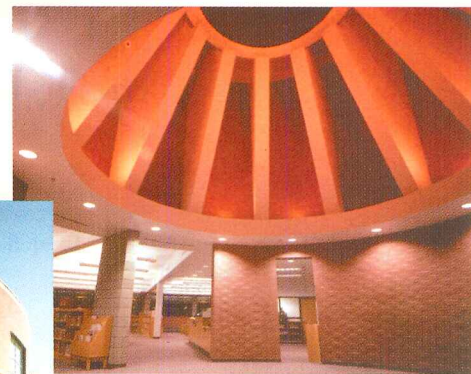
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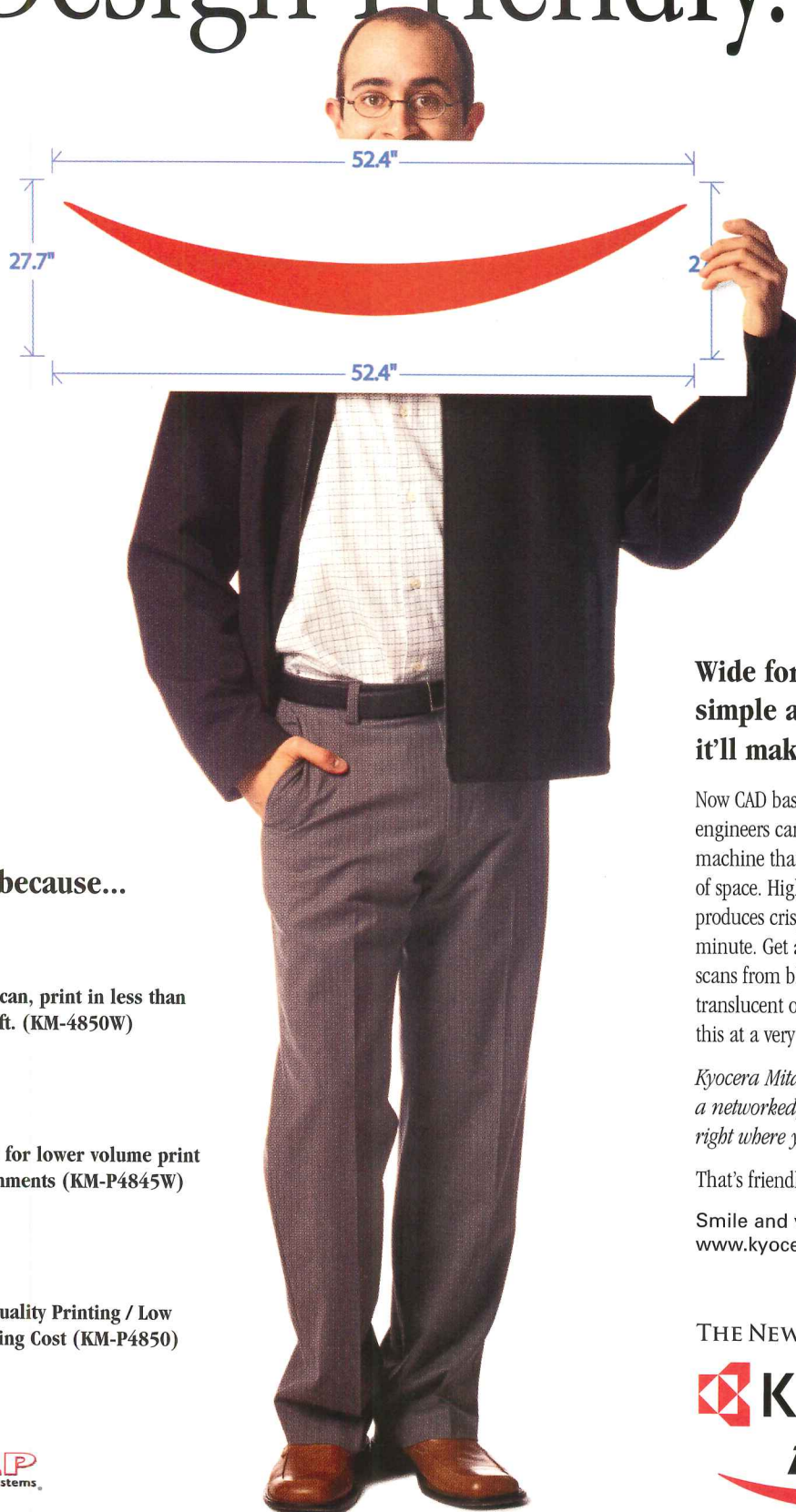


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Snapshot

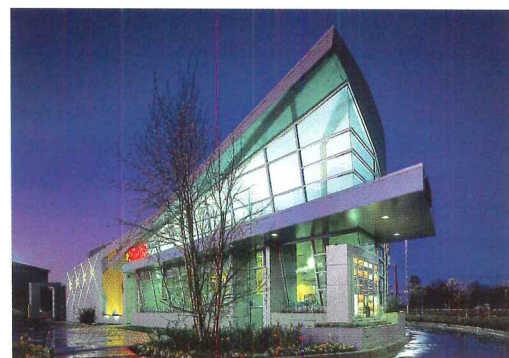


By Ingrid Whitehead

In 1956, Carl Karcher, owner of Carl's Drive-In Barbeque, opened the doors to his new self-service restaurant in Anaheim, California. Karcher called it Carl's Jr., and while it wasn't the first quick-service restaurant (QSR) to launch in the state and eschew the then-typical California drive-in eateries, with their carhops and flashing signs (a couple of guys named Richard and Mac McDonald got there first), it was part of a new American lifestyle shift: the fast-food revolution. Now, almost 50 years later, CKE, the company that owns the Carl's Jr. chain, is trying to appeal to its market by modernizing the design of its restaurants. The company chose RSA Architects in Los Angeles to design the new prototype.

Eric Schlosser, in his 2001 book *Fast Food Nation*, writes that conformity is preached as the key to fast-food franchise success, for food, service, and brand-recognition. According to Mitchell Sawasy, a principal at RSA Architects, thanks to a few visionary executives, CKE is going against

A California fast-food restaurant supersizes its design vision



Snapshot

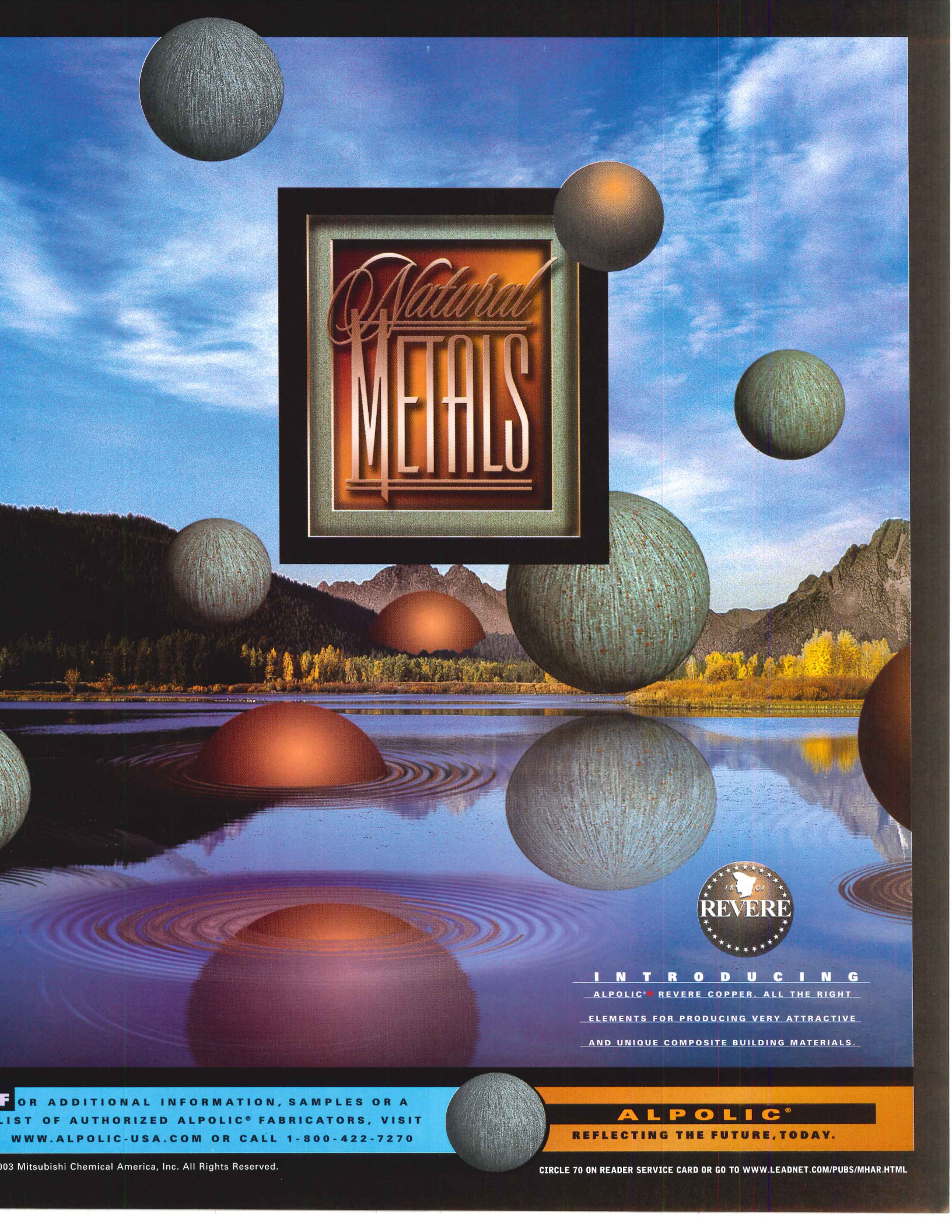


that trend. "They wanted to break out and develop a building that was more in sync with their ad campaign, and their demographics," says Sawasy. "Carl's Jr. is not in the 'toys and trinkets' market the way McDonalds and some other chains are. They are targeting 18- to 36-year-olds, who are burger addicts, but also very image conscious."

Whether these trendy burger-eaters appreciate the new design remains to be seen, as the prototype has only been implemented in one new store so far, in Downey, California. Still, the landscape is all the better for the sexy new restaurant. At 2,900 square feet, the curvilinear building is similar in size to other QSR restaurants, but the shape allows it to fit on less land—a fact that will lead to lower costs for real estate acquisitions, which should play a part in making up for the higher cost of the new design's construction and materials. The exposed concrete, stainless steel, and expansive glass bring construction costs about 30 percent higher than conventionally designed QSR buildings. Because 50 percent of the business is captured at the drive-through window, RSA took special care to design a comfortable and easy path for hungry drivers. Canopies for weather protection keep customers out of the rain, while dramatic lighting leads them along the curved drive. Many of the interior finishes are made from recycled materials, and, Sawasy says, with some refinements, LEEDS certification will be achieved for future stores.

Sawasy admits that it was a challenging battle to get the quirky building approved by conservative executives at the company, but now that the ruffled, corporate feathers have been smoothed, CKE is ready to roll out 40 more units in the coming year. ■

The interior palette includes exposed concrete, stainless steel, and vibrant colored furnishings. The floating exterior planes bring daylight into the space, reducing the need for the usual glaring artificial light found in most fast-food restaurants.



Natural
METALS

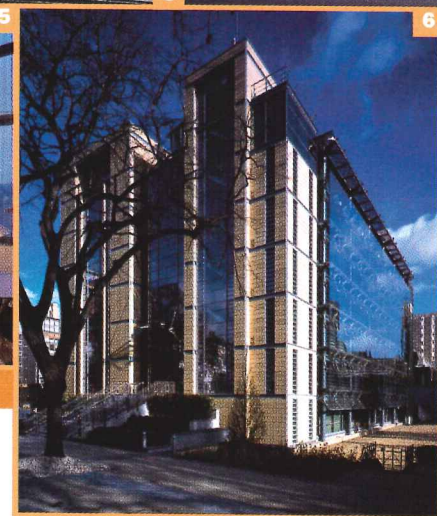
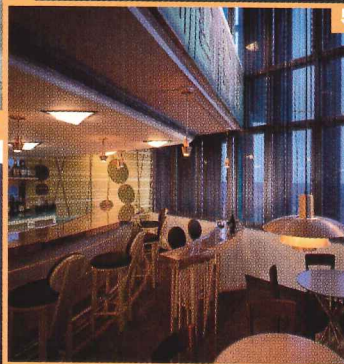


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FINALISTS

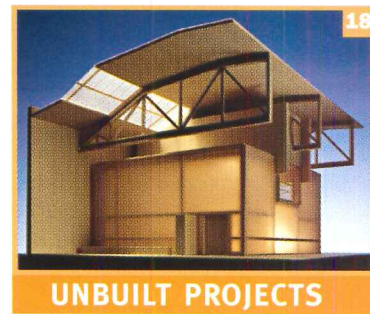
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By Jane F. Kolleeny

As C.E.O.s increasingly think of the design of their company's buildings as a way to achieve strategic corporate goals, scientists are demonstrating that highly effective working environments don't happen by accident. Resulting from clearly articulated goals, good building design can significantly enhance the well-being and productivity of workers. Architects can fulfill this objective by creating environments that sustain occupants in the many positive ways evidenced by the winning designs in the 2003 BW/AR Awards program. Dr. Judith H. Heerwagen, an environmental psychologist, suggests that many factors determined by the design of buildings, including exposure to nature and daylight, air quality, temperature, noise, ergonomics, and opportunities for social gathering, relaxation, and exercise affect occupants' performance and well-being. If we consider that, first and foremost, buildings are habitats for people, then businesses, builders, and developers should be inclined to invest in even the more costly staff and client amenities that promise measurable positive payoffs.

Yet, despite this conclusion, when it comes to facility decisions, costs are almost always the predominant consideration, partly because sparse scientific evidence links features of the built environment to organizational success. This situation is changing—not only because of the work of Dr. Heerwagen and others, but also through such agencies as the AIA's Academy of Neuroscience for Architecture, which in July received a \$100,000 Latrobe Fellowship from AIA's fellows to pursue research into how the human brain perceives architecture. Just one more step toward shedding light on how buildings inform our daily lives.

For more information or to request a call for entry for the 2004 BW/AR Awards, send an e-mail to bwarawards@aia.org or call (888) 242-4240.



UNBUILT PROJECTS

- 18. Great Harbor Design Center**
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AIA's 2003 Business Week/Architectural Record Award winners, finalists, and unbuilt project are presented here—all elegant solutions to diverse clients' needs.

Ten notable individuals in the worlds of business, innovation, and architecture composed this year's jury

Brad Cloepfil, AIA, Jury Chair

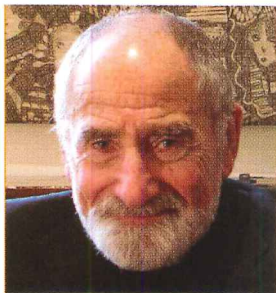


A principal at Allied Works Architecture, Brad Cloepfil received his B.Arch. from the University of Oregon and went on to earn his M.Arch. at Columbia University. After his studies, he worked in New York, Los Angeles, and Switzerland

"THE ROLE OF THE ARCHITECT IS NOT SO MUCH ABOUT INNOVATION; IT'S ABOUT INSIGHT."

for 10 years before establishing Allied Works Architecture in Portland, Oregon. Since its inception, Allied Works has been awarded commissions throughout the United States and abroad and has received critical recognition for its work. Cloepfil generates the primary design concepts for each project through sketches and drawings and ensures a cohesive architectural vision for projects by working closely with the team. He occasionally participates in invited symposia, lectures, and critiques for clients and universities, as well as arts and architectural organizations.

Sam Farber



With a B.A. in economics from Harvard, Sam Farber founded COPCO, a housewares company known for its colorful cookware. COPCO was sold in 1982, and Farber spend more time pursuing his interest in Outsider Art. In 1990, he founded OXO International, a leader in the manufacture of kitchen tools with innovative user-centered designs. OXO was sold in 1992, and Farber retired from active management in 1995. In 2001, he founded WOVO with his son, to create

"IT IS RARE TO ACKNOWLEDGE BOTH BUSINESS AND DESIGN EXCELLENCE IN AN AWARDS PROGRAM AND IMPORTANT THAT JURORS RECOGNIZE THIS UNIQUE DIMENSION IN THEIR DELIBERATIONS."

thoughtfully designed products for the home. Farber, a trustee of the American Folk Art Museum, chaired the committee to build its new facility in New York City.

Rob Forbes

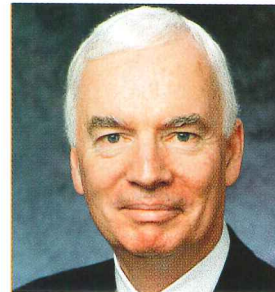


Founder and chief design officer of Design Within Reach, Rob Forbes launched his Oakland-based catalog business as an Internet and studio retailer of both classic and new Modern-designed furniture, lighting, and accessories in July 1999. The company's mission is to improve the quality of

"THIS PROGRAM ARTICULATES GOOD VALUE COMBINED WITH CREATIVE VISION, TWO THINGS THAT TOGETHER MAKE GOOD BUSINESS."

design in public spaces by providing architects, interior designers, and the general public easy access to, and reasonable prices for, design products that have traditionally been available only through the trade. A seasoned professional with 20 years experience in direct marketing, Forbes's professional background combines artistic expertise and executive level experience. He received an M.B.A. from Stanford, an M.F.A. from Alfred University, and completed his undergraduate studies at the University of California at Santa Cruz.

Don Frischmann



As senior vice president of communications and brand management at Symantec, Don Frischmann is responsible for the firm's global communications and brand-management activities, including public relations, customer and employee communications, investor relations, and public affairs. Symantec, a world leader

"THIS AWARD CELEBRATES THE COLLABORATION OF INSIGHTFUL ARCHITECTS AND CREATIVE BUSINESS LEADERS."

in Internet security technology, provides a broad range of content and network security solutions to individuals and companies. Prior to joining Symantec, Frischmann was a communications executive at the International Business Machines Corporation for 30 years. He holds a B.A. from Fordham University.

Ralph E. Johnson, FAIA



Ralph E. Johnson, FAIA, principal and design director, Perkins & Will, Chicago, received his B.Arch. from the University of Illinois and his M.Arch. from Harvard University. He began his 25-year career with Perkins & Will in 1976 and became an AIA Fellow in 1995. In the past seven years, his projects have been honored with more than 40 design awards, including six national AIA

"THE ARCHITECT LISTENS TO THE CLIENT AND THEN SYNTHESIZES AND ELEVATES THESE WISHES INTO INNOVATIVE ENVIRONMENTS."

honor awards, numerous regional honor awards, and a *Progressive Architecture* design award. His work has been published in numerous international journals. Monographs on it have been published by Rizzoli, in 1995, and by L'Arca, in 1998. Johnson's work has been exhibited at the Art Institute of Chicago, the Paris Biennale, and the São Paulo Biennale. He has lectured at numerous universities and has served as a visiting critic at the University of Illinois, the University of Wisconsin at Milwaukee, and the Illinois Institute of Technology.

Sheila Kennedy, AIA

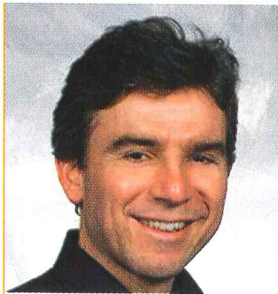


Sheila Kennedy is a founding principal of Kennedy & Violich Architecture (KVA), an interdisciplinary design practice that explores new relationships among architecture, technology, and emerging public needs. As associate professor at the Harvard University Graduate School of Design, Kennedy was director of

"THIS AWARDS PROGRAM SHOULD HELP TO STIMULATE THE PRIVATE SECTOR TO UNDERSTAND THE BENEFITS OF ACTING AS PATRONS THAT SUPPORT EXCELLENT ARCHITECTURE."

the M.Arch. II program from 1991–95. Kennedy's research and built work in design have been recognized by grants from the Bunting Institute, the National Endowment for the Arts, the National Academy of Sciences, and the United States Department of Energy.

José Oncina



General manager of Worldwide Real Estate and Facilities at Microsoft Corporation, José Oncina is responsible for the company's real estate, construction, and facilities-management strategy, as well as planning, delivery, and operations. His team aligns Microsoft's real estate plan with corporate business objectives. Microsoft's distributed business units occupy more than 18 million

"THE WINNERS DEMONSTRATED THE VALUE OF ARCHITECTS AND BUSINESS LEADERS COLLABORATING WITH MUTUAL RESPECT."

square feet of office space in 400 locations worldwide. Oncina's team manages more than \$500 million in annual volume. He holds a B.S. in Business Administration and is a Certified Public Accountant.

Karen Stein

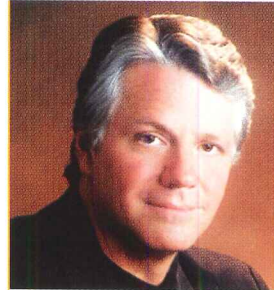


Karen Stein is editorial director of Phaidon Press, a leading illustrated book publisher of titles on art, architecture, design, decorative arts, photography, fashion, music, and performing arts. She is also a member of the company's board of directors. She joined Phaidon Press in 1998, following 14 years at ARCHITECTURAL RECORD, most recently as senior managing editor. In 1994–95 she was awarded a Loeb Fellowship in Environmental Studies from Harvard University.

"MAGIC CAN HAPPEN WHEN CLIENT AND ARCHITECT UNDERSTAND AND CHALLENGE EACH OTHER."

She has contributed articles on architecture and design to a variety of international publications and is a frequent guest critic at architecture student reviews at various universities. In 2003, she joined the jury of the Pritzker Architecture Prize. She has a degree in architecture from Princeton University.

Rich Varda, AIA, ASLA

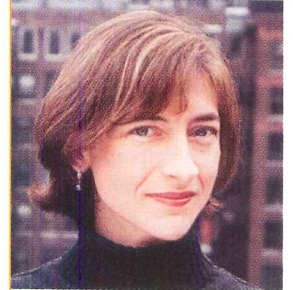


As vice president of store planning and design, architecture, and engineering at Target, Rich Varda oversees a 230-person staff responsible for maintaining and modifying the multiple Target store prototypes, including fixtures, store plans, interior design, architecture, and engineering. The group also designs and produces construction documents for approximately half of the 100 new stores and 90

"THE BUILDINGS MUST SUCCESSFULLY TRANSFORM THE ORGANIZATIONS, WHILE ALSO REPRESENTING DISTINGUISHED DESIGN."

remodel projects that Target executes each year. Varda received a B.S. in Landscape Architecture from the University of Wisconsin and an M.Arch. from the University of Minnesota.

Marion Weiss, AIA



Marion Weiss, AIA, established Weiss/Manfredi Architects with Michael Manfredi more than 10 years ago as a practice committed to architecture, urban design, and landscape architecture, envisioning these disciplines as interdependent. Cited by New York's Architectural League in 1997 as one of six critical emerging practices in North America, the

"ULTIMATELY, THIS AWARDS PROGRAM MAKES MEASURABLE THE INTRINSIC POWER OF DESIGN TO AN OFTEN SKEPTICAL AUDIENCE."

firm has received both state and national awards for its built work. Weiss is an associate professor of architecture at the University of Pennsylvania Graduate School of Fine Arts and has taught at Yale and Cornell Universities. She received her B.Arch. from the University of Virginia and her M.Arch. from Yale, where she won the AIA Scholastic Award and the SOM Traveling Fellowship.

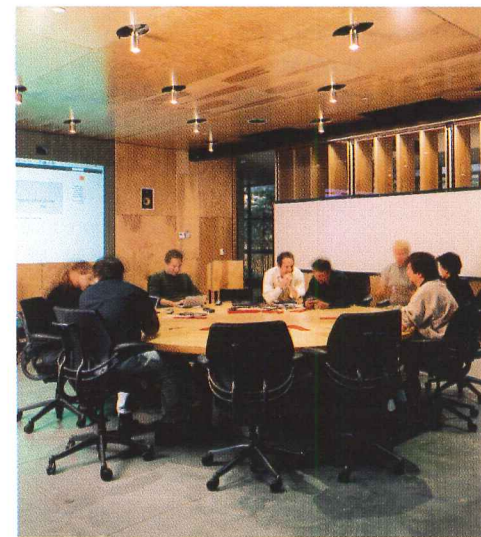
FUNKY WAREHOUSE BUILDINGS BECOME A NEW HIGH-TECH HOME

Program: One of the largest European mobile phone companies, Orange Innovations, based in the U.K., needed to create an innovation center for the firm's entry into the U.S. market. They sought to be located near Harvard and MIT, in Massachusetts, a vortex of America's technology research.

An inviting office environment was required that would appeal to the surrounding entrepreneurial community, with a theme of flexibility reflecting the inherent qualities of the changing landscape of technology companies.

Solution: The architects transformed five existing one-story warehouse buildings separated by narrow alleyways into a single volume consisting of distinct precincts. The alleyways became glass atria planted with bamboo that provide circulation and weave the three primary programmatic elements of the building together—private office space, open areas for brainstorming, and cooperative spaces that are flexible and semiprivate. Workstations can be shape-shifted with ease, and a mobile power grid on the ceiling ensures movable technology wiring for easy change of landscape. The low-key combination of natural materials, abundant light peeking in from the glass-enclosed alleyways, and the human scale of the facility have all delighted employees and potential clients alike.

“Defying excess, the architect’s confidence and natural modesty in his solution was admirable.”—BRAD CLOEPFIL, AIA



Project: Orange Innovations, Cambridge, Mass.
Architect: Anmahian Winton Architects
Client: Orange Innovations
Key players: Leggat McCall Properties (developer); Gregorian Engineers (structural); LAM Partners (lighting); Reed Hilderbrand Landscape Architects (landscape)

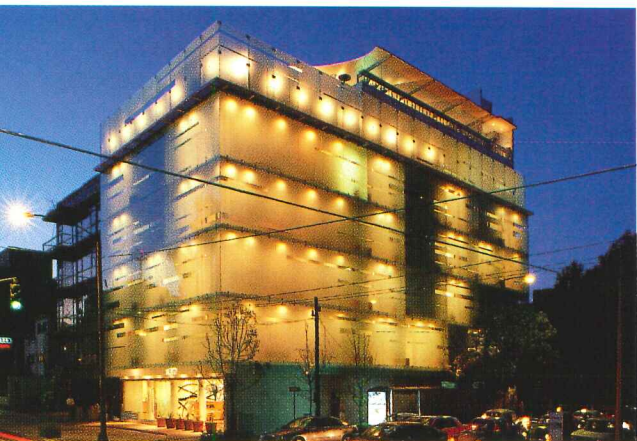
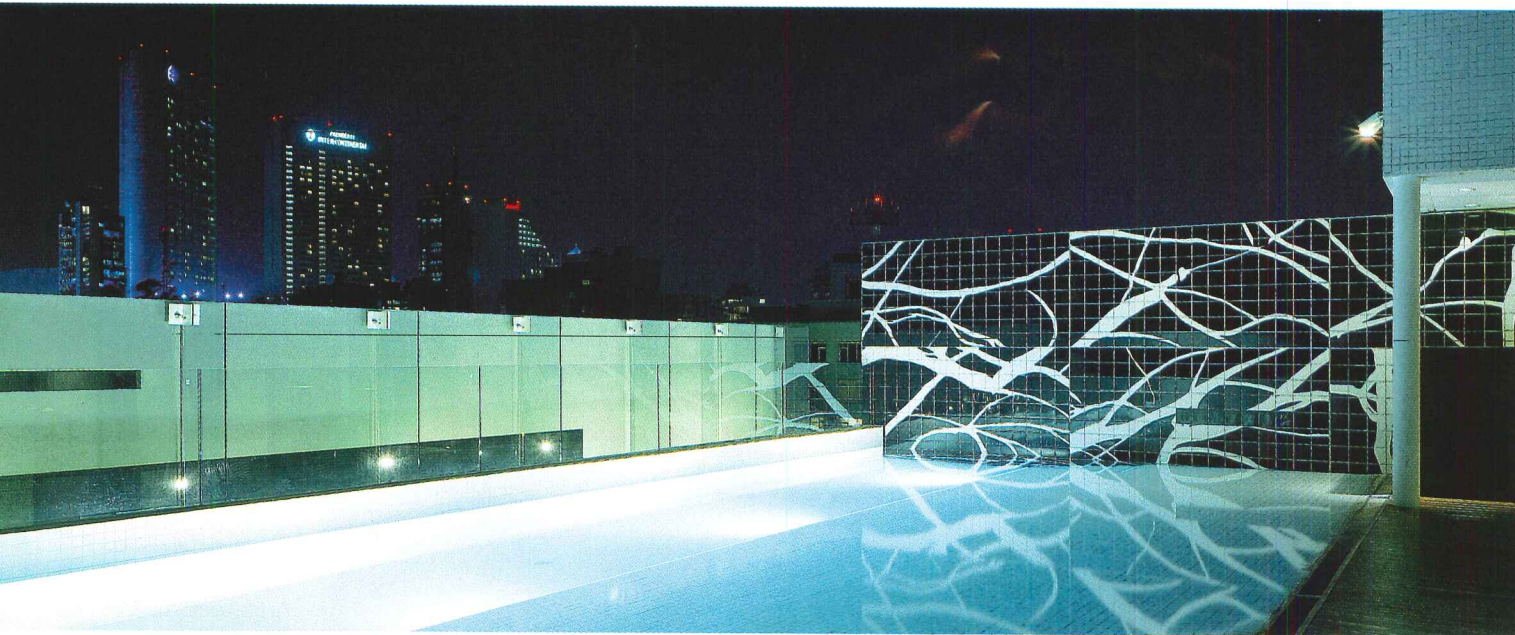
WINNER

A TRANSLUCENT JEWEL BRIGHTENS A DERELICT NEIGHBORHOOD

Program: Mexico City needed a hotel of a special kind—one that would differentiate itself from the predictable, exist as a work of art, and breathe fresh, new life into the hotel scene in this vibrant city. Location was everything, and a grimy, derelict, 1950s five-story apartment building in a prime location fit the bill. Unfortunately, zoning laws did not permit demolition—the architect needed to perform radical surgery on the existing site.

Solution: For the Hotel Habita, a total of 32 rooms and 4 suites were created with two floors of social space on top, including a lap pool on the roof and an open-air terrace to accommodate meetings and banquets. A retreat-like interior deflected the unpleasantness of the outside world. This was created by attaching a new translucent glazing system to the building's outer edge, giving it a glowing second skin. The hotel enjoyed immediate success, with 75 percent occupancy, reinvigorating development and transforming the fringe of a high-end shopping area into a consolidated urban fabric.

“The top two floors of the social spaces provide a compelling oasis that lingers in one’s memory after leaving the place.”—MARION WEISS, AIA



Project: Hotel Habita, Mexico City

[RECORD, March 2001, page 106]

Architect: TEN Arquitectos

Client: Hotel Habita S.A. de C.V.

Key Players:

Construcciones Gavaldón (general contractor);

Colinas de Buen

(engineer); Val & Val

(window consultant)

A CLINIC CUSTOM-DESIGNED TO RESPOND TO THE NEEDS OF WOMEN

Program: A husband and wife obstetrician team who had just had a baby decided to set up a private women's clinic with their parents, who are gynecologists in a city hospital in Japan. They developed a new concept of clinic that would provide a variety of services, including privacy, security, good food, and physical and psychological health benefits. It would also include a residence, so the doctors would always be "in."

Solution: The elegantly conceived, two-story facility opened its doors to a responsive public. Its program includes delivery and labor areas, a multi-purpose room and lounge, the doctors' residence, and medical treatment areas. The light, Modern structure features a cantilevered second floor with an almost completely glazed first-floor volume. Proclaimed a great success when it opened, the number of outpatients has doubled, and among a total of eight clinics in Furukama, this is the one where almost a quarter of the infants in the area are born.



"A great example of a compelling and interesting business story that plants the seeds for the architectural solution."—SHEILA KENNEDY, AIA

Project: Sekii Ladies Clinic, Furukawa, Japan [RECORD, July 2002, page 136]
Architect: Atelier Hitoshi Abe
Client: Sekii Ladies Clinic
Key players: TIS & Partners (structural); Sogo Consultants (mechanical); Masahide Kakudate Lighting Environment (lighting); Takaya Construction (general contractor)



WINNER

THIS MODERN CREATION HAS REAWAKENED A SLEEPY SWISS TOWN

Program: Trumpf, a multinational maker of high-tech tools, wanted to expand beyond its existing facilities. With its headquarters in the Swiss village of Grüşch, little space was available to grow. Together, the village and corporation struck a deal. The village provided the much-needed land for a combined facility for Trumpf and an incubator for start-up businesses, satisfying the company's requirements while bringing economic development to the local economy. An unusual and original collaboration.

Solution: The new building's assertive, contemporary image sets itself apart from the red-tile roofs of the village's chalet-style aesthetic without overwhelming its charming residential scale. Since opening, the incubator has become an important factor for the region, facilitating new enterprise and employment. Trumpf now provides employment to considerably more people, and the building is a magnet for economic vitality.



"A testament to how different cultures measure value. This building is about people, aesthetics, surroundings."—*JOSÉ ONCINA*



Project: Start-Up Offices, Grüşch, Switzerland
[RECORD, June 2002, page 120]

Architect: Barkow Leibinger Architects

Client: Trumpf Grüşch

Key Players: Conzett, Bronzini, Gartmann (structural); Züst-Stock, Lippuner (mechanical); Büro Kiefer (landscape); Brüniger + Co. (electrical); Aves Architekturbüro (project management)

WINNER

NEW LIFE EMERGES FOR A LONG-FORGOTTEN LANDMARK

Program: In 1956, Frank Lloyd Wright designed his only skyscraper, a mixed-use, 19-story tower in the heart of Bartlesville, Oklahoma. By 1981, years of lackluster performance and low occupancy had taken its toll. Given the looming prospect of having to raze the tower, company executives agreed to repair, refurbish, and donate the building to a nonprofit arts center.

Solution: The new owners wished to create a hotel and restaurant as part of a conference facility to ensure the financial stability and future of this important landmark building. The architect converted the top eight floors into a 21-room hotel, utilizing innovative techniques to minimize disturbances to the original fabric of the building. The color scheme, materials, and furniture, mostly locally crafted, defer to Wright's aesthetic but have a contemporary vitality. Generating a huge interest from the press, the hotel is serving as a magnet for new life to the area, expecting to be profitable in two to three years.



“Working so skillfully within Wright’s footprint and vocabulary on a relatively modest budget is a pretty significant feat.”—ROB FORBES



Project: *Inn at Price Tower and Copper Restaurant and Bar, Bartlesville, Okla.*
[RECORD, July 2003, page 118]
Architect: *Wendy Evans Joseph Architecture; Ambler Architects (associate architect)*
Client: *Price Tower Arts Center*
Key players: *Flynt and Kallenberger (engineers); Jo Anne M. Lewis (interior design consultant); Fouts Custom Construction (general contractor)*



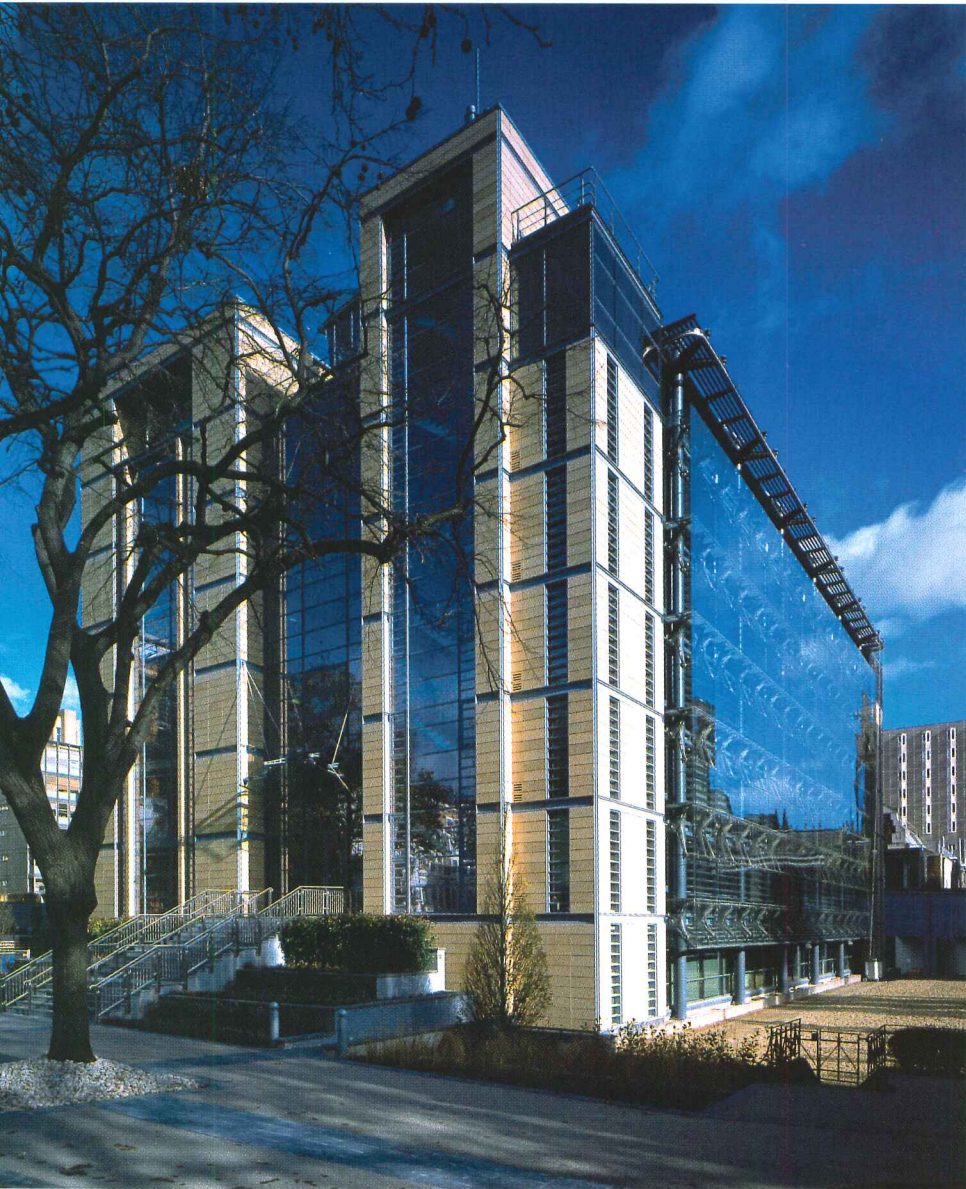
WINNER

A MUSEUM GAINS VISIBILITY AND PURPOSE IN ITS NEW HOME

Program: A natural history museum required a new building to provide public access to and storage for its 22 million zoological specimens. In addition, the existing facility did not provide adequate conditions for the 100 scientists working there. A new museum would represent the first stage in a phased remodeling of several museum buildings on a 23-acre site.

Solution: Designers and engineers worked as a single task force to develop solutions to achieve the client's goals. They created a building comprising three sections—a light-filled lab area located at the front of the building behind the glass facade; cold storage for specimens in the back; and a glazed atrium separating the two areas that allows the public to view the scientists at work and observe the vastness and beauty of the collection. A 122 percent increase in visits signifies the success of the project. As well, the increased visibility of its research has helped the client with fund-raising efforts.

"It is innovative how the viewer and scientist exist side by side—the viewers can see in, the scientists have their privacy."—SAM FARBER



Project: Darwin Centre Phase I, Natural History Museum, London

Architect: HOK International

Client: Natural History Museum

Key Players: Buro Happold, Arup Facade Engineering (engineers); Shepherd Construction (general contractor)

SPARE BEAUTY MARKS THIS ADAPTATION OF A HISTORIC BUILDING

Program: In an effort to bring public attention to its products, the always daring and innovative Steve Jobs began a campaign a few years ago of opening modern, uniquely designed Apple retail stores that reflected the company's design philosophy. The effort culminated in this store, Apple's 32nd and largest to date, in New York's hip SoHo district.

Solution: This 17,000-square-foot adaptive reuse of a 1920s Neoclassical-style former post office integrates seamlessly within the neighborhood. Drawing on a prototypical kit of parts developed earlier, the materials and details palette create continuity and a recognizable image among dozens of Apple stores. The materials are all simple and familiar but executed with razor-sharp precision. Deemed a success, the store surprises and delights customers, strengthens the Apple brand, and restates the firm's strong focus on innovation.

"In the same way that Apple innovates in the design of its computers, it was innovative in the design of this store."—KAREN STEIN



Project: Apple SoHo,
New York City [RECORD,
October 2002, page 156]

Architect: Bohlin Cywinski
Jackson; Ronnette Riley
Architect (associate architect)

Client: Apple Computer

Key players:
Dewhurst Macfarlane &
Partners, P.C., in association
with Goldreich Engineering
(structural); Flack & Kurtz
(m/e/p)

WINNER



A TENANT BUILDING RAISES THE BAR ON DEFINING A CLASS ACT

Program: The choice of a highly desirable location and an award-winning architect guaranteed the visibility of this proposed office building, geared to attract high-profile media tenants. The interior was programmed to accommodate three clients who would benefit from contemporary, nonhierarchical open office plans including some private offices, media production and editing areas, lounges and kitchens, and a central glazed lobby.

Solution: Challenged to utilize the site of an industrial brownfield with contaminated soil, the architect responded to the limitations with a sunken public garden and theater, raising the offices to the upper floors. Thanks to an excellent and original design, internationally known tenants have moved in and are happy to be there. The fact that most of the ground level was dedicated to flexible outdoor public use was received with considerable appreciation by the local community.



“Architecture serves as a business plan, an opportunity draw in clients, and a means to get around a lot of site problems.”

—DON FRISCHMANN



Project: *Stealth/Ogilvy, Culver City, Calif.*

Architect: *Eric Owen Moss Architects*

Client: *Samitaur Constructs*

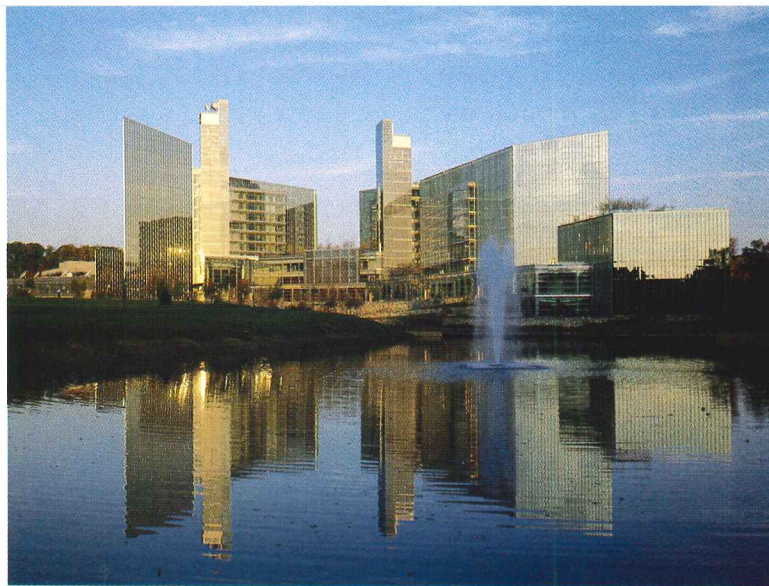
Key players: *Kurily, Szymanski and Tchirkow (structural); Antieri & Associates, and Silver, Roth & Associates (electrical); Cal State Steel (structural steel fabricator)*

A SUBURBAN QUASI CITY ENGAGES EMPLOYEES AND PUBLIC ALIKE

Program: Squeezed for space in two towers in Virginia, this 1906 communications company began looking for a site for a new headquarters that would accommodate its dual personality as newspaper and holding company. It wished to create an architecture that would be both functional and iconic and would provide a distinctive professional expression for its two identities.

Solution: A 25-acre parcel of land in Tyson's Corner, close to where many of Gannett's 1,780 employees live, offered a generously sized and well-located site for three groups of spaces that emerged from the programming process. For the first time, the company operates in a custom-suited environment. The building is modeled around a town center, where fluid interaction is encouraged. Staff discovered a newfound sense of community and a marked appreciation for architecture—as well as for the contemporary art that graces the interior, and for the employee amenities, such as outdoor dining, a gym, and jogging trails.

“Unique for a corporate headquarters, this building engages the landscape rather than being an object in it.” — RALPH E. JOHNSON, FAIA

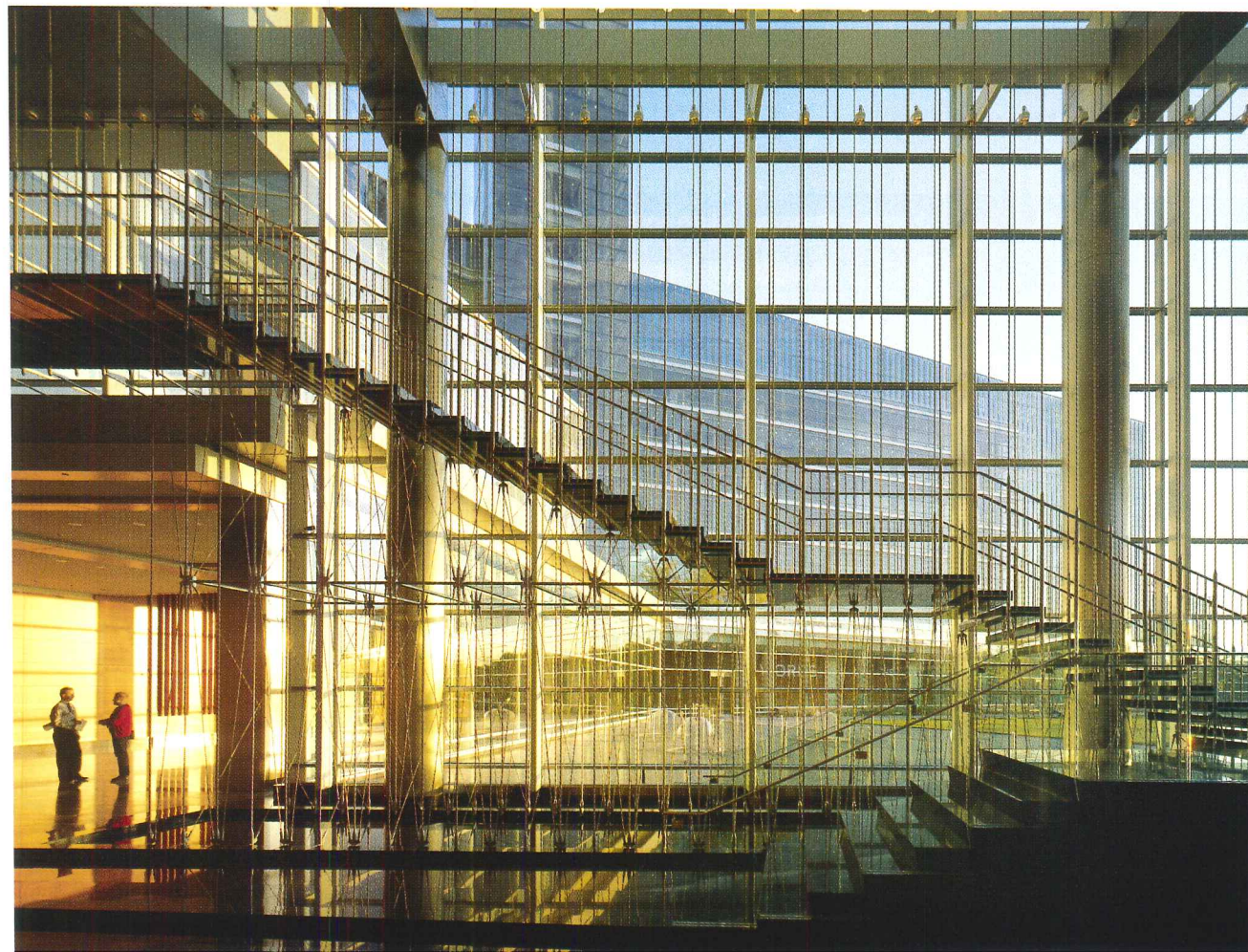


Project: Gannett/USA Today Corporate Headquarters, McLean, Va. [RECORD, May 2002, page 212]

Architect: Kohn Pederson Fox Associates

Client: Gannett Company

Key players: Lehman-Smith + McLeish & Associates (interiors); CBM Engineers (structural); TOLK (m/e/p); Michael Vergason Landscape Architects (landscape); Clark Construction Group (general contractor)

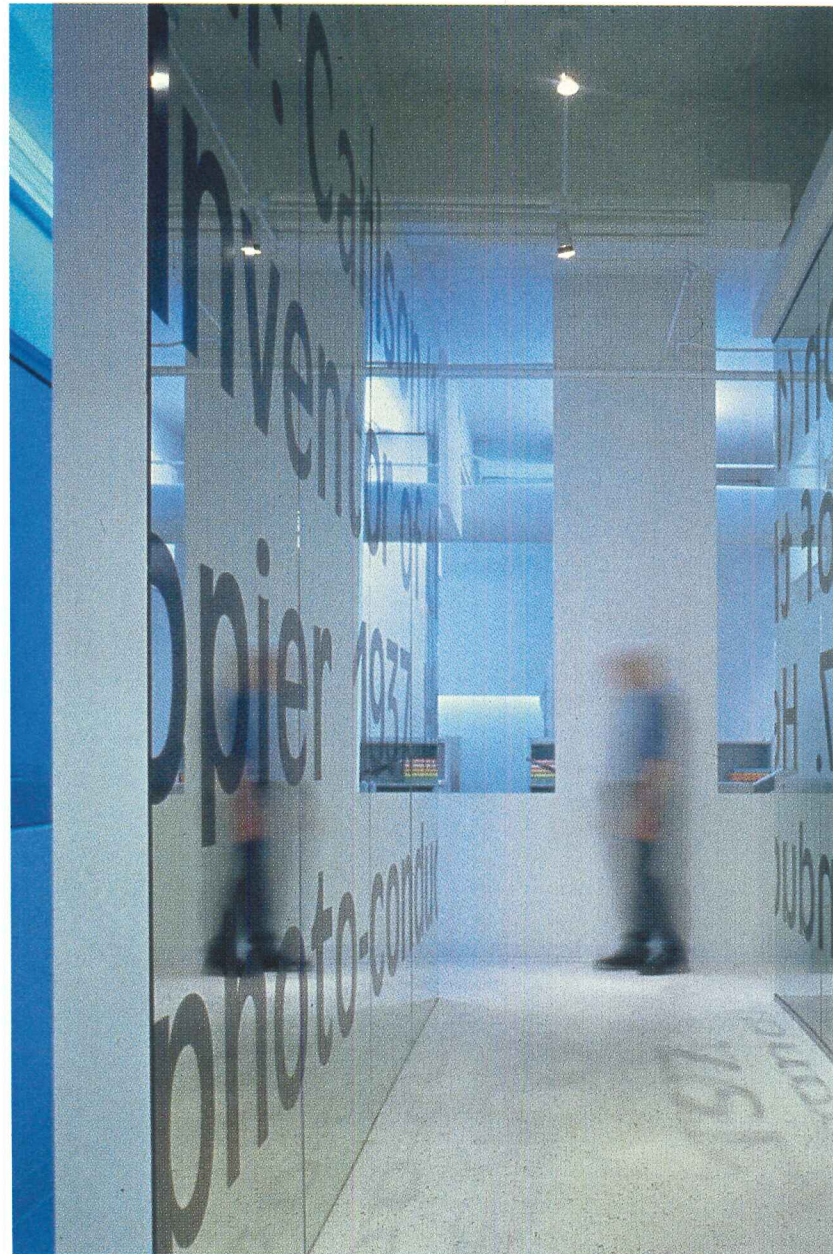


WINNER

PRINT MATERIALS USED WHIMSICALLY AS THE BASIS FOR DESIGN

Program: Forced to move and consolidate operations in a new location, the client wished to share the history of the company—which began as a one-person typewriter-repair business founded in 1957 in the owner’s kitchen—with its customers. The design meant to reveal where the company has been, what it does, how it does it, and where the future lies.

Solution: The copy center now occupies the third floor of a renovated 1920s car dealership. The setting both tells a story and is a metaphor. Enlisting ordinary materials from the print business, the architect created an engaging and provoking portrait of the company. Glued together to resemble bricks, 390,000 sheets of paper, in a range of odd shapes and sizes, line the walls. The firm’s staff of proud salespeople and employees, which evolved from one person to an organization of 350, demonstrate the success of the project. Sixty days after opening, the company landed the single largest job of its history.



“The ratio of image and brand-impact to amount of money spent on this project is dramatic.” — RICH VARDIA, AIA, ASLA

Project: ImageNet, Oklahoma City
[RECORD, September 2002, page 136]

Architect: Elliott + Associates Architects

Client: BMI Systems

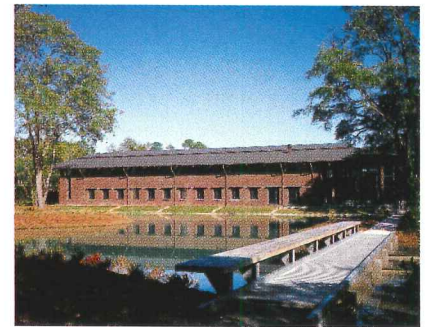
Key players: Jamars & Long (mechanical, electrical); Lingo Construction Services (structural and general contractor)



A BUILDING TO TURN THE HEADS OF BOTH CLIENTS AND STAFF

Program: This technology/financial services firm, which formerly occupied a dumpy, increasingly cramped low-rise structure on a commercial strip, needed to expand. The staff required spaces for informal group interaction as well as private offices. In addition, the program called for a 6,000-square-foot trading room and a very secure 5,000-square-foot data center. The architect was challenged by an extremely tight schedule and a site dotted by oak trees and laced with cleaned-up storm-water-retention ponds.

Solution: Through a highly participatory process among representatives from each work group, senior management, and the architect's firm, a program developed that proposed an elegant and practical solution. The building sits in a bucolic landscape, and employees have the pleasure of abundant outdoor views, high ceilings, and natural light. Business improved 18 percent after the grand opening of the new space and continues to increase. As a result of its new home, the company enjoys positive media attention, strong brand recognition in the marketplace, and employee satisfaction.



Project: Automated Trading Desk Technology Campus, Mt. Pleasant, S.C.
[RECORD, June 2003, page 156]

Architect: Helfand Myerberg Guggenheimer Architects (now Helfand Architecture and Guggenheimer Architects); McKellar & Associates (associate architect)

Client: Automated Trading Desk

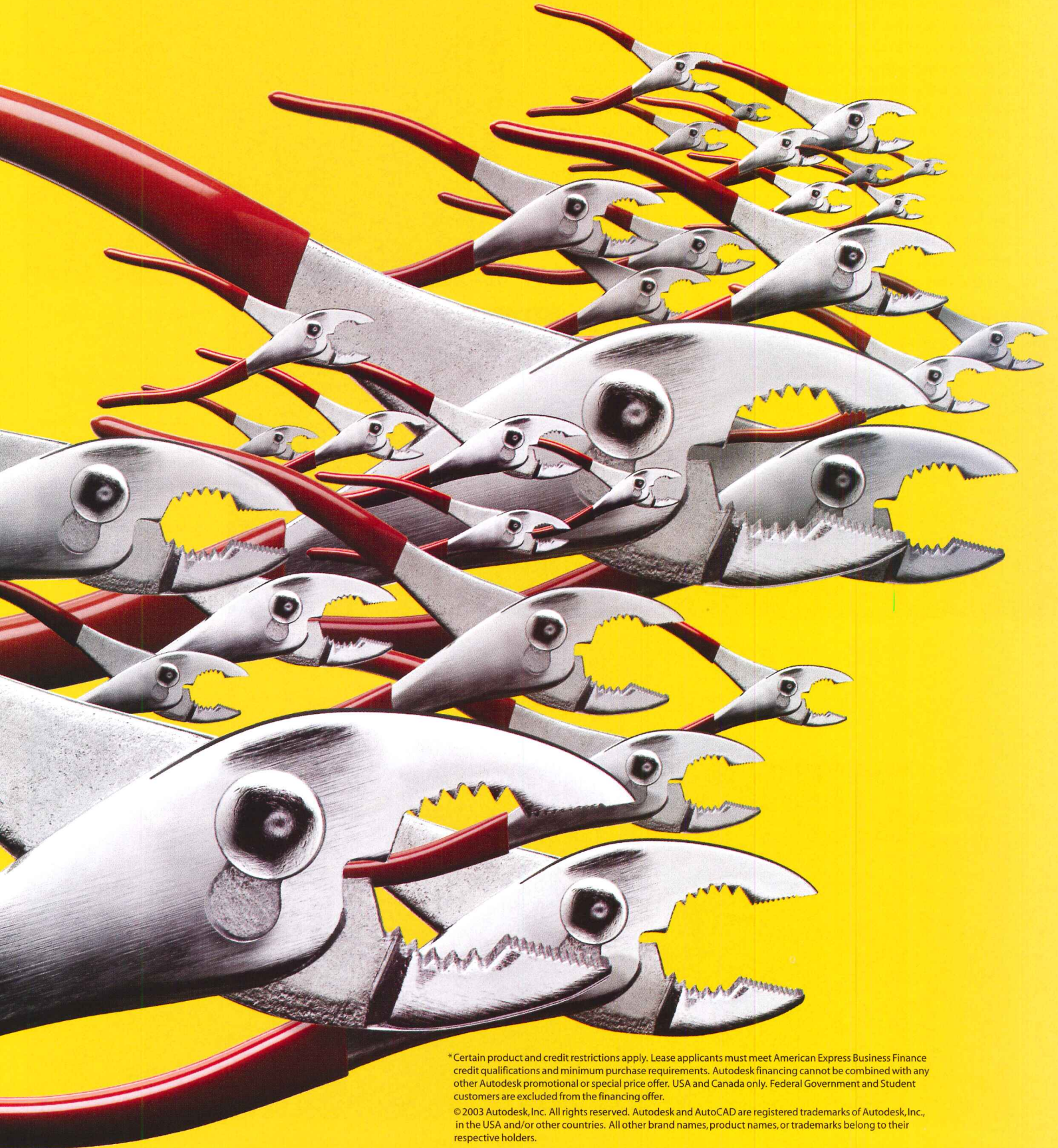
Key players: Barrett, Woodyard & Associates (mechanical); Johnson and King Engineers (structural); Susan Nelson-Warren Byrd Landscape Architects (landscape); Gulf Steram Construction (general contractor)

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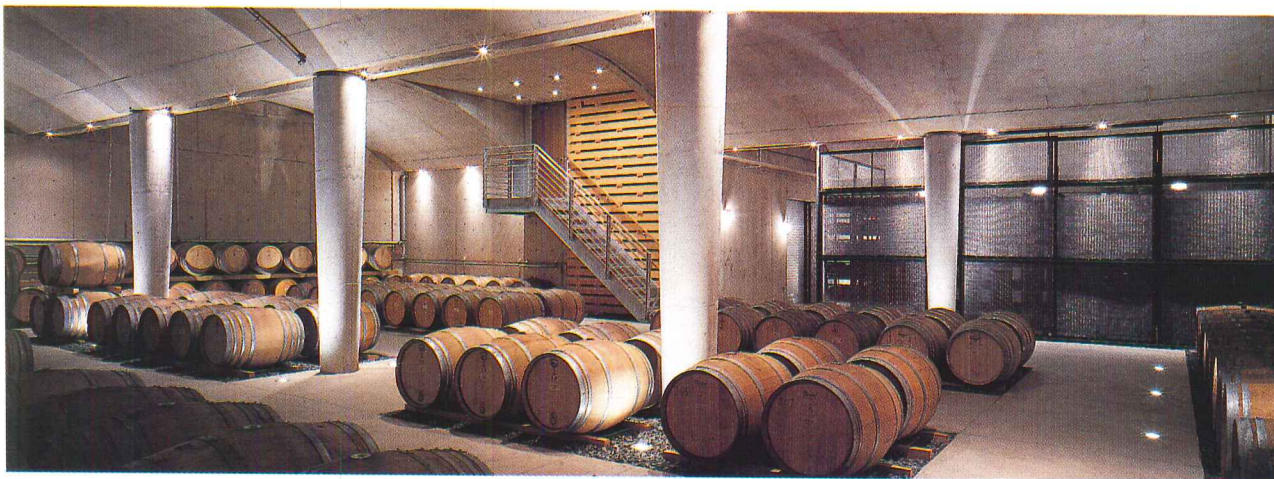
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ARCHITECTURE TOASTS THE SUCCESS OF WINE

Program: The client envisioned a state-of-the-art facility that would house technology enabling the company to produce premium and super-premium wines. It wanted a recognizable home that would strengthen its brand and provide the label with a unique and powerful identity. Created in direct response to feedback from consumers, the facility would allow guests to immerse themselves in the culture and environment of winemaking.

Solution: The building's simple form unites production and hospitality functions under a single, continuous roof supported by full-span wood trusses. The Great Hall, a large, two-story court with motorized glass doors at either end, serves to orient the visitor to the winery's amenities—tours, tasting bar, café, retail shop, and administrative offices—and creates a convertible space that opens to surrounding vineyards in mild weather. As North America's fourth-largest producer of wines, the client has experienced strong overall growth and success since the new building opened.

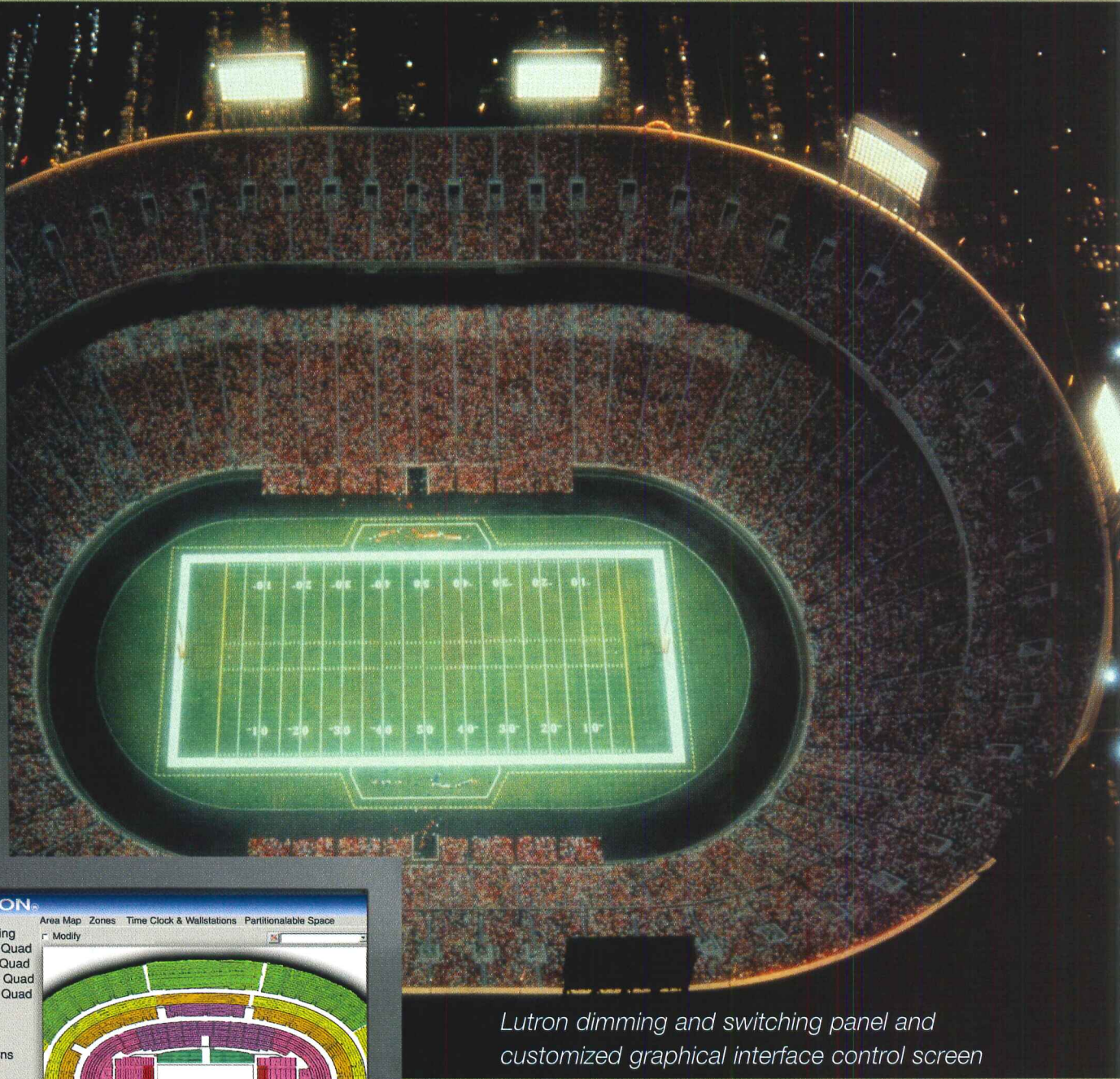


Project: Jackson-Triggs
Niagara Estate Winery,
Ontario, Canada
[archrecord.com, Building
Types Study, May 2003]
Architect: Kuwabara Payne
McKenna Blumberg Architects
Client: Vincor International
Key players: Blackwell
Engineering (structural);
Keen Engineering (mechani-
cal); Carinci Burt Rogers
(electrical); Merit
Contractors of Niagara
(construction manager)



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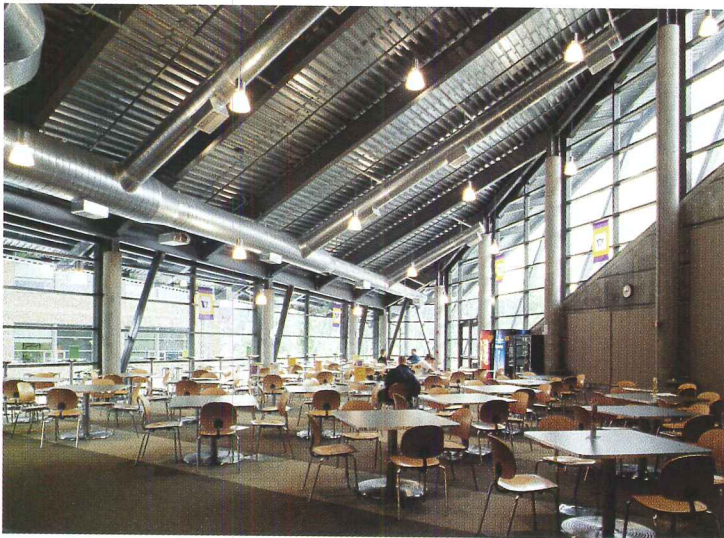
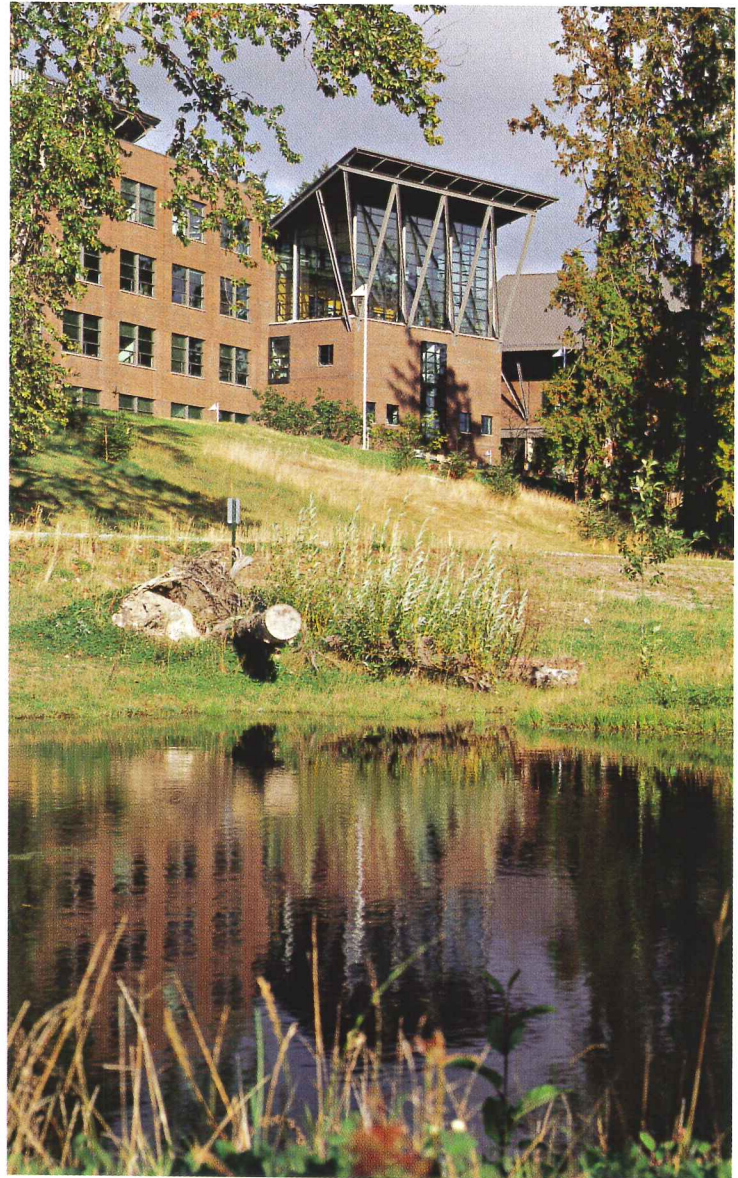
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SENSITIVE DESIGN UNIFIES TWO DISTINCTIVE STUDENT BODIES

Program: The need to combine a community college with a new branch of a well-established university at one location propelled the development of this campus in a distressed geographic area in dire need of facilities of higher education. Few colocated campuses in the U.S. have succeeded, and the clients were wary. Nevertheless, the project was launched.

Solution: A sophisticated and flexible design allowed both institutions distinct but unified appearances and turned out to be wildly successful. Staff share resources, and financial savings of 15 percent were immediately realized, with 10 percent life-cycle cost savings anticipated during the next 25 years. Programmatically, the institutions overlap smoothly, and student enrollment exceeded first semester expectations by more than 100. Local residents share the benefit of abundant lawns, walking trails, and wetland boardwalks that characterize the natural beauty of the ecologically sensitive site.



Project: *University of Washington, Bothell/Cascadia Community College, Bothell, Wash.*

Architect: *NBBJ*

Client: *State of Washington, Dept. of General Administration*

Key players:

Consulting Design, Inc., and KPFF Consulting Engineers (engineers)





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TOYOTA

A COMMITMENT TO SUSTAINABILITY EXPRESSED WITH STYLE

Program: With a goal of improving business output and reducing costs, the client wished to create a modern, innovative workplace that would consolidate four leases and nine business units. To be completed in less than a year, the project needed to balance community, collaborative, and individual work space; feature substantial sustainable elements; and provide a comfortable workplace for employees that would enhance corporate culture.

Solution: This simple, elegant, two-story building balances the client's commitment to sustainability with aggressive economic goals and high design quality. A new space-allocation model achieved from an open, flexible interior design allows for more informal collaborative meeting areas. The result: Organizational and worker effectiveness increased about 20 percent and sustainability goals surpassed expected levels to achieve gold certification.



Project: Herman Miller
MarketPlace, Zeeland,
Mich.

Architect: Integrated
Architecture

Client: Herman Miller

Key players: Interior
Architects (interior design);
Beta Design Group
(mechanical); Feyen-
Zylstra (electrical); JDH
Engineering (structural);
Triangle Associates (general
contractor)

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BRIGHT, FRESH FORMS CONVEY THE CREATIVITY BEHIND THIS DESIGN

Program: Two advertising agencies and the business unit of a third wished to create a new identity in Japan. Since two of the companies were Western and the third Japanese, a work space that reflected this new culture would be a challenge. Achieving a strong statement that reinforced a new brand culture without leaving anyone out seemed a daunting task indeed. The challenge was to provide more public, creative, shared space while giving everybody their own personal work and storage areas.

Solution: This attention-grabbing office interior features wild curves and Day-Glo colors. Styled like oversize furniture, colorful undulating ribbons with distinct profiles are adapted to varied functions. Turning away from standard enclosed offices and cubicles, the open plan generates crossover among staff at every possible opportunity and at every level of hierarchy. The long and the short of it is, people love it—employees, clients, the media.



Project: Beacon
Communications Office,
Tokyo, Japan [RECORD,
September 2002, page 140]

Architect: Klein Dytham
Architecture; The Design
Studio (associate architect)

Client: Beacon
Communications

Key players: Tokyu
Architects & Engineering
(engineers); Takashimaya
Space Creates (general
contractor)

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A NEW CAMPUS CONCEPT SUCCEEDS IN ITS URBAN MISSION

Program: Over the 156 years of its life, Baruch has thrived in New York City as an urban, multicultural college serving motivated students in a variety of business and liberal arts programs. Scattered and disconnected, the campus lacked cohesion and common gathering areas and needed to provide appropriate accommodation for a bustling student body of 15,000.

Solution: The academic building occupies three quarters of a full city block and forms the center of a new urban campus. It contains a great central atrium connecting the three parts of the school—the business school, liberal arts college, and shared social amenities—and serving as a focal point and gathering place for interaction. Through a series of four-story atria, the building's verticality was optimized to create campus quadrangles for each program stacked diagonally throughout the large floor plate. Students, faculty, and New Yorkers have all proclaimed its enormous success.



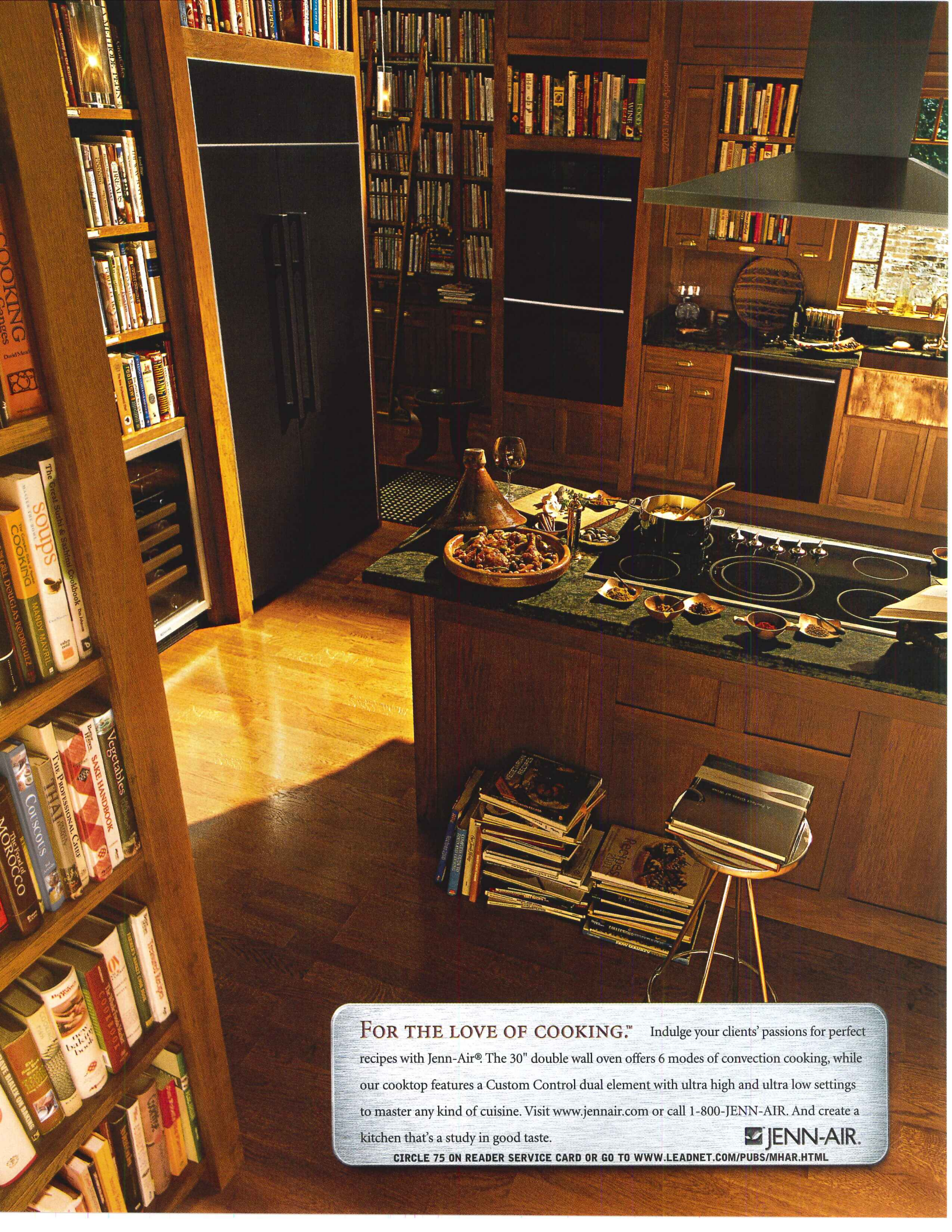
Project: *New Academic Complex, Baruch College, CUNY, New York City*

Architect: *Kohn Pedersen Fox Associates; Castro-Blanco Piscioneri (associate architect)*

Client: *Baruch College*

Key players: *Weidlinger Associates (structural); Cosentini Associates (m/e/p); TDX Construction (general contractor)*





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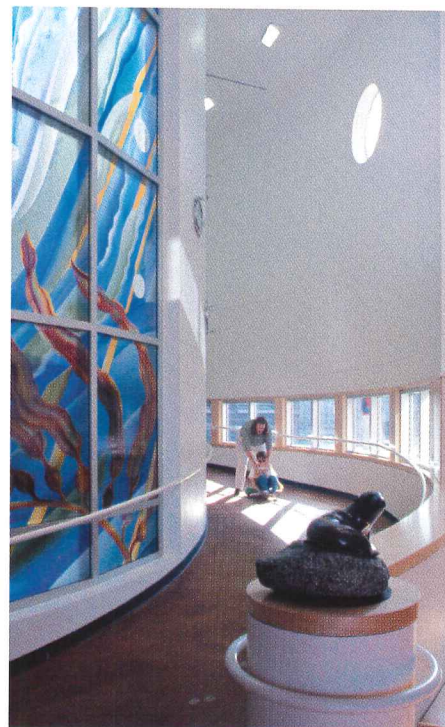
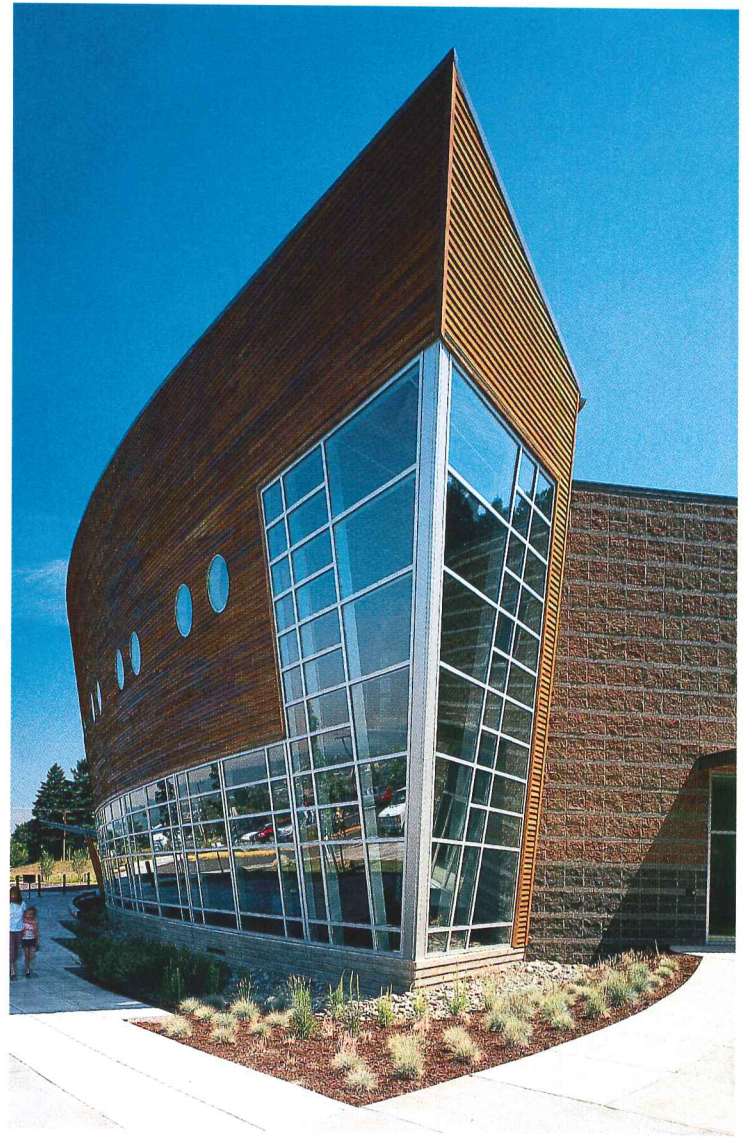
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FINALIST

THE DESIGN REDEFINES THERAPY FOR CHILDREN WITH SPECIAL NEEDS

Program: The mission of the Children's Therapy Unit (CTU) is to help children with special health-care needs use their bodies and minds to reach their full potential. This project needed to provide a distinctive facility for the CTU program, one that would attract, inspire, and motivate children, their families, and the staff who work there. In addition, patient volume had increased to more than 600 children a week.

Solution: The architects created a noninstitutional, playful and fun setting for children with birth defects, neuromuscular disorders, and/or developmental disabilities. Increasing interdisciplinary collaboration and patient convenience, the new facility brings together laboratory, workshop, and therapeutic components, as well as testing and fabrication of prosthetics devices. The project includes a day-care center for disabled children and a multimedia classroom for education programs, training, and presentation of research. A 30 percent increase in in-patient volume, not to mention the extensive waiting list of families for services during the first nine months, are testament to the project's success.



Project: Dr. Donald & Beret Mott Children's Center, Puyallup, Wash. [RECORD, July 2002, page 144]

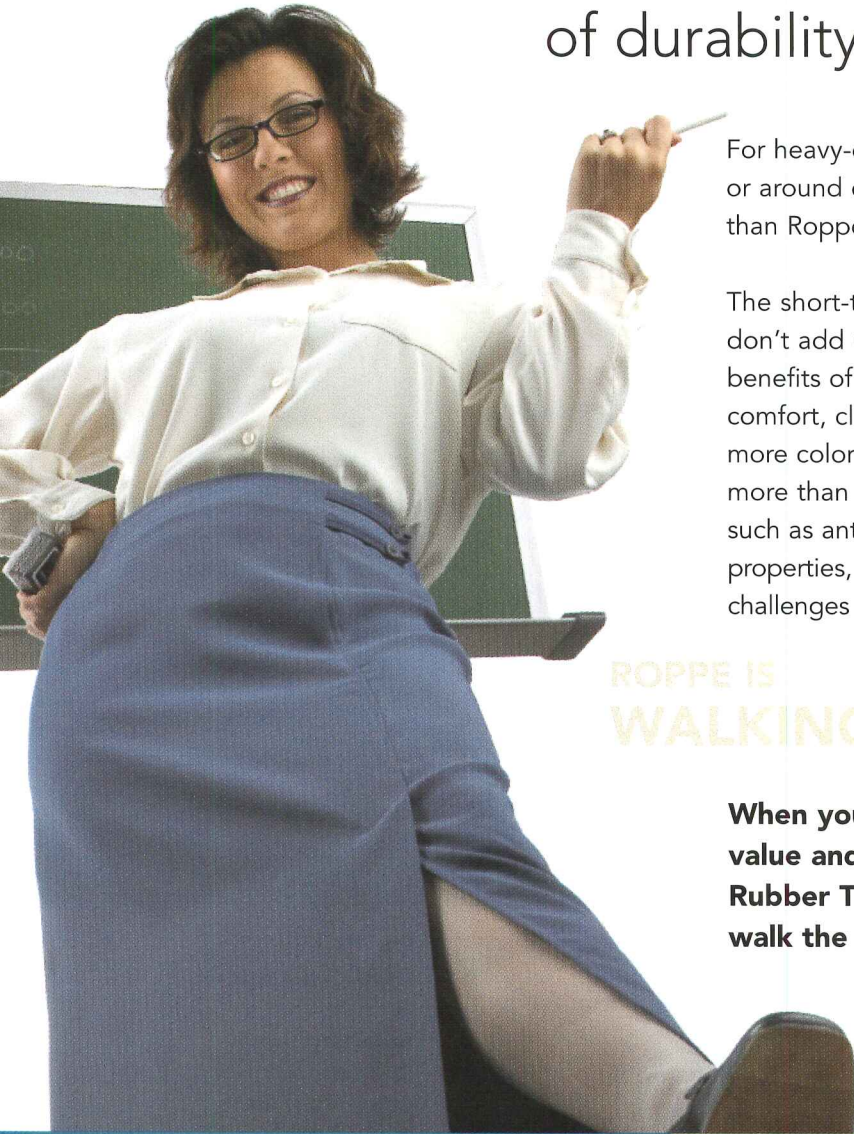
Architect: Zimmer Gunsul Frasca Partnership

Client: Good Samaritan Community Healthcare

Key players: Putnam Collins Scott Associates (structural); David Evans & Associates (civil); Blue Sky Landscaping Services (landscape); Absher (general contractor)

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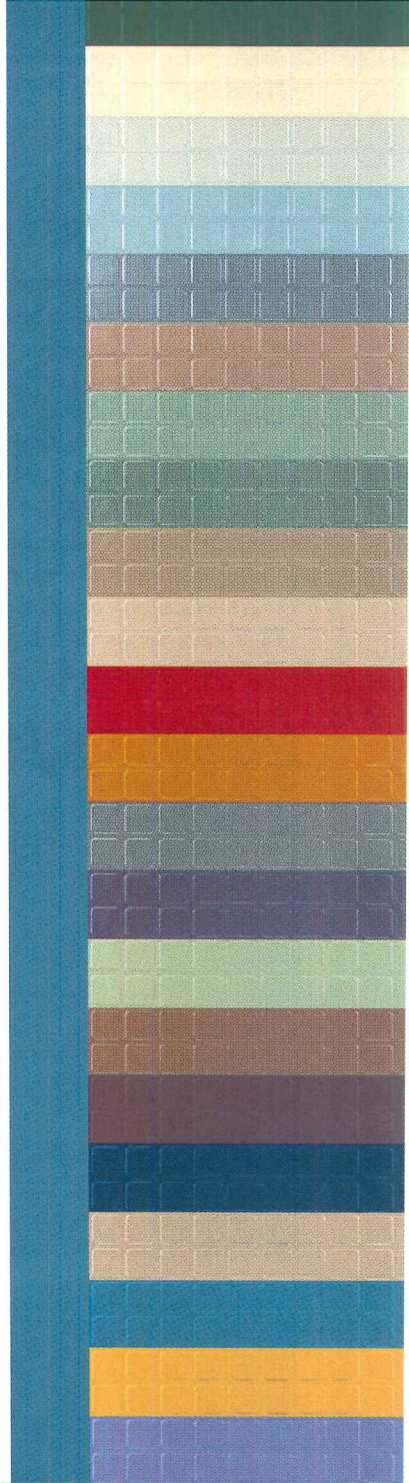


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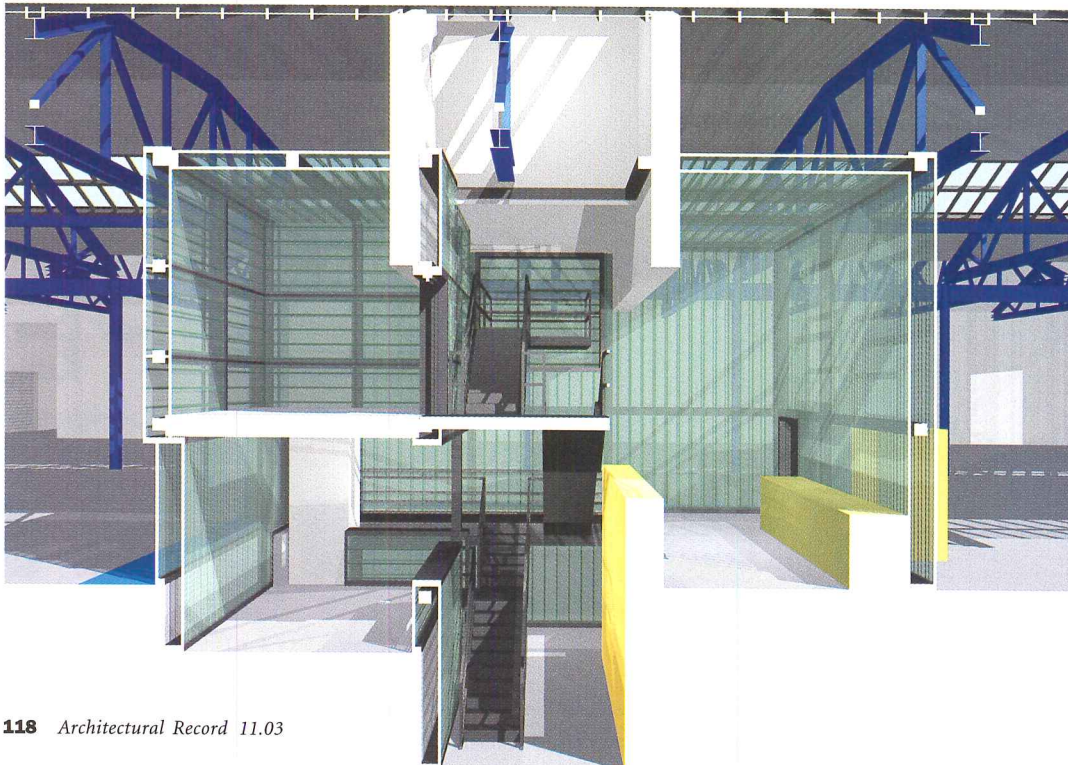
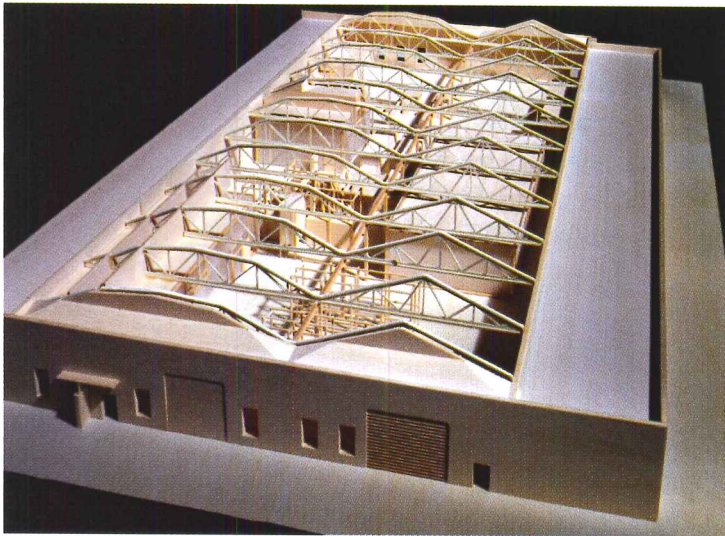
■ ■ ■ ■ ■ rubber wall base, tile, treads, accessories ■ vinyl wall base, treads, accessories ■ solid vinyl tile ■ esd control vinyl flooring systems

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A PROJECT TO VERIFY THE VIRTUES OF GOING GREEN

Program: Designated as a pilot project, this new manufacturing facility will focus on the research and development of converting wasted glass into a high-added-value engineered stone that could eventually be used in sustainable architecture throughout the nation. The facility will be housed in a former military base, within close proximity to 1,000 tons of waste glass per day and a surplus of inner-city workers.

Solution: Faced with the overwhelming task of a gut rehab of the worst building on the base, the client became its own general contractor. Thus, much of the basic construction work and metal fabrication was undertaken in-house, with estimated construction cost savings of up to 70 percent. When the facility is completed next year, this skillfully designed model of sustainability will both experiment with and provide prototypes of innovative and smart materials to be incorporated into this stone product.



Project: Great Harbor Design Center, Brooklyn, N.Y.

Architect: Gary Shoemaker Architects

Client: Great Harbor Design Center

Key players: Bayomi Consulting Engineers (engineers); Great Harbor Design Center (general contractor)

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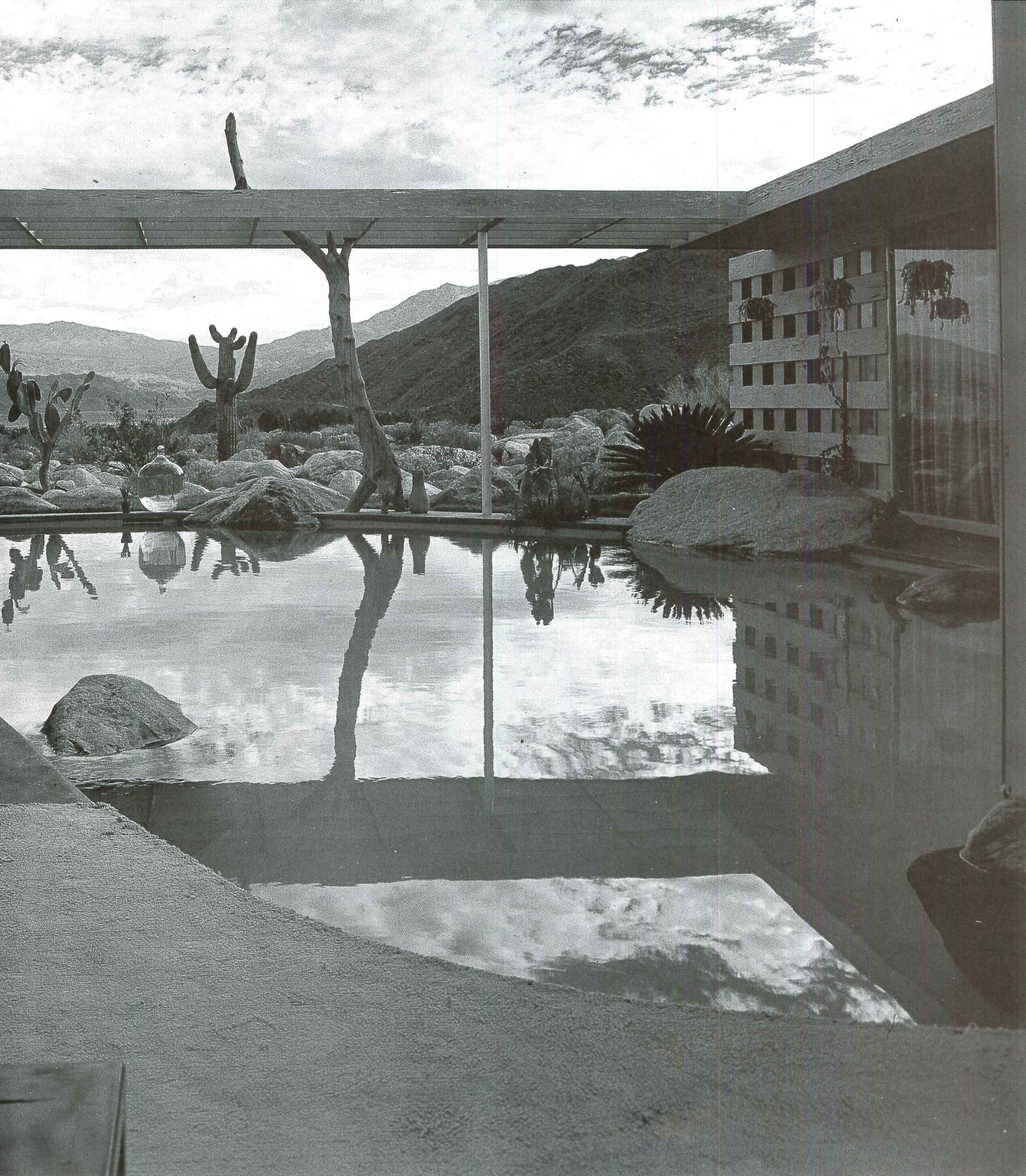
Southern California architecture of the 20th century through a master's lens

By Ingrid Whitehead

Los Angeles, 1936. A self-taught photographer from Brooklyn named Julius Shulman sends a few photos to an architect from Vienna named Richard Neutra. The photos, of Neutra's just-completed Kun House, impressed the architect. He bought them, commissioned others, and a friendship and professional partnership was born.

Neutra and his contemporaries went on to define an era of Modernist architecture in Southern California, and Shulman went on to document it, including the famous Case Study Houses for *Art and Architecture* magazine. His stunning images invite the viewer to stop—and to recognize a near-perfect period and place. Shulman's photos glorify the dream of California, a mythic essence realized by the architects who assembled posts and beams together in a uniquely contemporary way.





Loewy House, 1947.

Albert Frey, Palm Springs, California, 1946-47



Chuey House, 1958.

Richard Neutra, Los Angeles, California, 1956

Academy Theater, 1939 (right).

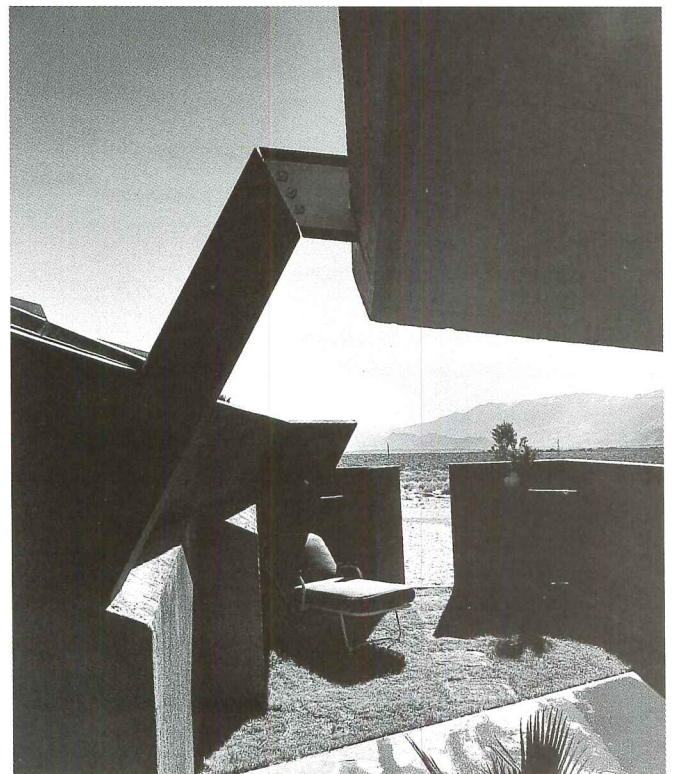
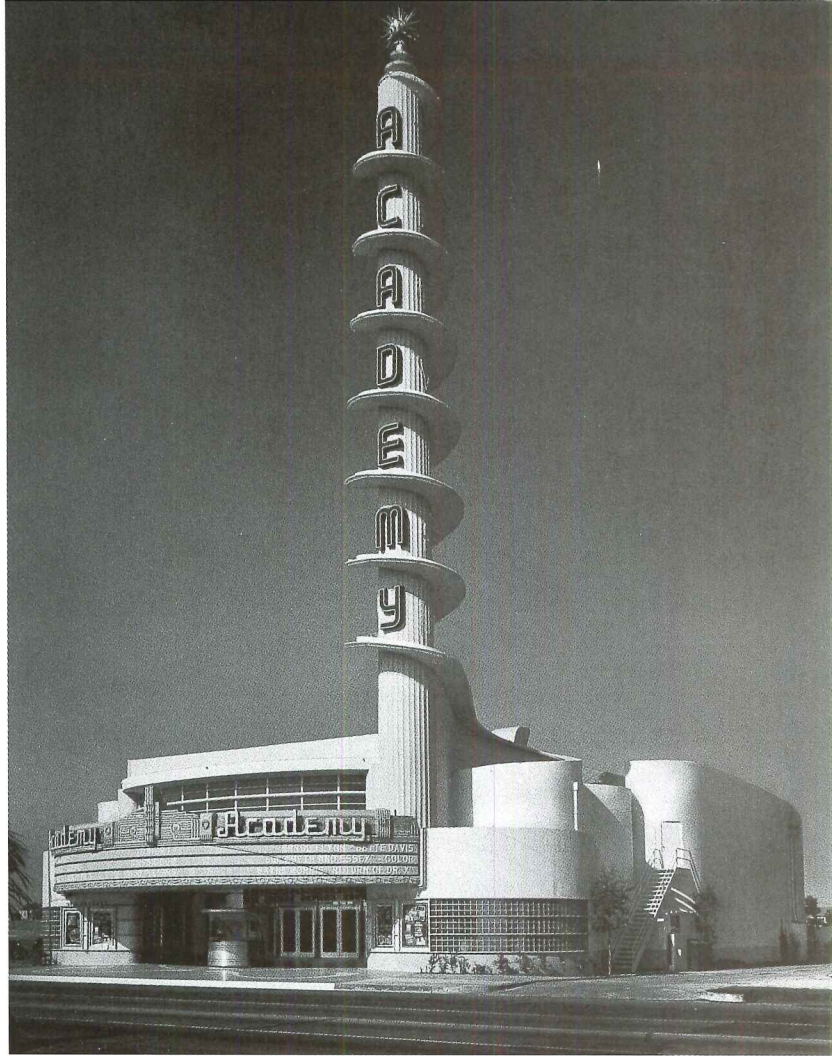
S. Charles Lee, Los Angeles, California, 1939

Desert Hot Springs Motel, 1947 (bottom right).

John Lautner, Desert Hot Springs, California, 1947

Frey House, 1953 (below).

Albert Frey, Palm Springs, California, 1947-53

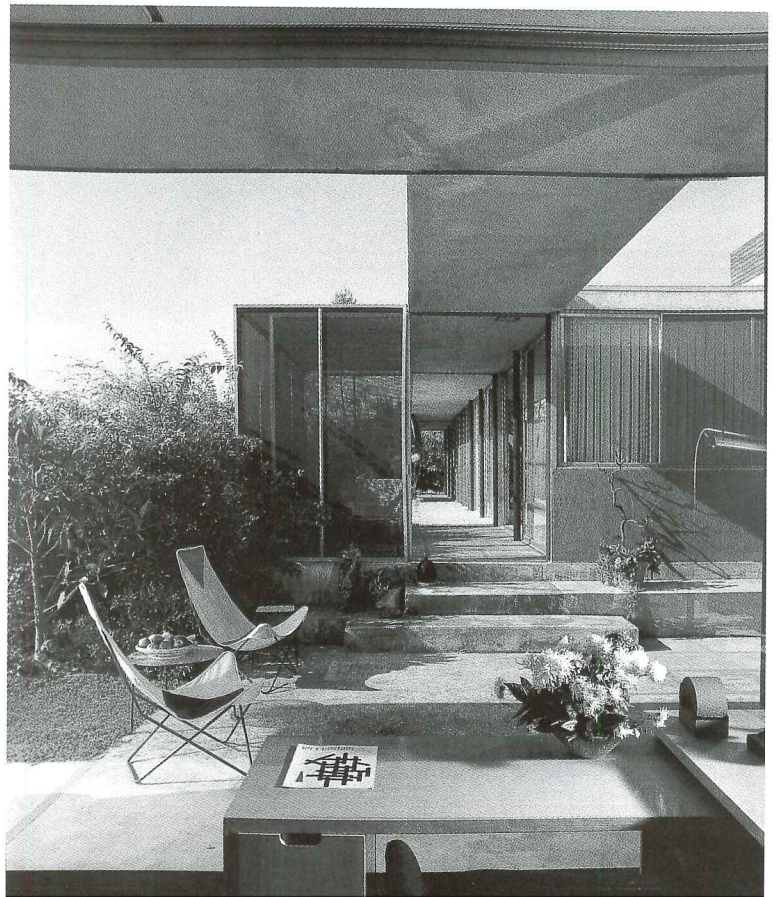




Sturges House, 1962 (above).
Frank Lloyd Wright, Los Angeles, California, 1939

Shulman House and Studio, 1950 (right).
Raphael S. Soriano, Los Angeles, California, 1950

Case Study House #25 (Frank Residence), 1963 (opposite).
Edward Killingsworth, Naples, California, 1962







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Full-Blown Los Angeles

Has America's over-the-rainbow city entered an adult phase after decades at the beach?

By Robert Ivy, FAIA

Is Los Angeles finally growing up? If architecture is a gauge of a civilization's psyche, then where is sprawling L.A. now? Follow the trajectory of its new path, from the earliest days of the 20th century, in which builders imitated the romantic Spanish-inflected early culture, past 77 Sunset Strip, to the heady '70s and '80s, when seemingly every architect operated out of a converted industrial building in Santa Monica, until today. Historically, New York or London bore serious intellectual weight. Los Angeles floated on a smoggy haze—creative and carefree, but a duck-tailed youngster preening in a convertible.

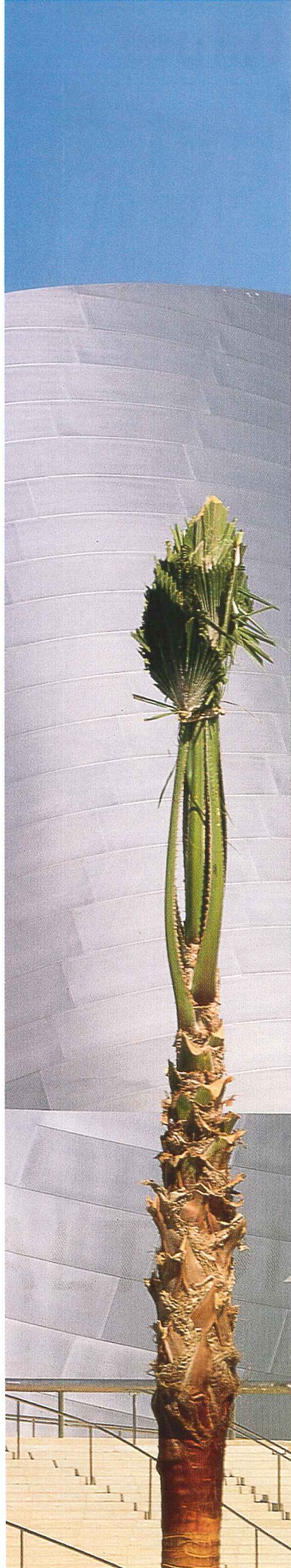
Then the cultural heavyweights began to take root in the arid soil. When did it begin? With Isosaki's MOCA in 1986? Perhaps with the Skirball, out on the highway; or back downtown, where developers like Tom Gilmore brought renewed vitality to neglected properties and attention focused on big business and high culture. The ascendance of the architectural schools—SCI-Arc, UCLA, USC—brought focus to the architectural scene and offered an ongoing forum for serious architects that continues to enrich the laboratorylike environment.

When the powers that be commissioned Richard Meier, and his Getty opened in 1997, the city entered the major leagues, making a self-conscious play for East Coast attention. José Rafael Moneo's Cathedral of Our Lady of the Angels and, finally, last month's opening of the Walt Disney Concert Hall by native son Frank Gehry, signaled a defining moment in the city's life. Like a lumbering giant, the city pulled its way up from the La Brea pits, stirred, and stood up.

Adulthood may have been inevitable. All those freeways, converging and passing their hopeful throngs along the valleys and the coast, filling up the schools and houses, spreading and spilling their hopes and dreams, couldn't run to infinity. Today, the freeways have reached a critical mass, congealing like human arteries that have continually pumped for a hundred years. They still flow, but more slowly.

Yet despite this coming-of-age, the city still fires the imagination, producing architectural works of great energy and invention. If Gehry's concert hall represents a ripening, consider the freewheeling creativity of the projects on the following pages, in which a variety of architects engage unexpected materials derived from the techno and industrial to the vernacular in a cacophony of solutions as raucous as the highways: thin, stiff, transparent, raw, funky. The evolution of Modernism can be clearly traced on the Southern California streets, from Neutra and Schindler and the Wexler houses in Palm Springs to the hybrid library of Hodgetts + Fung.

For years, Angelenos typified California dreaming. Today, they are hard at work and stuck in traffic, but still filled with architectural fire. Welcome to Los Angeles and the maturation of a great American city. ■

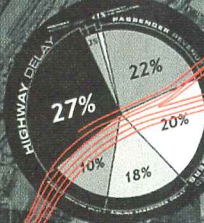


Can students envision a future that planners and the powers that be cannot?



NET COST ANALYSIS

150,000
145,000
140,000
135,000
130,000
125,000
120,000
115,000
110,000
105,000
100,000
95,000
90,000
85,000
80,000
75,000
70,000
65,000
60,000
55,000



A spread from volume two imagines a downtown-to-airport rail link dramatically layered with related activities.

Yes

By Joseph Giovannini

Los Angeles pioneered the car-driven, 20th-century urban paradigm. Its mobility-induced decentralization has been mirrored in a decentralized government, with a weak mayor and strong city council, and an incremental, market-driven approach to growth and redevelopment. Not for Los Angeles the big-idea urbanism of Berlin's Potsdamer Platz, the *Grands Projets* of Paris, Rem Koolhaas's reinvention of Lille, France as a new transportation hub, or the urban transformation wrought by the Barcelona Olympics (Los Angeles proudly hosted theirs on the cheap). Still stuck in the backyard by the pool, Los Angeles has little will for large urban vision.

Ferns and palms semaphore the city's Garden of Eden promise, but as developers have shoved six-family dingbats into once-leafy single-family lots and suburbanized sprawl continues in every direction, Los Angeles tests the upper limits of both home prices and feasible travel time. In a convergence of urban fact and collective desire, the city is at once recentralizing as it continues to decentralize.

Richard Koshalek, the president of Art Center College in Pasadena, decided it was not only time for a new, more inclusive vision for the city, but for a new way of devising that vision. In 1999, he initiated a proactive, cross-institutional study to reassess the very identity of the city and propose ideas for guiding and catalyzing its transformation. Koshalek's very simple but effective idea was to use California's design and architecture schools—the University of California, Los Angeles (UCLA); California Institute of the Arts (CalArts); the Southern California Institute of Architecture (SCI-Arc); as well as the Art Center—as a collaborative think tank for developing constructive ideas in a city without the mechanism and will to take long strides.

Working with project director Dana Hutt, he engaged Thom Mayne as project architect to head an effort at proposing a series of urban interventions, using Mayne's studio at UCLA and his Santa Monica office, Morphosis, as a base of operations. Mayne himself maintains a porous practice and design attitude, open to many voices. He told his students that the projects would represent "a collaboration with no single author."

Mayne was an astute choice. Known for highly articulate, ferociously intense buildings, he actually worked first in urban design before becoming, in his late 20s, an architect. His development as an architect has deeply influenced his approach to urbanism, with structures that reach beyond the borders of site and program but which recognize forces of the city acting on them.

Mayne, however, was not interested in having students parachute projects into the city, but rather wanted them to understand Los Angeles today in its larger metropolitan context and social condition. For the first half of the academic year, students collaborated on a massive research project. "The analysis was necessary so that students could take a design stance based on real information," says Mayne. Working in studios, UCLA

Joseph Giovannini is the architecture critic for New York magazine.



declares the **L.A. NOW** project

MAN-MADE HABITAT 150

Smog

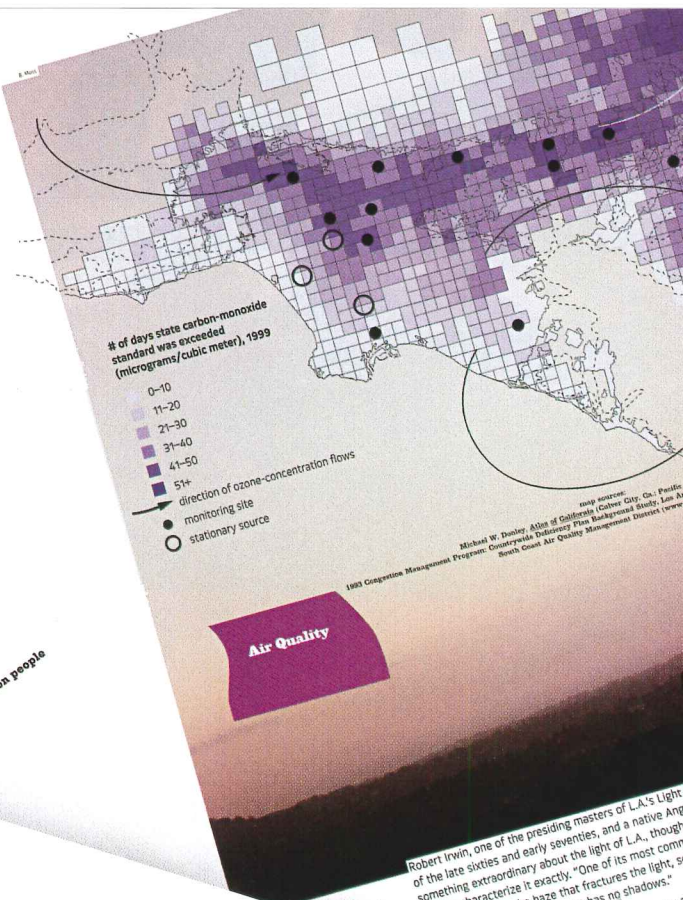
year	# of days exceeding state air-quality standards	# of days exceeding federal air-quality standards
1980	210	187
1981	222	180
1982	191	149
1983	190	152
1984	207	173
1985	206	158
1986	217	160
1987	196	178
1988	216	157
1989	211	130
1990	184	130
1991	183	143
1992	191	124
1993	165	118
1994	165	98
1995	154	90
1996	151	68
1997	141	62
1998	114	41
1999	118	

pollutants
Ozone
Particulate Matter (PM10)
Carbon Monoxide
Nitrogen Dioxide

toxic air contaminants
Acetaldehyde
Benzene
Carbon Monoxide
Chromium
Paracetamol

primary source
vehicles
airborne particles from area
factories

complications per 1 million people (per year)



Air Quality

Robert Irwin, one of the presiding masters of L.A.'s Light of the late sixties and early seventies, and a native Angeleno, had something extraordinary about the light of L.A., though he suggested, "is the haze that fractures the light, so on many days the world almost has no shadows."

In volume one, students inventively presented data on air pollution (above) and transportation (right). They considered how building typologies could mix in new ways (opposite).

MAN-MADE HABITAT 146

Condition of urban highways

metropolitan area	percentage of urban highways in need of repair	annual urban repair spending per highway mile	average cost to city per car (life of car)
Chicago	44%	\$37,560	\$1,284
Detroit	38%	26,088	1,416
Philadelphia	35%	45,080	1,109
New York	26%	28,227	980
Washington, D.C.	22%	65,488	1,071
San Francisco	14%	88,178	837
Boston	13%	83,656	991
Los Angeles	13%	65,104	722
Dallas	4%	38,309	

Southern California Association of Governments (www.sacog.ca.gov)

1626

I know it's fashionable to speak of freeways as instruments of cultural isolation. It's true, if one drives from Sherman Oaks to Pomona, one can breeze right by the housing projects of East L.A. and never acknowledge their existence. Moreover, freeways were the tool with which the '50s middle-class fantasy of suburbia was manifested by land barons from the Westside, Palms Verdes, and the Valley out to build their fortunes. Without freeways, white flight would have proved inconvenient. On the other hand, as a result of freeway construction, the area of land within a 30-minute drive from L.A.'s civic center leapt from 261 square miles in 1953 to 705 square miles by 1962, a widening of purview that applied equally to anybody with a vehicle and some gas money.

Celeste Fremon, "Freeway," Los Angeles Magazine (December 2000): 160, 247

Road Travel

There are... They are... congestion... In a city... Hat trees... spills: Fuel-oil... had cove... The traffic... precincts, across... The traffic slows... population spok... and is killed in record... the freeway network... puppy litters leave their... cockfights, Caltrans... masters the... The...



students compiled research and developed their own projects. At the Art Center, photography, film, and environmental-design students created images for the books published on the project and designed the exhibition in the A + D Museum in the Bradbury Building. CalArts graphic design students laid out the books under the guidance of Lorraine Wild, with the coordination of project manager Julianna Morais, of Morphosis.

The results were published as *L.A. Now*, the first of a two-volume project (University of California Press, 2001). It is divided into sections under such rubrics as “People,” “Money,” “Natural Habitat,” and “Man-made Habitat.” “The study looks at what is specific and idiosyncratic to Los Angeles, rather than identifying its common ground with other global locales,” says Mayne, whose office coordinated the publication. “We wanted to embrace its distinctions, not flatten the complexity.”

The fingerprints of Rem Koolhaas and Bruce Mau mark volume one, with statistical analysis of the Los Angeles condition visualized through pumped-up graphics and raw photography. At the start of the chapter on “Civic Identity,” we find former mayor Richard Riordan pounding drums with a Latin jazz combo behind a Eurasian Rockette dancing in a feathered G-string and fishnet stockings. Three pages later, we learn not only that 261,400 people sleep in the streets of Los

Angeles, but that they constitute 38 percent of the nation’s entire homeless population. Like Los Angeles, the book sprawls from subject to subject, its pages of interesting nuggets adding up to a pointillist portrait of the city—though, inevitably, some points are more interesting and revealing than others. The book isn’t linear; you can start anywhere. Like Los Angeles, there is no single reading, no single center, no one path through.

This interpretive analysis informed visions that students developed for specific (though quite large) downtown settings, a landscape wrapped by the I-10, the Hollywood, and the Harbor Freeways. They are presented in *L.A. Now, Volume*

WITH FOUR SCHOOLS INVOLVED, L.A. NOW BECAME A COLLECTIVE THINK TANK FOR THE CITY.

Two: Shaping a New Vision for Downtown Los Angeles. “The problems at this scale are no longer singular, and the solutions require understanding the multiple forces that act on a site,” says Mayne. “That’s the difference between architecture and large-scale urban planning. Each student had to develop some command of the economic, political, and social terms that applied.”

In the designs, the buildings and city merge in an urban

FEATURES

A Visionary's New Pulpit

For nearly 20 years, Richard Koshalek, 61, used his position as director of the Museum of Contemporary Art (MOCA) in Los Angeles as a bully pulpit for urban activism. Maybe urban guerrilla warfare is a better term. Trained as an architect, he took the institution outside its Grand Avenue walls, using streets and parking lots as canvases for site-specific happenings and installations. Art, in his view, could be an urban catalyst; building downtown was a way to build the institution.

Koshalek orchestrated the construction of Gehry's Geffen Contemporary and MOCA's main structure, designed by Arata Isozaki. By breaking open downtown's bunker mentality—the instinctive

fortification against the perceived toxins of the city—he made the institution and the city permeable to each other. Perhaps his ultimate act of urbanism-through-art was in chairing the architecture selection committee that appointed Gehry to design Walt Disney Hall (page 134).

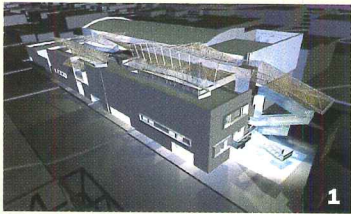
In 1999, Koshalek became president of the Art Center College of Design, in Pasadena, but his devotion to downtown remained even as it became extracurricular. Angelenos are willing to reconsider downtown, he says. "There's a new dynamic, a change from a suburban to an urban culture. The city is turning inward, population densities are increasing, and there is now a greater emphasis on public transportation." He sees no private or public vision that matches downtown's potential. By initiating L.A. Now, the Art Center simply became his new bully pulpit.

Koshalek's ambition is to unleash academia through the "wall-less classroom" of the city. "Most educational institutions are cloistered within their campus, and

that creative dialogue never leaves its small world for application in a larger one," he explains. "The [design] dialogue doesn't usually reach into politics, economics, or urban development, where it can have a larger role. The public sees the schools as irrelevant to the larger community."

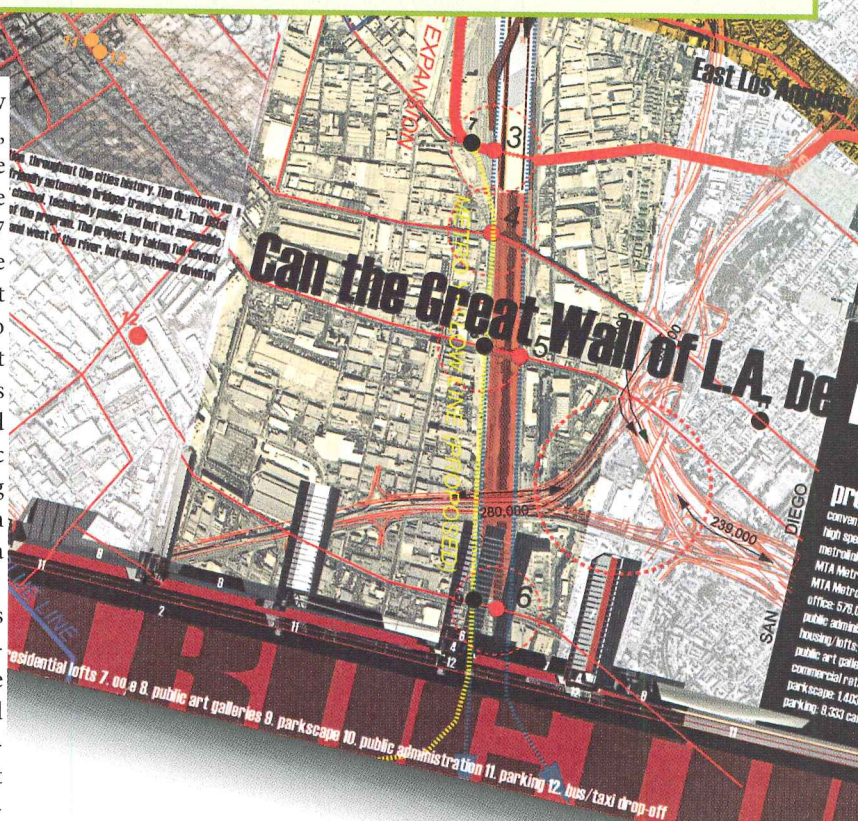
He has also mobilized a major expansion to the Art Center campus, long dominated by its famous bridge building, designed by Craig Ellwood (2). A new zigguratlike campus library by Frank Gehry (3) and a technical-skills center by Alvaro Siza (4) are on the boards. Koshalek has also established a new, more accessible South Campus nearby, in downtown Pasadena, where architects Daly/Genik are converting a former wind tunnel building into a new complex that will house public-education and other community-focused programs (1). "What we're trying to do is find a synergistic relationship with the city that surrounds it," he says.

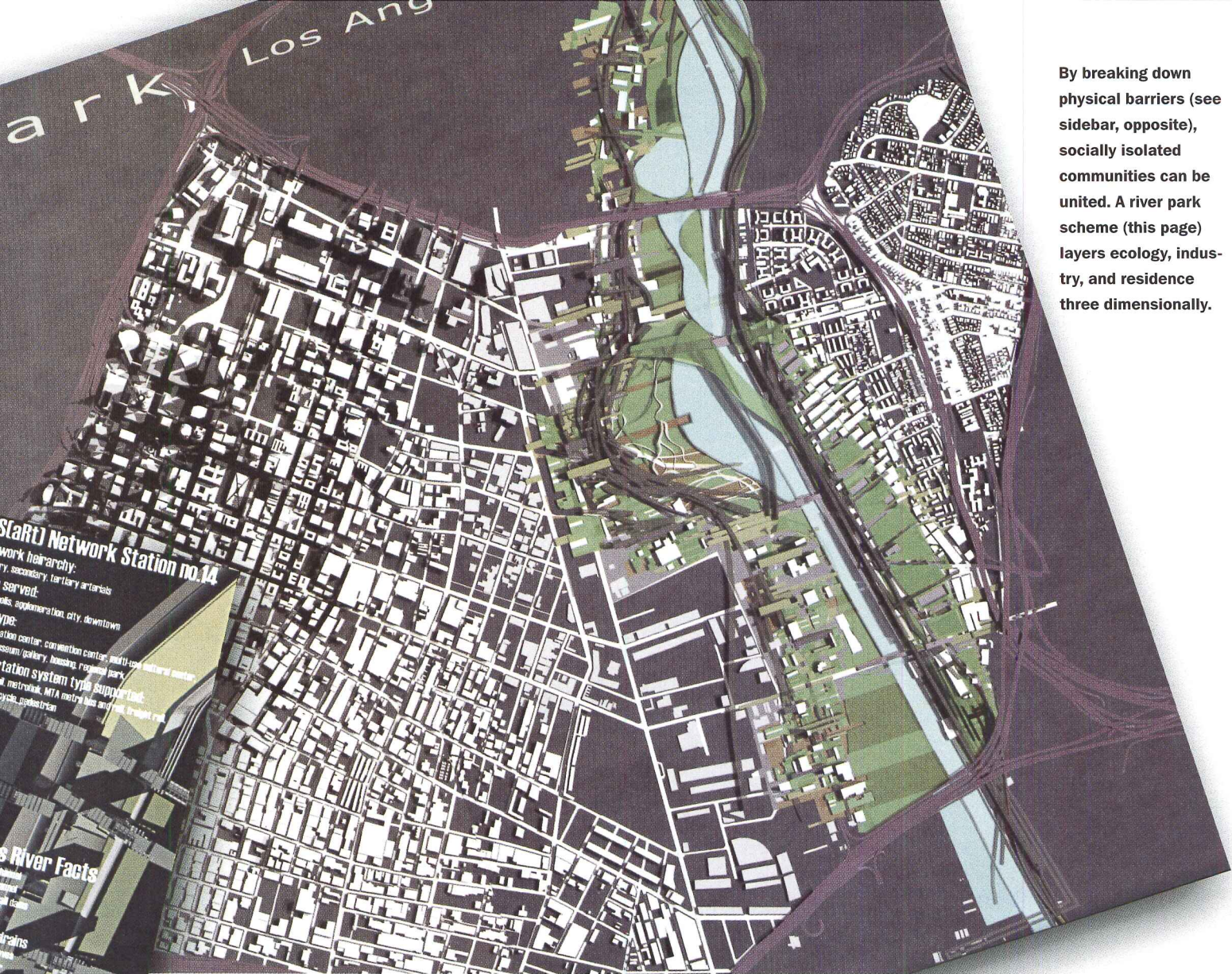
Koshalek, who has spent his professional life bridging the worlds of art, patronage, business, and politics, has put his convictions to work at the Art Center itself. J.G.



mélange that exceeds even the delirium Koolhaas found in New York in his "retroactive manifesto." Though based downtown, most projects address multiple scales, from the local to the regional. The projects presume that an infusion of 200,000 people will achieve a mass sufficient to jump-start downtown as a 24/7 community. This density is necessary, for example, to activate the proposed river park and a mass-transit node, with attendant hotels and cultural activities, which another project connects to the airport. One team proposed a university with a spur that reaches out across the Los Angeles River to the East Side. A sports park introduces new athletic and entertainment facilities around the Staples Center Arena, a complex that would serve both public and private, as well as local and state uses over time. A housing proposal capitalizes on existing buildings by interweaving them with outdoor spaces across the rooftops of mid-rise buildings in a three-dimensional residential/recreational matrix.

Perhaps the most promising study is the Los Angeles River Park proposal, which focuses on a length of the river starting north of downtown, near Chinatown. This section is the oldest occupied ground in the Los Angeles area; it hosted Spanish and before that Indian settlements going back thousands of years. Gringos have not treated it kindly, imposing vast rail yards and a spaghetti of elevated highways and freeway-





By breaking down physical barriers (see sidebar, opposite), socially isolated communities can be united. A river park scheme (this page) layers ecology, industry, and residence three dimensionally.

intersection stacks along the river's cemented banks. Liberating the river from its concrete straightjacket, as the students propose, and developing the swaths of land on either side could suture the East and West sides of Los Angeles—long a cultural divide. The students studied not only the river and its ecology, but also the several blocks on either side of its banks, to assess current and future uses compatible with the surrounding fabric.

Eschewing traditional urbanism based on zoning, and rejecting its Modernist corollary, the clean slate, the students instead layered a new mix of uses onto existing ones. After an ecological analysis, the students addressed flooding, the original rationale for channeling the river, by proposing water-recreation zones as a new kind of urban alluvial ecosystem. They hybridized landscape and cityscape in an urban park where landscape melds into existing industrial zones. These the students diversified with housing, recreation, and cultural venues, creating fields of mixed and overlapping functions. Buildings themselves become functionally hybridized structures, roofed with sod to facilitate the absorption of the 100-year flood. The city itself, not just the river, is understood and treated as a fluid. Both represent “ecosystems”—natural and man-made—that are compatible with each other.

Because the work extended beyond a single semester

into a research studio, the students have been able to study complex urban phenomena in an integrative process. Pedagogically, they learn to move beyond formalism to ground design in large, interdisciplinary issues—in the innate uncertainty of urbanism.

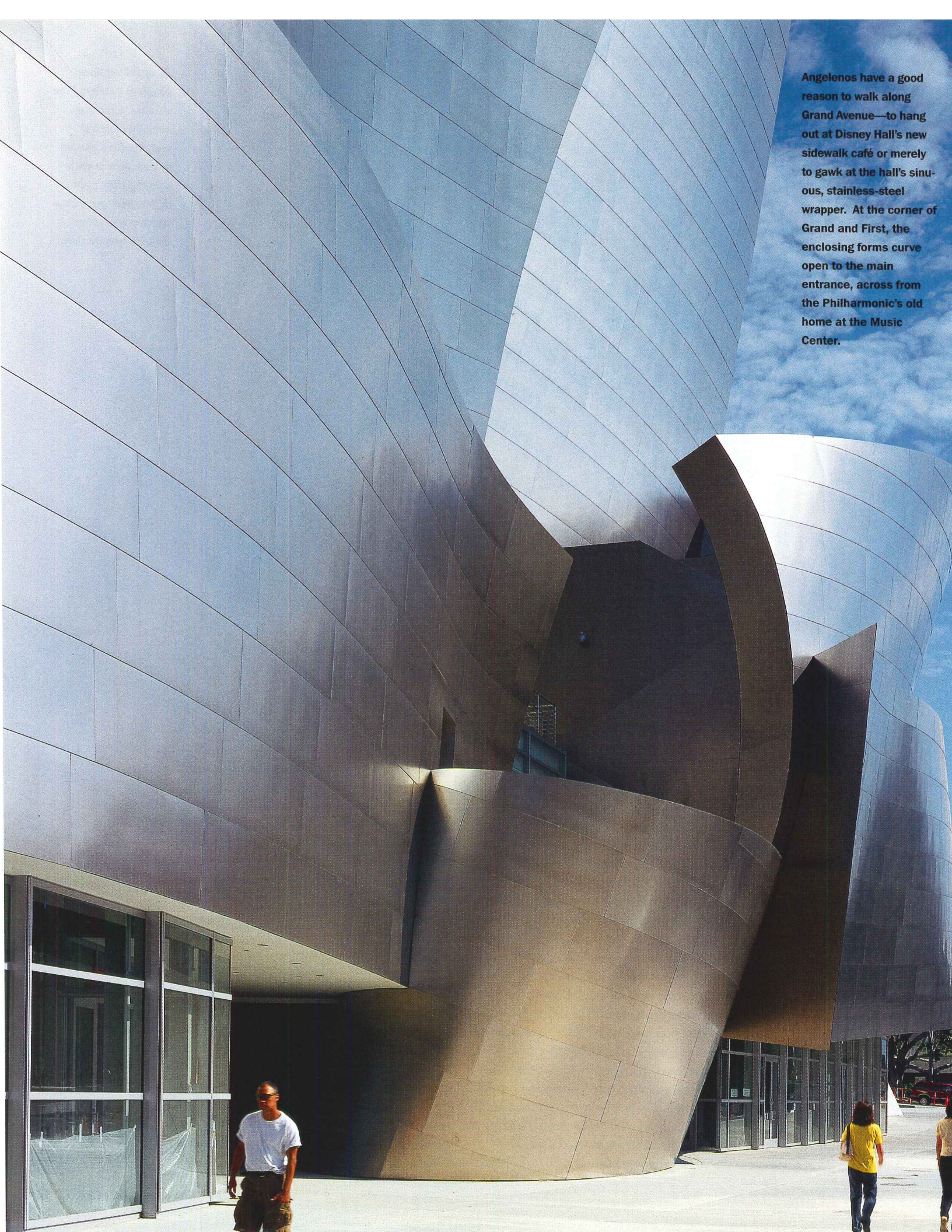
The impact of the work goes well beyond the studio. The exercise has shown how architecture schools are a practical and conceptual resource for the community, and how their energies and expertise can be marshaled to address current and

ARCHITECTURE SCHOOLS CAN BE A PRACTICAL AND CONCEPTUAL RESOURCE FOR THE COMMUNITY.

future urban needs. This is a valuable precedent not only for Los Angeles, but for architecture schools across the United States.

The proposals, of course, are student hypotheses, conjectural in nature. The advantage of their academic origin is that the schemes are disinterested, not beholden to any of the current players. Further studies will build on these, and perhaps a consensus can emerge that will galvanize a city notoriously passive about its own urban future. Brave, new visions are necessary to test, spur, and develop a future that Angelenos will actually want to share. ■

IMAGES: COURTESY ART CENTER COLLEGE (SIDEBAR, OPPOSITE)



Angelenos have a good reason to walk along Grand Avenue—to hang out at Disney Hall's new sidewalk café or merely to gawk at the hall's sinuous, stainless-steel wrapper. At the corner of Grand and First, the enclosing forms curve open to the main entrance, across from the Philharmonic's old home at the Music Center.

PROJECT DIARY The story of how Frank Gehry's design and Lillian Disney's dream were ultimately rescued to create the masterful **WALT DISNEY CONCERT HALL**



By James S. Russell, AIA

May 1987. Ernest Fleischmann, the executive director of the Los Angeles Philharmonic, took an urgent telephone call while waiting for a flight in New York. The call was about a gift, one of the most extraordinary ever offered any cultural institution, let alone an orchestra. Lillian Disney, the widow of Walt, had offered \$50 million to build a new home for the Philharmonic. It seemed unbelievably auspicious. While the gift would not cover the entire cost, it would drastically reduce the fund-raising burden. No one knew at the time that building Walt Disney Hall would ultimately consume the next 16 years and cost more than five times the sum Mrs. Disney had offered.

Since 1964, the Philharmonic had performed in the Dorothy Chandler Pavilion, one of three performing-arts halls in the Los Angeles Music Center complex. Architect Welton Beckett had mounted the center on a chilly raised plaza and surrounded it by an arcade, an uneasy marriage of Modernist style and Classicist form that was typical of an arts acropolis of its time. The barnlike Chandler—long famous as home of the Academy Awards—swallowed the orchestra's sound. A parcel had been reserved across the street for future expansion, and it was for this site that Mrs. Disney offered her gift, with approval of the county, which owned it. She also specified a deadline of December 31, 1992, for ground breaking.

1987–1988: Chain-link architect for a champagne client

Fleischmann and a committee assembled to manage the construction visited many of the world's great halls. Two that particularly impressed the group were not on the usual greatest-hits lists. One was the Berlin Philharmonie, a dramatically expressionistic composition of terraced and overlapping tiers completed in 1963 to a design by Hans Scharoun with acoustician Lothar Cremer. The other acoustical standout was Suntory Hall, 1986, in Tokyo (Yasui Architects), where the acoustical consultant had been Nagata Acoustics, a firm well known only in Japan.

In the meantime, an architectural subcommittee winnowed a list of 80 architects down to four who would compete for the commission: Gottfried Böhm, of Cologne, Germany; Hans Hollein, Vienna;

Project: *Walt Disney Concert Hall, Los Angeles*

Client: *Los Angeles Philharmonic Association, the Music Center of Los Angeles, Los Angeles County*

Architect: *Gehry Partners—Frank Gehry, FAIA, partner; James M. Glymph, partner; Craig Webb, project*

designer; Terry Bell, project manager

Consultants: *Nagata Acoustics, L'Observatoire (lighting); John A. Martin & Associates (structural); Theatre Projects Consultants; Rolf Jensen & Associates (fire protection, accessibility); Manuel Rosales (organ)*

Contractor: *M.A. Mortenson*

James Stirling Michael Wilford, London; and Frank O. Gehry, FAIA. The Europeans all had more impressive resumes: They all had won the Pritzker Prize; Gehry had not. They all had built acclaimed major projects (museums in the case of Stirling Wilford and Hollein), but none of the competitors had designed a major concert space. Gehry, however, had long worked with the Philharmonic to enhance the Hollywood Bowl and had built two outdoor concert pavilions.

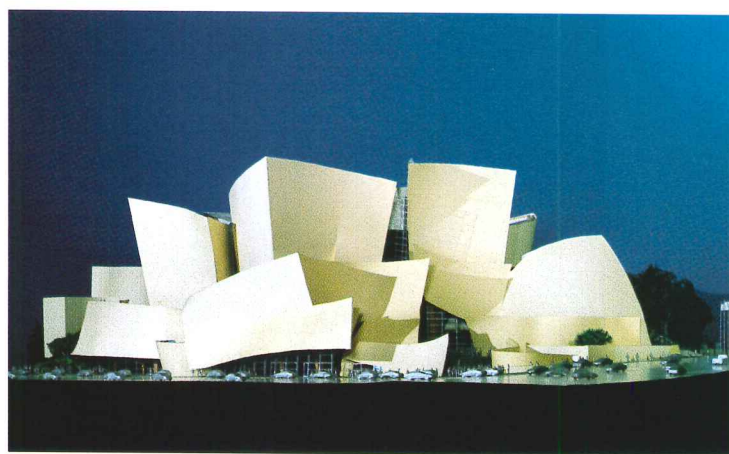
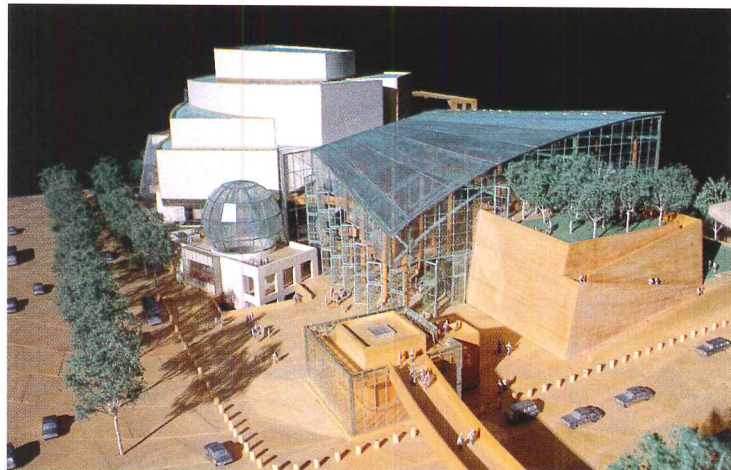
1988–1991: A hometown trophy and a Pritzker

The prospect of Gehry ranked many close to the project. He was a “wild man” who would give the orchestra plywood instead of stone and chain link instead of polished brass. Nevertheless, the committee announced the choice of Gehry’s scheme, contending that it “belongs especially to Los Angeles and will be perceived internationally as a mark of our cultural maturity.” Set behind a domed greenhouse that Gehry dubbed “a living room for the city,” the hall would seat 2,265 (1,000 fewer than Chandler) and was optimistically slated to open May 1992.

A working budget of \$115 million was established, but in fact no one at the beginning of 1989 knew what the real scope of the project would be—the competitors had all worked from sketchy, provisional criteria. This would await a detailed design process with an acoustician on board. But the directive from Mrs. Disney had been clear: It should strive to match the best halls in the world.

Typical of large, public projects, Dworsky Associates agreed to take Gehry’s schematic design through working drawings as executive architect. The Philharmonic, with Gehry’s enthusiastic approval, hired Nagata Acoustics, the consultant that had produced Suntory Hall. Minoru Nagata subscribed to the largely unscientific yet common-sense notion of “psycho-acoustics”—if people feel comfortable and like the visual qualities of an auditorium, they’ll like the sound better. Yasuhisa Toyota, who completed Disney after Nagata retired, likes to work closely with architects who have strong ideas as long as they listen. “We think about how to support the architect so that he can freely design,” he explains. And Gehry, a self-described musical dilettante, listened. With Nagata, he essentially started from scratch on the hall, producing 82 models at $\frac{1}{16}$ -inch scale based on configurations for great halls in the world, from Vienna to Amsterdam to Boston. To strike a balance between an immersing visual experience and excellent sound, Gehry and Nagata discarded well-regarded historic types, evolving a unique hall form, one that drew on the exciting, audience-involving asymmetric arrangement of Berlin—which surrounded the stage with listeners in so-called “vineyard” tiers—and the symmetrical, but similarly tiered, layout of Suntory.

Competition-winning model, 1988, with bridge to Chandler Pavilion.



Early design study, 1991 (top), with proposed hotel (Chandler Pavilion to the right). Near-final model with limestone cladding, 1992 (bottom).

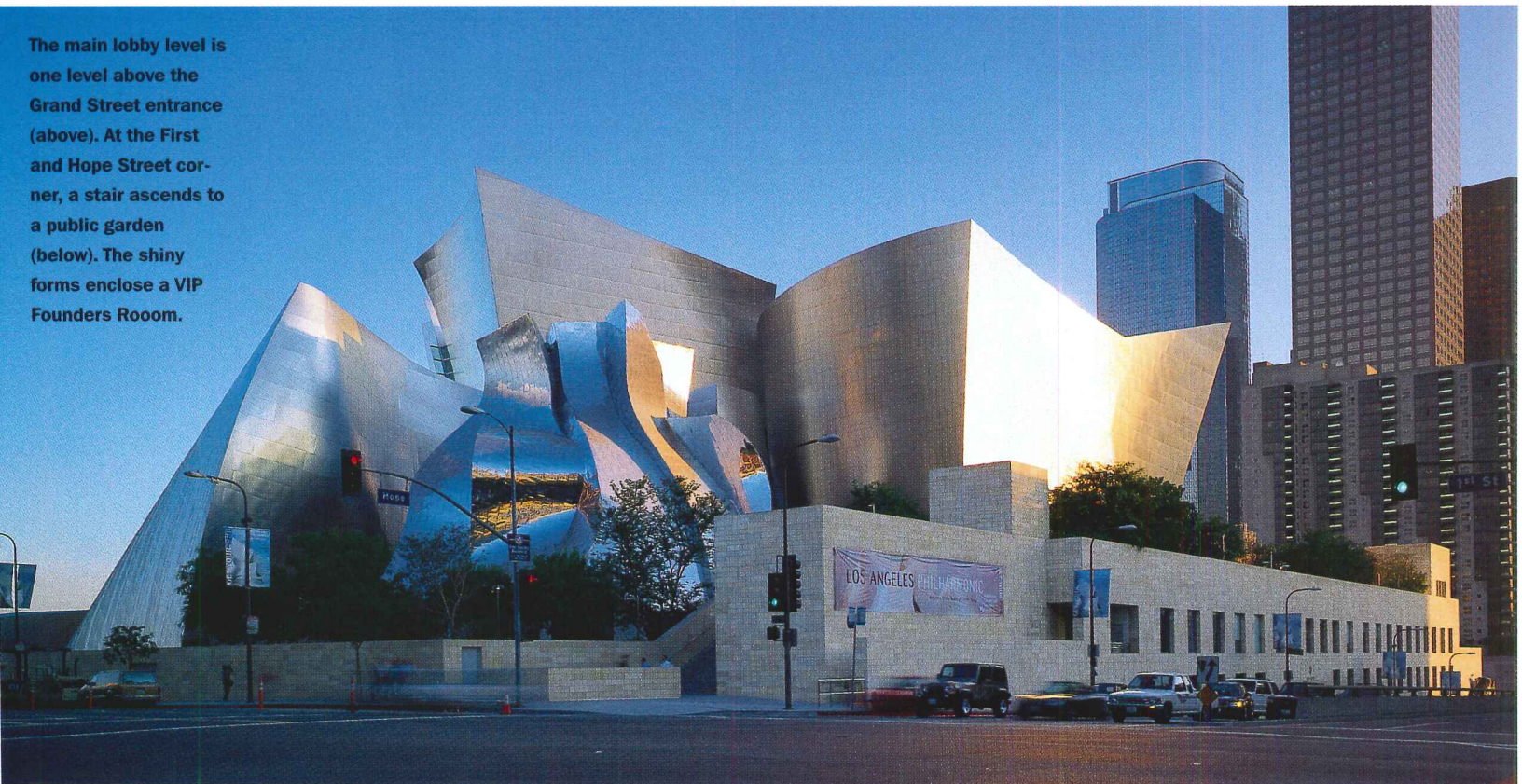
The Los Angeles design, however, had to be reconciled with the county’s desire to add revenue-generating components to the site. A parking garage was to be built under the hall. Later, the team tried to accommodate a 350-room hotel, but it fell through. A chamber-music hall was originally part of the project, but was jettisoned. Each change involved a thorough redesign.

Though the Philharmonic’s music director, André Previn, resigned in 1989, it was a good year for Gehry. He won his Pritzker, and his design sensibility had evolved. He had by then begun wrapping overlapping sinuous curves around the blocky, sometimes self-consciously clunky forms he had become known for. The first realized work in this new direction, the Vitra Museum in Weil am Rhein, Switzerland, established Gehry as a figure of international significance. As his work took on increasing geometric complexity, partner Jim Glymph pioneered the use of CATIA, the three-dimensional modeling software that would help assure that Gehry’s enriched formal vocabulary could be built to budget.

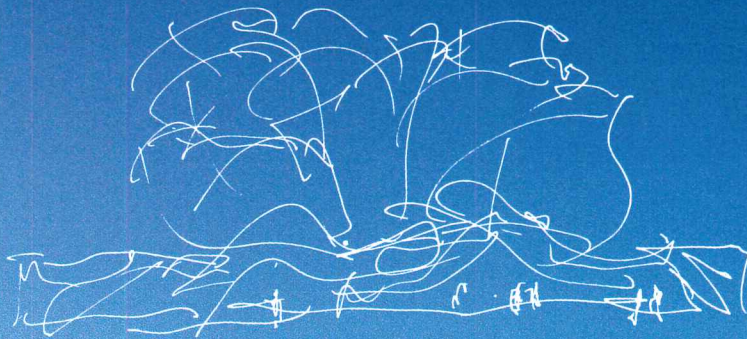
Designing Disney with sketchy paper models, Gehry fixed four soaring wedge shapes to the outwardly canted rectangular box containing the auditorium, clustering around the hall chunky smaller shapes for lobbies and ancillary functions. As design proceeded, the shapes softened to fluttering shells or curved, conelike forms clad in limestone. These gestures were Gehry’s way of acknowledging Lillian Disney’s love of flowers and gardens. “She didn’t understand the outside,” Gehry confesses. “She would send people with books of ducky ponds and thatched roofs and say, ‘Could you consider’ She loved the interior, though.”



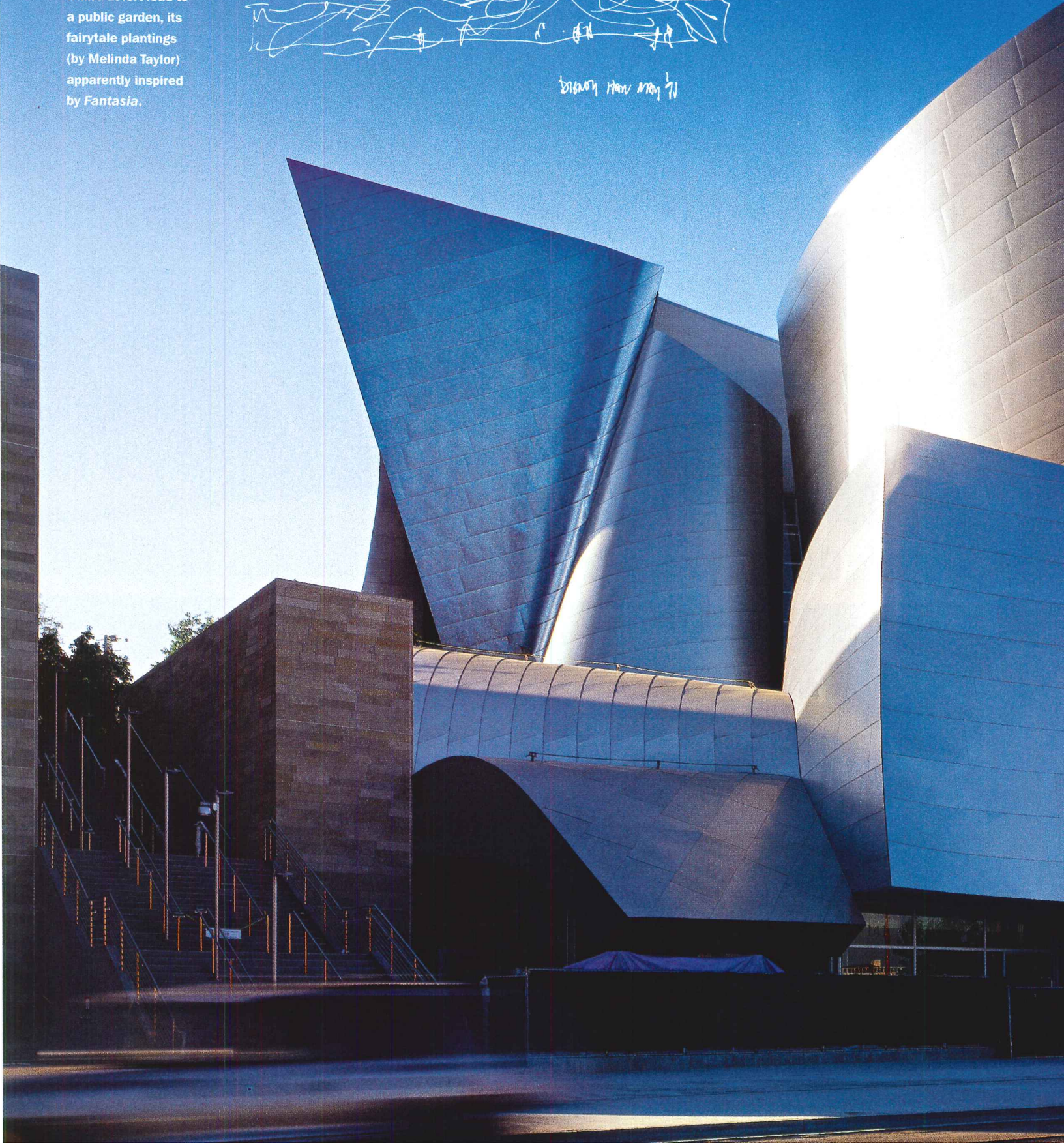
The main lobby level is one level above the Grand Street entrance (above). At the First and Hope Street corner, a stair ascends to a public garden (below). The shiny forms enclose a VIP Founders Room.



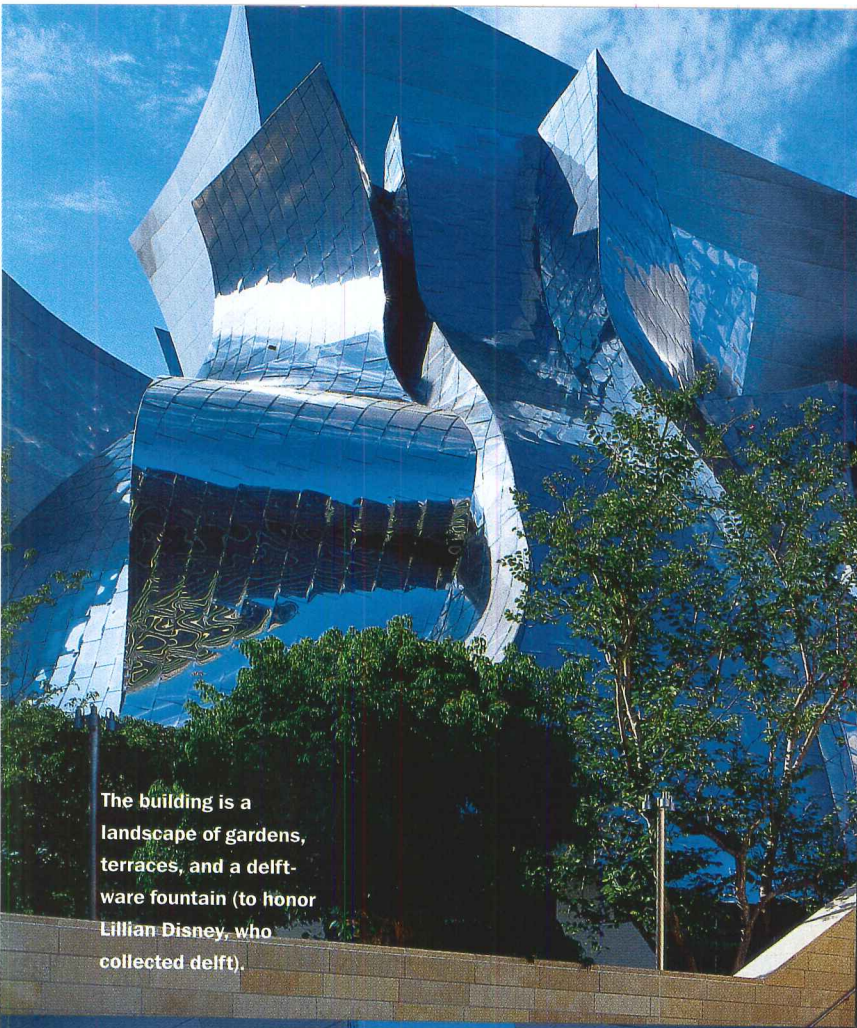
High, frondlike forms surround the hall (evoked even in an early sketch), while lower curved shapes wrap lobby spaces along Grand Avenue. Stairs at left lead to a public garden, its fairytale plantings (by Melinda Taylor) apparently inspired by *Fantasia*.



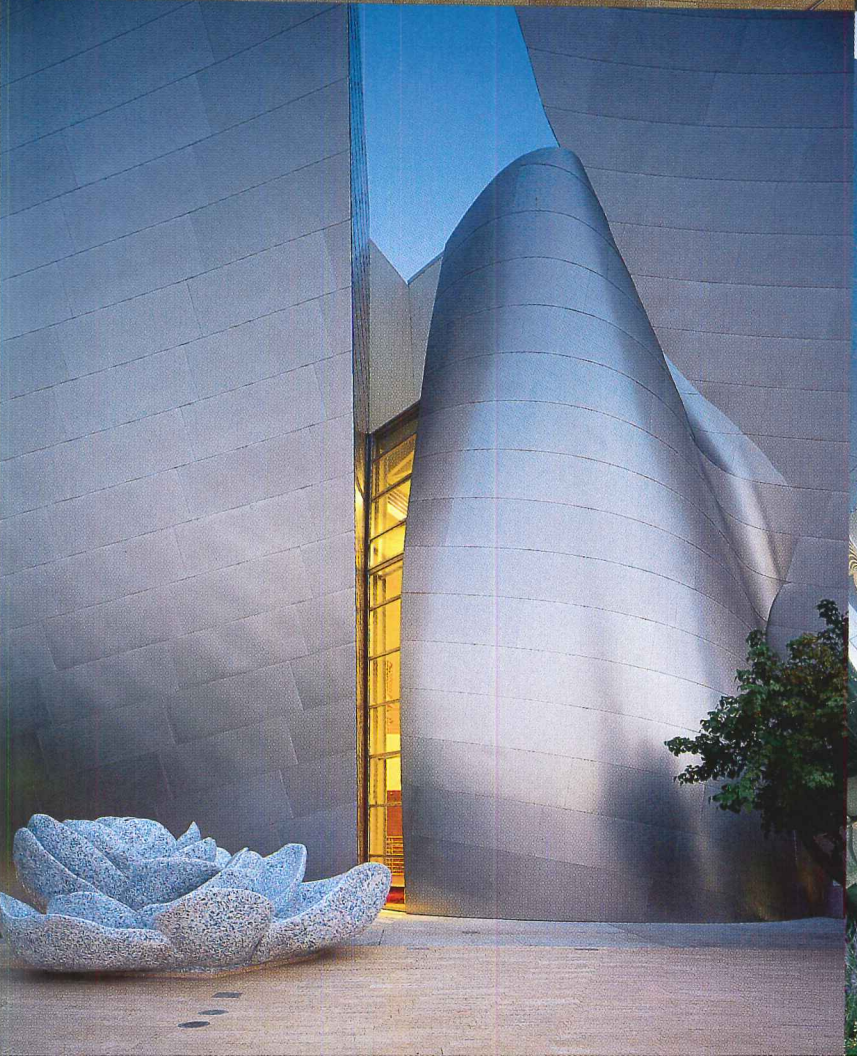
STANLEY HARRIS MAY 71







The building is a landscape of gardens, terraces, and a delftware fountain (to honor Lillian Disney, who collected delft).



1991–1994: Riots and a risky strategy

The final design was announced and the project was put on a fast track to meet Disney's deadline for the late 1992 ground breaking. It was a risky strategy because fast-tracking usually sacrifices cost for speed. Dworsky struggled to translate into pricing documents the three-dimensional complexities that came out of the Gehry/Nagata collaboration. At the same time, a recession, which had hit California particularly hard, deepened. The fully televised Rodney King riot in South Central Los Angeles shocked the nation and wracked the city, inspiring broad soul-searching. A new home for the Philharmonic no longer felt like a top priority.

The Philharmonic had high hopes for its new music director, a young Finnish composer and conductor, Esa-Pekka Salonen. Though government officials feared that fund-raising had lagged the hall's true cost, they agreed to begin construction on the garage in order to meet the Disney deadline. On paper, the funds in hand looked ample to cover the cost, still officially pegged at \$110 million, but the estimate was based on early design documents. One overlooked danger signal was that the garage alone would come in at \$81.5 million.

Salonen, Gehry, and Toyota continued to refine the design. "Frank focused on what you might call the semiotic response, what message the design sends," observed Salonen in an interview. Explains Gehry, "I thought a symmetrical solution would be more comforting to the orchestra. I wanted to offer a psychological handrail for people." For similar reasons, the hall was extensively clad in wood even though plaster would have offered the same acoustical benefit at lower cost. Adds Salonen, "We were completely in agreement with the openness of the design and the nonexclusive feeling of the seats."

1994–1996: A mothballed masterpiece

The Northridge earthquake wrought billions in damage throughout the region in January 1994. Contractors were inundated with urgent reconstruction projects, making it an inauspicious time to put the drawings for such an architecturally ambitious project out for pricing. The outcome stunned everyone involved: The project had unexpectedly risen to \$160 million. "If you want to give a price on these drawings, you have to study them very carefully," Daniel Dworsky told the *Los Angeles Times*. "This is a one-of-a-kind building. You don't simply open up the plans and understand them quickly." Gehry was cast by critics and the press in the role of spoiled, impractical artist. He struck back, publicly blaming Dworsky. "The executive architect was incapable of doing drawings that had this complexity," he said in a recent interview. "We helped select that firm. I went to Daniel, supposedly a friend, and I said, 'This is going to fail and we now have the capability to do it, so let us ghost-write it.'" Dworsky refused.

Gehry also blames a construction manager, whose job it was to monitor cost and construction issues, for failing to keep officials abreast of rising costs. But officials involved in the project now say there were also leadership problems at the Philharmonic and the Music Center, and so cost warnings went unaddressed. Fleischmann expresses surprise at the \$110 million figure now, saying he always expected the project to cost much more. (The I.M. Pei–designed Meyerson Symphony Center in Dallas had come in at \$108 million five years earlier, for example.)

Facing \$50 million more in fund-raising as costs continued to creep upward, Disney officials ordered a detailed review. The extensive damage caused by the quake would spur yet more redesign as the hall's steel structure was changed to a braced frame, further increasing costs since 80 percent of the steel had already been purchased. Late in 1994, when the fund-raising gap looked insurmountable, the project was stopped. The county threatened to declare the project in default. The garage would remain as a partly complete, framed-concrete rebuke to all

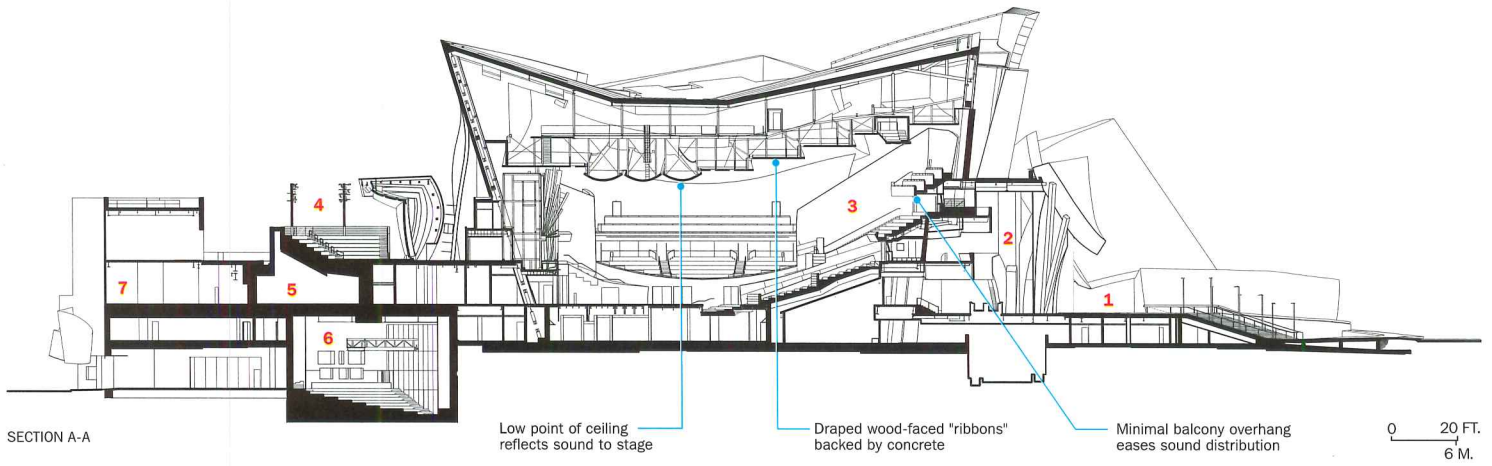


Design progress variation considered in limestone, 1992 (top).
Final design model after switch to metal, 1998 (bottom).

those who had supported Gehry's hubris.

Was Gehry's design too complex to cost? "I'd admit it if it was," Gehry replied in an interview. "The stone exterior we designed, detailed, and estimated came in on budget." But a larger issue was at stake, he argued. "What every architect must understand is when you have an executive architect and a construction industry that sees that what you are doing is different and can't understand it, you cannot stand idly by. You are fending off a lot of preconceptions. You must be parental, take charge, and explain. The client always wants to build something great and underestimates the budget. The business person always blames the architect."

With the recession and the late 1980s banking crisis, downtown Los Angeles lost its bank headquarters and several corporations—the mainstay of corporate giving to major cultural projects. Los Angeles is too spread out, too centerless to support such a traditional "downtown" project, critics said. Hollywood, a traditional source of charitable donations, stayed away. (The name "Disney" on the hall did not enhance enthusiasm among executives at competing studios, either.) The Music Center and the Philharmonic rebuilt their own leadership and brought in real estate management experts from Hines interests, but the project seemed utterly to have lost momentum. Gehry, who had been conspicuously overlooked for such important local projects as the Getty Center and the Museum of Contemporary Art, described himself as a pariah in his hometown even as projects like the Frederick R. Wiesman Museum, in Minneapolis, and the "Fred and Ginger" bank complex in Prague opened to acclaim. By the end of 1995, costs (including those entailed in stopping the project) were pegged at \$265 million. Barely averting reversion of the site to the county and the gift to the Disney family, the county granted the Music Center an extension on its lease as it pondered how to raise \$100 million—fast.



SECTION A-A

Low point of ceiling reflects sound to stage

Draped wood-faced "ribbons" backed by concrete

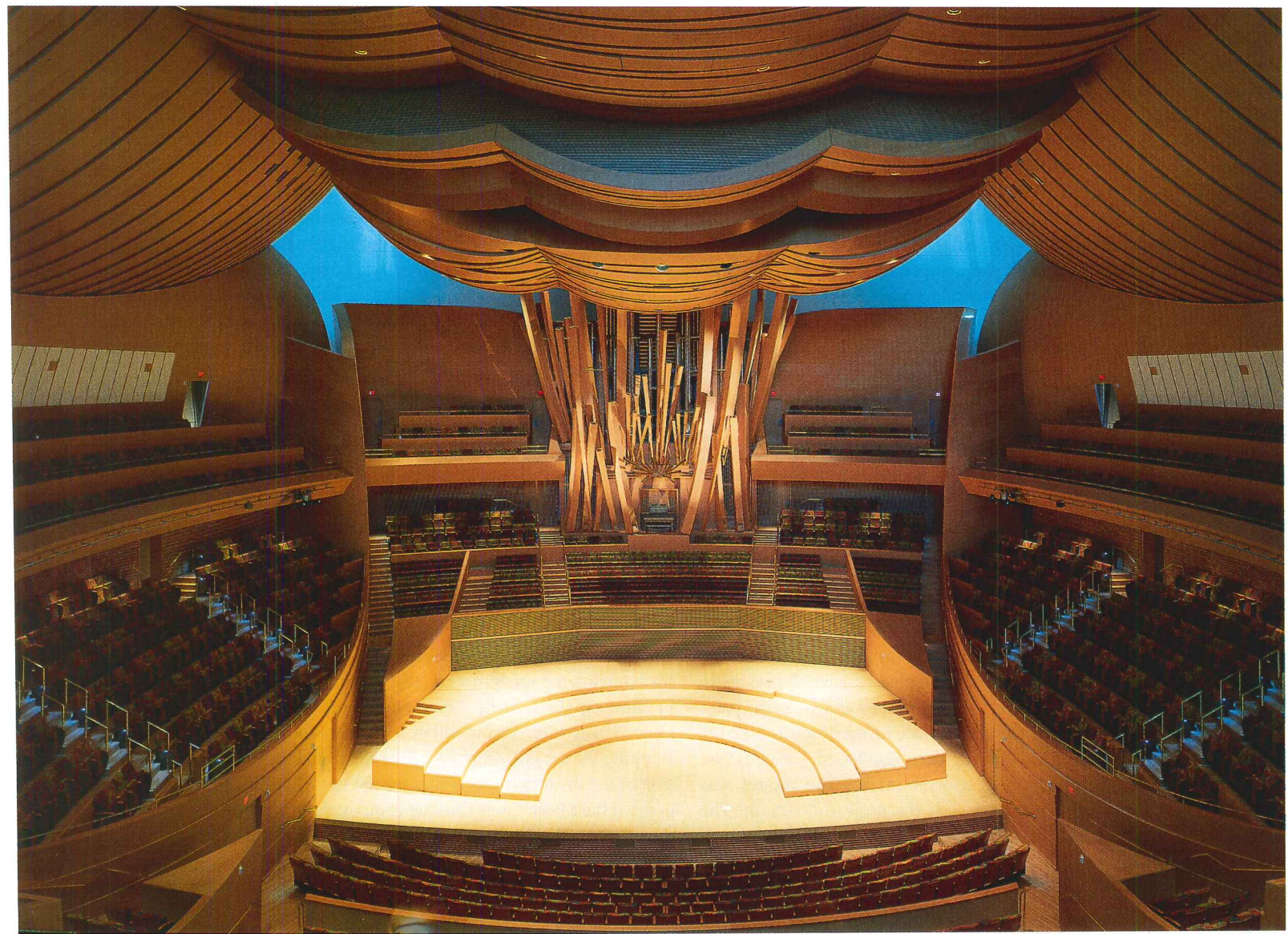
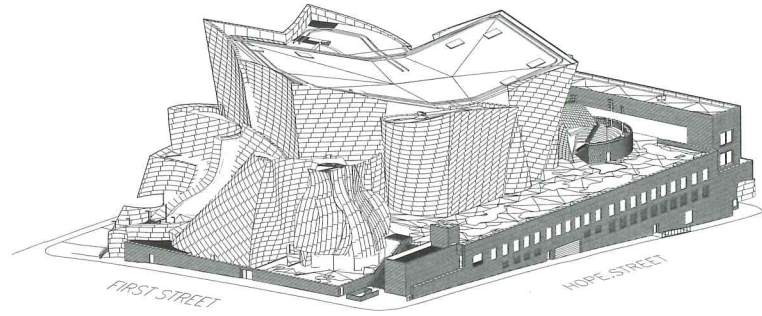
Minimal balcony overhang eases sound distribution

0 20 FT.
6 M.

1. Entry plaza
2. Lobby
3. Auditorium
4. Outdoor amphitheater
5. Rehearsal
6. REDCAT
7. Offices

Within the acoustical box of the hall (tinted blue by light from concealed skylights), the wood enclosures direct sound to the audience. The ceiling is the largest acoustical

surface, however. Even Gehry's organ-pipe configuration (below) was acoustically vetted. A massive rear window (opposite) gives special character to daytime concerts.







withdraw. “The past few years have been difficult for me as I have taken a lot of heat for what has happened,” Gehry wrote. He argued that the Dworsky drawings remained inadequate and that a fourth of the detailing

How acoustical science augmented art in the Disney Concert Hall design

Gehry and Minoru Nagata derived a hall configuration that balanced the visual experience and sound quality by comparing study models (opposite, top) of famous halls. The room shape is so important because only a small percentage of what most people hear comes directly from the stage. In the narrow “shoe box” of some great halls, straight side walls reinforce direct sound with all-important “early reflections,” which deliver a volume and presence that people expect in a live, unamplified performance. Disney is wider, with sides swelling outward, giving many patrons the orchestral equivalent of 50-yard-line views. Yasuhisa Toyota has calibrated the relative sound absorption of the surfaces to achieve his trademark, a combination of clarity and warmth (many halls provide

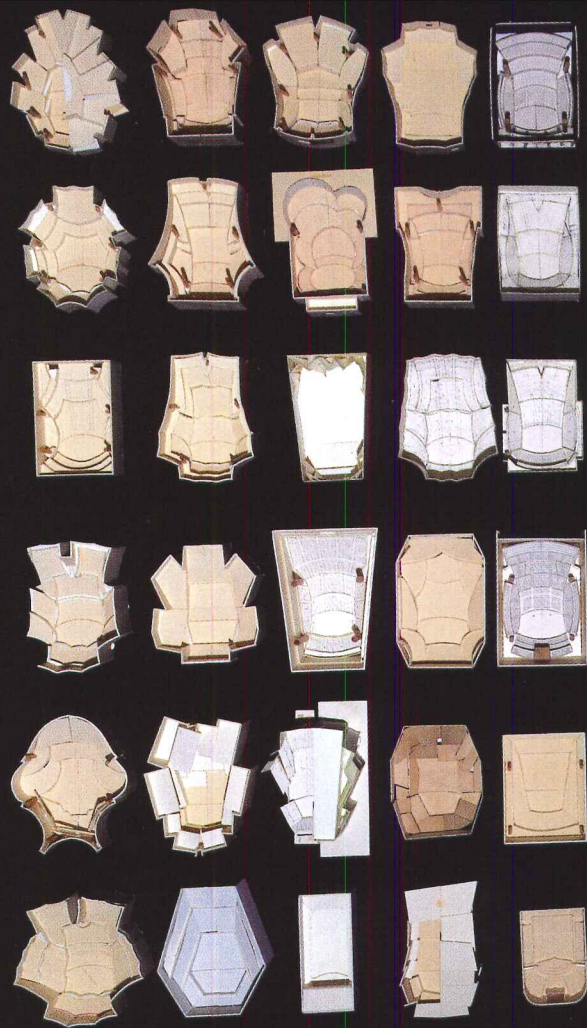
one at the expense of the other). Other tweaks create an aural spaciousness and definition that allows the listener to discern the sound of a specific instrument within an ensemble and be able to locate its source. Toyota added two new dividing partitions in the orchestra after he heard the Kitara Hall (a design he derived from Disney’s). After initial testing of Disney, Toyota provided additional absorption above the highest side seats but contemplates no other physical changes. “It’s a modern sound, both transparent and warm, which is unusual,” says music director Esa-Pekka Salonen. “The sound is very, very good, especially the bass response, traditionally the hardest thing to achieve. It makes the whole orchestra sound more resonant and more intense.” *J.S.R.*



remained to be done. He claimed that changing course again might add as much as \$30 million to the project. The letter also referred to Gehry's difficult personal relationship with Broad, for whom he had designed a house. "Some people have said that 75 percent of my building is better than none," Gehry wrote. "That's the way you did your house, and you are satisfied. Maybe you can do it again. My obligation to myself and to the Disney family makes it impossible for me to agree to such a process."

The clash did not reach the impasse that many feared. "At stages in the process, Frank lost heart," explained Steven Rountree, the Music Center's president. "But he remained an active, passionate participant. He built alliances with the Disney family, the orchestra, and the board." And these alliances paid off. Diane Disney Miller, the daughter of Lillian, who had taken an increasingly active role in the hall's progress, had come to believe deeply in Gehry's design. "We can't let this go under," she reportedly said to Mayor Richard Riordan. Riordan knew Gehry personally—they played hockey together—and he, too, had become a convert to the cause after a quiet trip to the Guggenheim Bilbao, which was nearing completion in Spain. (He would ultimately make a multi-million-dollar personal gift.) Andrea van de Kamp, the president of the Music Center's board of directors, had also visited Bilbao with Randy Jefferson, one of the firm's partners. "The experience is as close to an epiphany as I've ever had."

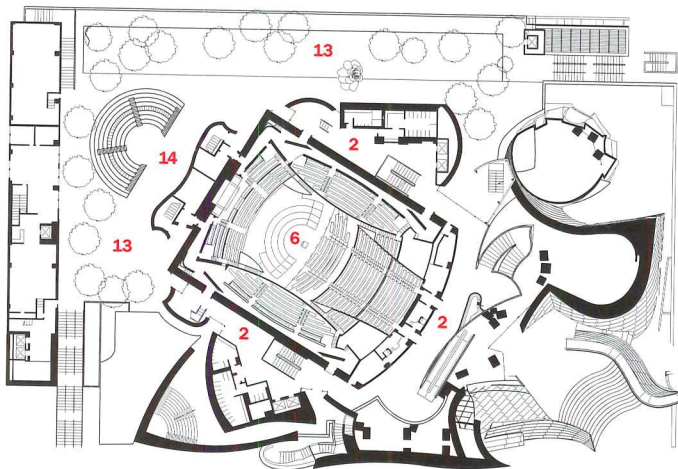
Bilbao, relatively free of cost surprises and construction snafus, reinforced Gehry's claims that his firm could do the job for a predictable sum. "I knew that if we blew this opportunity, it was one we could never regain," Van de Kamp said. She urgently summoned Zev Yaroslavsky, head of the county board of supervisors and a fellow symphonygoer. With his help, the city's civic, business, and governmental community at last lined up behind the project. It was Disney Miller, however, who most prominently insisted on retaining Gehry's firm to complete the design (backing her case with a substantial additional donation), and





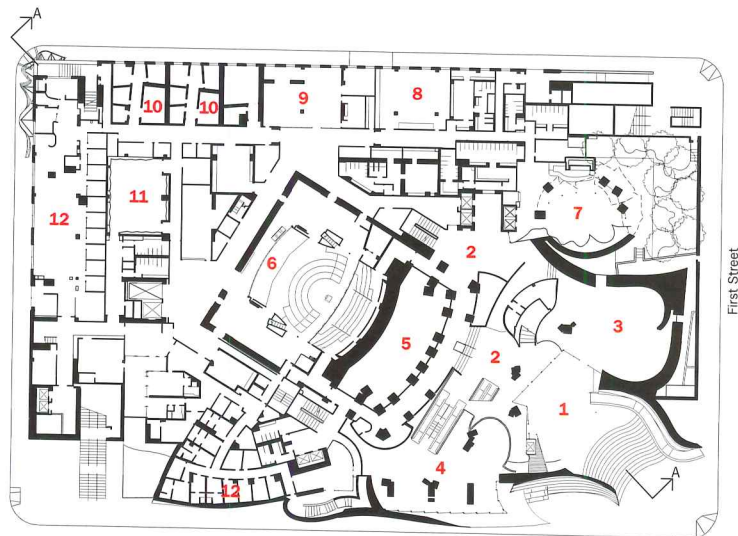


A skylight (opposite) draws patrons up from the parking structure to the lower lobby. A pre-concert space, used for talks and chamber concerts (this page), extends the lobby.



GARDEN LEVEL

- | | |
|------------------|-------------------|
| 1. Entry plaza | 8. Library |
| 2. Lobby | 9. Orchestra café |
| 3. Preconcert | 10. Practice |
| 4. Lobby below | 11. Choral hall |
| 5. Café below | 12. Office |
| 6. Auditorium | 13. Public garden |
| 7. Founders Room | 14. Amphitheater |



LOBBY LEVEL

Patrons entering at Grand Avenue (opposite) mix with those arriving from the garage (under skylight) forms. They ascend the escalator at left

to arrive at the main lobby (above), which leads to three upper levels, each of which offers Piranesian vistas across the skylight-dappled atria that wrap the auditorium.



why she took my side. She said she saw it as a replay of when her father would be pushed around by the studios in creative disputes. She remembered the anxiety in the family when he'd come home after days of this. She correctly read the dispute over my control of the completion of the project as the same kind of game and she didn't want it." Work commenced on the project again in August 1997 with Gehry's office in charge.

Though the essential design had been firmed up by the end of 1991, Gehry was able to bring a new level of sculptural refinement to the interiors. Value engineers proposed a switch from exterior limestone cladding to less costly metal, over Gehry's objections that the result would look like "son of Bilbao." Later, he said he is happy with the change. A slab-like office wing for the Los Angeles Philharmonic is added at the western edge of the site along with a 220-seat, multifunction performance space for the California Institute of the Arts, dubbed the REDCAT (for Roy and Edna Disney/CalArts Theater), but these both arrive with additional funding.

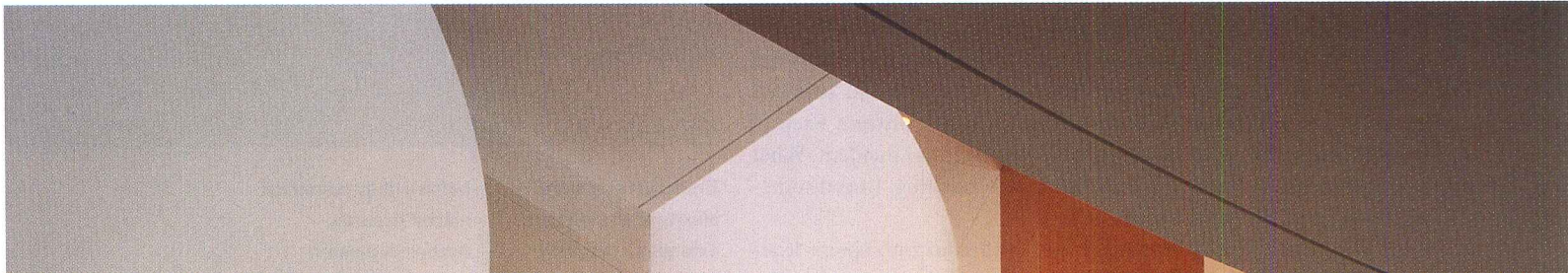
Fund-raising took off as the economy rebounded and faith in Gehry and the new management solidified. (The tumultuous hosannas accompanying the October opening of the Bilbao Guggenheim greatly assisted.) Lillian Disney died at age 98. Realization of her great dream was still almost five years off.

1999–2003: Construction resumes

Fears over additional delays due to the design's complexity proved unwarranted. Partly this was because contractors and subcontractors had largely caught up with Gehry Partner's expertise in CATIA in the intervening years. Builders relied on 3D steel-detailing systems and construction-coordination models and animations. The post-Northridge seismic criteria resulted in a structural design that relied on a dense network of steel members, complicating work for mechanical trades that had to thread ductwork and other utilities through. New seismic requirements led to reinforcement of the garage.

There was one final delay. "We held off opening for six months to get the orchestra into the hall," said Deborah Borda, the Philharmonic Association's general director. Wary that negative assessments by critics and musicians could damage a hall's reputation for years, officials left nothing about the inauguration to chance. "Openings are precarious events," added Gehry. (Everyone's anxiety increased when the ambitious Kimmell Center [RECORD, March 2002, page 106] opened in Philadelphia before its elaborate adjustable acoustic elements had been fully tuned—to some strongly negative reviews.)

In June, the orchestra moved into the hall for a tuning period. Although the players were told that the process involved both the room



The first public performance occurred after RECORD's press deadline, but officials and observers exuded confidence in the acoustics as the opening neared. (In January, RECORD will offer an acoustical and architectural evaluation.) Still, a project that took so long, cost so much (\$274 million in the end), and took such a toll (both financially and personally) on two generations of the city's civic leadership cannot help but remain controversial. Disney is opening at a dismal moment for the arts economy, especially for orchestras; several have folded in the past year alone. Will cheap CDs and digital downloads deep-six live, unamplified performances? Can the Philharmonic's ambitious and diverse programming draw audiences from among Los Angeles's racial, ethnic, and economic melting pot? Will the hall inject life into a downtown notoriously resistant to redevelopment? These are the challenges that lie beyond the early ovations.

For Salonen, who arrived from Finland never expecting that he had signed on to such an epic undertaking, it's time for reflection. "What this project has done for the orchestra is incredible. They now understand fully what a gift has been given to them. And now we're working to show we're worthy of it." Would he take on such a project again? "It was such a profound experience that I don't expect to have a similar one again." Salonen is a very youthful looking 45, but he says wistfully, "I almost feel as if I've lived my life." ■

Sources

Metal cladding: *Permasteelisa*

Roofing: *Silplast*

Finish woodwork: *Columbia*

Showcase (Douglas fir and cedar)

Windows, curtain walls, skylights:

Permasteelisa; Super Sky

Wall coverings: *Hunter Douglas;*

Decoustics

Carpet: *Brittons*

Lighting: *Lucifer; Kurt Versen;*

Lithonia

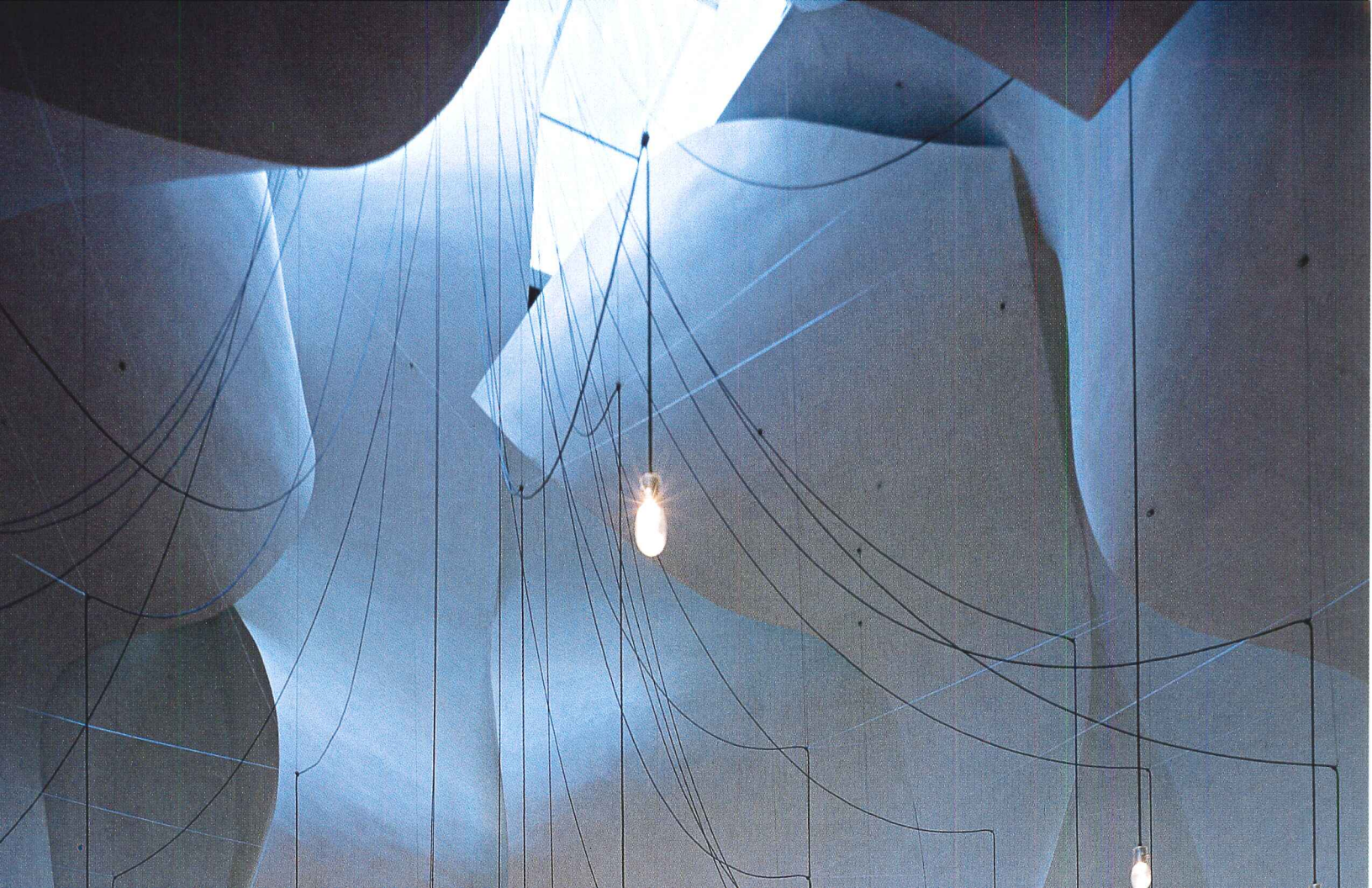
For more information on this project, go to Projects at

www.architecturalrecord.com.

extends to the atria that access the upper levels (above and

Drapelike plaster encloses the Founders Room (opposite).





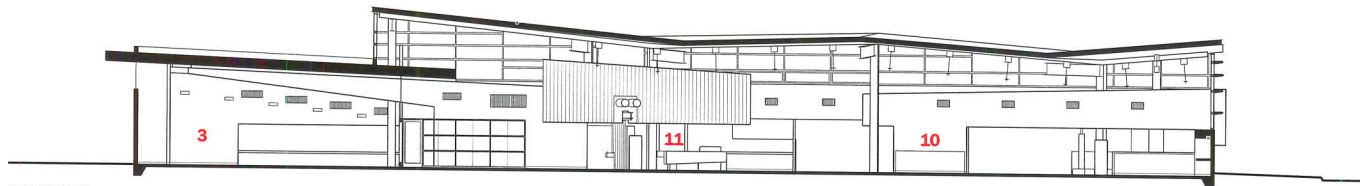


MAISON DE LA BIEN-ÊTRE

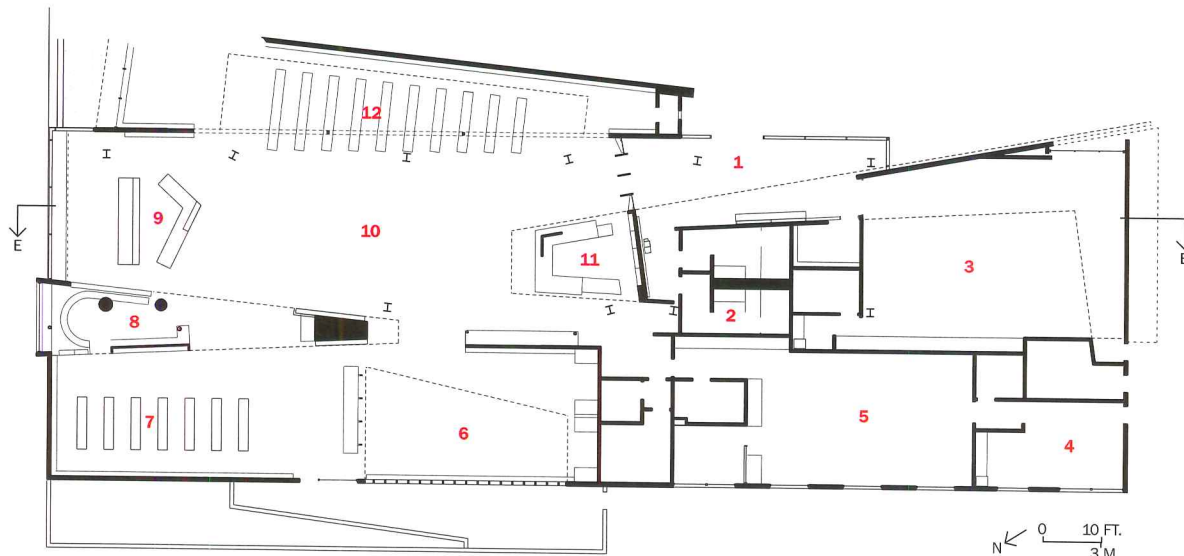
MAISON DE LA BIEN-ÊTRE

Hodgetts + Fung reworks L.A. Modernist vocabulary resulting in a sleek and linear design for the **SYLMAR LIBRARY**



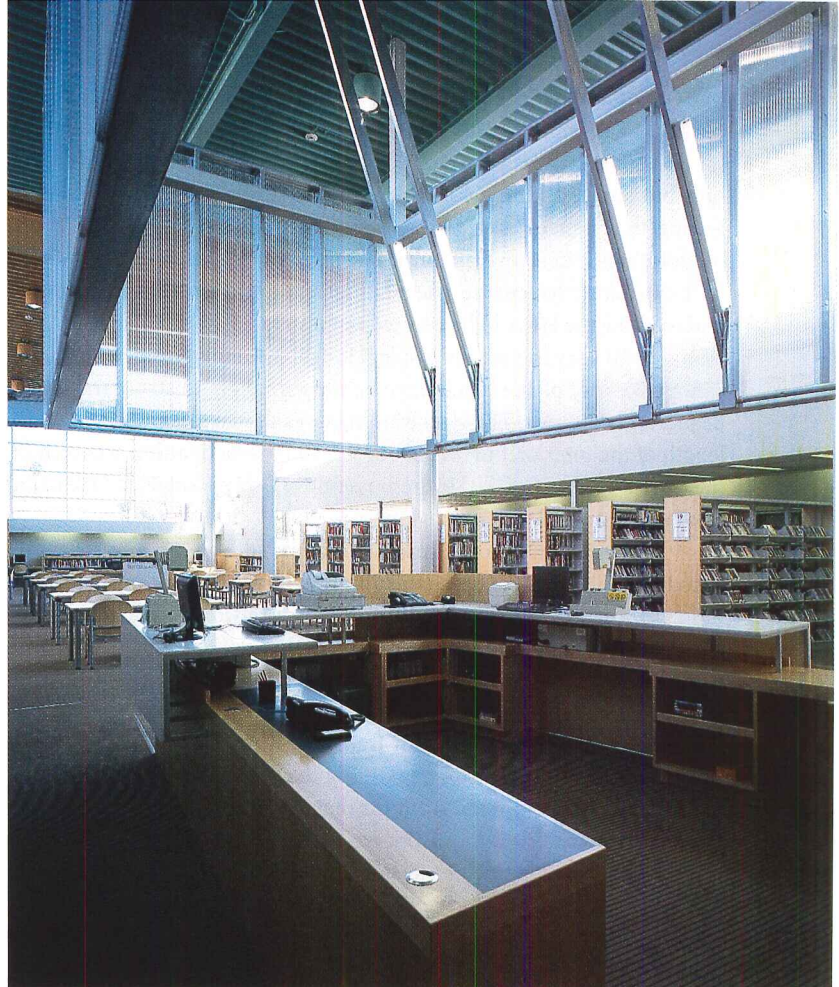


SECTION E-E



FLOOR PLAN

- 1. Lobby
- 2. Restrooms
- 3. Meeting room
- 4. Staff lounge
- 5. Workroom
- 6. Young adult
- 7. Children
- 8. Storytelling
- 9. Reference
- 10. Main reading
- 11. Circulation
- 12. Adult reading



The image almost defies this notion: Sylmar's roof, for example, is only 8 inches thick. "We wanted a sense of enclosure that would feel like a stretched canvas," says Hodgetts. In order to keep the thickness of the enclosing materials to a minimum, the architects used a 3-inch insulation

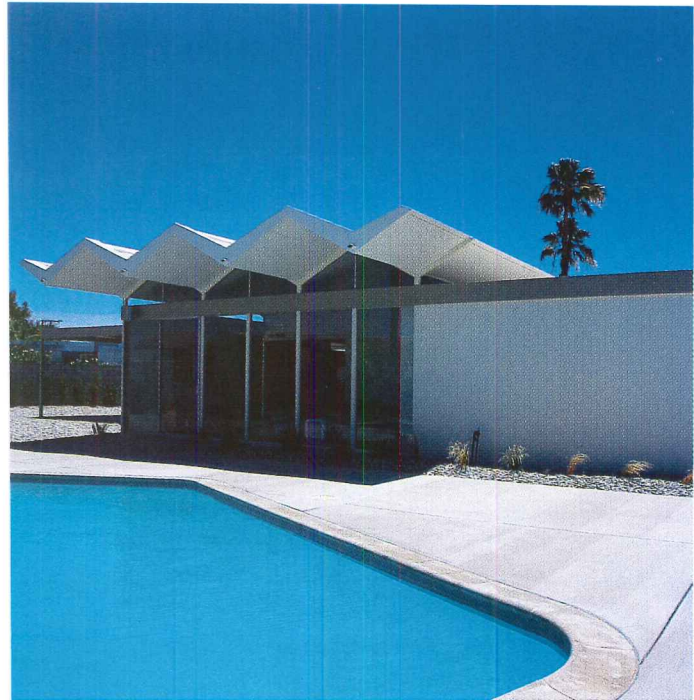
Truck trailer aluminum exterior
panels: *Wabash National*
Glass (for curtain wall): *Aital*
Custom Glass & Mirror

For more information on this project, go to Projects at www.architecturalrecord.com.





did major surgery on this house during the latest restoration, peeling off layers of concrete block and wood siding to get down to the original structure. At the end of the job, the project lost half of its square footage and was sold for twice its purchase price.



In the early 1960s, Don **Wexler's** graceful steel houses revolutionized home design and made the California desert sparkle with Modernist gems

By **Barbara Lamprecht**

How many times have we heard that the future of the American home lies in steel? Or that the customized factory-built house is right around the corner? Whether it's the sexy post-and-beam framing of the Case Study House program or the stucco-clad steel-stud framing that promises "you'll never know it's steel!" the stories are frustratingly futile. Wood always wins.

Most midcentury houses that defied convention prevail only as pedigreed collectibles. Nonetheless,



dle class. The glass-and-steel, terrazzo-floored homes sold for around \$15,000 (about \$91,000 today) and were the first—and last—built in a proposed housing project of 38. The radical houses attracted a lot of press. Plenty of steel-trade journals and architectural magazines, including ARCHITECTURAL RECORD's Record Houses of 1963, featured the project by Wexler and his partner at the time, Ric Harrison.

Maria Escalante-Letz, AIA, partner in charge; Lance C. O'Donnell, AIA, codesigner; Martin Brunner-Ethz, Rosalinda Chapa, Marco Garcia, team
Engineer: Peyton-Tomita & Associates
General contractor: Wallace & Assoc.
Size: 1,400 square feet (existing); 433 square feet (new construction)
Date built: 1962
Date renovated: 1998
Date studio addition added: 2002

Sources

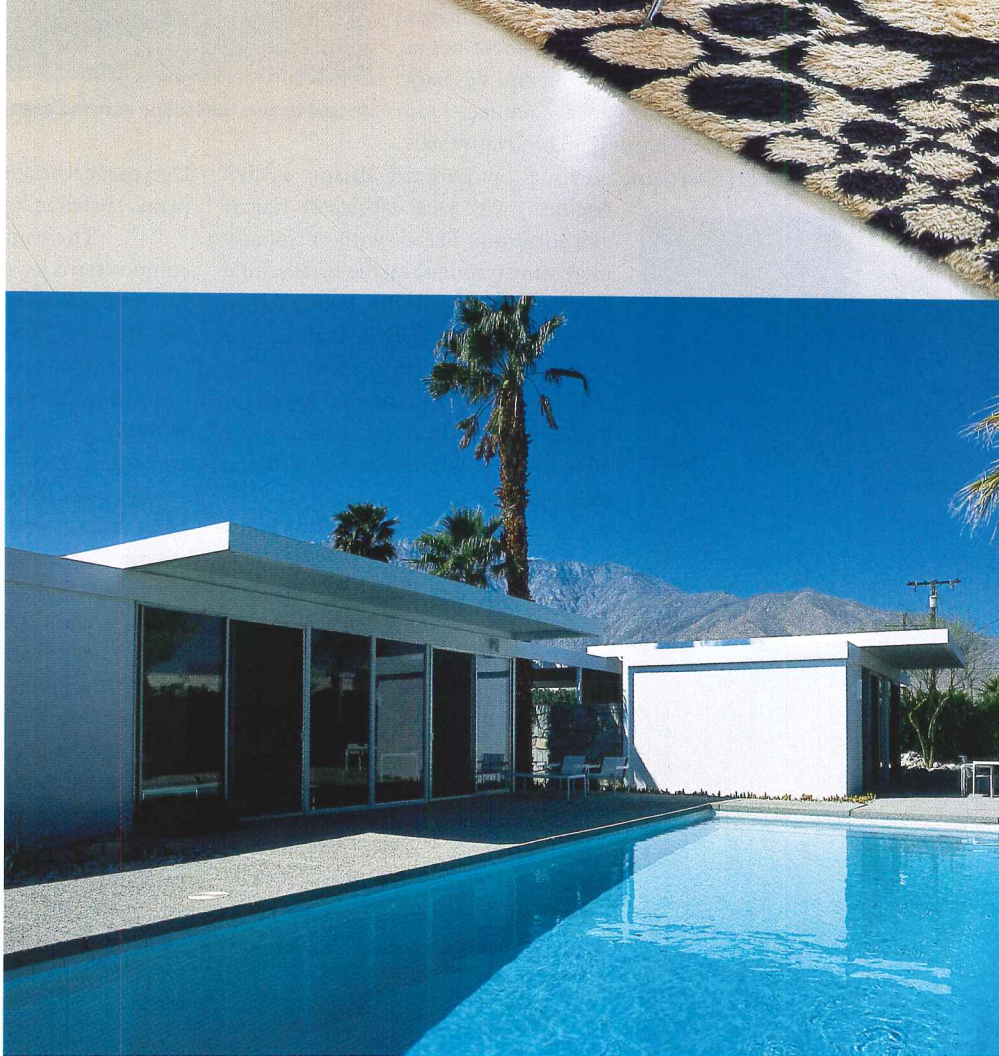
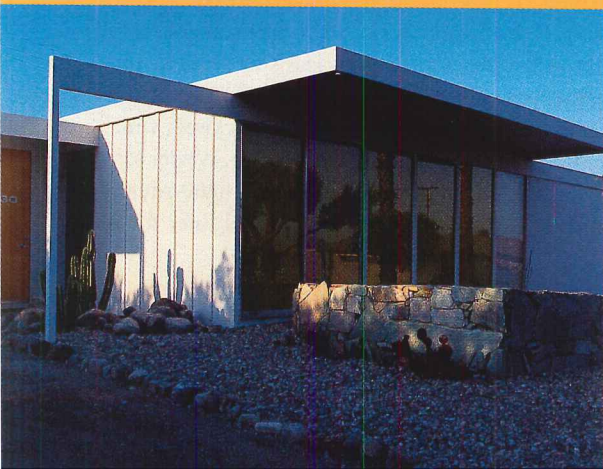
Carpet, heart-shaped chairs:

Verner Panton

Conference table: *Knoll*

Credenza: *Raymond Loewy*

Side chairs: *Eero Saarinen*





it right quickly, they slowed down to analyze. With Wexler's encouragement, they "took six months to understand the system," said Escalante. "It was an investment." Now, with three projects under way employing the system, "it's much faster." The firm adapted the system for today's energy requirements, thickening the wall section with an inch of rigid insulation and plywood as a thermal break for good reason apart from codes. The thin-walled 1962 houses are uncomfortable in summer and expensive to air-condition. Isermann said the original walls were noticeably hotter where the steel flanges conducted heat through the drywall, adding that the houses had typically been sold as second homes for temperate desert winters. He has retreated to the studio for the summer.

But the question remains: "If the system was so good, why haven't we seen any more in 50 years?" asks architect Bill Krisel, a friend of Wexler and award-winning designer of some 40,000 living units throughout the western states, including many for Alexander. He mentioned several reasons. Construction costs for contemporary wood homes ran as low as \$6.50 per square foot, so the profit margin was much higher. Unions didn't like prefabricated mechanical runs and cores, even forcing them to be dismantled and reassembled on the site. Workers were uninterested in learning new techniques. They found it decidedly unpleasant to handle the metal in the scorching summers, exactly when developers wanted to build so that houses were ready for buyers escaping cold, dreary weather.

For Perlin and Wexler, in the desert, steel will rule in the long run. "My dream was to be able to go to a lumber yard and buy the sections, the panels. It made sense. To this day, it makes sense. Maybe we're a little old for it, but someone is going to do it," Perlin said. ■

For more information on these projects, go to Projects at www.architecturalrecord.com.







1952

2003



USC

**The School of Architecture congratulates Frank O. Gehry,
Bachelor of Architecture USC 1952, on the opening of
Walt Disney Concert Hall in Los Angeles**

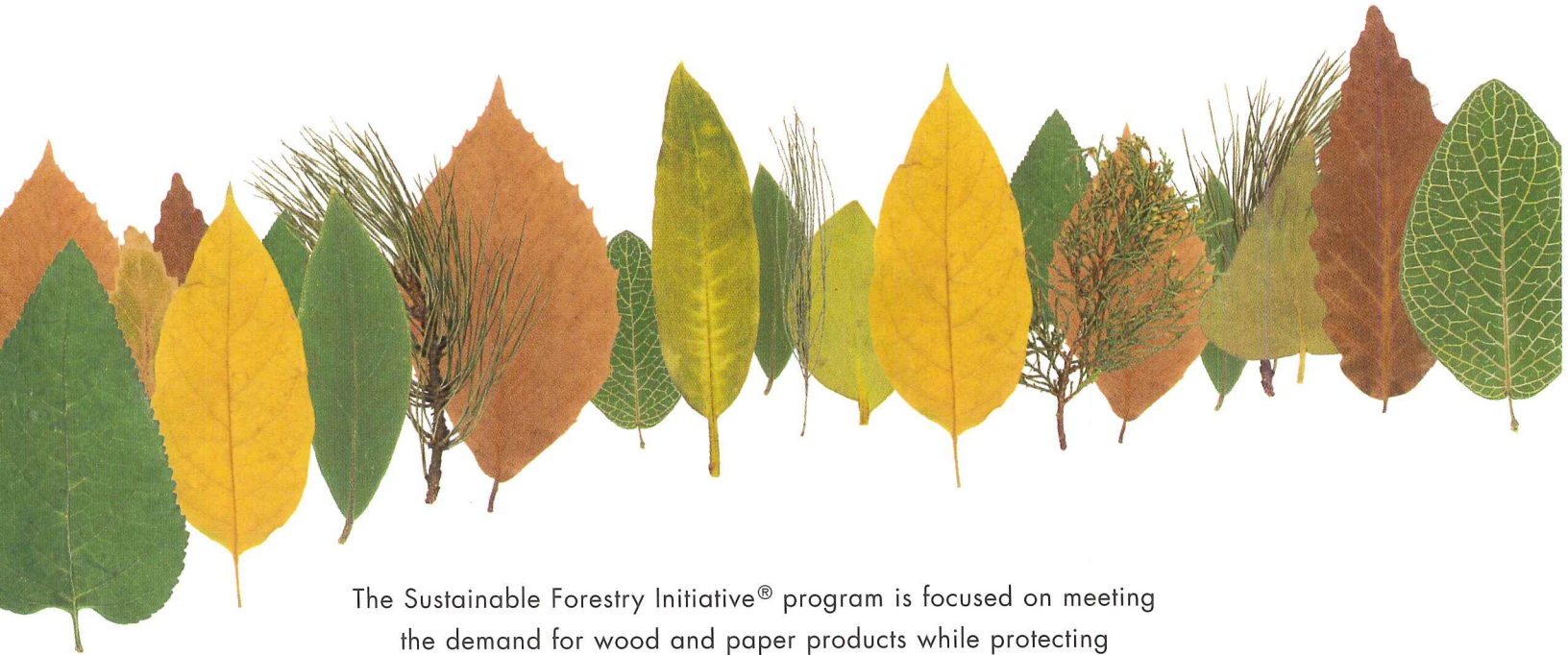
Undergraduate and Graduate Programs in Architecture, Landscape Architecture,
Building Science, and Historic Preservation

WWW.USC.EDU/ARCHITECTURE

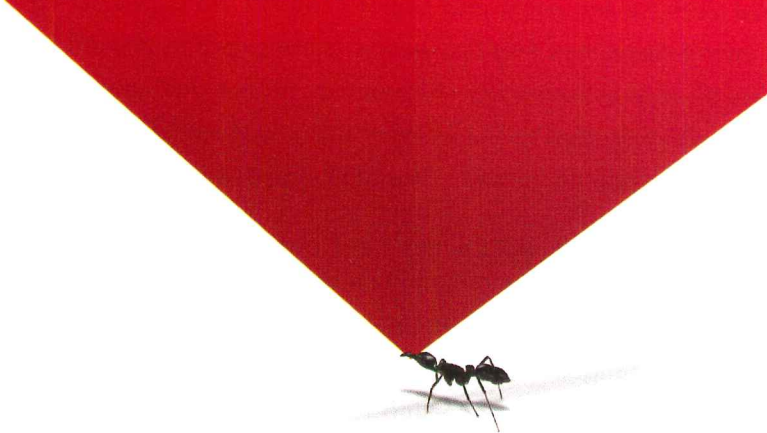
Photograph by Gill Garcetti from "Frozen Music"

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UNIVERSITY BUILDINGS

Campus Connectivity

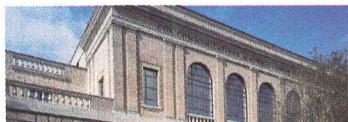
UNIVERSITIES ARE INCREASINGLY BECOMING FLEXIBLE PLACES FOR STUDY, AS THE CAMPUS IS REMADE WITH NEW SPACES FOR TECHNOLOGY, STUDIOS, AND PROFESSIONAL LABORATORIES.



1.

Pasadena, California

A building that bridges the old and the new through a hybrid aesthetic, showing that the romance of Mission can readily join with Modernism.



2.

Baton Rouge, Louisiana

The use of simple materials and a

By Jane F. Kolleeny

Campuses are changing. While they continue to maintain the qualities that make them unique, institutions of higher education are evolving to increasingly serve the modern world. We tend to think of colleges as places for curriculum to be presented to students in traditional classrooms. In doing this, we overlook the most important aspect of learning, according to James J. Duderstadt, former president of the University of Michigan. He notes that learning can involve many things, but most importantly it is about active discovery. “As the ancient Chinese proverb suggests, ‘I hear and I forget; I see and I remember; I do and I understand,’” he says.

Duderstadt continues by noting how university learning is leav-

Diefenbach, laboratory design principal; Bernard Kummer, project architect
Client: California Institute of Technology—William Nunez, project manager, physical plant department
Consultants: ARUP (structural, acoustical, m/e/p); Kornberg Associates Architects (laboratory planner); Land Images (landscape); Horton Lees Brogden (lighting)

Size: 118,000 square feet, including two floors (57,300 square feet) below grade. Outdoor spaces include an 11,500-square-foot courtyard, a 24,040-square-foot pistache-tree mall, and a 7,000-square-foot palm grove.

Cost: \$47 million

Completion date: Fall 2002

Sources

Stainless-steel cladding: Nisshin Steel

Travertine cladding: Marriotti

Granite: Cold Spring Granite

Metal roofing: Follansbee Steel

For more information on this project, go to Projects at

www.architecturalrecord.com.

unsympathetic expansion in the 1950s and 1960s. No amount of lush palms and pistache trees could cover up the egregious mistakes.

In 1985, the city of Pasadena began reviewing major changes on the campus. A new master plan conceived for the school in 1989 encouraged additional buildings to reinforce the architecture and planning of the Goodhue vision but couldn't guarantee adherence to the proportions and delicacy of ornament of the originals. Then a proposal for a new biological research center came along that opened up issues of historicism. The lead donor for the center, Eli Broad, chairman of AIG SunAmerica financial services company and a renowned patron of the arts and architecture, wanted a "high design" architect. Broad, along with Cal Tech's president, David Baltimore, interviewed Richard Meier, Gwathmey Siegel, Robert A.M. Stern, and Pei Cobb Freed. Although this group is not outrageously avant-garde, only Stern could conceivably have "Mission" as his middle name.



But Broad and Baltimore chose Pei Cobb Freed. "We were taken by James Freed's 'hybrid' architectural approach," explains Broad, alluding to the architect's desire to bridge the old campus to the south with future expansion to the north through the building's carefully massed blocks of stainless steel and travertine.

Pasadena's design review commission, however, wasn't sure that Freed's solution was fully in keeping with the spirit of Cal Tech's master plan, particularly since it lacked an arcade. The school appealed the case to the city council, which in turn sided with Pei Cobb Freed. Because of the firm's New York location, Cal Tech asked it to associate with the SmithGroup, whose Los Angeles office, headed by Susan O'Connell, has designed a number of educational buildings in the area.

The clustered, travertine-clad masses of the south side of Broad Center (above) face the existing campus and the Beckman Institute, designed by A.C. Martin in 1989, next door.

Program

The program called for an 118,000-square-foot laboratory flexible enough for the "primary investigators" and their research teams. Needed were labs with work space for computers, wet areas for experiments, plus an experimental Magnetic Resonance Imaging facility, along with seminar rooms and a 100-seat auditorium. But just as important were lounges that could foster casual interaction between students and professors of various disciplines. In addition, the lab was not only to serve as a gateway for future expansion to the north, but to



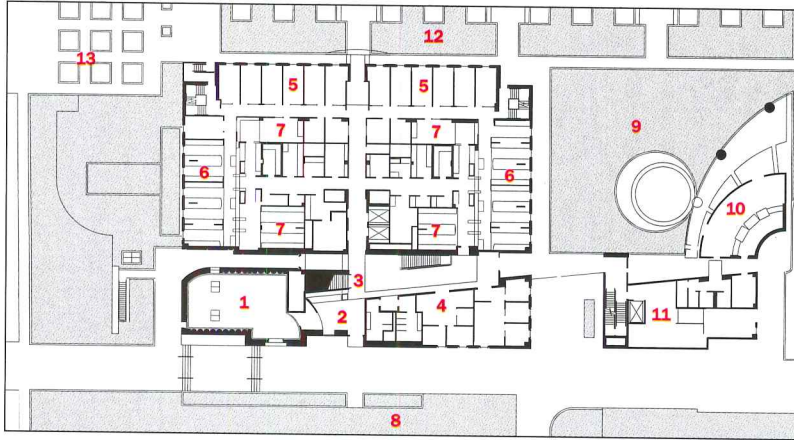


- | | | |
|-------------------|------------------|------------------------|
| 1. Auditorium | 6. Labs | 11. Shipping/receiving |
| 2. Prefunction | 7. Lab support | 12. Pistache arcade |
| 3. Light tower | 8. Great lawn | 13. Palm Grove |
| 4. Administration | 9. Oak courtyard | 14. Seminar room |
| 5. Offices | 10. Café | 15. Student lounge |

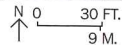
The one-story pavilion for the café (photo, bottom left), which was not initially in the program, was added to provide a social link to the cam-

pus as well as serve the students and faculty. A bridge and fire stair link the center to the café.

Both the north facade of embossed stainless steel (top left) and the south facade of travertine (above) are precisely detailed with projecting sills and floated windows.



GROUND FLOOR



SECOND FLOOR

hook into the circulation routes for the rest of the campus to the south.

Solution

To preserve the open space on the 2.2-acre site, Freed opted for a double-cube block, and Arup engineers addressed earthquake concerns with an unbonded, braced-steel-frame structure. The plan, essentially a grid with cross-axial circulation, places labs on north, west, and east sides, with nontechnical spaces, including the entrance, extending along the southern portion. A 67-foot-tall "light tower" with a monumental stair at its base is included to give a sense of space and architectonic drama to the interior. The south facade, oriented to the existing campus, is clad in travertine to echo the solid surfaces of the older buildings. The other exterior walls, which enclose the labs, are sheathed in a shimmering knock-'em-dead stainless steel with an embossed finish. "It suggests a technological occupancy," says Freed.

Commentary

This hybrid of materials and mass-



Engineers: *Associated Design Group Consulting Engineers (m/e/p); McKee & Deville Consulting Engineers (structural); BAI, Boner Associates (acoustics)*

General contractor: *The Lemoine Company*

Size: *55,000 square feet*

Cost: *\$9.5 million*

Sources

Windows: *Custom Windows*

Glazing: *Architectural Glass and Metal*

Doors: *Architectural Wood Products; Architectural Glass and Metal*

Interior stone: *Intrepid Enterprises*

Plaster and veneer plaster:

Southern Stucco

Wood flooring: *Aacer Flooring*

Cotton fabric ceiling: *Quantum Sail Design Group*

Furnishings: *Architectural Wood Products; Sunset Settings; Herman Miller*

Lighting: *Engineered Lighting Products*

For more information on this project, go to Projects at www.architecturalrecord.com.

connection between academics and athletics. The design by Trahan Architects distills the historic architectural language to its essence, creating a sequence of clean, clear spaces that articulate rational thought in three dimensions.

Program

The not-for-profit Tiger Athletic Foundation, which supports LSU athletics, commissioned the Trahan firm to turn the Gym Armory into an academic center for the school's athletes while respecting its historic style. The program called for the conversion of 55,000 square feet spread over three floors into counseling, tutorial, study, and career-resource spaces for college players. To pull the academic community more firmly into the facility, the program also included a computer lab and auditorium for classes and lectures open to the general campus population.

Trey Trahan, AIA, explains that, as principal in charge, football coach

Christine Kreyling is architecture critic for the Nashville Scene.



Nick Saban “wanted to increase the graduation rate” for his players by developing “an academic environment conducive to their special needs.”

The center's executive director, Dr. Roger Grooters, had previously worked with Saban to develop a similar academic center at Michigan State University. “We realized the power of such a facility, for both recruiting and retaining athletes,” Grooters says. Parents and prospective students “can see in the center the commitment on the part of the university to support student athletic development.”

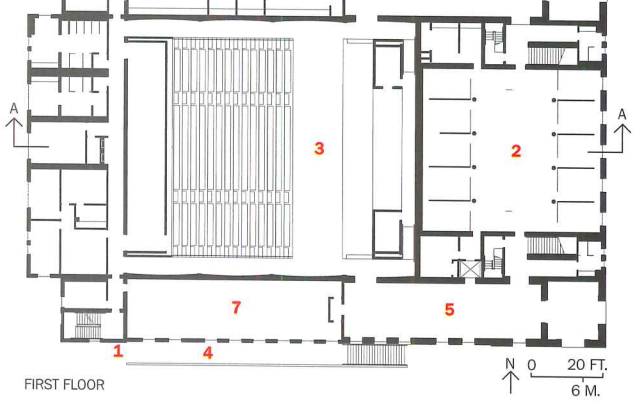
Solution

The Trahan team followed the lead of the 1927 structure. They abstracted a 1 by 2 proportional module from

the existing skeleton to determine the pattern of new interiors. They also retained the building's symmetrical organization while paring away remodelings that had obscured the volumes of the historic interior. Project designer Jason Hargrave, AIA, says the team articulated the chronological gap between exterior and interior by means of a ¾-inch reveal—between floors, walls, and ceilings—that suggests new skin is floating within the old shell. The architects utilized a simple and consistent palette of colors and materials—white to blonde for the rooms at the building's perimeter, warmer and darker for the core—to evoke serenity. “Student athletes lead life at a pretty hectic pace,” Trahan says. “We felt that minimiz-

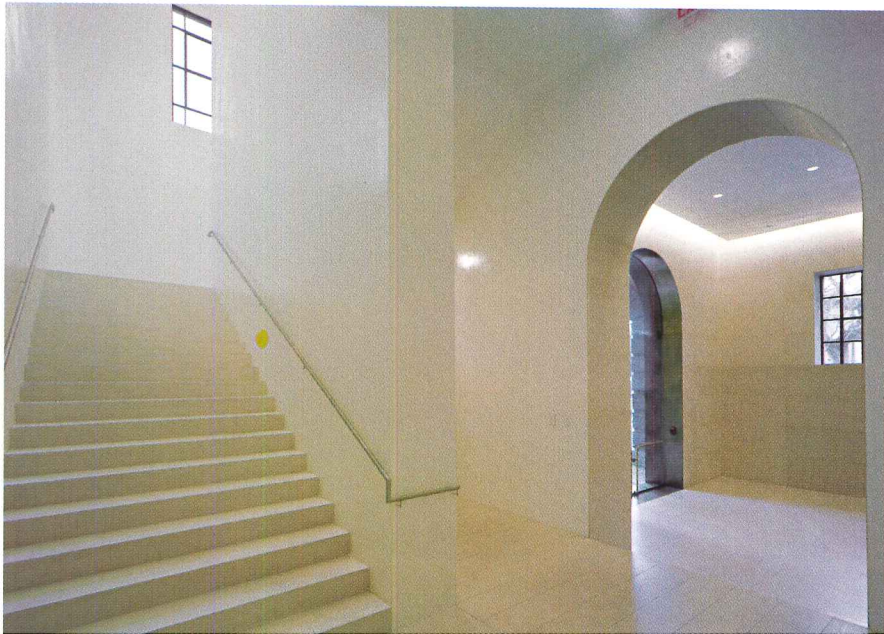
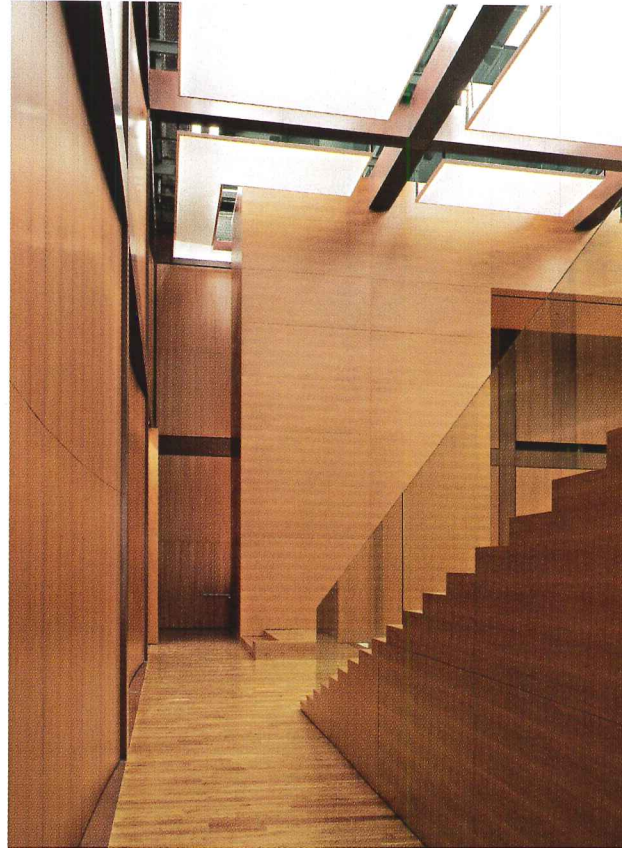
In the adaptive reuse of the Gym Armory building, symmetrical arched entrances are defined by bronze walls inscribed with the names of donors (right and below). Inside, austere halls of cream limestone continue the subtle exploration of light, mass, and volume (opposite).





FIRST FLOOR

A return to the original building materials and volumes that had been compromised over several decades of renovation have resulted in pure, uninterrupted spaces.



ing visual distractions would help them focus on their studies. And because jocks can be pretty hard on their surroundings, we needed extremely durable materials: limestone, 2¼-inch solid plaster rather than gypsum board.”

The architects located spaces open to all students on the first floor. Symmetrical arched entrances are defined by bronze walls inscribed with the names of donors. Inside, in austere halls of cream limestone, inscriptions pay homage to athletes who achieved academic distinction and teams that won championships. Between the halls, the center’s administrative complex is the first in a series of spaces featuring unpainted but sealed plaster and pale maple. Offices are divided from reception by acid-etched glass to allow natural light to penetrate the interior.

Monumental mahogany doors open into the auditorium, which Trahan calls “the rich box” at the heart of the building. The architects used original columns, beams, and trusses as the grid for the wood-clad room. Book-matched mahogany



University

Engineers: L & A (structural); Orchard, Hiltz & McCliment (civil); DiClemente-Siegel Design (m/e/p)

Consultants: Gissim Metz Andries Associates (landscape); Hillmann DiBernardo & Associates (lighting); Harvey & Marshall Associates (acoustics)

General contractor: Barton Malow Company

Size: 85,000 square feet

Cost: \$12 million

Sources

Exterior cladding: Daltile; Centria; Rheinzink; Kawhneer; Viracon

Metal roofing: Centria

Doors: Kawhneer

Hardware: Markar; Ingersoll-Rand; Merilat

Interior finishes: USG Interiors; Merliat; Benjamin Moore Paints; Maharam Fabrics; Integrated Interiors; Lees Carpet

For more information on this project, go to Projects at www.architecturalrecord.com.

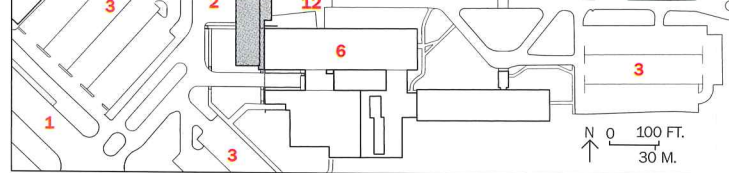
a commuter school, with most students holding down jobs, its alumni include such notables as Microsoft C.E.O. Steve Ballmer, and its architecture and engineering grads find work with firms all over the country.

While the school's programs command respect, until recently its 115-acre campus left much to be desired. Several key buildings, including the low-rise brick structures that housed the architecture and engineering schools, looked dated and undersized. The main campus entrance off West Ten Mile Road lacked ceremony and actually cut through what passed for the school's quadrangle as it continued through the campus. Infiltrated and surrounded by cars, the campus leaked space, and much of its visual energy and social cohesion dissipated.

Program

An opportunity to upgrade came in the late 1990s, when LTU moved ahead to create a new building to

John Gallagher is architecture critic for the Detroit Free Press.



house its architectural studios. The program quickly expanded to house engineering studios as well as meeting space for LTU's other disciplines. The building was to be sited off West Ten Mile Road and would be the first

encountered when entering the campus, creating the potential to redefine the entire LTU campus experience.

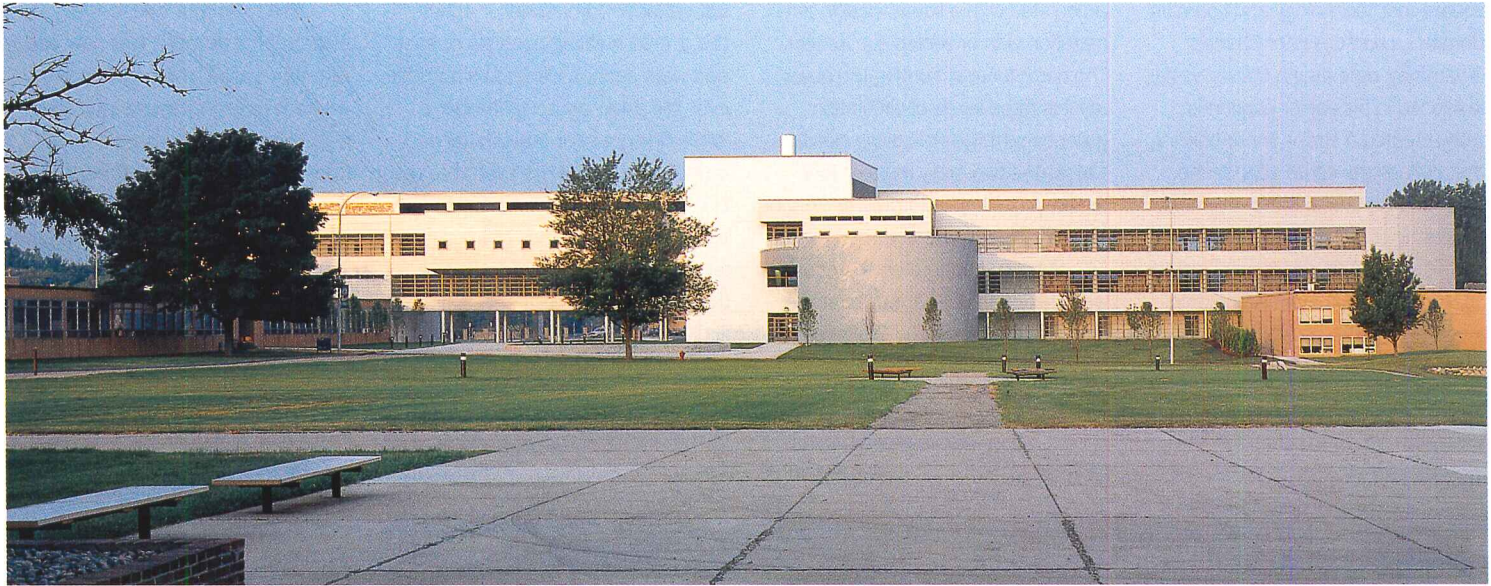
Studio space was so cramped in the existing buildings that many design students simply worked at home. LTU wanted a building that would hold generous—and technologically state-of-the-art—studios for graduate and undergraduate design students. It also needed an audio-visual lab, a large amphitheater-style lecture hall, and a gallery to show off

- | | |
|--|---------------------------------|
| 1. West Ten Mile Road | building |
| 2. Drop-off area | 7. Campus quad |
| 3. Parking lot | 8. Existing management building |
| 4. University Technology and Learning Center | 9. Existing science building |
| 5. Existing architecture building | 10. New campus road |
| 6. Existing engineering | 11. Sculpture court |
| | 12. Terrace |

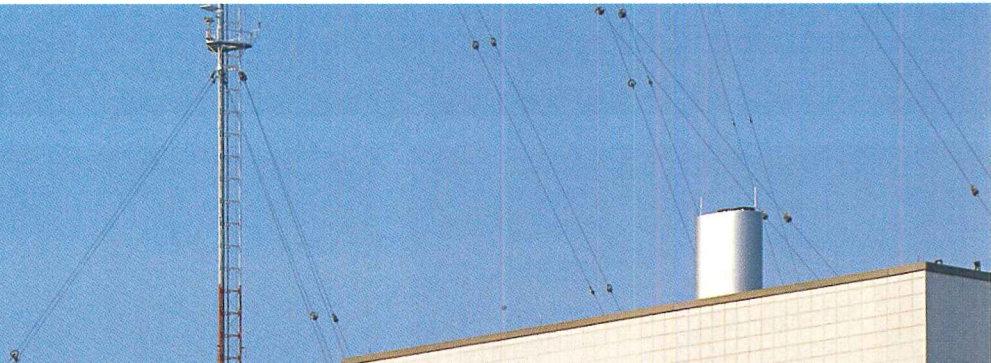
the work of students, faculty, visiting professors, and artists. Above all, LTU wanted a signature facility that would be the largest academic building the school had ever created.

Solution

After a spirited competition, the university chose Gwathmey Siegel & Associates of New York, working with Southfield-based Neumann/Smith & Associates, as the design team for the \$20 million, four-story, 85,000-



The linear building defines the boundary of a new quad. Its exterior design unifies other disparate buildings on campus so they are read in a new way, as pieces of a puzzle that suddenly make sense.





White ceramic tile covers the facade's base, with metallic ribbed panels used for siding (above). Specialized classrooms for engineering and architectural design provide ample studio space (right).

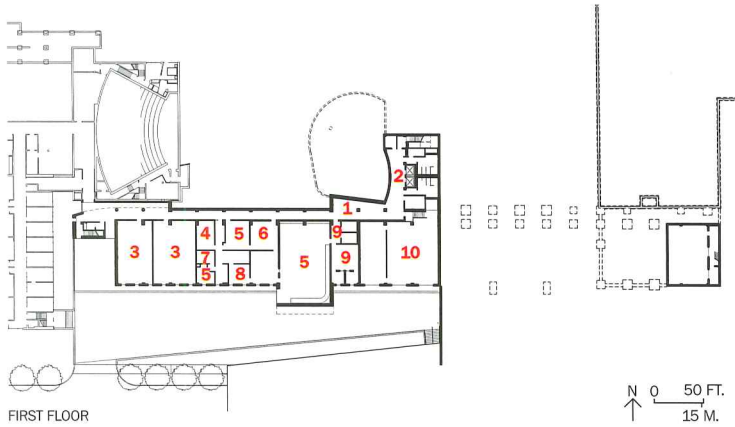


protected from fire by a special intumescent paint.

Student architects, of course, like to create a certain amount of organized chaos in their studios, and at LTU's new building, formal and informal critique sessions often spill out into hallways and little nooks and crannies. Gwathmey says this was both expected and intended in a building that he designed as a neutral backdrop for such activities.

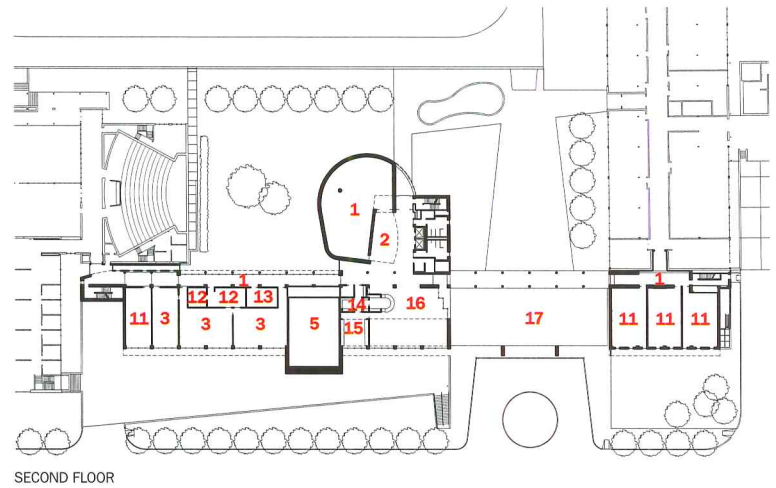
Commentary

Pulling off an architectural trifecta, the building at once establishes a new entry for LTU, reinforces the quad, and creates a new circulation pattern. It also works as a strong and rigorous piece of architecture in its own right. Rarely does an academic building accomplish so much in one gesture. The new building has raised the design bar for the rest of the campus. In years to come, the University Technology and Learning Complex will be viewed not as the culmination of a dream, but as the start of a whole new building program for the school. ■



FIRST FLOOR

- | | |
|------------------|-------------------------------|
| 1. Gallery | 7. Darkroom |
| 2. Lobby | 8. Office |
| 3. Labs | 9. Edit room |
| 4. Storage | 10. Mechanical equipment room |
| 5. Production | 11. Classrooms |
| 6. VTR equipment | |

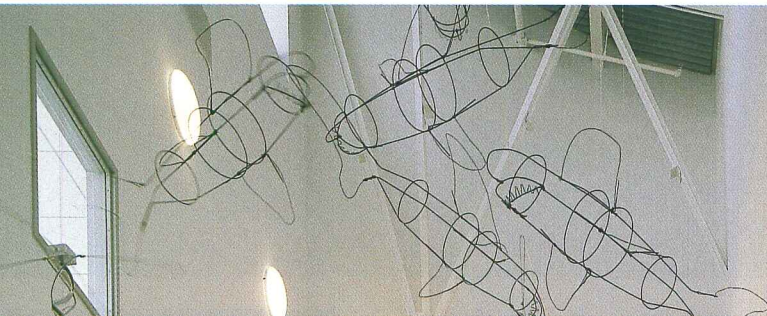


SECOND FLOOR

- | |
|------------------------|
| 12. Administrative |
| 13. Chapel |
| 14. Technical support |
| 15. Studio |
| 16. Information center |
| 17. Porte cochere |

The building projects out from the exterior as a circular volume, its length interrupted by a grand, three-story portal (below)

that acts as the school's formal entrance, provides gallery space, and leads to the campus quadrangle.



Client: *Lewis-Sigler Institute for Integrative Genomics, Princeton University*

Engineers: *Dewhurst, McFarlane & Partners in association with Joseph Goldreich (structural); Burt Hill Kosar Rittelmann Associates (m/e/p); Van-Note Harvey (civil)*

Consultants: *Quennell Rothschild & Partners (landscape); Acentech (acoustical); GPR Planners (labs); Wojciechowski Design (graphics)*

Construction manager: *Barr + Barr*

Size: *138,000 square feet (gross)*

Construction cost: *\$48 million*

Completion date: *January 2003*

Sources

Metal-and-glass curtain wall: *National Glass and Metal Company*

Precast concrete: *Global Precast*

Acoustical ceilings: *Armstrong*

Demountable partitions: *Inscape; Fisher Hamilton*

For more information on this project, go to Projects at

www.architecturalrecord.com.

cians so they can bounce ideas off one another and “ask a whole new set of questions” at a time of rapid progress in genetic sequencing, says Shirley Tilghman, who was the founding director of the institute and is now the president of Princeton. Like the program it houses, the new Carl Icahn Laboratory by Rafael Viñoly Architects takes an inclusive approach to design, bringing the outdoors in and providing an attractive venue for scientists to come together.

Program

Because research in life sciences is changing so rapidly, the laboratory presented a difficult design challenge. “When I first sat down with Rafael, I had no idea what this science would look like,” recalls Tilghman, a mammalian geneticist by training. “But I knew that our building had to break down the cultural barriers that had grown up around various disciplines and promote risk taking. And it had to be extremely flexible.”

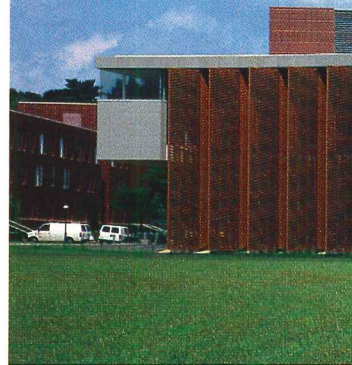
Part of a master plan by

Machado and Silveti Associates that creates a new quadrangle set around an ellipse-shaped athletic field, the new lab connects underground to the adjacent Lewis Thomas Laboratory, designed by Venturi Scott Brown and Associates (VSBA) with Payette Associates and completed in 1986. Although begun just a little more than a decade after the VSBA building, the Viñoly lab needed to reflect a new world of integrated genomic studies where the whole is more important than any of the individual pieces, says Tilghman.

Laboratories for about 15 faculty members (along with their assistants and students) occupy most of the building’s 120,000 net square feet. Offices, conference rooms, a small lecture hall, and a café round out the rest of the dedicated space, though Tilghman encouraged Viñoly to think beyond the essential components of the program. “I didn’t want a building like any other lab that existed,” she states.

Facing south, the main facade (above and below) features 31 aluminum louvers that continually move to shade the interior from the sun. Conference rooms (opposite, top and bottom) cantilever above the covered walkway.

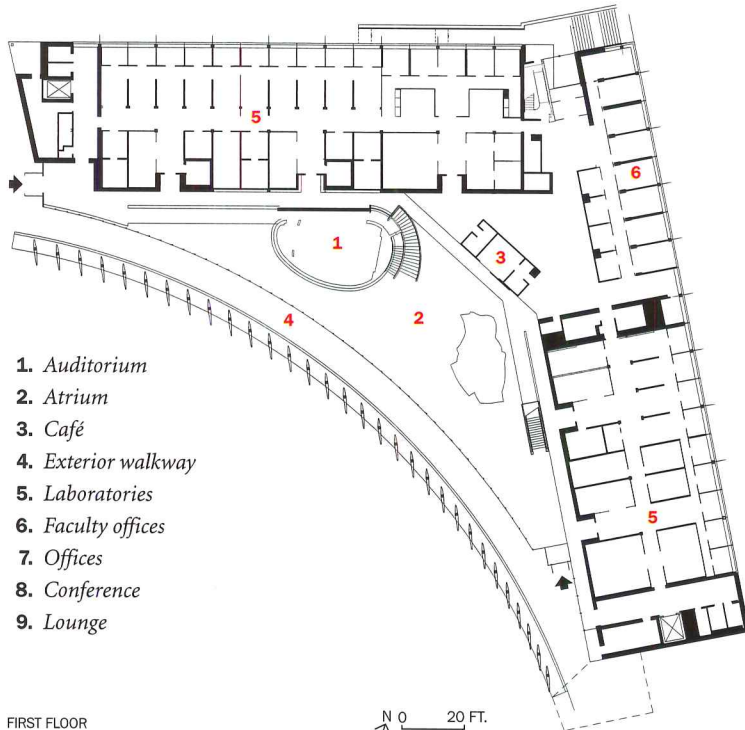
PHOTOGRAPHY: © ROMAN VIÑOLY





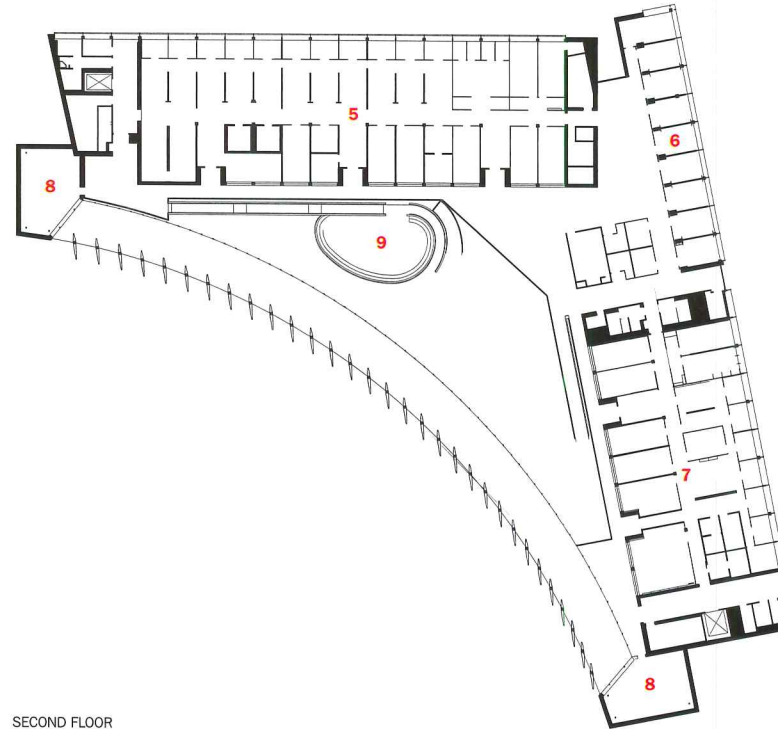
The 40-foot-high vertical louvers (above left and right) are controlled by computer and driven by hydraulic

jacks. All of the mechanical equipment can be repaired by campus engineers using standard parts.



1. Auditorium
2. Atrium
3. Café
4. Exterior walkway
5. Laboratories
6. Faculty offices
7. Offices
8. Conference
9. Lounge

FIRST FLOOR



SECOND FLOOR



Because the walkway

glass roof between a lab block (left in photo at right) and offices help enliven common areas. Bands of deeply recessed, angled windows bring daylight but little glare into offices and labs (bottom).



the atrium encompasses a small, freestanding café, a cylindrical lecture hall, and a Frank Gehry sculpture that houses an informal conference space. Curving stairs around the lecture hall and a flight of straight stairs along one of the two-story lab/office wings lead directly to the atrium, reinforcing its role as the heart of the project.

For the laboratory spaces, Viñoly created a system of demountable elements using commercially available lines of modular lab benches and modular partitions. An 8-foot-high interstitial space above each floor accommodates all of the necessary mechanical, electrical, and venting systems.

Commentary

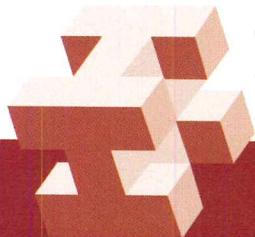
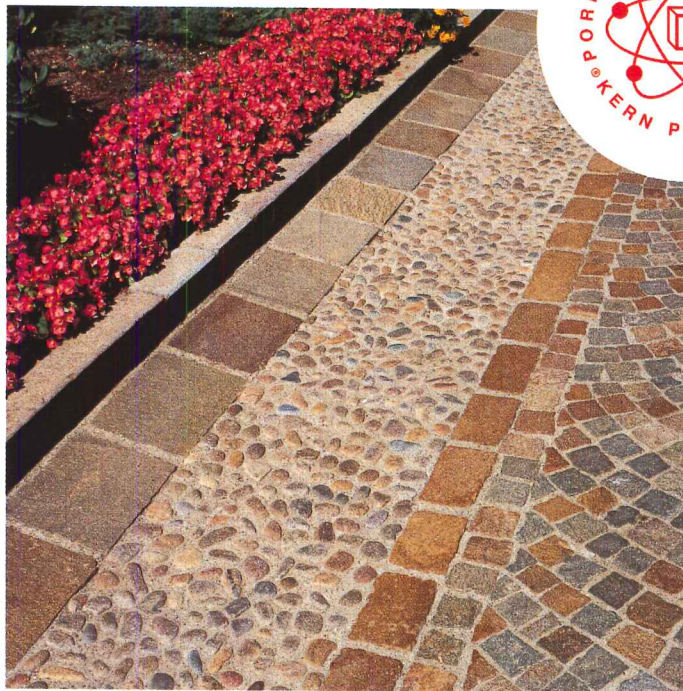
Turning an outdoor walkway into a grand gesture of movement and connection, Viñoly gets a visual and metaphorical bang out of a fairly simple strategy. Supporting the light-filled social hub with restrained but flexible lab spaces, the architect has created a building that both works and inspires. ■



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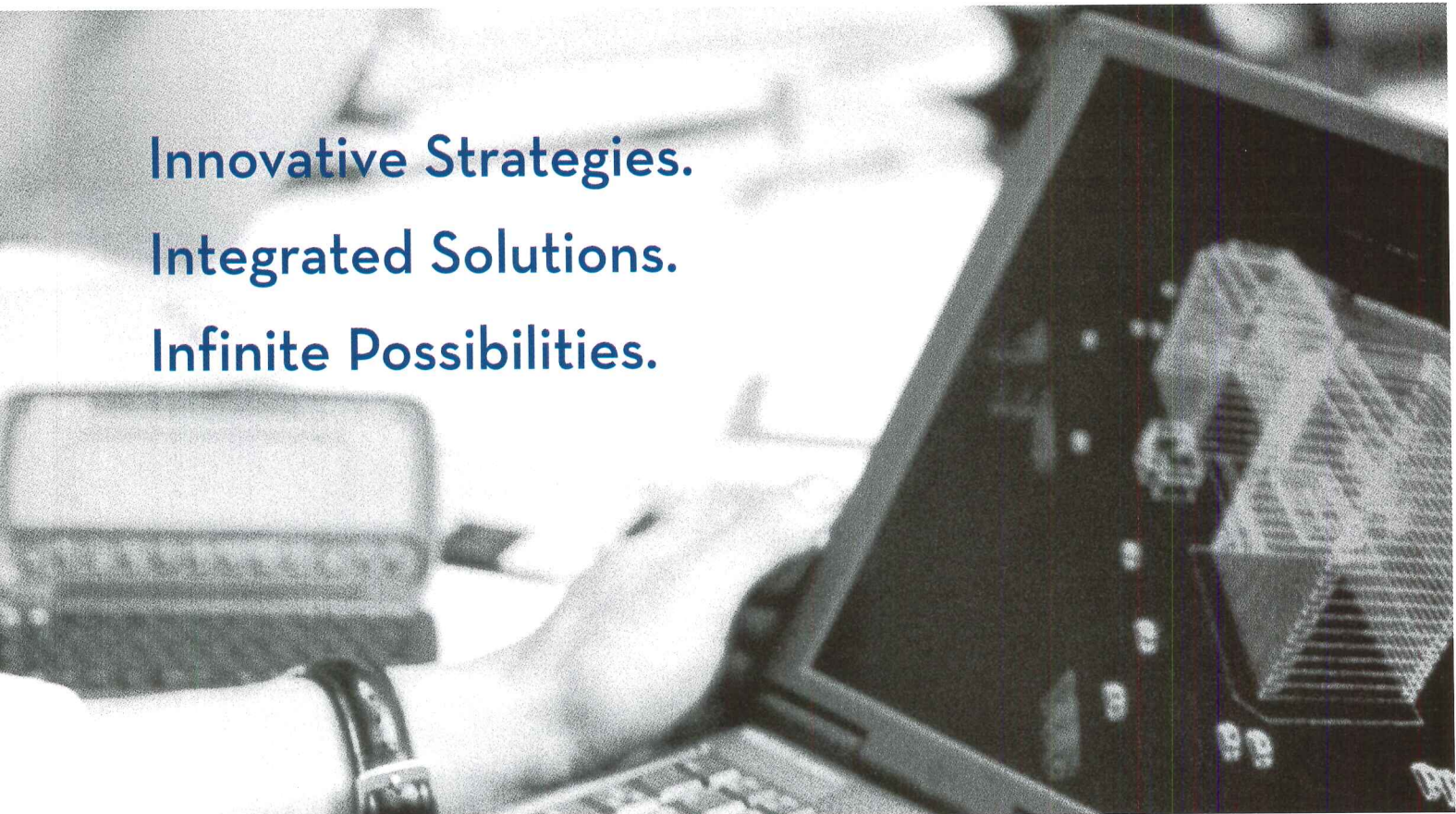
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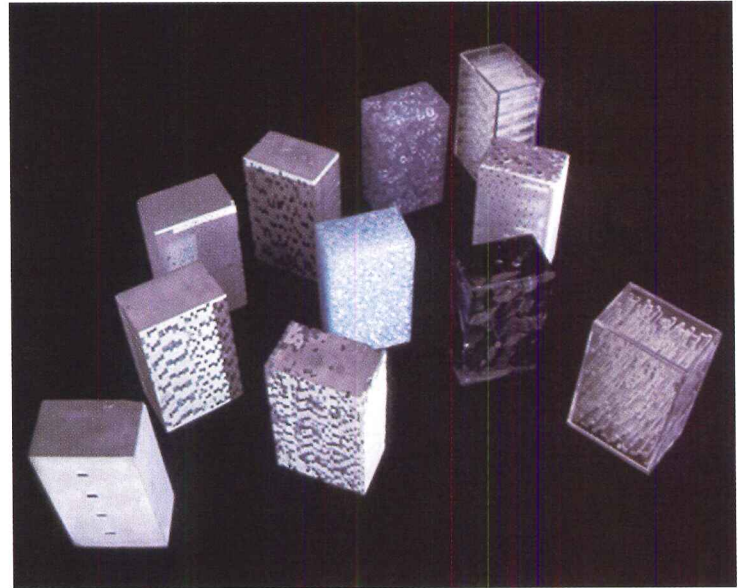
Architects Slowly Begin to Expand the Traditional Palette of Materials

NEW SUBSTANCES FROM HIGH-TECH LABORATORIES ENTER THE REALM OF CONSTRUCTION

By Nancy B. Solomon, AIA

When it comes to new materials, the construction industry is not known for being a hotbed of innovation. For a host of reasons, including economies of scale, numerous code requirements, fragmented workforce, insufficient research dollars, and demand for long-lasting and stable products, this market sector tends to stick to the tried-and-true.

Yet change is inevitable, and nontraditional components do emerge in architecture. Typically, they are jettisoned from other industries that can afford to engage in material research, and then only slowly find their place in architecture. Fiberglass, for example, has been around for a while and is well understood in certain commercial sectors, but it required a practitioner like Toshiko Mori, AIA, who has long been interested in fabrics and fabriclike materials, to find a project-specific need and be willing to step outside the realm of conventional fabrication methods to fashion the popular boat material into a structural architectural component. Aerogel was a scientific curiosity for the longest time, and then had only limited application in space exploration, until demand for





in Bozeman, Montana. Cabot Industries, a leading chemical leading the insulation ability of Kalwall's standard panel.

Case study: Aerogel goes mainstream

“New” is something of a misnomer when it comes to aerogel, a highly porous solid made from a gel. Although the first architectural application of this material was introduced in January 2003 by Kalwall Corporation (www.kalwall.com), of Manchester, New Hampshire, the intriguing substance was originally developed in 1931 by Steven S. Kistler at the College of the Pacific in Stockton, California, and later used by NASA to insulate the battery system in the Mars space rover.

To visualize aerogel, says Marketing and Sales Manager Jim Litrun of Cabot Corporation (www.cabot-corp.com), a specialty chemical and materials company headquartered in Boston, imagine being able to remove the liquid from a bowl of Jell-O. The remaining gel structure would form a kind of wispy sponge that is 95 percent air and 5 percent solid.

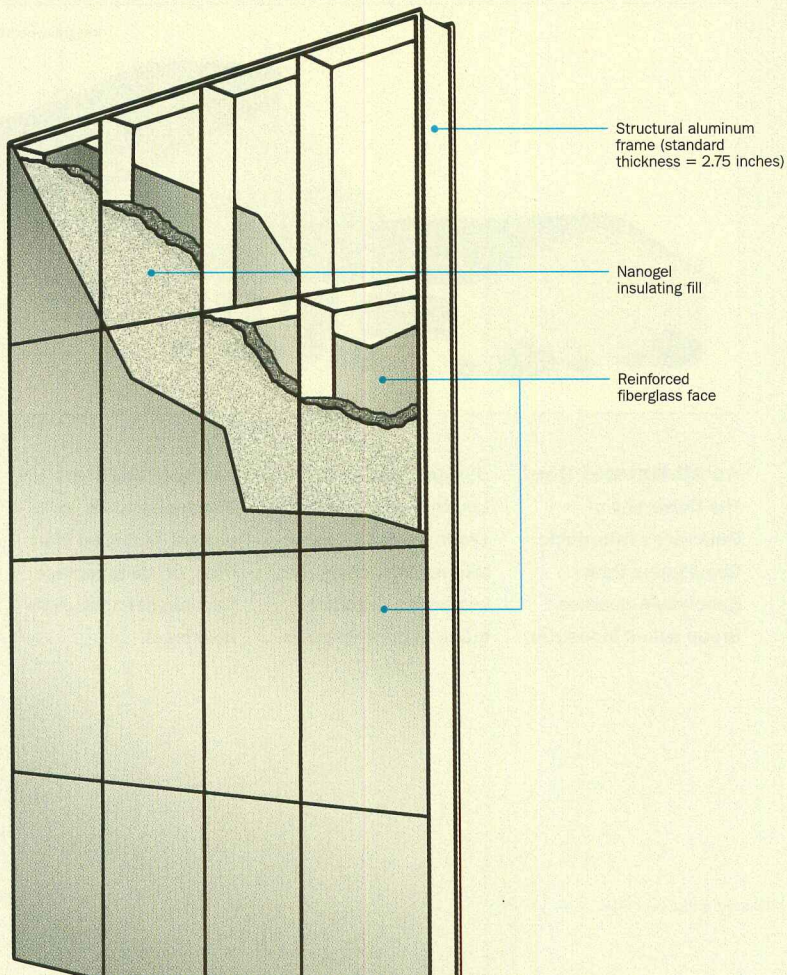
The result is a lacy matrix of extraordinary qualities. “It is the lightest, most insulating solid in the world,” continues Litrun. Its pores are only about 20 nanometers (one nanometer equals a billionth of a meter) in diameter. The minuscule air pockets trap individual gas molecules, preventing them from bumping into each other and transferring energy through convection. Energy cannot be transferred by conduction, either, because aerogel is typically made from poorly conducting chemicals, and because there is very little material present in the matrix anyway.

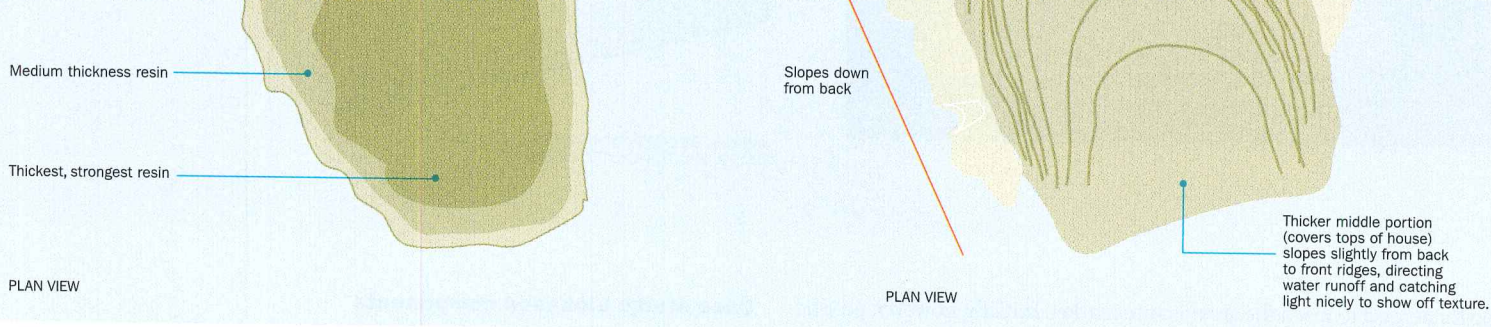
Multiple tiny pores and minimal solid material makes aerogel a great sound insulator, as well. Yet diffused light can penetrate through it.

Cabot makes a proprietary version of aerogel from silicon dioxide, which the company calls Nanogel. Its granular formulation can be packed tightly into Kalwall’s familiar composite-structural-sandwich panel. The assembly offers up to 20 percent light transmission with a thermal transmittance (U-value) of a mere .05. Up until now, the most thermally insulated Kalwall panel—consisting of translucent fiberglass batt insulation sandwiched between fiberglass-reinforced translucent faces that have been bonded to a thermally broken frame—provided light transmission of 10 percent with a U-value of .10. “The Nanogel version can double the light transmission and double the thermal protection at the same time,” observes Litrun. A fenestration system fabricated with this new panel is detailed and installed in the same manner as any other high-performance Kalwall system and costs about the same, according to Kalwall vice president Bruce Keller.

Testing conducted by Cabot demonstrates that Nanogel is moisture-repellent; resistant to mold and fungus; stable in the presence of ultraviolet light; and completely recyclable. It is not readily combustible, and no ozone-depleting agents are used in its manufacture.

With all these attributes, it may seem surprising that it has taken so





they are often obtained from materials that would otherwise be discarded as waste, and depending on the particular application, they are potentially recyclable or biodegradable.

While the initial ingredients sound low-tech, the science is not: “We are combining advances in biotechnology with polymer science to come up with remarkable materials,” says Wool. And the steps required to move from material formulation to commercially available building component are lengthy and complex. Wool and his colleagues initially developed a resin based on soybean oil. Although the polymer is not completely petroleum-free—it includes styrene, which is derived from the fossil fuel—the researchers determined the optimum amount of styrene for this application. And other research is now looking for a biomaterial substitute for the styrene. The team then studied different fibers—including flax, recycled paper, jute, hemp, and even chicken feathers. Fiber mats were infused with the soybean resin using vacuum-molding technology. The resulting composite sheets underwent further testing.

Subsequently, prototypical composite structures were fabricated and tested. The inner core of each beam consisted of commercially avail-

able closed-cell polyisocyanurate foam. Although not a biobased material, the foam is lightweight and provides excellent thermal insulation. The ACRES group is carrying out research on developing biobased foam from soy oil to replace the current commercially available foam. The component skin of each beam varied: Some relied on a single type of fiber, others on two fibers in combination. All were infused with the soybean resin and affixed to the foam with the same vacuum process.

The team identified recycled paper from disposed cardboard boxes as the most appropriate biobased fiber for a structural application because of its low cost, availability, waste status, and contribution to the beam’s overall strength. Their research indicated that the addition of small amounts of glass fiber would improve both ease of production and the ductility of the resulting composite structure.

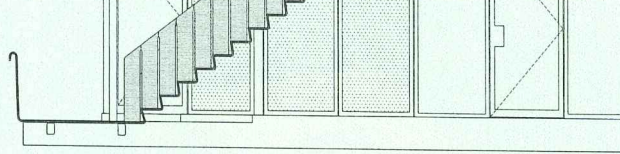
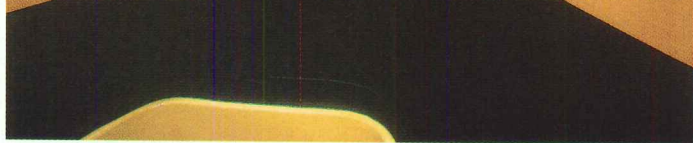
No matter how viable the material, a product cannot exist without a market. Wool found a likely candidate: the hurricane-prone housing stock of the coastal states. Referring to previous storms, Wool says, “It’s painfully obvious that the vast majority of damage was due to trophy A-frames. The vacuum created on the lee side pops off roof sheathing.”



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Without the sheathing, the structural and waterproofing integrity of the roof—and subsequently the entire house—is compromised.

The ACRES group has proposed a monolithic low-profile roof molded from biobased composites to eliminate individual components on a highly sloped roof. The roof assembly would be a structural sandwich comprising a 3- to 8-inch-thick foam core with skin and webbing of high-performance composite sheets. The assembly could be molded to virtually any shape with vacuum technology.

To explore the aesthetic possibilities of this roof concept, Wool asked industrial designer Elizabeth Linstrom of New York to design a nonrectilinear prototype. Inspired by Antoni Gaudí, Linstrom proposed an oyster shape. She notes that irregularities of the organic design can accommodate the natural irregularities inherent in casting biobased materials. “A molded roof has so much potential,” says Linstrom. She encourages architects to explore different types of castings, such as adding feathers to the mold or playing with light reflectance.

The next step will be to build a demonstration house. The ACRES Group has already lined up a structural-composite company in Delaware to undertake the fabrication. Because of the availability of resources and versatility of the material, Wool anticipates that, in about three years, biobased structural composites will start to find their way into a number of construction applications.

Case study: structural fiberglass

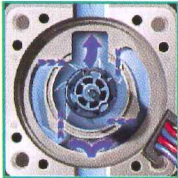
Climatic conditions—bright sun, ample rain, hurricane winds, and salt water—along Florida’s coast challenge most building materials. So, when designing an exterior staircase for a house addition near Sarasota, Florida, architect Toshiko Mori, AIA, of New York, who is chair of the Department of Architecture at the Harvard University Graduate School of Design, gave it some serious thought.

“Wood can deteriorate due to heavy rains, extreme humidity, and prolonged exposure to salt; steel can rust; and a heavy concrete stair would add unnecessary weight,” she notes. But Mori only had to look toward the water to see a structural material well suited for a marine environment: fiberglass. Used by boat builders for years, the composite material is also popular in other recreational sports—such as skiing, surfing, and fishing—where strength, lightness, and flexibility are valued. It can double as both structure and surface and is easy to maintain. But it is not typically used in architecture to integrate several different building components—such as treads, risers, landings, guardrails, and handrails—into one homogeneous assembly.

Mori turned to boat builder Eric Goetz in Bristol, Rhode Island—who makes vessels, some of which have competed in the America’s Cup, for clients worldwide—to explore the material’s architectural possibilities. Goetz’s shop, which has fabricated a handful of

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INSTRUCTIONS

- ◆ Read the article “Architects Slowly Begin to Expand the Traditional Palette of Materials” using the learning objectives provided.
- ◆ Complete the questions below, then fill in your answers (page 270).
- ◆ Fill out and submit the AIA/CES education reporting form (page 270) or download the form at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. Why was wood not a viable material for outdoor construction in Florida?
 - a. Wood is too heavy for use in Florida
 - b. Wood rots quickly in humidity and salt
 - c. Hurricanes have destroyed the forests in Florida
 - d. New code updates require the use of new materials
2. How are new materials usually introduced into the construction industry?
 - a. An architect specifies the new material
 - b. A manufacturer gives incentives for builders to use the new material
 - c. The material is used in other industries first, then adapted to construction
 - d. New code updates require the use of new materials
3. Why does the construction industry resist innovative materials?
 - a. Insufficient research dollars
 - b. Code requirements
 - c. Economies of scale
 - d. All of the above
4. The benefits of fiberglass for outdoor stair construction include which?
 - a. Lightness
 - b. Flotation
 - c. Low cost
 - d. Nonskid finish
5. How is fiberglass delivered to the job site?
 - a. As easy-to-assemble pieces
 - b. As raw materials to be fabricated on-site
 - c. Wrapped over its mold
 - d. As a one-piece assembly
6. What does a fiberglass fabricator use as a clamp?
 - a. A vacuum bag
 - b. Teflon
 - c. Draped layers of fiberglass
 - d. Steel
7. The benefits of Nanogel include which?
 - a. It is moisture absorbent
 - b. It is resistant to mold and fungus
 - c. It is easily combustible
 - d. It is sensitive to ultraviolet light
8. Why was aerogel not available on the market sooner?
 - a. The aerospace industry had a patent on it
 - b. It is made by a dangerous process
 - c. There were very few uses for it
 - d. It was discovered recently
9. Which is a reinforcing material in a composite structure?
 - a. Phenolic resin
 - b. Epoxy
 - c. Polyester
 - d. Glass
10. Why was recycled paper from cardboard boxes considered the most appropriate biobased fiber for a structural application?
 - a. Low cost
 - b. Availability
 - c. Contribution to the beam's strength
 - d. All of the above

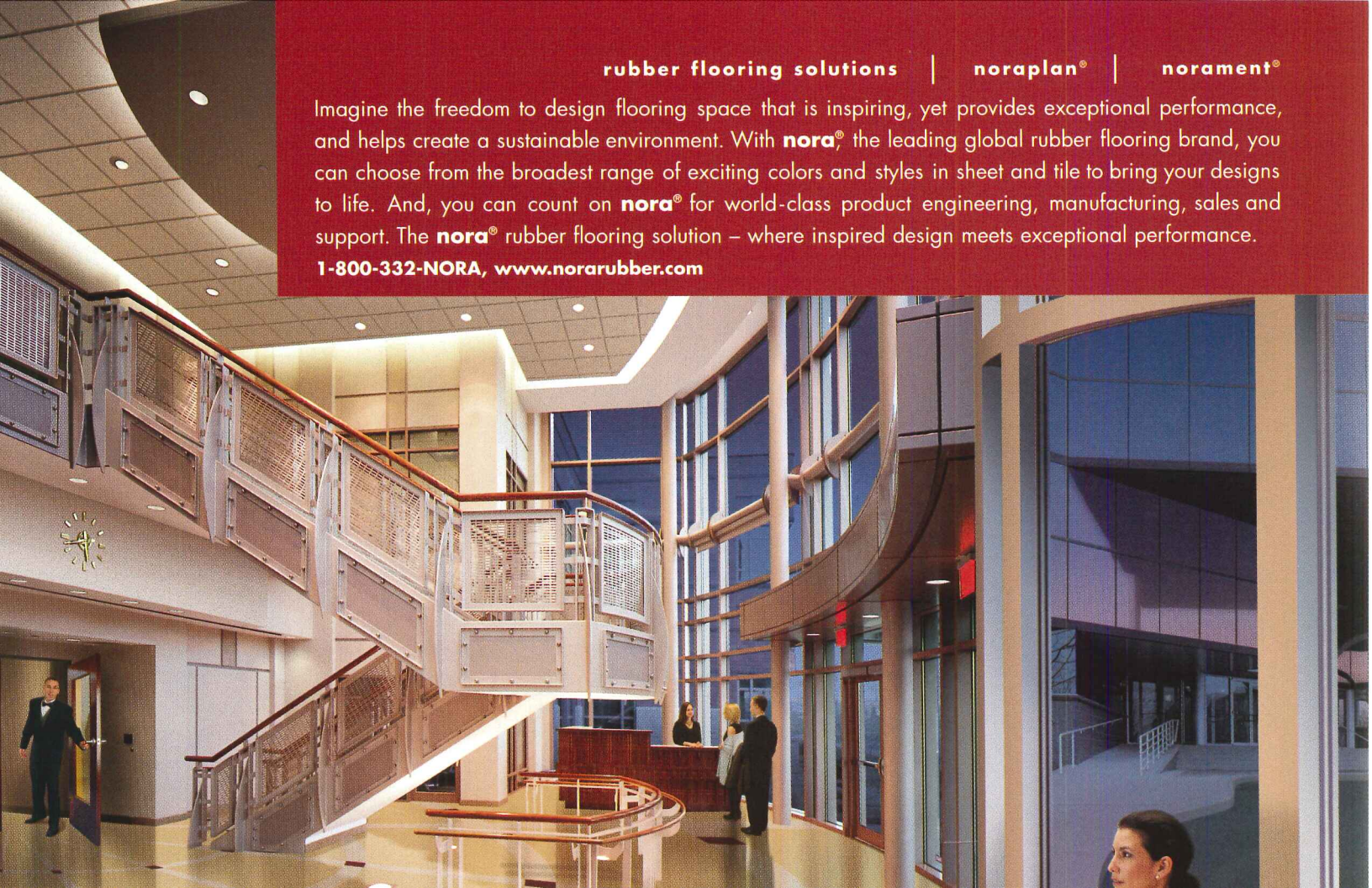
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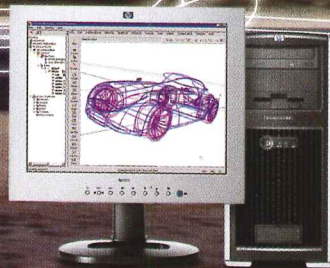
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Digital Architect

Working with telecom consultants

By Alan Joch

Architects aren't strangers to using consultants. Designers regularly employ specialists to nail down engineering, lighting, landscaping, and other important details in their projects. These days, architects are turning more frequently to a new type of consultant for the digital age—one that specializes in networking, telecommunications, and audio/visual (A/V) systems, as sophisticated communications technologies become essential elements in buildings.

The elevated role of communications consultants results from the increasing willingness of

on one element of a design, these specialists often have a lot of input on the look and feel of a project. "Five years ago, bringing in a [communications] consultant would have been an afterthought," says Glenn Leitch, AIA, design director for the architecture firm Highland Associates in New York City. "Now it's something standard that happens before design begins."

The tie between communications technology and design is becoming so intimate, in fact, that sometimes technology is the

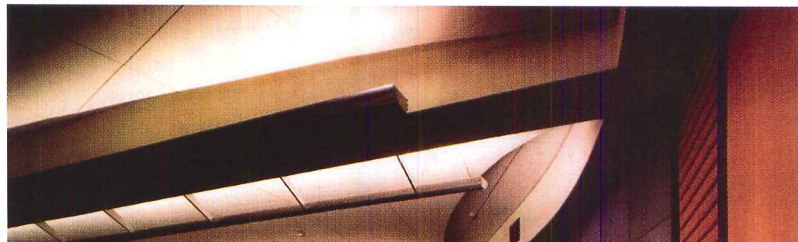
up his aesthetic wishes for the sake of acoustical or video performance," says Frank McCann, president and C.E.O. of McCann Systems, an A/V and telecommunications consultant based in Edison, New Jersey.

The challenge of finding a consultant with up-to-date credentials

consultants must be able to articulate clear design solutions to make the most of the client's investment in technology.

Thinking ahead

As buildings incorporate videoconferencing and other communications techniques that require sending a lot





The A/V controls in this conference room at the Wharton School allow presenters to archive their material directly to the school's intranet.

centers into a single, 55,000-square-foot space. The renovated building includes a 15,000-square-foot financial command center and a special “war room” in one corner of the building for important meetings and data gathering and analysis. A model of high-tech appointments, one room includes a massive video wall that displays data from Chase Manhattan’s processing centers in New York City, as well as weather reports and news broadcasts. The video wall consists of a series of large, cube-shaped video systems fronted by display screens. The cubes work together as pieces of a mosaic to

also addresses the importance technology holds for clients. This was the case when Atlanta firm Thompson, Ventulett, Stainback and Associates designed the Georgia Institute of Technology’s Technology Square campus. “The telecom and A/V components were such major

pieces of the client’s vision, we wanted a consultant that could [make sure] we weren’t short on something that would make [the project] look weak,” says Maria Bonau, AIA, associate principal.

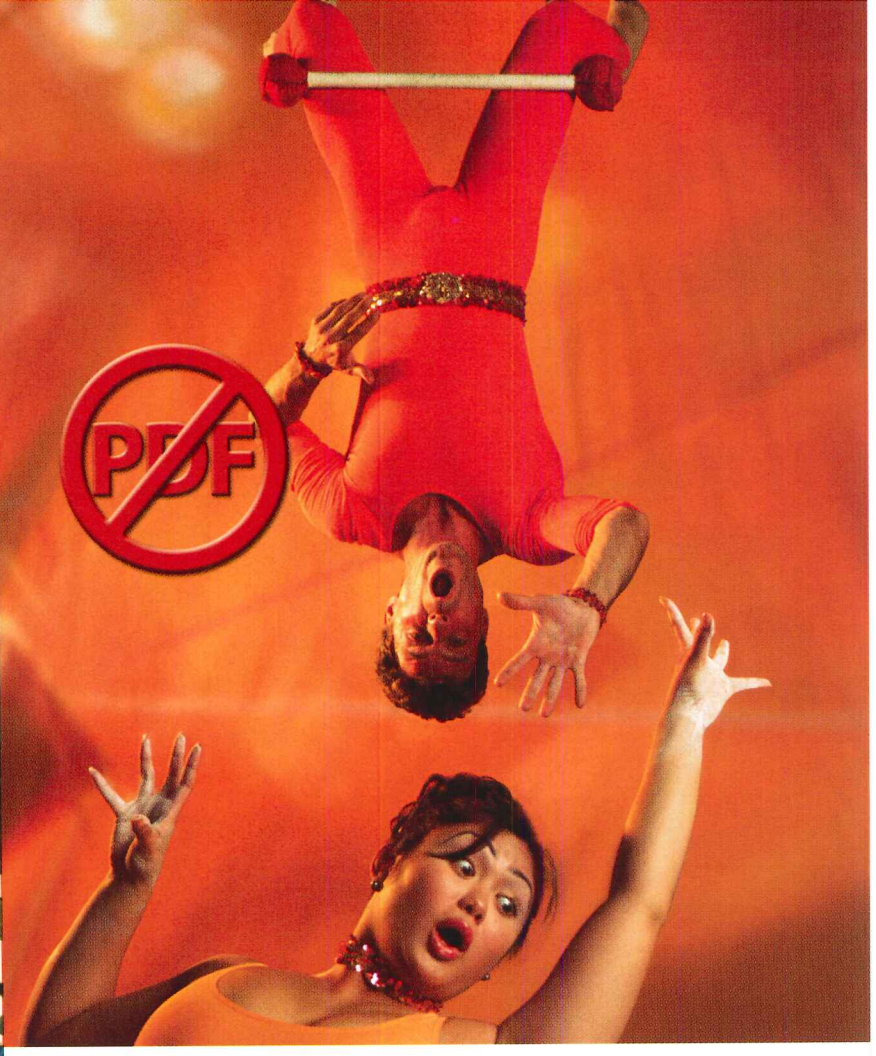
Sophisticated voice, data, and video communications were necessary because the multibuilding Technology Square project extended the main campus of Georgia Tech across an interstate highway. The architect specified fiber-optic cabling to join the new buildings to the old, to link the classrooms together, and to provide continuing- and distance-education capabilities for the new campus.

TELECOM CONSULTANTS CAN HELP ARCHITECTS “FUTURE PROOF” BUILDINGS AGAINST COSTLY UPGRADES.

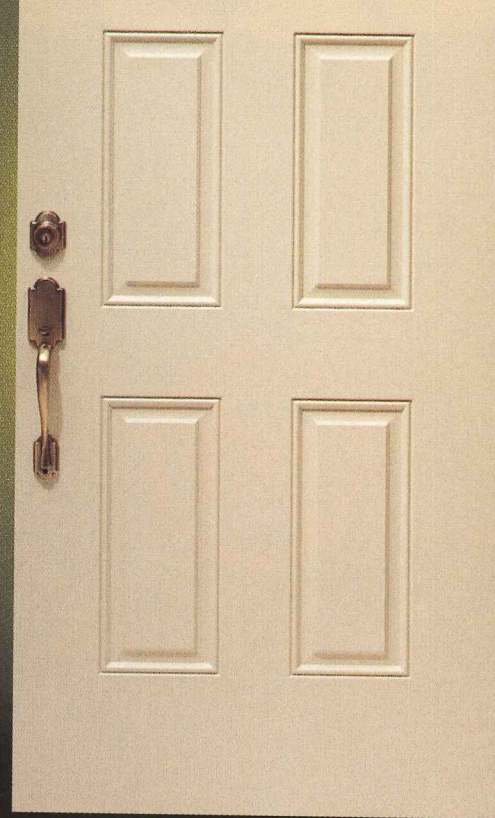
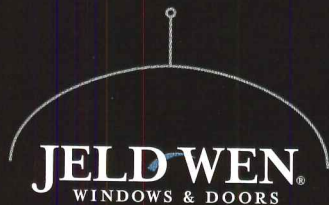
Consultants can also help architects see into the future. New York architects Kohn Pedersen Fox (KPF) recently designed a new facility, Jon M. Huntsman Hall, at the Wharton School at the University of Pennsylvania in Philadelphia. “From an A/V point of view, we tried to look at what technologies they would be using on Day 1, Day 2, and Day 3,” recalls David Ottavio, KPF associate principal. “Then we created a framework for the [technology] infrastructure, including a tremendous telecom backbone to run data cabling” so future upgrades wouldn’t be as costly. He calls this technique “future proofing.” With the help of consulting firm Shen Milsom & Wilke of New York City, the architects designed hardware closets positioned in accessible locations for easy repairs and upgrades, and opted for removable

thetics, while architects [do] the opposite,” consultant McCann admits, saying material selection is often a bone of contention. “Architects love glass conference rooms because they look techy. But they’re the worst thing [for] videoconferencing. There are no acoustic [insulation] properties in glass, the sound is hard, and it reflects around the room. You end up creating little echo chambers”—not the intended result.

McCann suggests holding brainstorming sessions to identify solutions before the client sees design proposals, so the team forms a united front. Once a project is done, informal meetings can also help design teams build on experience to avoid past mistakes. Says DataVox’s Ritchken, “On big projects, there are no heroes. You either look great as a team or bad as a team.” ■



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saw an opportunity in the repair and remodel markets and have found that there is considerable interest in classical styles—both for exteriors and interiors—among those who are remodeling bungalow-style homes.”

Reynolds says that door manufacturers were not alone in pursuit of the Craftsman revival. “We were supported by the cabinet and furniture industries, both of which have recently brought out new ‘Craftsman’ product lines,” he says. “The style is hugely popular. It is clear we are seeing a return to the classic and familiar qualities of the Craftsman era.”

The Craftsman Style

The Craftsman architectural style is evidenced by broad porches, bands of windows, low-pitched roofs and open eaves that show off roof rafters, and natural colors and textures that tie the houses to the earth. Porches are supported by squared piers that begin at the ground. Craftsman homes are built with natural materials native to their geographic location and rely on exposed structural elements for decorative detail. A variety of natural materials provide textures for light to play on. Voids, in the form of recessed porches or entryways create visual interest. Exposed roof beams, often supported by showy triangular braces, draw attention to the roof's gable ends. Most have prominent fireplaces and feature a general theme of utilitarianism. The Craftsman bungalow style, as it emerged in the period from 1905-1929, has been called a “dramatic rebellion” against the formality of the Victorian era that preceded it.

Stickley, who is perhaps best remembered today for his furniture-making, an exercise that embraced the same themes as his homes, was an early advocate of what he called “utility.”

His sturdy, unadorned Craftsman furniture was durable and functional and intended for daily use. His 1901 catalogue emphasized plain, functional form, good workmanship, decorative structure and a respect for natural materials.

Craftsman homes invariably include front entry doors and entry “systems” that are inviting, solid and familiar. Contemporary entry systems have become an exceptional means of personal expression that gives homeowners an unprecedented range of design options: sidelites or transoms; art glass, patterned glass, textured or milk glass. New glazing options provide unprecedented thermal efficiency and offer new security options. New door designs allow thicker glazing, wider spaces between panes, and sandwiched panes permit the combination of decorative glass outer panels with low-E coatings. Triple-glazing



In addition to product materials, design styles are also reflecting a blend of the old with the new. “Milk glass enables a retro look,” says Reynolds. “With new products, homebuilders are now able to coordinate interior and exterior doors.”

“When we first went to market with our architectural specialty lines, we thought them to be a regional sell, but they have proven popular in places we never anticipated. There has been a resurgence in renovation, and the new doors fit perfectly with a growing demand for styles that, heretofore, were hard to find.”

New Performance Concepts

Until very recently, windows, doors and skylights were considered net energy losers, and often accounted for as much as one-quarter to one-half of a building’s heating and cooling loads. New techniques have changed that equation dramatically and can actually convert fenestration products from energy wasters into energy savers.

to perform even in extreme summer heat and winter cold. The most recent composites are filled with core materials formulated to resist delamination. The core is bonded to both surface and frame. The result is a warp-free door.

Improvements over standard foam fillers typically used in composite doors give the new generation of engineered doors the density and weight of hardwood, and they are available in nearly any classic architectural style and a variety of wood grains. Some lines are now available with a variety of



Old world design doors with radius top and tongue-in-groove appearance.

residents on the fringe of Calgary, Alberta, is planned to be built out to contain 12 villages over the next two decades, all of them designed to diminish the reliance of residents upon cars. Lots are considerably smaller than is typical of North American suburbs, garages and parking pads are located in alleys behind each house. The architecture is Craftsman, Victorian, or Georgian.

Its developers call Prospect New Town, built on a former tree farm in Longmont, Colo., a “traditional” American town, “built anew with timeless architecture, yet designed with modern needs in mind.” Its governing premise, as is the case in Calgary, or in Seattle in the Craftsman-themed Ravenna Cottages, in the AIA/Sunset Magazine Western Home Awards winner The Third Street Cottages on nearby Whidbey Island or at Erie-Ellington Homes, Boston’s 50-unit urban infill residential project in the historic Erie-Ellington neighborhood, is that it is a community that places people before cars.

“We’re not building something for people to disappear into the interior of,” says Prospect New Town developer John Wallace. “We’re building something that when you are outside the exterior, you feel like you are a part of something. “The ‘new urbanism’ we have here is pedestrian-oriented,” Wallace says. It’s accessible, and the houses are dealt with in a fashion that architecturally is very appealing.

Instead of talking about “density,” Jim Soules, principal of the Seattle-based The Cottage Company, a development group, and Ross Chapin, of Ross Chapin Architects in Langley, Wash., talk about “intensity of living.”

“Instead of four homes on 7,200-square-foot lots, we said let’s build eight 850-square-foot detached homes on smaller lots with

front porches and quality rather than quantity of space,” says Soules.

“We have been surprised by the response,” says Chapin. “We have had an avalanche of inquiries from planning agencies, developers and architects from all over the country.”

“These kind of developments, with a renewed emphasis on architectural detail, demand that manufacturers pay similar attention to detail, and we have done that,” says Reynolds. “We can now capture the elegance of architecture of the past in a product that will perform well in virtually any environment.” ■

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The article continues online at:

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AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION Series

LEARNING OBJECTIVES

After reading this article, you should be able to:

- *Recognize new trends in residential housing developments*
- *Define Craftsman style of design and products*
- *Identify new materials and performance standards of doors*

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 266. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—archrecord.construction.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. The most technically advanced glass walls of the recent past
 - a. Have been made of laminated glass
 - b. Have been made of insulated glass units
 - c. Have been made of double-paneled glass
 - d. Have been made of triple-paneled glass
2. The Craftsman architectural style is evidenced by:
 - a. Bands of windows and broad porches
 - b. Low-pitched roofs
 - c. Metal finishes
 - d. Bands of windows and metal finishes
3. The Craftsman bungalow style emerged in the period from:
 - a. 1905-1929
 - b. 1915-1939
 - c. 1925-1949
 - d. 1935-1959
4. The Craftsman architectural style is evidenced by: bands of windows, broad porches and:
 - a. Victorian adornment
 - b. Low-pitched roofs
 - c. Metal finishes
 - d. Bands of windows and metal finishes
5. The Craftsman bungalow style emerged in the period from:
 - a. 1905-1929
 - b. 1915-1939
 - c. 1925-1949
 - d. 1935-1959
6. In general, in a climate where home heating is the primary issue, select doors with a:
 - a. Low U-factor
 - b. High U-factor
 - c. Low R-factor
 - d. High R-factor
7. Which is true about doors?
 - a. The lower the U-factor, the greater the resistance to heat
 - b. The higher the U-factor, the greater the resistance to heat
 - c. The lower the R-factor, the greater the resistance to heat
 - d. The higher the R-factor, the greater the resistance to heat



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A D V E R T I S E M E N T

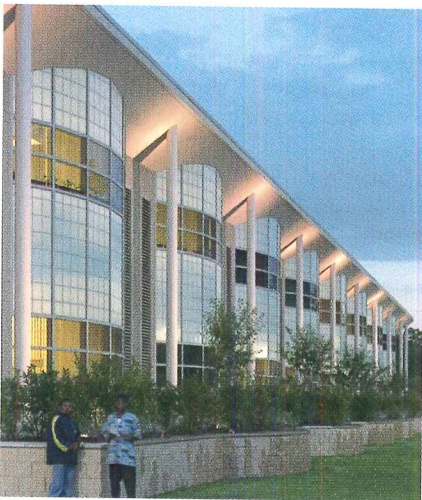
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climate while reflecting unwanted effects of the sun. Today's walls are more sophisticated in every respect.

"Today," says Carl Wagus, technical director for the American Architectural Manufacturers Association, "we are working on test methods for evaluating the performance of thermally broken aluminum—we've already developed a series of standards for evaluating thermal barriers structurally."



Muskegon Heights High School; Muskegon Heights, MI
TMP Associates, Inc.

Today, various curtain wall infill products can be used instead of glass. Examples are translucent panels, aluminum and granite. Translucent panels were used on Muskegon Heights High School (above), and aluminum panels were used on the Delphi Automotive building (p. 215).

The movement to "green" architecture has meant that structural systems are being asked to support more material, including sun shades and light shelves. "Our systems are being tested structurally right now," says the director of the curtain wall division of one manufacturer. "Architectural firms say 40 percent of what they are designing right now has some type of sun shade built into the curtain wall system," says the source.

"We take for granted in our industry that architects know what simple architectural framing systems are and what applications fit them best, but we get questions all the time that indicate otherwise," says the director of the curtain wall division of one manufacturer.

Selecting window, storefront and curtain wall systems is a far cry from just reviewing standard products in catalogues and selecting the desired profile," Altenhofen says in a recent article in *The Construction Specifier*.

"A lot of architects—most architects—are very good at what they do. However, most of them can't keep up with the nuances of curtain walls," says Jerry Johnson, senior design consultant for Dallas-based Curtain Wall Design and Consulting Inc. "There is so much going on, and the complexity of these systems has increased dramatically."

Contemporary architectural aluminum framing systems are carefully isolated from the building frame so that they support only their weight and the force of wind. They are insulated and "thermally broken" to obtain higher energy efficiency and reduce moisture condensation; utilize glazing and spandrel materials that offer precise control of thermal performance and emissivity and are carefully drained and gasketed to prevent water leaks.

Part of the confusion about specifying framing systems may stem from what now have become industry-wide definitions, themselves.

There exists what Walter Scarborough, vice president and director of specifications for Dallas-based HKS Inc., calls "a terminology issue" within the curtain wall industry.

"Our documents, for instance, now refer to 'glazed aluminum wall systems,'" says Scarborough. "The terms that the industry has come to use have different meanings to different people. The term 'storefront,' for example has come to represent, what, by comparison, is a low-performance system. The contractor will, too often, acquire a low-performance system, regardless of your needs, and it is an uphill battle from there.

"Until they have tried to understand window systems for what they are, a lot of people don't understand the complexities of those systems or see the importance of one system over another system," he says. "If you have a building 20 stories tall on the coast of Florida and you install what is commonly referred to as a 'storefront' system, your building will perpetually suffer leakage, and owners don't want to spend millions of dollars for a (cladding) system and have it leak all the time."



*Hathaway Brown School
 Shaker Heights, OH
 van Dijk Pace Westlake/Graham Gund Architects*



*Strom Thurmond Wellness & Fitness Center
 University of South Carolina
 The Budreaux Group Architects*



An operable vent within a curtain wall system.

Many manufacturers offer extensive lines of custom and standard skylight systems, translucent systems and architectural-grade window and vent systems; some offer one-stop shopping—engineering, extrusion, fabrication anodizing, painting and testing—all from one location. Some manufacturers also can direct the entire material flow for a project. The results, say manufacturers: lower project costs, ease-of-installation and fewer jobsite headaches.

Essentially, says Fred Grunewald, research and development manager for a Texas-based manufacturer, “architects specifying (cladding) systems need to know the local code requirements regarding items such as wind loads, seismic considerations, and life safety issues to allow them to determine the specific performance requirements for a project.”

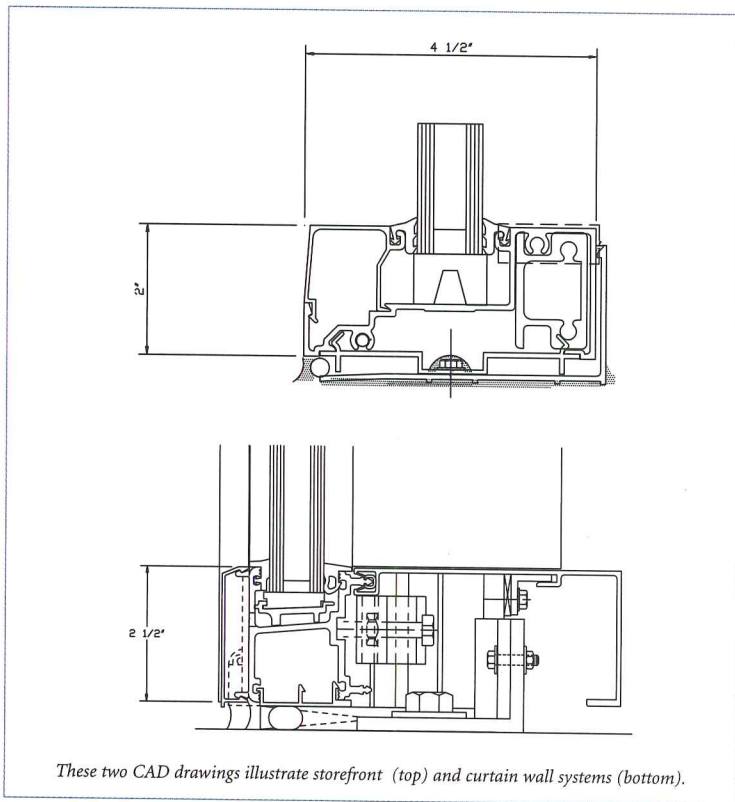
Before designing a curtain wall system, there are five items to consider. They include: design criteria (wind loads, codes, etc.), structural criteria (live load and deflection), thermal considerations (CRF and U values), anchorage considerations and secondary water control.

Anchorage was a critical consideration in developing plans for Chicago’s

Navy Pier, was to be reminiscent of a century-earlier Chicago side street. Chicago-based VOA Associates, looking to contain costs while sprinting from schematics to opening night in 15 months, chose an off-the shelf system, which despite being pre-fabricated, “was able to deliver many of the things we were looking to do,” including a prism-like bay that permitted panoramic views of the waterfront, served to diffuse the impact of exterior sound, and reduced the visual impact of seven-inch-deep mullions, says Jim Spacek, VOA vice president and project manager.

Although not a contractual design-build project, the CM early on worked with a curtain wall manufacturer and an installer. “As a result,” says Spacek,

needs of the project. Historically, architectural aluminum framing systems generally were limited in color to gray, black or bronze (anodized). Today, specialty coatings mean that



These two CAD drawings illustrate storefront (top) and curtain wall systems (bottom).

following rule of thumb can make it a pretty basic decision: “Storefront systems were designed primarily for use in one-to-four-story applications—usually small retail buildings or strip centers.”

Other factors to keep in mind are the following differences between the two systems:

	STOREFRONT	CURTAIN WALL
FINISH	One finish	Dual finish
GASKET	Vinyl	EPDM, Silicone
PERFORMANCE AIR	6.24 = .06 CFM/FT2	6.24 = .01 CFM/FT2
WATER TEST	10 psf per ASTM E 331-96	15 psf per ASTM 331-96

The key factor in selecting a curtain wall or storefront system is the enclosure’s ability to handle and control water. Water control is the ability of the glazing system to collect and drain to the exterior of the building. As you can see by the storefront and curtain wall detail illustrations, a storefront system has a very limited water head compared to a curtain wall system, but a storefront system will perform very well in the proper application.

Water control is a much bigger problem for specification writers than concerns about structural requirements, says Johnson. “It is usually obvious when a storefront glazing system is not capable of meeting structural and wind load requirements. When a system fails, water control is usually the problem.”

The following checklist of questions about the project requirements and system capabilities may help make the selection easier:

- What do the specifications require
- Air, water and structural requirements?
- Finish requirements?
- CRF and “U” value ratings?
- Specified gaskets?
- Live-load slab deflections and seismic?

Cutting corners is not recommended when it comes to overall building construction, and the glazing system is no different. A building owner might get by using a storefront system when a curtain wall system is needed. However, that decision might prove costly in the long run. That is why it is important to determine the exact requirements of a glazing system before making your selection.

systems are available in nearly any color. As much as half the product lines of some manufacturers today are coated.

“The systems are also becoming less complicated to install and more flexible in their applications,” Grunewald says. Tomorrow’s systems will be even more installer friendly, he says, and nearly all manufacturers are developing systems that can be unitized, pre-fabricated and assembled off-site. Because off-site labor costs can be better controlled and the product can be assembled and sealed in a protected environment, unitized and pre-assembled units are likely to make architectural framing systems increasingly cost competitive.

“High-performing, unitized systems, which some aluminum framing manufacturers now offer and others are turning to, still are a little bit more

expensive than stick-built, maybe in the range of 20-25 percent more,” says CDC’s Johnson. “But these systems offer secondary water control. That issue is our biggest hang-up in this industry, always has been, always will be. Secondary control covers your backside. Even if the system leaks, you don’t hear about it. A lot of owners don’t want to spend the extra money, but they are the first to squeal when water run down the inside of the glass. Secondary systems should be mandatory.”

Tomorrow’s architectural framing systems will be developed with heightened consideration of sustainability, will see even higher thermal performance, will accommodate specialty glazing—photovoltaics, for example—“and the bar keeps being raised in terms of water and air infiltration,” says one manufacturer. ■

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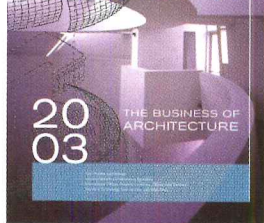
LEARNING OBJECTIVES

After reading this article, you should be able to:

- *understand the proper applications of architectural aluminum curtain wall systems to best meet code and design requirements.*
- *have a greater understanding of new technologies and system advancements in architectural aluminum curtain wall systems.*
- *Recognize industry standards in product testing and classification of architectural aluminum framing systems.*

INSTRUCTIONS

3. Before designing a curtain wall system, you should consider design criteria, structural criteria, thermal considerations, and:
 - a. anchorage considerations
 - b. secondary water control
 - c. Both A and B
 - d. Either A or B
4. A minimum condensation resistance factor (CRF) need to be established base on local weather, interior temperature and:
 - a. Wind pressure
 - b. Reflectivity of glass
 - c. Relative humidity



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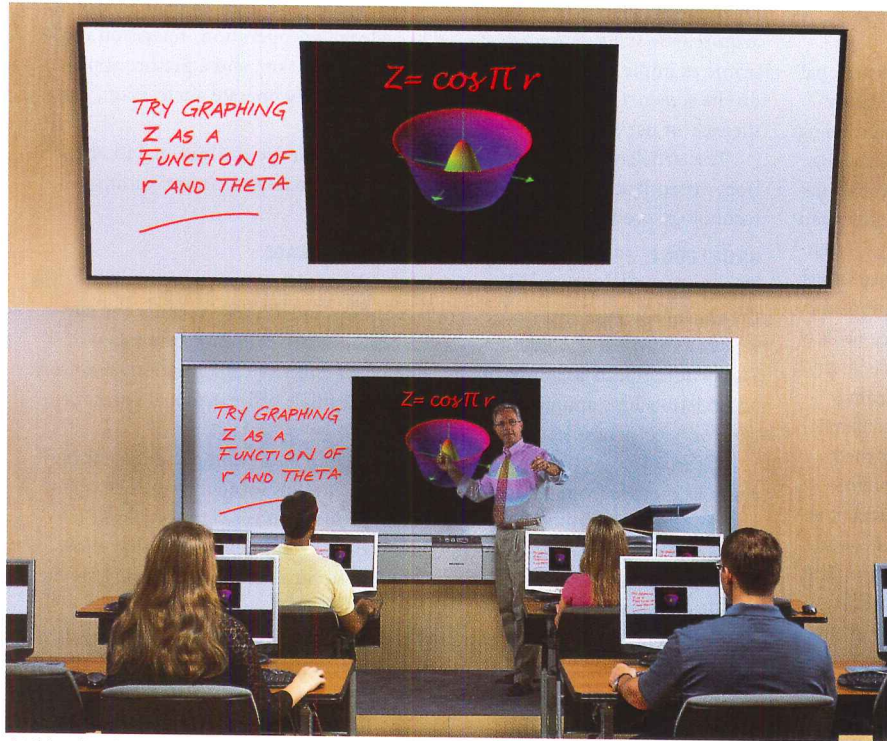
Interactive Communication Products: Advancing Knowledge Through Collaboration

By Barbara A. Nadel, FAIA

In a time of turbulence and change,
it is more true today than ever that
knowledge is power.

— U.S. President John F. Kennedy (1917-1963)

During face-to-face interaction, a rich array of signals is transmitted: body language, facial expression, and tone of voice, that are not available on conference calls and web-based meetings. Meeting participants who see visual cues, such as non-verbal behavior in conjunction with written messaging, tend to stay more focused and better understand the message. Additional studies have revealed:



Multimedia whiteboard systems have transformed the way information is captured and transferred.

grams or numbers. It can be transferred in various ways, but the most efficient transfer is in writing. Examples of explicit information include clearly defined facts that can be captured on paper or in digital form, such as assembly instructions, maps, procedures, and financial statements. This information can readily be shared via information technology.

Tacit knowledge is more challenging to capture. It is based on a complex accumulation of knowledge, experience, observations, findings and interaction. It is experiential, subjective and far more challenging to capture in words only. People acquire tacit knowledge by experiencing, doing and participating.

Value Added Workplaces

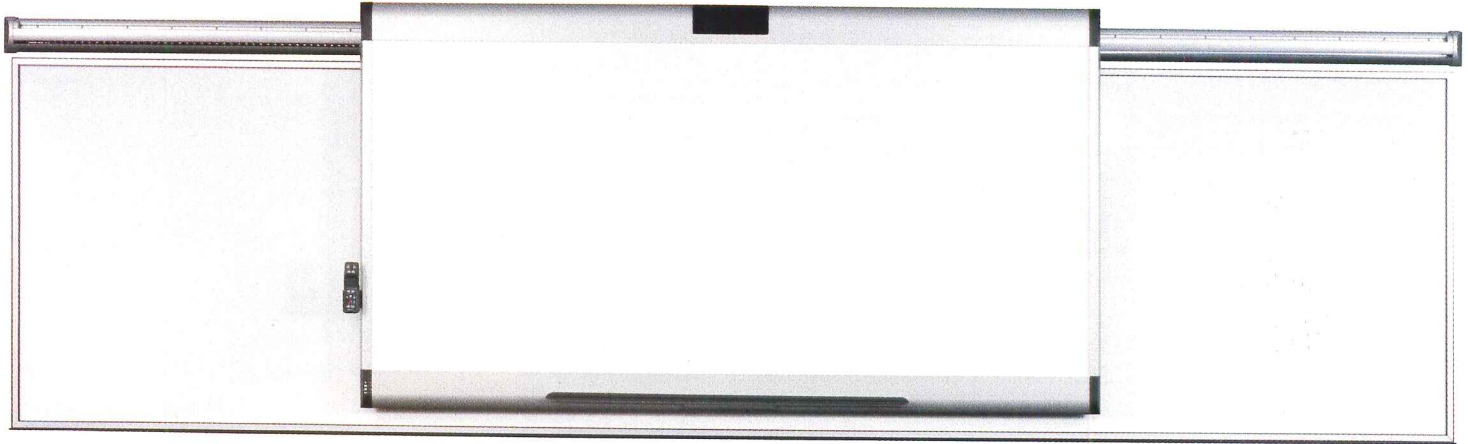
Business leaders have discovered that a high-performance workplace yields superior business results. Face-to-face collaboration occurs in various forms, from casual, spontaneous interaction, to formal, structured work sessions. In shared space and time, people readily adjust their work styles to the environment and project needs. Depending on the setting, tools, and tasks, people collaborate in very different ways.

Designing a high-performance, collaborative workplace is a multi-disciplinary undertaking calling for the skills of architects, designers, engineers, anthropologists, workplace experts and communicators. The basic elements are:

- Take care of people
- Incorporate technology and tools
- Embrace corporate culture and change

WORKSPACE DESIGN TOOLS AND TECHNOLOGY

Effective workplaces include technology and tools supporting information sharing and transfer, formal and informal communication, and encourage socializing. Good design, along with the right tools, enhances collaboration, while building social and intellectual capital.



Power and data tracks combine the ultimate space flexibility with aesthetics.

When workspaces are not designed and equipped properly, effective collaboration and communication decrease. Participants may need 30 minutes of a meeting to set up the technology, start the projector, speakerphone, interactive whiteboard or laptop. Bad lighting prevents meeting participants from seeing information written on the whiteboard or what is being projected onto the board.

Environments Supporting Collaboration

On average, people retain 20 percent of what they hear, 30 percent of what they see and 50 percent of what they hear and see. Writing surfaces, such as multimedia interactive whiteboards, are effective tools to capture and disseminate knowledge and data generated in collaborative environments.

Almost half, or 44 percent, of all meetings are spontaneous, underscoring the importance of transparent technology to capture information. Users walk into meeting spaces and immediately need access to surfaces to begin visually communicating ideas. Some interactive whiteboards require eight to ten min-

save to a floppy disk, or print to a wireless color printer, through a single button.

Notes on the whiteboard can later be viewed on the digital archive, web site, or downloaded to a computer, making them available to send by email, for printing and hard copy paper distribution.

System components may include a camera arm, to capture drawings and writing in any color; a control pad, to select direct capture to the printer, diskette or built-in web server; a wireless color printer; floppy diskette drive, and a built in web server, capable of retaining images even during power loss, and accessible from anywhere on a LAN using a standard web browser. Image capturing systems are compatible with any marker or chalkboard up to four feet high and eight feet wide.

NEW GENERATION OF INTERACTIVE WHITEBOARDS

With newly designed interactive whiteboards, a teacher or presenter can walk among the class or audience while controlling the presentation and whiteboard activities through an intuitive remote control device. The remote, like those

prompting an organization into action. The space, and communication equipment, must be available for instant modification, publication, and seamless transmission by any team member without delay.

Outfitting workspaces with appropriate technology is pivotal to realizing project implementation. High performance work tools support the collaboration process with easy to use interactive technology. Transparent technology tools allow any team member to access information, offer contributions, and share ideas with anyone around the world.

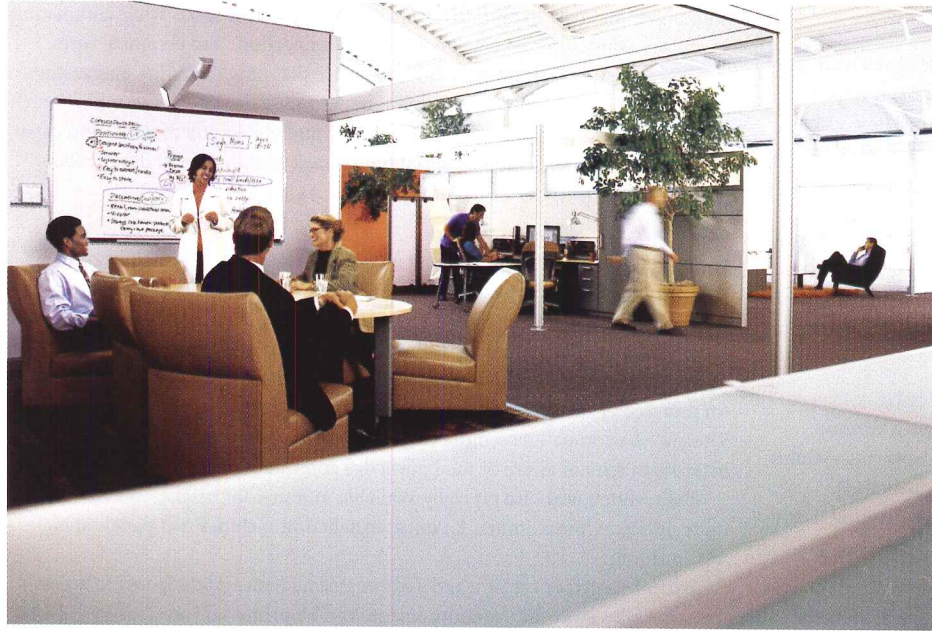


Image capturing systems support idea generation through spontaneous collaboration.

real-time capture and instant access to board content for post-training review. Inspired training leads to attentive learning and peak performance.

The most effective training rooms are designed for user flexibility. Spaces should be capable of reconfigurations to suit different work styles, from formal lectures to smaller, collaborative work groups.

K-12 Classrooms

Children learn from seeing and hearing teachers explain fundamental concepts. Classroom design and technology should support and enhance, not distract or interrupt teaching styles and training methodology. Various classroom styles may include Socratic teaching, designed to foster critical thinking, and collaborative, formal, and group presentations.

Users should be able to understand the function of the space and the technology elements. Technology must be plug-and-play, to enable immediate operation by any faculty member and user.

Wall-mounted interactive whiteboards, allowing teachers to walk and talk anywhere in the classroom during their lessons, combine technology and information. Transparent technology allows teachers to use color markers on whiteboards for hand written notes, internet screen projection from a laptop, and capture class notes for hard copy distribution and website postings.

Learning is enhanced and students benefit from maximizing information persistence, providing the visual reinforcement of what they see and hear from teachers. The multimedia approach, combining technology, color, web-based and electronic presentations engages students, especially those with short attention spans. Publishing class notes reinforces the lesson of the day.

In addition to classrooms, interactive whiteboards

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are ideal for K-12 media centers, sports training facilities, and project rooms for interactive group work of 12-15 students.

Higher Education

At colleges and universities, interactive multimedia tools play to a more sophisticated audience, especially when time management, fast room turnover and large volumes of students and several faculty members use the same classrooms daily. Transparent technology, plug-and-play and ease of use capabilities are essential, because special training is not required.

Interactive whiteboards provide a synchronous learning experience, or the ability to effectively have multiple locations participate in the learning experience. For team teaching and distance learning in several venues, this feature allows wider, efficient dissemination of a single lesson plan.

Interactive communications products are ideal within higher education lecture halls, faculty offices, conference rooms, and classrooms for 30 to 50 students.

COLLABORATIVE TECHNOLOGY

The most effective project teams can transition quickly from knowledge transfer, brainstorming ideas to implementation with the right tools and properly designed work and meeting spaces. Collaborative technology should not require set up and should support spontaneous use by all participants. All room users should expect to present, capture and communicate ideas easily and without special skills. Through the use of visual communication products, such as interactive whiteboards and image capturing systems, these goals are readily achievable in any workplace. ■

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LEARNING OBJECTIVES

After reading this article, you should be able to:


- Explain how knowledge is generated and transferred in collaborative settings.
- Describe the planning and design criteria for creating effective collaborative workspaces and the products that support these areas.
- Identify case studies where knowledge delivery through collaboration occurs.
- Provide examples of how information flows among individuals and workspaces.

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below.

Go to the self-assessment form on page 269. Follow the reporting instructions.

5. An example of technology that can support information persistence is:
 - a. Televisions
 - b. Palm Pilots
 - c. Whiteboards
6. On average, we retain ____percent of what we hear, ____percent of what we see, and ____percent of what we hear.
 - a. 20/50/30
 - b. 50/30/20
 - c. 20/30/50
7. What element can combine space planning flexibility and aesthetics?
 - a. Power and data track system
 - b. Remote control of whiteboard
 - c. Plug-and-play capabilities
8. Workplace studies indicate ____ percent of work time consists of



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Lighting

From the Pacific Northwest to the Pacific Rim, lighting benefits centers of culture, commerce, and transit

BRIEFS

The 1992 federal Energy Policy Act (EPAct)

mandated that all states upgrade their energy codes to meet ASHRAE 90.1-1989. Under that act, it's now time to upgrade again, to ASHRAE 90.1-1999. States have until July 15, 2004, either to improve their own energy building codes to meet that standard or explain why they can't (or won't) comply. In an upcoming issue of RECORD, we will review code revisions and

Arriving, departing, staying a while, or just passing through, patrons of urban centers worldwide are being romanced by new architectural spaces with particularly effective lighting. This month we report on three metropolitan projects from the Pacific Northwest to the Pacific Rim that represent different building types—a bar and restaurant enclave, an airport transit station, and a renovated performance hall for symphony and ballet. Each project required creative lighting tailored to its individual architectural details and program. In each case, lighting functions as an integral component of the architect's space-making, whether as a signature visual element or inherent wayfinding device.

In Tokyo, a 27-acre, mixed-use urban center launched by developer Minoru Mori features a Galleria with more than 200 flagship stores and restaurants. As only one diversion, Roppongi J is a single destination that encompasses two restaurants, bars,



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Creative Uses

International artists explore the medium of light in an exhibition making its North American debut • Lighting transforms the facade of the 13th-century cathedral in Amiens, France

Light is the catalyst for a collection of expressive artworks commissioned by Targetti

Throughout the history of art, the portrayal of light has been an ardent pursuit of creative minds in many media. In a traveling exhibition of artworks commissioned by the Italian lighting manufacturer Targetti, light is both form and content.

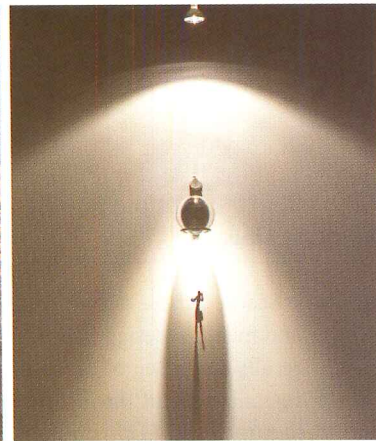
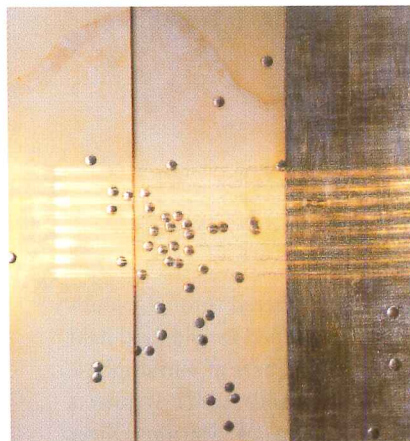
The Targetti Light Art Collection was launched in 1997 as the brainchild of C.E.O. Paolo Targetti.

Curated by Amnon Barzel, former director of the Jewish Museum in Berlin, the artworks are linked by a common denominator of light. Each artist was asked to create a piece that would best use the expressive potential of light to convey its emotional power. Different lighting techniques—variously employing fluorescents, dichroics, neon, fiber optics, and body-motion sensors—support artists' concepts, language,

and now home to the Targetti Lighting Academy, a foundation dedicated to promoting synergy between light, art, and technology. Targetti retains its close ties to the art world; besides its array of commercial fixtures, its lamps illuminate Michelangelo's *David* and Leonardo da Vinci's *Last Supper*, among other masterworks.

After exhibitions in cities including Frankfurt, London, Buenos Aires, and Milan, 32 works in the collection made their North American debut last May through July at the Chelsea Art Museum in New York City. More international stops on the tour are in the planning stages.

To maintain the collection's



Artworks by (clockwise from above) Shinji Yamamoto, Fabrizio Corneli, and Luiselli Clara made their U.S. debut last May.

establish the biennial Targetti Light Art Award, a competition for artists under 35. Four winners will be announced from 14 finalists in



public interaction in the compact plaza between the hall and the nearby Phelps Center, the architects commissioned New York City artist and lighting designer Leni Schwendinger to create a site-specific work. Because the promenade links Mercer Avenue, a major city conduit, to Seattle Center, the display not only draws visitors to the theater but serves as a dramatic gateway to the 74-acre landmark campus.

Nine, 30-foot-tall metal-mesh scrims are suspended at a 90-

Alice Liao is a freelance writer based in Teaneck, New Jersey. She frequently writes about architecture and lighting.

Project: Marion Oliver McCaw Hall,
Seattle

Architect: LMN Architects

Interior designer: Sussman/Prejza

Lighting designer (exterior): Leni
Schwendinger Light Projects—Leni

Schwendinger, principal; Ted
Sullivan, Charles Cameron, Paul
Hudson, Gwen Grossman, Severn

Clay, Anna Souvorov, project team

Lighting designer (architectural):
Horton Lees Brogden Lighting Design



PHOTOGRAPHY: © EDUARD HUEBER, EXCEPT AS NOTED





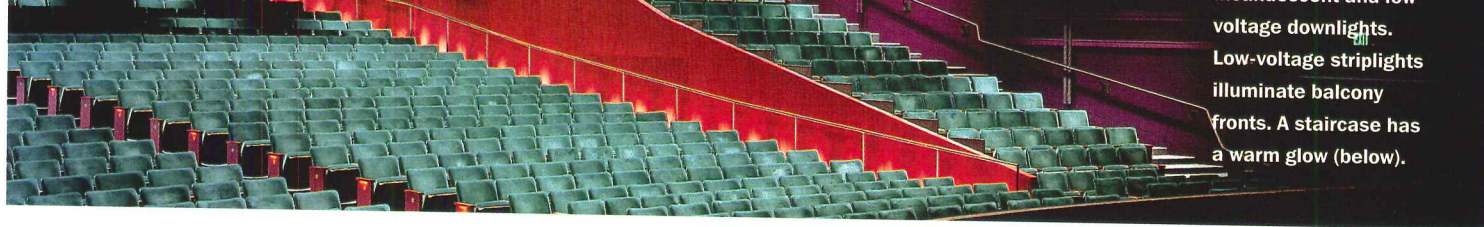
The mesh panels are spaced at 20- to 40-foot intervals. Each panel is illuminated from above by two or three 575-watt metal-halide fixtures (this page and opposite).





Tizio X30 design Richard Sapper

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Incandescent and low-voltage downlights. Low-voltage striplights illuminate balcony fronts. A staircase has a warm glow (below).

theatergoers, architectural lighting designer Horton Lees Brogden Lighting Design employed a combination of PAR lamps and MR16 downlights to articulate architectural features and provide ambient light. At night, the restraint of the lighting transforms the lobby into a subtle counterpart to the magic of the promenade framed by the curtain wall. Throughout the upper lobby spaces, 90-foot horizontal bands along the fabric-upholstered walls designed by Sussman/Prezja interpret the spectrum of the aurora borealis, changing colors depending upon lighting and the position of viewers. In the auditorium, the house lighting is discreet, complementing mauve walls and teal seats and adding punch to architectural details. Through the collaboration among the project team members, the building and its public art element are inextricably bound by a visual dance of vibrant hues and intensities of light. ■

Sources

Exterior lighting: *Coemar; ETC*

Recessed low-voltage downlights:
Lucifer Lighting

Fluorescent, incandescent downlights: *Edison Price Lighting*

Accent lights: *Rambusch Lighting*

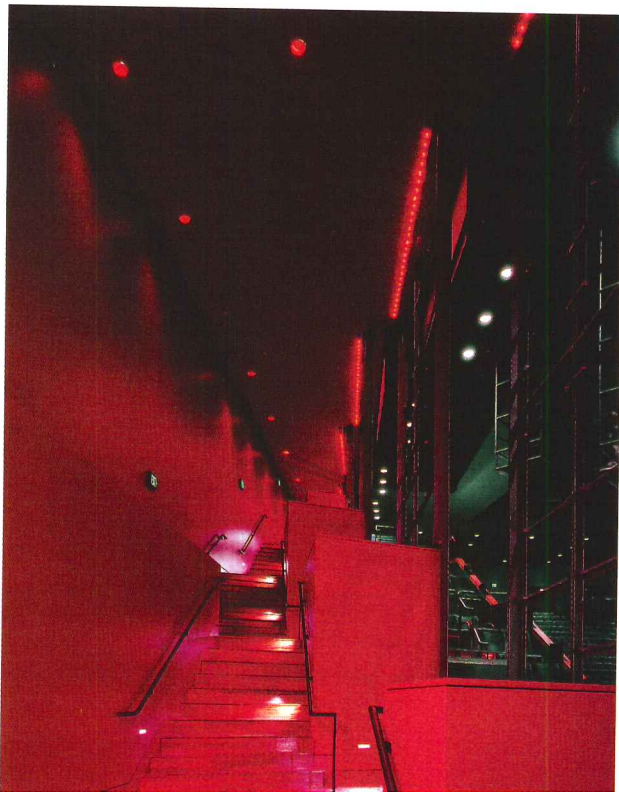
Low-voltage striplights: *Primus*

Halogen accent lights: *Lumière*
LED striplights, fluorescent step lights: *Belfer*

Halogen wall washers: *Elliptipar*

For more information on this project, go to Projects at

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A trio of nightspots within Tokyo's **Roppongi J** takes patrons on a journey amid an interplay of abstraction

By **Leanne B. French**

In midtown Tokyo, Roppongi Hills is a new, \$4 billion mixed-use redevelopment project by builder Minoru Mori that aims to be a premier international tourist destination and cultural center. Nestled at the foot of Mori Tower, a 54-story office complex topped by a museum, is a low-rise galleria zone of 200 shops and restaurants. Among the attractions in this “city within the city” is Roppongi J, a trio of nightspots that presents a confluence of Eastern and Western cuisine, supported by a similarly multicultural mix of design elements.

The “J” in Roppongi J is emblematic of a “journey” through three distinct environments—a bar at the entry, an international restaurant with a Japanese accent by chef Nobu Matsuhisa at the center, and American restaurateur Todd English’s Mediterranean-inspired Olives eatery as epilogue. The Roppongi J odyssey is both culinary and spatial—the design by New York–based Rockwell Group carves out distinct niches for each environment while building a dramatic ebb and flow enlivened

Leanne B. French is a freelance writer based in New York City. She frequently writes about lighting for RECORD.

Groves of resin rods lit by halogen sources are an abstraction of Asian bamboo framing the bar area (below) and Xen restaurant (opposite).



with lighting by London-based Isometrix Lighting + Design.

The narrative of a journey was particularly apt for design architect David Rockwell’s debut project in Asia. His concept was to make an impact through an artfully choreographed interplay of light and materials. “Because the emphasis was on a journey, we wanted to make

Project: *Roppongi J, Tokyo*

Design architect, interior designer:

Rockwell Group—David Rockwell, president; Diego Gronda, David Wilbourne, principals; Niels Guldager, Jun Aizaki, Eri Nagasaka,

Kimberly Silvia Hall, Kendra Sothikul, project team

Architect of record: *Nomura Co.*

Lighting designer: *Isometrix Lighting + Design—Arnold Chan, principal; Mark Elliott, designer*





The Bamboo Bar features towering turntables of liquor bottles, which are backlit by a light box fitted with color-

gelled fluorescents (left). In the curved space of Olives (below), each table is spotlighted to create an intimate dining experience.



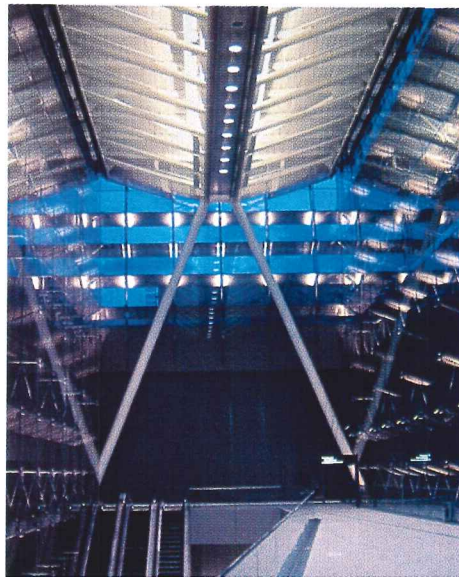
one of two glass atria connected by escalators and elevators that move passengers between airport circulation and transportation levels. The three-story atria allow generous daylight to penetrate the interior spaces; when illuminated at night, the enclosures become beacons that function as signature landmarks for the airport.

“The atria of the station are the primary elements of the hub one sees above ground,” says SOM project manager Hamid Kia, AIA. “We wanted a lightness to the structures that would welcome passengers to the station, a feeling that continues as travelers move down through the underground levels.”

The atria feature curtain walls of glass panels hung by tension cables. Each atria frames views of landscaped gardens graced with waterfalls and integrated lighting. A grade-level skylight between the atria provides daylighting for the subterranean levels and adds to the beacon effect when lit at night.

“The lighting design expresses the architectural envelopes of both the atria and the underground levels while providing continuity for travelers maneuvering throughout the station,” says principal lighting designer Susan Brady, IALD. “The emphasis is not on individual lighting fixtures in the foreground. Instead, materials, planes, and volumes are supported by integrated lighting.”

During the day, the atria are awash in sunlight. Horizontal



Metal halides uplight horizontal metal-mesh fins for ambient light (above). The winglike ceiling members appear translucent when lit by fluorescent uplights (left).

Project: *Changi Airport MRT Rail Station, Singapore*

Architect: *Skidmore, Owings & Merrill—David Childs, FALA, design partner; Marilyn Taylor, FALA, planning partner; Hamid Kia, project manager; Ross Wimer, senior designer; Reiner*

Bagnato, senior technical coordinator

Lighting designer: *SBLD Studio—Susan Brady, principal; Attila Uysal, senior designer/project manager*

Structural engineer: *Arup*

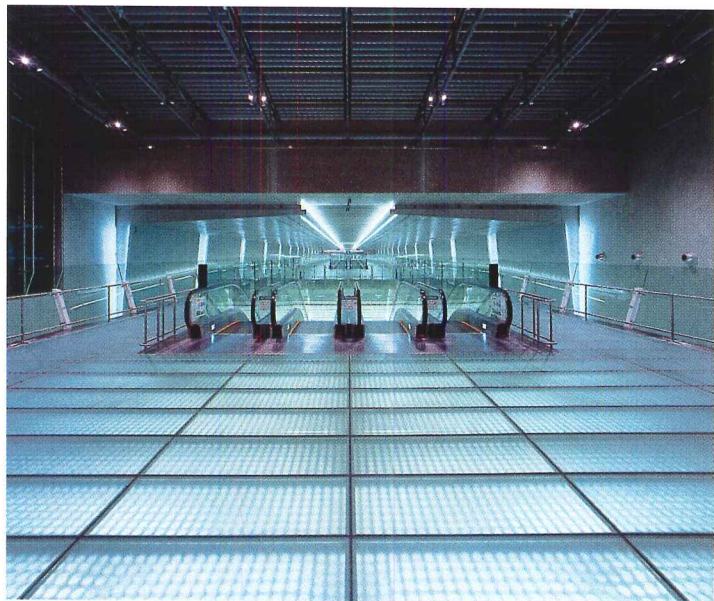
Electrical contractor: *Bizlink Associates*



At night, the station's two atria become internally illuminated beacons. The grade-level skylight provides a visual cue to the transit levels below.

A luminous glass floor extends the length of the 200-yard bridge, which provides pedestrian access to the

adjacent terminal (above and below). Ceiling coves and vertical wall slots are fitted with fluorescents.



metal-mesh fins along the curtain walls provide solar shading. At night, the fins are illuminated by 35-watt PAR20 metal-halide uplights, transforming them into reflectors. The configuration provides ambient illumination while accentuating the formal rhythm of the architectural enclosure and fins. Along the ceiling, a central spine incorporates metal-halide downlights and conceals asymmetric fluorescent uplights that illuminate the winglike metal-mesh framework.

Escalators provide a transition down to the station's subterranean levels. At the entrance to the transit sector, clusters of metal-halide downlights, integrated within the frame of a skylight, supplement the daylight and provide nighttime accents.

A 200-yard, free-span glass bridge is the unifying feature of the station's lower levels. "As the bridge passes through the transit station, it serves as the dominant visual and lighting element," Brady says.

THE ILLUMINATED GLASS BRIDGE ANIMATES THE PEDESTRIAN CORRIDOR AND IS A CANOPY FOR THE LEVEL BELOW.

Circulation between the terminals for air passengers is facilitated by the footbridge, which dramatically spans the length of the clean-lined, three-story station box.

Once passengers descend underground, the floor grid creates a sense of direction and expanse. The bridge is clad with laminated glass made with a white, translucent interlayer selected to allow the entire

Architectural Lighting



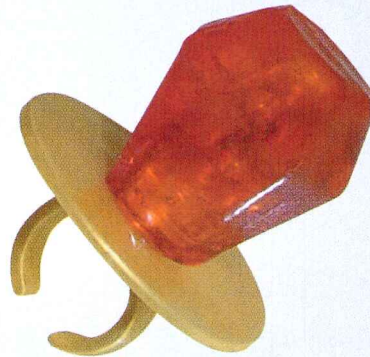
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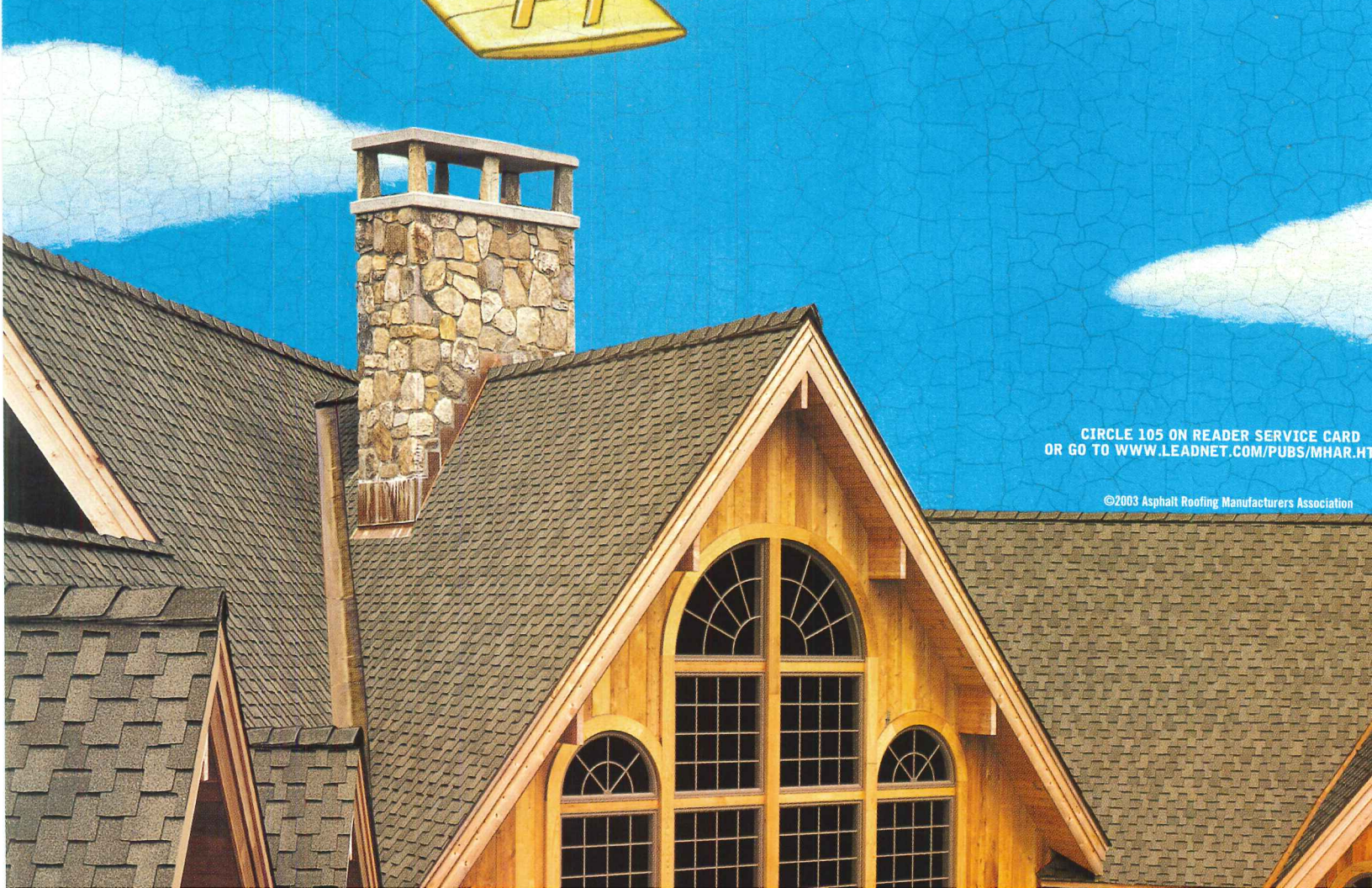


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Fluorescent gets respect in green homes

CONSERVATION-MINDED CLIENTS WHO ARE BUILDING OR REMODELING HOUSES WANT FLUORESCENT INSTEAD OF INCANDESCENT FIXTURES, AND MANUFACTURERS ARE STARTING TO RESPOND

By **Lindsay Audin**

Architects are finding that green-minded clients building or remodeling homes are willing to use fluorescent almost anywhere they previously would have used incandescent. They take pride in the fact that they are saving energy, conserving natural resources, and that using fluorescent means they are contributing less to the waste stream. Lead and mercury in lamps has also been eliminated or drastically reduced. Fortunately, the term “decorative, energy-efficiency lighting” is no longer an oxymoron, and high cost is also not the barrier it once was. Likewise, good quality lighting—not just bright, expensive, or fancy—adds to the resale value, comfort, and safety of a home.

Finding the right fixtures

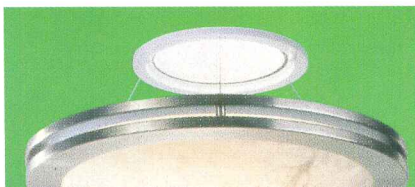
Most consumers shy away from using fluorescent because they think the fixtures look too institutional. You may have to do some extra work to help clients find fixtures that have a residential appearance. Don't let the idea of what is possible be limited by what appears in lighting fixture stores or home furnishings

than standard incandescent. Some halogen lamps have notoriously short life spans and create a tremendous amount of heat.

Cautions and considerations

When people start using fluorescent extensively, there are a few new things they need to know. One is that T8 lamps, 1 inch in diameter, are now sold in home centers side by side with older T12s, which are 1½ inches wide. These are not interchangeable, even though their mounting pins are identical. While a T8 mounted in a T12 fixture may work for a time, the T8s will eventually flicker or burn out. Another caution is that you may find old lamp-starting technology inside new CFL fixtures. Some still use preheat starting, which means that the lamps may flicker for a second or two when switched on, which is unattractive and hard on the eyes. Be sure the fixtures you specify are rapid starting.

The new T5 fluorescent lamps are extremely slim, and the fixtures they fit within are compact. The drawbacks are that T5 lamps take





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Lighting Briefs



▲ Fiber-optic backlighting panels

Lumenyte's newest fiber-optic lighting system is the LumenPanel backlighting fixture for light-box and other rear-illumination applications. The custom fiber-optic fixtures offer a bright, even distribution of light as a solution for lighting stained glass, etched and molded glass, luminous walls, and other applications. The fixtures can be built in any quantity, shape, or size up to 5' x 10' and offer color-changing options. 949/829-5200. Lumenyte, Foothill Ranch, Calif. **CIRCLE 201**

► Lyrical lighting

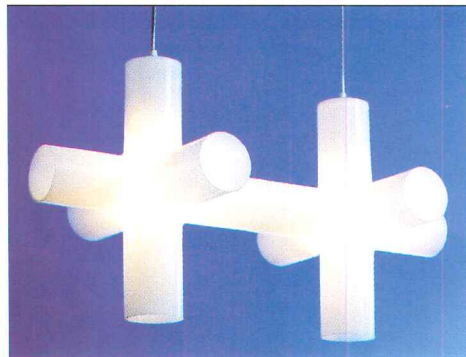
At this year's NeoCon, Lightology unveiled its signature line of light-



► Precise and wavy design

Founded by a watchmaker and a surfer, Rhubarb was one of the new design companies on display at this year's ICFF show in New York. Playing with positive and negative space, the designers found the inspiration for the Bow lamp through the simple shape of a bowed piece of paper. A 24" and a 48" version are available in a Finn Birch ply core supported by a selection of wood or structural paper veneers. 415/268-0772. Rhubarb, San Francisco.

CIRCLE 200



▲ Make a connection

The award-winning Crosslight, available from Dark, is a hanging lamp with a dou-

ble in a series through the use of a simple ring. The Crosslight will be available in white and orange and for special projects in an "afterglow" version that allows the lamp to keep on glowing for a few hours after being turned off. The ability to form interesting color and shape combina-

tions with the lamp makes it well suited for bars, restaurants, shops, lounges, and private interiors. 32/050718140. Dark, Middlebury, Vt.



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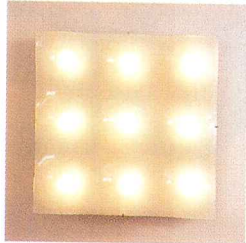
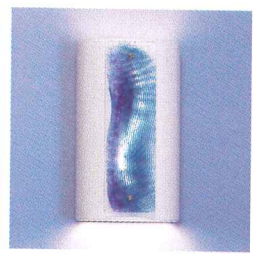
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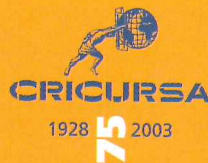
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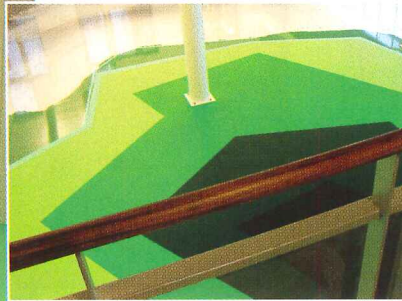
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New Products

Since the industry's top flooring options (including carpet, tile, wood, vinyl, and laminate) may not always be the most appropriate choice for every project, architects are often given the opportunity to investigate **alternative flooring options**. Using materials ranging from **natural fibers to recycled rubber to poured polyurethane**, these floors might serve as a safe play area or a work of public art. *Rita F. Catinella*

Aeronautic students tread on colorful elevations of earth and clouds



A base layer of green polyurethane was painted to give depth to the building's floor.

Working in collaboration with polyurethane manufacturer Bolidit, designer Petra Blaisse created a floor for the new Aviation and Aerospace

that lets students keep one foot on earth and the other in the clouds. The client, along with an arts committee, invited Blaisse's firm, Inside Outside,

the building, designed by Dutch architect Rudy Uytenhaak. The poured-polyurethane floor forms the main artery of the building, covering the entire ground level and ending fluidly at the top of a stair. While the material allowed Blaisse to create depth in the

flat surface of the floor, it had other advantages, as well. "From a technical point of view, it's good because you can get very equal and smooth surfaces, and contrary to epoxy, the material is acoustically absorbing," says Blaisse.

To realize the design intent of

underlayment of green polyurethane and then painted over it in different shades of green. "Painting with polyurethane shows no visible difference from pouring," says Blaisse, "and the character of the material stays the same everywhere, as well as the colors." In a technique developed with Bolidit, the designers created the areas that represent clouds by freely pouring black, white, and several gray tones on the floor. The team then mixed the colors and softened the edges with hand rollers to convey a sense of weightlessness and depth. As opposed to the matte-green areas, the clouds have a polished finish to suggest their "watery atmosphere." 31 786845444.

▼ Shimmering vinyl yarns

Chilewich is introducing two new weaves in their Plynyl floor covering collection, Grass Cloth and Bamboo. Both of these new weaves utilize bicolor vinyl yarns, which add a textural dimension to the surface. The addition of muted gold and silver yarns in each of the colorations creates a subtle and powdery sheen. The Grass Cloth weave has the appearance of a wool crepe, while the Bamboo weave has what Chilewich describes as a "woody" texture. The complementary weaves can be used in both

wall-to-wall and tile installations. 212/679-9205. Chilewich, New York City. **CIRCLE 219**



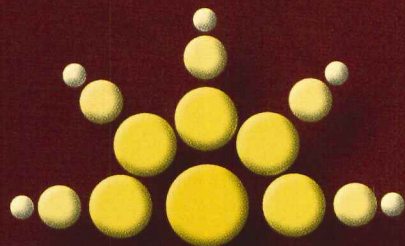
entitled "Algorithmic Tapestry" for a nanotechnology research facility on the UW-Madison campus designed by Kohn Pederson Fox Architects and Flad & Associates. The large black fractal with mother-of-pearl chips extending almost 200 feet across the atrium and winding down two hallways is based on the fractal behavior of Newton's Method, an algorithm relating to almost all branches of engineering. 303/902-

0625. Scott Parsons, Denver. **CIRCLE 220**

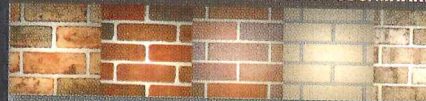
► Economical slate look

Flooring and paving take on the look of hand-laid natural slate with Yorkshire Stone, one of the latest additions to Bomanite's line of colored, textured, and imprinted cast-in-place architectural concrete paving. An economical alternative to natural stone, Yorkshire Stone comes in individual stonelike patterns in eight different sizes, from 6" x 24" to 36" x 36", and offers a choice of two different texture directions. This product allows for a random, nonrepeating, natural design that helps mimic the look of real stone. 559/673-2411. Bomanite Corporation, Madera, Calif. **CIRCLE 221**





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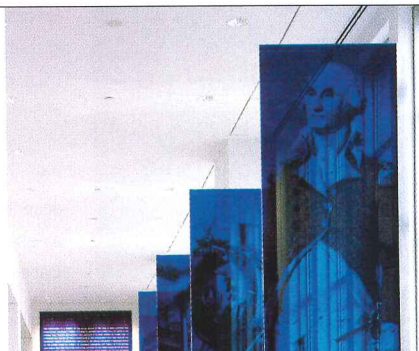


◀ Fauxbulous glass

The luminous finish of Nathan Allan Glass Studio's Faux Glass is a result of metallic color combinations (such as Ebony/Gold, Emerald/Mint, and Cobalt Blue/Gold) applied to coated cast glass. The glass can be attached directly to walls or counters or be pin mounted in vertical or horizontal applications. All panels can be safety tempered and produced as large as 6'6" x 11'6". 604/277-8533. Nathan Allan Glass Studios, Richmond, B.C. **CIRCLE 222**

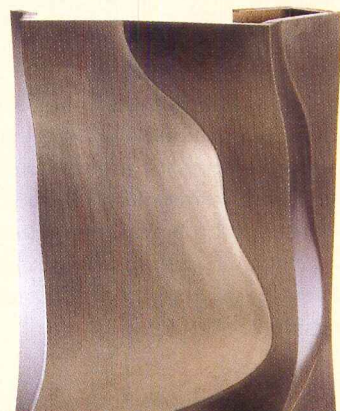
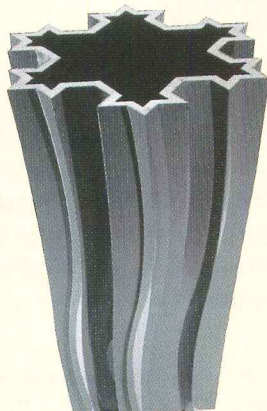
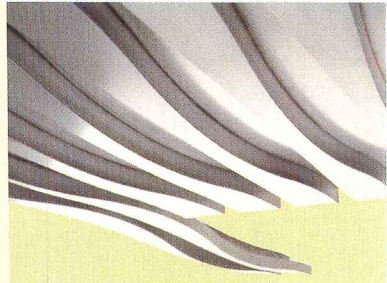
▶ Historic glass

A new technology from Solutia's Vanceva Design brand allows photographs or graphics to be captured in laminated glass while retaining the precision of digital technology. The technology can be used in applications including wayfinding systems, architectural graphics, and exhi-



Product of the Month AlgoRhythms

AlgoRhythms is a line of architectural products created collaboratively by Dr. Haresh Lalvani, an "architect-morphologist," and the Brooklyn-based architectural-metal-fabrication firm Milgo/Bufkin. The line currently includes curvilinear column covers, wall panels, and ceiling systems for exterior and interior spaces. In the design process, parameters are entered into a computer, where preprogrammed algorithms generate patterns that go to a computer-controlled laser cutter that shapes the single metal sheet into a wide range of forms that will not harm the integrity of the material, whether steel, stainless steel, bronze, aluminum, perforated metals, or composites. Future projects will involve larger structural building components as well as complete environments. 718/388-6476. ilgo/Bufkin, New York City. **CIRCLE 223**



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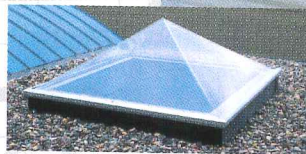


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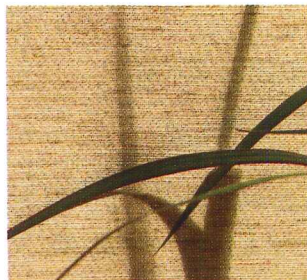
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Product Briefs

▼ Water-based stone-cleaning system

VIP Restoration has developed a chemical-free cleaning system for building exteriors. Recently used on the historic Terminal Tower Building in Cleveland, the treatment is completely water-based and utilizes special nozzles that create a fine mist that loosens embedded carbons and dirt while eliminating the risk of leaks and water infiltration around windows. VIP claims the system is particularly effective on precast concrete and calcium-carbonate-based stone, such as limestone. 216/761-2745. VIP Restoration, Cleveland. **CIRCLE 230**



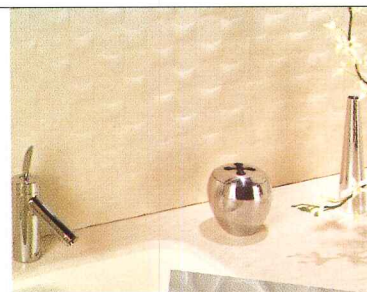
◀ Healthier engineered films

Plasticizer-free CoverWise Olefin Film is produced with an olefin-based polymer system. The flame-retardant film was a component of the award-winning Surface IQ wallcovering by LenTex. CoverWise Green Vinyl is formulated without heavy metals and has lower VOC emissions and odor than traditional vinyl. 800/894-0426. PolyOne, Cleveland. **CIRCLE 231**

▶ Textured Corian for homes

Previously available only for commercial projects, Dupont has launched Corian Bas-Relief panels for the residential market. The new technology produces textures and patterns on the surface of Corian via a high-quality, two-dimensional molding process. The product is available in 9" x 18" straight-edge panels in select Corian colors and can be used in an array of vertical applications, including backsplashes and shower walls. 800/4-CORIAN. Dupont Corian, Wilmington, Del.

CIRCLE 232



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*Bendheim the company known for its vast selection of architectural glass introduces Quickship, a selection of 14 specialty laminated glasses, cut to size and ready to ship in two weeks or less.**

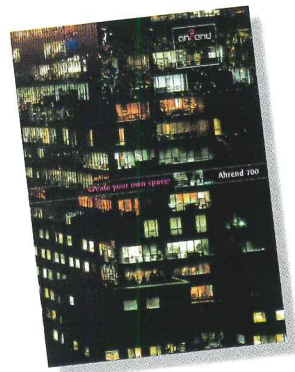
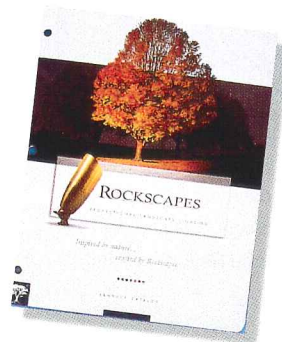
Quickship combines the qualities of uniqueness and timeliness together with the inherent safety, security and sound control benefits of laminated architectural glass. Quickship provides quality and character to a space in a fraction of the time at reasonable cost.

**Some Limitations may apply.*

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700, a vertical desk system for offices, designed by architects Perry A. King and Santiago Miranda. 212/619-0060. Ahrend USA, New York City. **CIRCLE 235**

raphy, and the complete collection of knotty pine French, panel, and bifold doors. 800/952-4057. Simpson Door Company, McCleary, Wash. **CIRCLE 236**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertisers & Products info.

Product Literature

Hardwood plywood manual

A Complete Guide to Hardwood Plywood and Face Veneer (formerly *A Hardwood Plywood Manual*, published by Columbia Forest Products) will be republished by Purdue University Press. The 136-page book is organized into sections on topics that include variations in appearance and the veneer manufacturing process. 703/435-2900. Hardwood Plywood & Veneer Association, Reston, Va.

CIRCLE 237

Site lighting spec sheets

Beacon Products offers a new three-ring binder containing color product-line brochures and individual spec sheets on its outdoor site lighting and related products. 941/755-6694. Beacon Products, Sarasota, Florida. **CIRCLE 238**

Bathroom renovation help

Renovating Bathrooms is a new 32-page brochure from German bath furnishings manufacturer Missel. The brochure illustrates how the company's

Western red cedar brochure

Weyerhaeuser Building Materials' *Cedarone Distinctive Landscapes* brochure is intended for architects and builders interested in using Western red cedar for their outdoor landscaping projects. The 15-page brochure offers full-color product photos and landscaping project ideas for arbors, trellises, benches, planters, decks, and gazebos. It also includes information on product standards and recommendations for finishing Western red cedar products. 800/525-5440. Weyerhaeuser Building Materials, Federal Way, Wash. **CIRCLE 240**

Window/door resource guide

Vetter Windows & Doors has introduced a new *Architectural Resource Guide* on CD-ROM so architects and designers can access comprehensive technical information, product specifications, warranty details, and architectural drawings. The first of several tools Vetter will be developing for the A&D community, the *Architectural Resource Guide* CD allows

AL
TERRACOTTA





Program title: **"Residential Renaissance," sponsored by JELD-WEN Windows & Doors (11/03, page 209)**

113SPONM

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| 3. a | b | c | d | 8. a | b | c | d |
| 4. a | b | c | d | 9. a | b | c | d |
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Program title: **“Architectural Aluminum Curtain Wall Systems,” sponsored by The Vistawall Group (11/03, page 215)**

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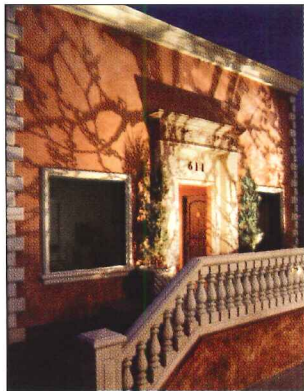
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The Helos family of lighting fixtures features a classic industrial design in a coordinated collection of pendant, ceiling, wall and post mount configurations. Helos is offered with choice of incandescent or energy-efficient compact fluorescent or HID lamplighting. A full palette of painted and metallic finishes is available, as well as custom colors on request. All fixtures in the series are suitable for exterior or interior applications. (800) 940-6588 or visit www.luraline.com.

Luraline Product Co.

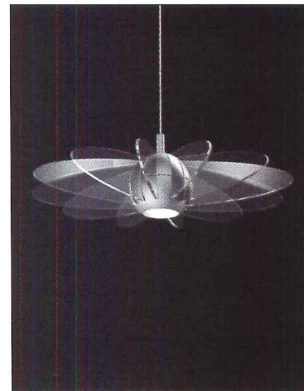
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**Opus by Prima Lighting
Sunrays**

Exceptional in both form and function, Sunrays will brighten any area. The light glows from the fixture's glass "wings" and softly illuminates the area below. Sunrays can be used in low voltage monorail, cable, and mono-point / multi-point canopy systems. Choose polished chrome or silver finish. Max 50W JC Xenogen bulb. Please call us toll free 866-885-4915 or visit www.primalighting.com.

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TGP Introduces Fire-Rated Curtainwall



The new Fireframes Curtainwall Series from Technical Glass Products is an interior or exterior framing system that gives architects the option of designing with large expanses of glass in locations that are fire-rated. The Curtainwall Series incorporates extruded steel frame components, pressure glazed with silicone gaskets. Custom exterior face caps offer a wide variety of appearances, including stainless steel. www.fireglass.com.

Technical Glass Products

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The Patented Screen Tight™ Porch Screening System



Screen Tight combines the proven method of spline screening with the low maintenance features of vinyl, resulting in a clean appearance and a tighter screen. No more rusty nails, latticework, staples, saggy screens, or painting. The two-part system is offered in 1.5" and 3.5" widths and four popular colors and can accommodate openings up to 40 square feet. 800-768-7325. www.screentight.com

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Fabric Structures



Eventscape is a custom manufacturer of superior quality fabric structures for architectural interiors and custom exhibits. Since 1993 Eventscape has been instrumental in the growing awareness and use of frame and fabric as a versatile solution for a variety of design applications. Eventscape's expansive palette of workable fabrics gives designers the freedom to create without boundaries. t.416.231.8855 www.eventscape.net

Eventscape

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Fire-rated glass: Pyroshield™ Plus

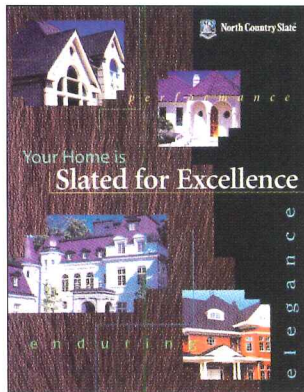


In response to the changes in the IBC 2003 and NFPA 5000 building codes, General Glass International has introduced Pyroshield™ Plus, a laminated polished wire glass manufactured by Pilkington Glass UK. It is the most cost-effective 45 minutes fire-rated glass including hose stream and has been approved for safety glazing in CPSC Category I applications. For further information call 800.431.2042 Ext. 227.

General Glass International

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North Country Slate offers a new brochure explaining the design and performance advantages of their remarkable roofing material to your residential customers. In six glossy pages, "Slated for Excellence" presents all the features and benefits to your client, the homeowner. Make sure you have this brochure on hand for your next discussion on slate roofing. For more information, call 800-975-2835, email us at info@ncslate.com or visit: www.northcountry slate.com.

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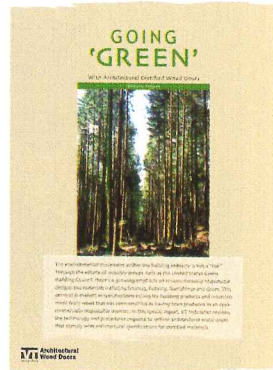
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Certified Wood Doors



"Going Green," a special report examining the technology and procedures required to deliver architectural wood doors that comply with Forest Stewardship Council specifications for certified materials, is available from the marketing and communications group at VT Industries. 800/827-1615, ext. 210 or 304. VT Industries, Holstein, Iowa.

VT Industries

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Trespa Meteon® Exterior Cladding Systems

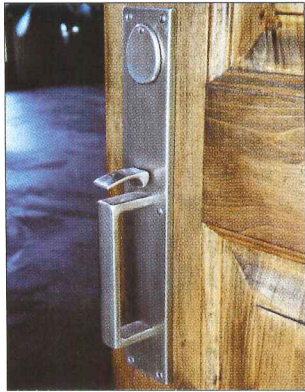


The Trespa Meteon® system is a unique exterior façade cladding for new construction & re-cladding projects. Weather resistance, high color stability, impact resistance, and a nonporous surface structure result in a product suitable for a wide range of exterior applications. Trespa Meteon® is available in a variety of standard solid colors, natural prints and rich metallic hues as well as satin, gloss and rock textures. Trespa is BEES listed and a member of USGBC. 800.487.3772

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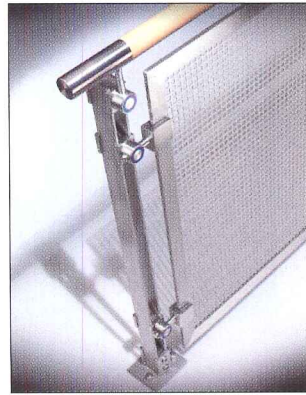


As innovators of washroom plumbing design, Neo-Metro Collection's System M2 is the solution that merges creative design with ease of installation. Only one plumbing connection is required for multiple basin arrangements, in a variety of modern basin styles and options. System M2 is the ideal washing system for modern office spaces, restaurants and hospitality venues. Call (800) 591-9050 or visit www.neo-metro.com.

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Circum Stainless Pre-Engineered Railings

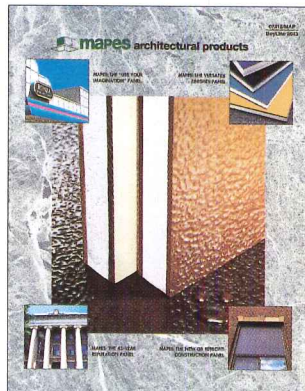


HDI provides INOX railing system with top rails available in either stainless steel or various wood types. Infill options include glass, perforated stainless steel panels or horizontal rails of stainless steel. A complete supply and installation service is available throughout North America, which include INOX, Circum, HEWI nylon and D Line™ railings. Designed to meet all applicable building codes and standards. 717-285-4088, www.hdrailings.com

Handrail Design, Inc.

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Graffiti Resistant Panels For Infill Applications



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This point-supported laminated glass and stainless steel structure seamlessly blends form and function. By providing shelter with the added security of natural light over access routes to lower level parking and urban rapid transit systems, these maintenance-free CLADTEK enclosures combine beneficial safety features with sleek, modern design. For assistance with your design please contact us at: 513-577-7980 or www.waltek.com.

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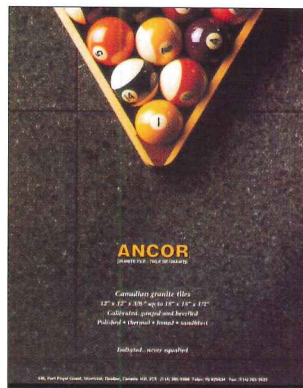


Acrovyn Renaissance™ Collection of wall protection products from the C/S Group features handrails, crash rails and corner guards that combine the beauty of wood with the practicality of stainless steel. The collection is offered in four wood species and four finishes. Call 888-621-3344 or visit our website at www.c-sgroup.com.

C/S Group

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Ancor Granite Tile

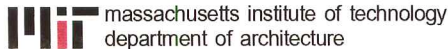


Ancor produces over fifty No. American and Imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8"; other sizes up to 18 x 18 x 1/2" available. Honed finish tile is particularly suitable for high traffic commercial areas, 435 Port Royal West, Montreal, Quebec, H3L2C3, Canada. Phone: 514-385-9366, Fax: 514-382-3533.

Ancor Granite

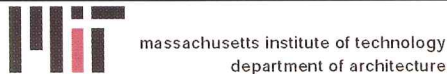
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FACULTY POSITIONS



The Department of Architecture at MIT seeks to fill a tenure-track Assistant Professor position for an urban designer with a professional degree in Architecture. The successful candidate will join an established faculty group in Architecture and Urbanism who conduct research and teach professional and post-professional degree students in studio, lecture and seminar subjects dealing with the design of human settlements. The ideal candidate should have a sparkling design intelligence demonstrated in the formal design of, and reflection upon, urban places and systems.

The successful candidate will teach students in both the professional (MArch) and post-professional (SMArchS) degree programs and will also be a member of the Joint Program in City Design and Development, a program of both the Departments of Architecture and Urban Studies and Planning. Please send a curriculum vita, examples of practice work and publications, a short statement concerning the subjects interested in teaching and related research directions, and the names of three referees to: Chair, Architecture and Urbanism Search Committee, c/o Ms. Charlotte Russ, Room 10-485, MIT, 77 Massachusetts Avenue, Cambridge, MA 02139. fax: + 617 258 8081. Review of applications will begin in October 2003. For more information see:
<http://architecture.mit.edu/people/employ.html>



The Department of Architecture at MIT announces a search for one tenure-track position in architectural design at the level of assistant or associate professor. Dedicated to a humanistic, socially responsible, and technologically sophisticated vision of design, MIT's department of Architecture is uniquely positioned in a larger institution which strongly supports innovation and entrepreneurial activity. Given this context, the Department of Architecture is explicitly committed to excellence in both pedagogical and research activities. Believing that the cross current between the two creates a charged atmosphere for study and a critical edge for research, we are seeking candidates with an ability to thrive within this context.

Primary criteria for the position are proven excellence in the teaching of design studios and strong promise of significant creative achievement in the field through design work, scholarship, professional practice, or a combination thereof. An ability to advance our teaching and research from among the following areas is desired: contemporary culture and theory, computational methodologies, sustainability, and innovation through material assemblies.

We are also seeking candidates with the character and energy to participate in the intellectual life of the department and readiness to teach both graduate and undergraduate studios. The role of Director of the Undergraduate Program would be considered for the appropriate person.

Initial screening will be conducted on the basis of: letter of interest that includes a list of possible references, curriculum vitae, and a ten page non-returnable portfolio of design work. We will begin reviewing applications in early October and continue until the position is filled. Please send all materials to:

Chair, Design Search Committee / Department of Architecture
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Candidates must have earned a master's or doctorate in architecture or a related field, have teaching experience, and have a developed practice in architecture and a record of scholarly research or publications. Letter of interest, curriculum vitae, and list of references should be sent to:

Professor Peter Parsons, Chair
School of Architecture Search Committee
Practice, Technology, and Design Position
Rensselaer Polytechnic Institute
110 Eighth Street, Troy, NY 12180-3590

Review of applications will begin immediately and continue until the position is filled.

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The Costantino Nivola's Foundation has undertaken a project to authoritatively document Costantino Nivola's body of work for publication in a comprehensive catalogue raisonné. The catalogue, which will be published by Electa, Milan, will include each work's title, date, size, and media, in addition to detailed histories of each work's ownership, exhibitions in which the work was shown, and the literature in which it has been cited or illustrated.

Collectors, friends, and colleagues of Costantino Nivola are encouraged to submit details of works owned and/or updates on changes to their collections, as well as any factual information on the artist they may have. As the catalogue raisonné will be a completely illustrated reference, submissions made without a photograph cannot be considered for inclusion. Photographs submitted become a permanent part of the archival record.

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Tom Dixon: Turning raw materials into design gold

Interviewed by Josephine Minutillo

British designer Tom Dixon has never been known to do things conventionally. His unorthodox career path began in the early 1980s, when he was a musician and nightclub promoter in the London club scene. With his days free, he took up welding objects from recycled materials and industrial scrap. Among the first to work with rotation-molded plastics, Dixon's early design experiments caught the eye of top manufacturers abroad. Now one of the most recognized names in design, he has pieces such as the S-Chair for Cappellini in museum collections around the world. Last year he introduced his eponymous line of products, examples of which are now available in the U.S.

And I will continue to work with other manufacturers in specialty areas, such as electronics and upholstery. However, I am interested in much more than just the form of the object. I like to be involved in the whole picture, beginning with materials and factory production to packaging, distribution, and retailing.

What is your primary goal with this new line? What are some of the challenges involved? We hope to explore in-depth some processes or materials that are currently unfashionable or underexploited, materials like stone or enamel or processes such as blow-molding or extrusion. The Fresh Fat series, for example, is made from a plastic extrusion machine. Spaghetti type extrusions are woven, twisted, or molded while still warm into handmade forms. We've developed a range of products with this unique material that includes bowls, light shades, and one-off furniture pieces. The extrusion machine was placed in Selfridges' window for a two-month period. Items were made to customers' requirements and sold to them still warm from the manufacturing process. The current challenge is to be able to create products such as these in a

smallish company that are world-class enough to compete with global companies or specialist manufacturers.

When you began welding as a hobby, could you have imagined that it would lead to all this? Honestly, I can't remember ever holding an ambition to be a designer. It just slowly came over me as I rejected notions of being an artist or a craftsman. Even today, I prefer the idea of being an industrialist.

Photograph by Ashley Cameron of Dixon in front of the Extendable Screen, part of his new line of products