

# ARCHITECTURAL RECORD



**Difficult Beauty**  
Taking a Look at  
Architecture's Wild Side

**Greg Lynn and the  
Challenge of Animate Form**  
**The Crazy Everyday  
of Branson Missouri**  
**Building Types Study:  
Architecture for Entertainment**

A photograph of a modern office interior. The ceiling is a white suspended grid ceiling with recessed lighting. In the foreground, there is a desk with a computer monitor and a mug. In the background, there is a lounge area with two beige armchairs and a small table with a vase of flowers. A large window with a dark frame is visible behind the lounge area. A white door is also visible in the background. A dark blue semi-transparent box is overlaid on the center of the image, containing text.

**Spot the two terms  
that don't go together:**

1. Suspended Ceiling
2. Grid-hiding Visual

**Until now.**



# Show me your tattoo

## Editorial

By Robert Ivy, FAIA

**B**eauty, by definition, is evanescent and difficult to define—dependent on motive, education, nerve endings, and geography. For proof, imagine how two persons, a Maori adult or the parent of a rebellious Chicago teenager, might react to the swirling patterns of a facial tattoo: Where one sees beauty, the other's perception is colored by fear for a daughter's clean cheeks. Shift the lens and the argument to the Asian mega-size. Whole cities are being constructed there with monumental glass office towers that may symbolize prosperity to residents, but grate at Western sensibilities. At both the intimate and the urban scales, the relationship of the parts to the whole, of the effects and the affect of objects on our experience, directly intersects with that eternally troubling question, What is the nature of beauty? When do we recognize it? Who says what it is? And who cares?

Why, in an age of ethnic, religious, and political friction, of poorly housed populations, and continual racial and gender inequities, would ARCHITECTURAL RECORD take up this warhorse? The term "beauty" can still provoke raised eyebrows in academic circles—it hasn't been intellectually fashionable to discuss or to claim the term since Venturi and Scott Brown trumpeted the strip and made kitsch catching. But look around. A new generation of design and construction potential has been unleashed, in part by ascendant economies, emerging electronic technologies, the Web, and global commerce. According to the latest work and thought of pragmatic commercial design warriors, virtually anything goes, anywhere. If we consider the distressingly vapid qualities of individual buildings and entire urban districts cropping up

globally, shouldn't aesthetics count?

ARCHITECTURAL RECORD is calling time-out. At a moment of wide-ranging artistic freedom, when formerly agreed-upon design principles have been declared irrelevant, elitist, or out-of-sync, it is time to reflect on what matters today. The disinterested perspective that aesthetics concerns itself with, based on the qualities of the objects and the places themselves, could help distinguish between life-enhancing and harmful environments, as well as those that merely oil the machinery of daily living.

Actually, we've been talking about the nature of beauty for over two millennia. Our primary sourcebook on the topic has been Aristotle, who wrote extensively on aesthetics and

**"THE ORDER OF THE HEAVENS WAS SIMULTANEOUSLY MADE TO APPEAR AND DISCOVERED THROUGH THE MAKING."**

—Indra Kagis McEwen, on Anaximander, the first philosopher

human perception. (Aesthetics, like its Greek root *aisthetikas*, means "sensory perception.") His writings, including *Poetics* and *Rhetoric*, addressed order and definition in art, the relationship of the parts and their placement to each other and to the entirety, and relative scale and size. That very incomplete list could itself form the basis of an aesthetic discussion. How should we analyze objects in formal terms? In the past we relied on a list of characteristics, including rhythm, proportion, repetition, symmetry—terms that presupposed mathematical patterns, an ideal Platonic order, to refer to Aristotle's predecessor. Can we discern patterns worth emulating today? Should

## Editorial

our criteria be based on purely materialistic phenomena such as biology? Can we find beauty, and order, in Greg Lynn's biomorphic architecture [page 78]?

A partial answer lies in who controls the debate. Magazines such as ARCHITECTURAL RECORD have been at the nexus of the discussion, poised between the architectural makers and the larger world. It is a position that demands humility: Too definitive or assertive a definition of beauty, as Suzannah Lessard contends [page 68], can translate to power, a potentially corrupting influence. The critical viewpoint we learned in school, a skeptical, interrogatory posture, should not curdle into a soured worldview, but should encourage us to probe.

We admit it: aesthetics plays a considerable role in this magazine's evaluation—at least initially. In considering what to publish, we scout some projects from the conceptual stage and follow them through to completion. But for the bulk of unfamiliar projects, we are often attracted to an image that precipitates conversation, evaluation, analysis, and debate in a larger group. Prior to publication, we travel and form a more thorough understanding of a project's worth, according to actual experiences in real space. But the fact remains: aesthetic judgment, based on the image, often comes first—an unavoidable reality.

Here is the secret that's rarely discussed—unattractive, banal, or mundane work rarely makes it to the printed page. You, the reader, are part of the reason. Everyday life contains adequate examples of the mediocre; we, the entire publishing industry, rarely trumpet the ugly or the ordinary. Studies show that you simply do not pick up a magazine with an unattractive cover, for example. This response between reader and publication constitutes an attraction to the beautiful akin to the erotic that we rarely violate. An unspoken compact therefore exists between magazine publishing and its readership, brokered in our case by the architectural photographer, to discover and present the beautiful, however the term might be defined.

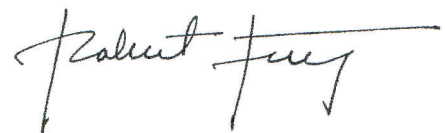
Do not try to pin us down, however. Our definition changes with the falling leaves. We hunger, as we think you do,

for a more subtle portrayal of architecture, one tempered by history and economic imperative, by cultural shading and geographic or political necessity. We're conscious that we inhabit a world culture, not simply a Western one, not simply an American one, so are wary of the absolute answer, seeking to avoid characterizing architecture solely through oppositional language (either/or) and trying instead to present the work in a more chromatic, more nuanced manner.

Nor is our aesthetic limited to how things appear, but strives to engage the relationship of ideas (concepts, arguments) or other qualities to each other and to the whole. We're not limited to superficial appearances, to the surfaces of things. At a moment of intellectual flux, of conversations in which chaos theory, engineering, and architecture converge, technology now allows us to fill out the picture through our Web site, architecturalrecord.com, permitting virtual walk-throughs, additional drawings, sketches, interviews, and raw data that can shade and shadow our presentation into three dimensions.

Cities and architecture in the ensemble present a thornier problem. To Aristotle's way of thinking, the city could not be analyzed on aesthetic grounds: it was too big to see. Today, aerial and satellite photography allows us to zero in on the building, the block, or the precinct or to gain godlike distance. The current Critique column, for example, examines two cities at three scales, investigating how public policy affects built form in two places—New York City and Portland, Oregon.

So magazines are in the business of defining beauty, even difficult beauty, and ARCHITECTURAL RECORD is no exception. We practice aesthetics, and you, the reader, are part of the contract. In our searches for the most relevant or the most compelling projects, you will discover what we, the editorial staff, consider beautiful. It is incumbent on us to state our reasons clearly, allowing you to pick up the threads of information or perception, weave them together, and make up your own mind. Let the debates begin.



## Mark your calendars....

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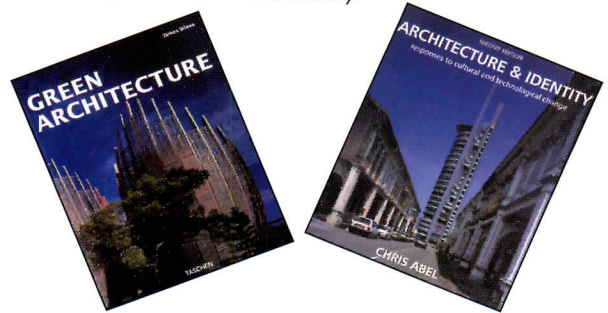
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### **Wednesdays:** New 'Green' features in Green Architect

Nov. 1. How Fluorescent Lights Help Save Energy.

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Get the latest scoops from the world of architecture.

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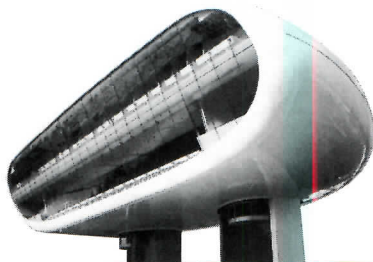
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The NatWest Media Centre, Lord's Cricket Ground, UK  
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# Letters

ENTS

## Three on the inside of interiors

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To the extent that architecture is "exterior decoration" and archi-

anticipating how settings will evolve and looking at the other compo-

remind readers that, with a few exceptions, architects generally

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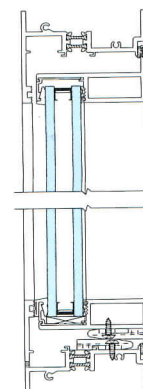
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## Renzo Piano takes Manhattan, wins NY Times

Renzo Piano's first New York project will be no small feat. Piano, in association with the New York firm Fox & Fowle Architects, was named on October 13 as the winner of an architectural competition to design a *New York Times* headquarters tower in midtown Manhattan.

Piano won the four-team competition over Foster & Partners, Frank O. Gehry & Associates with Skidmore, Owings & Merrill (SOM), and Cesar Pelli & Associates. The team of Frank O. Gehry and SOM withdrew from the competition in the final days before the announcement was made. Gehry told the *New York Times*, "I would just say [the team's] process was incompatible [with the New York Times Company]."

The tower will be built on Eighth Avenue between 40th and 41st Streets, across from the Port Authority Bus Terminal. The New York Times Company, with its development partner, Forest City Ratner Companies, plans 1.3 million square

feet of space in a 650-foot-tall tower on a 200-by-400-foot site. The *Times* would occupy at least half of the 45-story building, including most of the base, and the remainder would be leased for commercial and retail use.



Piano

Piano's design has a transparent glass tower on a five-story base in which a public atrium would lead to a theater, a *New York Times* museum, and retail. A screen of thin white ceramic bars at about one or two feet from the exterior glass

would shade about half of the facade. The double curtain wall would increase energy efficiency.

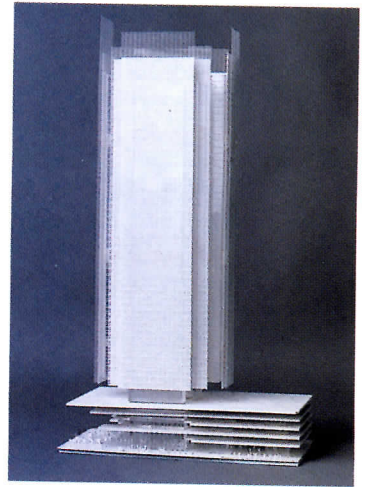
Piano told the *New York Times*, "This building is about defying gravity. In some ways, it is like information. Information is immaterial. I love the idea that the spirit of a newspaper like the *New York Times* is expressed semantically."

Fox & Fowle has acquired expertise in environmentally conscious large buildings. The firm

recently completed the Condé Nast headquarters tower at Four Times Square [MARCH 2000, page 90], and construction continues on the Reuters building at Three Times Square. The Condé Nast and Reuters buildings are one block from the Times tower location.

The site, which is now divided into a number of properties, would have to be condemned and acquired by the state. It is part of the state's Times Square redevelopment project and the Times Square Business Improvement District. Contingent upon approval by the Times Company's board of directors, construction is expected to begin late in 2001 or early 2002, with completion in 2005.

Michael Golden, vice chair and senior vice president of the New York Times Company, says, "We are extraordinarily pleased to have selected Renzo Piano and Fox & Fowle to create a design that will honor our heritage and look to our future. We want our building to be a dynamic presence that enhances the beauty of New York City for residents and visitors alike."



Piano's proposed tower (top) for the *New York Times* would be located on Eighth Avenue at 41st Street (above).

The *Times* has been at its current headquarters at 43rd and Broadway, a few blocks from the new site, since 1913.

John E. Czarnecki, Assoc. AIA

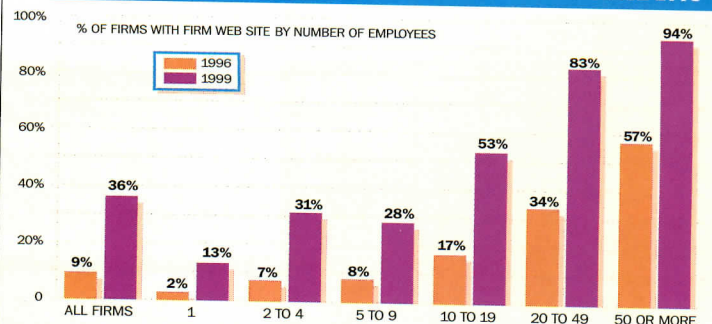
## Arthur Andersen tower for Times Square

Plans for one of the last of the new Times Square skyscrapers has passed a key hurdle. Arthur Andersen signed a lease October 13 with Boston Properties that would allow the developer to build a 47-story, \$600 million skyscraper on the block bounded by Seventh Avenue, Broadway, 41st and 42nd Streets in midtown Manhattan. Arthur Andersen, the world's largest accounting firm, would occupy at least 500,000 of the 1.2

million square feet in the building. The tower will be designed by David M. Childs, FAIA, of Skidmore, Owings & Merrill.

Boston Properties must obtain control of the site from Prudential Insurance Company, and Arthur Andersen is in negotiations with the city of New York for approximately \$10 million in tax breaks. Construction is expected to begin in early 2001. JEC

### TOTAL NUMBER OF FIRMS WITH A WEB SITE QUADRUPLES SINCE 1996



ACCORDING TO THE AIA Firm Survey 2000-2002, the number of architecture firms with their own Web sites quadrupled from 1996 to 1999, when 36 percent of all firms had a site.

## OFF THE RECORD

Juan Navarro Baldeweg has won a competition to design the Museum of Human Evolution in Burgos, Spain.

Steven Holl, Jean Nouvel, Arata Isozaki, and Cruz and Ortiz were competing.

Pei Cobb Freed & Partners' Center for Government and International Studies at Harvard University received approval in September from the Mid-Cambridge Neighborhood Conservation District Commission after a substantial redesign. Olin Partnership is designing the building's surrounding landscape.

Janice Cervelli Schach, FASLA, is the new dean of Clemson University's College of Architecture, Arts and Humanities. She replaces James F. Barker, FAIA, who has been president of the university since fall 1999.

Fox & Fowle Architects has brought fellow New York firm Jambhekar Strauss into the fold. Sudhir Jambhekar and Mark Strauss, who started their firm in 1993 after leaving Kohn Pedersen Fox, are now principals at Fox & Fowle.

HNTB Corp. acquired the 160-person planning and urban design firm LDR International of Columbia, Md. HNTB now has more than 2,600 employees, and one less competitor.

The Children's Museum of Los Angeles has announced a shortlist of architects for two new museum facilities—one in downtown Los Angeles and one in the San Fernando Valley. The list includes Angelli/Graham/Pfenninger/Scholl; Chu + Gooding Architects; Hodgetts + Fung Design Associates; Jones, Partners: Architecture; Morphosis; Eric Owen Moss Architects; and Randall Stout Architects. Winning architects will be named by December.

The Southern California Institute of Architecture (SCI-Arc) moved in September to East Third Street at Santa Fe in downtown Los Angeles.

## Plan presented to reopen Penn Ave.

An 1802 sketch by Thomas Jefferson was an inspiration for what may be the 21st-century plan for Pennsylvania Avenue.

Washington D.C. mayor Anthony Williams, with Senator Daniel Patrick Moynihan (D-NY) and Washington's Congressional delegate, Eleanor Holmes Norton, unveiled a plan September 25 to reopen Pennsylvania Avenue in front of the White House.

Gary Haney, AIA, of Skidmore, Owings & Merrill (SOM), developed the design concept, which calls for limited-height pedestrian bridges at either end of the block in front of the White House, allowing automobile traffic to pass under the bridges but keeping out trucks to limit bomb risk. The Jefferson sketch showing a northward curve of the street (dubbed the "Jefferson Bow") inspired SOM to create a similar curve that offers both a landscaped space in front of the White House gates and an additional security buffer. The avenue would be narrowed to four lanes from eight.

"We tried to keep on a level above design for the moment; to keep it conceptual," Haney says,



Pennsylvania Avenue in front of the White House is closed to through traffic.

noting that added design controversy would obscure the larger issue of an open avenue.

President Clinton authorized the street closing in 1995 after the Oklahoma City bombing. The closing cut off a major east-west thoroughfare through downtown Washington, causing lasting resentment between city stakeholders and the Administration. According to the Parsons Transportation Group, the avenue used to carry 29,000 vehicles daily. The closed street "is strangling our transportation and our economy," says Terence Golden, chair of the Federal City Council, the bipartisan nonprofit group that sponsored the proposal.

Proponents of the reopening hope Clinton will authorize the

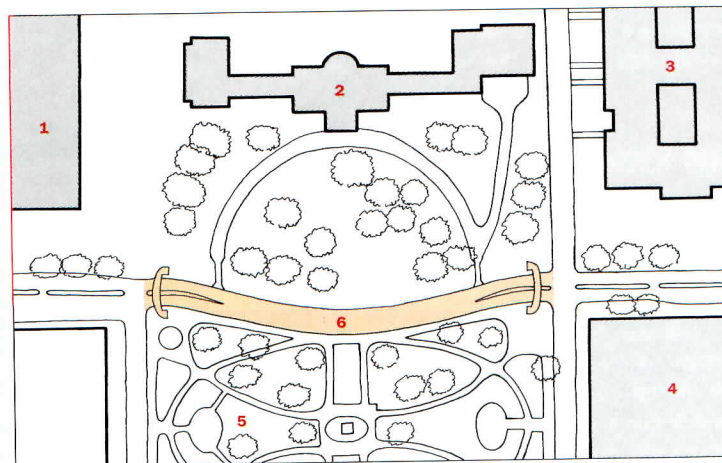
redesign in the waning days of his presidency, or that the new Administration will embrace the opportunity to make a dramatic initial gesture of democratic openness. The Republican Party, in its 2000 convention platform, calls for the reopening of the avenue if George W. Bush is elected president. The Democrats did not call for the reopening, in part because Norton, a Democrat, is working on the plan.

"The proposal mitigates the risk to the President, his family, and the White House staff, while recognizing that fundamental American values, such as openness and accessibility, must not be sacrificed for the sake of security," says former Senator Bob Dole, president of the Federal City Council.

The Secret Service says reopening would "wave a red flag" to encourage terrorists and that the closing is necessary to protect the White House from a truck bomb.

"We've shared the proposal with the White House Chief of Staff, the Treasury Secretary (who oversees the Secret Service), and a number of other people," says Federal City Council spokesperson David Perry. "Either the President will approve it, or he won't."

SOM and Parsons Transportation Group provided pro bono design and traffic analysis services for the proposal, which was based on a commissioned Rand Corporation security study. Karen Haas Martin



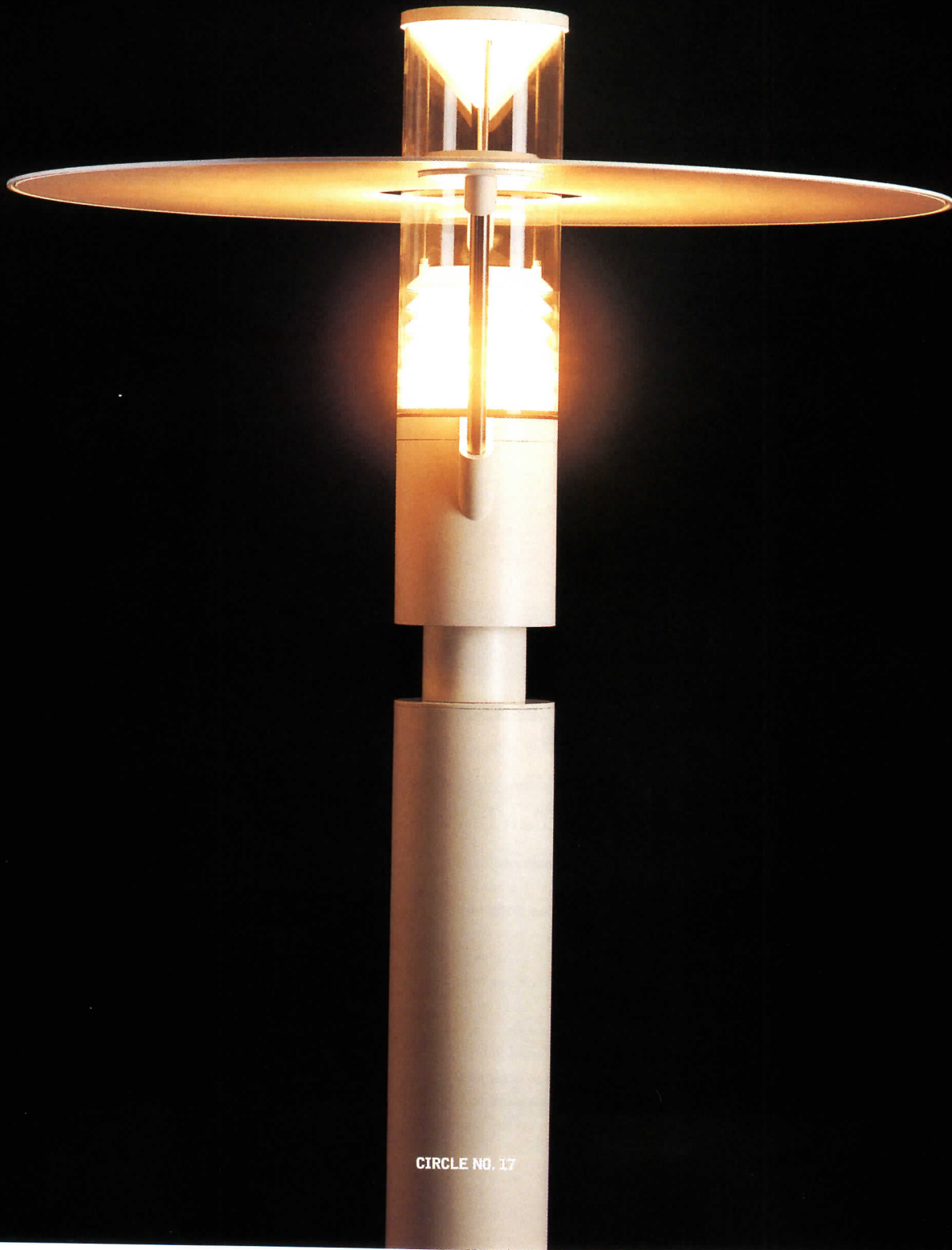
1. Treasury Building
2. White House
3. Old Executive Office Building
4. New Executive Office Building
5. Lafayette Park
6. Pennsylvania Avenue

The proposal for Pennsylvania Avenue includes a curved road with pedestrian bridges at either end.

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CIRCLE NO. 17

## Competitions and master plan yield architecturally rich Cambridge development

Among the highlights of a 10-acre, \$400 million mixed-use development about to take shape in Cambridge, Mass., are the first U.S. buildings by Behnisch Behnisch and Partners and Toronto's Architects Alliance, and the first major East Coast project by Californian Steven Ehrlich.

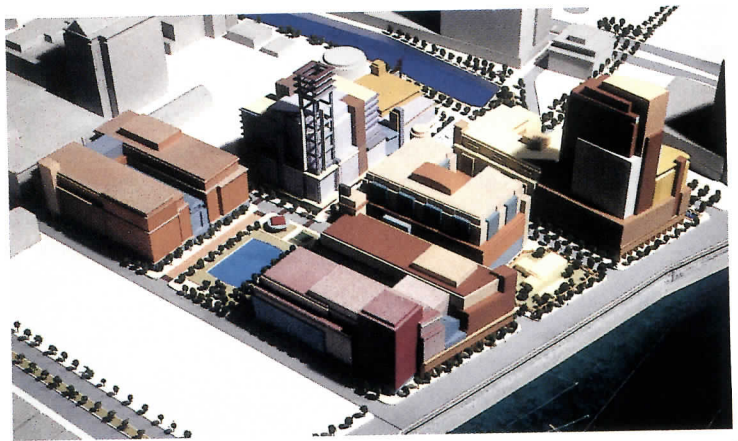
The development company Lyme Properties took a conscientious approach in selecting a different architect for each of the seven proposed buildings on its property near the Longfellow Bridge over the Charles River, just north of MIT. Lyme is developing an urban neighborhood, with biotech laboratories, a hotel, cinema, residences, and retail. Through architectural competitions, Lyme selected architects for each building and a landscape architect, Michael Van Valkenburgh Associates, for the whole site.

After acquiring the former industrial site in August 1998, Lyme proceeded to clean up the existing brownfield condition and began

developing a mix of uses to complement high-tech research facilities. Dan Winny, director of planning and design for Lyme Properties, says one of the development goals was to "create an active urbanism driven by the high-tech-research workplace, rather than a sterile office park. We want a diverse and active environment supportive of creative work and of those who engage in it."

Lyme hired the Toronto-based urban design and planning firm Urban Strategies to create a master plan and manage the architectural competitions. Ken Greenberg, a partner at Urban Strategies, led the master-planning effort. He says, "There's a real opportunity to create a new and unique place with a compact, urban public realm."

The Urban Strategies plan includes a regular grid of streets connecting to the existing city. Two civic squares are proposed—one adjacent to a canal leading to the Charles River, and the other adjacent to Cambridge neighborhoods.



The master plan by Urban Strategies set the framework for development.

Architects were chosen in invited competitions held from August 1999 to September 2000.

Behnisch Behnisch and Partners won a competition for its first American project—an office headquarters for a biotechnology company. Designed to be energy efficient with innovative environmental technology and indoor vegetation, this 285,000-square-foot building may be a first of its kind in this country. Based in Stuttgart, Behnisch Behnisch and Partners opened an office in Los Angeles prior to this project.

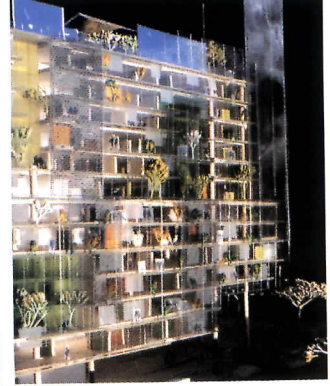
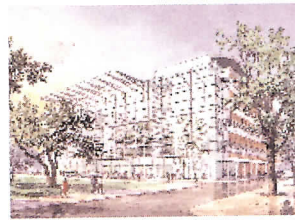
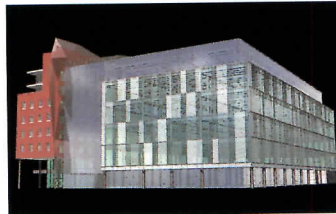
Architects Alliance was chosen for a six-story building with ground-level retail, second-floor offices, and eight residential units of 2,000 to 4,000 square feet each.

Boston's CBT/Childs Bertman Tseckares was selected for a condominium and hotel tower. Atlanta's Smallwood, Reynolds, Stewart, Stewart & Associates is collaborating with CBT on the hotel design.

Anshen + Allen Architects and Steven Ehrlich Architects won the latest Lyme competition this fall to each design one of two 250,000-square-foot biotechnology lab buildings with ground-floor retail. Both lab facilities will be complete in 2002. All other buildings are planned for opening by 2003.

Britain's MacCormac Jamieson Prichard also won a competition for a building that may include a cinema, residential units, and retail. That building's complex program has not been set. JEC

Competition-winning designs for the Lyme development include (clockwise from left) landscape by Michael Van Valkenburgh Associates, as well as buildings by Steven Ehrlich Architects, Anshen + Allen Architects, Architects Alliance, Behnisch Behnisch and Partners, and CBT/Childs Bertman Tseckares.

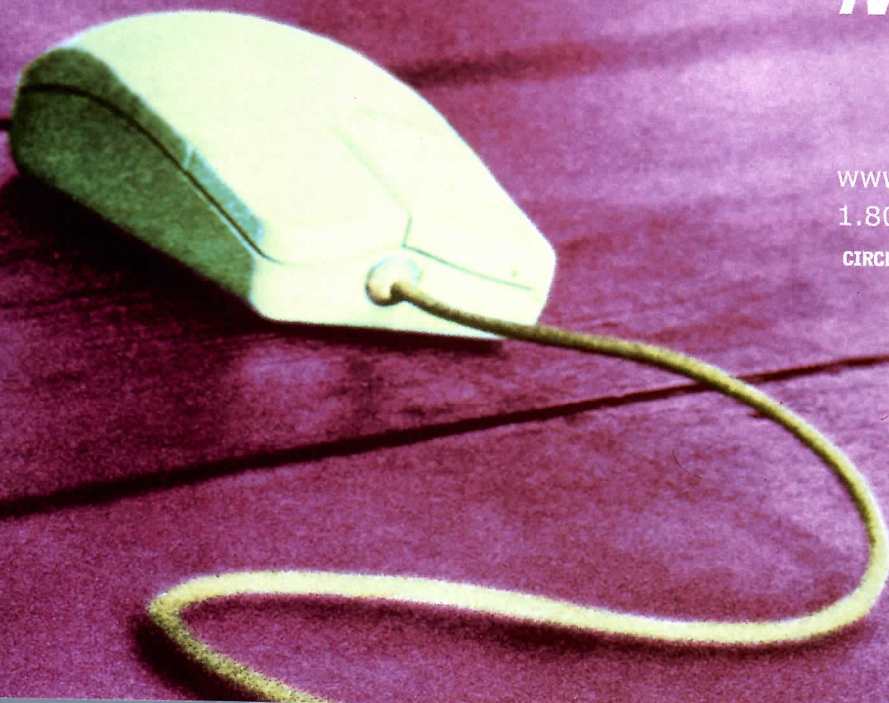


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CIRCLE 19 ON INQUIRY CARD



## Sun may set on Britain's Millennium Dome while politicians play the blame game



As the millennium year draws to a close, so too does the troubled life-span of London's Millennium Dome. With the dome's financial failings making almost daily headlines, public support for the world's largest tent has all but evaporated. The

question now is, Should it stay or should it go? As of late October, there was no clear answer.

Only 4.75 million visitors entered the dome through the first nine months of 2000, while 12 million were expected for the year.

Some have suggested that the dome be taken down—a sort of architectural euthanasia. Prime Minister Tony Blair has admitted, in hindsight, the dome project has not been a success. Rather, it's become a political disaster, with politicians engaged in a blame game. Peter Ainsworth, the Tory culture spokesman, told the *Independent*, "The Government is in disarray over the Dome."

A "Future of the Dome" competition was initiated in March 1999 in effect to seek a buyer for the 59-acre site on the northern tip of the Greenwich Peninsula. This September, a bid by Japanese investment bank Nomura was accepted. Nomura proposed, beginning January 1, 2001, to retain both the structure and its function as a Disney-style theme park. However, two weeks after its selection, Nomura withdrew its \$173 million offer. It remains to be seen whether Nomura's action was a ploy to drive down the price.

If not, the other short-listed bid by British consortium Legacy could be revived. Legacy also proposed to retain the existing structure, but it would employ London architect Lifschutz Davidson to convert it into a technology-oriented business park. Under Legacy, the dome would become, literally, a covered part of the city, complete with streets and boulevards.

The inclusive Legacy bid, with employment opportunities attached, appeals to London's planners and to the local community. It also fits into the original master plan for the peninsula. The 1996 master plan by Richard Rogers Partnership intended for the northern tip of the peninsula to house a business park—at one time the *raison d'être* for investment in North Greenwich.

Whatever the dome's future, the Royal British Mail intends to include the dome on a stamp in a millennium-year commemorative collection. *Adam Mornement*

## Brooklyn's front stoop at museum entrance

Plans were unveiled on September 19 for a new \$55 million entrance and renovation for the Brooklyn Museum of Art. The entrance is part of the museum's efforts to expand and diversify its audience.

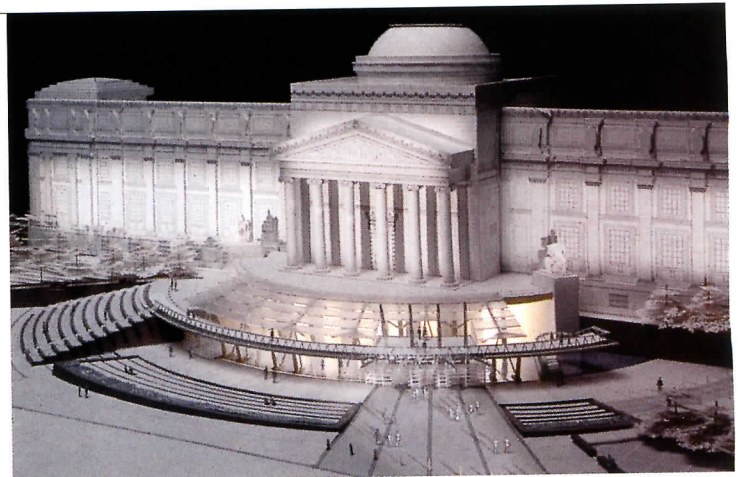
The concept team of Arata Isozaki, Hon. FAIA, and James Stewart Polshek, FAIA, developed the ideas behind Polshek Partnership's redesign, which would transform the front entrance into a major civic plaza, with a new glass-and-steel lobby, tiered seating, reflecting pools, and a pair of fountains.

Arnold Lehman, the museum's director, told the city's Landmarks Preservation Commission that the project will make "a bleak and

unwelcoming" entrance into "Brooklyn's front stoop."

The 1897 Brooklyn Museum of Art was designed by McKim, Mead & White with a grand staircase of 28 stairs leading from street level to a third-story entrance. The museum removed the deteriorating stairs in 1934, allowing easy access from ground level. The resulting open plaza, though, is what Polshek describes as "a kind of wasteland."

In the Polshek design, museum-goers can enter the building through an entrance pavilion to the renovated Grand Lobby at street level. Ascending a curved, amphitheater-style staircase at the east end of the pavilion or a stair-



Polshek's design adds a sweeping staircase and animated street-level plaza.

case at the west end, visitors will arrive at a promenade-level entrance. The new pavilion entrance and renovated Grand Lobby will total more than 17,000 square feet of space. Water fountains will flank either end of a renovated street-level plaza. The project includes security-system improvements, new parking, interior renovations, and restoration of the building's facade.

Symbolically, the sweeping entrance reaches out to the

Brooklyn community. It's also a focused entry experience, rather than the existing barren plaza.

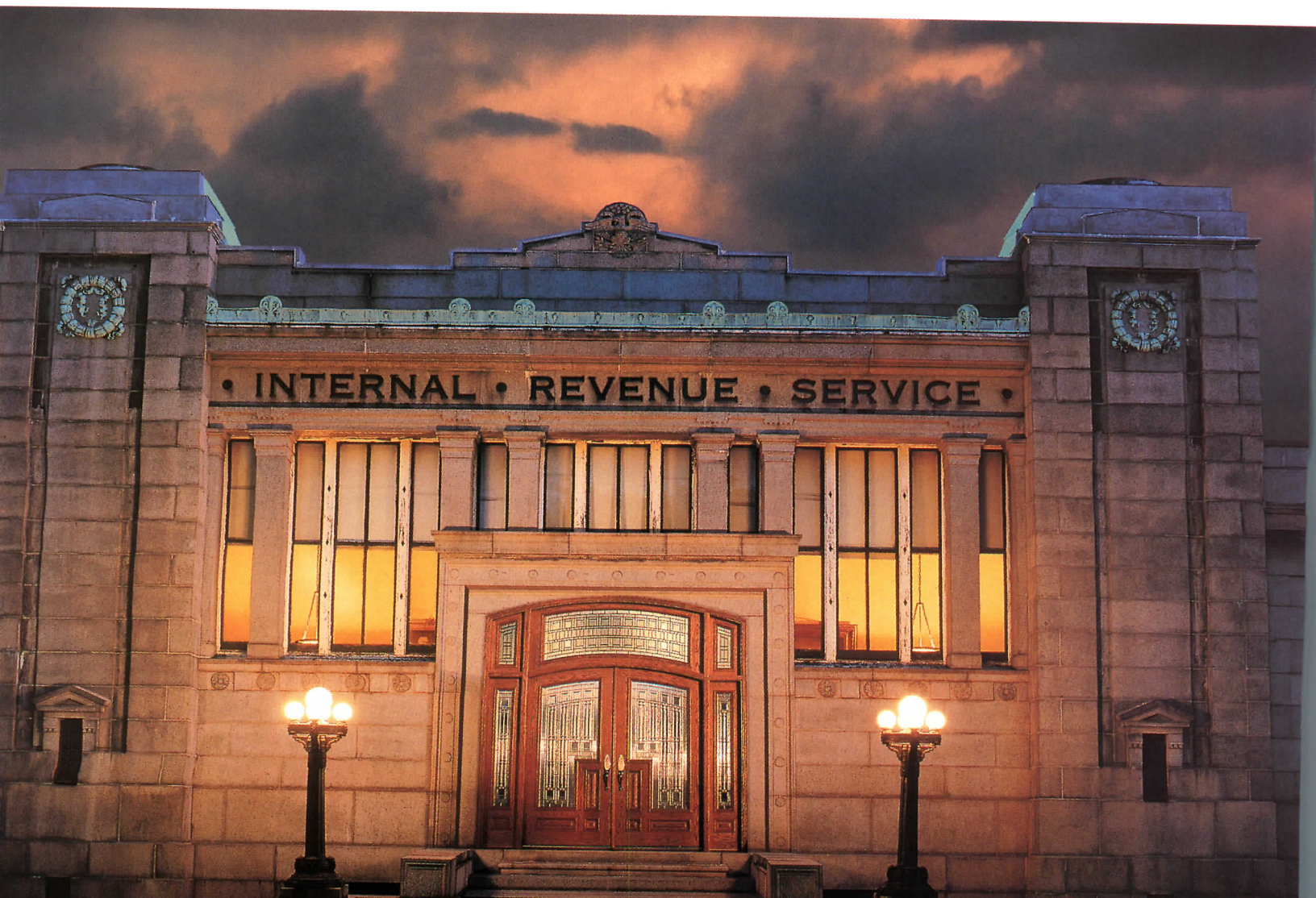
If the city's Landmarks Preservation Commission approves the project, construction would likely begin in mid-2001, with completion in late 2002. Funding will include \$5.8 million from Mayor Rudolph Giuliani, as part of the settlement from his 1999 lawsuit to evict the museum due to the controversial *Sensation* exhibit. *JEC*



A staircase led to the museum (left), but has been gone (right) for 65 years.



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## Record News

### Now everyone will hear the music at the Hollywood Bowl

"The Hollywood Bowl is an icon, and our design maintains that image," says Hsin-Ming Fung, whose firm, Hodgetts + Fung Design Associates, of Culver City, Calif., has designed a new shell for the 71-year-old southern California landmark.

The existing shell is riddled with problems, including asbestos, lead paint, and poor acoustics. It's also too small for many events. Up to one-third of an orchestra's members must sit outside the shell and cannot hear the rest of the ensemble during performances.

More elliptical than the current version, the \$16 million shell by Hodgetts + Fung would provide 25 percent more stage space, allowing all members of the Los Angeles Philharmonic Orchestra, its main tenant, to finally fit on stage. The chief concern for Hodgetts + Fung, however, was sound. In the existing bowl, musicians are often unable to hear any other instruments but their own. "The conical shape of the current bowl simply bounces the sound around inside it," says Eric Holmquist, project architect on the bowl.

Earlier attempts to address sound quality were made, with limited success. In 1970 Frank Gehry, FAIA, installed large cardboard tubes inside the shell. A decade later, he designed fiberglass spheres that still hang inside the shell.

Within Hodgetts + Fung's elliptical shell is a floating oval canopy with seven rows of movable



Hodgetts + Fung's design for the Hollywood Bowl

panels that disperse sound evenly across the stage and out into the sloping, 17,500-seat bowl.

New dressing rooms would flank the stage, replacing rundown facilities where raccoons often lurk. To maintain the visual integrity of the shell, matching sets of waterfalls cover the backstage area on either side of the shell. Hodgetts + Fung created an unusual exterior envelope for the shell. Immediately beneath the roof line rows of steel-clad steps will descend. As pyrotechnic platforms, they will provide small launching pads for fireworks—a long-time staple of bowl performances.

The Los Angeles County Board approved an environmental impact report for the bowl in late September. Respondents had 30 days to file any opposition to stop construction. If there is no opposition, construction will begin in 2001 with completion of the shell in 2002. *David Hay*

### Which way to green? DOE roadmap leads the way

Thirty-two percent of electricity generated in the United States is used to light, heat, and cool commercial buildings. The U.S. Department of Energy (DOE) has developed a plan to reduce that percentage.

The DOE and 21 co-sponsoring organizations launched a building industry-generated initiative, "High Performance Commercial Buildings: A Technology Roadmap," outlining methods to achieve increasingly energy-efficient, environmentally friendly, comfortable, and performance-enhancing commercial buildings. The goal is to reduce energy consumption in new commercial buildings by 20 percent by 2010 and 50 percent by 2020.

The guidelines identify high-priority needs for research and development (R&D), as well as



Four Times Square

actions necessary to make greener buildings a reality. The Roadmap, in part, provides a framework for the private sector to obtain R&D support and tax credits from state and federal legislators.

Robert Fox, AIA, a principal of Fox & Fowle Architects and designer of the energy-saving office tower at Four Times Square, introduced the plan at a press conference at the National Building Museum in

Washington, D.C., on October 4.

More than 150 organizations contributed to the Roadmap's development over a 30-month period. The American Institute of Architects (AIA) and AIA Center for Building Performance and Environment collaborated with the DOE in developing the plan. *Karen Haas Martin*



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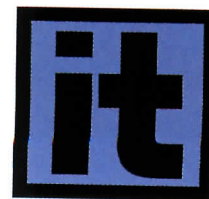


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## Record News

### Mather's plan adds human touch to brutal South Bank

After previous redevelopment schemes for London's South Bank by Terry Farrell (1989) and Richard Rogers (1994) failed, a proposal by Oregon native Rick Mather is the latest attempt to make the prestigious, but harsh, riverside arts complex user-friendly. Mather unveiled his South Bank master plan in February, and a number of the components for the 30 acres between County Hall and Waterloo Bridge are moving forward.

With concrete ramps crisscrossing the Brutalist complex, which includes Royal Festival Hall and Hayward Gallery, one major challenge for Mather's London-based practice was to improve orientation and access. His scheme emphasizes ground-level circulation rather than existing overhead walkways. It will also promote a mix of pedestrian-oriented new development, including restaurants, shops, offices, and residences.

One of the plan's most popular aspects is its potential to increase open space. Together with the imaginative Dutch landscape architects West 8, Mather has devised a 5½-acre park—an expanded Jubilee Gardens—that will slope up from the Thames to three stories above grade. Beneath the Jubilee Gardens will be a new center for the British Film Institute—a complex that will incorporate the National Film Theatre's three cinemas, an expanded Museum of the Moving Image, and parking for 380 cars.

The South Bank Centre, the sole client for the South Bank site, will soon announce international architectural competitions for the arts buildings under Jubilee Gardens and a competition for a landscape architect for the whole South Bank study area. Work is expected to start on the Jubilee Gardens and arts buildings in 2002.

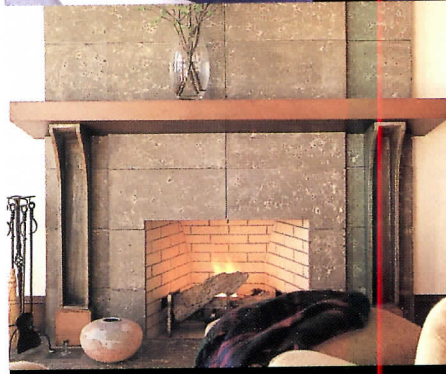
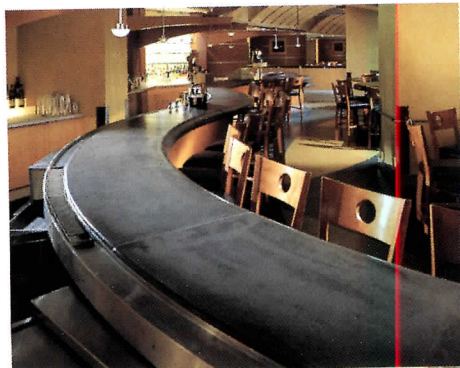
Jubilee Gardens, as well as Royal Festival Hall and Hayward Gallery, are managed by the

Where a parking lot now stands (below), the Jubilee Gardens would slope up (right) and over a new British Film Institute facility.



The South Bank (top) would be transformed (above) with the new Jubilee Gardens.

South Bank Centre. Work has begun on a renovation of Royal Festival Hall by Allies and Morrison, and the firm has submitted a planning application for a hall extension. The estimated budget for the Festival Hall renovation and addition is \$40 to \$50 million. The adjacent Hayward Gallery will be refurbished and extended with a new street-level entrance and expanded exhibition space. A new performance venue may be built where Queen Elizabeth Hall and the Purcell Room currently stand. Competitions for the Hayward site will be announced in 2001. *Laura Iloniemi*



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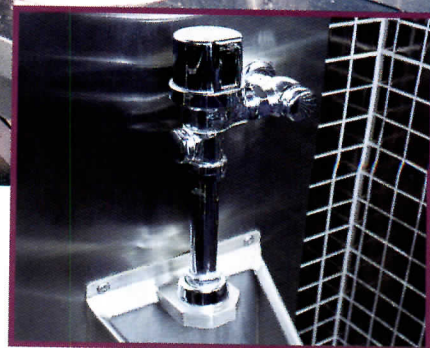
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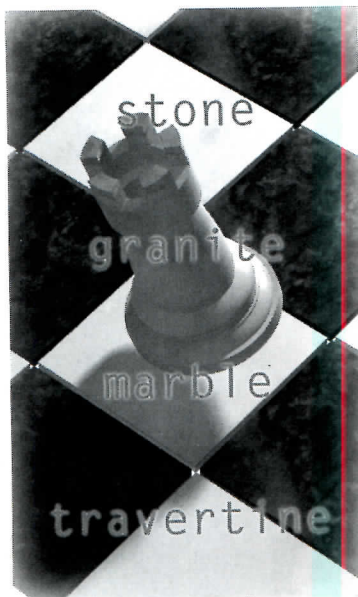


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## Record News

### Ambitious development proposed for downtown Chicago

A 25-acre development planned by Skidmore, Owings & Merrill (SOM) may drastically change a prominent portion of downtown Chicago. Twelve residential towers, some as tall as 60 stories, two office towers, two hotels, 200 low-rise townhouses, and a public school will surround a new public park in the area planned as Lakeshore East. SOM unveiled its master plan for the \$1.5 billion development, a project of Magellan Development Group Ltd. and Near North Properties, in September.

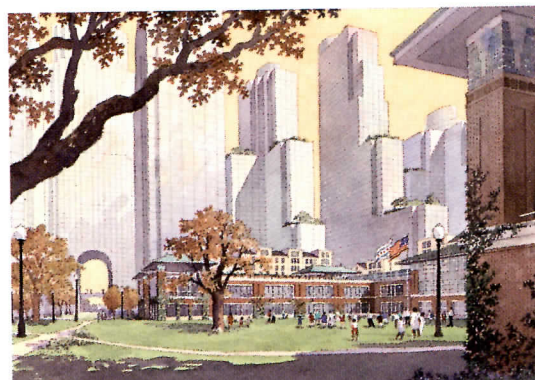
Bound by Wacker Drive and the Chicago River to the north, Lake Shore Drive and Lake Michigan to the east, Randolph Street and Grant Park to the south, and Columbus Drive to the west, the privately owned land now has a nine-hole golf course and driving range. To the west is Illinois Center—a constellation of office towers and hotels with elevated, multi-tiered roadways and a lack of through streets. By contrast, says SOM principal Adrian Smith, FAIA, "The planning of the [Lakeshore East] project tries to integrate the area into the city as a whole."

Five apartment towers are planned with a total of 2,000 units, and seven towers will include 2,350 condominium units. Approximately two million square feet of office space is projected. Although it still encompasses several buildings, the scheme has been downsized to appease city officials and nearby residents. Smith expects a number of architectural firms will design the buildings but suggests that SOM will, in the initial phase, design townhouses, as well as a condominium tower on Randolph Street that will provide a gateway to the new neighborhood.

The SOM proposal supersedes one

submitted by Fujikawa Johnson and Associates, the firm that planned Illinois Center, in 1999. That scheme, notes Chicago Department of Planning and Development spokesman Peter Scales, "called for a linear park broken up by towers. It evolved with SOM to more of a neighborhood development. We're pretty excited about it."

Following a series of community meetings, Chicago's planning commission and city council will review SOM's submission. If approved, construction could begin in mid-2001. The entire project is expected to take up to 15 years to complete. *Tom Connors*



The Lakeshore East neighborhood (left) would be centered around a park. A new public school would be located on the park (above), adjacent to low-rise townhouses. Seven condominium towers and five apartment towers are planned.

### U.S. hosts its first ELEA, students from 18 countries attend

The 17th Encounter of Latin American Students of Architecture (ELEA), the first in the United States, was held in Los Angeles, October 1-7. ELEA is the annual meeting of the Council of Latin American Students of Architecture (CLEA), an organization of Latino architecture students and recent graduates. More than 1,200 students from 18 countries attended, many visiting the United States for the first time.

Organized by mainly first- or second-generation American students from Southern California, this year's ELEA emphasized the growing diversity of the United States. Speakers included Jorge Silveti, Assoc. AIA, Enrique Norton, Billie Tsien, AIA, Michael Rotondi, FAIA, and Antoine Predock, FAIA. Discussions on architecture and design, while the clear focus of ELEA, were secondary to the overall goal of expressing a general cultural experience. Evening highlights were performances of song, dance, or a short skit by each country's delegation. Colombia will host the 2001 ELEA. *Casius Pealer*

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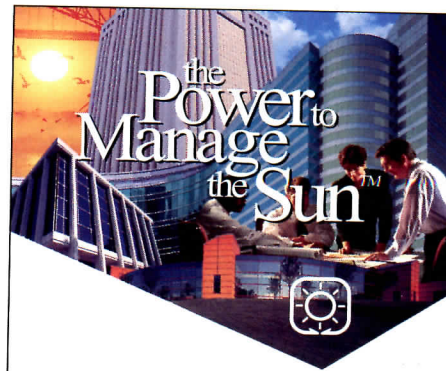
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## News Briefs



(from left) Krens, Gehry, Koolhaas

**Guggenheim, Gehry, Koolhaas form alliance** The Guggenheim Museum is entering an alliance with Frank O. Gehry & Associates and Rem Koolhaas' AMO, an architectural consultancy focusing on the potential of the unbuilt. According to the Guggenheim, Koolhaas and Gehry will work with the museum to posi-

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tion it internationally and to emphasize the importance of architecture in a contemporary context. The alliance's first project is a study for the expansion of the State Hermitage Museum within a 450,000-square-foot General Staff Building in St. Petersburg. In a joint statement, Koolhaas, Gehry, and Thomas Krens, director of the Solomon R. Guggenheim Foundation, said, "Our work will not necessarily result in a museum building, or a building designed by either architect, or a Guggenheim Museum per se. Rather, we are interested in developing aesthetic concepts in an intensely practical context. We are interested in working with local institutions in local situations to create something unique and special."



The Chanin Building's re-created bronze bas-relief features stylized patterns.



**Chicago honors the bungalow** Chicago Mayor Richard M. Daley has announced the availability of financial incentives to preserve and restore the city's bungalows. Under



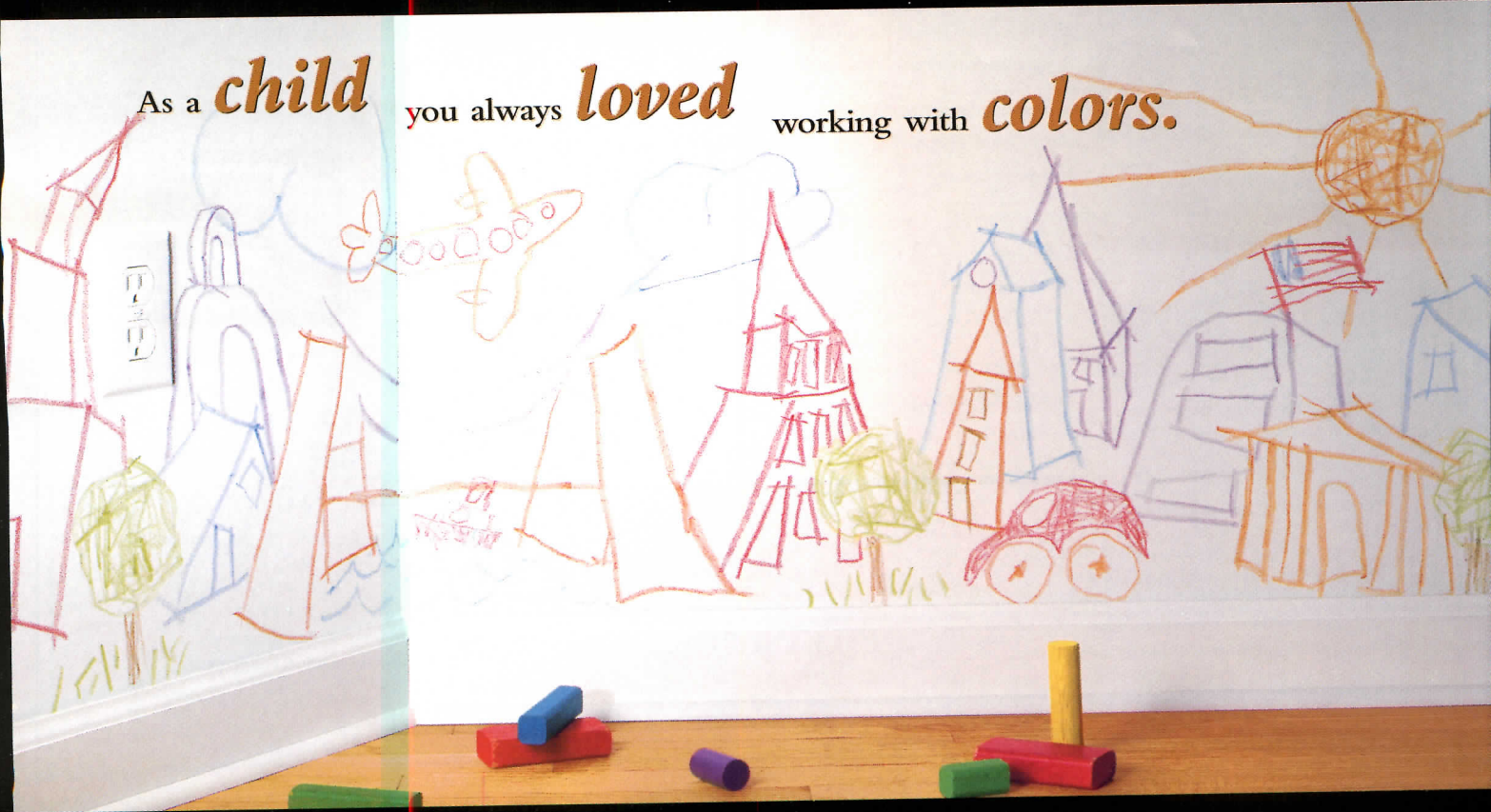
Chicago bungalows

the Historic Chicago Bungalow Initiative, loans requiring only 3 percent down payment will be available to anyone wanting to purchase or rehabilitate a Chicago bungalow. Free architectural assistance and up to \$3,000 in energy conservation grants are also available. Next year, a series of conferences, seminars, and tours will celebrate the 80,000

to 100,000 bungalows built in Chicago from 1914 to 1940. The Chicago Architectural Foundation will host a bungalow exhibition in fall 2001.

**Art Deco bas-relief re-created for New York building** A.R.T. Research Enterprises, a fine-art foundry based in Lancaster, Pa., has re-created a 35-foot section of a 400-foot bronze Art Deco bas-relief, matching the rest of the 70-year-old panels that wrap around the Chanin Building on E. 42nd Street in Manhattan. The section was removed in the 1960s when a HoJo's restaurant moved into the building.

As a *child* you always *loved* working with *colors*.





## News Briefs



Bruder (left) and Corner

### Bruder and Corner win

**Chrysler Awards** Architect Will Bruder and landscape architect James Corner were honored on October 25 as recipients of the Chrysler Design Awards, which recognize innovators in architecture, environmental design, electronic media, and graphic and industrial design. Bruder, based in Phoenix, designed the Phoenix Central Library. Corner, a professor of landscape design at the University of Pennsylvania, is conducting a study for the redevelopment of Alvsjo, Sweden.

### Kallmann, McKinnell, and Wood Architects chosen for Blanton

The University of Texas at Austin has selected Boston's Kallmann, McKinnell, and Wood Architects for the Jack S. Blanton Museum of Art project. Herzog & de Meuron resigned the commission last year after a disagreement with the university board of regents.

### "Structures for Inclusion" deals with other 98%

"Structures for Inclusion: Designing for the 98% without Architects," a one-day conference held on October 7 at Princeton University, explored the work of community design centers, nonprofit organizations, and design-build programs in the design of housing. Speakers, including Samuel Mockbee, FAIA, Robert Gutman, Hon. AIA, of Princeton University, and Dana Cuff

of UCLA, examined why only two percent of new homebuyers in the United States work with an architect. The conference was organized by Design Corps.

### Predock unveils Pueblo

**library design** The design for a \$20 million addition to the McClelland Library in Pueblo, Colo., was revealed in October by Antoine Predock, FAIA. The building will



Predock's library design for Pueblo, Colorado

include a number of shaded terraces and a courtyard inspired by Spanish *resolanas*, or "places to sit and converse in the sun," according to Predock. Construction will begin in 2001.

### Lawsuit attempts to stop

**WW II Memorial** Organizations opposed to the proposed World War II Memorial in Washington D.C. [SEPTEMBER 2000, page 40; OCTOBER 2000, page 19] filed suit on October 2 in U.S. District Court against the federal agencies and commissions that gave approval for the memorial. Joining the National Coalition to Save Our Mall in the suit were World War II Veterans to Save Our Mall,

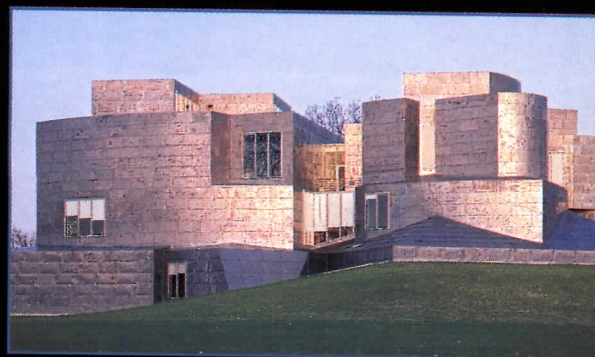
the Committee of 100 on the Federal City, and the D.C. Preservation League. The lawsuit is an attempt to stop the National Park Service from issuing a construction permit. The suit claims authorizing bod-

ies "have violated their congressionally mandated responsibilities" by not following federal laws that dictate the memorial-approval process. The National Capital Planning Commission gave final memorial approval in a 7-5 September vote.

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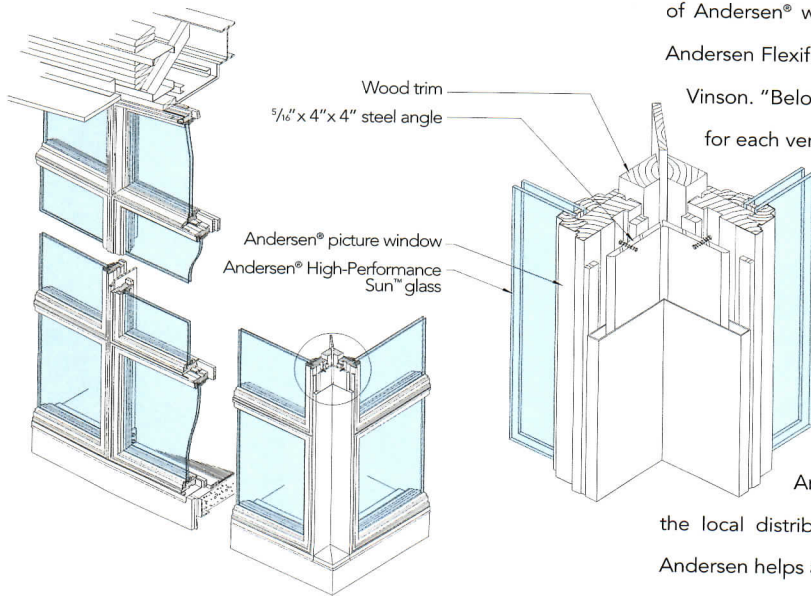
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*Robert K. ...*



# Clear on the periphery: Discovering the edge of Portland

## Correspondent's File

By Suzannah Lessard

In the 1970s, radical land-use legislation was introduced in Oregon by state senators Stafford Hansell, a Republican pig farmer, and Hector Macpherson, a Republican bean farmer, with the backing of Republican Governor Tom McCall, whose brainchild it was. In a coalition that would make the state's political quirkiness a legend, rock-ribbed rural conservatives allied with progressive city dwellers to pass legislation that was, on the whole, opposed only by merchants. One of the law's more dramatic features—especially in the light of the sprawl explosion that happened elsewhere—was the requirement that all municipalities, no matter how small, adopt an urban growth boundary beyond which residential and commercial development would not take place.

Because both the placement of boundaries and their enforcement were left up to each community, some interpretations were looser than others. Portland, however, interpreted the law strictly, and while its growth boundary is not the only one in the country, it is the most prominent. For that reason, I explored the edge of Portland to see what had happened since the boundary was adopted in 1979.

When the legislation passed, timber, the mainstay of the region, had cratered and the economy

*Suzannah Lessard, author of The Architect of Desire: Beauty and Danger in the Stanford White Family, is working on a book about sprawl.*

was flat. In other words, there wasn't a lot of money to be made through growth anyway, which is probably one of the reasons that the bill passed. Furthermore, the boundary in Portland, as in most places, was set far beyond the city limits, enclosing much undeveloped land that, given the state of the economy, was not likely to be developed for some time. Thus, in Portland and elsewhere in the state, the urban growth boundary was little more than an abstraction in the beginning.

Since that time, however, the economy has revived and Portland has boomed. As a result, the city has filled out to the line that is no longer abstract but dramatically visible. The edge of Portland is now as sharply delineated in many places as the edge of fortified hill towns in medieval Italy.

### Adding people, not land

To understand the impact of the boundary, it is necessary to examine the context of Portland's growth. From 1970 to 1990, the Portland metropolitan area saw a 50 percent increase in population but only a 2 percent increase in land consumption; by contrast, the metropolitan Los Angeles area saw a 45 percent increase in population during the same period and a 200 percent increase in land consumed.

Today, about 1.3 million people live within the 24 municipalities and 369 square miles enclosed by the Portland metropolitan area's growth boundary. The boundary

itself has been adjusted about three dozen times and has had two general expansions, in 1998 and 1999, adding nearly 4,000 acres for more than 18,000 housing units.

Travelers to Portland don't necessarily see a demarcated edge to the bounded area because

country is not easy—either there are no roads on the other side, or if they exist, access to them is so far away that by the time you find it you have lost your bearings.

In a few places, however, a road will actually form the boundary, with dense housing on one side and open fields on the other.



Neighborhoods are adjacent to open land along the Portland growth boundary.

the airport is within the city and the interstate blurs the transition with its own domineering, standardized momentum. In fact, it's quite difficult to explore the boundary by car because the boundary is not traced by roads: Rarely do local roads on either side lead to it, much less cross it.

In most places the boundary is marked by closely set backyards abutting farmers' fields. You might be able to peer between houses into the country, but to drive to the

This arrangement presents an idea in action in the landscape. In contrast to the universal experience of sprawl seen on the periphery of most urban areas, the visual impact of Portland's boundary is almost eerie. Instinct tells you that where there is dense residential development, all nearby fields are living on borrowed time. It's only when the open vista continues for mile after mile that the imagination grasps that the identity of the countryside is as distinct as that of

## Correspondent's File

the city, though they lie side by side.

From outside the boundary looking in, you can see condominiums crowding down a hillside to a sudden halt. But there again, it is difficult to move from one realm to the other. This impermeability gives the boundary a certain mystery. In some places, the street grid of the urban area is frayed to a mere ghost—leading nowhere.

### Variations on the edge

Variations on the boundary exist. "Rural residential areas" were partially built up when the boundary was set. Here, pumpkin field and pastures are intermixed with tight clusters of development in which it would appear that every allowable bit of expansion has taken place.

Several suburbs that were small towns outside the city when the boundary was adopted offer another variation. These communi-

ties were given generous latitude for growth and are either connected to the city by an urban corridor or are themselves almost entirely surrounded by open space.

With the boundary filled out, Portland enters a new chapter. Because fortunes can be made in development now, pressure to dissolve the boundary is growing. The Homebuilder's Association, which for many years supported the land-use legislation, is now particularly unhappy because instead of large swaths of land to develop subdivisions of multiple homes, it must look to infill sites and the fragmentary undeveloped parcels within the boundary.

### A product of its time

If land-use legislation were proposed in Oregon today for the first time, it probably would not pass. But because it has been in effect



With land limited, compact new housing is built within the Portland boundary.

for more than 20 years and has become part of the culture, it is unlikely that challenges from the homebuilders or anyone else will prevail. As a result of the boundary, everything within the city becomes ever more significant, ever more precious. Controls consequently tighten as a collective sense of the city becomes more important than property rights.

The next stage of this intensification is likely to be aesthetic. As is clear in much of outer Portland, restraints on style were few when the boundary was strictly enforced. Design review, which for a long time was applied only downtown,

has now been initiated in a number of residential neighborhoods, a pattern that is likely to become more widespread with time. Indeed, city planners acknowledge that design review is being used as a planning mechanism. Thus, embracing aesthetic values becomes the next step in civic responsibility and affirmation of the commonwealth.

The city set in a countryside represents an idea, a choice, and a powerful, sustained political effort. Metropolitan Portland stands in defiance of Manifest Destiny as a place of civic and scenic importance. ■

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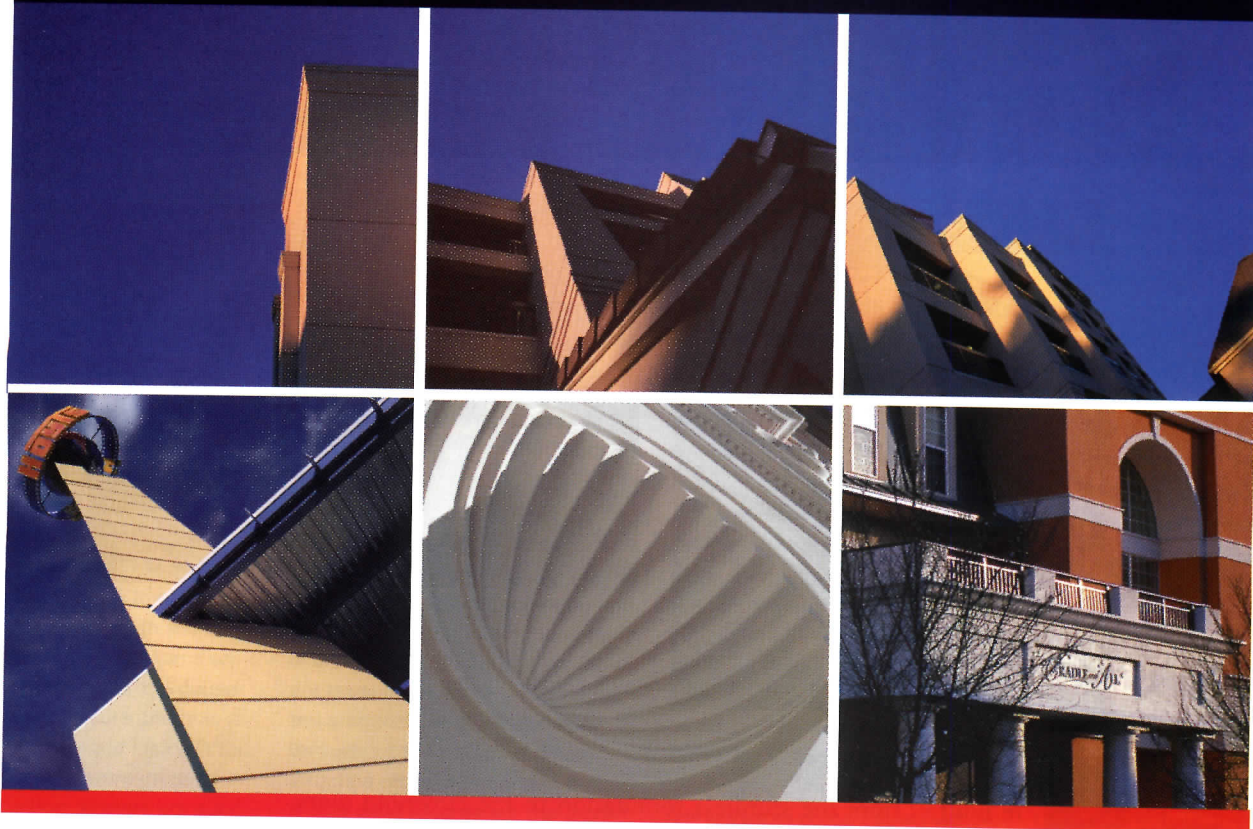


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## Practice Matters

a governmental agency or corporation, has any greater understanding of these issues than a small client.

Surprisingly, many architects skip this discussion, possibly because they worry that their clients, when confronted with what the architect can and cannot do for them—and with the serious responsibilities that clients must accept—will get cold feet and not accept the proposal. This is a legitimate fear, especially with clients who have never built before or who may in fact be predisposed to litigation no matter how well you do your job. Still, it is far better to make these points clear to the client at the outset than to risk uncertainty and misunderstandings that might lead to litigation. A

### YOU HAVE TO FIND OUT WHAT YOUR CLIENTS KNOW AND FILL THE GAPS IN THEIR UNDERSTANDING ACCORDINGLY.

meeting should also be held once bidding has occurred and a contractor has been selected, so that the client and contractor also understand their responsibilities with respect to each other and to the architect as well.

Unfortunately, tales are legion of the design professional who, after going that extra mile to “help the job” or appease an angry client, wound up in a lawsuit. The simple lesson here is that it is very risky to proceed with a client who refuses to recognize and accept the limits of your responsibilities in relation to the overall project. It is far easier to establish and maintain this understanding in the beginning of the relationship than to try to repair it after the fact.

#### Communications and records

Good communications and good record keeping go hand in hand with reducing your chances of a lawsuit and will place you in a position to vigorously defend yourself and your firm against any claims

that do occur. An added benefit is that it strengthens your ability to collect all the fees you are entitled to. Once the job is under way, the best way to protect yourself is to maintain clear and timely communications with everyone involved. The outcome of each meeting or telephone call should be recorded in writing, with copies going to all of the parties involved. Keep written, detailed records of discussions you have with the client, contractor, and any subcontractors. E-mail should be printed and kept in the file. Bear in mind that all electronic records maintained in your office are subject to discovery in a legal proceeding.

However, there are impediments to good job documentation,

and if your firm has problems in this area, you should think again about how to organize and empower your staff. The authority for decision making and documentation on each job must be clearly assigned to someone, and everyone in the firm must understand what the scope of work actually entails and how critical their job logs are to protecting the firm from lawsuits. Record keeping must be at its best when your office is busiest and when pressure to get the project done is greatest.

#### Beyond the scope of services

You must inform your client that changing the scope of your work will increase your fee if it causes you to perform work beyond your original agreement, and that it may result in additional construction costs as well. This should be done before the initial proposal is signed. After work commences, any verbal communication with the owner that involves an actual or potential change in your scope of work must

be confirmed in a clearly written letter and with a memorandum to the file. This is an instance where it is especially important that everyone in the firm understand what your contract covers and who is authorized to make changes to it. For example, a young person just out of school might not appreciate the financial consequences of proceeding with a design change to accommodate an unknown site condition—it could result in extensive redesign of the building and have an impact on the cost of construction as well. If you have educated your client properly, a field condition such as this will be understood as a normal risk assumed by the client in the construction process rather than as your mistake and financial responsibility. You may choose to absorb certain costs as a goodwill gesture, but you are no more responsible for unknown field conditions than the contractor and should not volunteer to do more than a reasonable amount of work to accommodate the situation.

#### Get it in writing

You should never commence additional work on an owner- or contractor-requested change until the client has signed an addendum to your contract authorizing you to proceed. Before agreeing to changes in the scope of work, you should, once again, make it clear that you are entitled to additional fees because you are spending time on an item that was either completed in your original scope of work or on a new item not in your original agreement. If a dispute arises over such a matter in the future, a document signed by your client authorizing your additional work will carry far more weight than an oblique reference to it in meeting minutes.

#### Unauthorized design changes

Owners seem to have a habit of asking contractors to change exits, sprinkler systems, paths of egress, building occupancy types, and so on, with the hope that no one will notice.

An owner's instructions to the contractor to alter the construction of the building from your design, which turns out to be unsatisfactory, may still be considered your responsibility unless your records show that you were aware of the change and did not recommend it. If your duties include site visits and you notice deviation from your plans, you should send written notice to the owner and contractor that any changes made to construction that do not comply with your plans or applicable codes are not your responsibility. If you don't, the cost of correcting any noncompliant construction, or liability for any personal injury or property damage resulting from it, may later be asserted as a claim against you. If you can show a record of communication that states your plans were not followed, this will go a long way toward protecting you from these claims. At the least, be sure to save a record set of plans and specs in case the question comes up in the future.

#### The changing of the guard

You can be in good standing with your client one day and out of favor the next if the person in charge of the project for the client, who understands your scope of work, leaves. When this occurs, to protect yourself, you must schedule an immediate meeting with the new individual running the project. Assume that you are starting over and that this person has absolutely no understanding of your duties and responsibilities or the history of the project. At this meeting, you will thoroughly review the scope of your work and the basis for your understanding of each aspect of your contract. Follow this up immediately with a detailed, letter of confirmation. If the new person is inexperienced or anxious, you must do whatever is necessary to develop a relationship of trust so that the project can go forward smoothly. This may be time-consuming, but it is cheaper than facing a malpractice lawsuit based on a gross misunderstanding of the architect's responsibilities. Of course, you should be reimbursed for the additional time spent in this



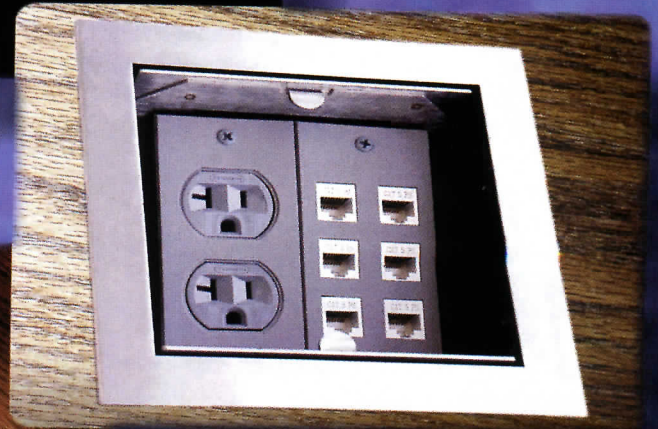
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## Practice Matters

orientation and assistance process, and if you get off on the right foot, the new client representative will appreciate your help and agree to compensate you for it.

### Practice fundamentals

The following tips are so easy to follow, they're often forgotten.

**Time sheets.** Employees consider keeping time sheets a hassle, but they enable you to keep meticulous records of all time spent on each project in the event that you must file a claim against the client to demonstrate your entitlement to unpaid fees. Distinguish between basic contract work, additional work on contract items, and extra work not included in your original contract. Perform no work beyond the scope of your contract without an authorization in writing, signed by the client. Your authorization should briefly and clearly explain why the

work was required and what additional fees are due.

**Get paid as you go.** You have performed valuable services for your client and are entitled to get paid when the services have been performed. Make sure that you get paid for your work as it progresses, according to your contract. In your billing statements, be sure to distinguish between contract work and additional or extra work authorized by the owner. Your authorization form for extra work should provide for payment of your additional fee as the work progresses. You may also consider a provision in your contract for stopping work if payment is not received within a reasonable time limit and adding an interest penalty for late payments.

**Promptly address problems.** If trouble appears, stop and address it. If you are required to perform additional or extra work due to rea-

sons beyond your control, whether they be contractor errors, unknown field conditions, or other matters, you must stop work and insist on an immediate meeting with the owner to address the situation. Of course, if you have done a good job explaining the scope of work to your client from the outset, it will come as no surprise that these unexpected circumstances require you to perform more work than you originally agreed to, and that you are entitled to receive additional compensation for handling them.

**Know when to walk away.** If the contractor messes up critical work, don't be afraid to stop the job and make sure that the responsibility for the problem is placed squarely where it belongs. If this creates extra burdens for you, have the owner sign an agreement that you will be paid additional fees immediately and that this will be taken as a credit on the contractor's progress payment. If the owner refuses to acknowledge and pay for additional design or field services or for your

basic contact work, you may decline to continue as architect of record on the project. If you withdraw, you must act responsibly by providing timely and appropriate notice to all concerned parties and to the authorities. Bear in mind that your firm is legally responsible for any work you have done, and the same standard of professional care applies, regardless of whether it is in your contract and whether or not you get paid for it.

All of this correspondence, file keeping, and renegotiating for extra work probably seems more like busywork than design. But keeping your project files well organized and maintaining records of meetings and conversations will go a long way toward protecting your practice from claims, and it will help you to get paid.

**If you sense trouble brewing.** A brief consultation with a qualified attorney may nip a problem in the bud before it results in a claim against you and the long, costly process of digging your way out of it. ■

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# Aesthetics and the city

Robert A.M. Stern on Two Columbus Circle p.63

Michael Kwartler and New York City's zoning p.64

Suzannah Lessard on Portland's design review boards p.68

## Critique

### We should save Edward Durell Stone's maligned marble masterpiece in New York

By Robert A.M. Stern, FAIA

I'm well aware that some people think I'm out of my mind to want to preserve Two Columbus Circle. The former Huntington Hartford Gallery of Modern Art in New York City is unabashedly decorative, whimsical—one might even say zany. But Two Columbus Circle, designed by Edward Durell Stone in 1964, is without question a landmark. Even though many greeted it initially as kitsch or a bad joke, just as they greeted heaven only knows how many other genuinely provocative, iconoclastic works, Stone's gallery was and is now a serious, carefully articulated building. It is also a fine complement to its important and challenging site on the rotary on the southwest corner of Central Park.

But the white marble building is also confounding. It doesn't fit neatly into any stylistic category, constituting as it does a bold, original, and very early attempt to break with the Modernist aesthetic that held sway in the post-World War II era. With lessons learned from the past, Two Columbus Circle challenged the architectural culture of its era. And now its future is uncertain. The New York City Landmarks Preservation Commission has decided not to schedule landmark hearings, and

*Robert A.M. Stern, FAIA, is dean of Yale University's School of Architecture and principal of Robert A.M. Stern Architects in New York.*

the City's Economic Development Corporation is still sitting on 13 proposals submitted for the site. One, from the Daresh Museum, which has a collection of 19th-century academic art, would clearly keep the gallery for its original use.

Let's not forget that Ed Stone was one of the most important and admired architects of his generation, one whose "brilliant future" had been predicted by Frank Lloyd Wright. Stone's building must be considered as important and valid as Eero Saarinen's contemporaneous TWA Terminal at JFK, now safely landmarked, and as the major buildings at Lincoln Center, now facing the threat and promise of a billion-dollar makeover. Lincoln Center also deserves to be protected.

Stone's pioneering work in International Style Modernism in the 1930s included the Museum of Modern Art, which he designed with Philip Goodwin, and the Mandel House in Mt. Kisco, N.Y. In the 1940s he produced a series of houses in the manner of Frank Lloyd Wright, but by the mid-1950s he saw clearly that postwar Modernism had become a straitjacket. Aesthetic freedom was in the air. Or, to use the phrase that Stone himself then employed in describing his break from Modernism's grip, "I'm going to bat for beauty."

Helped by a very supportive client, the A&P heir Huntington Hartford, the newly liberated Stone fled the aesthetic asylum with aban-



Two Columbus Circle by Edward ("I'm going to bat for beauty") Durell Stone.

don, joyously attacking Modernism's fetishization of functionalism and its pseudo-scientific technological determinism. Stone's design mined architectural history—it was a Venetian-inspired palazzo rendered 10 stories tall and, according to the architect, also inspired by the Romanesque church of Saint-Germain-des-Prés. Whatever its sources, the building was clearly arresting—and delightful. It reinforced the geometry of the circle to which it was sensitively scaled. And,

inside, it had some nice, small, wood-paneled galleries to display pictures.

Both Two Columbus Circle and the art collection that the building was built to house were squarely intended to counter what was then the Museum of Modern Art's ardently polemical bias toward a reductivist Modernism. What an irony that Stone had designed MoMA's 53rd Street building which, I might add, was until recently decried as not very good compared to its European precedents, but is now

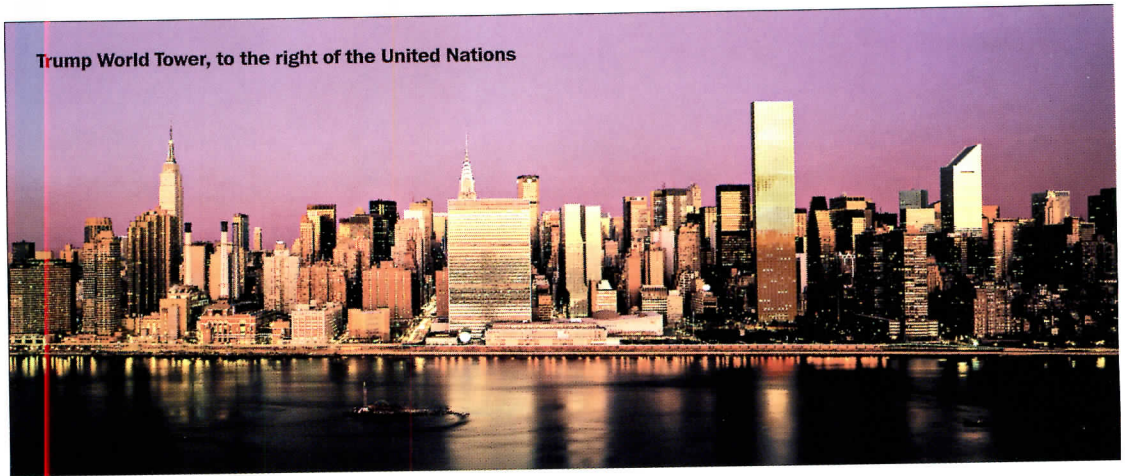
properly being given kid-glove treatment by that institution's trustees.

It is precisely this exquisite irony that we must learn from. We must not allow ourselves to be seduced into aesthetic myopia based on the tastes of the moment, swayed by subjective definitions of beauty that are ever changing. Its worth would be obvious to many, if real-estate considerations and egos were put aside in favor of civic values.

The main issue here about the building's preservation is not the fact of its landmark quality—it's a question of its aesthetics and, dare I say, taste? Where would our High Victorian landmark architecture be today if it were preserved on the basis of prevailing taste? Is a building considered banal and kitsch really bad? Can we not be mature enough to acknowledge the varieties and vagaries of taste? Is beauty only a product of style wars—or is it a victim? Some argue that Two Columbus Circle is too idiosyncratic a building to deserve to be preserved. Yet think of today's most admired buildings: so many of them are also idiosyncratic, to say the least, leaning, swooping, and blobbing about as they challenge our preconceived notions of beauty. Will these bold protests against yesterday's aesthetic last only a generation and be pulled down because they no longer conform to the prevailing ideology?

We must take the long view, and not give in to the changing winds of architectural fashion and the tendency to eliminate as we smugly revile the recent past. Two Columbus Circle must be preserved for future generations to consider, debate, learn from, and, heaven help us, actually enjoy. There must be room in architecture for witty commentary and for irreverence. As the design editor Olga Gueft so aptly put it in 1965: Stone's design was one that "only a Bauhaus ogre with hardened arteries could fail to smile at." So I say, "smile and save." ■

Trump World Tower, to the right of the United Nations



## New zoning proposed for New York needs further refinement

By Michael Kwartler, FAIA

*New York City has been the leading laboratory for zoning experimentation ever since it was the first municipality to develop comprehensive zoning regulations in 1916. A current proposal to revamp its zoning regulations has implications for the larger design and planning community. Included is a controversial idea to provide incentives for aesthetics or good design. As the following essay indicates, the problem may be not just in the goals, but in the process as well.—Ed.*

In 1961 the new zoning laws unabashedly embraced the Modernist, utopian view of the city by introducing two innovative concepts, incentive zoning and density limits (based on the ratio between floor area and site size), along with the ubiquitous tower-in-the-park model. Over the next 40 years, New York City continued to experiment, for example, by encouraging public amenities and contextual zoning. Notwithstanding these efforts, the tower-in-the-park and contextual zoning came into conflict. It was time to reconceptualize New York's zoning into a coherent and consistent set of regulations. The result is the Unified Bulk Program, slated to be voted on by the City Planning

*Michael Kwartler, FAIA, is the director of the Environmental Simulation Center and principal of Michael Kwartler and Associates.*

Commission in early November.

The Unified Bulk Program finally puts to bed the 1961 tower-in-the-park zoning 38 years after Jane Jacobs' wrote *The Death and Life of Great American Cities*. Formulated by New York's Department of City Planning and endorsed by its director, Joseph Rose (also the chair of the planning commission), the proposal replaces the Corbusian vision of the city with a consistent set of contextual zoning regulations that involve height limitations, new building configurations, and a dispensation on aesthetic grounds (which is being modified as we write).

As part of this approach, heights of buildings would be limited in all residential, commercial, and manufacturing sections of the city, with the exception of midtown and lower Manhattan. One of the apparent problems with the 1961 regulations was that there were virtually no limits to the building height per se, a loophole that allowed Donald Trump to erect a 861-foot-high residential tower designed by Costas Kondylis & Associates on First Avenue near the United Nations. So the city is proposing that a lid be clamped on buildings from 50 to 360 feet in residential areas, and 90 to 720 feet in commercial ones, depending on the location.

A second, related feature of the new proposal is replacing tower-in-a-park regulations with tower-on-

a-base ones that would fill out the site to the street wall. Much of this contextual zoning would be as-of-right, that is, not approved by a special review process. This aspect is commendable in that the policy would recognize that the city is a heterogeneous mosaic of distinctive neighborhoods and unique districts, and zoning should reinforce the sense of place rather than homogenize it.

The third major feature, which is the most unusual and much-discussed change in the zoning legislation, has proved to be controversial. To compensate for the rigidities in the new zoning, the city would allow exceptions based on aesthetics (a.k.a. "good design"), originally to be determined on a case-by-case basis by a design advisory panel. While the status of this panel remains in doubt, it is likely that some form of waiver would remain, based on urban design criteria rather than a building's architectural aesthetics.

Rose is right to rethink this third feature in the new zoning. While the instinct is correct, the approach is wrongheaded. If the intent is to use zoning as one tool to promote good design, shouldn't the Unified Bulk Program's "as-of-right" regulations be designed to meet that objective, since 99 percent of all new buildings will be built as-of-right? The reality is that only limited, if any, use would be made of the design special permit, since it would

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**CIRCLE 37 ON INQUIRY CARD**

# Critique

take at least 18 months to get approved, would be costly, and would be fraught with uncertainty.

Putting the procedural issues aside, should the city or the public determine what is acceptable architectural design on a case-by-case basis? Isn't it better to represent the public's interest by designing a set of regulations that frame the problem to be solved and the means to assess performance? Architecture and urban design are not the same thing. Urban design is an *inclusive* and *open* system that has meanings for the public at large. Architecture is, and must be, much more subject to individual interpretation—hence it remains an exclusive, closed system. The 1980s Midtown Zoning Regulations illustrate this point: they allowed Christian de Portzamparc's LVMH Tower to sit next to Platt Byard Dovell's Chanel Building. Both respond differently to the same set of regulations, yet they were built as-of-right with no design review.

It is not in the public interest to substitute my architectural aesthetic values for another's: with design review it is unlikely that the Guggenheim and Whitney museums would have penetrated the good manners

of Fifth and Madison Avenues.

The real problem with the Unified Bulk Program, as it was with its 1961 predecessor, is that the zoning is based entirely on prescriptive zoning, as opposed to performance zoning. Prescriptive zoning assumes that one knows in advance what is appropriate for every lot, block, neighborhood, and district in New York City, not only for today, but also for the next 10 to 20 years. If there is a virtue in prescription, it is its predictability and perceived simplicity. By legislating a building type, prescriptive zoning rejects the idea that there may be multiple right answers to a design problem, that all of them are acceptable, depending on the time and the social, economic, and physical context.

But predictability comes at a price. For example, the rigidly prescriptive 1961 zoning regulations typically made innovation difficult, if not impossible, because the site plan and building form were overdetermined and predetermined. The same is true for the contextual Unified Bulk Program regulations, resulting from the interplay of minimum and maximum building base height-and-setback restrictions, building-height limits, lot coverage, and yard regula-

tions. Essentially, the one-size-fits-all tower-in-the-park plan is to be replaced by its antithesis, the one-size-fits-all contextual-building-type plan.

Yet much of the city's most innovative and admired housing, such as First Houses in Manhattan and Sunnyside Gardens and Phipps Houses in Queens, or various landmarked mews in New York, could not be built as designed under the Unified Bulk Program. While they may adopt the perimeter-block concept (a.k.a. "contextual"), they do not fit Unified Bulk Program's ordained building forms and inflexible standards.

The form, content, and practice of land-use regulations were once thought immutable, locked in the static world of traditional zoning, sustained by the Supreme Court in 1926 in *Euclid vs. Ambler*. But this is not the 1920s. We are only beginning to grasp the ramifications that globalization and information technology will have on the spatial distribution of activities in the city and the forms they will take. We could not anticipate the unlikely prospect of people wanting to live in old manufacturing loft buildings; new types of households; and the emerging implications of the digital revolution on work and place. We need a more responsive system of land-use controls, one that would not have a backlog of regulations

that take years to adopt and are typically outmoded by the time they are adopted.

Let us consider an alternative that dispenses with zoning as we know it, embraces uncertainty, and moves from static regulation to dynamic management. A management-based regulatory system is one that would be capable of responding to changing conditions, profit from experience, be self-adapting, and be administered as-of-right.

Such a system would tap the power of Geographic Information Systems (GIS). This analytical digital tool contains spatial data, such as infrastructure, blocks, lots, building footprints, heights, uses, etc., integrating information about a place with its physical form. The results would be displayed in a fully interactive 3-D model (3-D/GIS) of the neighborhood, moving zoning out of the abstraction of words, numbers, and diagrams, into the real world. The process integrates performance standards and a continual evaluation through information and feedback.

The exercise of choice constitutes the basic mystery, and sometimes the poetry, of how places are shaped. Consequently performance standards present a system of trade-offs among real world choices, where decisions are made according to the specific site and context of the neighborhood. Throughout the process, management concepts would be used to assess anticipated developments in relation to a community's articulated sense of its future, and its capacity to support it. With continual information and feedback, one could adjust goals and measure performance periodically.

The proposed move from static regulation to dynamic management would actively merge planning and zoning. The world has changed substantially since zoning was first created in NYC in 1916 and mandated a constitutional use of the police power. It is more complex and global in scope, with change accelerating, and uncertainty not just a fact of life but something that should be embraced. ■



**If the Unified Bulk Program is passed, the building configurations would change as seen in these studies (1 & 3, before, 2 & 4 after). Views are from West 112th St. toward Frederick Douglass Blvd.: a residential building (top) and community/school facility (bottom). While the minimized bulk is appealing, the means for attaining this goal should be more sophisticated.**



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CIRCLE 38 ON INQUIRY CARD

## Portland's review process shows there is room for a quiet kind of beauty

By **Suzannah Lessard**

I was surprised when I recently found myself in Portland, Oregon—a progressive place, in my mind, and far from the seductions of old Europe—in the company of two hip, intellectually vigorous, and entrepreneurially successful young architects, Nancy Robertson and Candice Merryman, who were openly passionate about beauty. The subject came up because their firm was one of the many that have worked with the design review process governing all building projects in downtown Portland, as well as other city neighborhoods electing to have design guidelines.

I had asked them if they felt any Modernist ambivalence about submitting to a process that in a certain way institutionalized beauty. With the unguarded fervor that can come at the end of a long, hard day, they were off, quickly moving far beyond the comparatively humdrum realm of design review. They were talking about big-time beauty, the real thing.

One of them, for example, spoke of encountering beauty for the first time by deeply understanding the universal truth of a mathematical formula. That kind of beauty, the kind that seduces absolutely, enslaves. Their only acknowledgment of the very existence of Modernist ambivalence on the subject was that they assumed I didn't know what they were talking about. I have to say, hearing them sent pleasurable shivers down my spine, while at the same time I was scratching my head.

Beauty is not, on the whole, a force that invites you to question its

*Suzannah Lessard, author of The Architect of Design: Beauty and Danger in the Stanford White Family, is working on a book about sprawl.*

power, which is perhaps why the Modernists were so uncompromising in their rejection of it. Though design review cannot possibly legislate beauty in the larger sense, the establishment of a design review process is one of the ways that the idea of beauty has crept back into respectability in architectural culture, through the side door of planning, it has to be said. Furthermore, the goal of design review in Portland, as in other places, has as much to do with what you don't see—with the prevention of ugliness—as it does with what you do see, a kind of recessive approach that has also allowed the ideal to sneak in under the radar of architectural discourse.

Most advocates of design review do not claim to be trying to achieve beauty, exactly, but rather to be trying “to build a decent city decently” as Jeff Joslin, a planner with the city, put it to me. Still, design review implies certain principles that might be able to hide behind the idea of “a humanistic scale” or the wish to avoid the more alienating aspects of Modernism, or the more senseless expressions of capitalism. But in the end, it cannot really be justified without in some way, in some guise, affirming the ideal of beauty. The truth is that architects have been going for beauty for years. Still, on the East Coast the word itself is still not quite respectable and is even embarrassing, so that the whole notion has been in the closet in a certain way.

Not so in Portland. Though few were as forthright as Merryman and Robertson, I found no architect at all conflicted in a philosophical sense about beauty. Though they surprised me, Merryman's and Robertson's feelings at the same time seemed inevitable. Of course, I thought, beauty has to come back, and now is about the right time, historically



The exterior walls with “leak” windows (top) and transparent entry (bottom) were pedestrian amenities implemented in the design of Portland's Chinese Garden, by Robertson, Merriman, Barnes Architects.

speaking. It's an instinct, a capacity that is synonymous with our humanity.

Listening to them, I also wondered, “Are those hard-earned 20th-century insights—the nefarious, seductive, misleading qualities of beauty—to be forgotten? Isn't there any wisdom in the suspicion of beauty?” Walking around downtown Portland with such thoughts in mind, I sought out buildings that I knew reflected the design review process. An office building, downtown apartment buildings with shops on the first floor, a building for the Port Authority—they were all attractive.

In general, downtown Portland is lovely, charming, and congenial. There are few blank walls at street level, and the breaks at the level of the first story keep the experience of the sidewalk comfortably within a human scale. The corners are interesting and lead you rather than blind you, all features explained in the design review guidelines. The older buildings have been well restored, and the newer buildings have facades that are full of interest for the eye, where often a variety of

textures, colors, and shapes are coherently deployed. They create a rich, intelligible visual experience, also encouraged by design review. The onlooker feels acknowledged and respected by these buildings in which such care has been taken to please.

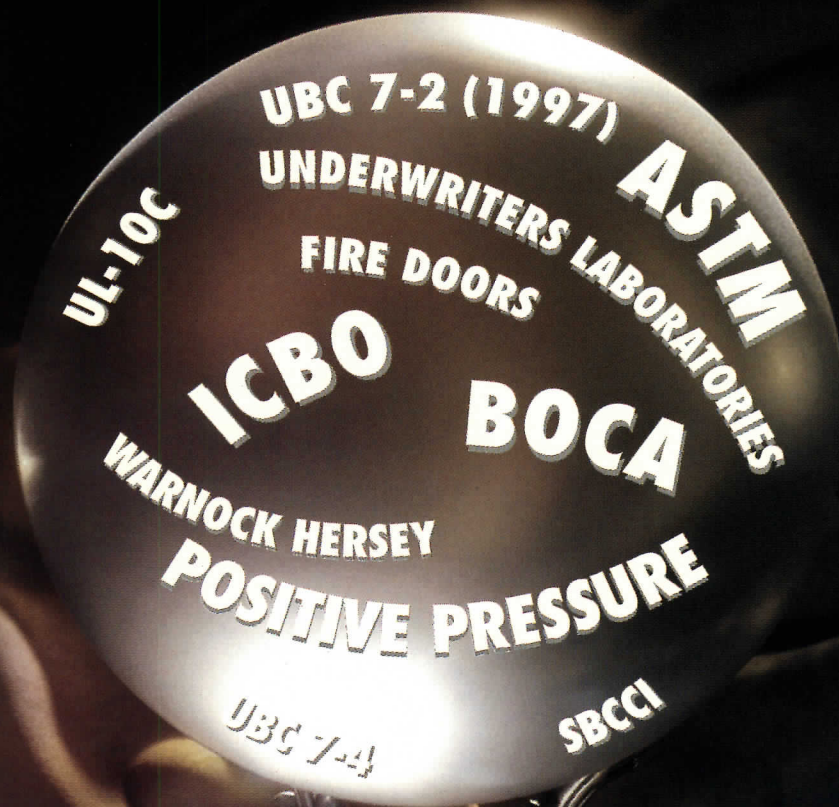
One of the reasons that the Modernists were suspicious of beauty was because it was used to justify, mythologize, and ennoble corrupt political and social systems, as well as religious institutions. The kind of beauty that knocks you flat on your back in awe can make you believe anything. Such is not the beauty in downtown Portland. It is a modest beauty that is content to stay in the background as a mere impression, enhancing the life that goes on around it. Still, it is a seduction of a kind. It ennobles and justifies something.

But I found that if I chose to look at it more directly, if I asked, “What's going on here? Whom does this beauty serve and what is the truth underneath?” the answers were far more straightforward than is often the case where traditional forms of beauty are concerned.



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CIRCLE 39 ON INQUIRY CARD

## Critique

The purpose of the beauty of an apartment building in downtown Portland is not to trumpet the importance of the people who live there at the secret expense of those who don't. It is to make the experience of downtown Portland more pleasant for the community at large.

The purpose of the beauty of the Port Authority building is not to make me think that the government of Portland is great and powerful—as beautiful 19th-century government buildings often do—but to enhance the environment for me and for you: it is, if anything, a form of the government serving the public.

Beauty in downtown Portland is a civic choice that can be truly appreciated only when compared to what we know would be there if design review guidelines did not exist: a haphazard decaying environment, wasteful, depressing, and flaunting a

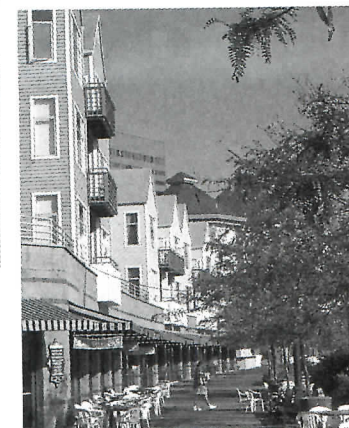
societal disregard for the public realm.

The beauty of downtown Portland, in other words, reflects a decision to reverse the normal course of events in America. The result may be a modest, middlebrow beauty in many respects, middle-class in its postures and even complacent in its style. But in the context of American history, it stands for a quiet revolution of a kind. And in that revolution, it represents a perfect inversion of the old Modernist problem. Choice, after all, is the essence of morality. The beauty of downtown Portland, the deep beauty, is in the statement of conscience and responsibility that it represents.

This is the perfect answer to the Modernists. Still, the question arises, can it be sustained? Can this muted, almost self-effacing form of inspiration generate beauty that will rival the great



**Design guidelines include orienting residential development to the sidewalk (top); enhancing downtown view corridors (top, right); and articulating urban edges (right, below).**



architecture of the past?

The category of building that has brought forth the most stunningly beautiful architectural designs in recent years is the museum of art. So it is not God, the king, or even democracy that inspires the

highest form of beauty today, but the ideal of art—that is, beauty itself. Design Review Board beauty, in its more modest way, is similarly inspired. We make an effort to have more beautiful cities because they are more—beautiful. ■

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CIRCLE 41 ON INQUIRY CARD



By Naomi Pollock, AIA

In Tokyo, where a cacophony of neon signs, multistoried video screens, and supergraphics rule the road, few buildings stand out. So when international developer Veloqx City Investment Ltd. asked Klein Dytham to design a temporary construction fence for their first project in Japan, the Tokyo-based architects knew they had to come up with something outrageous. Fighting fire with fire, they created Pika Pika Pretzel, a dazzling, silver 112-foot-long inflatable wall that brilliantly focused attention on the site even before ground was broken.

Part blockade and part billboard, the fence consisted of two parts: a standard-issue steel panel wall covered with not-so-standard silver and sticky-backed plastic, and four 30-foot-high “pika pika” (Japanese for “bright and shiny”) pretzel-shaped pieces made of the 0.04-inch-thick fabric used for hot-air balloons. “We thought it was a really interesting material,” says Dytham. “I am fascinated by giving structure to fabric by putting air into it.” The fence fronted a choice site on Omotesando, Tokyo’s answer to the Champs-Élysées, from

## Big in Japan: The inflatable “Pika Pika Pretzel” wall



**The appropriately named Pika Pika Pretzel (the word means “bright and shiny” in Japanese) wall is made up of 30-foot-high pretzel-shaped pieces. The pieces are made of .04-inch-thick fabric used for hot-air balloons.**



November 1999 through May 2000, when it was taken down to make room for site excavation for the 12,558-square-foot retail center, designed by CDI Aoyama Studio and scheduled to open autumn 2001.

Right from the start the architects envisioned a huge air-filled wall on the site. But to alleviate enormous wind loads, the wall, shaped like a beach raft on its side, had to be poked with holes—a decisive move that ended up molding its overall form. While the holes strengthened the 3½-foot-thick wall by tying its two surfaces together with translucent white fabric, they required elaborate internal ribs to preserve a rectilinear shape. But by rounding the top profile around the holes instead, the entire hoarding could be sustained by air pressure alone. Four 6-inch-diameter metal poles that tethered each pretzel-shaped balloon to an existing concrete slab at grade kept them from blowing away, and two 150-watt fans kept each one inflated round-the-clock.

Like Klein and Dytham, who came from England and set up shop in Tokyo in 1991, Pika Pika Pretzel was a British import. Manufactured by Cameron Balloons, the maker of 90 percent of the world’s hot-air balloons, the fence took a month to fabricate in the company’s Bristol factory. It was then sent by airfreight to Japan in four discrete boxes. Gale force winds slowed installation but, all told, it took no more than a day for Taisei Construction Company to put the pretzels in place, thanks in part to tea and sympathy from the manufacturer’s local representative. ■

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CIRCLE 44 ON INQUIRY CARD

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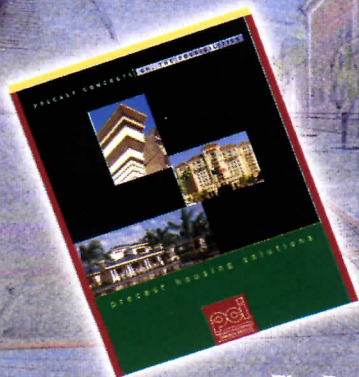
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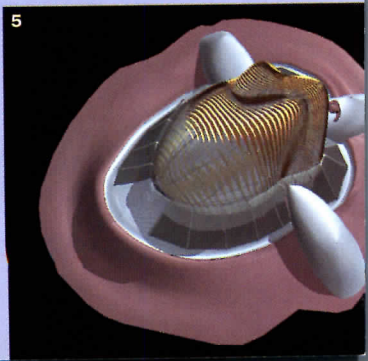
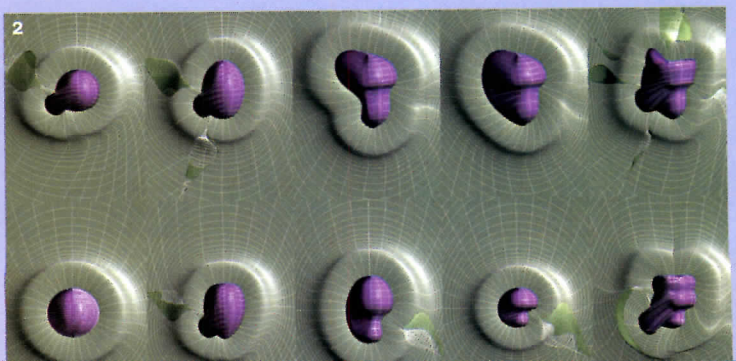
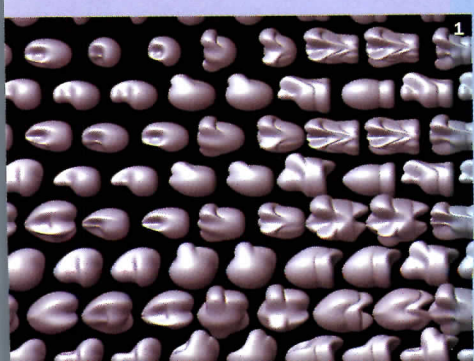
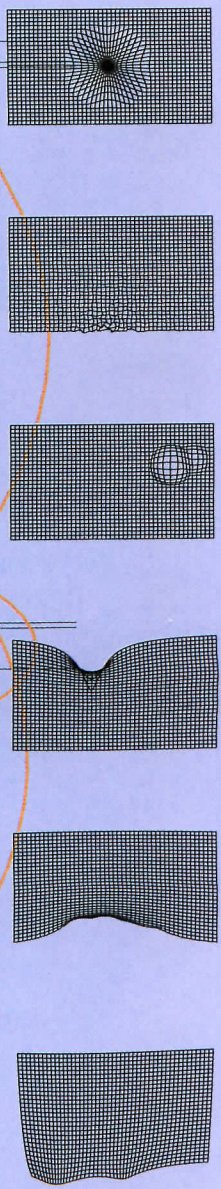
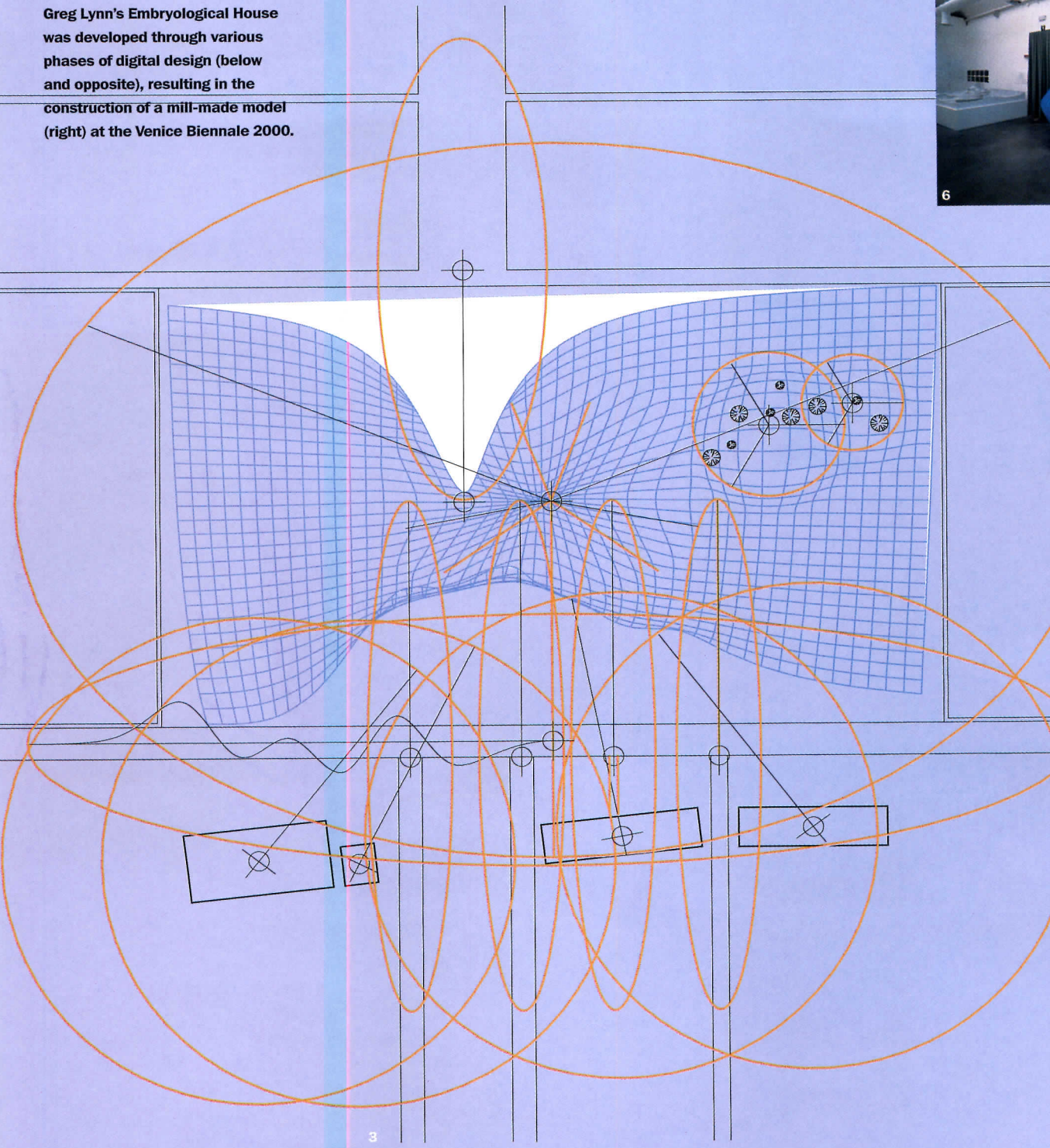
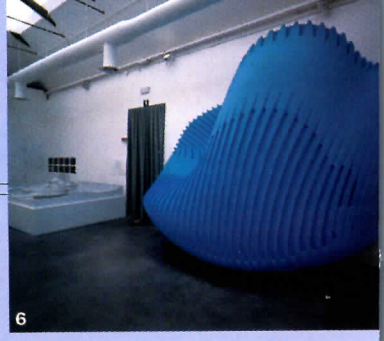


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CIRCLE 45 ON INQUIRY CARD

*Precast Concrete...Your Design Option!*

Greg Lynn's Embryological House was developed through various phases of digital design (below and opposite), resulting in the construction of a mill-made model (right) at the Venice Biennale 2000.





By Ann Bergren

Is beauty difficult? Gazing at the gorgeous bodies roller-blading along the boardwalk here in Venice, Calif., beauty may seem the best and easiest thing in the world. From this coast, that other Venice—where the recent Biennale in its theme of “The City: Less Aesthetics, More Ethics” [SEPTEMBER 2000, page 71] implied a conflict between beauty and good—may seem more than a world away. But in the work made in his office here and presented in the show there, Greg Lynn transcends the distance between these two points of view.

An opposition between the beautiful and the good is as classical as the identification of the two. For while philosophy and theology have insisted traditionally upon the ultimate unity of beauty, goodness, and truth, other discourses on the human condition, ones that specialize in money and sex—like poetry, tragedy, or economics, for example—have never been so sure, repeatedly characterizing beauty as diabolically ambivalent.

Exciting the full force of eros, beauty revives the will to live. By promising the complete range of erotic pleasure, from sexual satisfaction to cultural creation, beauty produces a virtually irresistible drive to possess (thus eliciting the counteracting claim made by philosophers such as Kant that “true” beauty is universal and “disinterested”). But the distribution of beauty is unequal. Being an external, material, and formal condition, it is an unreliable index of inner, invisible truth. And just because it is so irresistibly pleasurable, it clouds the mind. Dazzled and

seduced, who can remember that “beauty is only skin-deep?”

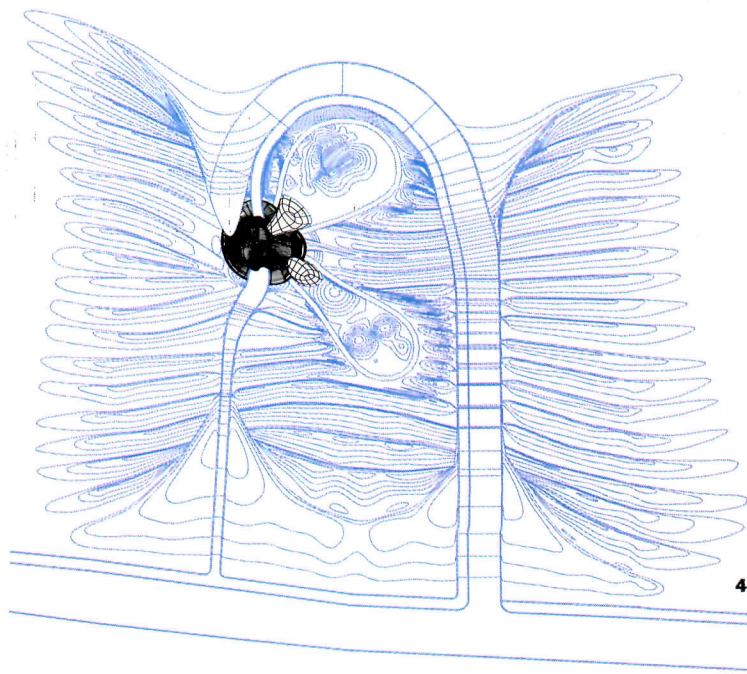
Frequently, attempts to cope with beauty’s ambiguity repeat its zero-sum economy of profit and loss. An aesthetic conservative would magnify its value, but concede its inequality by limiting beauty to enhancing the life, increasing the pleasure, and proving the worth of a chosen few. A more egalitarian approach would attack beauty’s rarity by reducing its value and extent—“less aesthetics, more ethics.” Two recent projects of *Animate Form* (the title of Greg Lynn’s 1999 book)—the Embryological House [DECEMBER 1999, page 104], which appeared in the Biennale, and the Korean-American New York Presbyterian Church—pursue a different strategy.

Each of these projects implies a certain critique of architectural aesthetics. The most difficult thing about architectural beauty, says the Embryological House, is that there is not enough of it—it’s too time-consuming to design in quantity, too difficult to build, too expensive for many to buy, and so it tends to rewrite economic disparity as lack of aesthetic class. And sometimes, suggests the Korean Church, it’s solipsistic, uninterested in other building or programmatic signification, wanting only to be a “knockout” by itself. In tackling these causes of difficulty, the two projects of *Animate Form* try to make architectural beauty easier.

*Ann Bergren lives in Venice, Calif. She received an MArch from Harvard Graduate School of Design and frequently writes about architecture.*

# The Easier Beauty of **Animate Form**

Greg Lynn’s recent projects, the Embryological House and the Korean Presbyterian Church, challenge our assumptions about aesthetics



## Embryological House

Embryological House explores the potential of CAD/CAM to offer a mass market a new maximum of aesthetic value. The goal is a “line” of houses that would transcend the alternatives of Modern industrial production—if mass-produced and thus relatively inexpensive, then standardized; if one-of-a-kind custom design, then available to relatively few. Design and manufacture by aid of the computer present a different economy of constraints and options. Within the outer limits of a common structural system and the parameters of the manufacturing machine, the design process of Embryological House gives the architect and client a virtually unlimited range of choice. Each phase of the design is “interactive,” presenting a series from which a selection must be made. By this choice the entire form is modified, as opposed to development or “kit-of-parts” housing in which alternatives affect only parts of the whole. In animate form-making, the products are at once multiple and unique.

The Embryological House develops in a series of animations. First, a set of vectoral forces is applied to a primitive shape and permitted to generate a group of what Lynn calls “gastrulated rooms” (an analogy with the biomorphogenetic process by which an embryo folds on to itself to form a gaster, or “stomach”). (1)

From these Lynn chooses the six showing the widest variation and invents a structural system that can accommodate them all. The six volumes are then developed through interaction with forces applied to an arbitrary ground plane: while deforming the volume, the ground also deforms, nesting the volume in a folded plinth. (2)

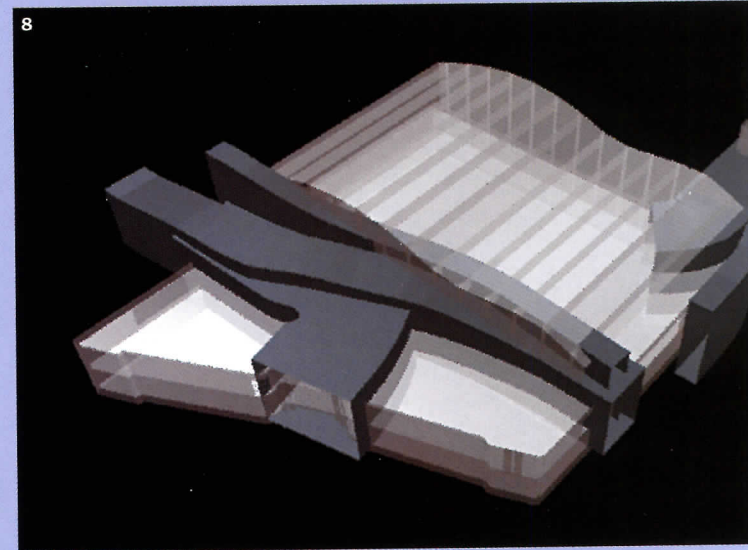
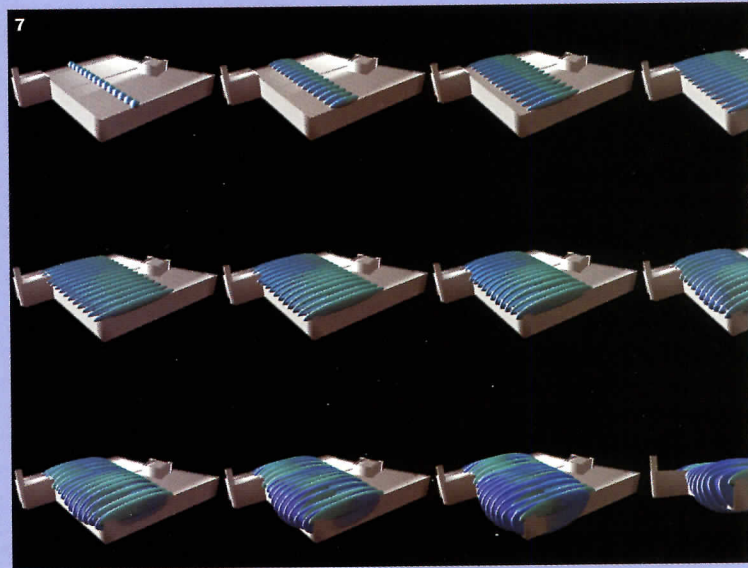
The house volumes can now be brought under the influence of a particular site. To provide local conditions for the houses, Lynn chose the sites of 12 Palladian villas in the Veneto and translated the particularities of each—topology, orientation, barrier, and access—all into vectoral information. (3) When one of these sites interacts with one of the nested house volumes, mutual deformation results in the creation of an inter-

## EACH OF THE PROJECTS IMPLIES A CERTAIN BUT SEPARATE CRITIQUE OF ARCHITECTURAL AESTHETICS.

stitial zone for transitional amenities such as grotto, garden, or patio, which can be rendered in glass so the ground turns transparent and the house appears floating above it. (4)

At any stage of the process, other kinds of information can be permitted to influence the form. In one house, for example, the path of the sun on a given day (it could be any date of a client’s choice) is translated into forces that subtly deform the surface. As the sun passes around the solar vault, it registers the areas of light and shade along the building’s irregular dents, leaving patterns like moss on rocks. The zones where the sun shines on the south side are lifted slightly from the surface, as if magnetized by the solar arc. They are turned paradoxically into shade panels of three-dimensional light, or so it seems, made from golden ribbons of photovoltaics bonded between urethane and flexible stainless-steel sheets. (5)

At the end of this embryology appears a series of unique houses of a generic proportion, 30 feet high (2½ stories), 30 feet wide, 50 feet long, that can swell or shrink, depending upon the site. Computer-aided manufacture makes the houses an aesthetic bargain by producing within its parameters the series’ multiple, singular units without specialized machining and in relatively little time. At the Venice Biennale, Lynn illustrated this means of production through a 30 percent scale model made with 5-axis (three orthogonal plus clockwise and counter-clockwise) CNC (computer numerically controlled) milling machine. (6) From a gantry arm moving back a forth within a 30-by-20-by 6-foot range, first thicker, then thinner

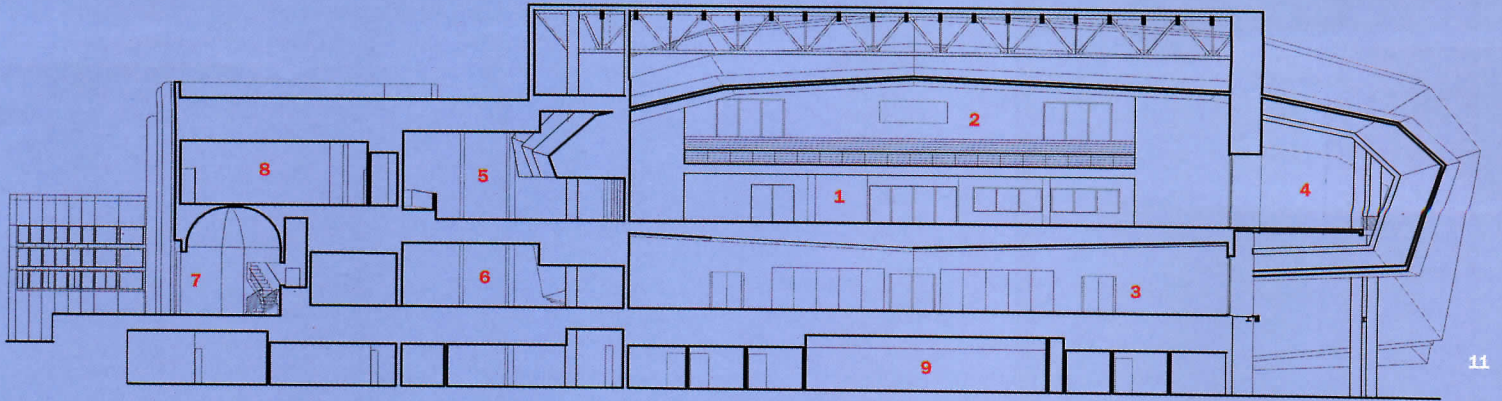


drill bits milled the form from 3.2-foot-thick slices in less than a week. As a mode of distribution, Lynn envisions a kind of “mail-order” business that could deliver these house-parts to any site on the globe.

### The New York Presbyterian Church

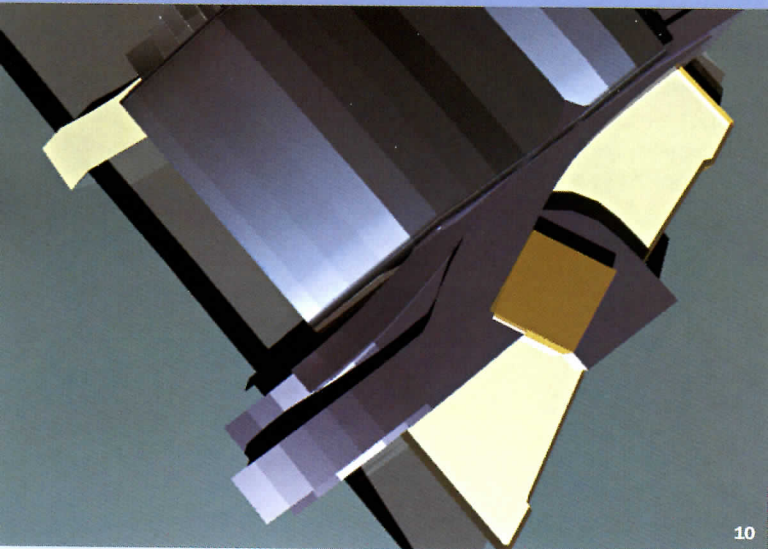
Blob building would seem the very essence of the future, a complete break from the past: its forms diverge so strikingly from those of earlier architecture, both Classical and Modern; it is designed and manufactured by aid of the most advanced technology, and it aspires to transcend traditional aesthetic and ethical alternatives. If any architectural beauty is going to be self-centered, therefore, unconcerned with anything not itself, Animate Form itself might seem the most likely suspect. Because the new has so often defined itself as that which can and must obliterate the old, such suspected exclusivity is understandable, but dangerous. It can breed resentment, if not fear, of these new forms. It can make this beauty difficult to take. Yet in the case of Animate Form, such suspicion is unwarranted. For radical innovation is only half of this beauty’s story, or rather, its radicality resides in a new function of the new.

Making old the kind of new that would wipe out the old, it is



11

- 1. Main sanctuary
- 2. Sanctuary balcony
- 3. Cafeteria
- 4. Outdoor stair
- 5. Sanctuary lobby
- 6. Cafeteria and chapel lobby
- 7. Secondary entry
- 8. Members meeting room
- 9. Classroom level



10

The Korean-American New York Presbyterian Church in Queens was completed in 1999 by Lynn, with Douglas Garofalo and Michael McInturf. The renovation and addition to a 1930s laundry (southeast eleva-

tion, right) resulted from digitally designing an egglike blob that is morphed into a sanctuary and terrace, and irregularly bent circulation tubes that project through three sides as large rectangular windows.

9



the beauty of the Korean Presbyterian Church to animate tradition. As presented to the trio of architects—Douglas Garofalo, Greg Lynn, and Michael McInturf—for conversion into a 2,500-seat church, the building was a graffiti-poxed ghost of the 1930s Knickerbocker Laundry Factory, a two-story industrial shed greeting riders of the Long Island Railroad with a classically bisymmetrical, streamlined Moderne facade. It was originally criticized by Lewis Mumford for a “misplaced monumentality.” To reno-

## THE CHURCH ANIMATES TRADITION, BOTH ARCHITECTURAL AND RELIGIOUS.

vate the building, the architects made two major moves—an egglike blob on top of the existing building that generates the sanctuary and terrace (7) and a circulation of curving tubes. (8)

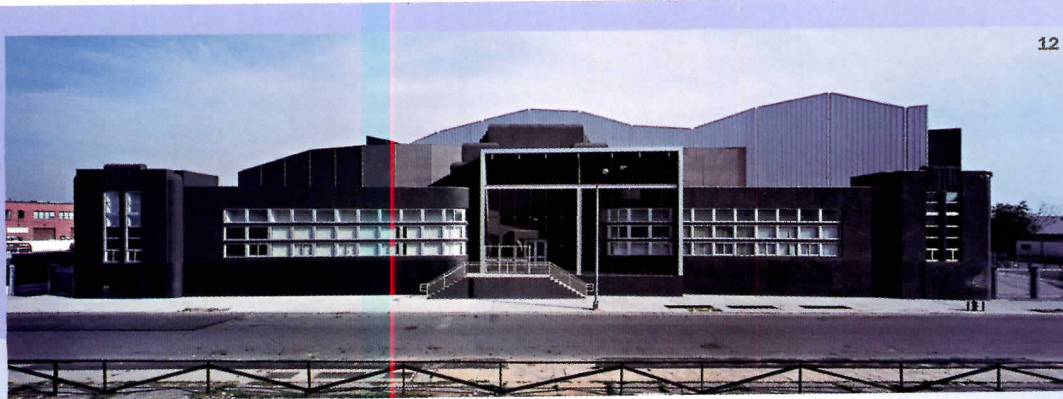
Each of these additions works to produce not univocal symbols, but rather a symbolic potential—forms that interact in this context as virtually animating puns that bring to life the building’s traditions, both architectural and religious. While manifesting in plan and section the irregular sinuosity of spline curves, the tubes of the “interior subway” thrust through the skin on three sides of the building to end in giant glazed rectangles, tributes in their cruciform mullions to the building’s Modernist framework as well as to its current religious use. Standing beside and projecting ahead of a similarly glazed entrance, the crosses signal east and west, “the way, the truth, and the life.” (9) On the south side, the tube turns to revive the monumental facade. (10)

Embracing within its bend the octagonal, domed foyer, (11) the

curve ends in a rectangle again, but this time cut into two squares, placed to quicken the moribund symmetry of the windows and steps. (12) With one square framing the entrance, the other plants a vertical line that subtracts three from what now read as three rows of 11 and 7 windows, two numbers whose numinous force in many sacred traditions (being indivisible by either two or three) might not come to mind here, were it not for the numerological play on the church’s opposite side.

The morphological derivative of the original egg, the north elevation (13) of the sanctuary and terrace functions as a sort of “title line” for Animate Form. From left to right, the roof rises and falls in two waves, the first of three and the second of twice three panels, itself echoed in the six metal fins, as they move like the key—frames in the animation process, each opening toward the view of Manhattan beyond. Coupled with the three projecting crosses at the end of the circulation corridors and divided in threes by three architects in a building devoted to the Trinity, the form here animates the anima itself, the “soul” expanding as it breathes.

In the deployment of their aesthetic resources, the Embryological House and the Korean Presbyterian Church show that Animate Form is more than a pretty new face. Taken together, the house and the church display the range of what good architectural beauty can do. Coupling the two most ancient and elemental of architectural programs, this house of the future and this church, where East joins West, call for a beauty that reaches beyond its immediate “time zone.” Such a beauty does not try to cancel the past and thus set itself up to be cancelled in turn, but allies to itself traditional forms and symbols in an ever-widening distribution of its revitalizing assets. ■



12

The Korean-American New York Presbyterian Church (south elevation, left) has a roof that rises and falls like a wave, (reflected on the interior of the 2,500-seat sanctuary) and six metal projecting fins (north elevation below) that open to the view.

13



**“What’s up with this?”**


Stuck way up here. Out of sight, out of mind. I guess to them, I’m some sort of glorified rafter, keepin’ wires and cables out of their hazelnut lattes. Well, guess where their shiny computers get power...e-mail...mp3 files? That’s right – from me...and a wire and cable infrastructure that delivers power and communications wherever these cyber surfers need it. And those big technology breakthroughs they’re developing? We’re ready for them. So in ten...twenty...fifty years, we’ll still be here. And those computers down there?

**Well, they’ll make pretty cool doorstops.”**

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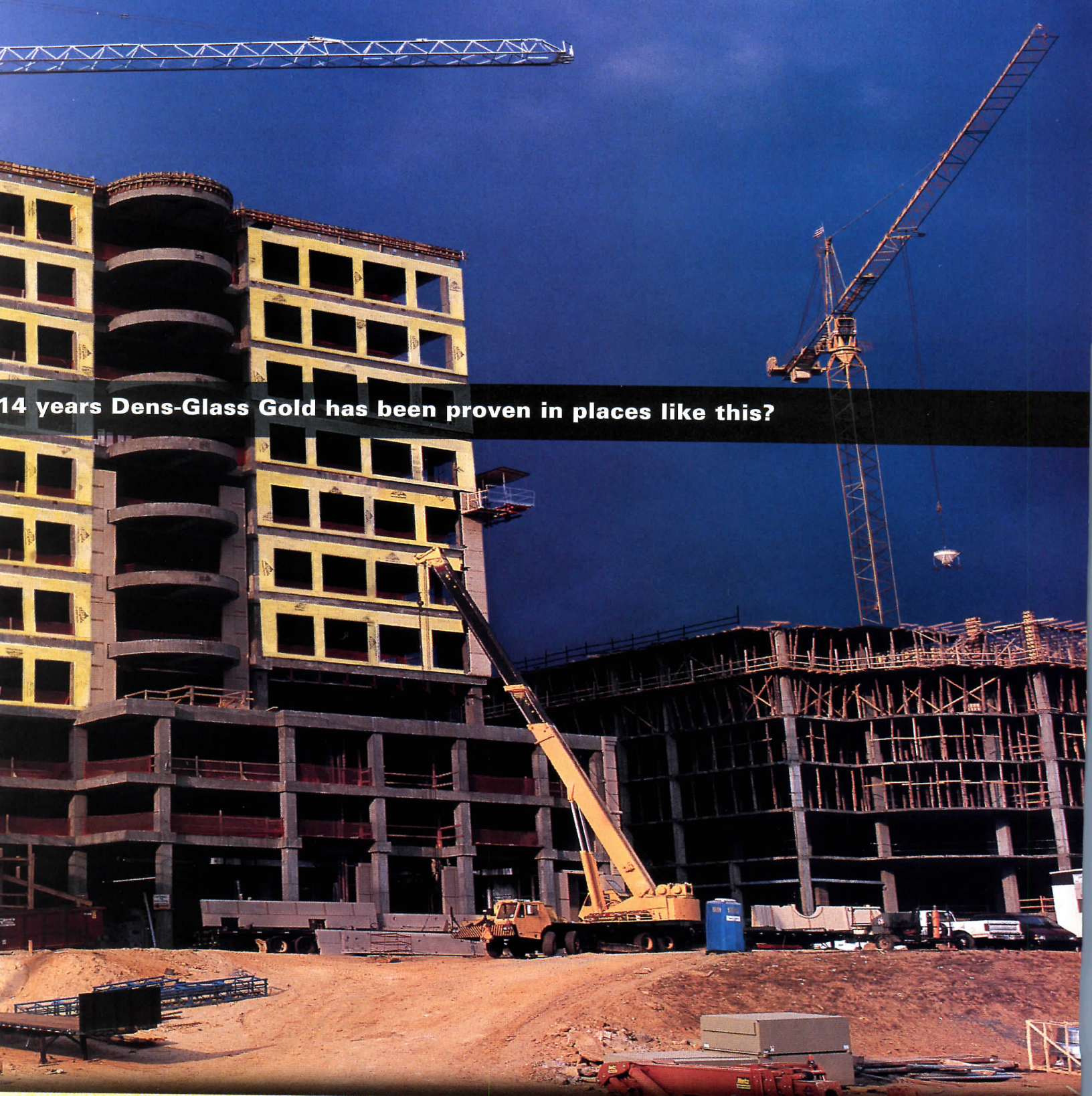
CIRCLE 46 ON INQUIRY CARD



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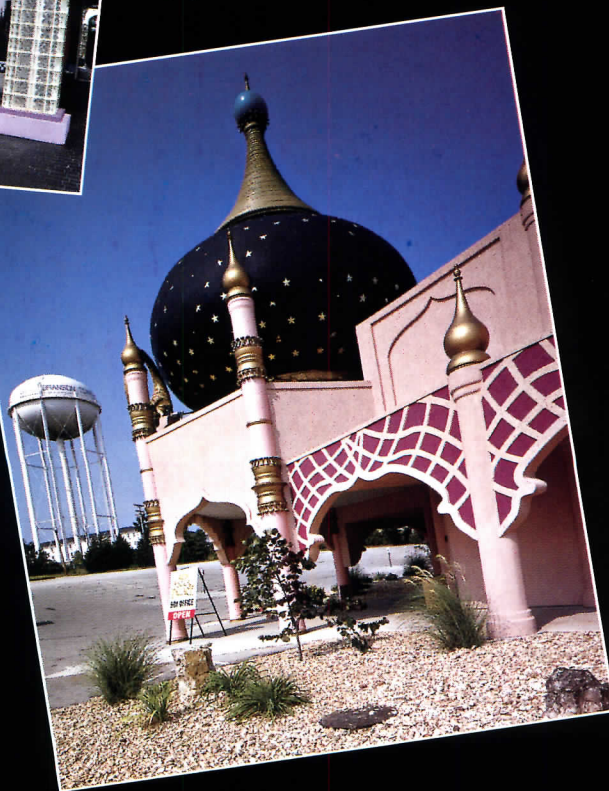
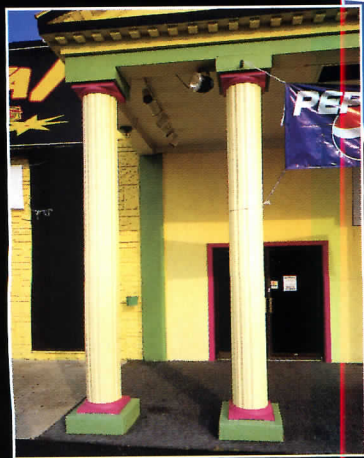
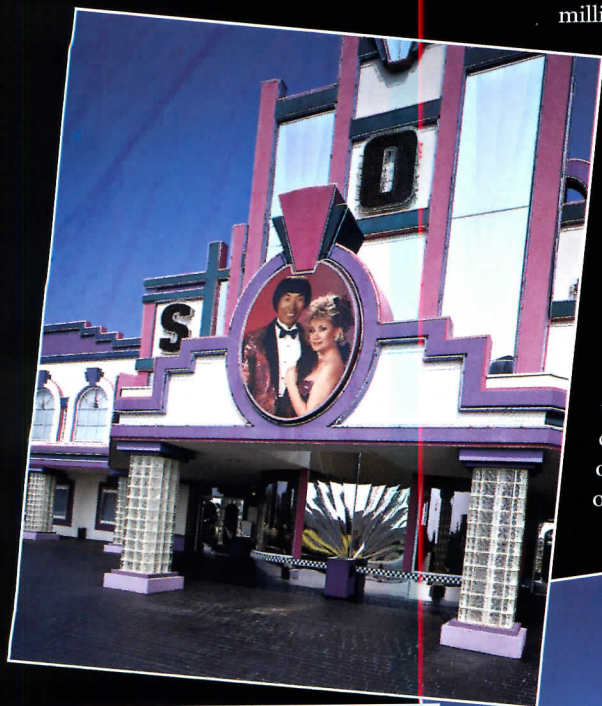
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CIRCLE 47 ON INQUIRY CARD

# Wish you were here

By Charles Linn, AIA

**B**ranson, a town of 3,706, is located in the southwest corner of Missouri. Its biggest draw is 49 theaters, strung out along Highway 76 like jukeboxes, each carrying only the discs of its celebrity owner. The Osmonds (sans Donny), Bobby Vinton, Andy Williams, Jim Stafford, Japanese bluegrass fiddler Shoji Tabuchi, and a few dozen others all have joints here. I was one of Branson's seven million visitors last year and must say the buildings there made me quite ambivalent. On the one hand, I felt I should hate them because many of their facades are really very corny caricatures of temples, Art Deco movie theaters, and Southern mansions, constructed of studs covered with exterior-finished insulation and bolted to the fronts of prefab buildings. On the other hand, I liked them because they resemble the people who own and perform in them: fun-loving and unselfconscious, and without a trace of pretense. While these places may have false fronts, they seem honest in their intent, which is, it seems to me, to capture the hearts and imaginations of a lot of people who wouldn't really be more dazzled were these buildings marble rather than metal. Well, you can't be a star without understanding what the people want and giving it to them. And in what was perhaps a triumph of truth over taste, I came away with affection for this place. I recommend a visit for anyone who is tortured by a love-hate relationship with the architecture of popular culture. ■

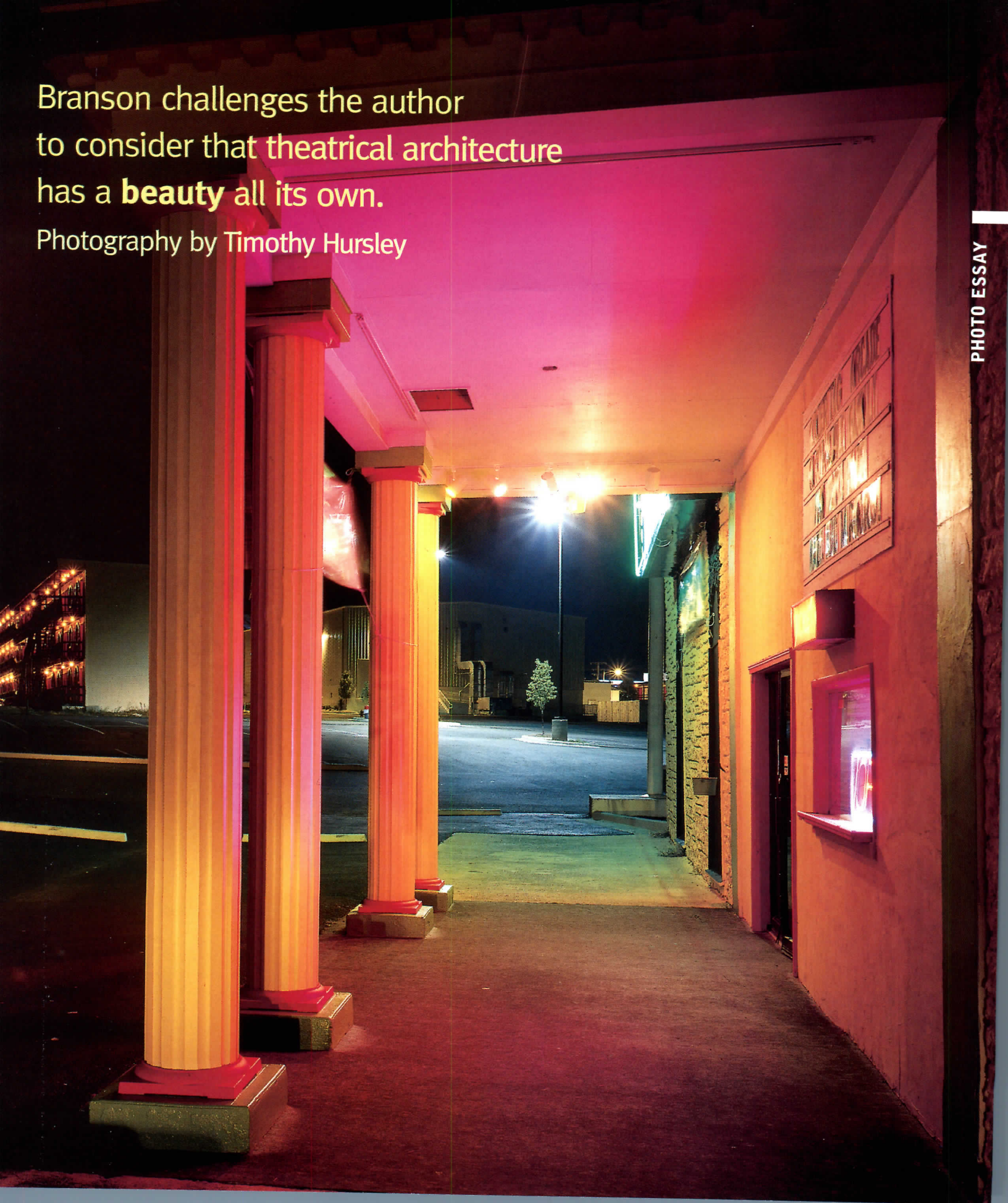


The Shoji Tabuchi Theatre (above), home of the Japanese fiddler Shoji, mimics grand movie-palace forms, while the Magical Palace (left) and Gotcha Lazer Tag (far left and opposite) borrow elements from Islamic and Greek temples.



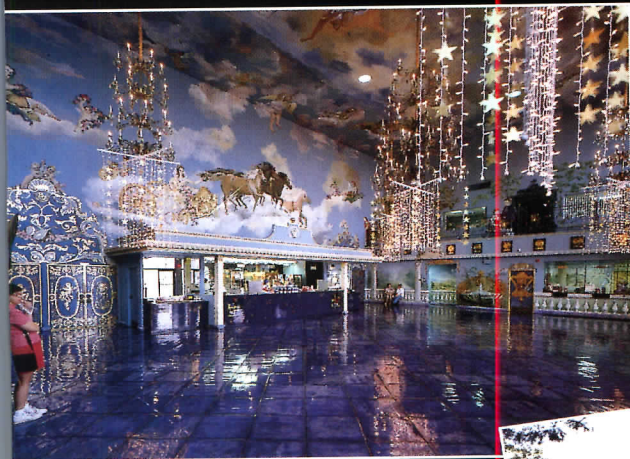
Branson challenges the author  
to consider that theatrical architecture  
has a **beauty** all its own.

Photography by Timothy Hursley

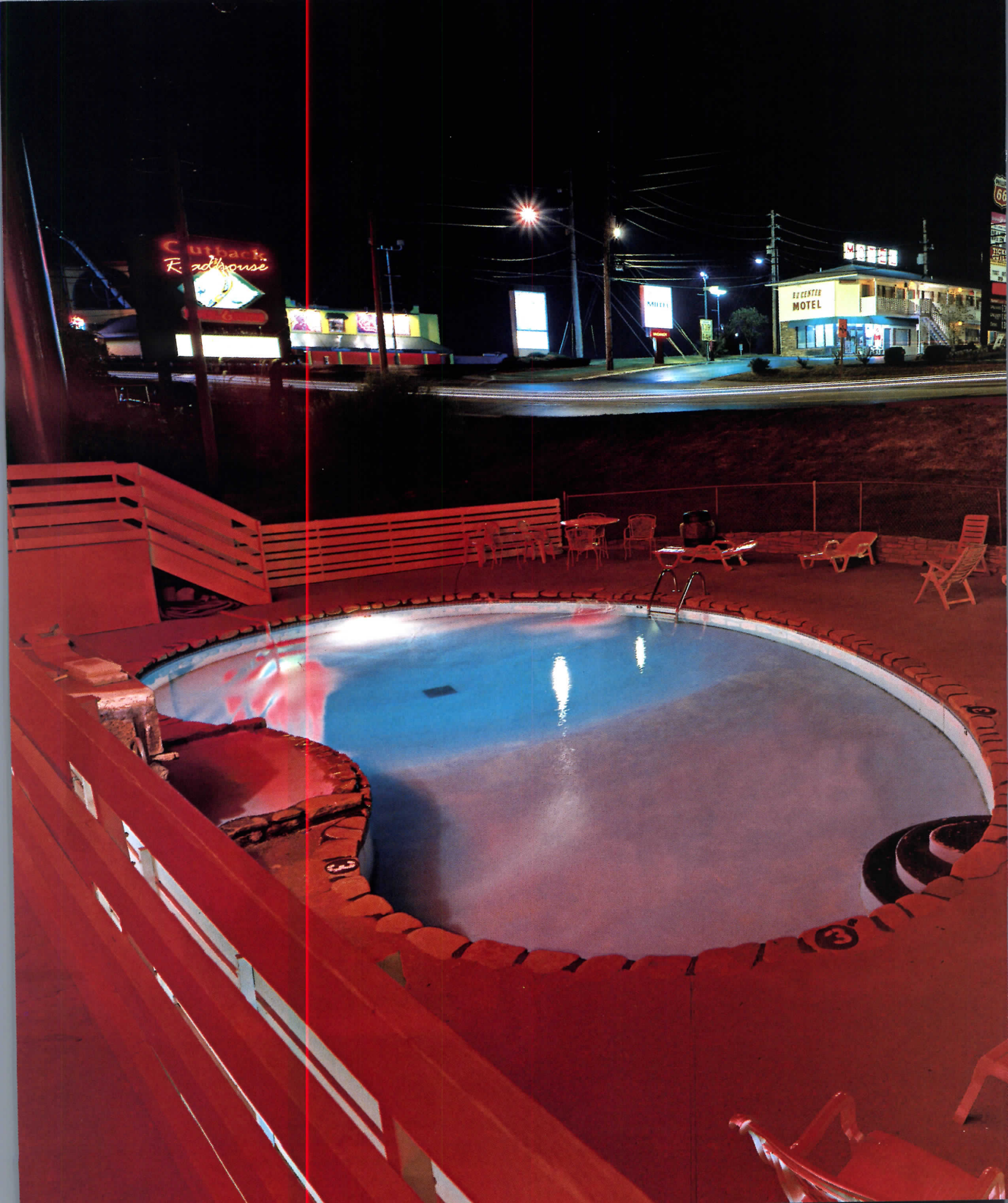


Some of the sights in Branson: The Hollywood Wax Museum (opposite) bears the likenesses of John Wayne, Elvis, Marilyn, and Charlie Chaplin. Below, from

top down: the lobby of the Bobby Vinton Theatre; a meditation garden at the Shepherd of the Hills Homestead; the Grand Mansion; and the Moe Bandy Theatre.



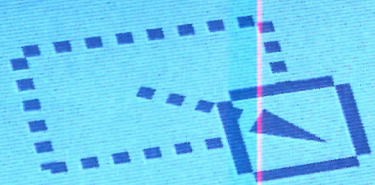




Could a Branson motel's swimming pool have been inspired by Morris Lapidus' Fontainebleau (opposite)? Below, top to bottom: Jimmy's Piano Lounge; the exterior

and interior of the Waltzing Waters Theatre, where pianist Frederick plays the classics against a 40,000-gallon spectacle of water and light.





Reduce



Enlarge



Start From

# The Difficulty of Beauty

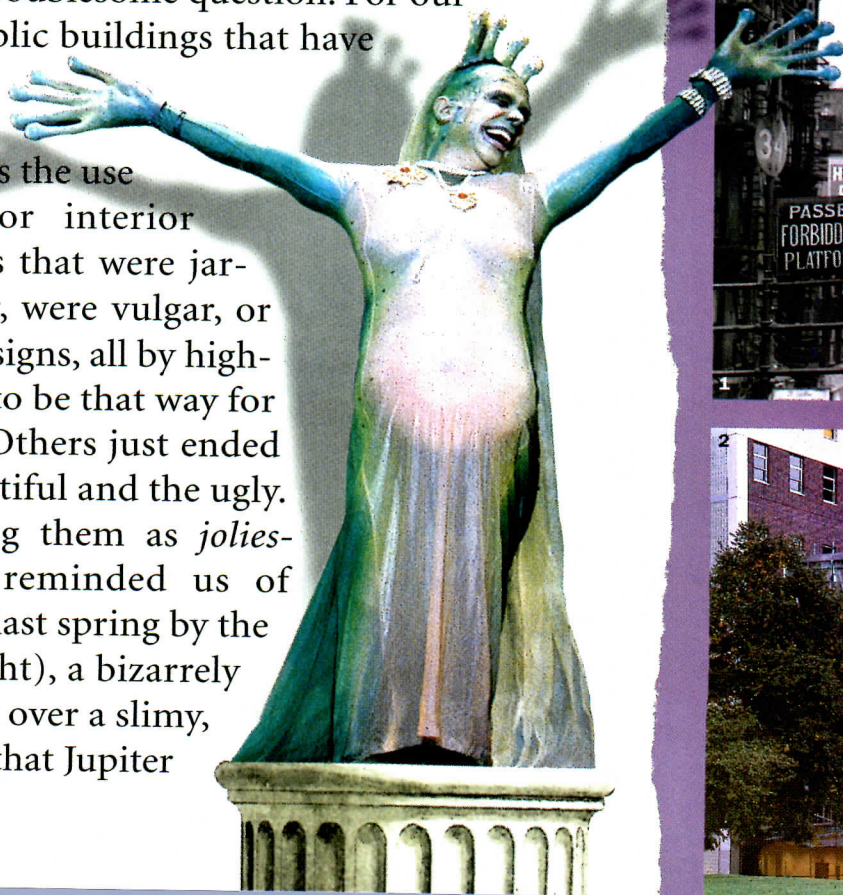
Faced with the surfeit of images resulting from a global economic expansion and new forms of media, how can we talk about beauty?

By Suzanne Stephens

**I**t's so difficult to come by, difficult to judge, and difficult to defend. Yet when we experience beauty in a building, we are struck by the pleasure received by our visual and kinesthetic senses and the stimulation of the intellect.

Unfortunately, buildings that dominate our landscape so often lack beauty, however it is defined. What's the story? The editors at RECORD decided to explore this troublesome question. For our investigation we selected five public buildings that have seemingly beautiful—and not so beautiful—features. In each one we found much to admire, such as the use of materials, craftsmanship, or interior spaces. But we also found forms that were jarringly or abrasively put together, were vulgar, or even sentimental. Some of the designs, all by high-profile architects, were intended to be that way for aesthetically polemical reasons. Others just ended up as curious hybrids of the beautiful and the ugly.

Our reactions, from seeing them as *jolies-laides*, as the French put it, reminded us of Rameau's opera *Platée*, mounted last spring by the New York City Opera. *Platée* (right), a bizarrely zaftig swamp creature who reigns over a slimy, green underworld, is led to think that Jupiter



finds her so ravishing he is going to ditch Juno. It turns out to be a cruel joke. Nevertheless, the costumes by Isaac Mizrahi, the direction and choreography by Mark Morris, and the singing and flipping around by Jean-Paul Fouchécourt in the grande-dame role, make Platée captivating. If she isn't pretty, her sincere aspiration to be in the company of the gods makes her endearing, even human.

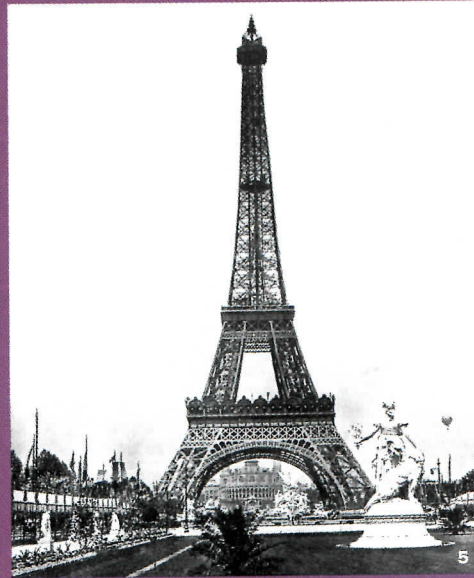
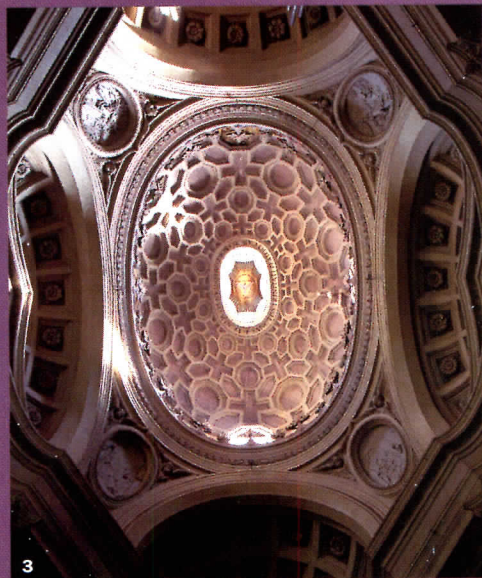
So, are these buildings simply architectural Platées? Maybe. Some of them may look better to our eyes as time goes by; others will not. One, (Leon Krier's town hall in Windsor) seems almost too conventionally

## THE ROSTER OF BUILDINGS DISMISSED ON AESTHETIC GROUNDS BUT RESUSCITATED OVER TIME IS INTRIGUING.

pretty. If they are venerated eventually, they have a lot of company: There is a long history of buildings initially dismissed on aesthetic grounds, but resuscitated over time. Because of his idiosyncratic Baroque architecture, Francesco Borromini was criticized by his contemporary, the writer Giovanni Bellori, as "a complete ignoramus, the corrupter of architecture, the shame of our century." John Vanbrugh's early-18th-century Blenheim Palace was panned for its unclassical Elizabethan corner towers, and his work reviled by his influential client, the Duchess of Marlborough.

Other buildings were judged harshly in their time as well: The works of Frank Furness and his followers in Philadelphia were too contrived and too awkward for critics in RECORD a hundred or so years ago. In 1889 artists, architects, and writers, including Charles Garnier and Guy de Maupassant, called the Eiffel Tower "useless and monstrous." Frank Lloyd Wright's Larkin Building in Buffalo was deemed "ugly" by eminent critic Russell Sturgis in RECORD in 1908, and in 1959 his Guggenheim Museum was dismissed by visionary architect Frederick Kiesler.

In 1931 Lewis Mumford charged that New York's Chrysler Building by William Van Alen was full of "inane romanticism" and "void symbolism," while Douglas Haskell felt Howe and Lescaze's International Style PSFS Building of 1932 was just a "filing cabinet." Paul Rudolph's Art and Architecture building was subjected to a functional (and by implication, aesthetic) critique by Ellen Perry Berkeley four years after it opened in 1963. Venturi's Guild House rattled the cages of the architectural world in the mid-1960s, and Morris Lapidus' Miami hotels were called kitsch by Ada Louise Huxtable. Bruce Goff, the organic mid-century architect, created work such as a Hopewell Baptist Church that even his biographer, historian David De Long, thought was "unresolved" and characterized by a "coarseness of detailing." Will Michael Graves' 1983 Portland Building—along with recent work by Eric Moss, Bernard





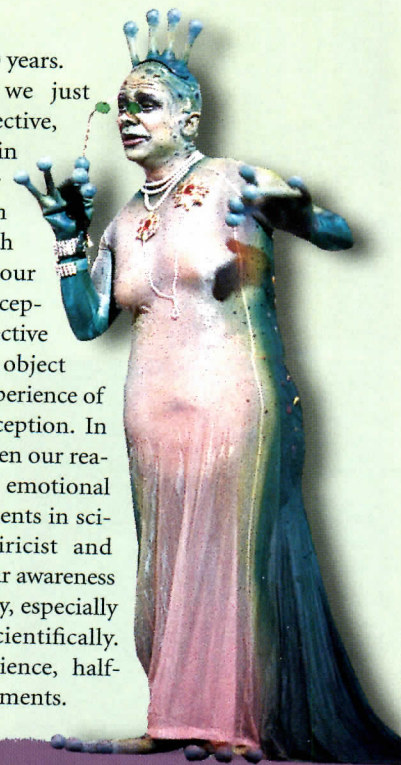
Tschumi, Michael Hopkins, and Frank Gehry, which have received criticism (even in these pages)—be subject to a revised perspective as time goes by? We will have to wait.

Some of these well-known examples epitomize avant-garde architecture. The standard explanation for the flak such buildings receive is that they are unfamiliar. Still, even though the inventive work of architecture may strike a raw nerve or challenges our perceptions and intellect, once we get used to it, we begin to see its beauty. By this adjustment of the eye, our aesthetic boundaries are expanded. For this reason, typically experimental design, whether by Daniel Libeskind, Peter Eisenman, or Coop Himmelblau, gradually becomes less difficult to love and admire. Not all avant-garde design is such a challenge, argues Ann Bergren [page 78]. She maintains that the digitally generated design in Greg Lynn's recent projects is both spectacularly innovative and "easy."

In the following case studies of "difficult beauty," we did not seek out avant-garde designs; in fact, the forms, design elements, and spaces of these five projects are typically familiar. While arguably of their time, they are not going to make waves: Any problems we had with them could not be attributed to the newness of their forms or their remoteness from things we know. Ironically, by taking more mainstream buildings, we could investigate the nature of aesthetic evaluation. Which brings us to the old objectivity-versus-subjectivity argument that has plagued aes-

thetic philosophy for the last 250 to 300 years.

It was easier back when we just accepted standards of beauty as objective, universal qualities that were inherent in an artifact and could be created or attained with the right kind of rhythm and proportions. But from the late 17th century on, as we learned more about our own senses and the psychology of perception, we had to account for the subjective nature of evaluation. The aesthetic object could have intrinsic qualities, but the experience of them shifted with an individual's perception. In judging beauty, we remained split between our reason's desire for objectivity and our emotional (subjective) need for feeling. Developments in scientific thinking, reinforced by empiricist and positivist philosophies, only increased our awareness of beauty's elusive subject-object duality, especially since beauty couldn't be proven scientifically. Needless to say, architecture—half-science, half-art—has been buffeted by these developments.



ESTU (8); TOM BONNER PHOTOGRAPHY (9); CAROL ROSEGG (FAR RIGHT)



Any number of now historic landmarks were taken to task by critics on aesthetic grounds when they were first built. Some recent buildings have been criticized, but it is too soon to tell if they will be lionized over time. 1. Chrysler Building, New York City, William Van Alen, 1929 2. Lerner Hall, Columbia University, New York City, Bernard Tschumi/Gruzen Samton, 1999. 3. San Carlo alle Quattro Fontane, Rome, Francesco Borromini, 1641. 4. Pennsylvania Academy of the Fine Arts, Philadelphia, Frank Furness, 1873. 5. Eiffel Tower, Paris, Gustave Eiffel, 1889. 6. Public Services Building, Portland, Ore., Michael Graves, 1983 7. Guild House, Philadelphia, Robert Venturi (with Cope and Lippincott) 1963. 8. Experience Music Project, Seattle, Frank O. Gehry, 2000. 9. Trivida Culver City, Calif., Eric Owen Moss, 1999.

## The Shame of beauty

The early-20th-century Modernist insisted that beauty was intrinsically tied to function or the well-solved problem: Beauty was a byproduct of function or, as in the case with Wright, a natural result of an organic process. It was not something valued for itself alone. Meanwhile, in the art world during that period, the Dadaists, as philosopher Arthur Danto pointed out in the catalogue for the Hirshhorn Museum's 1999 exhibition *Regarding Beauty*, were insisting that "beauty is not a necessary condition for art."

In recent decades, the Postmodern turn toward historicizing architecture, in a quest for meaning and beauty through familiar and easy-to-like styles, has been castigated for pandering to the masses and

## THE DISTRUST OF BEAUTY LINGERS. ARCHITECTS ARE CRITICIZED FOR USING AESTHETICS AS A DISTRACTION.

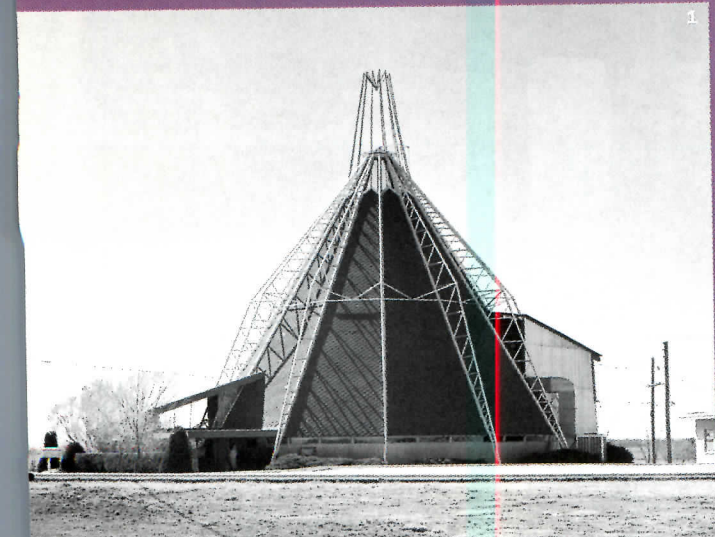
promoting consumable objects in a commodity culture. As a result, the distrust of beauty for its own sake remains. Neil Leach recently argued in *The Anaesthetics of Architecture* (1999), that aesthetics distracts architects from the social and political problems inherent in a capitalistic society. Architects are encouraged to create a seductive environment of images,

which has a narcotic effect on the viewer, resulting in a numbness or anesthesia. Similarly, in a recent issue of *Harvard Design Magazine*, Margaret Crawford faults architecture schools for making "pure" or "high" aesthetics the dominant value system. Students who enter the real world, she maintains, "remain marginal in a building culture predicated on economic rather than cultural capital" and are encouraged to "seal themselves off from the vitality and energy of low [culture]."

## Beauty's comeback

Nevertheless, in artistic circles of the early 1990s, beauty began to make its return as a topic at panel discussions, symposia, and the isolated essay. By the end of the decade came anthologies, such as *Uncontrollable Beauty* (1998), and such exhibitions as *Regarding Beauty*.

The interest in aesthetics in architecture has mounted, as well. In a recent issue of *Journal of Architectural Education*, architectural historian Ritu Bhatt makes a case for the possibility of an "objective aesthetic evaluation." Bhatt contends it is a form of "practical reasoning, and our responses, when we are called upon to justify them, can be emotional and rational." Her argument has some parallels with those presented by philosopher Elaine Scarry, who notes in her book *On Beauty and Being Just* (1999) that aesthetics and ethics are not incompatible: The "perceptual acuity" required for aesthetic evaluation helps to



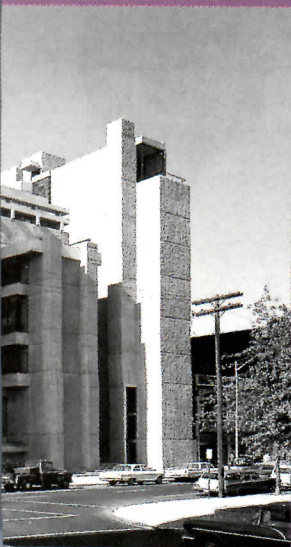
address injustice, and “beautiful things give rise to the notion of distribution, to a lifesaving reciprocity, to fairness.”

So, how do we evaluate what is “beautiful”? We are not advocating a return to “objective” criteria or universal qualities, such as order, unity, harmony, rhythm, and proportion. Nor are we declaring that “anything goes.” We cannot be happy with aesthetic standards exclusively based on sense impressions, nor on the intellectual interpretations of a building’s meaning. We recognize the need for all of the above, and more. And so we recommend a position taken by Immanuel Kant over 200 years ago. Kant did not consider taste (aesthetic judgment) purely subjective, nor did he believe that “taste should not be argued about,” since aesthetic judgment could not be scientifically demonstrated. As Luc Ferry points out in *Homo Aestheticus*, Kant’s contention was that although taste could not be argued scientifically, it could be discussed. Through discussion—or an intersubjective community—we could come to a form of aesthetic agreement.

This approach that Kant describes, therefore, is what we are trying to continue with in our debate about beauty, and the difficulty of evaluating it, in the following pages. We have encouraged our writers to draw out the architects’ aesthetic intentions and grapple with their own aesthetic responses to each of the buildings. (The writers did not necessarily agree with RECORD’s own judgments, but that is not the point.) The

results of their efforts may or may not lead to any deeper understanding or insights about aesthetic evaluation. The main thing is to keep the debate going. Beauty is subversive. When not discussed, it has ways of showing us we need it. Too often the big banal uglies taking up the landscape result from a lack of concern and an immunity to beauty. Only when we come across a timeless example of great architecture are we reminded that we have been shortchanged by the rest of the built world. ■

**In Rameau’s opera *Platée*, a zaftig froggy creature reigns over a messy, vital swamp. She is thought beautiful by its denizens, but she aspires for more.**



- Aesthetically controversial or once controversial work
1. Hopewell Baptist Church, near Edmond Oklahoma, Bruce Goff, 1948.
  2. Blenheim Palace, Oxfordshire, England, John Vanbrugh and Nicholas Hawksmoor, 1716.
  3. Fontainebleau Hotel, Miami, Fla., Morris Lapidus, 1952.
  4. Guggenheim Museum, New York City, Frank Lloyd Wright, 1959.
  5. School of Art and Architecture, Yale University, New Haven, Conn., Paul Rudolph, 1963.
  6. PSFS Building, Philadelphia, Howe and Lescaze, 1932.
  7. New Parliamentary Building (Portcullis House), adjacent to Houses of Parliament, Michael Hopkins, 2000.
  8. Larkin Company Administration Building, Buffalo, N.Y., Frank Lloyd Wright, 1904.



With its copper roof reminiscent of a saddle or a Conestoga wagon, the San Angelo Museum of Fine Arts sits like a sculpture above the Concho River (this page and opposite).

# BRASH BEAUTY A bold, quirky building by HHPA's Malcolm Holzman for Texas' SAN ANGELO MUSEUM OF FINE ARTS is intentionally dissonant

By David Dillon

**M**alcolm Holzman, FAIA, doesn't design conventionally beautiful buildings, classically proportioned and finished with Euclidean precision. Vitruvian maxims about firmness, commodity, and delight don't run through his head as he sits at his drawing board. He prefers surprising connections. Like a jazz musician playing just off the note, he improvises as he goes, using dissonance and counterpoint as basic parts of his repertoire. "Architecture," he argues, "should wake people up. It should make their eyes pop open and say, 'God, what am I looking at?'"

To some critics, this is the shallowest kind of architectural aspiration—Hollywood special effects applied to buildings. To Holzman, a principal at Hardy Holzman Pfeiffer Architects (HHPA), it represents honest enthusiasm for variety over pristine uniformity. He prefers Hawksmoor to Wren, admires Furness, and could live happily in almost anything by John Soane. "Beauty for me is broad and accepting, not pure," he explains. "By mixing things up you can get far richer effects than

**"BY MIXING THINGS UP," SAYS HOLZMAN,  
"YOU CAN GET FAR RICHER EFFECTS."**

if you stick to one or two materials. That would be like eating a twelve-course meal of tofu. I couldn't do it."

Starting with early projects, such as his firm's 1983 radio station WCCO in Minneapolis, Holzman has experimented continuously—some would say obsessively—with new materials and fabrication techniques, playing rough against smooth, dumb against smart, elegant against everyday. Clients who aren't intrigued by materials, color, texture, and collage should obviously choose somebody else.

Holzman's approach has yielded dazzling results, as well as a few genuine head-scratchers. One of his more controversial projects is the \$6 million San Angelo Museum of Fine Arts, which opened last year. It is not a safe, neutral place with pure white galleries and a wash of official good taste. It's quirky, colorful, theatrical, occasionally perverse, and definitely not what a visitor might expect to find in a small (population 95,000) west Texas city 90 miles from the nearest interstate, on the road to nowhere.

David Dillon is the architecture critic of the Dallas Morning News and a contributing editor of ARCHITECTURAL RECORD.



"I'd had it with serene seriousness and decided to take a chance on something different," explains museum director Howard Taylor, who arrived in San Angelo from Philadelphia 14 years ago and never left. "Our building breaks all the rules."

Though barely 30,000 square feet, the museum sits like a monumental sculpture above the sleepy Concho River. One end bellies out into a large, semicircular lecture and reception room. There, a terrace and sculpture garden above it offer sweeping views of a downtown that has changed little since the 1930s. A long, narrow volume at the building's opposite end, containing classrooms and ceramics studios, recalls the simple structures of nearby Fort Concho, the museum's previous home. Between the two ends lie the main galleries, one 38 and the other 45 feet tall, both single-story with exposed trusses, planked ceilings, and arcs of square punched windows, challenging curatorial convention. Crowning everything is a swooping copper roof reminiscent of a saddle or Conestoga wagon, though it also responds to the sloping site.

While such forms might be considered over the top in New York or Philadelphia, they seem right at home on the prairie. Unhindered by design review boards, academic debates, or the sway of fashion, flatlanders have often embraced bold, even bizarre architecture. It was no fluke that Fort Worth got Louis Kahn's Kimbell Art Museum, or that Oklahoma City ended up with John Johansen's Mummers Theater and the eccentric houses of Bruce Goff. Just up the road, in Bartlesville, Okla.,

**Project:** San Angelo Museum of Fine Arts and Education, San Angelo, Tex.

**Architect:** HHPA—Malcolm Holzman, FAIA, partner-in-charge; Douglas L. Moss, AIA, project architect; Nestor Bottino, AIA, Chris Kaiser, AIA, construction architects; Caroline Bertrand, interior designer; Michael Connolly, Yasin Abdullah, Maya Schali, Winslow

Wu, design team; Steven Stainbrook, graphics; Joyce Louie, interiors

**Associate architect:** Chakos Zentner Marcum Architects

**Engineer:** José I. Guerra

**Consultants:** Robert Davis (lighting); Boner Associates (acoustical)

**General contractor:** Templeton Construction



Limestone from the quarry's surface acquired color and rough texture through exposure to the elements. Varied colors and thicknesses, arranged in horizontal bands, animate the facade (this page and opposite).

Frank Lloyd Wright's Price Tower sprouted. And the last skyscraper renaissance took place in Houston and Dallas.

Nobody on the museum's building committee had ever heard of Holzman. Nor had they the slightest interest in architectural theory. "Out here, architects who talk in abstract terms about what a building wants to be talk themselves right out of the job," says the director. What the committee did want was a museum with richness, some connection to the place, more civic character than Fort Concho, and enough flair to put San Angelo on the map. Everything else was up for grabs.

The committee liked the solidity and odd, off-key quality of HHPA's 1985 addition to the Virginia Museum of Fine Arts and kept a close eye on two other Texas projects then under way: the firm's Walsh Center for the Performing Arts in Fort Worth and their Murchison Performing Arts Center in Denton.

The Walsh Center is a canted cube faced with four kinds of stone and packed with ramps, staircases, and balconies that create a sense

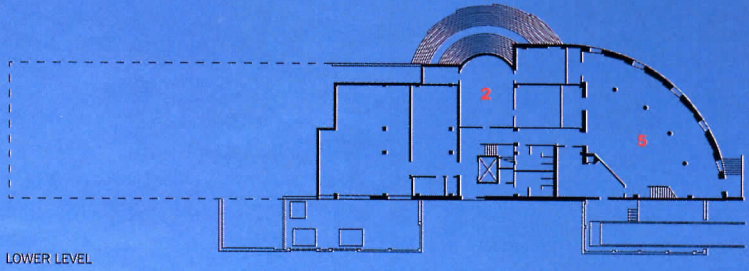
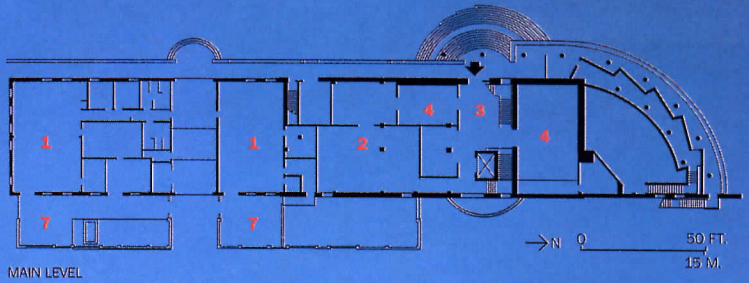
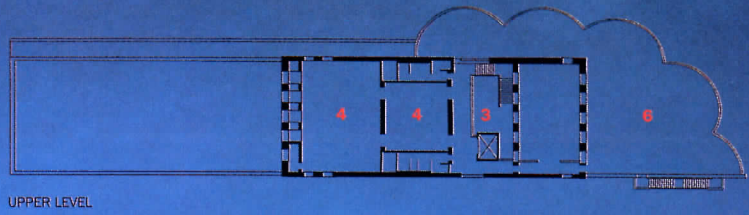
**"THERE ARE NO GOOD OR BAD MATERIALS," SAYS HOLZMAN. "EVERYTHING DEPENDS ON HOW YOU USE THEM."**

of fluidity and purposeful chaos. One soaring wall of red D'Hanis tile looks like an abstraction of Bryce Canyon. The Murchison Center is a collage of brick, stone, tile, and galvanized zinc with blasts of red, coral, blue, and yellow and plenty of cheap materials dressed up to look expensive. The main lobby is framed by rows of metal air ducts and concrete columns that make it seem both grand and casual, like a pop version of Karnak. "My position is that there are no good or bad materials," says Holzman. "Everything depends on how you use them. You can go with the grain or against it; the only thing you can't do is torture them."

Holzman interpreted the building committee's demand for richness to mean stone, and he chose a west Texas limestone from nearby



1. Art studios
2. Museum support
3. Lobby
4. Galleries
5. Meeting
6. Sculpture garden
7. Outdoor art studio





Garden City: not flawless blocks from the depths of the quarry, however, but discarded ones lying on the surface. Scoured and discolored by wind, rain, and even meteor showers, they had the textural depth and richness to animate massive walls. Holzman had the stone cut into four-by-eight-foot blocks and laid up in bands separated by narrow sawn pieces, like a quilt. The facade's colors range from ocher to creamy yellow and dusty white. Light not only bounces off the walls but seems almost to reside in them. The building committee took one look at a mock-up and approved.

Around patios, loading docks, and elevators, Holzman used the same red D'Hanis tile as at the Walsh Center. The floors are end-grain mesquite, which weathers to a deep reddish brown, and the gallery ceilings are stained pine, recalling those at Fort Concho. Throughout the building Holzman's detailing is exuberant, but often intentionally imperfect. Instead of matching the grain on the wainscoting, for example, he butt-joined pieces of slightly different color and texture to de-deify the joints. "I've learned to accept the craftsmanship of the time," he says. "Unless you've got an incredible budget, it's easier these days to get people not to line things up than to work to incredible tolerances."

Yet for all its contrariness, this aesthetic is not mocking or sardonic. Unlike Robert Venturi's, Holzman's wry smile doesn't devolve into an ironic detachment and ultimate suspension of qualitative judgment.

**"IT'S EASIER TO GET PEOPLE NOT TO LINE THINGS UP," SAYS HOLZMAN, "THAN TO WORK TO INCREDIBLE TOLERANCES."**

Holzman positions himself as playful but serious, more blue-collar than ivory tower. "You don't have to be trained in architecture to understand what I do," he claims. "I try to get a hook into people through materials because that's what they are constantly bumping up against." The result is work that challenges, rather than soothes, the eye.

A year after the museum's opening, Taylor still meets people who tell him his building is ugly and urge him to prosecute whoever perpetrated it. Some dislike the saddle roof; others object to the motley stone or the lime green window trim. "A sculpted building like ours startles people because it challenges conventional ways of seeing," he responds. "Architecture can't be all right angles and smooth surfaces—there has to be some fun."

For the most part, however, San Angelenos are delighted with their new museum, referring to it on posters and flyers as "the jewel of the concho." The new county courthouse and the chamber of commerce headquarters have taken cues from its stone walls and swooping copper roof. It's about to appear on the cover of the regional phone book. Even architecture professors are bringing their students for a look.

What they see is a building that defies easy classification: A vernacular modern structure with Richardsonian elements and neo-Victorian decorative touches. It's risky, quirky, sometimes (though not usually) jumbled architecture—and about as far from serene seriousness as one can get. ■

#### Sources

**Curtain wall:** Kawneer

**Masonry:** *Texastone Quarries*  
(Hadrian Texas limestone)

**Windows and stains:** Benjamin Moore

**Paints and stains:** Benjamin Moore

**Lighting:** LSI (gallery); Kim (exterior)

**Elevator:** Dover Oilraulic

**Wall panels:** Marlite (colored wood)

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**www.architecturalrecord.com**





The interior has exposed trusses, pine-plank ceilings, and end-grain mesquite floors. Arcs of square punched windows challenge conventions of gallery design (this page).

# WEIRD BEAUTY With an outrageously colorful facade, Ashton Raggatt McDougall's STOREY HALL jazzes up its polite Melbourne setting



By David Clark

**T**he controversial facade of Storey Hall's annex sits full of bravado and splendid ugliness beside the original 1886 building's authoritative classicism. Clashing with the Old World order's assuredness and certainty, it raises, well, one big question mark. With its grottolike entrance painted lurid green and purple, the facade has a pattern of cast-bronze lozenges hanging like textured drapery. The shock value of its presence on the street is not in doubt, though some try to resist it. One prominent Sydney architect was prompted to exclaim, "Thank God our cities don't all look like this!"

But the question of whether it's ugly or beautiful defies an easy answer. Architecture critic Charles Jencks, in his book *The Architecture of the Jumping Universe*, was excited by Storey Hall's possibilities: "No longer the classical ordinance, no longer the boredom of the Miesian curtain wall!" he wrote. "Here is a different way of ordering the landscape, which is more organic and chaotic than classical and modern systems. Potentially a whole street system [like this] could be as harmonious as those of the past." Focusing on architecture that responds to Chaos Theory, nonlinear dynamics, and other scientific developments, Jencks cites—amid internationally celebrated projects by Gehry, Eisenman, and Libeskind—the more obscure Storey Hall by Melbourne's Ashton Raggatt McDougall Architects (ARM).

Storey Hall is a complex of auditoriums and galleries at the Royal Melbourne Institute of Technology (RMIT), a downtown inner-city campus with a progressive building campaign designed to reflect the university's position at the forefront of technical and professional education and research. To create the complex, ARM renovated a Victorian hall and built an adjacent annex. The firm's early masterstroke was to convince the university board that its program could not fit into the original structure and that two small buildings beside it should be demolished to allow for an addition. For a university board to embrace this design is remarkable. As

*David Clark is a Sydney-based writer who frequently covers architecture and design.*

**Project:** RMIT Storey Hall, Melbourne  
**Architect:** Ashton Raggatt McDougall—Howard Raggatt, principal, Neil Masterton, Nigel Fitton, Paul Minifie, design team  
**Engineer:** John Mullen & Partners (structural/civil); Scott Wilson Irwin

Johnston (mechanical, hydraulic, electrical); Watson Moss Growcott (acoustical)

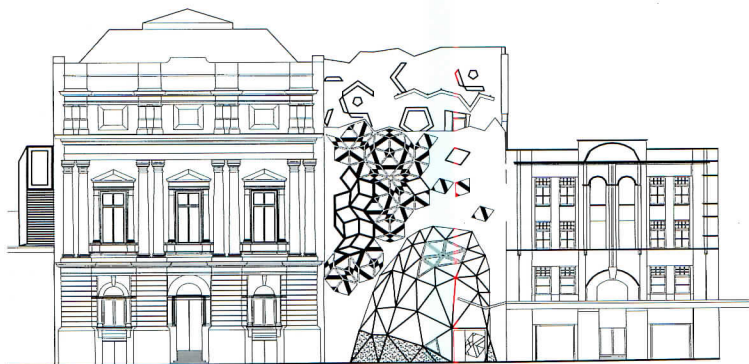
**Conservation:** Allom Loell & Assoc.

**Surveyors:** Peter Slattery & Co., Bruce Thomas & Associates, Taylors

**Contractor:** Hansen Yuncken

The new facade—with its cave-like entry and undulant “curtain” of bronze tiles—evolved from a mathematical formula and an image of the adjacent facade dragged across a photocopy.

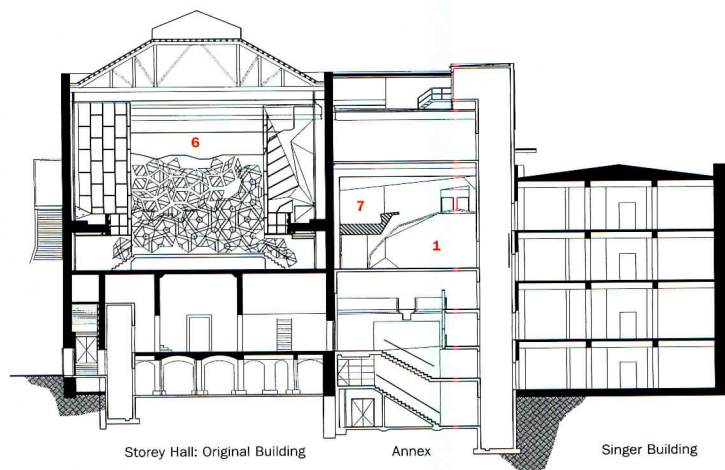




Storey Hall: Original Building

Annex

SWANSON STREET ELEVATION

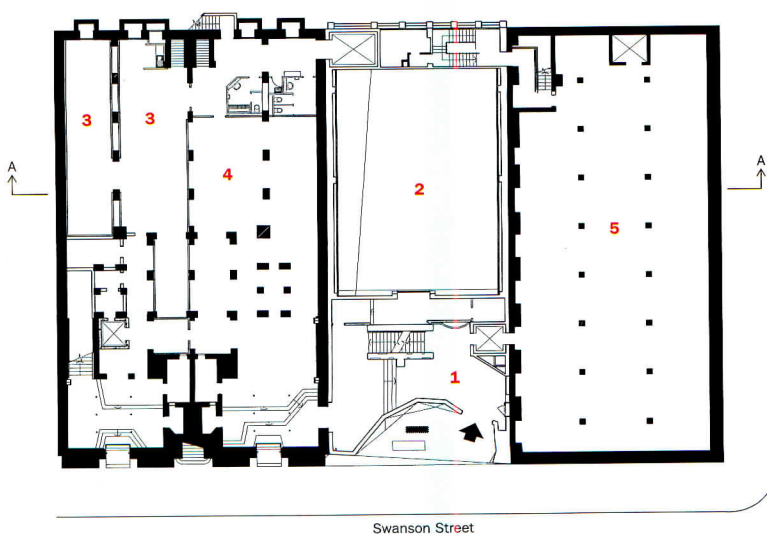


Storey Hall: Original Building

Annex

Singer Building

SECTION A-A



Swanson Street

ANNEX ENTRY LEVEL

- |            |               |
|------------|---------------|
| 1. Foyer   | 5. Basement   |
| 2. Void    | 6. Auditorium |
| 3. Gallery | 7. Balcony    |
| 4. Study   |               |

Raggatt explained, “They briefed us, I think even to the point of saying: ‘You’d better deliver one of the most amazing buildings we’ve ever seen.’” RMIT has become a great patron of new Melbourne architecture, and Storey Hall must be understood in that context.

The annex solved major spatial problems: Now circulation, support spaces, and lobbies reside in the new structure, feeding sideways into the existing building’s auditorium. A smaller auditorium is tucked into the annex’s base, while galleries and a cafe occupy the older building’s entry level. (The Singer Building, beside the annex on the opposite side from the original hall, may eventually become part of the Storey complex, as well.)

At first, there appears to be no connection between the two buildings. But as Howard Raggatt reveals, the architects began the design with their “old trick” of smearing an image of the original building across a photocopy to make a “blur”—a zone of uncertainty—reflecting the nature of life and the complexity of new sciences, prompting reinterpretation by the architects. ARM also recognized, however, the simultaneous need for exactness because, after all, the building had to be built.

“The process is an exegesis that seems to draw latencies, some insight, from the original piece,” says Raggatt. It’s a stream-of-consciousness architecture that explores the human condition through apparently random associations. “You can think you know exactly what you’re doing, and therefore set yourself a lot of constraints,” he adds. “Or you can resist self-censorship, even the idea of whether you like something or not.”

Slurring the image created a great arc of blackness that ultimately became the building’s grottolike entrance. Its green and purple paint, blurred at the edges “like smeared lipstick,” as Raggatt puts it, refers to the hall’s history as an Irish community center and later home to a feminist group whose colors were green, purple, and white. So, some aspects of the design process are left to chance, without conscious decision making, while others rely on specific knowledge and explicitly conscious decisions.

To “exact a blur,” ARM uses pixels, the precise and discrete units of the digital world, to render it buildable. In this instance, the architect appropriated the Penrose tile: a geometric system developed in the early 1970s that reduces to two the number of different tiles needed for an aperiodic (or nonrepeating) system capable of covering an infinite plane. Prior to this discovery, man-made aperiodic tiling systems typically used some 20,000 tiles, although, as was later learned, a binary system also exists in nature. With Penrose tiling, ARM found a representation of nature and the cosmos, reduced to two—a fat and a thin tile—that could pixelate its blur. On the annex facade, the pattern appears in cast-bronze lozenges.

Inside the building, the ornament really takes off—emerging in a spectacular stairway and the fractal surfaces of foyers, before finally exploding in all its glory in the auditorium, completely covering the interior with a new, fractured skin that melds together the walls, floors, and ceilings. The space at once evokes the natural world and the inside of an arcade game—like an animated view of a microscopic wonderland.

Raggatt compares the cavernous entry to the gates of heaven and hell. And the interior certainly seems a bit hellish and a bit heavenly. The auditorium is a Garden of Eden, reached only after an extravagant journey.

Immediately behind the entrance is the building’s stairwell or lobby, a high, compressed space spanning three levels with a swooping cantilevered concrete stair climbing through it. The void is moody and raw, with a gray concrete interior and accretions of faceted upholstered panels, dimly lit by the glow of backlit-paneled walls. High above, a skylight’s panes bear the same Penrose-tile pattern as the facade. The concrete stair curves up and passes audaciously close to a convex, sprayed-concrete wall (the back of the cavellike facade) before arcing away, barely averting collision. This sweep upward into a fantastically sublime interior, like Piranesi’s “Carceri,” is one of the design’s great delights.



On the interior, as on the street front, the Penrose-tile pattern generated faceted surfaces that appear to grow like moss in a landscape of existing neoclassical elements. The large auditorium (this page) in the original building, for example, still reveals Corinthian capitals beneath the balcony (right) and arched niches near the stage (above) amid the explosion of pattern.





From here, you either descend into the cryptlike space of the ancillary auditorium's lower foyer, or take the purgatorial climb up to the main auditorium past a number of tricks and treats designed to distort space and self-perception. At the base of the stair, a fun-park mirror warps one's image in curved sheets of polished steel; on the next level, gender-bending toilets glow pink for boys and purple for girls (where the heck am I?). The stairway curves up under a canopy of black plastic stretched from the walls, further confusing the spatial boundaries.

One experiences all this before reaching the digitally conceived main foyer with its encroaching, crumpled walls that look frozen in motion. This lobby refers back to the city both literally—one can stand in the Penrose-faceted window box that punches out from the street facade—and figuratively—with the inclusion of a large yellow wall of shifting planes, hiding a second stairway up to the mezzanine. This wall is a copy of an infamous Melbourne sculpture, disdainfully dubbed “The Yellow Peril” by the populace, which once stood in the city. By bringing it back, ARM plays with ideas of cultural memory. The provocative sculpture is among the building's many “prompts,” or references to the past, that may explain the words “resurrection city,” embedded in the facade's bronze tiles.

As for new sciences, Storey Hall relates to them in its layered, decorated, faceted surfaces, rather than in its spatial qualities. Here, the Penrose system essentially wallpapers boxes with crinkled walls. The project was partly a renovation, but even in the new annex, the plans and sections remain largely conventional, except for the dramatic stairway. As Raggatt himself says, “Virtual architecture provides useful jargon. Jargon is good, the popular is good, and the idiom of the moment is good, but it's not the core substance of the work—it's its mannerism.”

In this sense, ARM has taken advantage of current technology to create a building that is visually of the moment, appropriate to the university's wish to appear as leaders in education. But in so doing, the architects still allude to age-old architectural questions, asking how to place oneself in the cosmos and how to attribute that meaning to built form.

Is it possible that ARM operates with some kind of blind intuition, pulling together a concoction of references that are both cosmogenic and historical into a blur that they must then build? “I think architecture is tragically, pathetically material,” says Raggatt. “But it has the cultural potential to be intellectually meaningful. There is an



In the annex, a great semicircular cantilevered concrete stairway is a dramatic and sculptural presence in the three-story entry foyer (right top and bottom). Throughout the interior, as on the facade, faceted planes give the walls a geometric three-dimensionality (opposite).



inherent failure of aspiration just because it is material and can never by definition transcend its own profound limitations.”

Storey Hall is an intriguing building, but is this project ugly or beautiful—or does it even matter? As Raggatt says, “Beauty has been one of the great denials of the 20th century. Since Oscar Wilde, everyone knows that style is all we have. I guess we hope a new beauty is emergent in the work. . . . Everything new is ugly until we learn to love it.”

If Beauty can come from new ways of seeing, then surely Raggatt is correct. But at Storey Hall, it’s hard to move beyond the *themepark mood*—the veneer and illusion. Iconoclasts, Ashton Raggatt McDougall challenge many notions about architecture and its meaning, but the perception of beauty goes beneath the surface: It must be felt authentically in space and forms, as well. That doesn’t happen here. ■

#### Sources

**Glazing:** Pilkington

**Skylights:** Luxalon

**Bronze tiles:** Artworks in Bronze

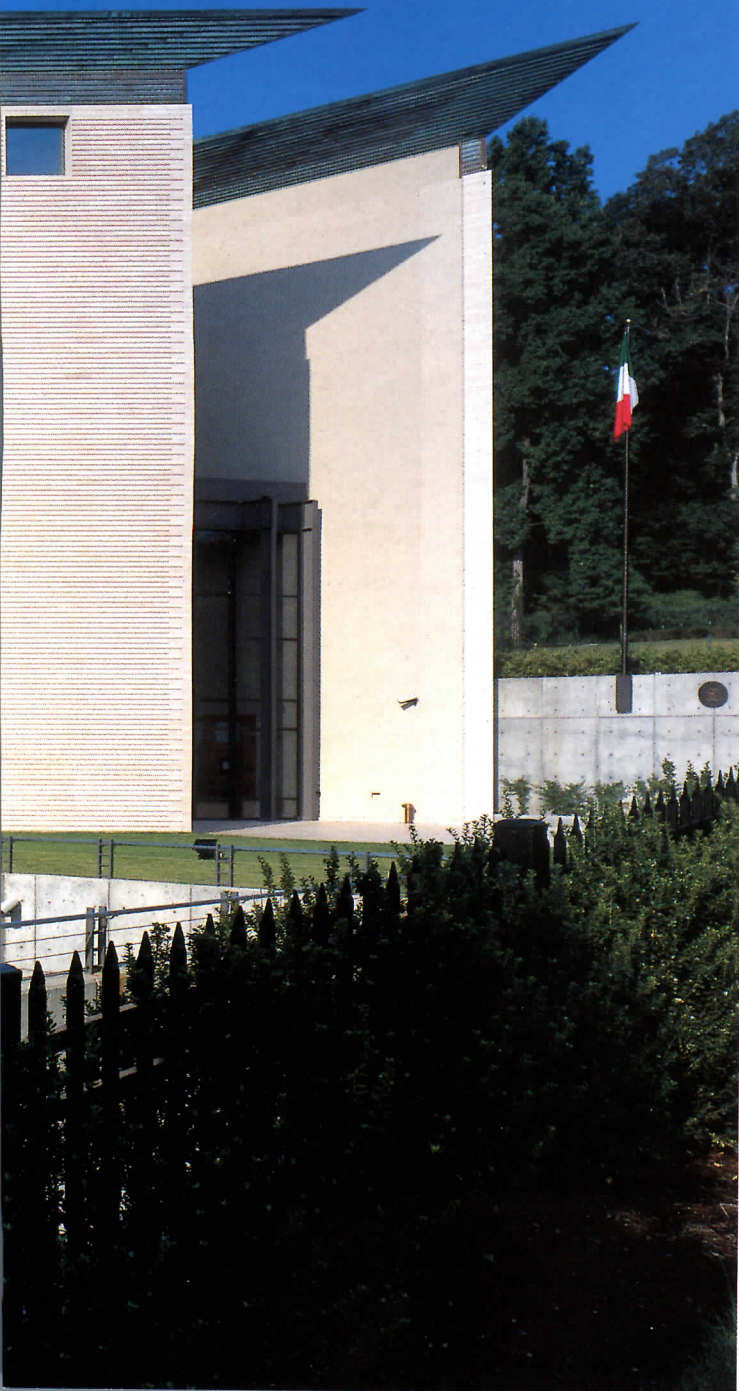
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**FORTIFIED BEAUTY** Piero **Sartogo** brings a sense of craft to a muscular design for the **ITALIAN CHANCERY** in Washington, D.C.





While the building is set back considerably from the street, its formal and monumental facade and entrance give it a strong Embassy Row presence. The 10-inch-thick masonry block is covered with 3-inch-thick "bricks" of *pietra rosa di asiago*, a pinkish stone specially cut and beveled in Italy.



PHOTOGRAPHY: © ALAN KARCHMER

By Cynthia Davidson

**F**ood was not on my mind when I visited the Italian Chancery in Washington, D.C., designed by the Italian architect Piero Sartogo. But ever since Talking Heads released its album *Piero Songs about Buildings and Food* in 1978, I have felt there was no more satisfactory pairing—not only in their rudimentary forms as shelter and sustenance but also as the discrete but complementary marks of civilization. As if sensing my personal, hidden conviction, Leo Daly, Sartogo's associate architect on the chancery, suggested that, following our tour of the building, we have lunch at Galileo, a highly rated Italian restaurant a short ride away.

The first course was a single, elegant grilled shrimp set upright on a curled tail and served on a pool of white-bean puree drizzled with bright green virgin olive oil. The dish offered an interesting counterpoint to the building I had just seen: where the food was a serious reappraisal of ingredients that surpassed the tradition of Italian cooking to become something surprisingly new, the embassy draws on the history of Italian architecture to become something problematic.

The long stretch of Embassy Row that has grown up along the northwestern end of Massachusetts Avenue is an array of periods and styles, from Beaux-Arts and neoclassical mansions to the dark glass box of the Brazilian Embassy, which sits across from the Italian building, and the new brick-and-timber Turkish Embassy up the street. When the Italians decided to move their embassy from an Italianate mansion in a

## A CLEVERLY SITED SQUARE BUILDING IS BISECTED DIAGONALLY AND AGGRESSIVELY PUNCHED OPEN FOR AN INTERIOR PIAZZA.

declining Washington neighborhood to property the Italian government owned just off Massachusetts Avenue, the ambassador asked the Washington office of Leo A Daly to organize an invited competition for Italian architects to design a new building. The mandate of the competition brief, beyond program and security, was that the building must convey the notion, or essence, of Italy (as if such a thing were possible in a single building).

Piero Sartogo, a Roman whom some might remember for his high Modern design in the original Bulgari shop on Fifth Avenue in New York City, won the competition over such well-known luminaries as Aldo Rossi, Renzo Piano, and Gae Aulenti. He did so by proposing a cleverly sited square-shaped building bisected on the diagonal and then aggressively punched open with a glazed, flat-domed atrium.

The chancery was completed this year. On visiting the building, I felt something naggingly familiar yet frustratingly unidentifiable about it. Handsome and strange at the same time, the building does not seem of

*Cynthia Davidson is the editor of Any magazine and two book series, Writing Architecture and the ten Any books published with MIT Press.*

**Project:** *The Chancery of the Embassy of Italy in Washington, D.C.*

**Designer:** *Sartogo Architetti Associati, Rome—Piero Sartogo, principal architect; Nathalie Grenon, associate architect; Susanna Nobili, collaborative architect; Sergio Micheli, project manager*

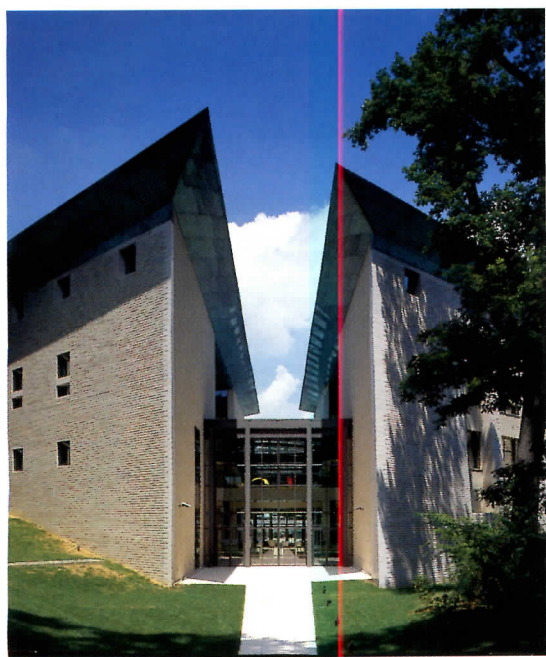
**Executive Architect:** *Leo A Daly,*

*Washington, D.C.—Charles D. Dalluge, principal-in-charge; Ellis C. Whitby, project manager; Darren Zehner, project architect; Rod Mercer, zoning and planning; James P. Barone, landscape architect.*

**Engineer:** *Leo A Daly*

**Consultants:** *Andrew Diem Architects*

**General contractor:** *Beacon/Dioguardi*



its time and place; not because Sartogo did not consider the site —“I am an Italian, we always start with *genius loci*,” he said—but precisely because it seems outside an Italian tradition that, Sartogo, like the chefs at Galileo, is steeped in. For him, all buildings are “an organization system (the archetype), which becomes architecture only when it is altered and distorted by setting it into a context, both physical and cultural.” The degree of distortion is the key.

The physical and cultural contexts for the embassy presented real constraints. The steeply sloped site is essentially triangular, with its long side facing onto Whitehaven Street, a dead-end residential road that

**HANDSOME AND STRANGE, THE BUILDING DOES NOT SEEM OF ITS TIME AND PLACE; IT IS FAMILIAR, YET UNIDENTIFIABLE.**

crosses Massachusetts Avenue on the diagonal. The two short sides are bordered by the woods of Rock Creek Park, to which the neighbors wanted access, even if only a visual one. The problem for the building was that the political and cultural staff of the embassy would be joined with an Italian military staff that had previously occupied space in a Washington office building. Their respective programs and identities needed to be kept separate.

The main public entrance to the embassy is in the glazed void between the two triangles (opposite). The rear of the building shows a battered wall that heightens the sense of monumentality (below).



The atrium serves not only as a programmatic joint but also as public exhibition and gathering space, dramatically changing the usually private program of an embassy. On both levels, furniture from top Italian designers is clustered in sitting areas. The public spaces are roofed with an asymmetrically glazed and flattened "dome," braced with steel.



## Observations on security in the design of the Italian chancery

The prime location and dramatic profile of the chancery—both of which contribute to its identity as a distinguished public building—are not to be taken for granted these days. U.S. embassy planners would no doubt say that both features compromise its security. But the chancery challenges us to wonder whether a conspicuous and carefully crafted building is intrinsically stronger than one that adopts a reclusive or defensive stance. Like every other nation, Italy considers the security of its foreign missions a top priority (even in Washington, where missions are better protected than in many other places). But the Italian Foreign Ministry did not want an embassy office building that advertised its apprehension. Design architect Piero Sartogo takes particular delight in contrasting the apparently austere exterior with the dazzling skylighted interior space.

The blocks of pink marble give the exterior walls a sense of weight and strength, and deeply recessed windows add to the impression of mass. But, from another angle, the building becomes totally transparent. Passersby on the street can look right through glass walls to the glass-covered atrium and out the other side to the woods beyond. The building may be a box, but it is a box sliced open by light.

Architects have always been drawn to the sheer drama and openness that glass conveys, and it is no longer the fragile product it once was. Engineered not to shatter and securely anchored to a matrix of steel, glass can rival masonry in strength. If anything, the chancery's atrium dome is overdesigned—in part to support the workers and equipment needed to clean the glass. Diplomatic visitors and guests enter through one main entrance and pass through a security checkpoint and two sets of glass

doors before arriving in the light-filled central atrium. Consular visitors come in through a separate door, sparing further delays at the main entrance.

The ambassador has his own entrance on the building's east facade, where his car can drop him. Others will also be able to arrive at the main entrance by car. As an added (and unusual) convenience and a gesture of goodwill to the quiet, but car-filled, neighborhood, parking for visitors is provided in an underground garage.

The only obvious security measure in the interior is the lack of public access beyond the ground floor—no open stairs, for example, lead to offices above. Elevators control access to the upper levels, and they, in turn, are centrally controlled. This means that the embassy can host large public events and protect the privacy of its offices at the same time. The absence of a loading dock is either a security innovation or a curious planning oversight. Yes, there are strategically placed cameras and, yes, some of the glass is bulletproof and/or blast-resistant, but such features are typical at new government office buildings everywhere.

Highly visible, assertive architecture conveys confidence, and that confidence translates into trust and goodwill, the goals of public diplomacy. Well-designed embassies can further those goals. At a time when U.S. embassies are fleeing downtowns, retreating to remote suburban sites, and when they are being designed as walled compounds in the manner of low-profile, high-security prisons, it is good to see an embassy like Italy's use design to draw attention to itself in a way that proclaims cultural pride and national identity. The result is architecture that makes a positive political statement rather than one that resonates with fear.

—Jane C. Loeffler



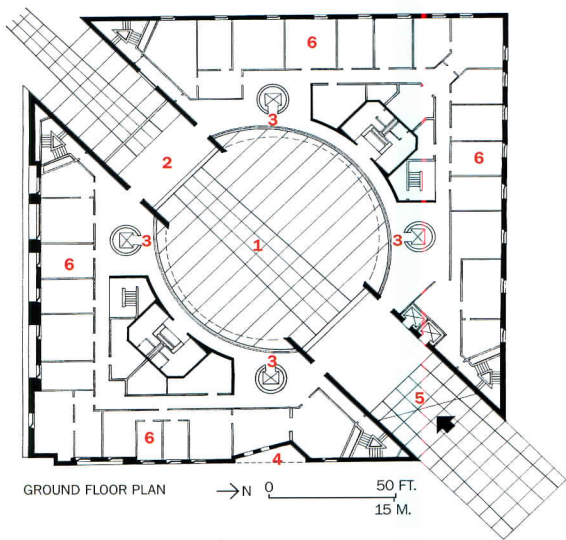
Sartogo solved the site and programmatic issues with a split square, a concept that, he says, derives from the original square plan of Washington and the diagonal cut through it by the Potomac River. The embassy is thus a square within the square, a theme that continues in the building's detailing. The plan appears to derive from a building Sartogo often cites, the Palazzo Strozzi in Florence, built for two brothers whose separate dwellings frame a central courtyard. Sartogo distorts this *parti* for the Washington site and program by asymmetrically splitting the square on the diagonal, in essence creating a modern binuclear building. The ambassadorial staff occupies the slightly smaller triangle, and the visa offices and military staff, the slightly larger triangle. The difference in the size of the two pieces is masked by the “courtyard” space created between them, which becomes, as in many office buildings today, a double-height atrium. The atrium serves both as a programmatic joint and as a public exhibition space, dramatically changing the usually private program of an embassy. It is roofed with an asymmetrical, glazed, and flattened “dome,” which is reminiscent, Sartogo says, of the view of the

### THE HEAVY STEEL BEAMS NECESSARY TO SUPPORT THE GLASS INTRODUCE AN OVERSCALED MONUMENTALITY.

cosmos on the ceiling of Michelangelo's Laurentian Library. Physically, however, the heavy steel beams needed to support the glass introduce a problematically scaled monumentality.

The model of the Renaissance palazzo becomes more ambiguous in the articulation of the exterior. The public entrance to the embassy is in the glazed void between the triangles, facing Whitehaven Street. The formal facade and entrance are parallel to Massachusetts Avenue, which gives the building an Embassy Row presence, even though it is set back from the road. The oversized portal typical of the palazzo is both shifted off center and canted obliquely into the thickness of the wall. The massive copper portal is punched with square windows and at its center masks a discreet sliding door for the ambassador. Two rows of three-dimensional windows (Rossi-esque squares-within-squares) appear to punch into the depth of the wall, with the larger openings on the third floor, at what would be the *piano nobile*. Diagonally and to the upper left of the door, Sartogo cuts an inset into the wall that frames four windows, a gesture that plays tricks with the visual scale of the otherwise massive wall and reemphasizes the wall's thickness.

This thickness is due in part to the chancery's structure. With the



- 1. Atrium ground floor
- 2. Bridge level 1
- 3. Elevators
- 4. Ambassador's entrance
- 5. Main entrance
- 6. Offices and reception areas



exception of four, cylindrical, freestanding elevator cores, the structural columns are buried in the walls. Ten-inch masonry block is hung with insulation and then with 42,000 three-inch thick “bricks” of *pietra rosa di asiago*, a beautiful pinkish stone specially cut and beveled in Italy. The front elevation adjoins a battered wall that mimics in profile the steep drop in the land to Rock Creek Park, only some 20 feet away. The resulting thickness at the corner gives the impression of an urban fortification reminiscent of 15th-century Italianate projects.

The building's two triangular segments are topped with a deep, abstracted copper cornice intended to add shadow depth on the flat facade. Sartogo cites the cornice overhanging the courtyard in Rossellino's Palazzo Piccolomini in Pienza as his inspiration, but, in fact, it is much

## SARTOGO HAS CREATED SUCH AN ARRAY OF ANTIPASTI THAT THE ANTICIPATED MAIN COURSE IS ALMOST LOST.

more akin to the hull-like roof of Le Corbusier's chapel at Ronchamp.

By identifying elements of the building, one can begin to focus on the problem of its overall unidentifiable familiarity. Sartogo has incorporated myriad precedents, which he re-presents in a collage of Italian traditions, both historic and contemporary, but which are never clarified in an idea of the whole. Rather, he breaks the palazzo archetype apart with the strong diagonal and heavy skylight. The courtyard-as-atrium beneath it is a programmatic success, but the eye is distracted from the perspectival game of the flattened dome by the vivid colors used on the elevator towers and periphery walls. The function rooms that rim the atrium are innocuous, and the square-within-a-square theme introduced in the fenestration is repeated so often it becomes overworked, especially in the custom carpets. Like a chef who has used too many ingredients, Sartogo has created such an array of antipasti that the anticipated main course is almost lost.

The embassy is a good neighbor—quiet, introverted with the siting diminishing the building's institutional mass—and the exterior stone gives it a warm, pinkish aura. By all accounts, it is one of the best new embassies in Washington. So why is it also frustratingly unidentifiable?

I love to visit Italy, to eat there, and to visit its palazzi, villas, and churches. But contemporary Italian architecture today seems to wander in the long shadows cast by the late Aldo Rossi. Is this why I am uncomfortable with the new Italian Embassy? Is the jarring juxtaposition of the beautifully detailed pale pink exterior with the heavy steel skylight and vivid palette on the interior the sign of a problem with Rossi's urban archetypes? Is the distortion of the archetype so extreme as to be no longer part of it? While I appreciate Sartogo's intelligence and his desire to alter the archetype of the palazzo, I do not understand the spatial and material choices that make these manifest. It is within such choices that the difficulty—and the beauty—of architecture will always lie. ■

### Sources

**Concrete:** Miller & Long Co., Inc.

**Structural steel:** S.A. Halac, Inc.

**Mechanical, electrical & fire**

**protection:** Hess Mechanical Corporation, Wingate Electric, Livingston Fire Protection

**Security systems:** Electron Italia

**Stone and marble:** R. Bratti Assoc.

**Glass and glazing:** Galaxy Glass &

Aluminum, Inc.

**Interior finishes:** C.J. Coakley, Chamberlin-Washington, D.C., W Contracting, Dupont Flooring Systems

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Drawing and dining rooms line the perimeter of the ground floor of the atrium (opposite top and bottom); the double-height atrium asymmetrically splits the square building on the diagonal, accommodating its political/cultural staff on one side and military staff on the other.



Masonry walls are stuccoed, and windows are deeply punched half-moons. Krier wanted the building to reflect the sun, to bask in its glow.





# SENTIMENTAL BEAUTY Leon Krier's picturesque vernacular **TOWN HALL/CHAPEL** in Windsor, Florida, raises issues about making the old new

By Beth Dunlop

**T**he new Windsor Town Hall by Leon Krier is straightforward in form, repetitive in detail, limited in its color prism. And yet it is a building that defies easy understanding, at once monumental and evanescent, sturdy and delicate. Conceived as a civic building and town center and planned by Duany Plater-Zyberk, the town hall is now also regarded as a chapel, an idea derived both from architectural form and actual function. While it is quite traditional, it poses as many questions as it answers. Tradition yes, but whose tradition does it draw on? The form is classical, like a little Greek temple, but its detailing is far more of a mystery, even to Krier himself.

"I once jokingly described its style as 'gladiatorial gothic,'" said Krier. "Does it recall the Catacombs, the Colosseum, the aqueduct in Segovia, the inner temple of Solomon in Jerusalem, the tabernacle in the desert, the German Gothic architecture in Poland? I can't trace it to a single source."

Krier's ideas have attracted many proponents over the years, and yet the architectural press, for the most part, has not embraced traditional architecture, preferring instead to promote the next new thing. I personally am not overawed by the latest and trendiest, preferring to seek out

**"I ONCE JOKINGLY DESCRIBED ITS STYLE AS 'GLADIATORIAL GOTHIC,'" SAYS KRIER. "I CAN'T TRACE IT TO A SINGLE SOURCE."**

architecture that is carefully crafted, well proportioned and contextual, whether it is abstract or rather literal in its design, and in its interpretation of history. Further, I believe that architecture needs a language to impart its ideas. That said, let me address Krier's building itself.

The building is deceptively simple: A steeply pitched roof rises from 30 concrete piers that sit on a podium. Windows are deeply punched half-moons. Doors are 10 feet high. Inside, rows of pale oak pews flank a central aisle leading to the chancel. Masonry walls inside and out are white. Doors, rafters, and the ceiling are aqua. The oak of the pews, podium, and altar is washed with a stain that is faintly pale blue-green, as if a reflection of the painted ceiling. A single gold pylon stands in

*Beth Dunlop, an architecture critic who lives in Miami Beach, is the author of a recent book, A House for My Mother: Architects Build for Their Families, as well as Building a Dream: The Art of Miami Architecture.*



the nave, the only ornament. The decorative details are minimal and repetitive. The building is purposefully stark.

One of Krier's goals was to play with light of the blindingly strong, pure white Florida sunshine. From the outside, Krier wanted the building to reflect the sun, to bask in its glow by day, become incandescent, lit from within. Inside, the light is almost entirely reflected; the depth of the walls turns that piercing Florida sun into a more gentle, indirect luminescence.

The breeze is more direct. Krier designed this building to function both as a celebratory open-air pavilion, once the tall doors are opened wide, and a sheltering, even solemn, place of worship.

Still another of Krier's intentions was to make the building seem handcrafted, an idea that is conveyed in part from the thickness of the walls and in part from deliberate choices about craft. "The stucco has a

**Project:** Windsor Town Hall, Vero Beach, Fla.

**Owner:** Windsor Development/Torwest

**Designer:** Leon Krier, Claviers, France

**Architect:** Merrill and Pastor

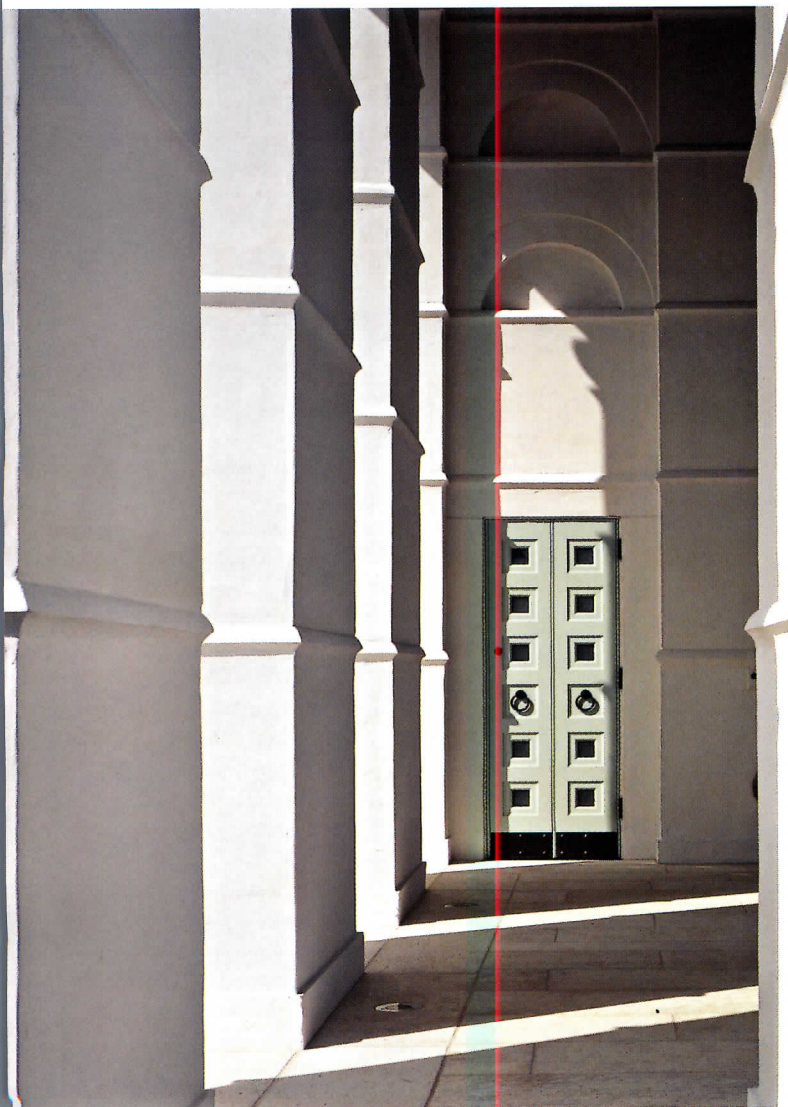
Architects, Vero Beach, Fla.—Scott Merrill and George Pastor, principals-in-charge; George Pastor, project manager

**Engineer:** Frank Farley, P.E.

**Lighting consultant:** Robert Laughlin  
**General contractor:** Proctor Construction

Flanking a public square, the building is located at the north-east end of Windsor, a New Urbanist town designed after Anglo-Caribbean antecedents found in nearby St. Augustine and in once-British islands. It is sited at a focal point of

important avenues and vistas, and the monumentality of its scale, the Norse-like pitch of the roof, the unfamiliar size, and the repetition of its elements establish and proclaim its unique civic status as shelter and symbol to the community.



free-hand quality and softens the sheer repetitiveness and relentlessness of the architecture,” he says.

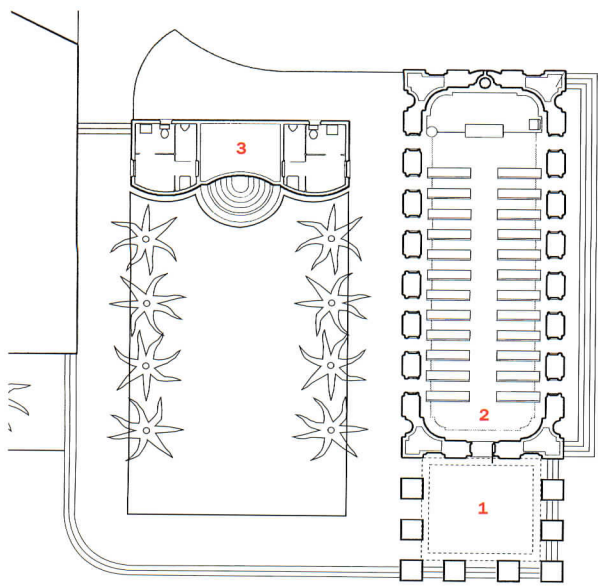
The town hall is familiar, triggering deep memories, and yet so fresh. Though it is as elemental and repetitive as, say, Fay Jones’ chapels or early American meetinghouses, there is a profound quality to the architecture that shows clearly the complexity of thought behind it. And at the same time, it is quite easy to judge. The proportions are perfect.

Both shape and site give it a powerful presence; the roof rises some 15 feet above any other, and though at the northeastern end of Windsor, the town hall sits at the focal point of both important avenues and vistas. Furthermore, it flanks a public square. The monumentality of its scale, the unfamiliar size, and the sheer repetition of its elements establish and proclaim its uniquely civic status as shelter and symbol to the

## **ITS BEAUTY IS DIFFICULT, AT ONCE SO RECOGNIZABLE IN ITS FORM AND YET SO OTHERWORLDLY IN ITS DETAILING.**

community. The building is deceptively simple. I have seen it on three different occasions under a variety of circumstances—day and night, sun and rain—and have heard several lectures and a recital there, but I suspect that if I had only seen it once, I would still come away with its image firmly imprinted in my mind. But its beauty is difficult. It does have a confounding quality: the building is at once so recognizable in its form, and yet so otherworldly in its detailing. As Krier explains, his clients kept wanting the hall to be a religious building complete with steeple. “I struggled against this for a while,” he says, “proposing a separate campanile, but in the end it became a church.”

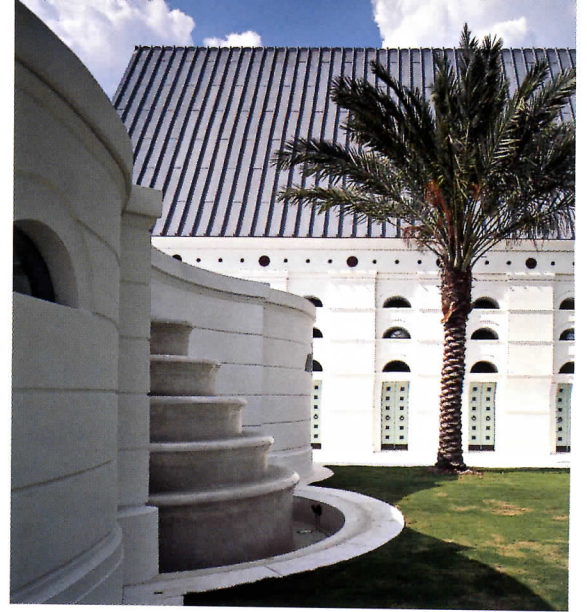
His aesthetic intention “was not so much to create a mathematically precise composition, but rather to harmonize the disparate imperatives of contemporary building and development, allowing them to become a harmonious and aesthetic, if picturesque, whole.” Indeed, Windsor Town Hall is one of just two completed buildings by Krier in the U.S. (the other is his own house in Seaside). That both are within new towns is no coincidence; Krier is inarguably one of the important theoreticians of the New Urbanist movement, and he designed the town of Poundbury in Great Britain for Prince Charles. At Windsor, he felt the



MAIN FLOOR PLAN

→ N 0 30 FT.  
9 M.

1. Entrance portico
2. Nave
3. Fountain/rest rooms



need to produce a building that would offer a contrast to the domestic scale and style; Windsor's houses are based largely on Anglo-Caribbean antecedents found in nearby St. Augustine and once-British islands. Windsor's strict regulations (as in all towns planned by Andres Duany and Elizabeth Plater-Zyberk, it relies on an architectural code rather than zoning) dictated the Norse-like pitch of the roof. Krier had first seen Windsor in 1989 when only half a dozen houses were completed, but he was impressed. "Compared to all other neotraditional developments going on at the time, these were a true revelation in quality and scale, and above all, by the harmony and variety which I had believed quite impossible," he said, "knowing how difficult it is today to pursue an aesthetic of simple and unpretentious elegance."

In Krier's lexicon, "bad architecture" is a style unto itself. "It's not due to a lack of means or imagination, but quite simply due to intellectual confusion, like building a cottage the size of a palace, or palatial architecture to the dimensions of the cottage, making museums look like factories, or factories like temples. Cloning buildings is a civil disaster, however good they look. Architecture is a matter of common sense because it is of common use; it should be attractive to people without explanation."

Krier often points out that historical cities and buildings and traditional aesthetics "are so endearing to people generally not because of history-culture-memory, but simply for the self-evident, superior quality, their beauty, efficiency, and practicality. Civilized

## **"BAD ARCHITECTURE" HAS TO DO WITH INTELLECTUAL CONFUSION, LIKE BUILDING A COTTAGE THE SIZE OF A PALACE.**

human intelligence is generally seduced and convinced by objects which are at once useful and aesthetic, by the harmony of shapes, colors, construction methods, and composition without any explanation and justification."

Is beauty objective, as Vitruvius posited in the first century B.C.? Krier is, to say the least, voluble on the subject. "We are part of nature, and our aesthetic judgment of phenomena is relative to our position of observation. Even an architectural shame may look beautiful when observed in the setting sun and from a safe distance," he said. "So it is not a question of beauty being a subjective or objective quality, but in how far our aesthetic perception changes in relation to our point of observation, involvement with, or detachment from a phenomenon. Relativity in this sense has very little to do with arbitrariness, for given similar conditions of observation and use, an object's beauty or ugliness may well be said to be objective."

And yet, when theory comes to rest in construction, there is a certain element in Krier's work that is as much serendipity as the "conscious and voluntary." Indeed, its beauty is expected, springing from forms and memories that are enmeshed, even subconscious, yet it continues to surprise those who see it—even its architect. ■

### **Sources**

**Wood:** Universal Building Supplies

**Roofing:** Altec Roofing (lead-coated copper)

**Windows:** Central Window (aluminum)

**Doors:** Leon Krier (wood)

**Hardware:** Baldwin Hardware Corporation

**Paint:** Benjamin Moore

**Cast Stone:** Herple, Inc.

**Furniture:** Leon Krier (altar lectern and pews)

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Inside, the light is almost entirely reflected; the depth of the walls turns that piercing Florida sun into a more gentle, indirect luminescence.

# PUMPED-UP BEAUTY Berlin's **SONY CENTER** by **Murphy/Jahn** makes a bravura case for technology driven design at a new urban scale



By James S. Russell, AIA

**C**hock-a-block with the best stores, restaurants, and cafes, Berlin's Potsdamer Platz was, for a few years in the early 20th century, among the busiest and most vital urban crossroads in the world. World War II and the divided-city era snuffed out its life, leaving a scorched, empty plain rent by the Berlin Wall for decades.

In a heroic effort to recapture the energy of that lost urban era, Europe's largest private-sector development has risen on the site. It encompasses several components, but in its brashness, the Sony Center is Houstonian—an Astrodome of a place (though Houston would never build anything so architecturally gutsy) dropped into the new contextual gentility mandated by city planners' "critical reconstruction" ideology. Helmut Jahn, of Chicago-based architect Murphy/Jahn, has deployed every tool of architecture, engineering, and construction bravura to create a skyline-altering turn-of-the-century landmark.

Sony Center, however, has not been imbued with a traditional kind of beauty. Its seven buildings and 1.3 million square feet sit in its incomplete context like a not-yet-graceful, overfed adolescent. It combines an expression of technological bravura with an enormous and salutary commitment to commercial architecture as a quintessentially public act. The mixed emotions it evokes say as much about the preconceptions that critics and architects alike bring to corporate architecture as they do about Murphy/Jahn's design.

Largely discarding an urban-design scheme prepared for this site by the city not long after reunification, Jahn carved a giant oval public space out of the middle of the wedge-shaped site, calling it the Forum. He ringed it with two apartment structures, an Imax theater, and a new

home for the German Film Institute (plan, page 134). Aligned to the street on the site's western edge are two slablike office structures, one of which Sony occupies. Jahn punctuated the entire composition with a 25-story half-round tower that beckons to the former East.

Jahn cut monumental gateways into the long expanses of street wall, encouraging passersby to explore the smaller inner courtyards as well as the gigantic public Forum. The Forum's central fountain daringly cantilevers into a skylight, which opens onto a battery of below-grade movie theaters.

The roof of the central public space is a brawny essay in architectural engineering, thanks to the collaborative effort of the New York office of engineer Ove Arup Partnership. From a giant truss ring at the

**Project:** Sony Center, Berlin

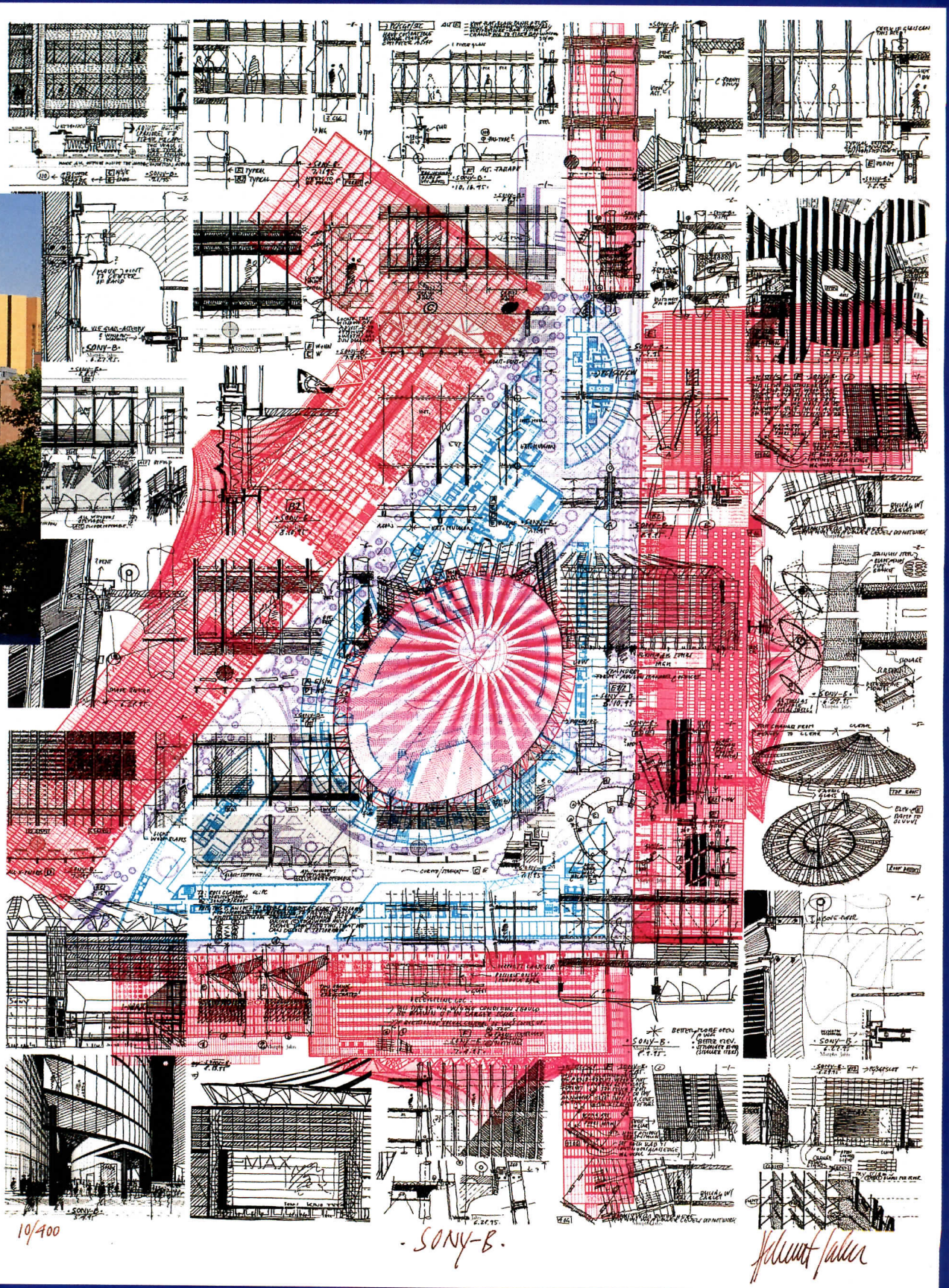
**Owner:** Sony, Tishmann Speyer Properties, Kajima

**Architect:** Murphy/Jahn—Helmut Jahn, Sam Scaccia, Phil Castillo, Dieter Zabel, Yorgo Lykourgiotis, Susan Pratt, Scott Pratt, Peter Hayes, Anthony Pelipada, Carl D'Silva, Steve Nilles, Aaron Greven, Scott Seyer (Chicago team); Steffen Duemler, Andreas Hell, Oliver Henninger, Vincent Marani, Bärbel Rudloff, Matthias Lassen, Sabine Robel (Berlin team)

**Engineers:** Ove Arup Partnership (Forum roof); BGS Ingenieursozietät (buildings); Werner Sobek Ingenieure (special structures); Jaros Baum & Bolles; Ingenieurgesellschaft Hopfner (mechanical, electrical, plumbing)

**Consultants:** Institut für Fassadentechnik IFFT (facades); Reith + Wehner (historic structures); Peter Walker, William Johnson; Rheims + Partner (landscaping); L'Observatoire International (lighting); AIK/Yann Kersale (lighting art)

**General contractor:** Hochtief



Helmut Jahn's obsessive studies (right) created a spectacular public forum (opposite left) topped by a tentlike roof that echoes Hans Scharoun's old-aluminum-clad chamber Music Hall, designed in the late 1950s (left in photo, opposite top).

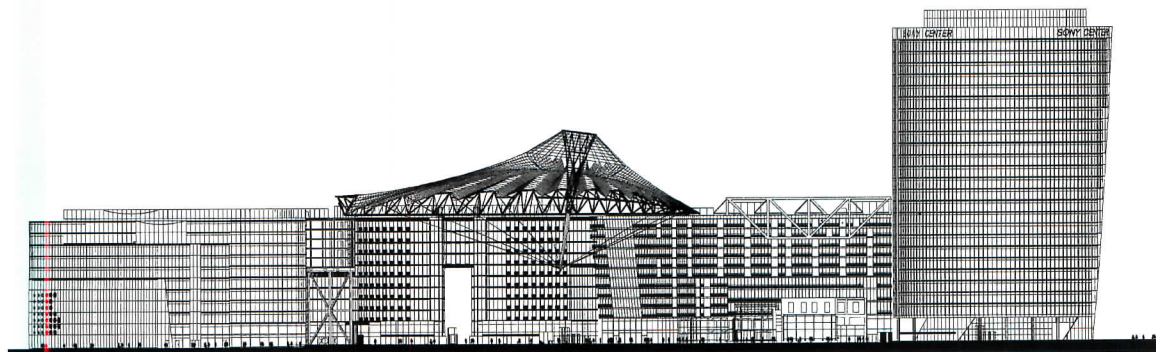


Gently curving elevations and large-scale openings to the interior (top) break down the enormous scale of the development's north-facing street wall. Werner Sobek designed the lacy supports in the upper-level atrium and street-level screen wall (left).



The festive roof of the Forum draws visitors from busy Potsdamerstrasse. Glass fins visible on the curtain wall resist wind loads.





TRANSVERSE SECTION

0 100 FT.  
30 M.



The tapering kingpost of the Forum roof (above) acts like the tilted axle of a bicycle wheel. Cables radiate from the top to support the fabric and glass panels, and from the bottom to hold the kingpost itself in place. They meet at the truss that rings the base (top), the equivalent of the bike-wheel rim.

base, V-shaped, sail-like panels of translucent Teflon-coated fiberglass, separated by panels of transparent glass, rise in a tilted hyperbolic cone to a smaller ring that tops a tapering kingpost.

This is an urban gesture of extraordinarychutzpah. Fed by the cinemas, stores, and cafes, the Forum is crowd-pleasing because of—not in spite of—its size and impressiveness. It's capable of being transformed by high-tech lighting effects to entertain gatherings of thousands.

But the roof does more than create a new profile on the skyline. It has been designed to temper the environment of this outdoor space, making it usable from early spring until early winter. The glass panels gently heat the space and protect it from winds in cold weather, while the fabric panels, which transmit only 17 percent of incident daylight, shade the Forum on warm summer days. This high-tech piazza is neither mechanically cooled nor heated.

The multilevel building lobbies, too, are mechanically conditioned only minimally as a creative response to Germany's strict energy-consumption regulations. In these semipublic spaces, one of which is visible as a stairway-laced void six stories in the air, Jahn has collaborated with structural engineer Werner Sobek to dematerialize their enclosure with balletic webs of rods, connectors, and through-glass fasteners.

As if this weren't enough engineering exhibitionism, a giant, multistory truss carries several floors of apartments over fragments of the Esplanade Hotel, among cabaret-era Berlin's most glittering venues. The

## THE FORUM ROOF'S KINGPOST — A 139-FOOT LANCE AIMED AT THE PUBLIC BELOW — DRAWS AWED STARES.

damage done during the war and the depredations of postwar neglect have been lovingly preserved and enclosed in multifloor-sized vitrines. The hotel remains are now building-scale museum objects.

In recent years Jahn has embraced the kind of technology-driven design that has served well such international architects as Norman Foster, Renzo Piano, and Richard Rogers. "We are trained to think of beauty as designed, not the result of a rational process," says Jahn. Now he works with engineers to find the most expressive ways to depict the structural forces acting on a member. The Sony Center is one of Jahn's earliest efforts in this new style, and technical means are deployed to expressive ends, from the spectacular roof to the elegant structural-glass fins that project from some parts of the curtain wall.

What is troubling is that this new turn on a high-tech theme has begun to become a new orthodoxy in Europe, with many Americans looking to emulate it. Revisiting an early Modernist idea, it attempts to legitimize ambitious architecture on the basis of how technologically advanced it can be.

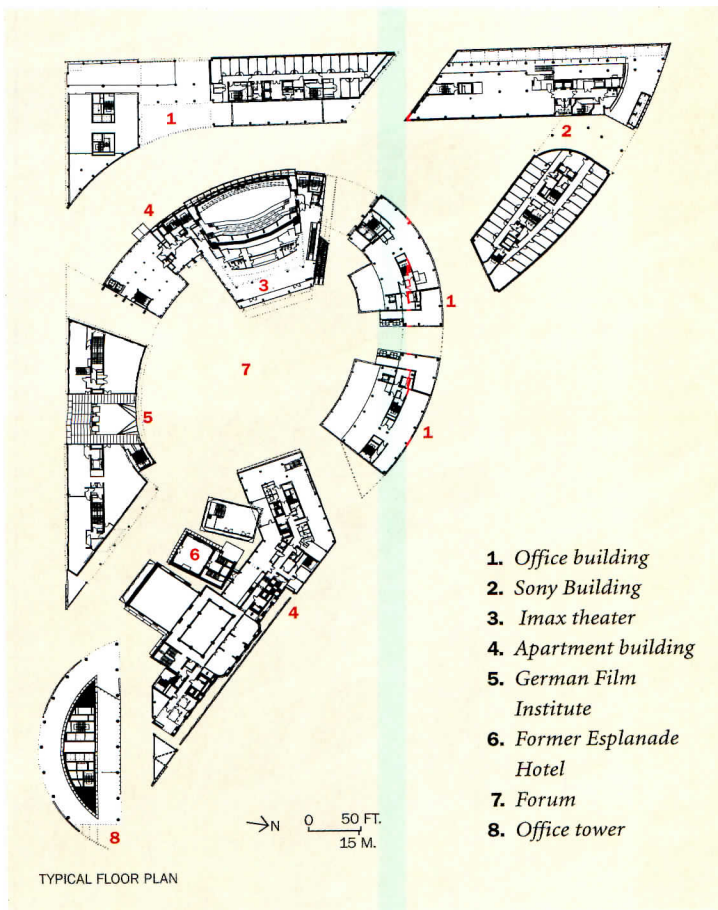


The Forum roof tempers the climate inside a grand public space without resorting to mechanical means. Apartments with balconies face the Forum (overleaf).

**“SONY CENTER WILL ESTABLISH  
ITSELF AS A FORUM FOR A NEW  
KIND OF URBAN LIVING.”**

**—HELMUT JAHN, MURPHY/JAHN ARCHITECTS**





1. Office building
2. Sony Building
3. Imax theater
4. Apartment building
5. German Film Institute
6. Former Esplanade Hotel
7. Forum
8. Office tower

missed as variations of “theme park” design—a term that has become the lazy critical cant du jour.

It is true that beyond its architectural boldness, the Sony Center is filled with the comfortably familiar brand names of transnational corporations—not least of which is Sony itself. The center’s architectural language of sleek, rationalized technology, polished surfaces, and crisp edges testifies to the cleanliness and well-managed order that marks it unmistakably as one of those places where the work of the emerging global marketplace gets done. Global businesses do tend to homogenize urban places in pursuit of a recognizable brand experience, or because there seems to be less risk, or because they want to stick with what’s worked in the past.

It is the very familiarity of such internationalized enterprises that seems to prevent people from taking these large new projects seriously. As one critic noted, does Berlin (or any other place for that matter) really need two new Imax theaters? There is a sense that the architecture may be different, even histrionically so, but the mall-style experience is the same. The slick of inauthenticity seems to trap the architecture inside, preventing observers from reckoning with the unique sense of place the architect has created. But this is the observer’s problem, not the architecture’s. The real question is, can

## A SLICK OF INAUTHENTICITY TRAPS ARCHITECTURE INSIDE, OBSCURING THE UNIQUE SENSE OF PLACE IT HAS MADE.

the architecture transcend the inevitably short-term tenancies? Making a real place is the prime reason for the deep degree of architectural involvement in the first place and the prime means by which a city or a development can differentiate itself. Even Sony Center will likely evolve into a livelier mix as the might-as-well-be-anywhere tenants become more diverse over time, and perhaps more closely represent Berlin’s unique outlook and culture.

Certainly when commercial architecture has enriched the urban experience it has often been dismissed by critics of the time as trivial (the 1920s skyscrapers that have defined New York City’s skyline image are a prime example).

But such an attitude is more problematic in an age that—in America especially—has little use for the public role architecture can play. That role is under siege in the U.S. today, when even highly successful companies only rarely build better than low-end spec norms. There’s rarely a sense that commercial buildings have an obligation to add value to the urban landscape. (Consider that the selection by the *New York Times* of an architect of international stature—Piano—as designer of its new headquarters is laudable, but glaringly anomalous.)

Contrast the architectural ambition and public-spirited nature of Sony Center with the cynicism and short-term vision behind the vinyl-windowed, polymerized-stucco-over-foam-plastic streets and squares that represent the acme of commercial development in the States. In most American commercial developments, there’s no truly public space at all.

Sony Center makes a place within the city that is genuinely urban, that appears to be popular, and that will last a long time. America needs to consider more deeply why it has so much difficulty creating places of comparable urban value. ■

Jahn regards the results of this process as having innate beauty, but perhaps he has invested too much in this notion, at least at Sony. The Forum roof is heavier and less graceful than early drawings suggested it would be, and it sits rather awkwardly on the buildings it unites. The transition between the roof and the supporting buildings isn’t clear. Because the tectonic reading of the buildings themselves is light and crystalline, they certainly don’t visually suggest the heft needed to support the roof. At the portals, giant X braces emerge—they resist the huge wind loads that act on the Forum roof—but even the educated eye would not readily figure out the relationship. And the Forum roof’s kingpost draws awed stares in no small part because of the menace implicit in this 139-foot-long lance aimed at the very center of the public space. Because too many elements are not anchored to the substance of the building in a synthetic way, much of the engineering bravura reads as decorative rather than tectonically authentic.

As a result, the Sony Center comes off as less resolved than its neighbor at Potsdamer Platz, the much larger Daimler-Benz redevelopment, masterminded by the Renzo Piano Building Workshop [OCTOBER 1998, pages 124]. Piano delivered sunny, suavely modern Mediterranean streets and piazzas—a tasteful Modernist’s answer to the dour contextualism to be found in much of rebuilt Berlin. On the other hand, it is seemingly less calculated, less tailored. With its high-energy public space, it seems more vital.

Sony Center’s gutsiness, however, deserves its due. It expresses the raw energy most cities possess in their eras of greatness. But both the Sony Center and the Daimler-Benz redevelopment, the product of extraordinary effort by architects, developers, and planners, have failed to impress the architectural cognoscenti. The projects are typically dis-

### Sources

**Curtain wall:** Josef Gartner & Co.; Götz; Waagner-Biro

**Special curtain wall supporting structure:** Josef Gartner & Co.; Götz

**Glass facades:** Luxgard

**Forum roof:** Waagner-Biro

(fabricator); Birdair (fabric)

**Elevators:** Otis

**WWW** For more information on the people and products involved in this project, go to **Projects** at: [www.architecturalrecord.com](http://www.architecturalrecord.com)



Special lighting effects transform the center's vast public space. "It works well when 5,000 people gather to listen to a concert," says Jahn, "or when one person walks across it late at night."

**If your employees can be three  
times more reliable**

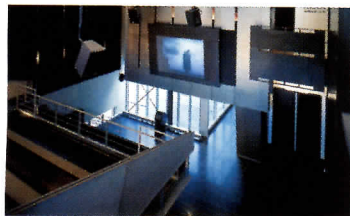


**and you have three  
employees**



# Theme Sprawl

**IN A WORLD WHERE EVERYTHING TRIES TO BE ENTERTAINMENT, THEMED ENVIRONMENTS ARE SPREADING OVER THE LANDSCAPE AND BRINGING TOGETHER SOME ODD COUPLES.**



## 1.

### Montreal, Quebec

*Weaving together two old buildings with a sleek new structure, Saucier + Perrotte Architectes designed a cinema center with star appeal.*



## 2.

### Wolfsburg, Germany

*At a sprawling new complex for Volkswagen, Munich architect Gunter Henn made picking up a car feel like a walk in the (theme) park.*



## 3.

### Point Edward, Ontario

*Dunlop Farrow Architects converted an old industrial building into a waterfront casino with a modern aesthetic and great views of the river.*



## 4.

### Las Vegas

*RTKL turned shopping into an exotic journey and made it a total-immersion experience. Watch out for the rainstorm.*

By Clifford A. Pearson

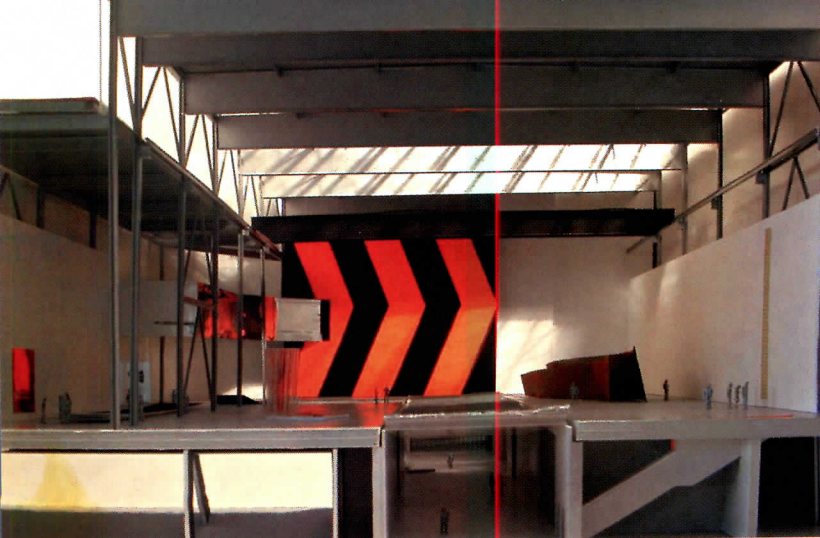
**B**oundaries are disappearing everywhere—between countries in Europe, between high and low art, between the authentic and the make-believe. None of this is exactly new. After all, Walt Disney took Main Street out of the public realm and brought it into his Anaheim, Calif., theme park in 1955, and Andy Warhol appropriated commercial imagery for his paintings back in the 1960s. But the collapse in distinctions (between pop and pandering, for instance) is greater than ever before, and the result is an environmental blurring that makes museums and airports look like shopping malls, and restaurants like theme parks. Such fuzzy images of building types have the feeling of a cultural hangover after a particularly wanton night on the town. Sure, everybody's having fun. But are we going to wake up the next morning, look around, and be appalled at the person we've been in bed with?

The latest example of odd couples is the recently announced betrothal of the Guggenheim Museum to the Venetian Casino Resort in Las Vegas. If all goes as planned, gamblers will be able to walk from the roulette tables to a Rem Koolhaas–designed branch of the Guggenheim Museum starting as soon as next summer. Frank O. Gehry will design the inaugural exhibition, a remounting of the crowd-pleasing *Art of the Motorcycle* show, which he installed at the mother Guggenheim in New York City in 1998. The Vegas Guggenheim will actually be two facilities: a 7,660-square-foot “jewel box” gallery that will be a collaboration between the Guggenheim and the State Hermitage Museum of St. Petersburg, Russia, and a 63,700-square-foot exhibition hall that will have kinetic elements such as a roof that opens up.

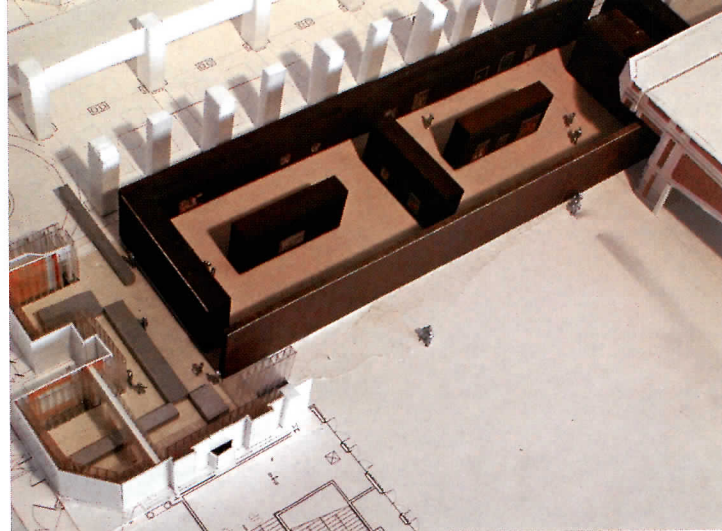
Today art is entertainment. Thomas Hoving realized the kinship several decades ago when he organized such blockbuster shows as *The Treasures of Tutankhamen* at the Metropolitan Museum of Art in New York. Now the business world is picking up the fever, especially since Steve Wynn brought Impressionist and old-master paintings to his Bellagio Hotel and Casino in Las Vegas, turning fine art into an attraction to go along with keno, sports betting, showgirls, and upscale restaurants.

Shopping, of course, is entertainment, and so is dining, which means the architectural manifestations of these activities are becoming less snooty, more democratic. And their locations are less exclusive as well; now you can find Armani at the shopping mall and Lutèce in Las Vegas. But as the old distinctions disappear, architects must find new ways of communicating what makes a museum different from a Hallmark shop or a fine-dining establishment from a Beefsteak Charlie's.

Theming is one way developers and designers can tell users



**A new branch of the Guggenheim Museum in Las Vegas will have two different facilities, a 63,700-square-foot exhibition hall that can handle**



**large pieces of art and touring shows (left) and a smaller gallery (right) that will be a joint effort with the State Hermitage Museum.**

what a project is all about. “Theming has always been around,” states Scott Simpson, FAIA, a principal at the Stubbins Associates, which designed the Venetian Casino Resort and is working with Koolhaas on the Guggenheim in Vegas. “Medieval cathedrals were themed buildings,” adds Simpson. “Themes can take intimidating ideas and make them accessible. They help bind us together. Without them and their sense of shared experience, we don’t have a culture.”

At the Venetian, Stubbins and Wimberly Allison Tong & Goo used theming as an “intermediary between the real and the fantasy,” explains Simpson. Phase 1 of the enormous project includes a 3,000-room hotel, a casino, restaurants, ballrooms, and a 500,000-square-foot shopping complex with indoor canals, singing gondoliers, and make-believe Venetian streetscapes; it cost \$1.6 billion. (By comparison, the Getty Center in Los Angeles was a bargain at just \$1 billion.) A second hotel with 1,000 rooms is now underway and will be followed by a third one with 3,000 rooms, which will be designed by Stubbins and Gehry.

Everyone knows the Venetian’s campanile, piazza, and palazzi aren’t the real thing, even though the architects did a lot of research to get proportions and patterns right. “You want to be fooled,” says Simpson of

everyone who wanders from the slots to the mock-Rialto Bridge and willingly suspends disbelief. What people come for is an experience that engages all of their senses.

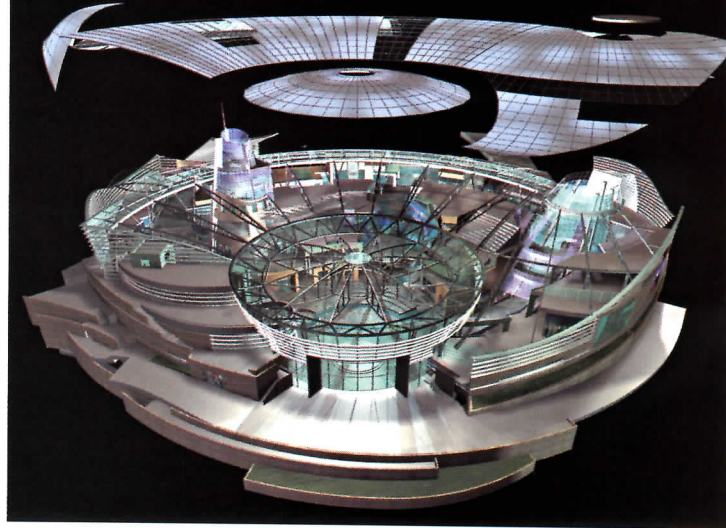
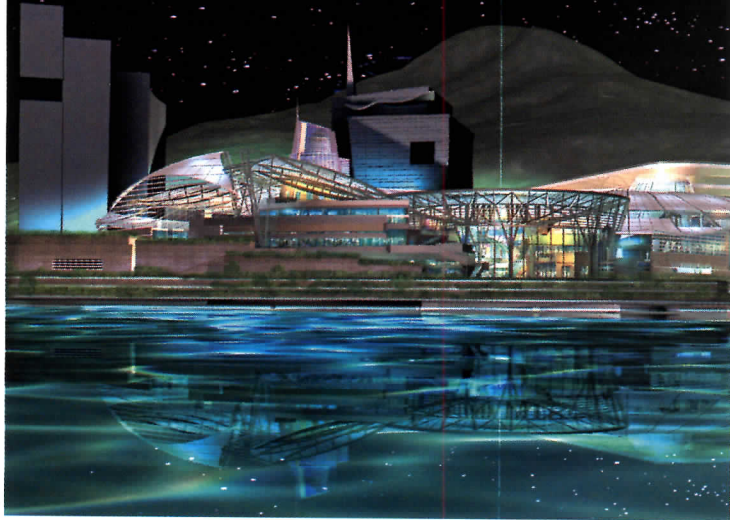
“In today’s economy, there are value transactions and there are commodity transactions,” says Simpson, quoting from the book that every entertainment architect seems to be quoting from right now, *The Experience Economy*, by Joseph Pine, James Gilmore, and Joseph Pine II. Companies that don’t add value to their products by turning them into experiences must sell their goods or services as commodities and compete on price alone, state the book’s authors. So going to the Grand Canal Shoppes at the Venetian is not just about the stores or the restaurants or the gondolas. “It’s the experience, the theater,” says Simpson.

Just as a mass-market economy has been pulling down the walls that once separated the fine arts from their popular cousins and shopping from entertainment, the Internet is blurring distinctions on a global scale. “We’re living in a world of convergence,” states Tim Magill, vice president of the Jerde Partnership and the project designer for Cybercenter, the retail, entertainment, and exhibition component of a \$2 billion development in Hong Kong called Cyberport, which is being designed by Arquitectonica. Developed by the Hong Kong government and Pacific Century CyberWorks (a company run by Richard Li, the son of Li Ka-shing, one of Hong Kong’s richest men), Cyberport will try to create a “strategic cluster” of information technology and related service companies; it will include office towers, a hotel, housing, stores, restaurants, and entertainment venues. Cybercenter will be the complex’s “front door and communal heart,” the piece that will make the business of information fun and accessible to the public. Today, “information is both business and entertainment,” says Magill.

Cybercenter is “the first project where the intent is to create a real-world complement to the virtual world,” states Magill. “The spatial metaphor we’re using for this project, as with much of our work, is the city. The city is a place of exchange—of ideas and goods and services.” While the Hong Kong project will feature some fancy technology—such as smart cards that alert retailers to the preferences of repeat customers



**No need to worry about floods damaging this piazza or this Doges’ Palace, since it’s in Las Vegas at the Venetian Casino Resort.**



**Although hooked up to the latest technology, Jerde's Cybercenter in Hong Kong (left and right) will unfold like an old hill town.**

and cell phones that inform shoppers of promotions and special events—it will not try to replicate cyberspace inside a real space. Instead, it will “amplify the theatrical, impulsive, and social aspects of the real world” that can’t be found on the Internet, says Magill. To that end, the Jerde Partnership is laying out the project as a hillside village stretching out along a spiraling ramp. The first phase of the overall development is scheduled to open in December 2001, while Cybercenter will be part of Phase 2 and should be completed in late 2002 or early 2003.

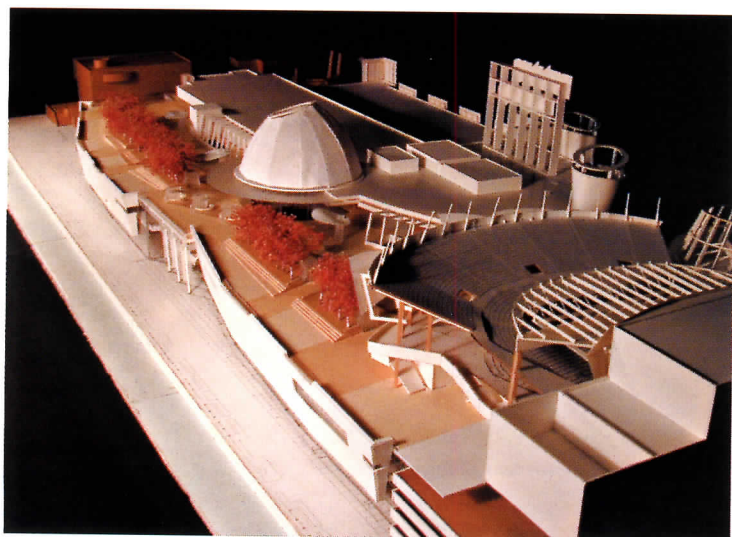
An ambitious mixed-use entertainment project closer to home is Penn’s Landing in Philadelphia. Like Cybercenter, Penn’s Landing is being developed by a public/private partnership and will include shops, restaurants, theaters, and interactive exhibits. The 1.74-million-square-foot complex, designed by Ehrenkrantz Eckstut & Kuhn Architects (EE&K) and Bower Lewis Throter, is the latest incarnation of a project that has been proposed and then sidelined by economic downturns a number of times over the past few decades. To be built on Philadelphia’s Delaware River waterfront, which had once been mostly industrial and is now becoming more integrated with the city’s downtown, Penn’s Landing will feature a 4,000-seat outdoor performing arts facility, a 130,000-square-foot Please

Touch Museum for children, and a great central plaza, in addition to a multiplex cinema, restaurants, and stores. The \$500 million project is scheduled to open in September 2002.

Even as art, shopping, cyberspace, and urban redevelopment fall under the sway of entertainment and theming, the old-fashioned theme park still exerts a powerful hold on the public imagination. In fact, the folks at Disney are adding theme parks onto theme parks, opening Disney’s California Adventure (a 55-acre, \$1.4 billion expansion to the original Disneyland in Anaheim) in February 2001, Tokyo DisneySea (a 175-acre addition to Tokyo Disneyland) in autumn 2001, and a new movie-themed park at Disneyland Paris in 2002. And if that weren’t enough, the company is set to build a new Disneyland on Lan Tau Island in Hong Kong, to open in 2005.

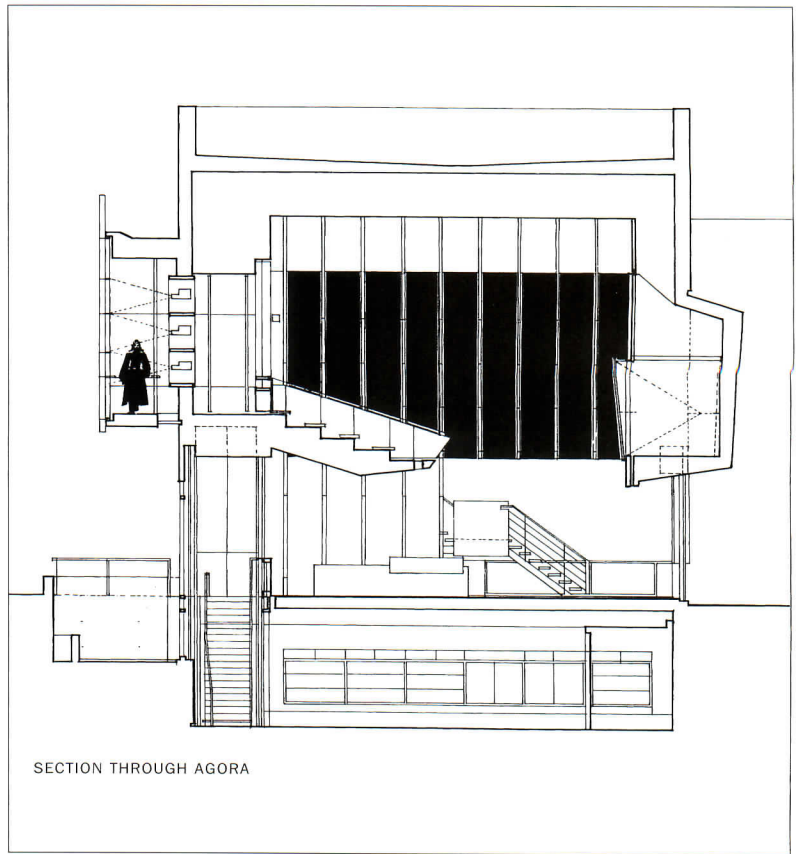
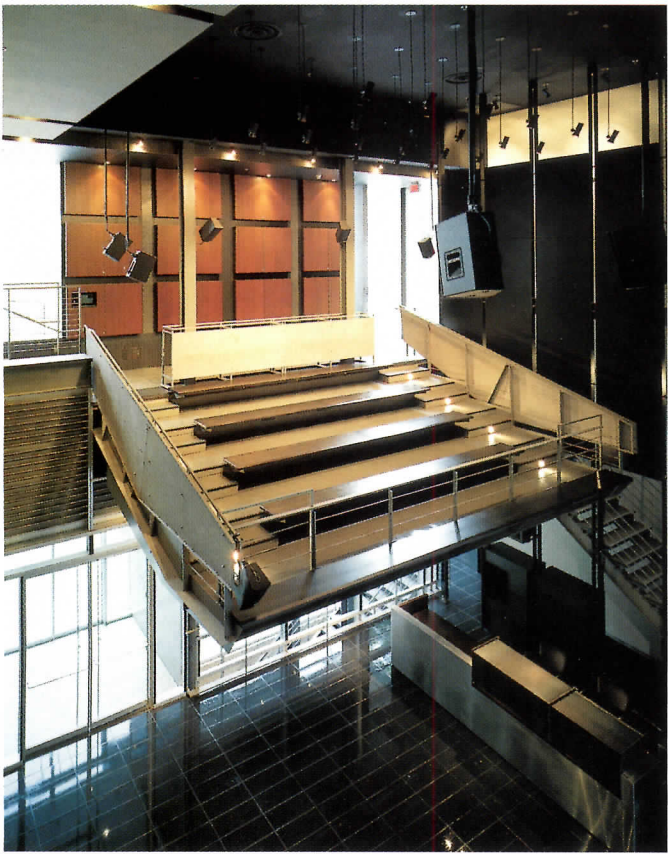
Although Disney is quick to use the latest technology in its rides and attractions, the themes around which the parks are designed have not changed much since the first Disneyland opened, says Wing T. Chao, executive vice president of master planning, architecture, and design for Walt Disney Imagineering. “What attracts us today is not really different from what attracted us 50 years ago,” says Chao. “You need a combination of both authenticity and fantasy,” he explains. “You want to immerse people in an experience. But you want to make sure the theme isn’t too loud, too much in-your-face.”

At the start of the third millennium, every company seems to be reading from the Disney playbook. Everything is themed. Everything is entertainment. Everything is an experience. But entertainment and experiences tend to be fleeting affairs and get dated very quickly, which is why casinos and shopping malls undergo major face-lifts every five years or so. The short shelf life of these buildings also explains why they often look like stage sets, ready to be struck as soon as the next fad hits the market. And just as speed makes the view from a train look fuzzy, the constantly morphing nature of a world focused on experiences may lack many of the contrasts that put places and things in perspective. If everything is entertainment, will having fun be much fun anymore? ■

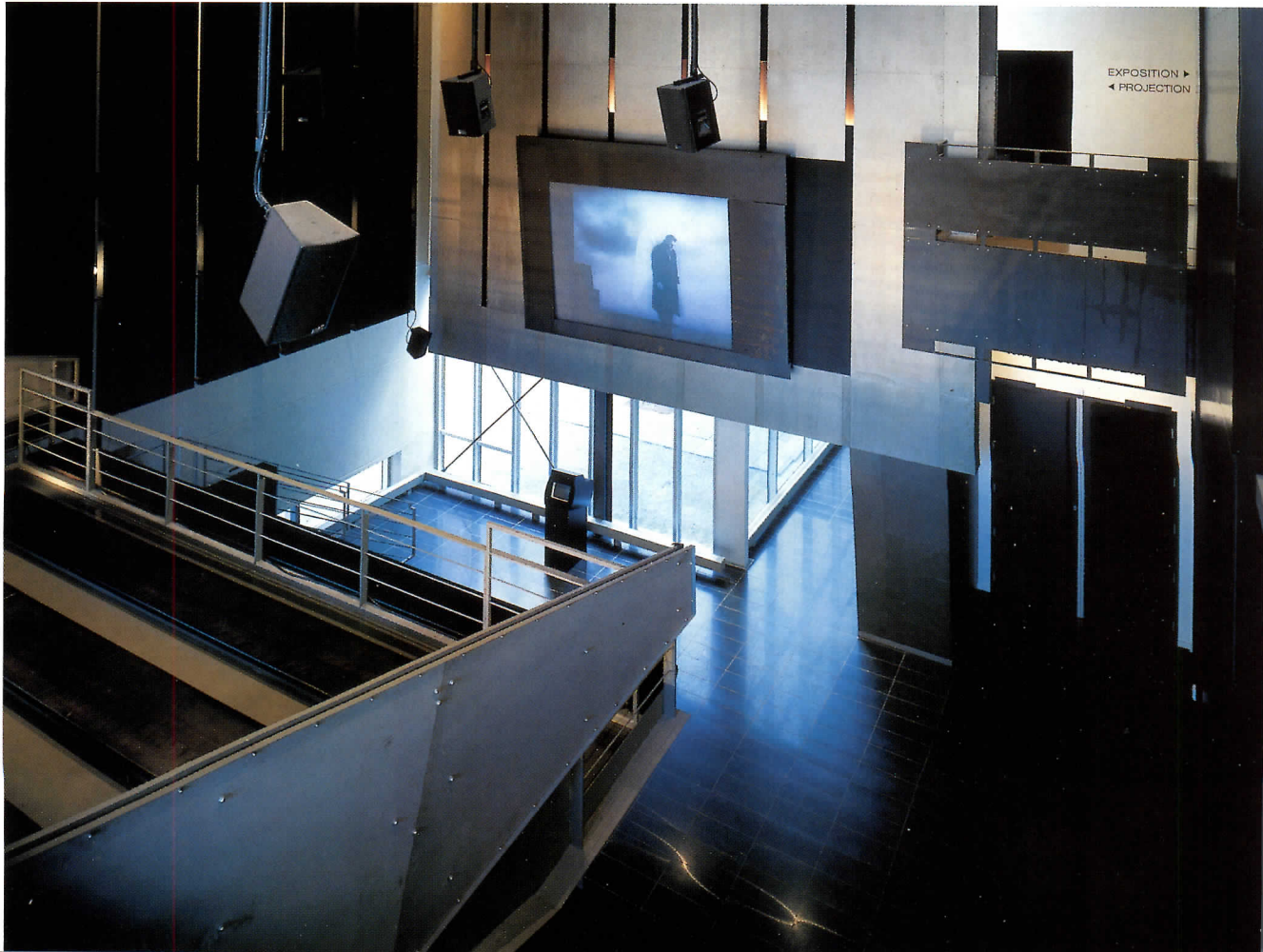


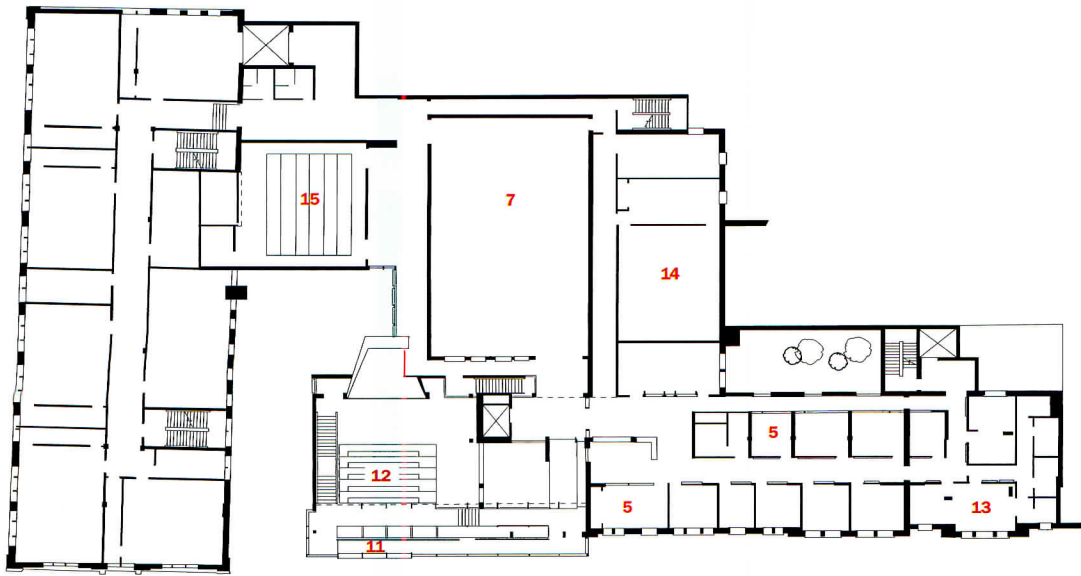
**Ehrenkrantz Eckstut & Kuhn Architects designed Penn’s Landing in Philadelphia with a mix of indoor and outdoor entertainment venues.**



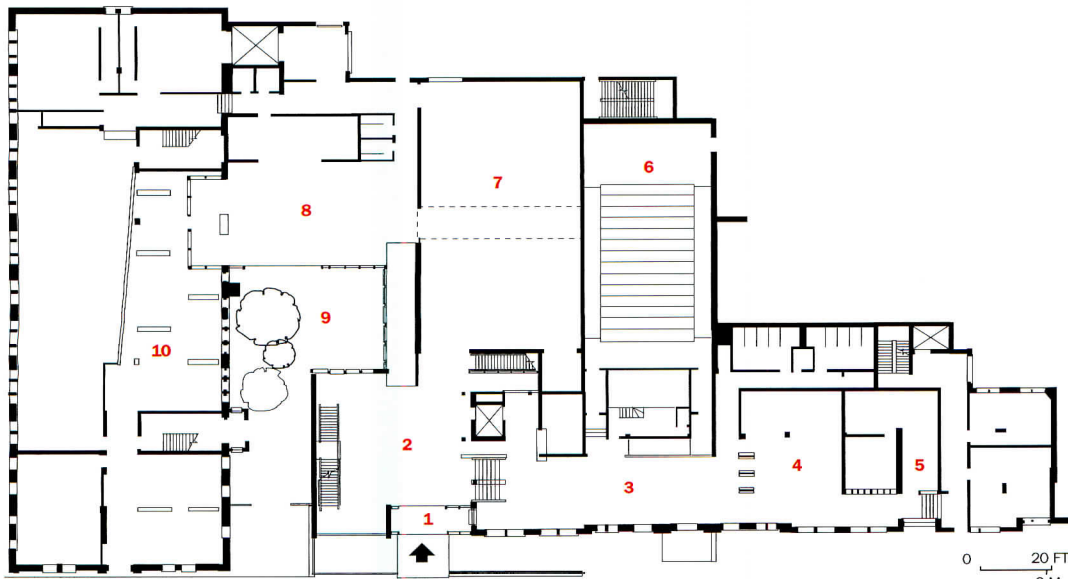


**Cantilevered from the building's glass front and slicing into the main lobby, a seating area, or "agora," breaks with the notion that viewers must sit in a dark or neutral room (this page and opposite).**





SECOND FLOOR



GROUND FLOOR

- |                    |                          |                      |
|--------------------|--------------------------|----------------------|
| 1. Entry           | 6. Theater               | 11. Bridge           |
| 2. Lobby           | 7. Exhibition            | 12. Suspended agora  |
| 3. Exhibit gallery | 8. Cafe                  | 13. Lounge           |
| 4. Shop            | 9. Garden                | 14. Photo storage    |
| 5. Offices         | 10. Multimedia showcases | 15. Video projection |

projection screens facing the street. Because the bridge runs between the rear projectors and the translucent-glass screen, the silhouettes of visitors appear on the outside of the building as they walk inside.

### Structure

The cinémathèque's new entry pavilion is a steel-frame structure inserted between an old concrete-frame school building to the east and an existing brick building to the west. The architects restored the former school's stone exterior but gutted the interiors, exposing the concrete frame. Combining visual and structural gymnastics, the "agora," cantilevered over the main lobby, provides a counterweight to the ramped bridge and the image screen projecting from the building's front elevation.

### Materials

The architects employed a monochromatic material palette that includes black granite on the lobby floor, black steel handrails, polished gray linoleum, and gradations of hot-rolled, cold-rolled, galvanized, and sandblasted stainless steel throughout the project.

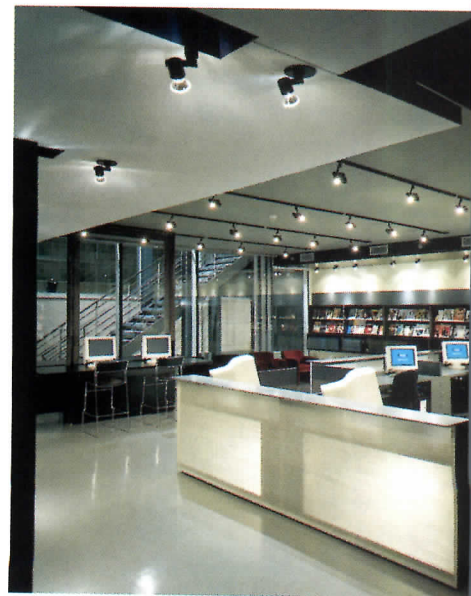
In the lobby, painted-metal panels provide splashes of color to contrast with an otherwise black-and-white-and-gray environment. Selective use of a few richly evocative materials—such as dark mahogany paneling on the projection wall in the lobby and deeply rusted Cor-ten steel in the cafe—also offers counterpoints to the overall palette.

### Commentary

The cinémathèque is a superbly controlled exploration of black-and-white architecture. Like cinematographers, Saucier + Perrotte uses light, transparency, and movement to create an almost dreamlike sense of montage and even voyeurism. The center has already become a popular fixture in a part of downtown Montreal that is evolving into an important cultural district. ■



A cafe (above) gives direct access to a small courtyard tucked between the new building and an existing brick structure. The complex includes a variety of spaces for watching films and videos (right) and conducting research (far right).



# Autostadt Wolfsburg, Germany

# 2

**GUNTER HENN'S CORPORATE THEME PARK FOR VOLKSWAGEN ENGAGES MODERN ARCHITECTURE TO CELEBRATE THE REALM OF PRODUCT BRANDING**

By Claudine Weber-Hof

**Project:** Autostadt  
Wolfsburg, Germany

**Client:** Volkswagen AG

**Architect:** HENN Architekten  
Ingenieure—Gunter Henn, principal

**Engineers:** Dröge Baade and Partner  
(civil/KonzernForum); HL-Technik  
AG (mechanical/KonzernForum);  
Bendorf and Partner

(civil/ZeitHaus); Jaeger, Mornhinweg  
and Partner, IB Müller and Bleher,  
Filderstadt (mechanical/ZeitHaus)

**Consultants:** Jack Rouse Associates  
(corporate brand identity); United  
Designers, Vigile and Stone, Tony Chi,  
Jordan Mozer (interior design)

**General contractor:** Hochtief AG  
(KonzernForum and ZeitHaus)

**Size:** 62 acres

**Cost:** \$378 million

## Sources

**Glass curtain wall (KonzernForum):**  
VOEST Alpine

**Steel and aluminum windows  
(KonzernForum):** Pagitz

**Pivoting glass doors  
(KonzernForum):** Sommer GmbH

**Interior ambient lighting  
(KonzernForum):** KÖHL GmbH

**WWW** For more information on  
the people and products involved in  
this project, go to **Projects** at  
[www.architecturalrecord.com](http://www.architecturalrecord.com)

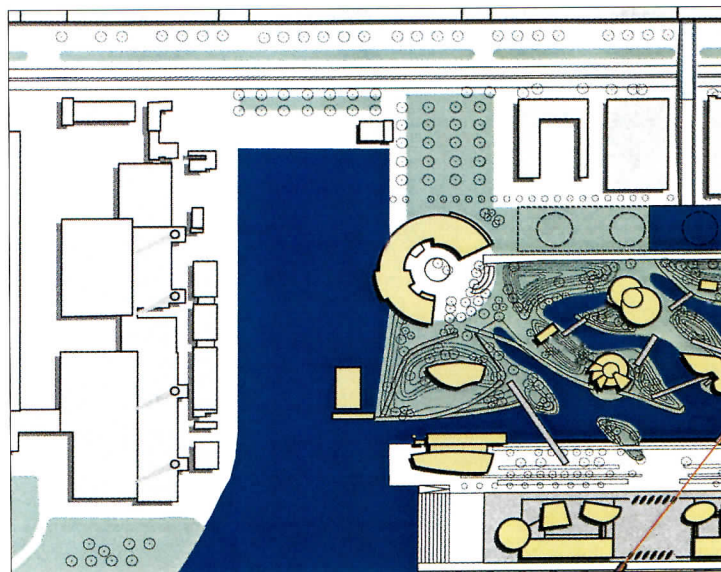
## Program

In 1994 Ferdinand Piëch, the chairman of Volkswagen, dreamed up the idea of an “infotainment” theme park celebrating the automobile, and he pegged its opening to that of Expo 2000 in nearby Hannover. Six years later, the 62-acre, \$378 million complex, christened Autostadt (Car City), stands in VW's hometown of Wolfsburg as the auto giant's very own world's fair, with pavilions dedicated to the company's various car brands, a visitors' center, museum, restaurants, and shops.

VW directed Autostadt's architect, Gunter Henn, to “emotionalize” its disparate products by capturing the customer's brand-buying experience in architectural form, says marketing and sales director Robert Bücheldorfer.

The site, a former fuel depot bounded on two sides by VW's factory buildings, lies between the city center and Castle Wolfsburg. The large tract of land and its proximity to downtown Wolfsburg offered the planners a chance to design the complex as a new urban quarter. Construction began in May 1998, with Henn directing 400 architects who worked at breakneck speed. The complex opened right on time, at the end of May. As built, the park can accommodate up to 1.5 million visitors each year, about half of whom

*Claudine Weber-Hof, a journalist and architectural historian, lives in Munich.*



- |                     |                         |                 |
|---------------------|-------------------------|-----------------|
| 1. KonzernForum     | 5. Skoda pavilion       | 9. KundenCenter |
| 2. Service house    | 6. Lamborghini pavilion | 10. Auto tower  |
| 3. ZeitHaus         | 7. Audi pavilion        | 11. Hotel       |
| 4. Bentley pavilion | 8. VW pavilion          |                 |

will come to take delivery of new cars built at the nearby VW factory.

## Design solution

Envisioning Autostadt as a city within a city, Henn extended an existing urban axis, Porschestraße, northeast from Wolfsburg through the site to Castle Wolfsburg. Visitors arriving by train cross a pedestrian bridge spanning the Mittelland Canal; those arriving by car can park east of Autostadt and walk around its southern periphery.

A 660-foot-long building called the KonzernForum (Company

Forum) is a visitors' center and gateway; it also divides Autostadt into two zones. The ZeitHaus (a car museum) and the Ritz-Carlton Hotel comprise the core of an entertainment area, while the glazed AutoTürme (Auto Towers) and the KundenCenter (Customer Center) cater to customers who have come to pick up their cars. Scattered between these two zones, like toys on a lawn, are seven pavilions representing different VW brands.

The KonzernForum is where people start their visit to Autostadt. Two sets of six 60-foot-high glass

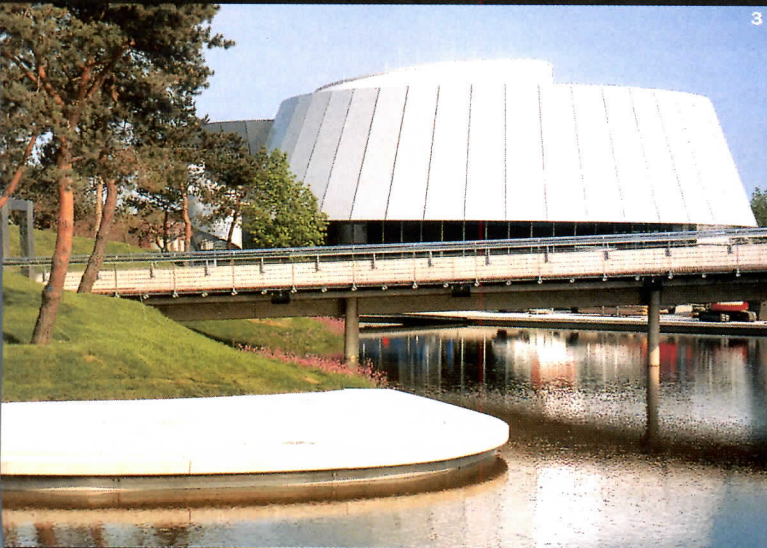




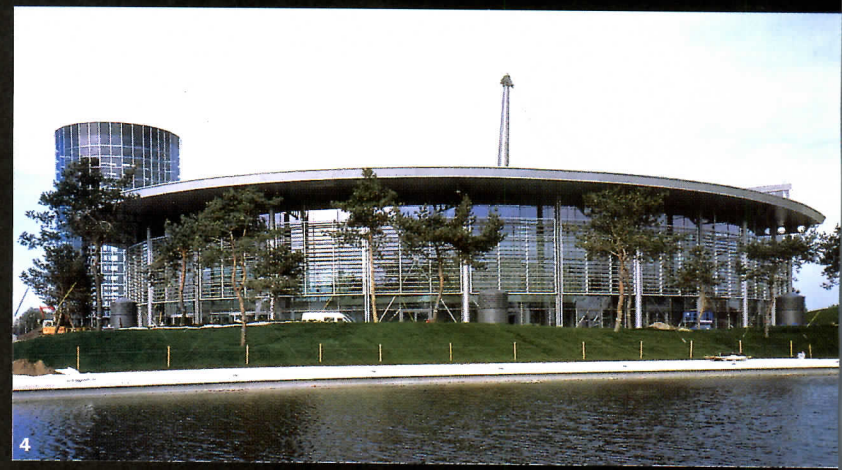
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1. View of Autostadt, with some of the brand pavilions and the twin Auto Towers 2. The Lamborghini pavilion has a car that flips inside during multimedia presentations 3. The Audi pavilion is one of seven brand pavilions 4. The KundenCenter is a service center for car buyers 5. The Seat pavilion. Visitors cross a bridge to get to the Seat pavilion 6. The Volkswagen pavilion features an innovative 360-degree theater inside a double-glazed cube 7. The Volkswagen Nutzfahrzeuge pavilion engages land and water.

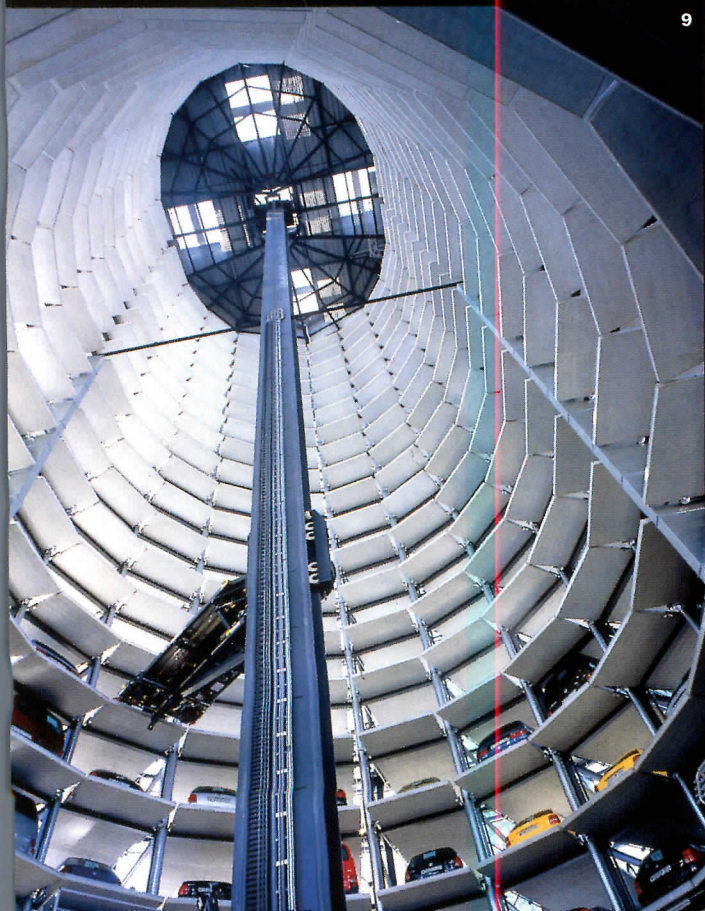


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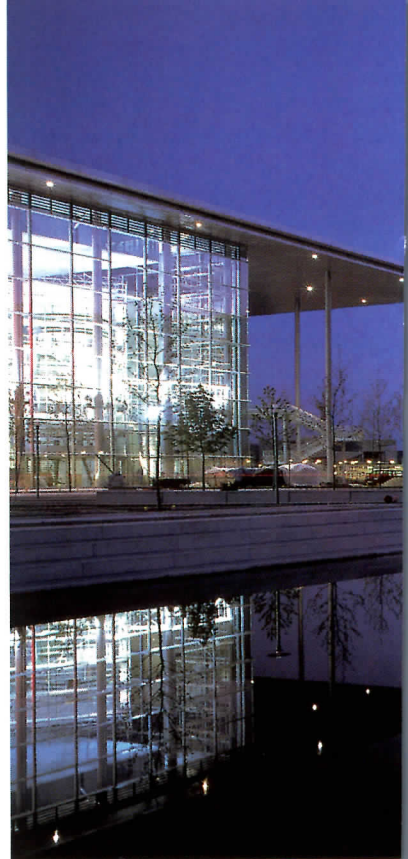
**8. and 9.** The two Auto Towers are each 158 feet high and can hold up to 400 cars. A computer-controlled system moves cars from the factory floor through underground tunnels and onto a 20-story lift. Customers can watch as their cars are retrieved from their spots in the tower and brought to the KundenCenter.



doors on the building's north and south facades open and close like vertical blinds to provide natural ventilation and access to a central indoor "piazza." This 27,000-square-foot space is a staging ground, orienting the public to the park's various attractions. In the KonzernForum, freestanding structures—one red, one blue, and one yellow—set on aluminum-clad columns house a customer service center for new car owners and two theaters.

In the KonzernForum, visitors can also explore two floors of interactive presentations and walk through a giant car engine designed by Jordan Mozer. This "welcome center" atmosphere extends to the ZeitHaus, a museum divided into two wings—one transparent, one opaque. The glass-box portion works as a showcase, displaying history-making cars from a variety of manufacturers. Its mate is a windowless exhibition hall that places the car in its social and cultural context. Bridges keep the visitor moving back and forth between the "rational" showcase and the "associative" exhibition hall, an arrangement Henn calls "neural architecture" because the two parts are bound like halves of a brain.

Autostadt's marketplace experience shifts into high gear in the brand pavilions, nestled into a hilly landscape. The choices—Bentley, Skoda, Audi, Lamborghini, Seat, VW, and VW utility vehicles—loom before visitors like an automotive wonderland. The pavilions have strikingly distinct identities, and Henn's firm had to find forms to fit the brand impressions VW wanted each to



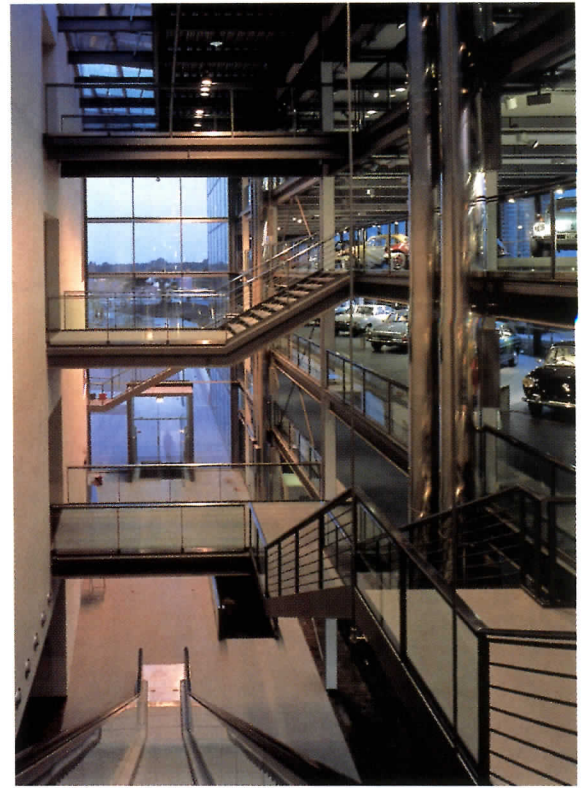
convey. Working from the inside out, the client developed a multimedia show for each pavilion and only then let the architects design the building's shell. "We didn't even think in terms of buildings at first," says Henn. "When a customer decides to buy a car, it's an emotional decision. You don't just buy a product, you buy the experience of a product, such as luxury, freedom, or speed. For us, it was all about giving form to an experience."

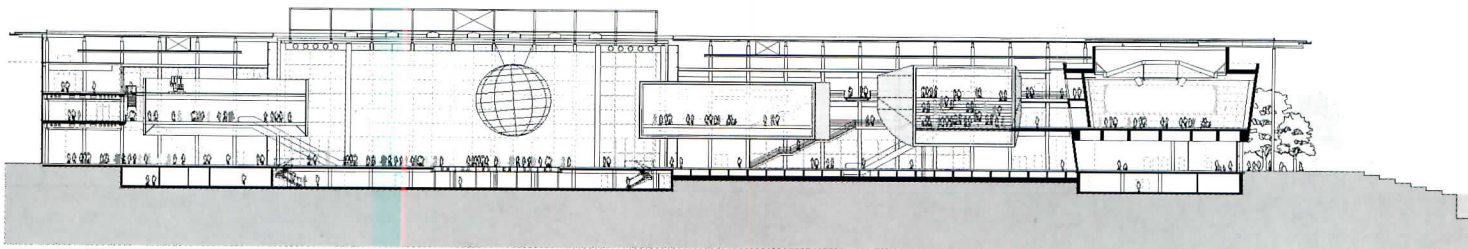
Of the pavilions, Lamborghini's is the least subtle but perhaps the most effective, featuring a car mounted on a wall that flips indoors





The ZeitHaus (this page and opposite bottom) is a car museum with a split personality: The glass-box portion displays history-making cars from many different manufacturers, while the more opaque wing places cars in their cultural context.

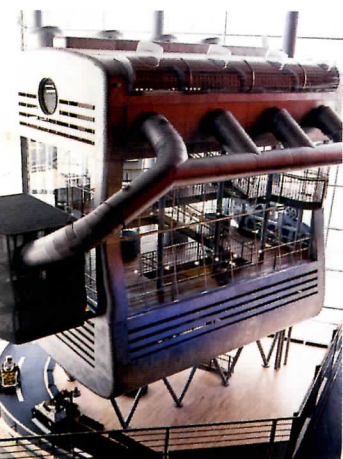




SECTION THROUGH KONZERNFORUM



The KonzernForum (this page and opposite) is a visitors' center with interactive presentations on automotive technology and a walk-through engine for children.



and out like a loose manhole cover. For the VW pavilion, the architects used simple geometric forms to express the "mother" brand's timelessness. A sphere 60 feet in diameter set within a glazed cube houses a 360-degree theater.

The pavilion circuit ends at the KundenCenter and AutoTürme, where customers pick up their new cars. The elliptical KundenCenter has a roof suspended from steel cables strung from a solitary angled pylon. The building's curving glass walls expose the "process" or function within, explains Henn.

This show-all approach applies to the automated glass-and-steel AutoTürme. Two central lifts place as many as 400 cars onto individual, reinforced-concrete parking spaces in each 20-story tower. Every 40 seconds a new car, rolling out of the factory and through subterranean tunnels, is deposited in a tower. Simultaneously, another car is lifted out and sent down to the KundenCenter. The new owner observes each step of the delivery process from behind the KundenCenter's glass walls, transforming a once-mundane activity into a high-tech event. Plans call for four more 158-foot-high towers.

#### Commentary

Instead of seeking a uniform corporate architecture, Henn capitalized on VW's diversity to create an *Erlebnispark*, or event park. He used an architecture of "structure and event," with large buildings providing orientation and service and pavilions serving as "happenings." At Autostadt, the automaker's philosophy is ubiquitous without being pushy, showing that VW has mastered the art of the soft sell. ■

Sixty-foot-high pivoting glass doors on the north and south facades of the KonzernForum help turn the building's central portion into an indoor piazza.



# Point Edward Charity Casino

## Point Edward, Ontario

# 3

**DUNLOP FARROW BRINGS A TOUCH OF CLASS TO A MUCH-MALIGNED BUILDING TYPE BY USING A RESTRAINED PALETTE OF MODERN MATERIALS**

**By Beth Kapusta**

**Project:** Point Edward Charity Casino, Point Edward, Ontario  
**Owner:** Ontario Lottery and Gaming Corporation  
**Architect:** Dunlop Farrow Architects—David Morgan, project principal; Michael Moxam, Assoc. AIA, design principal; Diego Morettin, project architect; Eugene Chumakov, Craig Applegath, Scott Barker, Inge Laurson, David Gilchrist, Lui Vercillo, David Pinkney, Stephen King, Gene Ascenzi, Glen Edwards, George Simionopoulos, project team  
**Engineers:** Yolles Partnership (structural); Smith & Andersen (mechanical); Carinci Burt Rogers (electrical); BKL Engineering (civil)  
**Consultants:** Rick Hopkins & Co. (theming); Interior Design Collaborative (interiors)

**Size:** 73,000 square feet

**Construction cost:** \$44 million

#### Sources

**Metal cladding:** VICWEST; installed by Gage Metal Cladding

**Curtain wall:** Ferguson Glass

**Mesh ceiling:** Custom by PM Designs

**Bar/restaurant furniture:** AMAT

**Carpet:** Custom by Ulster Carpet

**WWW** For more information on the people and products involved in this project, go to **Projects** at [www.architecturalrecord.com](http://www.architecturalrecord.com)

#### Program

The casino is arguably the most kitsch of entertainment buildings, usually a tacky shell for making money that simultaneously draws people in, suppresses their awareness of their surroundings, and, for as long as possible, keeps them plowing tokens into one-armed machines. All the while, hidden cameras watch every action for signs of cheating, adding a touch of paranoia to a place outwardly dedicated to “fun.” It’s not the type of building that normally encourages serious architecture. Yet the designers at Toronto-based Dunlop Farrow Architects managed to make the 73,000-square-foot Point Edward Casino an architecturally satisfying building, although the deck was stacked against them.

Contained within a 100-foot-wide, 700-foot-long shed, the casino features a gaming room with 450 slot machines, 36 gaming tables, and a stingray-shaped bar. The more secretive security areas occupy the southernmost 2,200 square feet of the building, including money-handling areas, surveillance equipment, an administrative office, and an on-site police station.

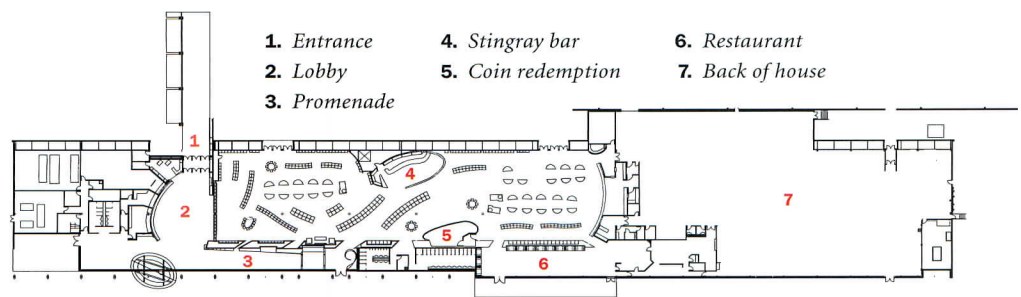
#### Design approach

Located at the edge of the St. Clair River near Port Huron, Ontario, the casino uses the bones of an old railway freight building and terminal where ships were loaded in the



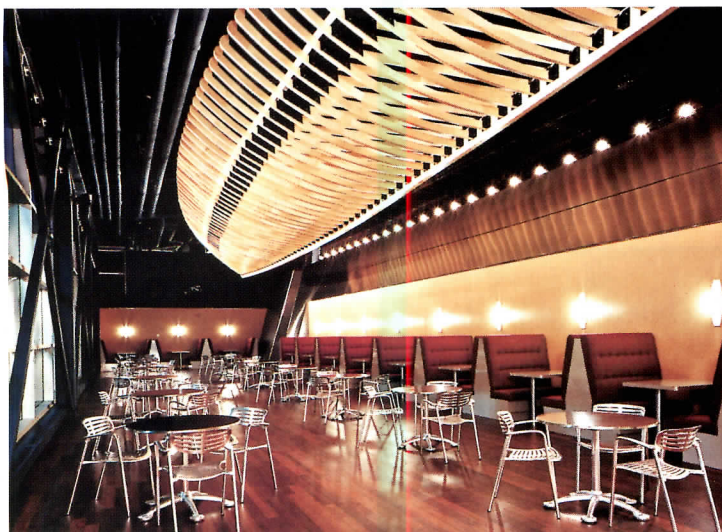
Water slides over a wall in the long promenade leading to the gaming hall (this page). The casino juts into the St. Clair River, where a freight building once stood (opposite).





FLOOR PLAN

0 100 FT.  
30 M.



1940s. After stripping the old building to its steel-column-and-open-web-steel-joist structure, the architects wrapped it with a sleek new metal skin. Because the old building sits closer to the water's edge than would be allowed today, renovating it—instead of starting from scratch—allowed the casino to establish a more direct relationship with the waterfront.

Dunlop Farrow employed a marine-industrial theme in its design, creating a sleek, enclosed promenade on the land side of the new building; reminiscent of old railway cars, the building also features nautical banners and flags on the water side. Punctuating the mostly horizontal composition is a 150-foot-tall elliptical tower, loosely inspired by a ship's funnel, that declares CASINO in big red letters and sends skyward a single beam of white light. A 70-foot-long steel-and-glass canopy, suspended from tall steel masts leads visitors into the building.

### Structure

The original building's powerful roof structure is formed by two overlapping wings framed in steel trusses 12½ feet on center and supported by riveted-steel H-section columns. Having stripped the building to this structural frame, Dunlop Farrow wrapped the inland side with a taut skin of silver metal that envelops the deliberately darkened gaming rooms, where all clues of the passage of time are banished.

### Materials

Throughout the project, the architects experimented with materials, such as triangular acrylic panels in the ceiling of the stingray bar, fish-

scale-incised acrylic panels on the coin-redemption wall, and a 14,000-pound wooden-ship form hanging from the ceiling of the restaurant.

In the gaming hall, the architects designed a ceiling enlivened by more than 2,000 metal-mesh panels in six different shapes and three sizes. Layered three deep, the panels seem to float between the suspended lighting and sprinkler grid and the exposed steel roof.

For the waterfall wall running the length of the indoor promenade, the architects specified cold-rolled steel blowtorched to give it the feeling of a ship's distressed hull. In the rest rooms, floors are sea-green terrazzo, and tiled walls sport starfish-shaped mirrors.

Nearly 60 percent of the \$44 million building budget was spent on the building's mechanical, electrical, and surveillance systems. The casino also boasts a computer-controlled theatrical sound and lighting system, using chrome globe house lights, halogens that downlight playing tables, and a series of luminous inflated acrylic sea animals. On the exterior of the building, a series of programmed fiber-optic lighting "pins" animates the river elevation.

### Commentary

Compared with the piles of architectural excess in places like Las Vegas and Biloxi, Miss., the Point Edward Casino is a refreshing example of good design that entertains without condescending to its customers. Unfortunately, though, the client's irrepressible attraction to bad taste is starting to compromise the building: for example, a tacky wave mural was painted on a wall masking mechanical systems. ■



A modern sea theme for the casino interiors led to a stingray-shaped bar (this page), a restaurant with a ceiling reminiscent of a ship's hull (opposite, bottom), and inflatable lamps in the shape of starfish, sea urchins, and sea anemone (opposite, top).



# Desert Passage

## Las Vegas

# 4

**RTKL ASSOCIATES CHOREOGRAPHS A COLORFUL JOURNEY THAT TAKES SHOPPERS FROM THE LAS VEGAS STRIP TO AN ERSATZ ARABIA**

By Clifford A. Pearson

**Project:** *Desert Passage, Las Vegas*

**Developer:** *TrizecHahn Development Corporation*

**Architect:** *RTKL Associates—Paul Jacob III, AIA, vice president in charge; David Brotman, FAIA, vice president of management; Katie Sprague, vice president of graphics; Marla Nadolney, Tracy Luebbers, Mark DeMarta, Kevin Horn, Rodel Manalang, Al Diaz, Michael Arias, Yoon Chang, Elaine Chien, Faustino Ducut, AIA, Steve Kyle, AIA, Wendy Lin, Darrell Nilles, Erico Rosa, Young Yi, Anthony Hsu, Xavier Garaud, Amy Haupl, project team*

**Thematic design-build architect of record:** *David L. Downey*

**Lighting:** *Joe Kaplan Architectural Lighting*

**Thematic contractor:** *Keenan Hopkins Suder and Stowell (KHS&S)*

### Sources

**Glazing:** *Downey Glass Corp.*

**Plastic laminate:** *Wilsonart*

**Decorative floor tile:** *Artisan Workshop*

**Murals:** *Artist's Guild*

**Water features:** *Hansen Mechanical Contractors*

**Decorative glass:** *Savoy Studios*

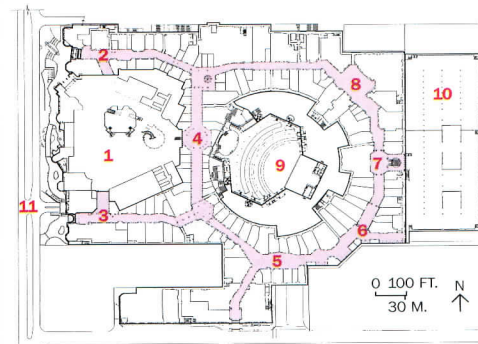
**WWW** For more information on the people and products involved in this project, go to **Projects** at [www.architecturalrecord.com](http://www.architecturalrecord.com)

### Program

In the high-stakes world of Las Vegas retailing, the ante is raised with each new project. When the Forum Shops at Caesars opened in 1992 with moving, talking statues of ancient Roman figures and changing skies projected onto vaulted ceilings, the 500,000-square-foot mall set a new standard for bringing razzmatazz to retail. In May 1999, the Grand Canal Shoppes at the Venetian Hotel challenged the old leader with a quarter mile of mock Venetian streetscapes and a 1,200-foot-long indoor canal complete with working gondolas and singing gondoliers. In August of this year, it was Desert Passage's turn to yell "Top this!" Like its two main competitors, Desert Passage offers about half a million square feet of stores, restaurants, and ersatz experiences, conveniently attached to a mega hotel and casino—in this case, the 2,600-room Aladdin.

### Design approach

Although the Aladdin theme was a given, the architects could have taken it in different directions, says Paul Jacob III, AIA, the RTKL Associates vice president in charge of the project. "Either you go with the fantasy of the Aladdin tales or you try to put people in the lands where these stories take place," explains Jacob. RTKL took the latter approach, researching the design traditions and architecture of the



MAIN FLOOR PLAN

1. Casino
2. Morocco gate
3. India gate
4. Hall of Lamps
5. Harbor
6. Medina
7. Sultan's Palace
8. Lost City
9. Theater
10. Parking
11. Las Vegas Boulevard

Arab world and then creating a "journey" from Morocco to the Arabian peninsula and Mogul India. At first, Jacob wanted to design the two main entrances as period train stations to emphasize the notions of departure and arrival. Although this scheme wasn't accepted by the client, the journey concept was. "The journey is choreographed, so the complex isn't dependent on just

facades but on a whole experience," says Jacob.

Starting at Morocco Gate, facing Las Vegas Boulevard ("the Strip") at the north end of the project, visitors take a mile-long walk along winding streetscapes and through mock buildings. The architects combined "outdoor" settings, such as a harbor where a 155-foot-long ship is docked, with "indoor" spaces that



The Lost City (this page and opposite) rises 75 feet and is the most visually complex part of the mall. Concrete floors and plaster walls were painted and treated to mimic hundreds of different materials.

evoke a sultan's palace or the Great Mosque of Córdoba. Jacob says his team researched not just architectural forms and proportions, but the colors, textures, sounds, and smells of the different stops along ancient trade routes. "We wanted to capture not only the architectural experience of these places, but the people experience."

Because 500,000 square feet of retail with 130 shops and 14 restaurants could be overwhelming, Jacob's team broke down the mall into distinct places and emphasized the transitions between them. "To make the transitions memorable," says Jacob, "we moved people from a space that's 20 feet tall and 20 feet wide to one that's 50 feet tall and 50 feet wide."

The combination of research and razzle-dazzle is deliberate, says Jacob. "There's a dialogue between reality and theming."

### Structure/materials

The retail complex and its parent hotel are both steel-frame structures built at the same time, while a 7,000-seat theater at the center of the shopping mall is a renovated holdover from the old Aladdin complex, which was razed in 1998.

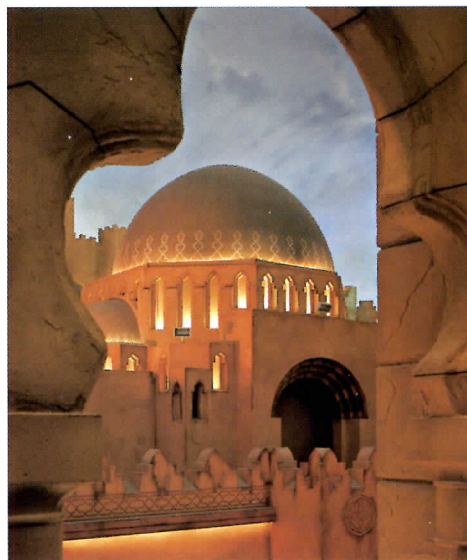
For Desert Passage, the architects mixed real materials, such as mosaic tiles and custom ironwork, with painted and textured plaster. Each themed area features its own palette of materials, lighting, and textures, and includes items such as lamps, tiles, or furnishings imported



from the countries evoked in the project. Special effects—including soundtracks and even a "rainstorm" at the harbor—help create a variety of different moods.

### Commentary

"In the retail world, everything's up for grabs," says Jacob, referring to the impact of the Internet and the weakened appeal of old-fashioned shopping centers. So the malls that do get built today have to immerse shoppers in new experiences. The \$300 million Desert Passage delivers a commercialized version of the exotic, but it's a fun trip to take that never gets corny. As Paul Beirnes, the project's director of marketing, says, "It's a quantum leap in combining retailing and theme park." ■



The harbor (top) evokes the seaport of Tangier and includes a ship's hull. Every half hour a "rainstorm" erupts here, sending streams of water from the ceiling into a rectangular fountain. Roving musicians, dancers, and performers add to the atmospherics. To heighten shoppers' sense of being on a journey, different lighting effects (this page) and soundtracks were used in each of the major areas of the mall.





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# Future-proof design for a new building type

**HELLMUTH, OBATA + KASSABAUM PUTS AT&T AHEAD OF THE TECHNOLOGY JUGGERNAUT WITH A STATE-OF-THE-ART GLOBAL NETWORK OPERATIONS CENTER IN RURAL NEW JERSEY.**

By Wendy Talarico

**N**o one would suspect that AT&T's nerve center is the quietly elegant building gently burrowed into the hillside of the telecommunications giant's sprawling 200-acre campus in Bedminster, N.J., an hour from New York City. The state-of-the-art facility designed by the New York office of Hellmuth, Obata + Kassabaum (HOK) is the largest and most sophisticated command-and-control center in the world, according to AT&T.

The facility, which opened for business last December, 21 months after construction began, has two independent but intricately related functions. It serves as a marketing center where potential business and government clients are introduced to the company's vast telecommunications capabilities in a high-tech visitors' center. Tertiary spaces contain a briefing center and corporate offices, but the primary focal point is the Global Network Operations Center (GNOC). Operating 24 hours a day, every day, network managers direct all the traffic over AT&T's global network from this 70,000-square-foot command-and-control center, carved out in the core of the 200,000-square-foot facility.

The challenge for HOK was daunting because this emerging building type has few, if any, precedents. Besides designing for complex relationships among the specialized internal spaces and providing accessible storage for miles of fiber-optic and coaxial cable within several switching stations, audiovisual equipment, and workstations, HOK was responsible for making the facility "future-proof." Before completion, AT&T began offering ultra-high-speed bandwidth OC-192 services and has to be ready to offer OC-768 when it becomes available.

Rick Focke, HOK's lead designer on the project, acknowledges that "the technology drove the project." Because so much of the building is underground, this was largely an interiors project. HOK's interior group first established a footprint and then began to develop a



**HOK designed the consoles to function like automobiles. Each has its own HVAC system and audio system. The work-surface height is adjustable.**

## CONTINUING EDUCATION



Use the following learning objectives to focus your study while reading this month's *ARCHITECTURAL RECORD*/AIA Continuing Education article. To receive credit, turn to page 244 and follow the instructions.

## LEARNING OBJECTIVES

After reading this article, you should be able to:

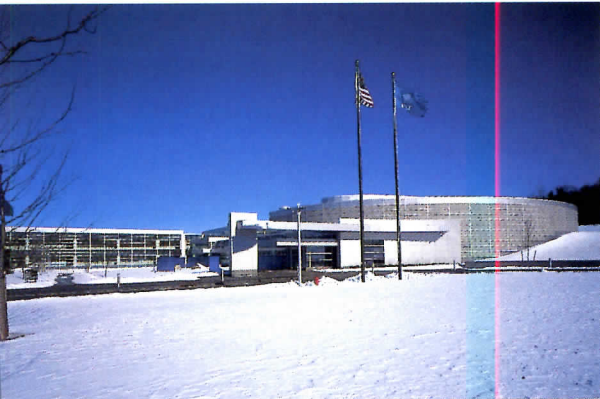
1. Describe how marketing and communications functions can work in the same structure.
2. Describe the futuristic technology used in the marketing center.
3. Explain the special requirements for the design of this facility.

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hierarchy of spaces, based on the functional requirements.

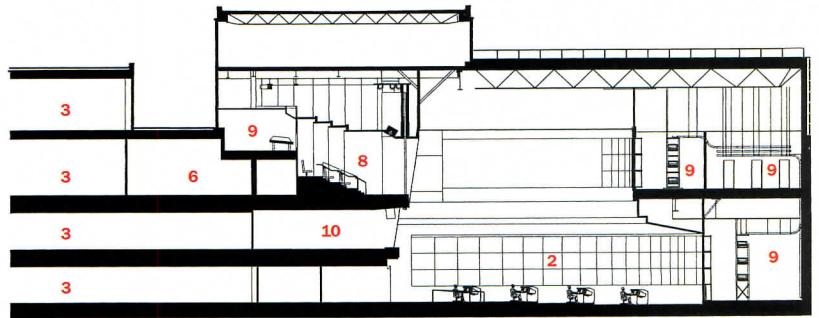
Under the direction of principal J. Steven Emspak, Shen Milsom & Wilke (SM&W) in New York provided the audiovisual, multimedia, acoustics, and telecommunications infrastructure for the building, which translates all the data to the GNOC's 42-foot-high panoramic wall of 180 projection screens. On peak days, the network handles more than 300 million voice calls and approximately 675 terabytes ("tera" equals trillion) of data for AT&T's 80 million customers. Real-time graphics, charts, and maps show spikes and dips in global network traffic. Some screens show the latest news and weather reports, because natural disasters and military conflicts influence network traffic. While computers handle the routing and rerouting during most of these fluctuations, it is up to the ever-present network managers to oversee and control network incidents.

Behind the high-tech glitz, computer rooms receive data via fiber-optic cables. "There are many computer platforms that we collect

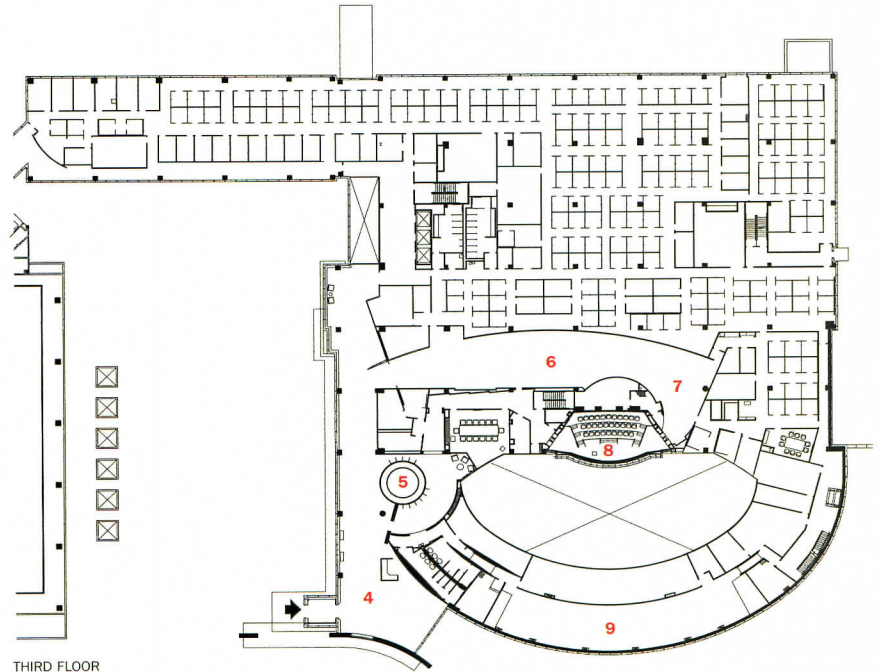


The new AT&T GNOC (above) is nestled quietly into a hillside on its 200-acre campus. Rear-screen projectors (below) feed real-time graphics and data onto a panorama of screens (opposite top), monitored by network managers. Visitors enjoy a high-tech, multimedia presentation in a theater and observation room (opposite bottom) three floors above the GNOC.

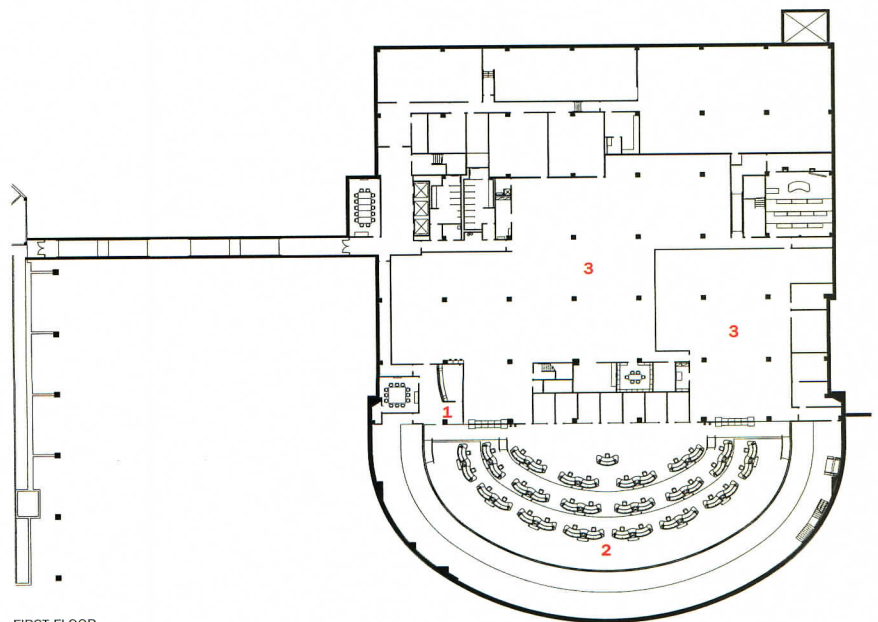
1. GNOC reception
2. GNOC operations
3. Offices
4. Entrance lobby
5. Rotunda
6. Gallery
7. Internet cafe
8. Observation room and theater
9. AV/computer equipment
10. Situation room



SECTION



THIRD FLOOR



FIRST FLOOR

0 60 FT.  
18 M.







data from. Each of these must be interpreted by a computer with special software applications," explains Brian Boutlier, AIA, program manager for the facility. The data is sent from these computers to the matrix switch, which distributes video information to the screens on the Gnoc floor and to other parts of the building. "The matrix switch, in essence, tells the video traffic where to be displayed," Boutlier adds.

Following the curve of the screen, 141 continuously running rear projectors sit on steel and plywood racks. "It's asking a lot of any type of audiovisual equipment to run 24 hours a day," says SM&W's senior associate Jon Burris. "The heat buildup is incredible, and lamp life is

**WITH SO MUCH ELECTRONIC EQUIPMENT RUNNING AT FULL CAPACITY IN ONE SPACE, HEATING LOADS ARE TREMENDOUS.**

shortened." HOK designed easy access to the projectors, which require relamping two or three times a year.

Throughout the building, the power supply is primarily run beneath a typical steel raised floor. Cables pass through roomy ceiling trays, which allow for future expansion. With so much electronic equipment running at full capacity in one space, heating loads are tremendous. Having the Gnoc underground mitigates some of the demand, but

## New Millennium Mission Control Centers

Anyone who has ever followed a space flight knows that the Mission Control Center in Houston is the nucleus of the National Aeronautics and Space Administration (NASA). Built in 1963 and located in Building 30 at the Johnson Space Center, Mission Control was technologically sophisticated in its day. (A new Mission Control was built in 1996.) It would pale, however, next to the slick spaces that are today's mission controls, now known as network operations centers (NOCs). These are used to monitor much more than orbiting astronauts. And, thanks to the Internet and other technological advances, there are more

of them than one would imagine.

Craig Park, a vice president with San Francisco-based Intellisys Group, a design/build firm that specializes in audio-visual, multimedia, and infrastructure systems, says he's seeing "a rapid rise in the Network Operations Centers (NOC) business." He estimates the number of NOCs is growing by 100 percent per year and will continue for the next two or three years. Most of these are for Internet hosting and colocation facilities, such as Intel and Exodus.

But many companies that use NOCs are not so technology driven. This is not to say that the

NOCs themselves are less complex. Intellisys, with Gideon Toal Architects of Fort Worth, Tex., created a NOC for Burlington Northern Santa Fe Railroad. The 20,000-square-foot facility has 75 consoles and includes a nine-screen NOC wall. There are six briefing rooms as well. All this is devoted to rail traffic; the screens display weather reports, train lineups, crew status, locomotive status, and shipping information.

Intellisys also designed and built the Boeing Rocketdyne NOC (shown here), also known as the Operations Support Center, in



Canoga Park, Calif. The center is designed to monitor those space-shuttle and satellite launches that use the company's rocket engines. The facility includes six screens and four monitors that display real-time data and video images from launch locations. There are eight full-time operators on the floor. *W.T.*



The Interactive Gallery chronicles the history of networking, specifically the AT&T story.



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There are seven interactive displays in the gallery, as well as art-and-artifact islands illustrating the history of networking with vacuum tubes (above, foreground). Equip-

ment displays are from various time periods, such as one from the 1950s (top, foreground), and a large-scale sculpture (top, rear left) made of submersible cable from 1915.

cooling still requires two 375-ton chillers. A third was installed for future use. Backup generators ensure a redundant fail-safe operation.

### Ergonomic excellence

HOK designers worked closely with the AT&T engineers and managers to integrate the complex technology with the architecture and to identify crucial spatial adjacencies. Still, technology seemed to advance faster than the design and construction processes, and the architect had to be prepared for unexpected contingencies in this building type more than in most others.

With assistance from SM&W, Focke designed the managers' consoles, which spread across the floor of the GNOC. Originally, he designed them as conventional cabinets to house three large CRT (cathode-ray tube) monitors. However, state-of-the-art businesses such as AT&T are moving from these bulky CRT monitors to solid-state components made of chips and transistors. Solid-state devices function exclusively with internal electromagnetic signals, requiring no mechanical action. This advancement has allowed the development of flat-screen monitors, which take up considerably less space. Focke redesigned the consoles so that the monitors are freestanding on the horizontal surface of the console. Task lighting is contained in a self-supporting, extruded aluminum wing that spans 13 feet across the monitors.

"Every console functions like an automobile," explains Focke. "Each has its own HVAC unit, which is controlled by the individual network manager. Each has its own radio and speakers with local volume control." When a manager approaches a station, sensors pick up the presence and automatically turn on the computers.

## STATE-OF-THE-ART BUSINESSES ARE MOVING FROM BULKY CRT MONITORS TO SOLID-STATE COMPONENTS.

Every effort was made to create an ergonomic work environment. The height of each console can be raised and lowered by an electric motor so that managers can stand to work if they want. The sum of these individual details achieves a surprisingly intimate work environment in an otherwise cavernous arena.

### The narrative

There is an atypical architectural relationship between the sales-oriented narrative of the facility and the internal operations of the company. Visitors enter the building's reception area on grade, unaware that they are entering the building on the third floor. From there, they are led into a rotunda with a mosaic tile floor depicting the rivers of the world. Facts about AT&T line the walls in five languages, reinforcing the corporation's evolution from a telephone company to a global telecommunications networking giant. A high-tech gallery is the next stop. Here, visitors witness the history of telecommunications in interactive exhibits and "art-and-artifact islands" that include the phones used for the first transcontinental call and the first phone book.

A 30-seat theater with a panoramic screen, 30 feet long and 8 feet tall is the next destination. The purpose of this space is to impress potential clients with a multimedia presentation of the highest production values available. Here, HOK and SM&W pushed audiovisual technology past its existing limits. The long panoramic screen required three solid-state projectors, each streaming high-resolution digital images simultaneously. In order to achieve synchronization or what Emspak calls "edge-blend," SM&W turned to Silicon Graphics, Inc. (SGI), developer of desktop workstations, servers, and supercomputers, whose Onyx2

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machines incorporate supercomputing and visualization technologies to process 3-D graphics, imaging, and video data simultaneously in real time. With SGI's custom software, Caribiner, a Mexico-based multimedia-services provider created a seven-minute, totally synthetic presentation designed to excite the audience and build to an operatic finale, aided by a Dolby Digital Surround Sound system with 15 speaker cabinets and in-

**NEW TECHNOLOGY-INFUSED FACILITIES NEED CAREFULLY PLANNED, EXPANDABLE INFRASTRUCTURES.**

floor speakers, all of which is controlled by a custom-design graphical user interface (GUI) on a 20-inch touch panel.

Using theatrical rigging, HOK designed the panoramic screen to lift quickly and silently into the wall above as soon as the presentation ends, revealing, for the first time, the bustling GNOC three levels below. Meanwhile, the multimedia presentation continues on 39 rear-projection screens located above the GNOC's own 80-foot panoramic presentation of real-life operations. With this dramatic interface, HOK closed the gap between internal operations and external marketing strategies.

Client, architect, and consultants agree that the project is successful because the systems, content, and physical space were developed as



An ancient map of the world rendered in mosaic tiles decorates the rotunda.

a single vision and realized as one unit. Unlike building types of the past, new technology-infused facilities require carefully planned, expandable infrastructures. It's no longer enough to pack the shell and be done. Architects now design for change, because nothing can impede the migration of technology. ■



**AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION**

**INSTRUCTIONS**

- ◆ Read the article "Future-Proof Design for a New Building Type" using the learning objectives provided.
- ◆ Complete the questions below, then check your answers [page 244].
- ◆ Fill out and submit the AIA/CES education reporting form [page 244] or file the form on ARCHITECTURAL RECORD's Web site at [www.architecturalrecord.com](http://www.architecturalrecord.com) to receive one AIA learning unit.

**QUESTIONS**

**1.** How are the two functions of the AT&T facility incorporated?

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**2.** How was the global network operations center made ready for future technology?

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**3.** How is the marketing center using technology to impress potential clients?

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**4.** What was the driving force behind the design of this facility?

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**5.** What special problems did this new facility present for the design program?

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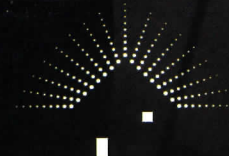
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## Seismic upgrade for Frank Lloyd Wright's 1937 Hanna House at Stanford University

The 1989 Loma Prieta earthquake that hit the San Francisco Bay Area is perhaps best remembered for postponing the start of the World Series between the two local teams. Dramatic damage, such as the collapse of a portion of roadway on the Bay Bridge, was quickly repaired, but painstaking seismic retrofitting continues, especially on historic structures. Frank Lloyd Wright's 1937 Hanna House including its 1950 workshop addition at Stanford University was one of 240 university buildings damaged in the earthquake.

### The Wright way to build

Paul and Jean Hanna donated their 3,640-square-foot house and 1,298-square-foot workshop to Stanford in 1975 for use as a cultural and educational center. Also known as the Honeycomb House owing to Wright's use of a hexagonal planning and construction module, the Hanna House has several architectural distinctions that contributed to its vulnerability in the 7.1 magnitude earthquake; these increased the complexity of the seismic retrofit. Called chimneys by Wright, and considered the heart and hearth of the house, three essentially unreinforced brick walls rising well above the rooflines enclosed flues, electric wires, and HVAC ducts; provided room divisions; and carried roof loads. The varying-height roof sections span long distances. The site is steeply sloped with cut-and-fill topography held in place by poorly reinforced retaining walls. By 1989 the unconsolidated fill had compacted and settled so that sections of the slab were spanning over, rather than resting on, the ground.

Typical of Wright's Usonian construction, the walls are very thin, constructed with one-by-eight-inch

studs placed parallel to the finish surface 26 inches on center. Two-inch horizontal battens are screwed into the interior and exterior side of the studs on 13-inch vertical centers. The surface is then finished with 11-inch boards notched into the battens and the vertical supports or, for the vast window walls, filled in with glass panels. Solid walls are limited to segments of the north and west walls, some interior separations, and at most corners. Wright compensated for the thin-wall construction by creating complete or nearly complete hexagonal units to act as columns in supporting concentrated roof loads. These hexagonal units also served as functional architectural elements such as closets.

### The domino effect

Weak connections between all of these architectural units compounded the building's inability to provide the lateral resistance necessary to withstand the horizontal forces created by an earthquake along a slip-strike fault, such as the San Andreas. During the earthquake, the retaining walls displaced, allowing further instability in the fill and slab. Made of an inherently brittle material and carrying massive weight, the brick chimney walls simply crushed at the base. The roof rafters, only resting in pockets in the masonry, pulled away. The open plan, the limited area of solid walls, and the virtual lack of a wall cavity left few places to add strengthening and stiffening to the structure without altering Wright's original design.

"Because the finish and the



Massive unreinforced chimneys, long window walls, and an open plan (above and left) made the repair and seismic upgrade of the Hanna House difficult.

structure are the same everywhere, with dimensionally sensitive joints, there was almost nowhere to hide the strengthening," said Stephen Farneth, project principal at Architectural Resources Group (ARG) of San Francisco, the lead firm in an effort that included structural and geotechnical engineers, Rutherford and Chekene, also of San Francisco, and associated architect Martin Eli Weil of Los Angeles.

### An invisible remedy

The solution was driven by the soil condition, which had been the root cause of the failures, and the intention to make all interventions reversible, in keeping with current historic-preservation philosophy.

"We didn't want anyone to know we had been there when we were done," said Bret Lizundia, the structural engineer.

Cores were drilled into the chimneys using a dry-core drilling technology that prevents potential discoloration or damage from water. Rebar was inserted and anchored to the existing foundation, and the core filled with grout. To provide overturning resistance in the vertical masonry elements, the slab was removed and grade beams were anchored to the top of the retaining walls and the base of the chimneys. This also eliminated the need for the unconsolidated fill to support the new floor slab. Several of the solid walls were converted into shear walls by the insertion of plywood

## Tech Briefs

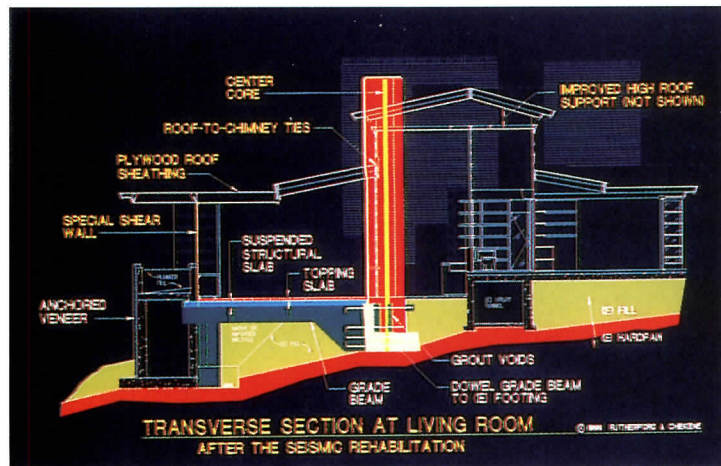
panels into the one-inch cavity between the interior and exterior board and batten finishes. The roofs were stiffened with plywood, and the rafters were reattached to the chimneys with mechanical connections. To provide additional strength and stability, the team upgraded strategically located hexagonal closets by adding structural tubes with new footings, plywood sheathed interiors, steel corner angles, and a rigid ceiling plate.

To stiffen the roof, the design called for the plywood to be cut into parallelograms to follow the joist lines, a considerably more difficult task than filling the left over spaces.

Wright had no idea the chal-

lenge his thin-wall construction would pose to the design team charged with protecting and preserving his work. The carefully crafted joints, board and batten finish and structure attached only with wood screws were intended to permit disassembly and reconfiguration. In order to stiffen the walls, the plywood was inserted in 16-inch wide strips between the studs and screwed from the inside into the redwood boards. Because every aspect of the wall-stiffening solution was unique, a full scale mock-up was tested for earthquake performance and performance of the plywood to redwood connections.

The cost of the nine-month



Section showing the key elements of the seismic retrofit

seismic retrofit was about \$1.2 million. The insertion of contemporary life-safety requirements and technology needs into historic structures will continue to require sensitive and

detailed solutions, but the Hanna House seismic retrofit demonstrates that it is possible, even under such demanding conditions.

Barbara Knecht

## A Xerox scientist finds a way to make building materials more organic

Imagine a building that can sense when an earthquake strikes and can instantly transform itself into a flexible, tree-like structure capable of dissipating the seismic shock. Or imagine a bridge that can sense when it's about to be ripped apart by hurricane-force winds and can instantly stiffen its support system to withstand the assault. Or imagine a car that can detect when its engine has developed a potentially fatal flaw and can reflexively adjust its operations to mitigate the danger. Feng Zhao, a computer scientist at Xerox's Palo Alto Research Center (PARC), has been imaging such "smart structures" for a long time, and he says the day may not be far off when they are part of our everyday lives.

Zhao and his colleagues in the Collaborative Sensing Project at Xerox PARC are developing a system composed of tiny, inexpensive sensors that can capture information about their immediate environment—such as heat, light, and motion—and share that data with thousands, or even millions, of identical sensors scattered nearby. That network of "massively distributed sensors" can analyze the resulting mountain of information in real time and initiate an appropriate response almost instantaneously. In the case of an earthquake-resistant building, that response could take the form of sending electrical signals to a smart material called a "shape-memory alloy" embedded throughout in the building's structural frame. That material, in turn, would respond to the signals by expanding, thus providing controlled flexibility to the structure and enabling it literally to wiggle through a seismic event. Conversely, "collaborating sensors" in a wind-resistant bridge or building could send electrical signals to a smart material in the span's support structure, prompting the material to contract, thereby stiffening the bridge's resistance to wind.

"Think of these sensors as intermediaries between the physical world—the world of buildings and bridges—and the human world, the world of knowledge and ideas," Zhao says. "In one direction, they can take information from the physical world and turn it into something that humans (or computers) can look at and make sense of. In the other direction, they can

infer human needs by capturing contextual information about people's preferences, and tell the physical world how to respond."

What distinguishes collaborating sensors from their dumber cousins—such as thermostats or barometers—is that they contain sophisticated software that enables them to organize and share information in an almost organic way. "They're like the neurons in our brain," Zhao says. "They respond adaptively to the environment. There is no central database. Each node [sensor] has a little bit of memory. Groups of nodes can form supernodes that have more knowledge about the environment." And, like the human brain, the sensors are very good at filtering out unimportant information. "Most of the time they're in sleep mode. They only wake up when something significant happens," he adds.

Collaborative sensing is already being used in a limited way in some everyday devices. Xerox printers, for example, contain sensors that can detect tiny deviations in the movement of paper through the machine and can automatically make adjustments to avoid jams. But Zhao says the sensors will have to get a lot smaller, smarter, and cheaper before they can be deployed on a massive scale in construction and other commercial applications.

The Xerox team has developed fingertip-sized sensors that could be mass-produced at a cost of about \$5 or \$10 each. Within five to 10 years, the company expects to shrink the sensors to the size of peppercorns or smaller while, at the same time, dramatically increasing their capacity to process the blizzard of raw data generated by a massively distributed network (a mountain of miscellany, Zhao says, that will make the amount of information available on the Internet seem small in comparison). But it may take another 10 years beyond that before the cost of the sensors will be low enough—pennies apiece—to make economic sense for builders. At that point, Zhao says, collaborating sensors will be not much different from bulk-building materials such as nails and bolts: They could be embedded in steel beams and other structural elements or stirred into paint or asphalt, and sprayed onto walls or roads. Peter Kupfer

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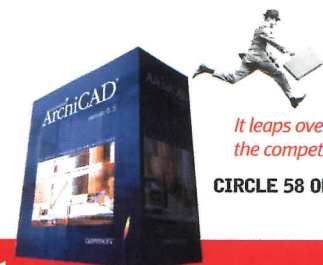
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Virtual building modeled and rendered in ArchiCAD by Mr. Peter Bach and Mr. Peter Hadadi.

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## Netiquette for the architect

By Jerry Laiserin, FAIA

The first E-mail message was created in 1971 when engineer Raymond Tomlinson at BBN was refining a software program to transfer file information between users over ARPAnet, the Pentagon-funded precursor of the Internet. Tomlinson realized that receivers and recipients of messages on a multicomputer network needed unique identifying addresses that were computer-readable and that included both the person's computer-user name and the name of the computer being used. This boiled down, in essence, to "somebody someplace."

Looking over the standard Teletype keyboard of the time, Tomlinson sought a character to separate the "somebody" from the "someplace." It could not be a character that was used in any programming command, nor in any human or computer name, which left few choices, among them the "@" sign. Thus, the now ubiquitous yourname@companycomputer.com.

In the three decades since Tomlinson's first message, E-mail use has grown exponentially, with current volume exceeding that of postal mail (which E-mail users deride as "snail mail"). Yet beyond the mandatory "@" sign and some behind-the-scenes technical standards, E-mail remains an unruly, undisciplined, and occasionally dangerous medium of communication.

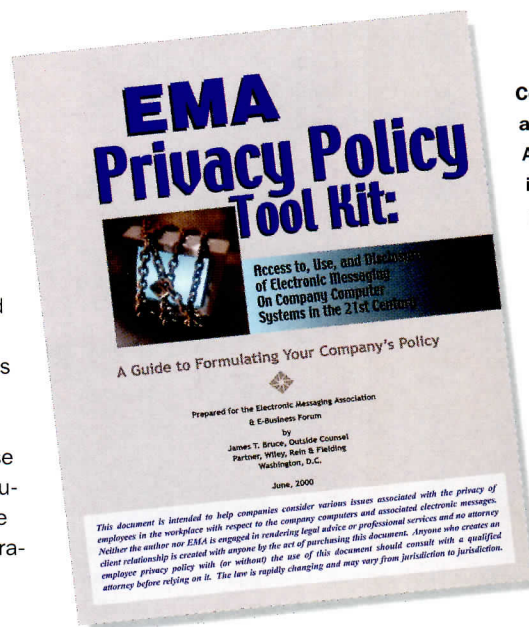
E-mail combines the casual spontaneity of a phone conversa-

tion with the permanence of a written letter and the ability to propagate and spread like kudzu. As E-mail becomes integrated into the business procedures and project-delivery methods of design firms and their clients, as well as consultants and contractors, it is imperative that architects understand how to make effective and appropriate use of E-mail and related communications media, such as the Internet and project-collaboration networks.

### Playing by the rules

"E-mail and Internet use have to be considered in the context of an overall office communications policy," according to Cherry Melillo, Hon. AIA, associate and office administrator at Butler Rogers Baskett Architects (BRB) in New York. Having surveyed such policies for the Society of Design Administration (SDA), to which she belongs, Melillo emphasizes that project staff must treat all design office communications as part of the project record. As such, these messages reflect on the firm's image, performance, and legal standing. "E-mail may feel conversational, but it is emotionally tone-deaf," she observes, "so it is critical to reread as if you were the recipient and rewrite if necessary." Melillo adds, "Sometimes you just have to pick up the phone," especially when transmitting bad news.

E-mail should be archived with other project records and subjected to records retention and



disposal policies that account for issues such as the applicable statute of limitations on claims arising from the project, as well as the fact that electronic records are "discoverable," or subject to examination in legal proceedings.

For example, E-mail messages shouldn't be erased if a claim is already in the works. Even when it is okay to delete old messages, everyone in the firm must be made aware that copies of E-mails typically are saved on the firm's servers and backup media, as well as on the sender's or recipient's computer.

On the receiving end of E-mail, users should be trained not to open unexpected file attachments, even if they appear to have been sent by someone known to the user. Most computer viruses are transmitted when a user opens an "infected" file attachment. Microsoft Word files are the most popular "carriers" used by virus writers, but AutoCAD

Computer industry groups, such as the Electronic Messaging Association, recommend balancing rights of employers to protect themselves from misuse of E-mail versus employees' expectations of privacy.

files are capable of being infected as well. Even with network-level antivirus scanning software, new viruses will get through to the users' desktop computer.

Files downloaded from the Internet are also a source of viruses and other "malicious code." To

reduce the risk of infection, firms should install network-level "firewall" programs and encourage users to limit their Web surfing to sites with a known business purpose relevant to the practice or project.

### Inside job

Communication problems don't come exclusively from external sources. Any firm can incur liability for having employee-generated E-mail or Internet content on the office computers that may be offensive or libelous, that may infringe a copyright, or that may otherwise run afoul of the law.

Melillo stresses that even though most firms permit personal E-mails as well as personal phone calls, all employees must understand that desktop and portable computers, wired and wireless phones, fax machines, and so on are all included in the "office communication system provided by the firm for business purposes, on

Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

# Digital Architect

which employees have no expectation of privacy.”

For example, BRB provides every employee a written policy statement that outlines the firm's expectations regarding appropriate use of E-mail systems and Internet access and puts employees on notice that their usage is subject to monitoring. Drafted jointly by administrative and information-technology

businesses already have such policies in place.

Lisa Pratt, EMA's vice-chair, notes that having a written policy is an important first step in setting a proper balance between a company's need to protect itself and the fair treatment of employees. Even though most state and federal laws permit monitoring of all employee Web surfing and E-mail (even “per-

and opt instead for a policy of prior notification with inspection only for suspected problems.

## Keeping up with the times

These complexities of E-mail and Internet policy pose further dilemmas for the lawyers who advise architects on practice and project-delivery issues. “Technology today, and specifically construction-industry technology, is changing faster than the applicable law,” according to Mary Jane Augustine, an attorney with the construction industry prac-

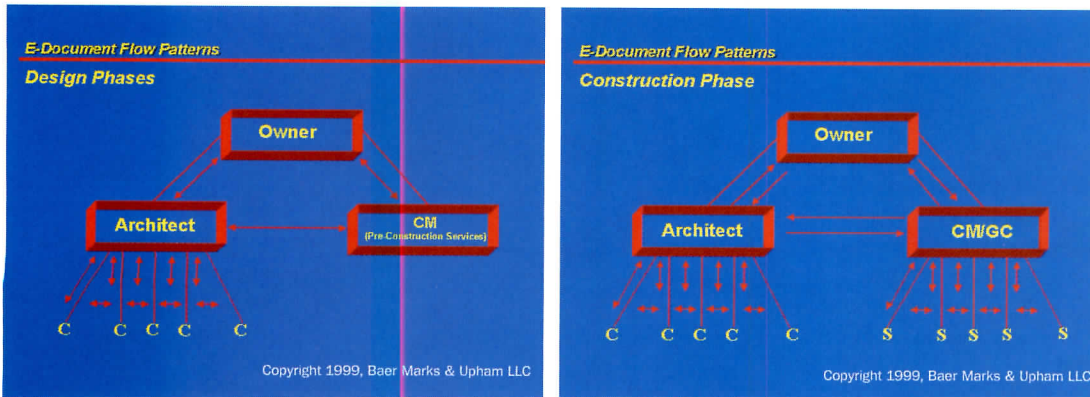
sending their work to the responsible person. One of the big issues of proof in construction claims is the question of who had notice—of a problem, of a particular document, of a delay—and when that notice was received. According to Augustine, this may not be an issue in the future, when all project documentation will be available on project Web sites for all interested parties to see at the same time. If no party has the benefit of information that is unavailable to other parties, none can claim lack of notice as a defense, leading to a big change in the way claims are developed.

For regular E-mail, Augustine advises incorporating into the owner-architect and architect-consultant agreements language that spells out procedures for transmission of design documents, including such things as confidentiality, ownership of design documents, the right to rely on the electronic versions of documents, and coordination of documents and review of submittals.

If project documents and communications are to be shared on a collaborative Web site, especially if the Web-based collaboration extends into the construction administration phase, Augustine recommends that all the users enter into an operating agreement for the Web site, covering additional issues such as maintaining a professionally reasonable time for reviewing items posted on the Web site and assigning responsibility for continuity of project information in the event of a Web crash or other failure of the collaboration service.

As with other aspects of digital technology that impinge on the traditional procedures and methods of design practice, the problems posed by E-mail, the Internet, and project-specific communications will keep architects, office administrators, and their legal advisers busy for some time to come. ■

**WWW** For a list of vendors involved in Internet protocol, go to **Digital Architect** at [www.architecturalrecord.com](http://www.architecturalrecord.com)



**Electronic document flows increase in volume and shift among project participants as projects advance from design to construction phases. Lawyers recommend adapting E-mail policies to the needs of project-specific communications. In the chart, “c” refers to consultants, “s” to subcontractors.**

staff, this policy statement is intended not so much to deter frivolous activity as to protect the firm from legal exposure. Implementing such a policy does not imply that BRB has or had a problem, merely that the firm is being prudent.

“Most architects are too busy making architecture to make trouble,”

sonal” E-mail) without notice, EMA advises that it can make good business sense to notify employees about just how much or how little privacy they can expect in the workplace context. EMA publishes a “Privacy Policy Tool Kit” to help firms tailor a policy that suits the nature of the business and the firm’s “cor-

porate culture.” Some firms may choose a hard-line policy of examining all messages and Web requests with “zero tolerance” for transgressions, relying on readily available and easily affordable software tools such as SurfControl and LittleBrother to track Web access or monitor every keystroke. Others may shy away from what New York State Attorney General Eliot Spitzer has characterized as the “Big Browser” approach

## E-MAIL REMAINS AN UNRULY AND UNDISCIPLINED FORM OF COMMUNICATION.

says Melillo, but what an individual may perceive as “private” on his or her “personal” computer in the office may contribute, for example, to a “hostile work environment” or other form of harassment.

BRB is hardly alone. According to the Electronic Messaging Association (EMA), an organization based in Alexandria, Va., that represents E-mail system vendors and E-mail user companies nationwide, the majority of larger American

porate culture.”

Some firms may choose a hard-line policy of examining all messages and Web requests with “zero tolerance” for transgressions, relying on readily available and easily affordable software tools such as SurfControl and LittleBrother to track Web access or monitor every keystroke. Others may shy away from what New York State Attorney General Eliot Spitzer has characterized as the “Big Browser” approach

In the here and now, Augustine advises establishment of project-specific E-mail addresses for the receipt of incoming correspondence and design documents; she also recommends maintaining file copies of outgoing correspondence and documents. “Architects should designate authorized personnel to send and receive documents on each project,” says Augustine. Consultants and contractors should be informed as to who in the architect's office is authorized to handle such communications so that they can be sure they are receiving the appropriate versions of a document from the architect and

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# designing with DAYLIGHT

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## INCORPORATING THE SUN'S RAYS

into architectural interiors can be energy efficient and aesthetically pleasing, but controlling the quality of light is crucial to preserving materials and preventing reflection and glare.

Bringing the sun's rays inside is one of the oldest and most reliable means of lighting architecture. From the backlit stained glass windows of European cathedrals built in the Middle Ages to the subtle illumination diffused by the canvas ceiling of Frank Lloyd Wright's studio at Taliesin West, daylighting has played a lead role in enhancing the interiors of remarkable spaces. Abundant sunlight, of course, is often considered a premium feature of houses sought by prospective homeowners, while daylighting is equally prized in workplaces from factories to office towers. Though the advent of inexpensive electricity and varied electric light sources has led some architects to turn away from daylighting as a resource, recent advances in microelectronics, high-performance glazing, and fabrics are spurring new explorations of harnessing sunlight as a design strategy.

But, unless properly controlled, daylight can create as many problems as benefits within interior spaces. For example, in today's personal-computer-driven world, windows or skylights can cause direct and reflected glare on computer screens. Light coming through unprotected windows, which may be supplemented by electric lamps, can damage artwork, furniture, and everyday objects in the home or office. Uncontrolled daylight that is used as a light source may not provide the optimum visual conditions for perceiving spaces and the objects within them. Armed with an increasingly sophisticated awareness of the

nature of light, clients are calling upon architects to consider the effects—both beneficial and harmful—of daylight.

Architect Richard Meier, the keynote speaker at the day-long seminar "Designing with Light," sponsored by Hunter Douglas at the American Craft Museum last June, delineated his use of daylight in the design of recent projects, including the Getty Center in Los Angeles. "Always in our work, there is a concern for the variety of ways in which light comes through in a variety of ways," he said. "Each situation is different; it's dependent on the location, site, locale, climate, and the nature of the architectural program—what it is and what it can be. The effect of lighting predominates our thinking about the form and use of spaces."

At the Getty Center, Meier's mandate was to design the museum's top-floor painting galleries so that visitors could look up and see the sky through glass ceilings. Because conservators were concerned with allowing in so much daylight, Meier's solution was the use of automatic louvers above the glass that move throughout the day deflecting the sun's direct rays.

"We devised a louver system which is above the skylights, so that in the morning it is turned on one direction and keeps direct light from coming in," Meier says. "And in the afternoon, it flips and is in the other direction, and therefore you can always be in the gallery space and look up and see the sky, but direct light never comes into the top-lit gallery spaces. As you go through all of the painting galleries throughout the day, you can always see paintings in natural light. Artificial light is never needed, and that's unusual in most museums today."



### AIA/ARCHITECTURAL RECORD Continuing Education

Use the learning objectives below to focus your study as you read **designing with DAYLIGHT**. To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 186 and follow the reporting instructions on page 244. Or use the Continuing Education self-report form on *Record's* Web site—[www.architecturalrecord.com](http://www.architecturalrecord.com).

#### LEARNING OBJECTIVES:

- Compare the color of daylight to the colors of electric light.
- Describe the effects of ultraviolet light.
- Explain different light control methods.
- Describe how diffusion layers eliminate shadows.



Outside light also comes into the Getty Center lobbies and light wells separated from light-sensitive displays. To develop the system, the design team built scale models of the skylights and louvers at an increasingly larger sizes until they were large enough to wheel outside and sit within. Inside the units

they could measure the amount of light coming in and observe its quality.

Similar in spirit to Skylight Louvers that enhance a museum environment, a more widespread application to control daylight in homes, offices, and many other building types is the use of blinds and shutters at the

window. The production technology behind today's window coverings offers many viable Daylight-Control Solutions, which take into careful consideration the nature of light itself.

## THE LANGUAGE OF LIGHT: DEFINING BASIC TERMS

Deciding to harness daylight for an architectural project requires a good understanding of the nature of light itself. Daylight is often thought of as being white, but it is actually a balanced blend of different wavelengths of electromagnetic radiation. A segment of this electromagnetic radiation in the form of visible waves, is reflected by objects in the visible environment, stimulating the optic nerves and interpreted by the brain as light. The intensity of this energy is interpreted as brightness and the length of the combined wavelengths that are reflected by an object as its color. Sunlight is composed of all colors of the spectrum: red, orange, yellow, green, blue, and violet.

Electric light is also electromagnetic radiation, but is created by passing an electrical current through a filament in a light bulb or by electrically charging a gas or phosphor coating inside a tube. But different light sources, such as daylight, incandescent or fluorescent, produce the colors of the spectrum in different proportions. An incandescent lamp and natural daylight are both full-spectrum sources with a full range of wavelengths. A big difference between the two, however, is that daylight has a lot of blue in proportion to red, while an incandescent source has very little blue in proportion to red. That is why an incandescent source appears yellower and daylight has a bluish appearance. The higher proportion of incandescent light is not noticeable when a fixture is turned on at night, but if a lamp is turned on in a room where there is daylight, the contrast between the two sources is readily apparent.

## COLOR TEMPERATURE

The color of light is referred to as color temperature. Measured in degrees of Kelvin (K), a light source's color temperature is a shorthand way of referring to how warm or cool the light is, or what the ratio of red to blue is. Radiation from the sun is loaded with blue, while incandescent light has a yellow cast. The color temperature of daylight ranges between 5,000 and 10,000 degrees K, while the color temperature of light coming from a tungsten filament measures about 2,700 degrees K.

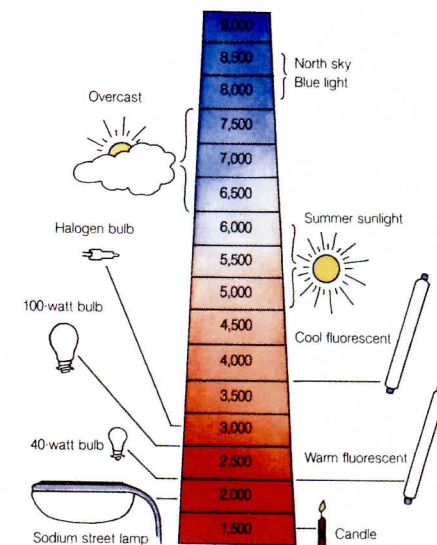
## COLOR RENDERING

Color rendition is sometimes used as a synonym for color temperature, but the terms mean different things. Color temperature describes our perception of light emitted from a source, while color rendition refers to our perception of the way in which light affects an object which it illuminates. Color rendering index (CRI) assigns a value to an electric light source, which compares how well that source renders color as compared to sunlight. The CRI of a tungsten halogen lamp is about 82, while the CRI of daylight is 100.

## REFLECTANCE, CONTRAST, AND TRANSMITTANCE

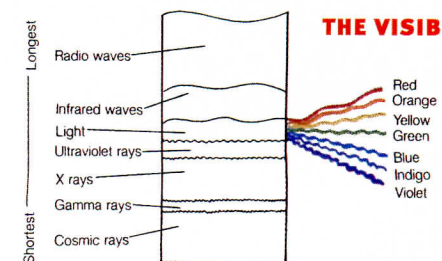
When light strikes any opaque surface, some of it is reflected. The brightness of light hitting a surface is measured in footcandles. One footcandle represents the illumination falling on a surface 1 foot square from a standard candle located 1 foot away. So if 100 footcandles of light strike a wall and 30 footcandles are reflected by the wall, the wall's finish has a reflectance of 30 percent. Contrast is meas-

## COLOR TEMPERATURE



ured by dividing the lowest light level in a space by the highest level. Some light is also absorbed when it travels through transparent or semitransparent medium. If 100 footcandles hit a semitransparent surface, and 90 footcandles emerge from it, the material said to have a 90 percent transmittance.

Visible light is only a small segment of the electromagnetic spectrum. Light sources also emit considerable infrared energy (heat) and many also give off ultraviolet (UV) radiation. At the short-wavelength end of its spectrum and hues where ultraviolet radiation occurs, light is particularly active, quickly fading colors and breaking down materials such as fabrics, paper, leather, and wood. UV is even used to kill germs in hospitals. All daylight contains a large UV component. Longer wavelengths are less destructive, but still very active. All visible light, including that from electric sources, can destroy materials. Because of its lesser intensity and spectral distribution, damage from electric light is much less destructive than daylight, but can be destructive none the less.



## THE VISIBLE SPECTRUM

## THE ELECTRICAL SPECTRUM

**LIGHT IS ONLY A SMALL PORTION OF THE ELECTROMAGNETIC SPECTRUM. ALL LIGHT SOURCES EMIT CONSIDERABLE INFRARED ENERGY (HEAT), AND MANY ALSO GIVE OFF ULTRAVIOLET (UV) RADIATION.**

## MARTHA WASHINGTON'S SHOES

Illustrating how uncontrolled daylight can damage materials, conservator Steven Weintraub of Art Preservation Services cites the case of Martha Washington's shoes. A bright pink pair of the First Lady's footwear was acquired by the Museum of the City of New York in 1951. The shoes were placed on permanent display in a location bathed in strong daylight. After a decade, they were bleached to a ghostly cream color and the fabric was decaying.

Of course, it is not psychologically desirable or even practical to block light out of spaces simply to preserve the objects housed within them. A connection to the outdoors is recognized as crucial to our sense of well being, and can play an important role in generating emotional and physical responses. For example, hospital studies have shown that patients can recover faster in rooms enveloped in warm colors and the right amount and tone of light. The juxtaposition of environments lit with daylight can also affect perception. A dark hallway between two rooms awash in sunlight can be both unappealing and dangerous, as the eyes have a limited ability to adjust extremes in light levels.

There are a variety of techniques for providing properly controlled daylighting—including the use of light shelves, prismatic glazing, or passive skylights. In this discussion we will examine sidelighting, the most common approach for admitting daylight into a room. For information on other methods, consult the Illuminating Engineering Society of North America's Recommended Practice for Daylighting: RP5. IESNA, 212-248-5000, ext. 112, or www.IESNA.org.

## CONTROLLING THE AMOUNT OF SIDELIGHTING

The amount of daylight entering an interior from side apertures—usually windows or glass block—depends upon the width and height of the opening, the type of glazing, and the style of the control elements, as

well as exterior conditions like the time of day, time of year, and whether the sky is overcast or clear. Windows, of course, allow heat to transfer both into and out of a building. Heating and cooling costs should be considered when sizing windows.

The simplest options for controlling the amount of light coming through a window use tinting, blinds and shutters, and window shades. Tinting reduces the amount of daylight passing through window glass. By tinting or coating the glass itself some of the light is absorbed by it, lowering the light in a space. An advantage of tinting is that it still retains a full view through the window although it does not ensure privacy. Tinting, if proper glazing materials are selected, also blocks some UV, but it does not alleviate the harsh shadows cause by the sun's direct rays.

Blinds and shutters use louvers to control light, and come in many forms and materials—vertical or horizontal, wood, metal, fabric or plastic. The louvered elements of both blinds and shutters are variable and control privacy and views. They work by deflecting daylight and allowing the amount of reflected and direct light entering a space to be varied. While the overall quality of light is controllable with slats, unless these are adjusted over the course of a day, the resulting sunlight will be harsh because bands of direct sunlight alternating with shadow will, depending on the time and orientation of building enter the room.



THE SIMPLEST OPTIONS FOR CONTROLLING THE AMOUNT OF LIGHT COMING THROUGH A WINDOW USE SHADINGS, SHOWN HERE, WHICH SOFTEN AND DIFFUSE LIGHT.



SUNNY DAY



CLOUDY DAY

THE DIFFUSION METHOD OF CONTROLLING DAYLIGHT AT THE WINDOW BREAKS UP THE SUN'S RAYS AND SCATTERS THEM IN MULTIPLE DIRECTIONS. DIFFUSION IS AN EXCELLENT WAY TO ELIMINATE THE SHADOWS CAUSED WHEN LIGHT COMES FROM A POINT SOURCE, SUCH AS THE SUN, AND IMPROVES ONE'S PERCEPTION OF VISUAL DETAILS. THE EFFECT OF USING A DIFFUSE MATERIAL OVER A WINDOW MAY BE BEST ILLUSTRATED BY OUTDOOR LIGHT ON A SLIGHTLY CLOUDY DAY. THE RESULT IS THAT INSIDE A BUILDING DIRECT HARSHNESS OF LIGHT IS ELIMINATED, YIELDING SOFT EVEN LIGHT RATHER THAN THE BRIGHT LIGHT THAT OCCURS ON A SUNNY DAY, WHEN HARSH SHADOWS AND HIGH CONTRAST CAN OBSCURE DETAIL.



LOOKING CLOSER AT THE CONSTRUCTION OF TYPICAL CELLULAR SHADES AND SHADINGS, ONE WILL FIND THAT THE REAR LAYER OF MATERIAL PROJECTS LIGHT ONTO THE FRONT LAYER, MUTING THE LIGHT AND ELIMINATING SHADOWS.

Light-diffusing shades, particularly those made of horizontal hexagonal cells—or honeycombs—scatter and deflect outside light by sifting it through a double layer of translucent material. They further disperse the sun's rays by means of angled surfaces, sending light off in different directions.

"Such shades can shut out up to 98 percent of UV rays, and can reduce damaging heat build-up on sensitive organic materials such as wood by close to 80 percent," according to Wendell Colson, Hunter Douglas Head Of Design And Development. The shades are also available with vertical teardrop-shaped elements, which resemble draperies but function like blinds.

At the "Designing With Light" conference, a demonstration illustrated what could be achieved by doubling the layers of filtering materials. A single bed sheet hung over a window softened daylight, but not the shadows cast from outside. By hanging a second sheet an inch inside the first, almost all shadows were eliminated because light landing on the outer sheet was diffused by the time it struck the inner layer. Not only did the two layers filter harmful rays, but the resulting daylight created clearer views of interior images and details.

Beyond the bedsheet, of course, a new category of daylight control products—cellular products—have been developed over the past 15 years to create a diffusion of light through multiple layers of diffusing materials. Multiple layers of diffusing materials create a softness of light both in a room and the light emitted from the window is shadow-free. Looking closer at the construction of typical cellular shades and shadings, one will find that the rear layer of material projects light onto the front layer, muting the light and eliminating shadows.

## PROTECTING LIGHT SENSITIVE OBJECTS

Steven Weintraub also offered several suggestions related to ambient light for dealing with light-sensitive objects in both museum and residential environments. First, create contrast between an object and its surroundings. Cutting down ambient light with window coverings and other methods allows you to highlight objects without having to wash them with damaging illumination levels. Controlling ambient light in adjacent spaces means that you will not perceive the room which contains the objects as dark; the eye will not be referring sideways to stronger sources. Placing objects away from high-contrast conditions, such as between a pair of windows instead of in front of them, allows them to be seen in fuller detail, because the eye adjusts to the adjacent brightness and not the object. Another rule of thumb is to control the cumulative light on objects over time. The issue is not so much the level of light they receive periodically, but instead over their life times.

"Light may come into a room from the sides or above. I think what is important," said architect Richard Meier, "is that spaces and quality of light in those spaces must be able to accommodate things we cannot even predict today...the use of the space, the perception of the space, and the scale of the space are constantly changing; and apropos, the way the light comes in throughout the day is constantly changing."

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## LEARNING OBJECTIVES:

- Compare the color of daylight to the colors of electric light.
- Describe the effects of ultraviolet light.
- Explain different light control methods.
- Describe how diffusion layers eliminate shadows.

## INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self report form on page 244 and submit it or use the Continuing Education self report form on *Record's* web site - [www.architecturalrecord.com](http://www.architecturalrecord.com) - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

## QUESTIONS:

1. What are the main differences between daylight and electric light?

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2. What are the effects of ultraviolet light on objects?

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3. How does window tinting differ from louvers as light control?

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4. How do multiple layers of diffusing materials eliminate shadows?

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5. How could you design for ambient light to work with light-sensitive objects?

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1. Daylight is a balanced blend of different wavelengths of electromagnetic radiation. It puts out a color of light that has a high portion of blue, ranging between 5,000 and 10,000 degrees Kelvin. Electric light is also electromagnetic radiation created by passing an electric current through a filament or by electrically charging a gas or phosphor coating inside a tube. Electric light sources produce a light that is lower in blue and higher in red or yellow with a much lower color temperature than daylight.

2. Ultraviolet light appears at the short-wavelength end of the spectrum where light is particularly active. It fades colors and decays materials such as fabric, paper, leather, and wood quickly. Ultraviolet light is also used to destroy germs.

3. Window tinting blocks some light from coming in through the glass, this may include infrared and ultraviolet light. It retains the view of the outdoors, but does not provide for privacy or eliminate shade. Shades or louvers deflect light to block it partially or totally. This can create harsh contrast between brightness and shade. They also block the view looking out and looking in, which provides privacy.

4. Diffusion breaks up the sun's rays and scatter them in multiple directions. A single diffusion layer softens the daylight, but still can create shadows. A second layer eliminates the shadows from already diffused light.

5. When working with light sensitive objects, the first step is to create contrast between the object and its surroundings. Reduce the ambient light from windows or other light sources so that the object can be highlighted without a high amount of light. Make sure the objects are not in high-contrast situations such as in front of a window, so the eye can see the detail in the object. Also try to control the cumulative amount of light striking the object over time.

## ANSWERS:

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WINDOW FASHIONS

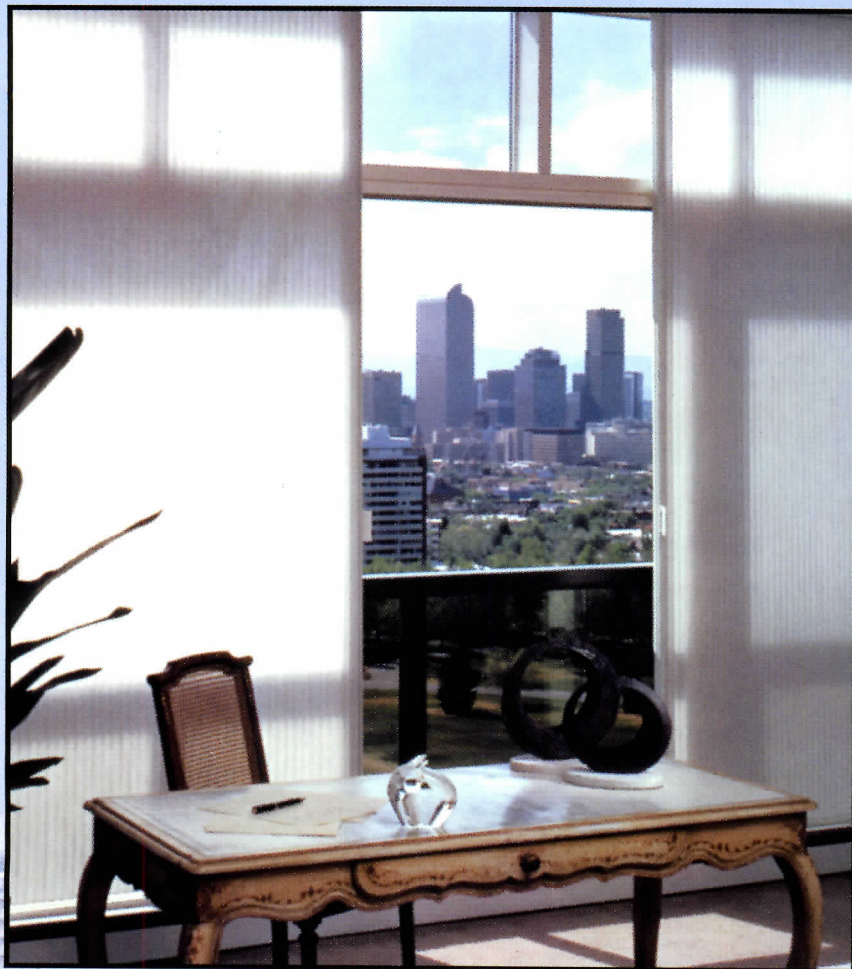
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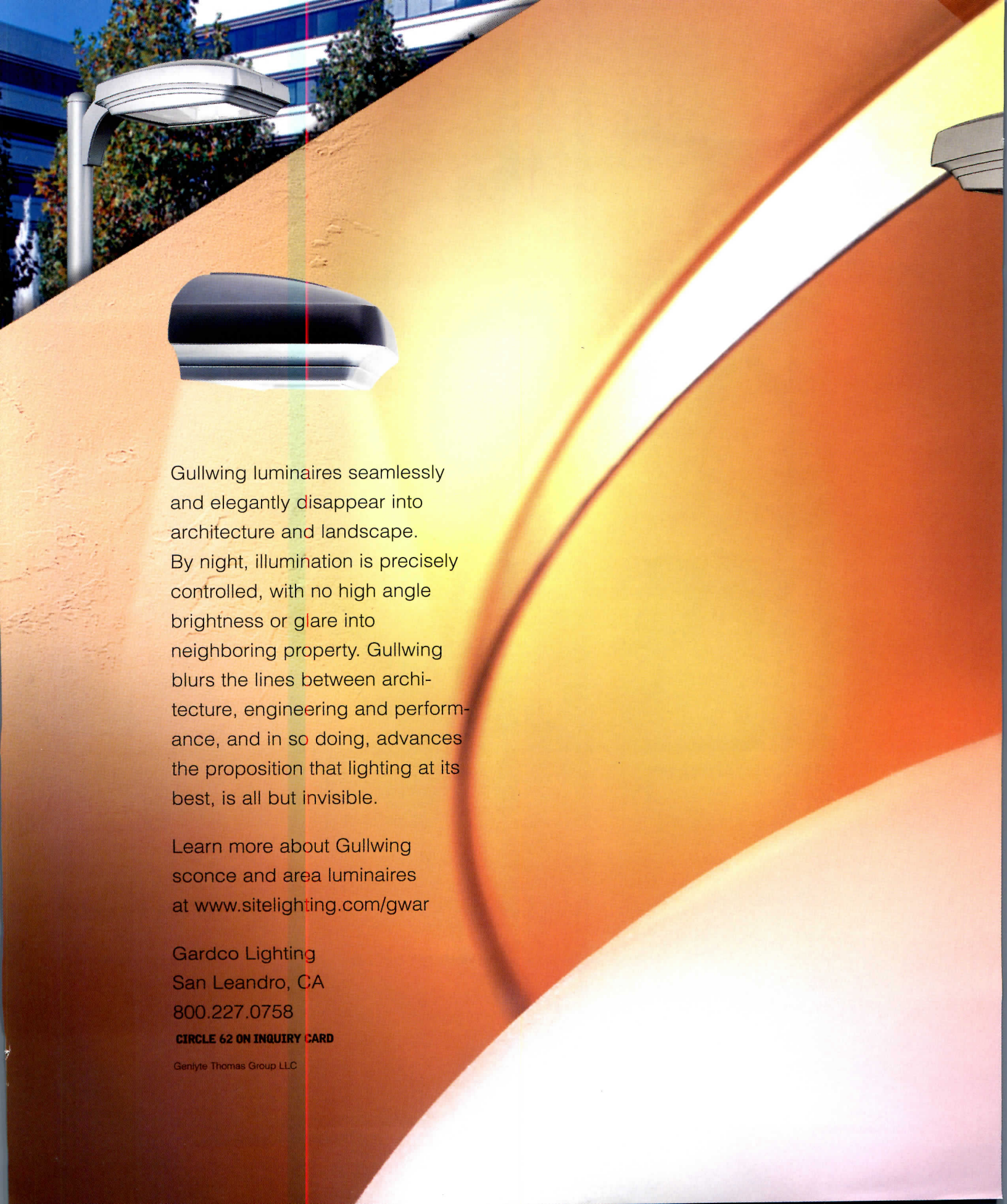


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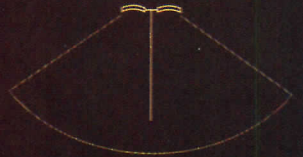
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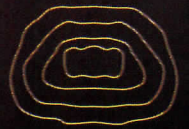
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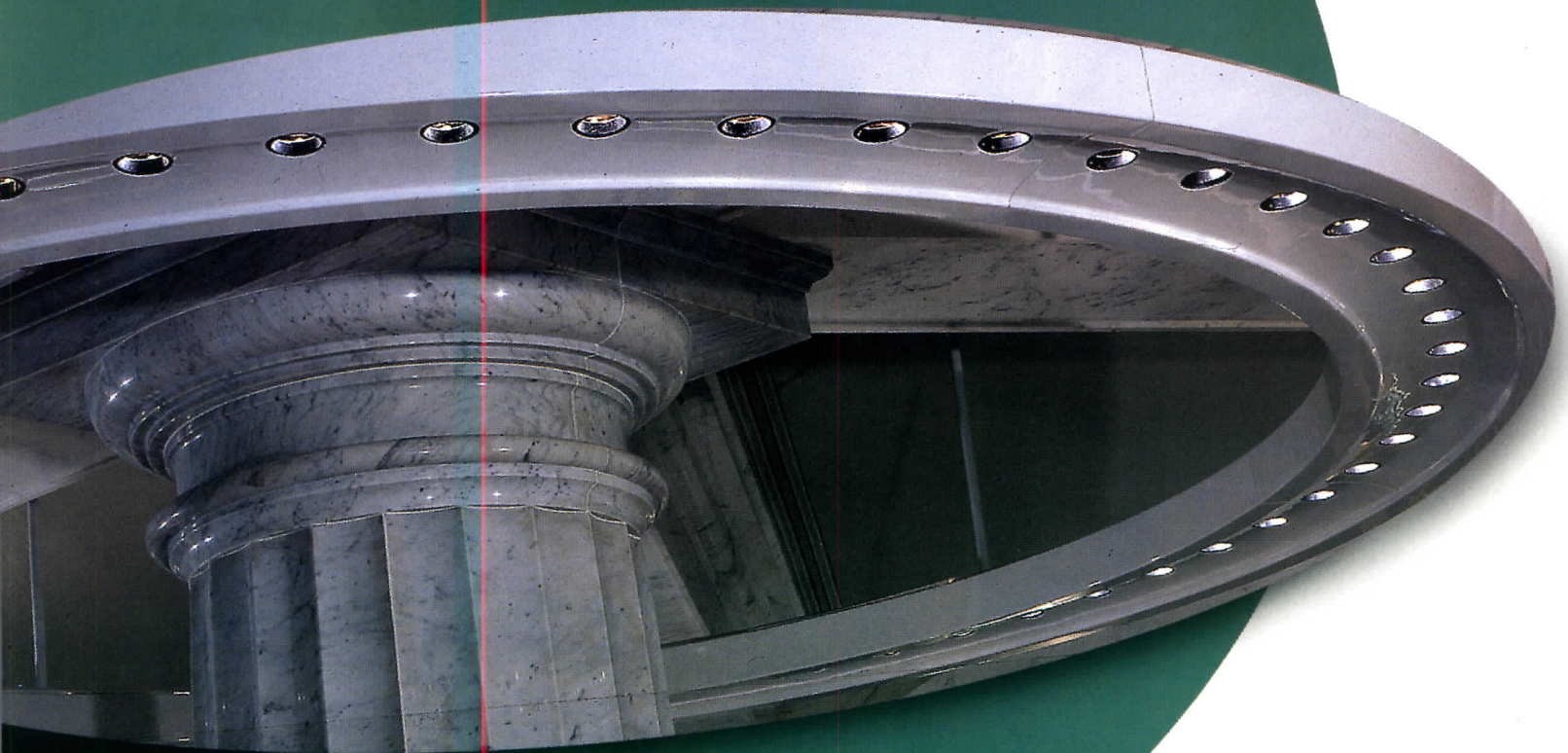
18" & 13" discretely  
silhouetted forms

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# INVISIBILITY

# An Innovative Approach to Lighting



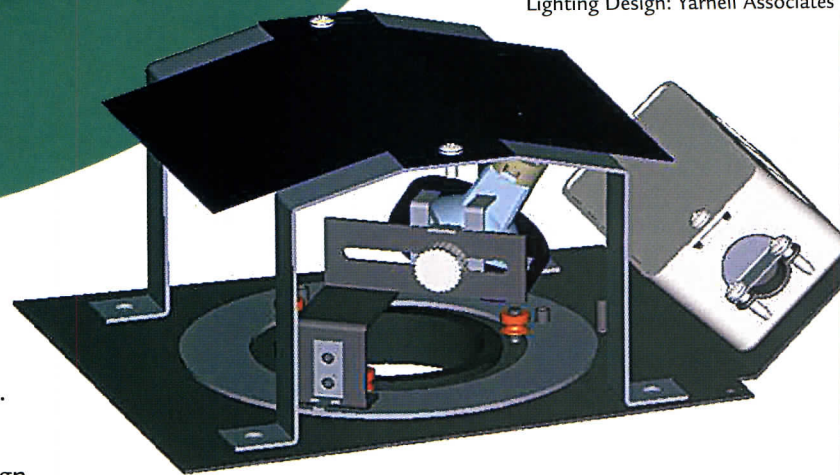
Project: Marquette Building, Chicago, IL  
Lighting Design: Yarnell Associates

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# LIGHTING...



1

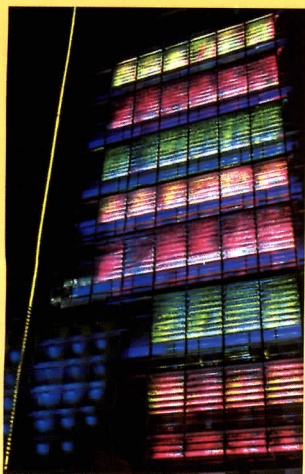
Almost every design has some historic reference, whether there is a conscious effort to make one or it occurs merely by coincidence. The Ghost Bar in Chicago (1), by Square One Precision Lighting, may not be haunted exactly, but it does seem to be a design with a reincarnated spirit: Seagram's Private Bar for the Chrysler Building, designed by Morris Lapidus in 1934, has some very similar ideas. As at Seagram's, beverage bottles are placed in vitrines over the back bar and backlit like fine artworks. Elsewhere, both bars were lit intimately and indirectly.

The Niagara Mohawk Power Corporation (2), in Syracuse, N.Y., is a relighting project that provided its own inspiration. Built in 1932, its Art Deco details were lit for only ten years before the building was blacked out during World War II. Brandston Partnership brought it back to life, adding color and additional lighting that the original architects, Bley & Lyman, might have used, had the technology been available at the time.

The exterior lighting design of the New 42nd Street Studios (3), by Anne Militello, does not seem to be inspired directly by historic precedent. It is not difficult to imagine, however, that the constantly changing light show dancing across its facade has a link to the lighted marquees of the burlesque theaters that once stood on this New York City street.

Lee Prince, of Light & Design Associates, comes right out and acknowledges that the lighted column forms in H.R. Owen Ferrari (4) were borrowed directly from Frank Lloyd Wright's 1936 Johnson Wax Administration Building. The major difference is that where the showroom ceiling is uplit from lights located on top of the column capitals, the Johnson Wax Building's columns had skylights between them. Prince didn't have this option—there is another floor above these columns.

Personally, I enjoy seeing designers incorporate such references in their work, as long as they have really done their homework and understand what they're doing and why. Those who fail to study their history of lighting often reinvent old ideas badly. *Charles Linn, AIA*



3



2



4

**193 Creative uses**

**196 The New 42nd Street Studios**

*Vortex Lighting*

**204 Niagara Mohawk Power Corporation Headquarters**

*Brandston Partnership*

**211 H.R. Owen Ferrari**

*Light & Design Associates*

**217 Technology: Evaluating the right light for offices**

**224 Lighting resources**



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CIRCLE 64 ON INQUIRY CARD

# Creative Uses

Richard Carlson orchestrates ecclesiastical lighting for a sanctuary, collaborating with a local artist • Nine is the lucky number of a new Chicago restaurant illuminated with flair

## A refurbished church in Brooklyn relies on subtle lighting for a tranquil look

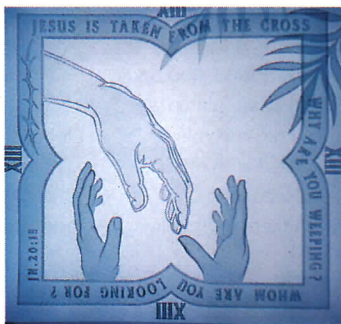
The rejuvenation of St. Boniface Church in Brooklyn, N.Y., is a project close to architect Richard Carlson's heart. As a member of the religious community known as the Oratory of St. Philip Neri—an inclusive Roman Catholic confraternity of clerics and laymen founded in 1986—Carlson and his designer wife, Helen, led a decade-long effort to restore the 1878 building as the congregation's permanent home.

From a leaky roof to a crumbling interior, the brick-and-brownstone structure required a top-to-bottom makeover. "The place was literally falling apart," recalls Carlson, design principal of Swanke Hayden Connell Architects (SHCA). "The oratory distinguishes itself as a community excelling in quality liturgy, beautiful music, and inspirational surroundings. We wanted to create an engaging, light-filled

space that would be welcoming to all people."

Steering the congregation's renovation committee, the Carlsons orchestrated an ambitious plan to overhaul the 5,000-square-foot church, an adjacent community house, and two residences. To meet the projected \$1.5 million budget, parishioners relied chiefly on member donations and small contributions from the business community. SHCA, with Carlson taking a lead role doing much of the work with his own hands, donated time and talent.

"From the beginning of the project, access to the church complex for people who are physically challenged was a top priority," says Carlson. One of the first major



**Each Station of the Cross is backlit with neon (above) and set into the floor to ease wheelchair access (right).**

improvements was to provide an entry ramp to the church. The sanctuary was also redesigned with two ramps that flank the altar, making all aspects of the liturgy wheelchair accessible.

Lighting plays a key role in enhancing the ecclesiastical environment for parishioners. Melding original art and elements of liturgical ceremony, the Stations of the Cross at St. Boniface comprise 14 backlit, etched-glass squares set into the floor. The Stations allow intimate contemplation and ease of mobility for wheelchair worshippers, while threading a subtle design motif throughout the space.

To create the peaceful points of light, Carlson collaborated with artist Amy Kasindorf of LivArt, exploring a range of lighting options, including incandescent, fluorescent, and neon fixtures. After building and testing a series of mock-ups, the design team decided most configurations were either too bright or made the installations "look like fish tanks," Kasindorf says. "The lighting was too obtrusive for pieces intended to support meditation."

In the end, the designers opted for the look of daylight, reiterating the quality of light flowing through the sanctuary's restored stained-

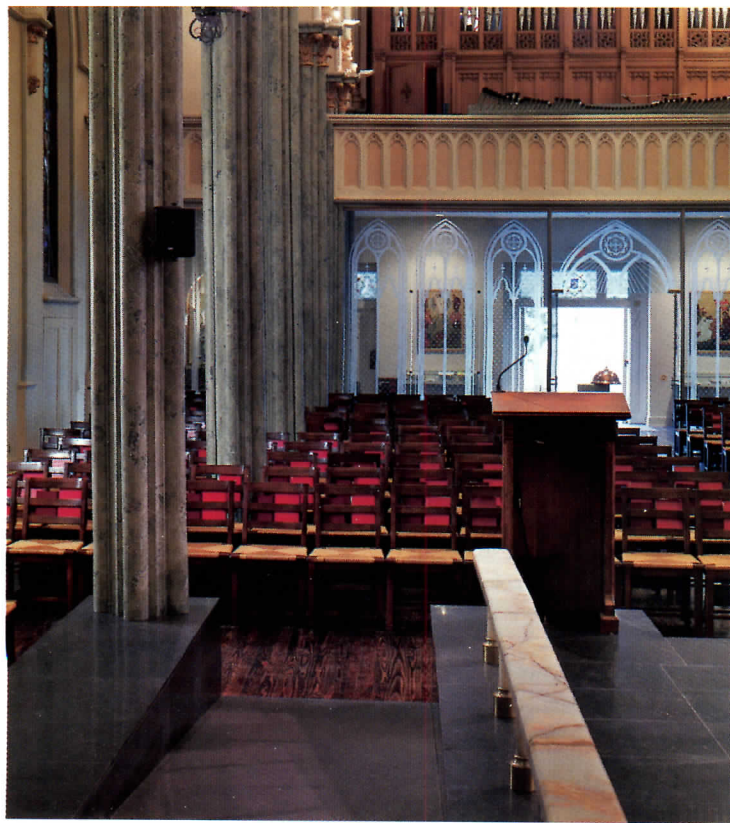


glass windows. Each sculptural Station panel is constructed of three layers of glass, all carved to give the narrative images depth and a subtle range of color. Illumination is supplied by neon—from which the mercury was removed—set within a channel along the perimeter of each panel. "The light is cast evenly and held behind the glass, without making the panels glow too brightly or theatrically," says Kasindorf. Each Station is a self-contained sealed unit, covered by half-inch tempered safety glass that is removable for maintenance.

Throughout the church, additional illumination by Susan Brady Lighting Design complements interior details such as the restored onyx communion rails, a refurbished organ, new flexible congregation seating, and a 10-foot-tall etched glass panel that separates the narthex and sanctuary. The glass panel provides a much needed acoustical buffer while admitting additional daylight.

Two integrated lighting systems work in tandem at St. Boniface: an architectural system to illuminate the building's envelope

### Halogen uplights and accents team with theatrical fixtures in the sanctuary.



# Choreographed illumination of a rehearsal center's facade creates its own street theater on Broadway

By William Weathersby, Jr.

**B**right lights and Broadway share a long, intertwined history. From neon billboards blaring advertisements in Times Square to chaser lights circling the names of stage legends along backlit marquees, vibrant illumination has been the signature look of New York City's legendary theater district for more than 80 years. Now a new rehearsal building situated on a revitalized stretch of 42nd Street has elevated exterior lighting in the area to a new level of sophistication. Integrating finely etched architectural form with expressive, computer-controlled lighting, the New 42nd Street Studios building presents a shimmering collage of changing color that creates its own version of street theater.

One of the last legs in the decade-long redevelopment of the block of 42nd Street between Seventh and Eighth Avenues, the Studios complex is a \$29.6 million, 10-story tower designed by Platt Byard Dovell Architects, with exterior lighting by Anne Militello of Vortex Lighting. In addition to serving as the new headquarters of the New 42nd Street, Inc.—the nonprofit organization mandated by the city and state to resuscitate the down-at-the-heels strip—the center houses 14 rehearsal studios for dance, music, and theater; a 199-seat black-box theater; a ground-floor retail space; and 20,000 square feet of office space for performing arts groups, including the Roundabout Theatre Company and the Williamstown Theater Festival. Sharing the street with restored Broadway houses such as the New Amsterdam and New Victory—along with newer venues including the AMC cineplex and Madame Tussaud's Wax Museum—the Studios tower is the first building on the block “built specifically for a range of art forms, and for both nonprofit and commercial uses,” says Cora Cahan, president of New 42nd Street, Inc.

The Studios complex rises on the site of the former Selwyn office building and an adjoining one-story parcel. At ground level, the building houses a lobby entrance for the adjacent American Airlines Theater, which occupies the newly restored interior of the former Selwyn Theater, hugging 43rd Street. Originally, the Studios design was to incorporate the six-story facade of the office building, but the brick sheer wall collapsed prior to construction.

From its earliest design development phase, the Studios tower was conceived as a structure that could serve as a bridge between the street's illustrious theatrical past and its multimedia future. “The new building tries to be a work in itself, not a pastiche,” says principal architect Charles Platt. “It struggles against what we see as the artificiality and contrivance elsewhere in the redevelopment of 42nd Street.”

Rather than cloaking the facade in historicism or overt theming, the architects sought an architectural form that expresses the activities taking place within—the creation of theatrical art. “It is something akin to a factory for the arts—concerned with the production rather than con-

*Contributing editor William Weathersby, Jr., is a freelance writer based in Westport, Conn. He frequently writes about lighting design.*



sumption of entertainment,” Platt says. “The parti we derived from that is very straightforward and rigorously controlled.” Barnlike rehearsal spaces with ceiling heights of 13 feet or more are stacked in the aluminum-and-glass curtain-wall tower, supported by a compact, brick-clad service core housing elevators, stairs, plumbing, and HVAC. “Because of the classification of the building, we were freed from the requirement of having a fire-rated spandrel, so the curtain wall really is glass from floor to ceiling, which is rare in New York,” notes architect Ray Dovell. “Passersby

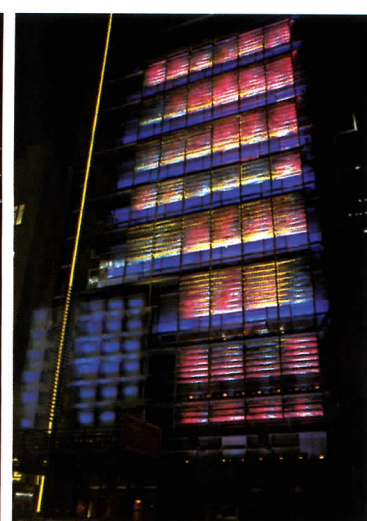
**Project:** *The New 42nd Street Studios, New York City*

**Architect:** *Platt Byard Dovell Architects—Charles Platt, AIA, Ray Dovell, AIA, design principals; Phillip Turino, AIA, project manager; Elissa Ico, AIA, project architect; Sherri Scribner, job captain; Eric Holterman, AIA, Susan Frocheur, Tom Gilman, Mark Verzosa, George Prado, Silvia Ajemian, Victoria Somogyi, project team*

**Lighting designers:** *(exterior) Vortex Lighting—Anne Militello, principal; (marquee, interior) Johnson Schwinghammer—William Schwinghammer, principal*  
**Consultants:** *Goldman Copeland Associates (mechanical/electrical engineer); Anastos Engineering Associates (structural engineer); James Carpenter Design Associates (exterior glass consultant); Ryan O’Gara (lighting programmer)*

Creating a collage of light in front of the facade's curtain wall, an armature of catwalks and steel fins is lit by 300 computer-controlled fixtures.





can peer in to see the creative artists at work.”

Exterior lighting plays a vital role in the creative life of the building. Addressing the redevelopment guidelines for 42nd Street properties, which required the extensive use of exterior signage and lighting, the architects chose to express the entire building as a lighted form. “At night, the building itself becomes a sign,” Platt says. “That’s really its essence.”

Militello joined the project early in its design development phase. With a background that encompasses lighting assignments for Broadway, Off-Broadway, concerts, and Walt Disney theme parks, she approached the Studios building as a chance to create an abstract color field of changing light. “The architects were very interested in integrating the lighting with architectural forms, rather than covering a static building surface with an applied wash of light,” she says. “It’s not only that the lights are moving and programmed in unusual ways. The materials that the architects have developed to work with the lighting are very unusual as well.”

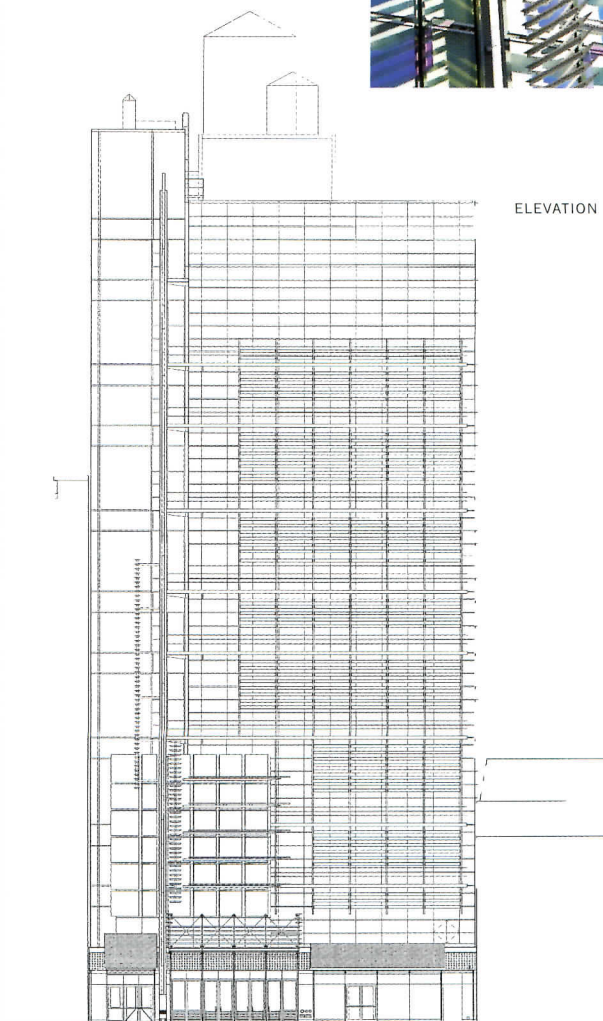
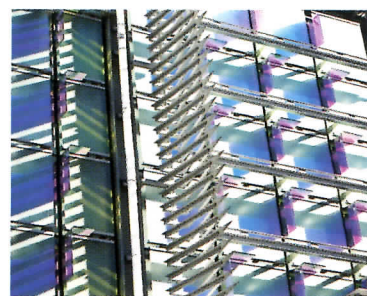
Playing off the idea of a collage (besides his work as an architect, Platt is an artist whose medium is collage), the architects designed a steel armature that shields the curtain wall and serves as a varied form to manipulate electric light. The design team initially experimented with a range of materials, including textured and ribbed glass, before settling on a grid of perforated, stainless-steel fins, or blades. The blades occur on each of the upper seven floors of the building, separated vertically by a steel support structure that forms individual bays.

Militello’s lighting plan layers illumination from a variety of fixture types. The first layer of light is created within the plane of the studio windows. At night, translucent shades—functioning like theatrical scrims—remain pulled down inside the studios. Custom fluorescent T5 PL wall fixtures mounted between the vertical window mullions uplight the shades. Fitted with custom color gels and spaced end to end, the fixtures create an opaque, glowing backdrop that serves as the “background canvas of the lighting collage,” Militello says.

The next layer of light engages the facade’s armature, with points of light laid out along the steel grid. “On every level outside the building is a 3-foot-deep catwalk,” Militello explains. Besides accommodating maintenance, “they are great locations to hide mounted lighting fixtures.” Each floor is divided into six bays, with a total of 12 fins per floor attached to the armature’s mullions. Each bay incorporates three different colors of light. Two 575-watt PAR fixtures housing halogen T-lamps are fitted with dichroic glass. Each bay also features one color of metal halide for base illumination.

“The steel blades are perforated and scratched, so their rough

The symphony of light (above) calls upon automated luminaires, fluorescents, PAR lamps, and HID fixtures. The dichroic glass-embedded screen (right) manipulates daylight.





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Linear indirect/direct fluorescents supplement the daylight streaming through floor-to-ceiling windows in one of 14 rehearsal studios (left). The black-box venue (below) is equipped with an array of theatrical fixtures.

surfaces reflect and throw light all over the place,” Militello says. Stacked parallel to the face of the building, the blades are mounted beginning about six feet up on each floor. Blades measure from 18 to 24 inches front to back and are set at 30-degree angles from the facade.

The third, most animated layer of illumination is provided by automated, intelligent luminaires mounted on stanchions above the marquee. Five luminaires housing HID lamps graze the steel armature—three fixtures light the blades and two light the box behind. Set five feet out from the facade, the fixtures feature dichroic color-changing elements that can crossfade to produce different colors.

A 175-foot vertical light spire on the west side of the building provides a signature look. Technically called a prismatic lighting guide, the spire is constructed from a series of connected linear sections of hollow acrylic tubes, lined with optical film to emit light along the length of the spire. Automated luminaires fitted with dichroic HID lamps feed into the spire, allowing it to change color.

Armed with the array of more than 300 fixtures and a palette of 256 colors from which to work, Militello choreographed nightly computer-controlled light shows that animate the building facade. Aided by lighting programmer Ryan O’Gara, Militello spent many long nights standing across 42nd Street from the Studios. Communicating via headset with O’Gara, who was perched four stories up controlling the theatrical lighting board, she called out cues and mapped out lighting sequences in a notebook.

“With lighting effects, you always have to experiment,” she says. “Light has properties that change with different conditions, and you can get unexpected effects that can be a lot stronger than they look on paper.”

The resulting street theater, which envelops the Studios building every night from sundown to 1 A.M., incorporates more than 500 individual lighting looks. On nights when most Broadway theaters are closed, the lighting features slower fades of morphing patterns and color. On busier weekend evenings, theatergoers are engaged by pulsating patterns that change the look of the grid every few seconds.

Even during daylight hours, the Studios tower embodies a play of light. In the lower left corner of the facade, a 30-by-30-foot grid of floating glass panes creates a ghost image where the old Selwyn facade once stood. Collaborating with artist James Carpenter, the architects



inserted pieces of dichroic glass within the grid to create a kinetic play of light that projects onto the building structure and sidewalk.

Inside the building, rehearsal halls awash with sunlight are supported with dimmable direct/indirect fluorescents set in linear runs. MR16 spotlights illuminate hallways, which feature colorful wall supergraphics designed by Pentagram. Interior lighting was designed by Johnson Schwinghammer. “Interior illumination was meant to support the pared down nature of the building, serving the needs of the artists at work,” Platt says. And in the black-box theater, New 42nd Street vice president Chris Buckley specified the theatrical rig including PAR lamps and ellipsoidal reflectors. Ambient lighting is provided by MR16s.

It is Militello’s engaging exterior lighting that transports the artistry outside. Rarely has a rehearsal hall come to life with such street-side showmanship. ■

#### Sources

PAR fixtures: Altman

Metal-halide fixtures: Sterner

Fluorescent T5 fixtures: Elliptipar

MR16 fixtures: B-K Lighting

Automated luminaires: High End Systems, Irideon

Prismatic lighting guide: LightPipe

Indoor indirect/direct fluorescents: Zumtobel Staff



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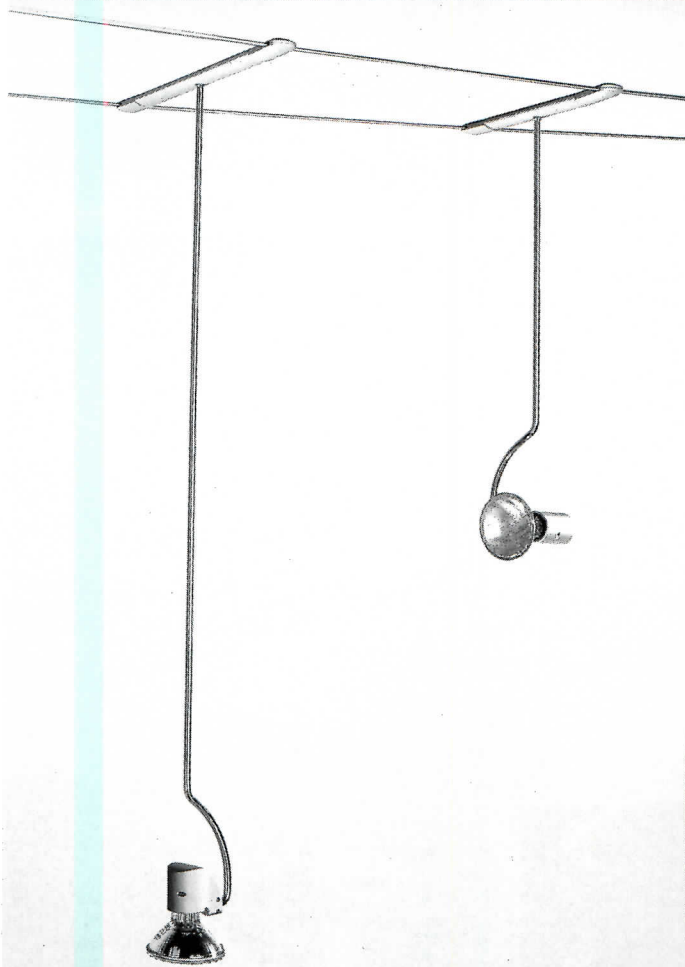
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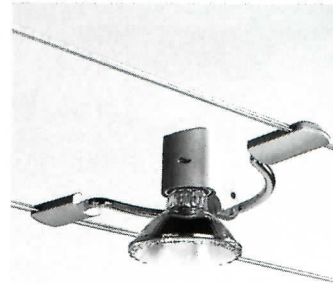
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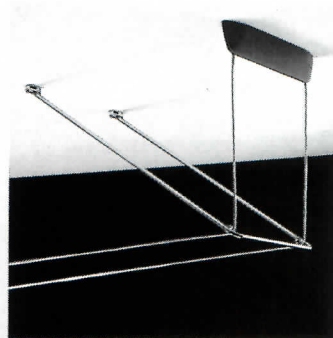
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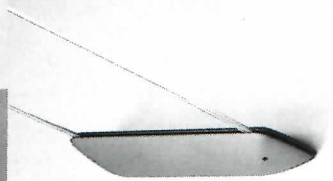
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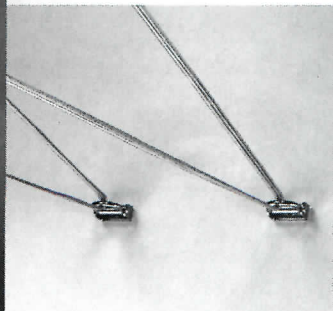
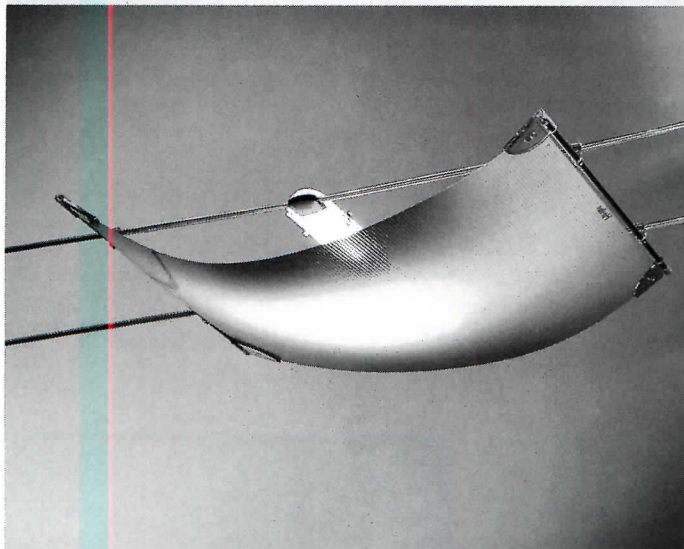


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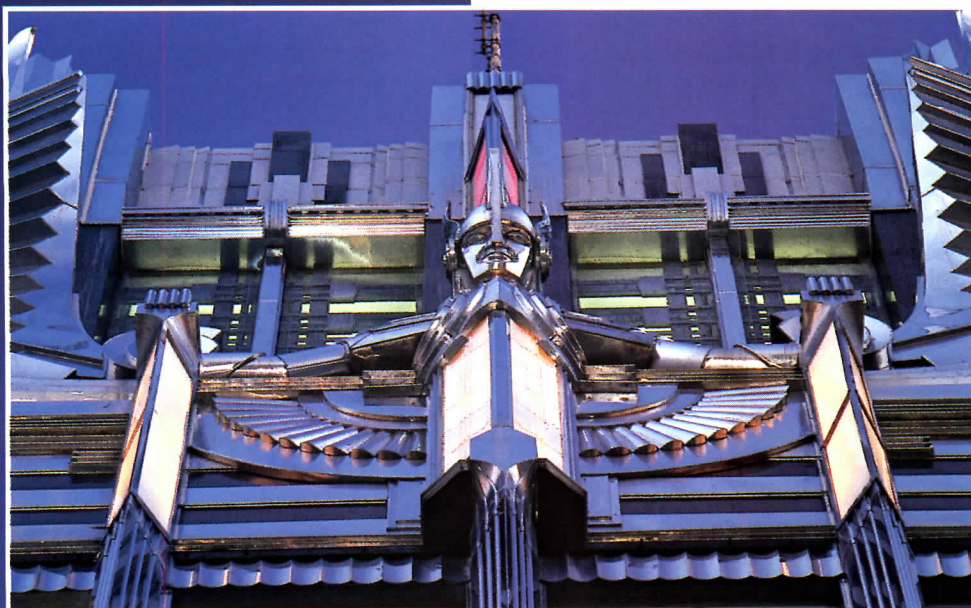
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CIRCLE 68 ON INQUIRY CARD

A restored, relit Art Deco icon returns  
the power of light to downtown Syracuse





Niagara Mohawk's headquarters is a dazzling example of Art Deco, completed at the height of the period, in 1932. The *Spirit of Light* was the winning entry from a contest, held then, to name the sculpture installed over the building's main entry.

By Charles Linn, AIA

The Buffalo architectural firm of Bley & Lyman was masterful at borrowing elements from different historic periods to project an image for its clients. For example, an apartment tower by Bley & Lyman, published in *RECORD* in March 1932, the same year the firm completed its Art Deco headquarters for the Niagara Mohawk Power Corporation, was festooned with massive Gothic detailing. These sturdy living quarters surely made the owner and tenants feel regal, no matter that the spires and pointed arches were imposed on a very un-Gothic X-shaped plan.

In the late 1920s, rural electrification was just gaining momentum in many parts of the country. When a company like Niagara Hudson, as Niagara Mohawk was then known, put a plant on-line, they often found themselves sitting on huge surpluses of generating capacity. To sell power, they opened showrooms intended to dazzle prospective consumers into becoming rate payers. These showcased such things as model kitchens decked out with complete assortments of revolutionary electrical appliances: ranges, refrigerators, water heaters, mixers, toasters, lighting, and even garbage disposals.

One of Bley & Lyman's specialties was the design of these buildings, and the firm even wrote an article called "Planning Sales and Office Buildings for Public Service Companies," which was published by *RECORD* in December 1932. One of the retail stores by Bley & Lyman featured in the article was a small Art Deco showroom in Niagara, N.Y. A night shot of the building shows brilliantly backlit glass pilasters where one would expect to see structural columns, giving the impression that the building was supported by columns of light. It is hard to imagine an architectural style better suited to impressing Niagara's

**Project:** Niagara Mohawk  
Headquarters Exterior Lighting  
**Owner:** Niagara Mohawk Power Corporation

**Lighting designer:** Brandston Partnership—Howard Brandston, designer; Kevin Simonson, coordinating designer; Brooke Carter, Burr

Rutledge, project assistants

**Architect:** MacKnight Architects—Steve MacKnight

**Electrical engineer:** NMPC Facilities Technical Support—Larry Hogan, Vern Schmitz, electrical design

**General contractor:** Burns Electric Co.





The lighted pilasters of blue, red, and green neon, are covered by molded glass, which was made by Steuben. The color of the neon can be changed using the same dimming system used for altering the color of the fluorescent in the tower. Metal-halide uplights graze the brickwork. These were an addition to the original lighting design.

customers with the notion that the future would be bright and it would be electric—the perfect parti for a company eager to show it was progressive and used up-to-the-minute technology. The forms and lighting of Niagara Mohawk's headquarters are closely related to this showroom by Bley & Lyman, except that the headquarters building is much more elaborately detailed and done on a grand scale. The architects added setbacks and a tower to create a ziggurat shape. They included a stainless-steel bas-relief sculpture over the entry and incorporated many more backlit glass details and uplighting. Like the smaller showroom, it retained the glass pilasters and blazing showroom windows at street level. Legend

## LIGHTS INSIDE THE TOWER MADE THE GLASS SO HOT IT SIZZLED IN THE RAIN.

has it that the incandescent lights produced so much heat that the glass towers sizzled during rainstorms.

Like the illumination on many buildings, the lights that brightened Niagara Mohawk's headquarters were extinguished during the blackout in World War II, and most remained off after the war. A few years ago Niagara Mohawk's executive vice president and COO Darlene Kerr started a drive to relight the headquarters. "They are a very socially responsible company," says Howard Brandston, of Brandston Partnership,



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Gelled fluorescent was used to backlight the transparent tower panels. Red, green, blue, and ungelled lamps were used, so that through a dimming system the tower can be changed to any color. Metal-halide and incandescent spots located across the street from the building were used to place soft highlights on the parapet details.

whose firm relit the building “and recognized the value this work would add to the community.”

### Relighting the landmark

Project lighting designer Kevin Simonson reiterates what has become a well-accepted philosophy for relighting buildings of architectural significance: “We tried to retain the original spirit of the design but at the same time to do things we think the original designers might have done if they had our technology.”

The building’s most prominent features are its internally illuminated tower, which also functions as the elevator penthouse, and the stainless-steel *Spirit of Light* sculpture that stands over the entrance to the building. The glass panels at the corners of the tower and the panel behind the *Spirit of Light* were originally lit by hundreds of incandescent lamps. These were replaced by banks of 3500K, 32-watt fluorescent strips. Red, green, and blue gels were added to most of the lamps, though some were left ungelled, so that through the use of a dimming system virtually any color of light could be mixed. Because blue gels don’t transmit as much light as green and red ones, twice as many blue lamps were used as any other single color. “Finding the right place for each bank was one of the hardest jobs,” says Simonson, because the structural steel that held the panels in place restricted both access and placement points, and the fluorescent strips had to be held back from the interior surfaces of the panels so that the colors could mix evenly.

Three backlit Steuben glass pilasters flanking each side of the front entry to the building have been internally illuminated using red, green, and blue neon. These are also connected to the dimming system, so that virtually any color of light can be mixed. Smaller vertical elements, called candles, were backlit using 130-volt clear incandescent sign lamps.

Several additions were made to enhance the lighting design. One was a series of 100-watt metal-halide PAR38 fixtures inside custom

housings designed by architect Steve MacKnight, which place grazing uplight on brick sections of the pilasters. Uplights were also added to the top of the canopy over the main entry to the building, which wash a stainless-steel grille that is mounted beneath Niagara Mohawk’s sign. To keep the profile of the building from disappearing in the night, metal-halide and incandescent floodlights were installed on a building across the street from the main elevation, placing a soft, even wash of light along the

## FOUR COLORS OF FLUORESCENT CAN BE MIXED TO TURN THE TOWER ANY COLOR.

parapet. The two different sources were mixed to get the shade that the designers felt was best for bringing out the color of the building’s brickwork. A metal-halide framing projector was focused on the *Spirit of Light* figure.

The relighting of the Mohawk Niagara building has uplifted the spirit of city and surrounding county so much that they have decided to relight part of the downtown district, and Niagara Mohawk has commissioned Brandston Partnership to produce a master lighting plan for it. That, says Brandston, “is a good example of how much a single thing can heighten civic pride. Just from the action of one group, others say, ‘Wow, if they can make this one place so wonderful, think what can we do.’” ■

### Sources

**Metal-halide PAR accents:** *KIM Lighting*

**Metal-halide architectural flood lights:** *KIM Lighting*

**Metal-halide architectural framing projectors:** *Arc Sales*

**Incandescent PAR architectural spots:** *Sterner Lighting Systems*

**Fluorescent strips:** *Columbia Prescolite*

**Theatrical dimming system:** *Rosco/Entertainment Technology*

**Neon:** *Olsen Signs & Graphic*

**Exterior fixture restoration:** *Burns Electric Co.*

**Theatrical gels:** *Rosco*

**Lamps:** *Philips, General Electric*





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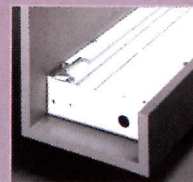
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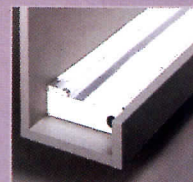
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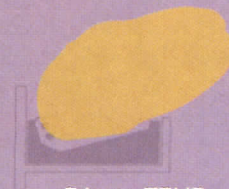
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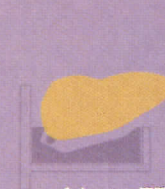
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CIRCLE 73 ON INQUIRY CARD

# Shapely columns and circles of light echo the curves of luxury cars on display in a London showroom

By **Nayana Currimbhoy**

**I**n the H.R. Owen Ferrari showroom in London, shapely architectural forms and pools of light complement the curvaceous sports cars on display. For architect Alex Pickford, of the London firm Gooch Webster, and lighting designer Lee Prince, a partner at Light & Design Associates, the mandate was to design a clean, well-lit environment that put the flashy automobiles on center stage during the day. Shifting gears to a more theatrical evening look, the architects orchestrated

*Nayana Currimbhoy is a New York City-based freelance writer and frequent contributor to RECORD LIGHTING.*

a dramatic play of light to capture the attention of window-shoppers.

“It’s after work that people really linger along the street of storefronts and peer inside,” says Price. The designer’s exuberant illumination at Ferrari provides passersby with plenty to look at: a space radiant with glowing pools of white light, a mysterious, hovering disk, and a choreographed dance of spotlights framed by windows outlined with lights.

Housed within the 3,200-square-foot ground-floor space of a new building in London’s Docklands business district, the showroom features 20-foot-high ceilings with a small office mezzanine to keep the auto display area open. To accommodate three structural columns that inter-



Columns inspired by Frank Lloyd Wright's Johnson Wax Administration Building feature T8 uplights.



rupted the vista across the main floor, the design team shaped them into sculptural elements that evoke Frank Lloyd Wright's classic 1939 interior of the Johnson Wax Administration Building in Racine, Wis. "Johnson Wax has long been a favorite historic interior of mine," Prince says, "and we thought similar mushroom-shaped columns would complement the soft, almost organic shapes of the Ferrari models on display."

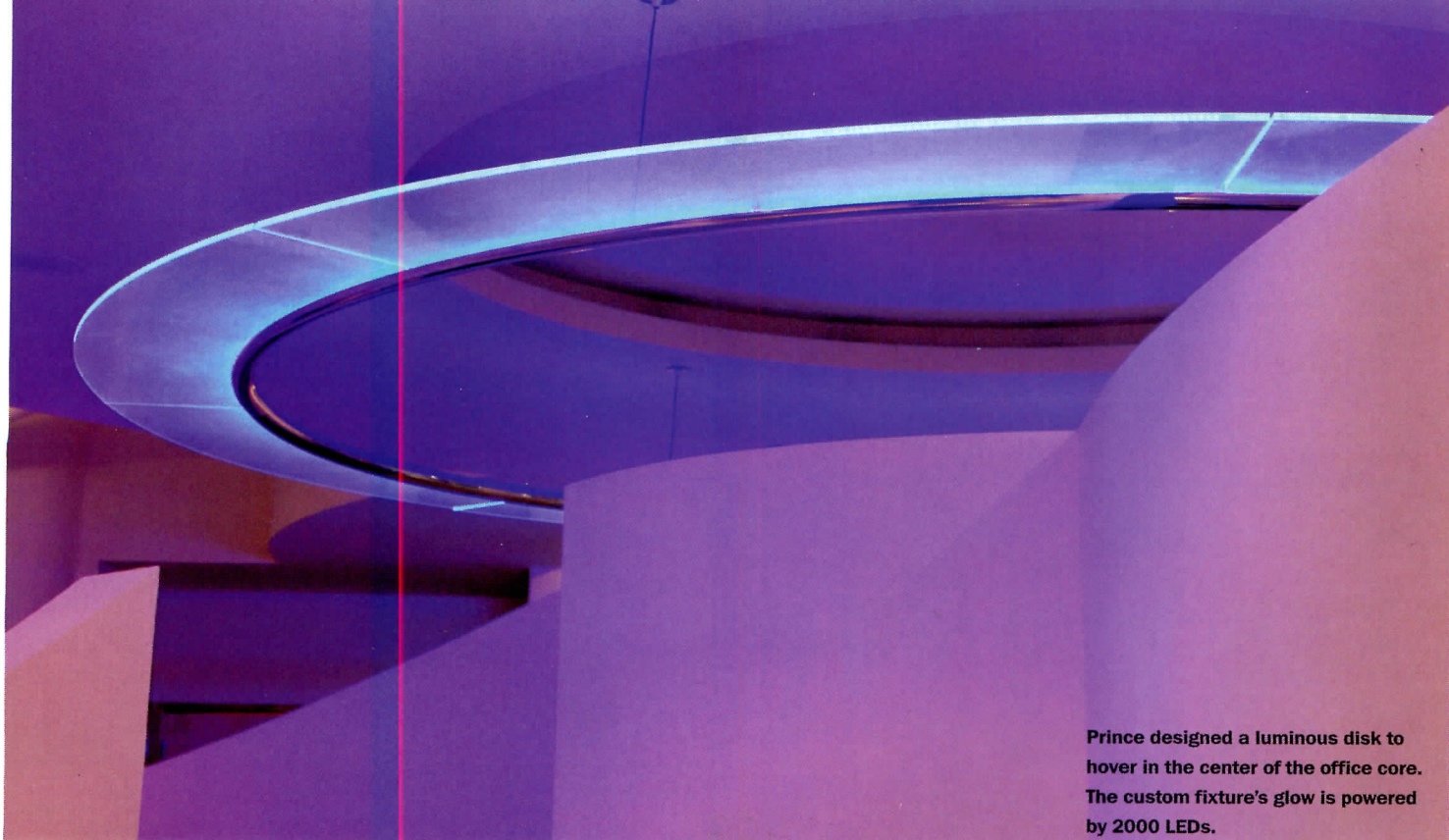
Each column capital houses four clusters of three-directional 150-watt metal-halide lamps with a color temperature of 3000K. Serving as the principal downlighting component, the fixtures provide ambient daytime illumination to envelop the colorful cars. In addition,

each column incorporates two forms of indirect lighting. A 24-volt xenon linear strip creates an accent at each column collar position, uplighting the mushroom head. A series of linear T8 fluorescent luminaires uplight the ceiling above each mushroom head, producing layered halos that emphasize the grand scale and eccentric shape of the columns.

In the evenings, the field of Ferraris moves into party mode. As the showroom closes, ambient downlights are turned off, leaving the mushroom heads ringed with light. The Ferrari logo, a prancing black horse, is silhouetted along one curved wall with low-voltage 0.5-watt lamps. Low-voltage lamps with 24-degree beam spreads are also floor-

Low-voltage accent fixtures uplight the logo wall (opposite), while 150-watt metal halides mounted atop columns provide ambient downlight. A xenon strip supplies desk footlight. Fiber-optic eyeball fixtures are located below the stair treads.





Prince designed a luminous disk to hover in the center of the office core. The custom fixture's glow is powered by 2000 LEDs.



mounted beside each window to uplight the window reveals. This layer of light frames a backdrop that lets the cars stand out like sculpture.

Three ceiling-mounted infrared-controlled programmable spotlights create a kinetic light show. "The spotlights are choreographed to conduct a ballet of light over the cars," says Prince. The luminaires graze the car bodies with streaks of light, as they fade, blink, and dance over architectural forms and signage.

A signature lighting element hovers in the center of the space. The glowing LED light sculpture hanging over the reception desk was custom-designed by Prince, who did not expose electrical connections or obvious light source. "It simply hangs in space and radiates light," says Prince, gleefully refusing to reveal additional details about his mystery light, except that it uses 2000 LEDs. An array of recessed, ceiling-mounted MR16s provide ambient downlight for the reception area. A xenon strip concealed at the bottom of the desk completes the futuristic light composition.

The theme of soft forms and curves is carried through upstairs, with the shape of the mezzanine, spiral staircase, and furniture. Above the staircase, a circular cove glows with three bands of recessed fluorescent uplights. Office uplights are supplemented by recessed compact fluorescent downlights with mirror reflectors to diffuse the beam, so as not to detract from the glowing cove. Two light projectors using 150-watt, 3000K metal-halide lamps, each with glass cables, deliver low-level lighting to stair treads through adjustable eyeball lenses, creating the illusion of walking up through a pool of light. ■

**Project:** *H.R. Owen Ferrari showroom, London*

**Architect:** *Gooch Webster—Alex Pickford, principal architect*

**Lighting designer:** *Light & Design Associates—Lee Prince, IALD, partner-in-charge*

#### Sources

**LED light sculpture:** *Arc Lighting*

**Adjustable downlights:**

*Targetti Sankey*

**Edge lighting:** *Intralux UK*

**Signage and fiber optics:**

*Continental Lighting*

# Evaluating the right light for offices

**DOES BETTER LIGHTING REALLY IMPROVE PRODUCTIVITY? THE VERDICT IS STILL OUT, BUT TWO NEW STUDIES HOPE TO QUANTIFY THE VALUE OF ILLUMINATION UPGRADES.**

By Lindsay Audin

**I**t seems like a logical supposition: improving the lighting in an office environment can increase worker productivity. Yet the preponderance of workplace illumination studies over the years have yielded inconclusive results; a direct relationship between lighting quality and productivity has never been adequately documented. One stumbling block has been how to quantify lighting quality. And without a standard method for evaluating the economic benefits that can be predicted from improvements in lighting quality, lighting practitioners find it difficult to justify to clients the added expense of upgraded fixtures.

Now two research programs, one sponsored by the federal government and the other by the lighting industry, are addressing the relationship between lighting and productivity. Both the Vision 2020 Lighting Roadmap and the Light Right Consortium aim to transform lighting design in many ways, not the least of which is to study it as an ergonomic, quantifiable issue, just as office chair design and indoor air quality have been examined.

## Vision 2020

“Vision 2020: The Lighting Technology Roadmap” is the outgrowth of a year-long program sponsored by the U.S. Department of Energy (DOE). The project has supported industry-wide discussion of the priorities for improving lighting, examined potential barriers to achieving those goals, and mapped out strategies to overcome the roadblocks. Vision 2020 held workshops and brainstorming sessions with a wide range of lighting stakeholders, including manufacturers, designers, representatives of the DOE and U.S. Environmental Protection Agency, trade associations, end users, and utility companies.

In its vision statement, Vision 2020 identifies a variety of ways in which better lighting can be achieved. At the top of its list is to “enhance the performance and well-being of people who work under electric lighting.” The Roadmap predicts that “in businesses, advanced lighting will support the relentless drive to increase productivity and value-creation, and to reduce costs.”

To reach that end, the report states, significant problems must be overcome, including “the lack of a strong business case for advanced lighting that can drive end-user demand. Many case studies point to the advantages of high-quality lighting in improving productivity, employee retention, error-reduction, and workplace safety. . . . Yet these benefits have not yet been adequately documented, measured, and communicated to make a compelling case to tenants and building owners.”

*Lindsay Audin is the president of Energywiz, Inc., an energy and technology consulting firm (www.energywiz.com).*

The project’s wish list of solutions includes:

- objective definitions and metrics for lighting quality
- increased scientific knowledge of how lighting impacts human psychology, health, and productivity
- work-performance research to help make the marketing of quality lighting more effective, as has been done with ergonomic furniture.

Vision 2020 covers much more than just employee productivity. The entire text of the Roadmap report can be downloaded at: [www.eren.doe.gov/buildings/vision2020](http://www.eren.doe.gov/buildings/vision2020).

## The Light Right Consortium

Talking about better lighting is easy, but how will such lofty goals become reality? Involving many of the same people, agencies, and vendors as Vision 2020, the Light Right Consortium is a focused industry effort to establish an acceptable methodology for illustrating the impact of lighting quality on work productivity.

Carol Jones, market transformation leader at Light Right, approaches this effort with an attempt to define why such links have left many with a cynical attitude. “People are gun-shy about this work,” she says. “But this is not a fishing trip; our work is aimed at research yielding positive results for the marketplace.”

Light Right is based at the Battelle division of the Pacific Northwest National Laboratory, a federally sponsored think tank pursuing energy-related research and overseen by an independent research/technical advisory committee. During Light Right’s 22-day kickoff workshop last January, David Wyon, Ph.D., demonstrated how he had established a link between indoor air quality and employee productivity. His “linked-mechanism methodology” was then adopted as the model that will be used to determine if a similar link exists with lighting quality.

Light Right follows a three-phase approach. In Phase 1, completed last year, Ducker Research Corporation was retained to establish that lighting customers were sufficiently concerned about employee productivity and comfort to respond when given options that could affect them. Among its findings, Ducker discovered that an average firm spends \$13 per square foot per year “to maintain productivity” through such efforts as ergonomic furniture and employee accommodations. That is more than eight times the amount it spends on the energy used by lighting.

Over the next three years, Phase 2 will take on some of Vision 2020’s tasks in an attempt to overcome some of the barriers it cited. In Phase 3, the consortium will use its research to develop a cost-benefit tool to help lighting practitioners demonstrate, in advance, the benefit that employers can expect by improving lighting quality in their facilities.



To develop such a tool, a consistent, accepted definition of what constitutes quality lighting must be established. Light Right plans to adopt the new "IES Lighting Design Guide," featured in Chapter 10 of the 2000 edition of the *IES Lighting Handbook*. Rather than focusing on the quantity of horizontal illumination as calculated using the venerable Room Cavity Method, the guide incorporates multiple criteria for defining quality. For example, vertical surface luminance and the use of lighting controls have been added.

Beyond workplace gains that result from merely overcoming obviously poor lighting conditions (such as insufficient task illuminance), this

## A LIGHTING INDUSTRY CONSORTIUM IS DEVELOPING A STANDARD METHODOLOGY TO SUPPORT WORKPLACE LIGHTING TESTS.

project will also quantify productivity improvements relative to standard designs using T8 lamps, electronic ballasts, no dimming controls, and compliance with present horizontal illuminance standards.

Light Right understands that its job is difficult; many others have failed to establish such quantitative links. Two recent studies by experienced researchers at the Lighting Research Center of Rensselaer Polytechnic Institute found no connection between employee productivity and improved lighting distribution or control. In the first study, no difference occurred among subjects working under three different luminaire arrangements having the same horizontal task illuminance. Two involved different layouts and sizes of deep-cell parabolics (with differing wall illuminances), while the third used direct-indirect fixtures. Comments by the study's peer reviewers, all veteran lighting professionals, were telling: "We must conclude—disappointing though it is—that lighting quantity and task

difficulty remain more critical variables for determining task performance than lighting quality." Another participant concluded, "While I have often suspected that those outside our profession do not necessarily appreciate 'good lighting' the way lighting folks do, I had hoped that they were still being affected by it, either in mood, task performance, or something."

The second study offered subjects the option of dimming fixtures through individual controls. It concluded, "Having the lighting control system does not put the subjects in a more positive mood, nor make the subjects more alert. Rather, the level of alertness decreases over the day in all three [test] offices. . . . Being able to adjust the illuminance with the control system does not affect the performance of the visual tasks."

And what about "soft" office work in which productivity is difficult to measure? Indeed, it is hard enough to quantify the existing productivity of an artist, a researcher, or editor. How is one to then measure a change in output due to a lighting adjustment? Variables in the field are also difficult to control. Even a small change in performance must be sustained to be accepted as a basis for spending more on a lighting installation. Therefore, Light Right plans to examine improvements to productivity over many months instead of the often shorter periods involved in lab analyses. "The main thing is to shift buying behavior while maintaining scientific integrity, not necessarily to create in-depth proofs," says Jones.

Such research could also create difficulties. Suppose that, while controlling for other variables that could affect productivity, it was found that regular office parties raised productivity dramatically? Or that downsizing reduced it? Some Light Right supporters might not be so happy with such results. And what if the main impact found is only on the output or comfort of lighting designers or aficionados who notice differences in lighting quality? For observers wishing to stay up-to-date on the latest findings, Light Right expects to launch its Web site by November. ■

## B A L D I N G E R

*The Adam D. Tihany Collection presents new ways to shape, reflect and disperse light. Bazak is one of three new ADA compatible designs, each beautiful in line and detail, inspired by the French Art Deco masters of the 1920's.*

*Adam Tihany*



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Beveled traditional metal trim ring

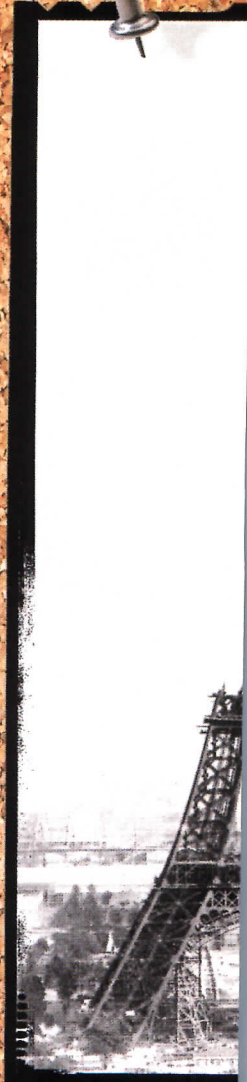


Rolled accent ring

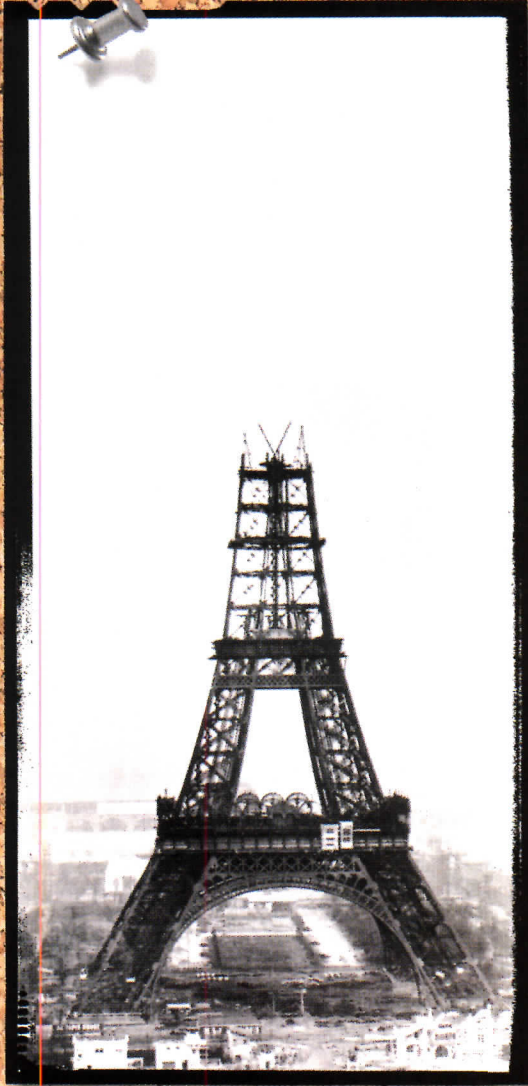


Cast metal back plate and arm

# E V O L U T I O N O

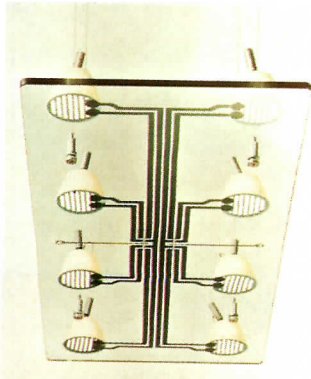


F A M O N U M E N T



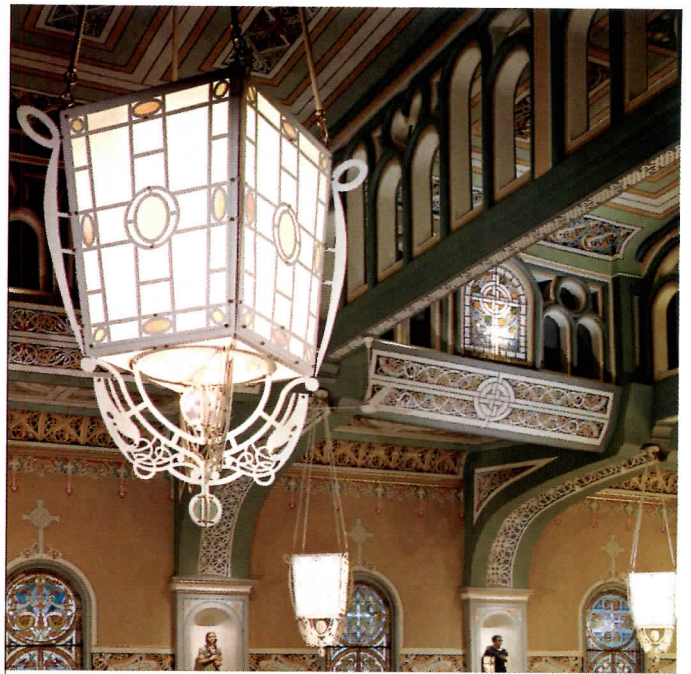
CIRCLE 78 ON INQUIRY CARD

## Lighting Briefs



### ◀ Anything but flat lighting

The Lastra chandelier provides direct or accent lighting with individually aimed fixtures. Electrical current to each individual fixture is distributed by silk-screening flat wire with protective ceramic coating over the tempered glass configured to simulate a circuit board. Six or eight 35-watt MR11 halogen lamps with an individual aiming wand are each housed in white glass over a series of glare-reducing louvers. 800/939-3567. Flos USA Inc., Huntington Station, N.Y. **CIRCLE 200**



### ▲ Luck of the Irish

The authentic Celtic fixtures that hang in the main sanctuary of the newly renovated Old St. Pat's Church in Chicago were created by New Metal Crafts from a design by Booth-Hansen Architects. The 5½-foot-high lights feature a Celtic metal scrollwork and special acrylic panels with oval glass-jewel inserts in green or amber colors. Each fixture has four uplights and four downlights with special angled louvers, and 12 general lamps. Built in 1853, the church survived the Chicago fire of 1871. 800/621-3907. New Metal Crafts, Chicago. **CIRCLE 202**

### ▶ Yellow brick road

Featuring a rugged plastic housing with a strong, frosted, tempered-glass lens, the Paver, illuminated by Optiance Endglow cable, can be easily mounted within a variety of paving stone configurations, concrete pour, or wall stone applications. Lamp replacement takes place at a conveniently located remote illuminator equipped with a long-life H.I.D. lamp. 912/924-8000. Cooper Lighting, Americus, Ga.



**CIRCLE 201**

### ▼ Leaning tower of light

The Leaning Torchère is a new fixture for soft, general lighting. It combines direct light through the internal diffuser and big perforations, and indirect light that comes out the open top of the fixture and bounces off the ceiling. No hard wiring is required for the fixture. To install, users need only fasten a small plate to the wall to support the fixture. The light can take up to a 300-watt standard lamp or a 250-watt halogen T10 lamp. Appropriate for residential, restaurant, or retail lighting, the light's cone is made of natural aluminum and comes in a standard steel-painted silver gray powdercoat. 718/625-7661. Fabulux Inc., Brooklyn, N.Y.



**CIRCLE 203**

### ▶ Dramatic candelabra

Brindisi, a new catalog from Norwell Manufacturing, presents 15 contemporary models with an Italian influence. Most have imported curved opal glass that has been sanded or etched. The pendant shown here, featuring glass and a brushed nickel finish, can be used for either residential or commercial interior applications. The light is 24 inches wide by 16¼ inches high, with six 60-watt candelabra lamps. The light also comes as a nine-lamp pendant and as a single lamp sconce. 800/822-2831. Norwell Manufacturing, East Taunton, Mass. **CIRCLE 204**



### ◀ Memory lane

KellyArc Lighting produces custom wall sconces that hold nine backlit images placed on thin slates of glass—shown here at the Vaux Restaurant in Brooklyn, N.Y. All KellyArc lights, including table and floor lamps, use a combination of photographic images (stock or custom), which can be reproduced at any size and sandwiched in colorful stained-glass panels with aluminum or steel frames. 212/274-9010. KellyArc Company, New York City. **CIRCLE 205**

# EVOLUTION ON A MONUMENT



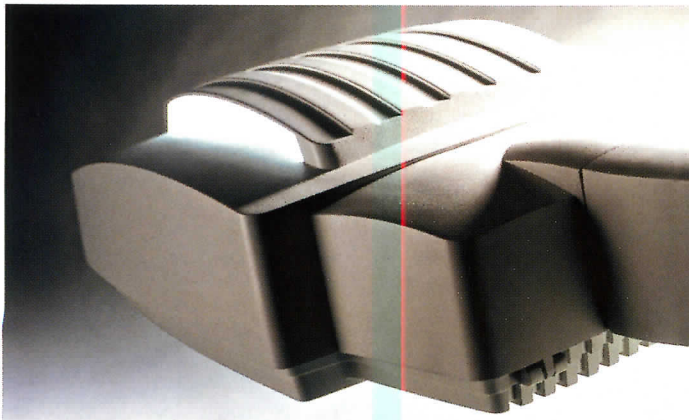
## Introducing The Ultimate Architectural Downlight

It was a gift to the world. One of the nineteenth century's greatest engineering feats. And today, 102 years after its completion, the Eiffel Tower remains a monument to Mankind's relentless drive to scale new heights. How appropriate, then, that we light—and enliven—this faithful replica using Calculite EVOLUTION, the new zenith in architectural downlighting. EVOLUTION's precision adjustable optics deliver complete aiming flexibility, while low brightness apertures minimize glare and source detection. To see this major downlighting achievement for yourself, visit EVOLUTION at [www.lightolier.com](http://www.lightolier.com) or contact your local Lightolier representative.

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# Lighting Briefs

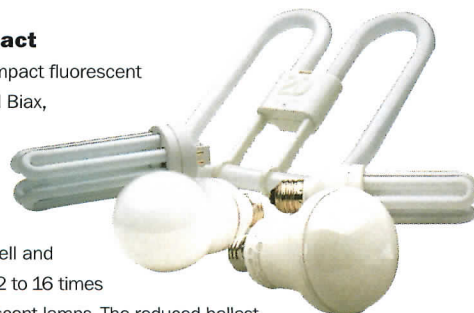


### ▲ Improve the outdoor environment

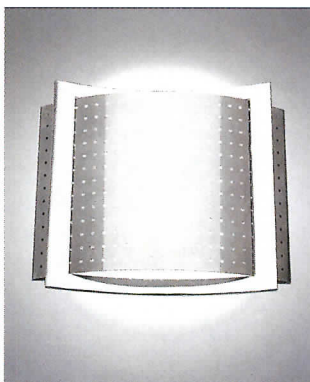
Paradigm outdoor-area and roadway fixtures are characterized by a large-scale, rectangular-shaped, die-cast housing with rounded edges and a raised, curved top. Optional Edgeglow windows on three sides of the curved top may be specified in clear or colored lenses that emit a soft light around the fixture. Mounting arms can be specified to accommodate single-, dual-, or quad-fixture heads. A hidden latch in the housing allows easy tool-less entry for efficient cleaning and relamping. 847/451-0040. Quality Lighting, Franklin Park, Ill. **CIRCLE 206**

### ► Shapely and compact

GE Lighting's new line of compact fluorescent lamps includes the Slimshell Biax, the three-way and dimmable Quad Biax, the Incandescent Shape, the Spiral, and the Post Light.



At 12,000 hours, the Slimshell and Quad Biax offer a life up to 12 to 16 times as long as standard incandescent lamps. The reduced ballast diameter and GE amalgam technology mean the Slimshell and Quad Biax lamps can be used in a broad array of applications by providing higher light output over a wider range of ambient temperatures. 800/GE-LAMPS. GE Lighting, Cleveland. **CIRCLE 207**



### ◀ Accessorize with light

The Beltbuckle sconce features a perforated horizontal faceplate, set off against a brass backplate, creating a "belt buckle" effect. The sconce has a single four-pin, 26-watt triple-tube compact fluorescent lamp; it mounts to a standard outlet box and meets ADA requirements. The faceplate may be specified in "Angel Hair" aluminum, clear anodized aluminum, ebony satin steel, or titanium finishes. 914/698-7799. Nessen Lighting, Mamaroneck, N.Y. **CIRCLE 208**

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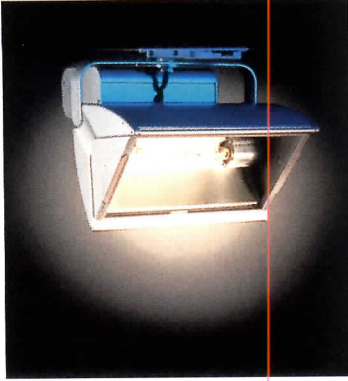
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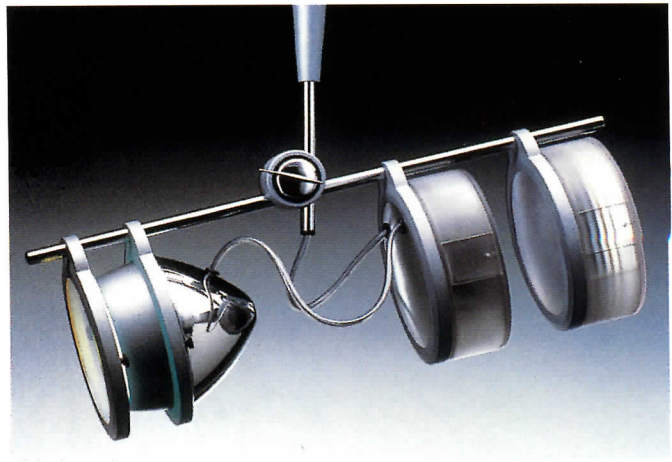
## Lighting Briefs



### ◀ Warm wash

The MQM70 series is a metal-halide wall washer with a computer-designed reflector and a 70-watt double-ended metal-halide lamp. Recommended for medium- to long-throw applications, the series is an ideal choice for wall washing in malls, atria, and retail spaces. With a 10,000-hour life, the light is available in warm and neutral light. 800/999-9574. Lighting Services Inc., Stony Point, N.Y.

CIRCLE 209



### ▲ A head for lighting design

Created by a professional lighting designer, the Smarthead ceiling-suspended and track-lighting system employs a range of light sources encompassing line and low voltage, discharge, par lamps, and optical accessories (chromatic, protective filters, and lenses). Smarthead is particularly suited for use in retail stores, product showrooms, museums, and art galleries. The system consists of thin, adjustable mounting stems, low-profile lightheads, and add-on aluminum rings that house an array of accessories. The light comes in a choice of low-voltage halogen, PAR36, AR111, and MR16 lamp options. 714/957-6101. Targetti-Tivoli Inc., Santa Ana, Calif. CIRCLE 211

### ▶ This way to the egress

The universal mounting option of extreme all-conditions exit signs allows for the on-site choice of top, back, conduit, or end mounting. The signs are constructed of cast-aluminum and shielded by a UV-stable polycarbonate cover secured by tamperproof screws. 770/922-9000. Lithonia Lighting, Coyers, Ga. CIRCLE 210



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## hours of fire resistance



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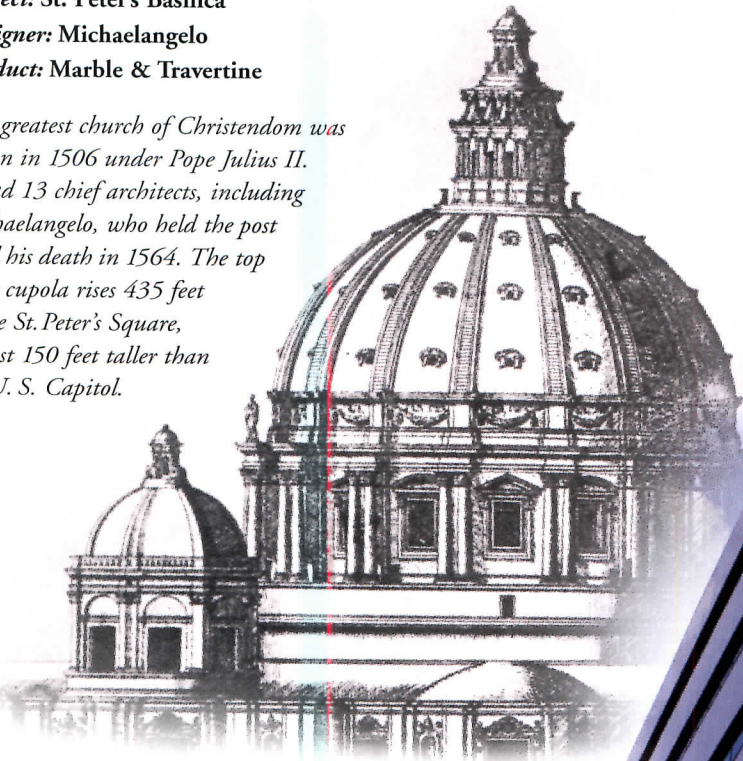
## 16th CENTURY STONE

*Project:* St. Peter's Basilica

*Designer:* Michaelangelo

*Product:* Marble & Travertine

*The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.*



## 21ST CENTURY STONE

*Project:* Capital Commons

*Architect:* Smith, Hinchman & Gryllis Associates, Inc.

*Product:* ALPOLIC® Red Granite

*This seven-story, six-year-old building was reclad with ALPOLIC STONE SERIES®, utilizing a dry gasketed aluminum composite panel system. The entrances were clad with ALPOLIC® red granite stone series aluminum composite material that weighs only one pound per square foot.*



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# New Products

Solar building technologies use the nonpolluting power of the sun to help heat, cool, and power buildings. The products on the following page address the other side of the coin—how to protect our buildings (and ourselves) from the damaging effects of the sun. *Rita F. Catinella*

## Discovery Center's cube sculpture helps to demonstrate the power of the sun

The "Solar Cube," a towering 13-story sculpture with a 20 kW PV array, attracts visitors to the Discovery Center in Santa Ana, Calif. The electricity created by it is used in the center, with excess power fed to the local utility company.

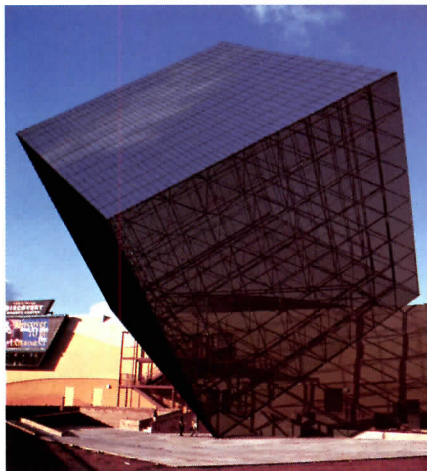
Over 500 BP Solar Millennium modules are used on the cube. These modules have advanced thin-film technology: an integrated circuit of solar cells is formed in place on the front glass by depositing silicon directly from a gas in a very thin film (.003 mm).

The fabrication of these units requires a fraction of the silicon used in conventional crystalline silicon PVs and is highly automated. The reduction in materials and labor over traditional PV manufacturing offers the promise of mainstream applications for thin-film PV on homes and buildings

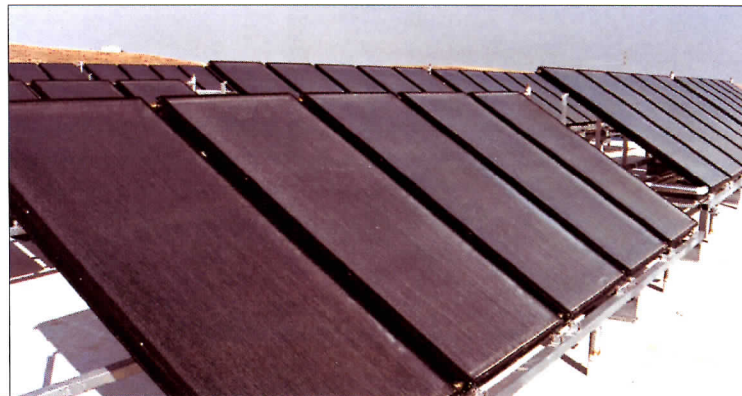
in the not-to-distant future.

BP Solar claims many firsts in the industry, including being the first company to make monocrystalline, polycrystalline, and thin-film technologies a commercial reality. 410/981-0240. BP Solar, Linthicum, Md.

**CIRCLE 212**



The "Solar Cube" sculpture at the Discovery Center in Santa Ana, Calif.



## Solar collectors keep buildings in hot water

Heliodyne solar-heating products have been specified for residential and commercial installations across the U.S. and abroad since the mid-1970s. Specified by private and public architects, engineers, and designers, Heliodyne systems have been installed on navy bases, national and state parks, fire stations, city halls, universities, clubs, retreats, apartments, and homes.

Gobi solar collectors are liquid flat-plate collectors designed to heat residential hot water, industrial process hot water, pools and spas,

and to provide space conditioning in air or hydronic applications. Gobi collectors carry both U.S. and European certifications with high ratings. The products feature easy installation and integrated mounting hardware. Certified residential packages include AC- and PV-powered domestic hot water. Space-heating packages combined with domestic hot water and pools are available for radiant floor heating or forced-air heat distribution. 510/237-9614. Heliodyne Inc., Richmond, Calif.

**CIRCLE 213**

## Wind- and solar-energy hybrid power system

EcoEnergies, a sister company to Photovoltaics International, provides a range of renewable energy systems, including high-quality flat-plate modules, small wind-power systems, a commerce-sized UPS (uninterrupted power supply) system, and energy-efficient lighting and load-management products.

Using a "net metering" arrangement with Pacific Gas & Electric, the renewable-energy hybrid power system is designed to provide virtually all the annual electricity requirements of a home or commercial

building. Net metering measures the difference between the electricity an owner buys from the utility and the electricity the owner produces using his or her own equipment.

In the residential application shown here, the system comprises five main components: A 7.2 kW concentrating PV array that tracks the sun from east to west each day; a wind turbine rated at 400 W in 27 mph winds that is connected in parallel with the PV panels; a 10 kWh battery bank standing by to provide up to three days' worth of energy to



A renewable energy hybrid power system from EcoEnergies.

the critical house loads in the event of a grid outage; and a power panel that provides disconnect and over-current equipment for the PV system. 408/731-1229. EcoEnergies, Sunnyvale, Calif. **CIRCLE 214**

### SOLAR POWER OPTIONS:

#### Conserval Systems Inc.

Buffalo, N.Y.  
716/835-4903

#### Currin Corporation

Midland, Mich.  
517/835-7387

#### Kawneer Co., Inc.

Norcross, Ga.  
770/449-5555

#### PowerLight Corporation

Berkeley, Calif.  
510/540-0550

#### Solar Outdoor Lighting

Palm City, Fla.  
561/286-9461

## New Products



### ◀ Love is blinds

Solar Scrim reduces radiant heat, ultraviolet rays, and glare while allowing a clear view outside. The system is durable, fade-resistant, fire-resistant, dimensionally stable, and antistatic. Solar Scrim is available as roller shades with a clutch lift mechanism, or motorized as removable fixed screens for interior or exterior applications. 914/592-4545. Window Modes Ltd., Elmsford, N.Y.

**CIRCLE 215**



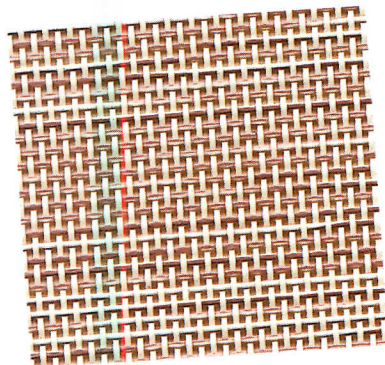
### ◀ One film you'll never see

Vista UVShield window films reject 99.9 percent of all damaging ultraviolet rays. In addition to blocking ultraviolet rays, Vista UVShield films control other elements of solar energy, helping to reduce glare, excessive heat gain, hot spots, and wasted energy. In recognition of its protective qualities, the Vista UVShield was awarded the prestigious Seal of Recommendation by the Skin Cancer Foundation. 540/627-3000. CPFilms Inc., Martinsville, Va.

**CIRCLE 216**

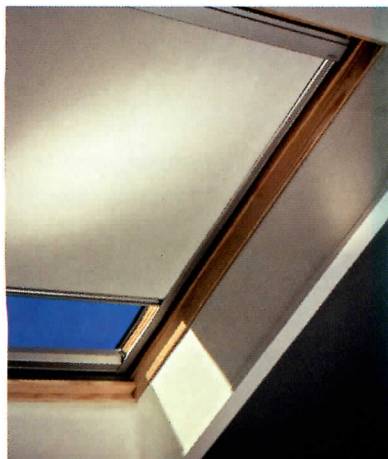
### ▶ Shady character

SunTex exterior shading fabric is made of strong vinyl-coated polyester. Developed originally for use in outdoor furniture, SunTex is mildew- and fade-resistant and is ideal for use as a shading fabric on windows, doors, and porches. The fabric is available in brown, black, gray, and stucco (shown). The darker colors provide maximum glare reduction and visibility. 800/633-5955. Phifer Wire Products Inc., Tuscaloosa, Ala. **CIRCLE 217**



### ▶ Solar control from a seated position

In response to the larger expanses of glass that architects and designers are incorporating into homes and offices, Lutron and VIMCO have introduced the Sivoia motorized window-shading system. The system features a quiet motor, multiple preset stop points, and wall or handheld infrared controls. Sivoia systems can be designed with a wide variety of high-style designer fabrics. 800/523-9466. Lutron Electronics Co. Inc., Coopersburg, Pa. **CIRCLE 218**



### ▼ For those quiet moments

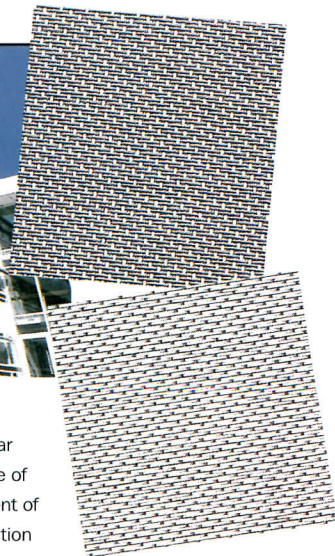
The performance of sun-screening accessories for skylights and roof windows is especially important since these products are significantly more susceptible than regular windows to direct sunlight, according to Gary Hyman, director of marketing for Velux. Recent tests conducted by Tait Solar Co., of Temple, Ariz., indicate that Velux sun-screening accessories substantially improve a

skylight's ability to reduce unwanted heat gain and solar radiation when combined with the company's ComfortPlus Glazing. The electric LightBlock shade (shown) blocks out bright sunlight with the touch of a button, while the Manual Pleated Shade, which can be operated manually or electrically, features a special coating on the exterior side that acts as a heat barrier. 800/283-2831. Velux-America Inc., Greenwood, S.C. **CIRCLE 219**



### ▲ Getting light to work

The Screen Plus sunshade offers two levels of solar protection, although it is woven from a single piece of fabric. The upper section of the blind lets 22 percent of the outside light pass through, while the lower section provides increased filtration. Owing to a tighter weave, only 6 percent of the outside light passes through the lower section. This dual level of solar protection provides better distribution of the light, which is concentrated in the upper part of the room. +33/0472/444000. Hexcel Fabrics, Cedex, France. **CIRCLE 220**



# Save your energy. Humidify with Mee Fog.



**M**ee Fog high pressure humidification systems can help you meet tougher IAQ standards far more cost-effectively than other humidification methods. The concept is simple. High pressure water is forced through the special Mee Fog nozzles, which atomize the water into billions of quickly evaporating micro-fine fog droplets. No heat or compressed air is needed.

#### **Dramatic energy savings.**

By using just one horsepower to atomize 500 lbs of water, Mee Fog uses a mere 3% of the energy of compressed air systems and less than 1% of steam. Year after year, the energy savings are nothing short of extraordinary.

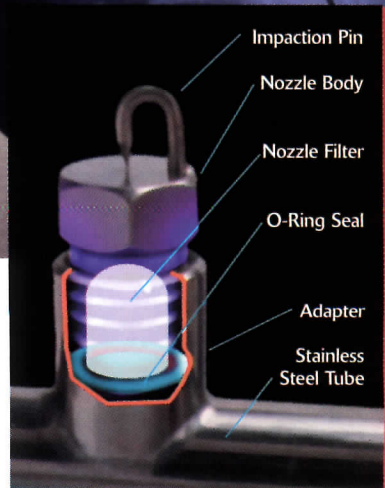
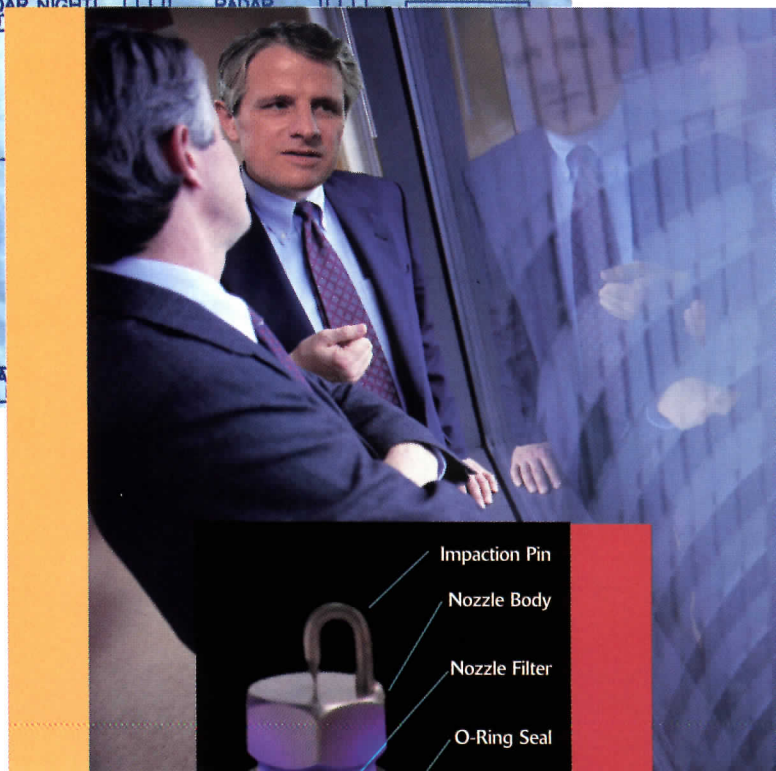
#### **First-cost savings, too.**

Mee keeps equipment and labor costs down, as well... especially in sites where 200+ lbs. of water/hr. are needed.

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Mee Industries brings a great deal of experience to commercial building humidification. Our high pressure fog technology is mature and has been field proven in numerous applications for decades.

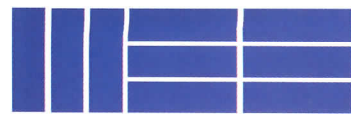
Founded in 1969 by former Cornell University research scientist and atmospheric physicist Thomas Mee, Mee Industries wrote the book on high pressure fog humidification.



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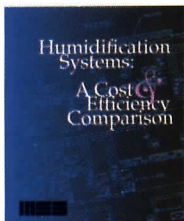
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800-732-5364

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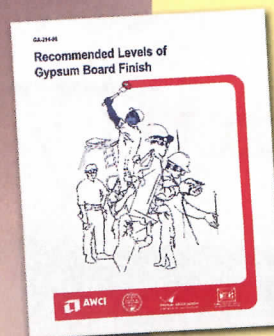
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## Product Briefs



### ▲ Conference room LCD projector

The XG-V10WU conference series projector is ideal for large conference rooms, lecture halls, and custom professional installations. The projector comes with a software application package that enables users to monitor and control the device remotely; it also offers simple network and video wall capabilities. This software allows the projector to self-diagnose, locate, and detect system errors. It can then send an error message to the control PC, informing the appropriate parties that maintenance is required. 888/GO-SHARP. Sharp Electronics Corporation, Mahwah, N.J. **CIRCLE 221**

### ► Healthy gel

The chairs of the new K&K collection are a collaboration between Offix Klass, Royal Medica, and TechnoGel GmbH. The padding of the collection is made of TechnoGel, a polyurethane substance developed in the medical field by Royal Medica under the license of Bayer. Technogel is manufactured without the use of adhesives, plastic coverings, or seams. It contains no plasticizers and is nontoxic. The material conforms to the body shape, achieving a high degree of weight distribution and pressure absorption. +39/0432/744944. Offix Klass S.p.A., Udine, Italy. **CIRCLE 223**



### ▲ Handy security

Von Duprin has added the Recognition Systems HandKey IIv to its family of electrical security products. In less than a

second, HandKey IIv hand reader verifies your identification by the size and shape of your hand, eliminating the hassle of cards or keys. The product contains a complete door controller for entering and exiting and is compatible with most electrified locks, including electromagnetic locks, electric strikes, and electrified exit devices. The hand reader is designed for single opening applications and is used as a stand-alone system in applications such

as computer rooms, supply rooms, executive offices, pharmacies, fitness centers, and Internet data centers. 800/999-0408. Von Duprin, Indianapolis. **CIRCLE 222**



### ▲ Contemporary storage

One of the head-turning pieces at this year's ICFF was the Modu-licious storage system from Blu Dot. The system is offered in six different components that

may stand alone or be grouped with others (stacked or placed side by side) to create a wall unit. Door and drawer fronts are painted powder-coated steel either in the six colors accompanying the maple veneer, or the four colors accompanying the

newer walnut veneer. The doors may be hinged to create different cutout orientations. 612/782-1844. Blu Dot Design & Manufacturing Inc., Minneapolis.

**CIRCLE 224**



### ▲ A welcome site furnishing

Designed by Kipp Stewart, the Arcata bench features a cantilevered arch frame that clears the ground to support and lift the square seat form. Arcata, which is appropriate for city parks, riverfronts, and corporate or university campuses, is available backless or backed (with arms), in select hardwoods or PolySite recycled plastic timbers. All metal parts are finished with Landscape Forms' proprietary Pangard II powder coating in a variety of colors. 800/521-2546. Landscape Forms, Kalamazoo, Mich. **CIRCLE 225**

## Product Briefs



### ◀ Glass seismic joint

W&W Glass Systems and Pilkington Glass claim to have provided the first all-glass enclosure designed to act as a seismic joint. It is located between two existing buildings at the Imperial Bank Tower, designed by Murphy/Jahn, in Costa Mesa, Calif. The glazing was point-supported by four pronged, stainless-steel, sliding spider fittings that work with a system of stainless-steel cable trusses and aluminum purlins, allowing the vault to move over six inches within a 30-foot span without breaking any of the 96 glass roof panels. 800/452-7925. W&W Glass Systems Inc., Nanuet, N.Y. **CIRCLE 226**

### ▼ Not happy with the color of that Olympic medal?

The Metallon metal coating process, offered in 25 combinations of metals and finishes, contains over 95 percent metal and is cold-spray-applied to surfaces such as vinyl, wood, polyurethane, and aluminum to give a particular metal look to the item. Metallon is available in seven natural metals, including brass, bronze, stainless steel, aluminum, nickel, copper, and iron rust. A standard, lacquered coating seals the metal finish. 800/223-6044. Metallon Inc., Parkersburg, W.V. **CIRCLE 227**



### ◀ Lazy day seating

Nxt (left), designed by Richard Frinier, is one of the new offerings from Brown Jordan in stainless steel.

The seat, as viewed from the front, presents a faceted and tapered surface; when turned sideways, the seating surface disappears into a thin line. The geometry of this design is constructed of 1/2-inch-by-1-inch rectangular tubing horizontally

and one-inch square tubing vertically. With Ocean (right), also designed by Frinier, Brown Jordan reinvents the original weatherproof ship deck recliner. Ocean, made of plantation-grown teak, has front legs accented with a distinctive S shape that widen at the foot, while its rear legs arch and flare. 562/624-4144. Brown Jordan, Long Beach, Calif. **CIRCLE 228**



### ▼ Custom creations with color

Cambridge wood flooring is shown here in 3/4-inch-by-24-inch modules in Red Oak and Quartered White Oak Background. This slight difference in coloration enables the specifier to create a custom wood floor with just a subtle difference in color that emphasizes the pattern on the floor. 502/451-6024. Kentucky Wood Floors, Louisville. **CIRCLE 229**



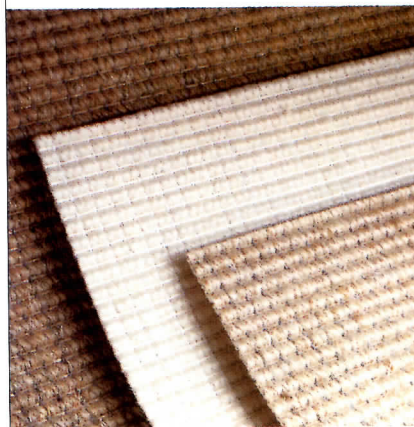
### ▲ Go ballistic

Micarta Brass ballistic-resistant armor laminates are lighter than steel, ricochet-resistant, and claimed to be the only Class A smoke- and fire-rated projectile-resistant fiberglass building material available. Brass laminate is suitable for public buildings, postal facilities, and courtrooms. 800/845-4793. International Paper, Decorative Products Division, Hampton, S.C. **CIRCLE 230**



### ▼ Naturally inspired wall carpeting

Lanai, a new wall carpet from Eurotex, works in university, gallery, club, office, and retail interiors. Lanai absorbs sound and helps control operating costs by protecting walls. The 13-foot-2-inch-wide wall carpet is woven of 100 percent wool, with a warp and weft of polypropylene. The unitary back is flame-proof; Lanai is rated Class A for flame resistance. The all-natural color palette evokes the earthiness of stone and bleached grain. Colors include sea-grass, pearl, corn, and sisal. 800/523-0731. Eurotex, Philadelphia. **CIRCLE 231**



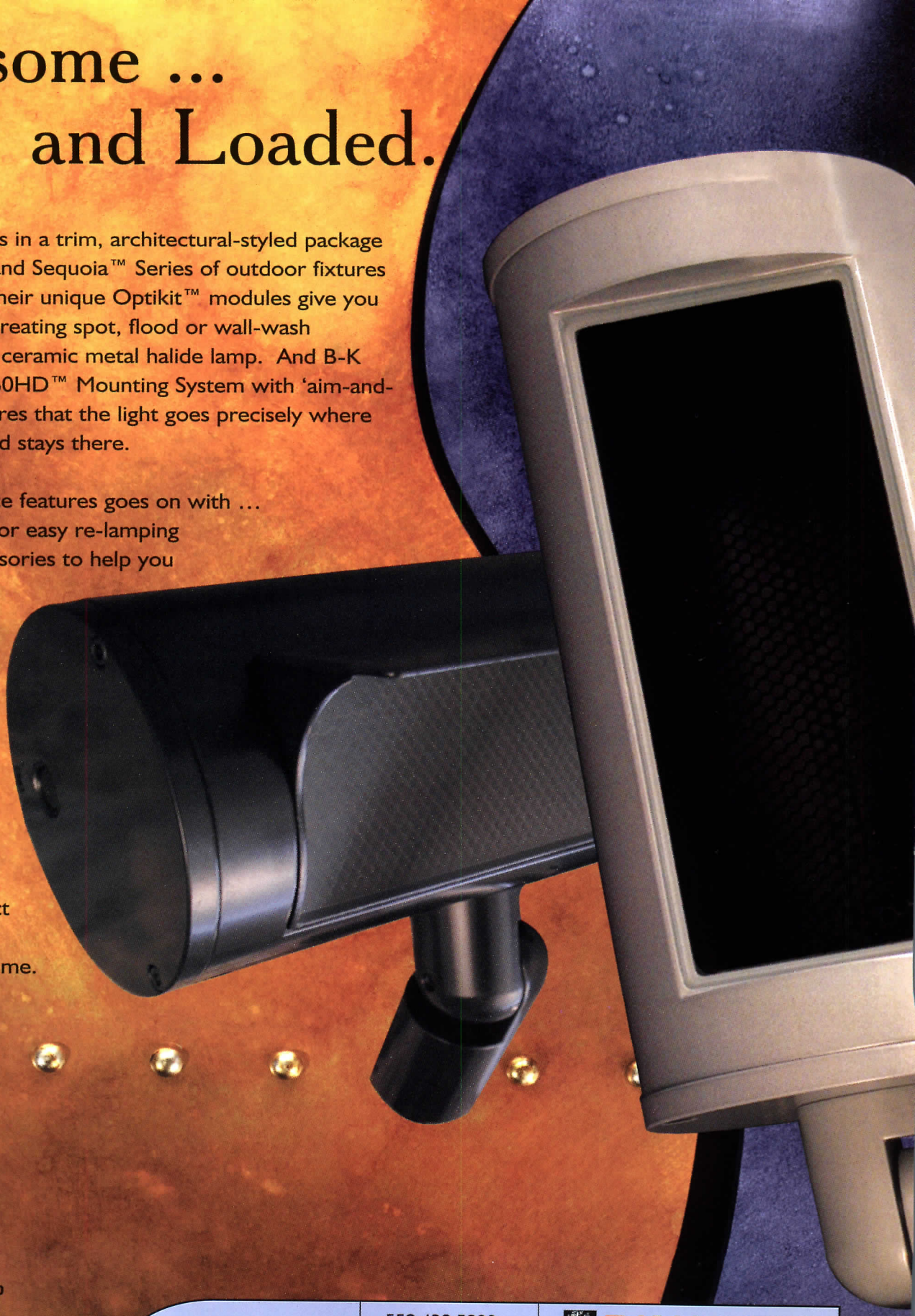
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## Product Briefs

### ▼ Closer for interior doors

The new TS 68 door closer from Dorma is adjustable to sizes 2, 3, and 4 by selecting different templating locations, making it appropriate for common interior doors up to 43 inches wide. A special template for regular mounting can enable the closer



to meet barrier-free requirements. The TS 68 closer does not require a mounting backplate, and it can be finished in aluminum, dark duranodic bronze, and gold to complement an array of design needs. The hardware is listed by U.L. and C.U.L. under their reinspection programs, and upholds the standards for UL 10C and UBC 7.2 (1997) for positive pressure. 800/523-8483. Dorma Architectural Hardware, Reamstown, Pa.

**CIRCLE 232**



### ▲ Take a seat, or ten

The Friuli region of Italy produces 44 million chairs annually; 70 percent of them are exported, which explains why the region is called "The Chair Triangle." Each year, the Promosedia International Chair Exhibition is held in Udine, the heart of the Italian manufacturing area. One highlight of the show is the annual "Top Ten Awards," which highlight chairs considered to be the most innovative in terms of research and design. Winners this year were Biemme, Billiani, Calligaris, Consorzio Eurosedia, De-Ta, Eltor, Fast, Frag (for the Panarea/s chair, above right), ITF, and Manifatture del Metauro. Billiani won "Chair of the Year" for the Spinn chair (above left) designed by Luigi Billiani. Promosedia SpA, Udine, Italy. +39/0432/745611. **CIRCLE 233**

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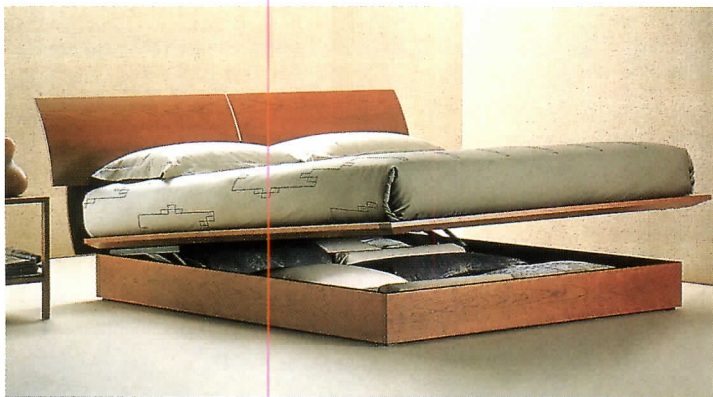
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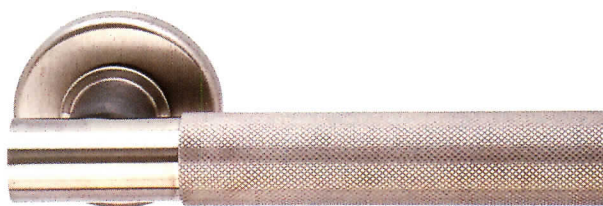
## Product Briefs



### ▲ No room for dust bunnies

The Vanja bed, designed by Vico Magistretti, now comes with a container base that gives hidden space for linens, off-season clothes, or other items. The space-saving bed was influenced by Shaker styling and features broad curves—both convex and concave—that interact to form the sculptural headboard. Instead of four legs, the platform base creates a clean, solid look. Additional bedroom furniture, including side tables, chests, benches, chairs, and love seats, are also available at Dormire.

310/393-9288. Dormire, Santa Monica, Calif. **CIRCLE 234**



### ▲ Why K2?

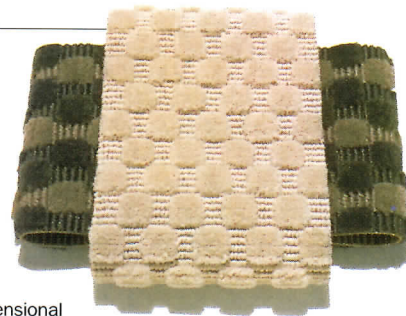
The K2 line of door handles, designed by Antonio Citterio, features cylindrical handles available in polished and satin stainless-steel finishes. A series of interlaced cuts called “knurling” gives the handles a distinctive texture. Citterio’s design is the newest addition to Valli & Valli’s growing collection of products by distinguished *architects and designers*, including Sir Norman Foster, Renzo Piano, Aldo Rossi, Michael Graves, and Robert A.M. Stern. 212/326-8811. Valli & Valli (U.S.A.), New York City. **CIRCLE 235**

### ► Carpet genus

Case Study No. 2652 sounds more like an entry in a scientific journal than a carpet from Tuva Looms.

Designed by Suzanne Tick and Terry Mowers, the new carpet is woven using natural jute backing yarns and DuPont Antron Legacy nylon on a velvet loom, resulting in a deeply dimensional

surface with an organic and rounded pattern. It is available in a 12-foot broadloom and comes in four colorways. For contract sales, Tuva Looms is distributed by Interface Americas. 212/598-1021. Tuva Looms, New York City. **CIRCLE 236**



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## Product Literature

### Commercial capabilities

Marvin's new CD features a short movie that highlights the company's background with commercial case studies. 888/537-8266. Marvin Windows and Doors, Warroad, Minn. **CIRCLE 237**

### Hardware resource

Hettich International's new resource book is a reference guide for cabinet-makers, architects, and fittings distributors. All of Hettich's 2,500-plus products are included with illustrations and detailed explanations. 770/887-3733. Hettich America L.P., Alpharetta, Ga. **CIRCLE 238**

### Flooring specification aid

Tarkett's new CD gives users immediate access to selected product lines and offers them a number of ways to view each line and to create custom designs within a line or among the lines. 800/225-6500. Tarkett Inc., Whitehall, Pa. **CIRCLE 239**

### Corporate environments

USG's new brochure gives architects, designers, and building owners detailed information about specific products designed for their corporate needs. It

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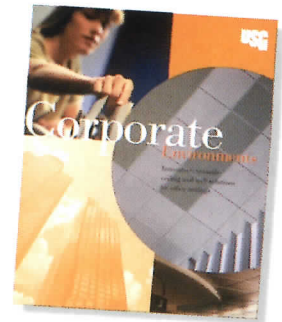
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focuses on administrative offices, atrium entry lobbies, conference areas, corridors, executive areas, open-plan offices, private offices, and rest rooms/utility areas. 800/950-3839. USG Corporation, Chicago. **CIRCLE 240**

### Downlighting guide

Hubbell's new guide provides an in-depth look at all the company's architectural, commercial, and residential downlights. 800/270-3737. Hubbell Lighting Inc., Christiansburg, Va. **CIRCLE 241**



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## Product Literature

### Industrial lighting systems

A new brochure from Holophane describes the company's line of industrial fluorescent lighting systems. The piece focuses on solutions for specific applications, including illumination for high- and low-bay manufacturing areas and lighting for warehouses. 740/349-4144. Holophane, Newark, Ohio. **CIRCLE 242**

### Washroom equipment CD

Bobrick's interactive washroom-accessory and toilet-partition product data CD features a product finder, CAD drawings, product specs, tech data sheets, and a barrier-free planning guide. 800/553-1600. Bobrick Washroom Equipment, North Hollywood, Calif. **CIRCLE 243**

### Technical guides for gypsum

The Gypsum Association introduces updated editions of two of its technical publications: the *Fire Resistance Design Manual* and *Application and Finishing of Gypsum Board*. The first includes fire resistance ratings for over 300 gypsum-protected systems; the second describes the most up-to-date industry recommendations for the proper installation and finishing of gypsum board. 202/289-

5440. Gypsum Association, Washington, D.C. **CIRCLE 244**

### Door/frame systems binder

Chicago Metallic's new architectural binder provides specific product information, three-part format specification, and detailed frame drawings for the nine-piece roll-formed frames. Drawings showing centerline locations for CMC standard hinge and strike locations are also included. 800/323-7164. Chicago Metallic, Chicago. **CIRCLE 245**

### Timely door frame CD

A new interactive CD the size of a business card is available from Timely. The nine-minute presentation on the CD focuses on the application of Timely's prefinished steel door frames. 800/247-6242, Timely, Hollywood, Calif. **CIRCLE 246**

### Software imaging technology

BoralVision 2000 is an updated version of Boral Brick's computer-imaging system for builders and architects. BoralVision allows potential homeowners to view a variety of brick on their homes before construction begins, thus expediting the selection and sale process. 800/5-BORAL-5. Boral Bricks Inc., Roswell, Ga. **CIRCLE 247**



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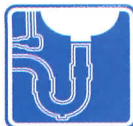
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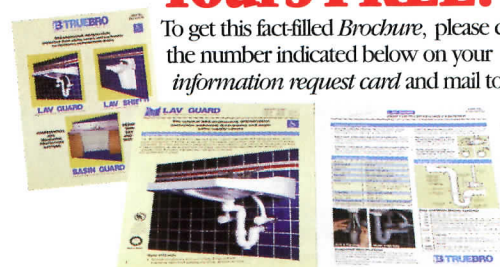
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# Dates & Events

## Calendar

### **Wood: An American Tradition Washington, D.C.**

September 9, 2000–April 22, 2001

The National Building Museum is hosting an exhibition exploring the important and varied role of wood in American architecture. For information contact 202-272-2448 or see [www.nbm.org](http://www.nbm.org).

### **Architect of Form and Spirit: Eric Mendelsohn in Saint Louis**

September 17, 2000–March 10, 2001

A major exhibit highlighting the life and work of German architect Eric Mendelsohn, designer of COCA's current home, where the exhibit will be. Call 314/725-6555; or get more information on the Web at [www.cocastl.org](http://www.cocastl.org).

### **Edoardo Gellner and Carlo Scarpa: The Church of Core de Cadore**

October 5–December 22

This exhibition explores the history and relevance of the church and the village where it is located. Call 041/710025-2571012, write [archiv-ioprogetti@iuav.it](mailto:archiv-ioprogetti@iuav.it), or see <http://oberon.iuav.it>.

### **Light, Life, Libeskind: A Look at the New Jewish Museum**

October 26, 2000–January 28, 2001

The Jewish Museum of San Francisco is presenting an exhibition of Libeskind's drawings, computer renderings, and models of its new facility. For information call 415/591-8800; or write [info@jmsf.org](mailto:info@jmsf.org).

### **Monuments, Mills and Missile Sites Washington, D.C.**

October 26, 2000–April 29, 2001

This exhibit explores 30 years of the Historical American Engineering Record (HAER), which documents historically significant engineering and industrial works throughout the United States. At the National Building Museum, call 202/2782-2448 or go to [www.nbm.org](http://www.nbm.org)

### **Riba Architecture Gallery London**

November 2000

A series of presentations: November 7 Julius Shulman speaks about Richard Neutra and Modernism in Calif.; November 14 Jon Rouse examines architecture from the perspective of the corporate investor; November 18 features a one-day symposium on many of the architectural issues shaping contemporary practice today; and on November 28, Paul Morris, of the American Landscape Institute, speaks on quality of life and smart growth. Call 020-7307-3662 or contact [hilary.clarke@inst.riba.org](mailto:hilary.clarke@inst.riba.org)

### **UCLA's Department of Architecture and Urban Design**

Los Angeles

November 2000

Two architects speak on their body of work and philosophy of design: Bernard Tschumi, November 23; Rafael Moneo, November 27. Contact Carolyn at 310/825-6540 or write [ccampbel@arts.ucla.edu](mailto:ccampbel@arts.ucla.edu).

### **Art Is Work: A Milton Glaser Retrospective**

New York City

November 2–December 8

The largest retrospective ever held in New York on the work of this well-

known American graphic designer. AIGA's Fifth Avenue gallery. 212/807-1990, [www.aiga.org](http://www.aiga.org).

### **Computers for Construction 2000 and AEC Systems**

Anaheim, Calif.

November 6–9  
The only trade show and conference dedicated exclusively to computer use by contractors. At this regional computer and high-tech event, the design and construction industries join forces. Anaheim Convention Center. 610/458-5472.

### **8th Annual CANstruction: Designers Build Big to End Hunger**

New York City

November 9–20  
The winning teams' work will be on display at the New York Design Center. The public is asked to donate a can of food as the price of admission. 212/792-4666.

### **Jewels in the Crown: The Architecture of the Savannah Plan**

Washington, D.C.

November 10, 2000–January 5, 2001

Savannah, Ga., is acclaimed as one of America's most vibrant small cities. This exhibit illustrates the architectural and cultural approach taken in creating this successful urban experience. At the Octagon, call 202/626-7387.

### **Architectural Competitions in America**

New York City

November 10, 2000–January 6, 2001

This traveling exhibition at two New York galleries reviews the legacy and utility of competitions as important historical phenomena resulting in some of the most significant built

works. For information contact Jessica Lavin, 718/636-3517; [jlavin@krmwarch.com](mailto:jlavin@krmwarch.com).

### **Flight Patterns Los Angeles**

November 12, 2000–February 11, 2001

This exhibit explores the landscape, urbanism, and relationship of cities to land in geographic areas of the Pacific Rim. At the Geffen Contemporary at MOCA, contact 213/626-6222 or go to [moca.org](http://moca.org).

### **Downsview Park Design Competition Exhibit/Critique**

New York City

November 13–December 21  
On display are models and drawings by finalists of this 320-acre park in Toronto; a forum of leading critics and commentators rounds out the program. Critique November 14 at MOMA and exhibit at Van Alen Institute. Contact 212/924-7000; [www.vanalen.org](http://www.vanalen.org).

### **16th Annual Build Boston Boston**

November 14–16

Premier convention and trade show featuring more than 350 leading suppliers of building products and services and over 200 workshops and networking events. Contact 800/544-1898; or see [www.buildboston.com](http://www.buildboston.com).

### **Dreams and Disillusion: Karel Teige and the Czech Avant- Garde**

Miami Beach, Fla.

November 15, 2000–April 1, 2001

The Wolfsonian-Florida International University presents the first U.S. exhibition on Karel Teige, the graphic designer, architectural theorist, and important proponent of the European avant-garde. For information call 305/531-1001.

## Dates & Events

### Cities in Motion

#### Montreal

November 15, 2000–April 1, 2001

Three exhibitions united around the theme illustrate how modern transportation systems have changed the fabric and scale of cities over the past century. At the Canadian Centre for Architecture, 514/939-7000; icloutier@cca.qc.ca.

### Good Design Is Good Business: Design Strategies for the New Economy

### Washington, D.C.

November 17

A Business Week/Architectural Record (McGraw-Hill Companies) conference in association with the National Building Museum and the AIA. This half-day conference brings together key business leaders and architects to discuss collaboration between architects and clients resulting in the achievement of business goals. At the National Building Museum. To register, go to [www.architecturalrecord.com](http://www.architecturalrecord.com).

### On the Job: Design and the American Office

#### Washington, D.C.

November 18–June 24, 2001

This major exhibition documents the American office as an architectural and social space, a dynamic environment whose significance extends beyond physical boundaries. National Building Museum. Registration required, call 202/272-2448 or see [www.nbm.org](http://www.nbm.org).

### Neocon West Convention

#### Los Angeles

November 29–30

One of the West Coast's biggest events for interior designers and the facilities-management community. Contact 312/527-7074 or write [jmannino@mmart.com](mailto:jmannino@mmart.com).

### AIA Students Forum 2000 Conference

#### Los Angeles

December 27, 2000–January 2, 2001

The AIA's annual conference provides students with the opportunity to learn about issues concerning architectural education and the profession. An impressive list of speakers, lectures, tours, and seminars. For information, visit [www.aiaforum2000.com](http://www.aiaforum2000.com) or contact Ann Marie Teheny at [amtaheny@aol.com](mailto:amtaheny@aol.com).

### National Trust Study Tours

The year 2001

Led by esteemed study leaders, local guides, and guest lecturers, this series of 85 tours under the auspices of the National Trust provides something for everyone. To receive a free copy of the 68-page guide contact 800/944-6847 or [tours@nthp.org](mailto:tours@nthp.org).

## Competitions

### Rudy Bruner Award for Urban Excellence

Deadline for entries: December 4

This award honors urban projects that demonstrate collaborative processes and meaningful values in good design. Cash prizes are awarded. 617/492-8401, ext. 184. [www.brunerfoundation.org](http://www.brunerfoundation.org).

### The 11th Annual James Beard Foundation Awards

Deadline for restaurant and graphic design entries: January 31, 2001

The award honors culinary-related talent, including restaurant designers of projects in the United States and Canada. Entry forms and rules can be obtained by faxing or E-mailing requests to 212/627-1064/[jbfmoller@pipeline.com](mailto:jbfmoller@pipeline.com) or 212/645-3654/[dpadmore@myoungcom.com](mailto:dpadmore@myoungcom.com). Forms can be downloaded from [jamesbeard.org](http://jamesbeard.org).

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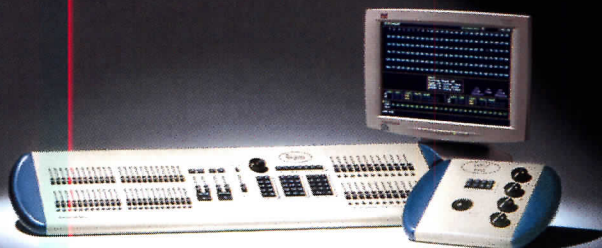
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## Dates & Events

### An International Competition regarding Architecture and Water

*Deadline for registration:*

November 30; for entries: March 31, 2001

Sponsored by the International Union of Architects (UIA), and in response to UNESCO's campaign to illustrate the importance of water in the 21st century, this competition calls for ideas that will show that water in all its forms can stimulate architects. For information and registration, call 33-1-45-24-36-88; write [uia@uia-architectes.org](mailto:uia@uia-architectes.org); or go to [uia-architectes.org](http://uia-architectes.org).

### NEA's Grants for New Public Works

*Deadline for letters of interest:*

January 11, 2001

As part of an effort to invest in projects that promote livable communities, the NEA will fund a lim-

ited number of design competitions to stimulate excellence in design in the public realm. Though NEA is especially interested in landscape design, competitions include architecture, planning, graphics, and industrial design. Call 202/682-5452 or go to [www.arts.gov](http://www.arts.gov).

### National Building Museum 2001 Apgar Award for Excellence

*Deadline for nominations:*

November 22, 2000

The Apgar award recognizes superior contributions by individuals who observe, interpret, and evaluate America's built environment. For information call 202/272-2448 or see [www.nbm.org](http://www.nbm.org).

### Competition for Seaside Landmark

*Deadline for entries:* January 23, 2001

The Town of Seaside and the Seaside Institute are sponsoring a competition to design a landmark to greet visitors and commemorate the 20th anniversary of the community's founding. This idea-based competition is open to architects who have designed buildings at Seaside in the past, talented young architects, students of architecture, and even homeowners and children. For entry forms call 850/231-2226, or see [www.seasidefl.com](http://www.seasidefl.com).

### Competition for Community Centers of the Future

*Deadline:* December 13

The Danish Foundation for Culture and Sports Facilities invites entries for the design of community centers. The winner will be awarded a cash prize and the design of three community centers in Denmark. For information call +45-32-83-69-01, write [konkurrencer@dal-aa.dk](mailto:konkurrencer@dal-aa.dk), or download information from the Web at [www.dal-aa.dk](http://www.dal-aa.dk).

### The 2001 Gabriel Prize

*Request for information: due December 1*

Sponsored by the Western European Architecture Foundation, this competition awards design executed in France with the advice and under the supervision of a representative of the foundation. A stipend is provided to cover the cost of travel to France. Submit a request for information to: The Western European Architectural Foundation, c/o The Boston Society of Architects, 52 Broad Street, Boston, Mass. 02109-4301.

### The Rotch Traveling Scholarship

*Application due: January 1, 2001*

This prestigious scholarship, awarded to the winner of a two-stage design competition, covers eight months of travel throughout the world. Requests for applications must be submitted in writing to: Rotch Travelling Scholarship, 52 Broad Street, Boston, Mass. 02109.

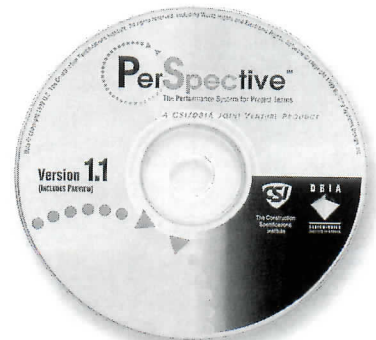
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**ANSWERS**

Questions appear on page 172. To receive CES credits, fill in the education reporting form below or on our Web site ([www.architecturalrecord.com](http://www.architecturalrecord.com)).

1. The marketing center and the network operations center both feature communication technology. While the network operations center is the focal point, and the technology to run the communications is foremost, the marketing center uses theatrical technology to showcase the communications operation.
2. The infrastructure was carefully planned to be expandable. Cable trays are roomy to allow for future expansion. Accessible storage for miles of fiber-optic and coaxial cable was planned. Each manager's console is an independent environment where computers turn on and off automatically.
3. The marketing center starts with external marketing strategies and ends with a look at the internal operations of the Global Network Operations Center. Potential clients are seated in a theater with a

panoramic screen. Three projectors stream high-resolution digital images simultaneously. A seven-minute synthetic presentation excites the audience with a Dolby Digital Surround Sound system through 15 speaker cabinets and in-floor speakers. The panoramic screen then lifts swiftly into the wall above by theatrical rigging, revealing the GNOC; below the presentation then continues on 39 rear-projection screens located above the GNOC's own 80-foot panoramic presentation of real-life operations.

4. The design program for the AT&T facility developed from the need to plan for future technology advancements and to allow for complex relationships between spaces. Part of the design program was to identify crucial spatial adjacencies and prepare for unexpected contingencies. Ergonomics within the work environment was a design requirement, so that employees could individualize their space.
5. The use of electronic equipment created extra design problems. To run large quantities of electronic equipment continuously caused tremendous heat loads; extra chillers and a backup generator were needed. Another requirement was ease in access for maintaining equipment. Finally, planning for unknown technology requirements—"future-proofing"—was a special challenge.



**AIA/CES EDUCATION REPORTING FORM**

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"Future-Proof Design for a New Building Type" [page 165]

"Designing with Daylight" [page 182]

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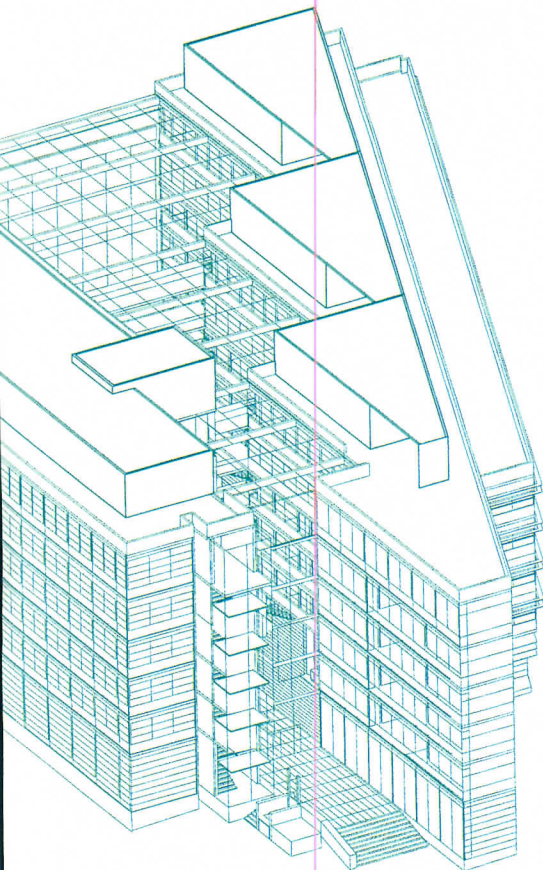
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**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

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To register, fill in and fax this form to: National Building Museum, 202-376-3564. Or access the registration form on [www.architecturalrecord.com](http://www.architecturalrecord.com) or on [www.nbm.org](http://www.nbm.org). Registrations may also be mailed to: Good Design Conference, National Building Museum, 401 F Street, NW, Washington, DC 20001.

For further information or to register by phone, call 202-272-2448.

Registration fee: \$55; \$50 for members of the Museum and The AIA.

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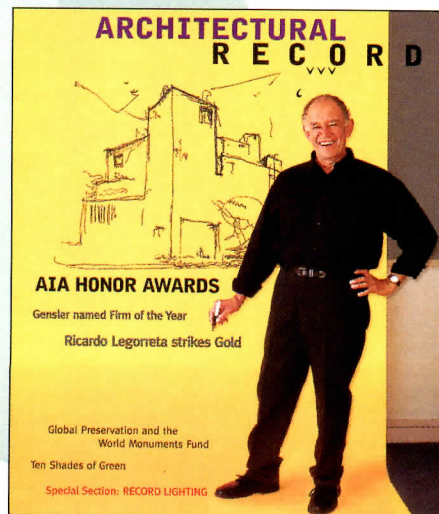
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**Architectural Pottery**

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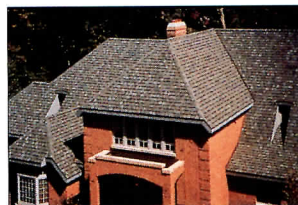


Let Wausau Tile assist you in making your flooring and interior design shine with terrazzo tile and matching accessories. As the only domestic manufacturer of terrazzo tile, we have the unique ability to provide matching pieces such as copings and base, treads and risers, column covers, and so much more. Custom work is our specialty. Call 800-388-8728.

**Wausau Tile**

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**Grand Manor Shingle®**

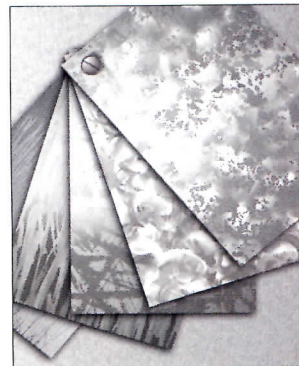


CertainTeed's Grand Manor Shingle® is a super heavy-weight shingle built on two full-size one-piece shingles with random 8" tabs applied on top. Patented shadow lines and a unique color palette give Grand Manor the look and depth of natural slate and wood. UL Class A. Lifetime limited, transferable warranty. Algae-resistant. UL Certified to meet ASTM D 3462.

**CertainTeed Corporation**

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**Alpha Collection 2000 Aluminum-Stainless Steel**



New and innovative design patterns and textures. Ideal for most vertical surfaces. Border to border standard sizes. Thickness from 0.025" to 0.064". Quantity discounts and free design consulting. Ask us about our custom capability. SD+T Marketing Inc., Phone: 305-856-3825 TollFree: 877-626-2595 Fax: 305-856-1287 Email: [sales@sdtmarketing.com](mailto:sales@sdtmarketing.com) Web: [www.sdtmarketing.com](http://www.sdtmarketing.com)

**SD+T Marketing Inc.**

CIRCLE 153 ON INQUIRY CARD

**Ludowici Roof Tile**



After more than 100 years, Ludowici clay roof tiles remain the preferred choice of architects and building professionals. No other clay tile manufacturer offers more colors, styles, fittings, textures, or finishes. And every tile is backed with a 75-year limited warranty (see actual warranty for details.) Call for full-color brochure or visit [www.ludowici.com](http://www.ludowici.com)

**CertainTeed Corporation**

CIRCLE 154 ON INQUIRY CARD

**Three-Sided Fireplace for Unlimited Installations**

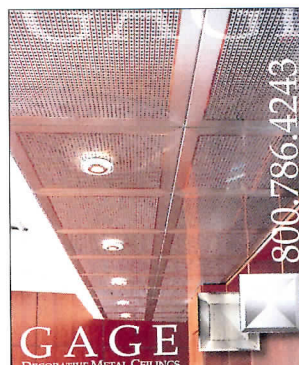


Heat-N-Glo introduces model PIER-TRC, a three-sided direct vent fireplace that can be terminated vertically or horizontally to accommodate nearly any application. The PIER-TRC is perfect as a room divider, bar, end of counter or a wide variety of creative installation possibilities. As with all Heat-N-Glo fireplaces, the PIER-TRC can be operated by remote control for the ultimate in convenience. Call 888-427-3973.

**Heat-N-Glo**

CIRCLE 155 ON INQUIRY CARD

**Gage Metal Ceilings**



The Gage Corporation, Int., designs and manufactures the world's foremost collection of decorative metal ceilings. Design #447 (photo) is a good example of selective two-directional brushing with custom perforations from Gage's "Honest Aluminum" collection. Concealed suspension provides a clean monolithic appearance. Call the factory at 800-786-4243 for introductory samples and literature.

**The Gage Corporation**

CIRCLE 156 ON INQUIRY CARD

**Starphire Glass**



This design kit demonstrates why Starphire® glass is the clear choice for beautiful results. Vision, safety/security, spandrel, skylite, and interior glazings can sparkle from the jewel-like brilliance of ultra-clear Starphire glass. See for yourself why ordinary glass is green with envy: call 800-377-5267 to request a kit or a glass sample.

**PPG Industries**

CIRCLE 157 ON INQUIRY CARD



**Applications**



The new flush exit device is designed for use on TOTAL DOORS in single, pairs & double egress pairs. Ideal for corridor & elevator lobby applications in all commercial facilities. The exit device allows continuous, uninterrupted sightlines in corridors when doors are pocketed in the open position. Its quiet operation is ideal anywhere noisy hardware is a problem. TOTAL DOORS can be retrofitted into existing door frames, saving time & expense.

**Openings**

CIRCLE 158 ON INQUIRY CARD

**GSR Door Coordinator System**

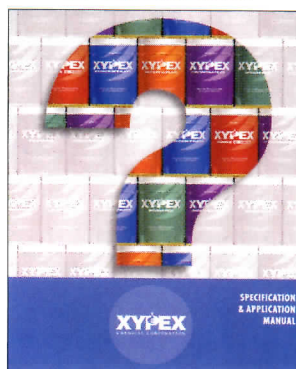


DORMA Architectural Hardware's GSR coordinator system provides correct sequential closing of pairs of doors equipped with overlapping astragals, panic devices, flush bolts and a cylindrical lock, or other door hardware assemblies that require one door to close before another. The frame-mounted coordinator features a streamlined design and needs ceiling clearance of only 1-5/8". For more information, call DORMA at (800) 523-8483 or visit [www.dorma-usa.com](http://www.dorma-usa.com)

**DORMA**

CIRCLE 159 ON INQUIRY CARD

**Concrete Waterproofing by Crystallization**



Applied as a slurry coating Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that "plugs" the pores of the structure preventing water seepage. Xypex is ideal for use on the "inside" of wet underground structures.

**Xypex Chemical Co.**

CIRCLE 160 ON INQUIRY CARD



The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our \$20 catalogue featuring this and over seventy other handles. Phone 212-367-7000, fax 212-367-7375. [www.nanz.com](http://www.nanz.com)

**Nanz Custom Hardware Inc.**

CIRCLE 161 ON INQUIRY CARD

**Ornamental Picket Fence with a Purpose**

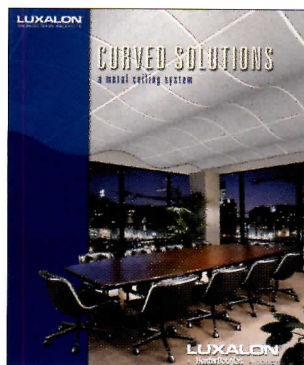


We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence — rail, rivets, brackets, pickets and posts, that is stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

**Monumental Iron Works**

CIRCLE 162 ON INQUIRY CARD

**Curved Solutions**

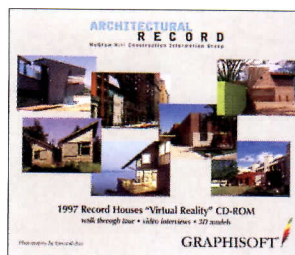


Luxalon Curved Solutions, an exposed grid system by Hunter Douglas, provides the opportunity to create both volume & sculpture. Flowing ceiling surfaces can complement a variety of interiors & enhance acoustical performance. Available in both stocked radii & custom radii, Curved Solutions metal ceiling systems are economical & easy to install. For additional information call 800-366-4327 or visit [www.hunterdouglasceilings.com](http://www.hunterdouglasceilings.com)

**Hunter Douglas, Inc.**

CIRCLE 163 ON INQUIRY CARD

**Record Houses "Virtual Reality" CD-ROM**



A room-by-room tour, with architects discussing their creative and product decisions. Click and zoom and move around objects via QuickTime@VR. Architectural Record worked closely with Graphisoft®, using ArchiCAD®, to produce an interactive CD-ROM house tour that includes photos and excerpts from the articles from the April '97 issue. For Windows and Mac. \$24.95. Record Houses CD-ROM, Two Penn Plaza, NY, NY 10121-2298.

**Record Houses**

CIRCLE 164 ON INQUIRY CARD

**Melton Classics**

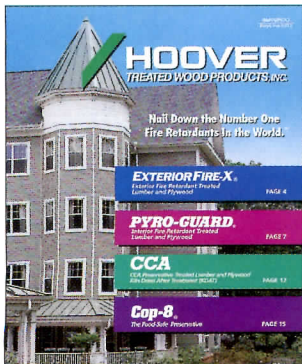


Melton Classics architecturally correct columns, balustrades, and architectural details, are the industry standard for quality and design. Columns are available in fiberglass, resin composite, GFRC, GRG and wood. MarbleTex™ Balustrades and columns are integrally Colored and require no painting. Ask us about our complete line of architectural ornamentation in Melton Stone™ cast stone. 800-963-3060, [www.meltonclassics.com](http://www.meltonclassics.com)

**Melton Classics**

CIRCLE 165 ON INQUIRY CARD

**New Fire Retardant Treated Wood Catalog**

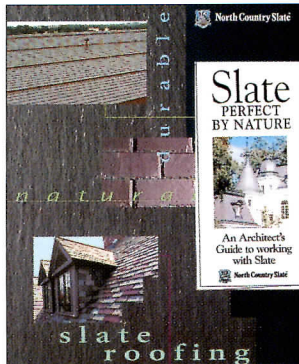


Order the latest treated wood catalog from Hoover Treated Wood Products, Inc. PYRO-GUARD® and EXTERIOR FIRE-X® are the featured products. CCA KDAT and COP-8® preservative treatments along with PLY-WALL Sound Barrier System are included. Visit Hoover's web site at [www.frtw.com](http://www.frtw.com). For a free catalog call 1-800-TEC-WOOD (832-9663) or e-mail [hoover@frtw.com](mailto:hoover@frtw.com).

**Hoover Treated Wood**

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**Slate Roofing**



Natural North Country slate. For enduring character, nothing else compares. No wonder—it's perfected by nature! Free product brochure showcases the wide variety of sizes and colors, and comes with our Architect's Guide to working with this remarkable roofing material.

**North Country Slate**

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**Matrix Composites Inc.**

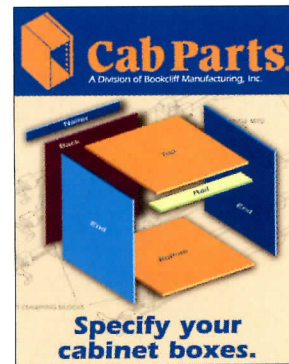


Chosen by a distinguished panel of Architects for Architectural Record as one of the best new finishes for 1999, Madera Tile is made from an exciting new material known as Lignasil®. Using 100% post-use hardwood in a patented process, Madera forges new ground in "green" building material technology. Several textures are available in an exciting range of solid colors and unique color blends for your sustainable design solutions. Call 800-767-4495. [www.maderatile.com](http://www.maderatile.com)

**Matrix Composites Inc.**

CIRCLE 168 ON INQUIRY CARD

**Specify This.**

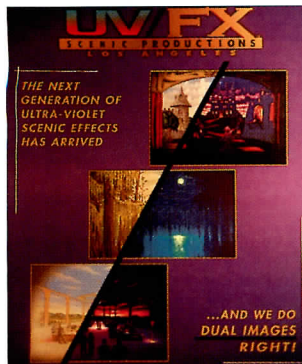


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**CabParts**

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**UV/FX**

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**Fireframes™**

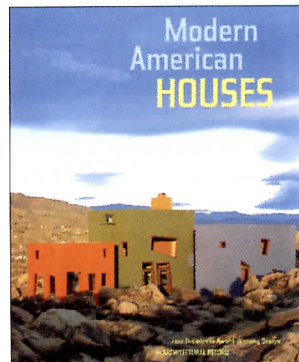


Technical Glass Products introduces Fireframes™ – fire-rated door and window frames with sleek, European styling. Fireframes™ allow large expanses of glass, and are well-suited to applications where aesthetics are important. Available in a Designer Series and a Heat Barrier Series, the doors and frames carry ratings up to 2 hours. For complete information call 800-426-0279 or visit [www.fireglass.com](http://www.fireglass.com)

**Technical Glass Products**

CIRCLE 171 ON INQUIRY CARD

**Modern American Houses**



This 230-page book is packed with color photographs of more than 75 houses featured in Record Houses since 1956. New essays explore the evolution of home design decade by decade—Thomas Hines on the '50s, Robert Campbell on the '60s, Suzanne Stephens on the '70s, Charles Gandee on the '80s and '90s. \$49.50. To order please call 212-904-4635.

**Record Houses**

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Plumberex Specialty Products, Inc. is the only company that manufactures a complete line of ADA safety covers for commercial & residential applications, meeting all building & fire codes with a -0- smoke rating. The Handy-Shield™ Safety Cover is the one and only ADA safety cover on the market with a "Dual" fastening system to help deter theft! For more information call 800-475-8629, Website: [www.plumberex.com](http://www.plumberex.com) or email: [plumberex@earthlink.net](mailto:plumberex@earthlink.net)

**Plumberex Products, Inc.**

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**Projections by Clay Paky**

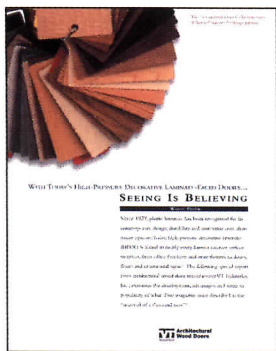


Clay Paky Display Line projection systems are ideally suited for many types of applications including retail, exhibits, restaurants/bars, museums, banks, reception areas, showrooms, hotels and much more! These state of the art projection systems are user-friendly and compact with a wide range of available accessories. They are backed by a full two-year warranty and a team of lighting professionals committed to providing you with expert consultation and outstanding service. Call today for your free color brochure and video! 916-939-6655 Email: michaelp@gltd.com

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**VT Industries**

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**Decorative, Thin-Film Intumescent Fireproofing**

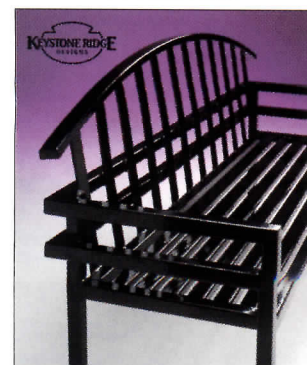


Improved spray characteristics & ratings up to 3 hours! A/D FIRE-FILM®II permits designers to use the appearance of exposed steel with the steel protected from fire. The product is applied as a thin-film coating 0.4 to 3.3 mm (16 to 130 mils) thick. When exposed to fire it expands to form a meringue-like insulating layer up to 4 in. thick. A/D COLORCOAT topcoat is available in a wide range of colours. Call 800-263-4087 or 416-263-4087. Internet: www.adfire.com See us in Sweets.

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**Keystone Ridge Designs**

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The Rear Projection SMART Board™ is an interactive whiteboard that allows you to control projected Windows® or Macintosh® applications and other multimedia by pressing on the Board's large, touch-sensitive surface. Write over top of applications and your notes are saved for future reference and distribution. Architects and facility designers can request the SMART Product Kit by calling 888-427-6278 or by visiting www.smarttech.com/productkit

**SMART Technologies Inc.**

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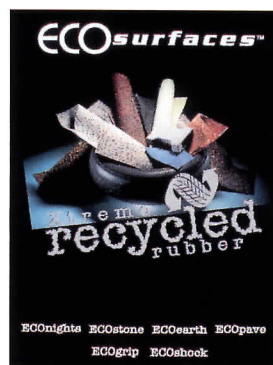


ALDES' MPV fan is designed for multiple and extensive duct runs. Remote mounting of fan assures almost silent operation. Up to 6 exhaust points at 50 cfm each. Equipped with a continuous duty motor, the MPV may be used also to provide IAQ Ventilation. Super Quiet, Powerful & Versatile. 3 year warranty. Cost Effective. American ALDES Ventilation Corp. 4537 Northgate Court, Sarasota, FL 34234, Call 800-255-7749, www.americanaldes.com

**American ALDES**

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**Gerbert Ltd.**

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GFRC Classic™ glass-fiber reinforced cement & GRG Classic™ glass-fiber reinforced gypsum architectural ornamentation from Melton Classics offers the construction professional durability, economy, & superior design flexibility with reduced weight. Manufactured from completely non-combustible materials, columns, cornices, domes, & mouldings, are just a few of the architectural product options available from our large inventory of standard molds. For additional information call 800-963-3060 www.meltonclassics.com

**Melton Classics**

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**ORBIS Luminaires**

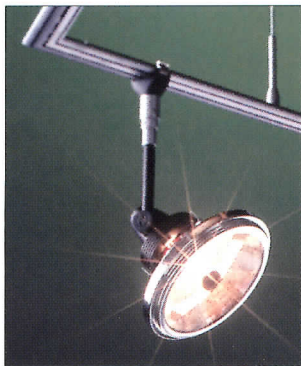


New ORBIS luminaires from EXCELITE feature translucent faux alabaster or uniform color diffusers in three diameters. Arrange ORBIS for close-to-ceiling, pendant, or wall mounting. Designed for compact fluorescent lamps up to two 32-watt triple tubes. Exclusive lift-and-rotate diffuser connection allows a discrete, completely unadorned look, or enhance the luminaire with a selection of ornaments as shown.

**EXCELITE, Inc.**

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**Boa Two-Circuit Track System**



Bruck Lighting, the international leader in innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. Boa may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Bruck Uni-lights fixtures can be utilized with Boa as well as all seven other Bruck track systems. [www.brucklighting.com](http://www.brucklighting.com)

**Bruck Lighting Systems**

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**Doyle Crosby's "Mercury"**



Architecturally elegant and ADA compliant, the "Mercury" sconce is a striking source of decorative lighting. The solid brass stem is crowned with a glowing frosted glass chimney or with a fine linen shade for more traditional settings. Finished in polished nickel, polished brass or satin nickel. [www.boydlighting.com](http://www.boydlighting.com)

**Boyd Lighting**

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**WILA Light-in-Light System**



The WILA Light-in-Light system is available in two aperture sizes (10" & 15") & utilizes triple tube compact fluorescent lamps (18, 26, 32, & 42 watt) mounted vertically for maximum efficiency & even light distribution. The central concentrating reflector is computer designed for maximum efficiency & is formed of high purity (99.98 AL) aluminum with an inner finish of secular alzak & an outer finish of high reflectance powder coat white enamel which coincides with the finish of the broad beam outer reflector & cast trim ring.

**WILA Lighting, LLC**

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Sun Valley Lighting manufactures an extensive line of Standard & Custom cast aluminum lighting poles & fixtures in all period styles. Our 50 years of design & manufacturing experience provides you with unexcelled product quality. Our staff of designers, engineers, and tool makers are here to assist you. Our in-house foundry assures quality and prompt delivery at competitive costs.

**Sun Valley Lighting**

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**Xenon Luminaries**

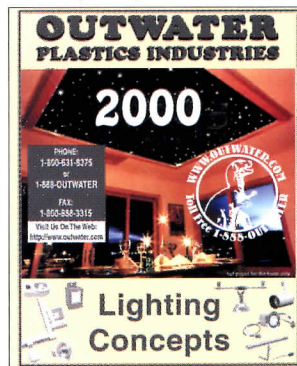


Space Cannon Illumination Inc. introduces the Litehose, the latest in linear lighting technology made of extruded, durable optical-grade acrylic. Available in different diameters and sizes, reflective paints and films are not required. The Focus is an architectural colored luminaire utilizing a 1200w lamp source designed to work with the Litehose or separately. 888-705-1028.

**Space Cannon**

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**Outwater Lighting Concepts**



Low-Voltage Halogen Lighting; Fiber Optic Lighting; Track Lighting; Recessed Lighting; Showcase Lighting; Shelf & Under Cabinet Lighting; Exhibit & Picture/Portrait Lighting; Cove Moulding Lighting; Task Lighting; Canister Lighting; Swivel Lighting; Adjustable Spotlights; Linear Lighting; Ambient Lighting; Curio Lights; Fluorescent Lighting; Rope Lighting; All Related Accessories. Free Catalog 888-OUTWATER; Web site: [www.outwater.com](http://www.outwater.com)

**Outwater**

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**Add Brightness and Beauty to Any Structure**

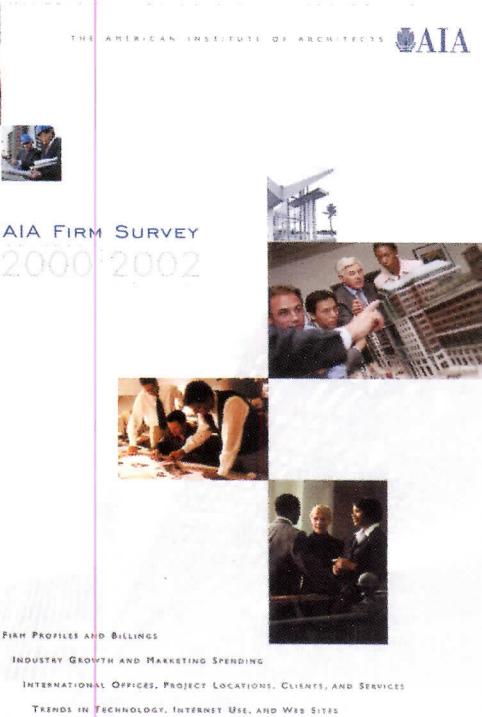


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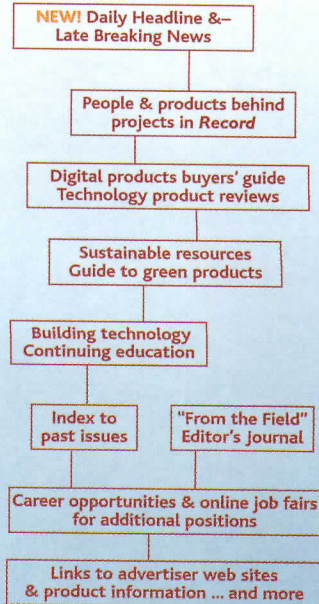
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**A**lthough architecture firms have benefited in many ways from the continued economic boom, the tight job market, which has improved only slightly in the past year, has kept the squeeze on managers.

The seven-year economic boom has translated into sustained prosperity and growth for many U.S. architecture firms. According to the American Institute of Architects' Firm Survey 2000-2002 preliminary reports, gross firm billings were \$10.2 billion in 1990, \$14.4 billion in 1996, and reached \$23 billion by last year.

At home, growth continues. According to F.W. Dodge, architect-designed building project types are projected at \$376 billion for next year, representing 3 percent growth in the commercial/manufacturing and institutional fields, and seven percent growth in multifamily housing. This continued strength has resulted in changes within the architecture industry. As a result of this continuing strength, half of all firms grew last year and more than a third of them expanded by 20 percent. Expanding staff to keep up with this growth has proven to be a challenge.

## Finding and Keeping the Best and Brightest

The labor market has been tight for the past several years, but it's difficult to gauge how dramatic that trend is from year to year. The U.S. Department of Labor and the AIA, for instance, do not keep available-position data; the methodology is just too unreliable.

It is clear that the market for those with three to seven years of experience is particularly tight. As few firms were hiring in the early 1990s, many young architects left the field. Now those who would be ready for mid-level jobs are nowhere to be found, and some firms find themselves relying on more inexperienced professionals to pick up the slack.

Architecture firms have been responding to these trends by reassessing many aspects of their management approach. In areas such as compensation, continuing education, benefits, profit-sharing, ownership or perks, this means finding ways to catch up with other industries. In other cases, it means taking care to guard, nurture, and promote what sets them apart from other firms, such as firm culture, type and quality of work, possibilities for advancement and individual growth.

Firms know that they must find ways to achieve parity with other industries on compensation, continuing education, benefits, profit-sharing, ownership & perks.

There is some good news. "Our sense is that the mad scramble has lessened," says Frank Ricks, AIA, founding partner of Looney Ricks Kiss (LRK), with offices in Memphis, Nashville, and Princeton. "We are busy and are looking to fill several positions, but again are able to be highly strategic about how and when we do that." The gap in the market still

smarts, though. "The lack of people with five to fifteen years of experience continues to create difficulties for us that I'm sure other firms are feeling, too. From a project management and fee standpoint, it continues to present a challenge."

## Compensation, Benefits, and Ownership

"We had been seeing annual compensation gains in the 7-8 percent range," says the AIA's Chief Economist Kermit Baker. "That has slowed a bit, but there's still growth." Baker says that he has not seen evidence of fees rising, however. "Firms say they are busy, and that hit rates are high. We've been hearing about 50 percent hit rates for private projects, for instance. But there's still resistance to raising fees. And we are still hearing about fixed-fee structures that involve a great deal of risk for the architecture firm. However, profitability is rising somewhat." That rise can be attributed to a wide range of factors, including efficient technology tools.

To avoid toppling the salary structure, many firms use bonuses and other compensation tactics to keep base salaries from growing too much or too fast. Profit-sharing is now being seen at a greater number of firms. Signing bonuses, once unheard of in this field, are being offered from time to time. According to last year's AIA Compensation Survey, salaries were 10 to 20 percent higher in larger firms. Average compensation for principals and partners with 50 or more employees, the study notes, was 67 percent greater than for firms with fewer than 10 employees, although this gap might in part stem from how compensation packages are designed.

Just a decade ago, many firms didn't offer the benefits and perks common to other industries; according to the AIA survey, just 64 percent of firms offered medical insurance in 1990. Today, 95 percent do.

In recent years, providing the opportunity for an equity stake in the firm has become a more common incentive. For many firms, broad ownership is an important strategy. Managers say that members who choose to be involved in firm ownership and participate in strategic planning prove to be the most engaged and committed.

Richard White, a consultant who has worked with the Tsoi/Kobus & Associates (TK&A), an architecture, interior design, and planning firm in Cambridge, Massachusetts, says "something unusual is going on at TK&A. They have an unusually low rate of turnover. The staff is loyal and happy. Clients, therefore, get a smoothly functioning team that doesn't have to reinvent the wheel with every job."

## Pursuit of Excellence

At the end of the day, talented people want to be valued team members at firms that are designing exciting projects. Some young architects appreciate firms that allow them to be involved in a range of projects (different building types, at a range of scales). Others desire more responsibility, a more varied exposure to areas of the firm, or the chance to specialize and move up. As some firms, talented architects at various levels cite the management's commitment to design excellence or to documenting the work extensively. Mentoring is also something that many young professionals cite as important. Many firms are testing mentoring programs that range from the ad hoc to the very structured.

David J. Brotman, FAIA, vice chairman of RTKL, who works in the firm's Los Angeles office, says his firm's annual four-day design conference is an important perk. The confer-

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ence involves 20 designers from each of the firm's offices. They share what they are working on, talk about philosophy of design, and tour important new architecture works in the surrounding area. "This kind of cross-pollination really energizes people, and also reminds them that their intellectual and professional growth is important to us as a firm," he says.

Michael K. Powers, CEO and president of Symmes Maini & McKee Associates, notes that "insisting on quality" is important to both the success of the firm with clients and the success of the firm as a collection of individuals. "There's no question—employees are the strength of the company," he says.

Prospects are looking for firms with a well-defined, supportive firm culture, a commitment to quality work, & a concern for individual growth.

**A Learning Culture**

Management consultant Donna Gaines, of Gaines International in Chicago, says that "many architects are very much like those in the information technology business; they want to work in a cool place, with good lighting, where there's a sense of fun." Wish lists have expanded, she has found. Today, issues run the gamut, including casual dress, a family friendly environment (competitive maternity leave, paternity leave, adoptive parent leave, babysitting facilities), employee recognition (theater or sports event tickets and other perks for those going beyond the call), and pay and benefits for overtime.

Throughout the industry, job candidates of all experience levels now identify their growth potential at a firm as an important consideration. Increasingly, firms have been refining their approach to professional education. Gensler is an oft-cited industry model, for example. The firm has been recognized by the AIA and other organizations for its approach to continuous learning, as it provides some tuition reimbursement and offers a broad set of internal educational programs.

"Our studio approach to design combines small-firm culture with the power of an internationally acclaimed architecture firm," J. Robert Hillier, FAIA, has said of the Hillier Group, based in Princeton, N.J. "Team Hillier," as the company refers to its people, is a very diverse group. "We're looking for innovators who can help lead Hillier into the future."

LRK in Memphis recently instituted a program called One Firm learning, modeled on workshops that initially involved senior management. In groups of 30, all employees of LRK spend four days off site, engaged in experimental learning, team-building exercises, discussions of the firm's values statement, and storytelling that introduces employees to the institutional memory of the organization. The response, Ricks says, has been very positive. He believes that people at all levels of the organization notice and respond to such investments. Another recent investment: the Memphis office's new downtown digs, which are designed to be fun, collaborative, and embody the team orientation.

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Current company wide openings have created the need for interns as well as professionals with three to eight years of experience in corporate offices, interiors, academic building, campus planning, healthcare facilities, research facilities, libraries, hotels, and resorts.

Diverse projects include a medical library for Howard University in Washington, D.C.; the Concord Hotel in Kiamesha Lake in New York; interiors for the New York City showrooms of Givenchy and Christian Dior; projects for the New York University Medical Center; as well as the largest corporate projects on both sides of the Atlantic--the Sprint International Headquarters in Overland Park, Kansas, and SmithKline Beecham's World Headquarters in England.

#### PROFILE: SYMMES MAINI & MCKEE ASSOCIATES

Symmes Maini & McKee Associates (SMMA) is a multidisciplinary architectural, engineering, planning, and interior design firm, offering professional services to corporate/commercial, advanced technology/industrial, and institutional clients. Founded in 1955, the firm is headquartered in Cambridge, Massachusetts with a regional office in Minneapolis, Minnesota; 207 employees are the strength of the company.

"Embracing technology has kept SMMA ahead of the curve and continues to be a key to the firm's effort to attract and retain design talent," says president/CEO Mike Powers. Computer-based design, analysis, and communication tools are provided to every desktop--facilitating the sharing of information, enhancing design creativity and productivity, and ensuring reliable information storage, retrieval, and publication.

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schedule, and financial goals of each client. Those clients include IBM, Analog Devices, Nortel Networks, Nokia, Teradyne, Hewlett Packard, Compaq Computer, Astra pharmaceutical, MIT, Brown University, Radcliffe College, Tufts, and Boston University. Mike Powers, 617-520-9204 tel, [m\\_powers@smma.com](mailto:m_powers@smma.com)

#### PROFILE: URS CORPORATION

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#### PROFILE: TSOI/KOBUS & ASSOCIATES

Tsoi/Kobus & Associates (TK&A), an architecture, interior design, and planning firm in Cambridge, Massachusetts, was founded in 1983 by Edward Tsoi and Richard Kobus. Since that time, the firm has grown to 100 people and demonstrated unwavering commitment to providing excellence in design; providing the highest level of comprehensive, professional services to clients; and creating a stimulating and challenging environment for its employees.

The firm is currently looking for project managers, senior construction administrators, designer/architects, technical architects, interior designers, and more. A position at TK&A means the chance to work with clients such as Lucent Technologies, MediaOne, Monsanto Company, Boston Properties, Beth Israel Hospital, The Children's Hospital, Harvard University, Washington University, Williams College, and Massachusetts Port Authority.

Richard White, a specifications consultant who has worked with the firm, says "something unusual is going on at TK&A. They have an unusually low rate of turnover. The staff is loyal and happy. This is wonderful for clients, because it means they're getting an experienced, smoothly functioning team that doesn't have to reinvent the wheel with every job." Cheryl Egan, 617-588-8565 tel, 617-588-8365 fax. [cegan@tka-architects.com](mailto:cegan@tka-architects.com)



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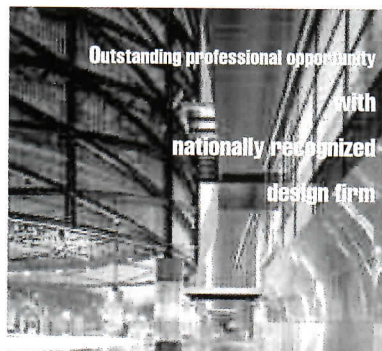
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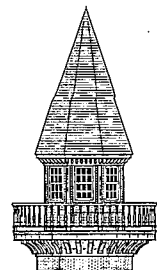
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## Mariko Mori: Tour guide to a technological temple of dreams

**Interviewed by Ingrid Whitehead & Clifford Pearson**

*In her art, Tokyo-born multimedia artist Mariko Mori creates imagery where spiritual and physical realms play upon each other in a dance of past and present, nature and artifice, technology and tradition. Often incorporating herself in her work, Mori has found ways to comment on the individual's place within the landscape of a greater society, using such media as photography, 3-D video, performance art, and lately, architecture. Her work is shown in museums and galleries worldwide. Mori's latest work, Dream Temple, is an intricately modern reconception of the ancient (739 A.D.) Yumedono temple in Japan. Incorporating light, sound, and 3-D video projection, Mori's Dream Temple takes visitors on a four-minute-44-second experience that she hopes will lead visitors further inside their minds. RECORD spoke with Mori from her New York City studio.*

**Q:** *How has architecture, and the built environment, influenced your latest work?* I was very much affected by the original dream temple, the Yumedono of Horyu-ji. It was a place that had a life of eternal present, where Prince Shotoku would go to meditate or study, a place where he could transcend time and space. I wanted to create a place like this, using the traditional octagonal shape, the eight steps, but update it by using modern

materials, such as iridescent, dichroic glass, and technology to make it an environment that people could experience virtually as well as three-dimensionally. A place where you can use all five, maybe six, senses. It's a utopian space from an ancient concept. A place where, for four minutes and 44 seconds, one person can experience another kind of reality. Also, modern technology and ancient spiritual values are fused here.

*What should people take from this experience?* You are born alone and die alone, yet you are surrounded by people all the time. At this moment in the world it's very important for people to get in touch with themselves; with their consciousness. *Dream Temple* is a place where that can happen.

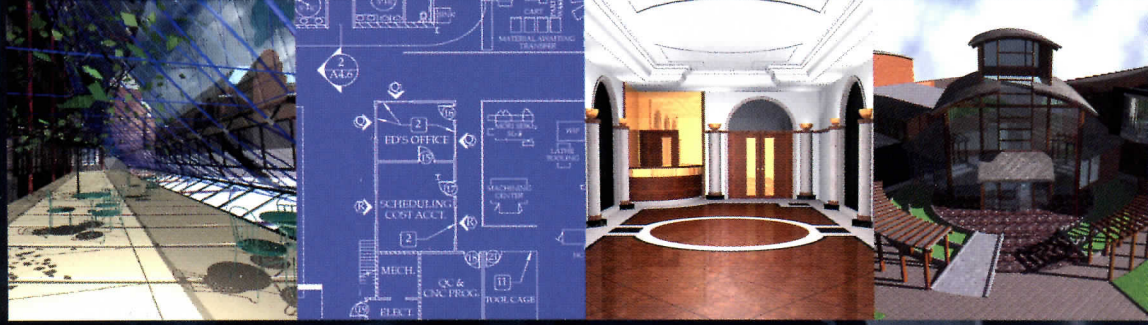
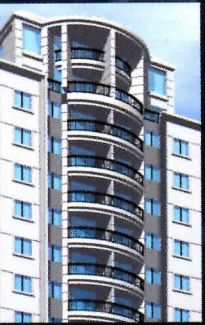
*Which architects or artists have influenced you?* For me it's not contemporary architects or artists who influence me as much as ancient ones. I have been inspired by the work of [18th-century French architect] Claude Ledoux. The idea of perfection is a concept he used, and one that I am very drawn to. I do find some artwork from the '70s earthwork to be very interesting.

*You live and work both in Tokyo and New York City. Where do you feel the most at home?* I like to think that wherever I am in the world, I am home. ■

**Photo by Rowland Kirishima © Mariko Mori**

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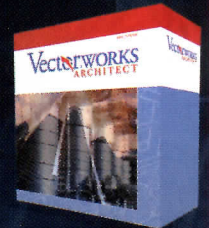
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