

ARCHITECTURAL RECORD

CITY LIMITS

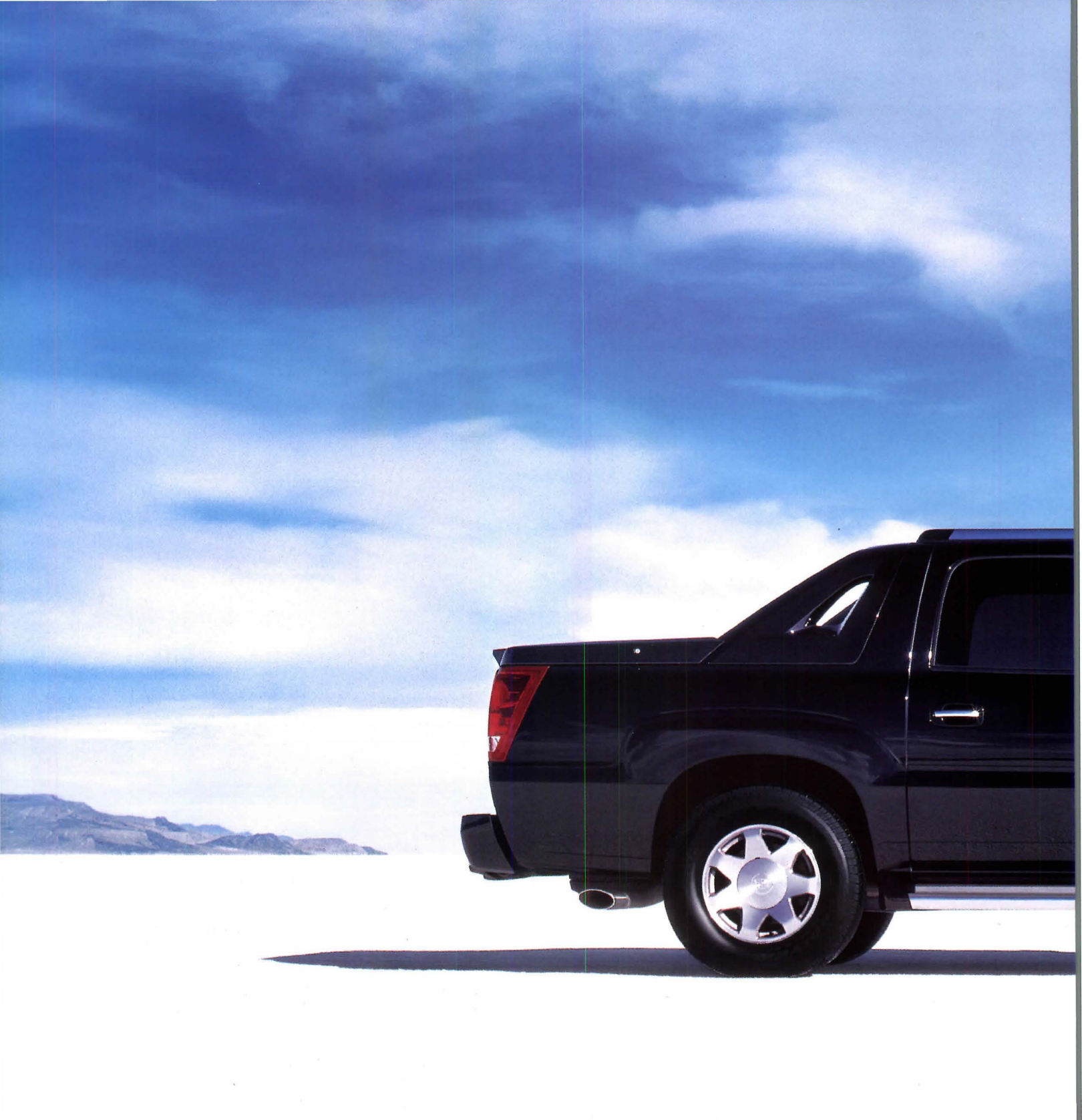
Buildings for the American Street

also in this issue

The Controversy in
Architectural Education

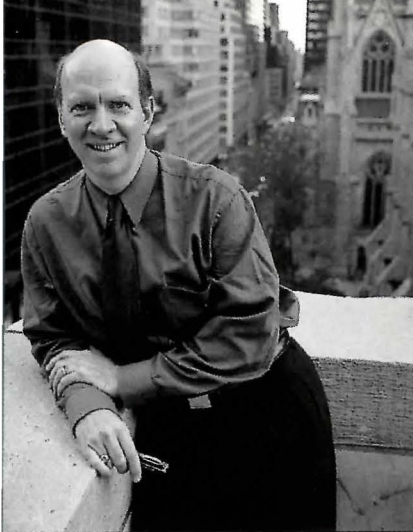
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Outside the Lines

Editorial

By Robert Ivy, FAIA

One primary lesson from the design studio comes hard for the diligent: The best plans do not always follow the rules. Good students have been taught since kindergarten to color within the lines and to turn in assignments on time; when the brilliant designer in any class saunters in with a scheme that blows the room away, yet violates the program, debate quells. Once a great plan appears, every juror or fellow student can acknowledge the power of the idea, no matter how errant the method: Great ideas attract us with their own energy.

Unlike the design studio, which results in a mere grade, the stakes for the design of the World Trade Center site in New York are enormous and of lasting consequence. Some of the issues may be analogous, however; in particular, how programmatic expectations affect all planning. The designers of the proposed master plan had been tasked by their client, the Port Authority of New York and New Jersey with the Lower Manhattan Development Corporation (LMDC), with a riddle that loomed like the former twin towers: produce six independent schemes, each of which must return 11 million square feet of office space to downtown Manhattan, retain much of the actual site as memorial, interweave its architecture with massive infrastructure, and create a new vision for the city under intense public and political scrutiny—all within eight weeks.

Then the client weakened the architects' already tenuous position by inserting four schemes by others among the six, apparently hoping that no one would notice. We all found out. The results came to light at a press conference on July 16, followed by a firestorm of critical analysis in the media. By adhering to the client's demands, all six posited related solutions, arraying tall towers in a perimeter around an open urban space, with variation apparent in memorial sites, in street configuration, and in designation of certain structures as signature buildings. Keeping to the rules meant moving the chess pieces around, with little opportunity for modulation or change.

The Port Authority and LMDC called for public response on July 20. More than 4,000 representatives, who convened at an excellent town meeting called "Listening to the City," held at New York's Javits Center,

answered loud and clear. Moving among the 500 tables set up for discussion and response, this mega-jury, which included ordinary folk, planners, firemen, and survivors, spoke with one voice. Time after time, in words varying in eloquence yet consistent in intent, they connected with their fellow respondents to label the schemes underwhelming. They decried the rush to building, calling on the powers that be to change the ground rules by paying off the current leaseholder and reducing demands for office space. In addition, they suggested interlacing the district with housing to achieve a more vibrant city. The moment provided enlightened democratic engagement at the highest level.

Astonishingly, the public talked about design. Their voices varied as they waded into unfamiliar waters, but it was clear that they expected more; as reported in the press, the phrase was for a "more ambitious" plan. One table cited the "great minds" present in the city and suggested they be solicited for plans. Another mentioned the global implications of the events of September 11 and supported, as we have, an international competition to achieve a world-class result. The voting of the entire public body is reported in our news section and on our Web site, which offers a detailed reprise of the responses.

Great architecture rarely occurs by plebiscite. Master planning and architectural design result in different products and may demand different methods. Traditionally, greater public participation in the former case lays the groundwork for the quieter, more individualistic pursuit of the latter. To its credit, the Port Authority and LMDC stated that they had heard the concerns and would alter the program. However, the world awaits the brilliant scheme from the student who steps outside the prescribed bounds and persuades through the power of an idea. To date, we have been coloring within the lines.

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Letters

Politics and architecture

Michael Sorkin presents a terrifying and disturbing view of urbanism and politics in the Middle East [Critique, July 2002, page 61]. His accurate description of damage to Palestinian urban infrastructure is enough to frighten anyone. His article is most disturbing, however, because Sorkin implies murdering innocent Israelis is a consequence of, or perhaps legitimized by, that nation's security measures. Nothing could be further from the truth.

Sorkin writes, "The horrendous bus bombings are both murder pure and simple and an assault on the most fundamental freedom of the city, just as the construction by the Israelis of ... road networks divide the West Bank into a series of cantonments." No sentence linking terrorism with national defense can ever be justified or left unchallenged. His replay of Fatah and Hamas's moral-equivalency argument rings as hollow on the pages of ARCHITECTURAL RECORD as it does broadcast on Al-Jazira.

More than 50 years have passed since Israel's neighbors declared—in writing and in deed—the goal of ridding themselves of Jews in the Middle East. Israel's act of self-preservation, from building roads and fences in 1948 to reoccupying Palestine in 2002, isn't arrogance. It's survival. Perhaps the only thing more frightening than Israel's draconian security policy is their apparent need for it.

—Richard Buday, AIA
Houston

Provocative words

Under the guise of an essay purportedly on the subject of urbanism, Michael Sorkin has soiled the pages of a reputable architecture magazine with an undisguisedly biased, distorted, inaccurate, zealously anti-Israeli screed.

His first provocative sentence

sets the tone, as he mischaracterizes the Jenin action as a premeditated "search-and-destroy" mission using bulldozers to create safe access for the Israelis, rather than a complex military operation into the heart of a densely populated area that had some 100 to 200 heavily armed Palestinian resistance fighters, mined streets, and over 50 houses booby-trapped by the Palestinians themselves.

How sympathetically Sorkin paints a picture of "oppressive security delays" and "draconian and humiliating security arrangements" causing the Palestinians to have a longer than usual commute time, without mentioning, of course, the reasons such measures are in place: nonstop terrorist attacks on Israelis for the past 20 months.

How dare Sorkin justify the "murderous rage of the Palestinians" as simply the result of settlement building activity. Who in this post-9/11 world would possibly draw a moral equation between "the horrendous bus bombings" and the construction of private road networks? Where does he get off depicting the Israeli highway system as an "oppressive network" having a "sinister dimension"?

I strongly protest this malicious, hateful article.
—Judy Marks, Hon. AIA
Silver Spring, Md.

A different interpretation

I was very disappointed that William Saunders's scathing commentary on Christopher Alexander's latest book, *The Nature of Order, Book One: The Phenomenon of Life*, failed to meaningfully discuss the actual substance of the book, and instead chose to criticize the writing style and the "psyche" of the author [Commentary, May 2002, page 93]. In large part, *The Phenomenon of Life* is a book that addresses the

concepts of value, quality, and judgment in architecture.

Based on years of experiments, observations, and research, the thesis of *The Phenomenon of Life* is that each physical thing in the world has a certain inherent degree of life to it, and that this degree of life can be felt and measured by each of us as an objective quality. Yet, instead of commenting on the main content of these findings, Saunders chooses to evade discussing the issues of value and quality in architecture by misrepresenting Alexander's thesis, then attacking it for what it is not.

Saunders states at the end of his commentary, "From then on, [Alexander] knew that he was the measure of all things"—a complete misinterpretation. What Alexander puts forth again and again throughout the book is that all of us can use ourselves as a measuring device to assess the degree of life of a place, and that there is overall consensus across these individual judgments. By paying attention to this response, we as architects can better create spaces that actually enhance the "life" of a particular place, as well as the lives of the people who will inhabit it.

—Susan Ingham
Seattle

Good ideals

Bravo for Bob Ivy's editorial in the June issue, "Is Idealism Dead?" [page 15]. Social consciousness is well and alive among architects throughout the world. It is befitting to read in the same June issue of ARCHITECTURAL RECORD that an American architect, Steve Brooks of OZ Architecture [News, page 24], volunteered to travel to Kabul to offer his time and expertise to assist the Afghan government in the reconstruction process.

I have recently, after 32 years, visited Kabul to assist the Afghan

Assistance Coordination Authority (AACA). I volunteered to help the agency in infrastructure assessment and architecture and urban-planning training for personnel in the Ministry of Housing and the Department of Building and Town Planning. Most of Kabul city is devastated, including its physical infrastructure, beyond imagination. Also, the city, once a place of living, working, and pleasure, is now overcrowded by thousands of returning refugees and fortune hunters. The air is horribly polluted by smog and dust and debris from fallen buildings. There is also infested open sewage and shortage of clean water.

The interim government agencies are turning to the international community, especially to architects, planners, engineers, social scientists, educators, and investors to come up with humanitarian, but permanent, solutions. The government is planning for a five-day symposium in Kabul in September to discuss and review the current conditions. Interested individuals or groups may contact me or the Afghan embassies in their respective cities. This is a great opportunity to extend our spirit of "Idealism."

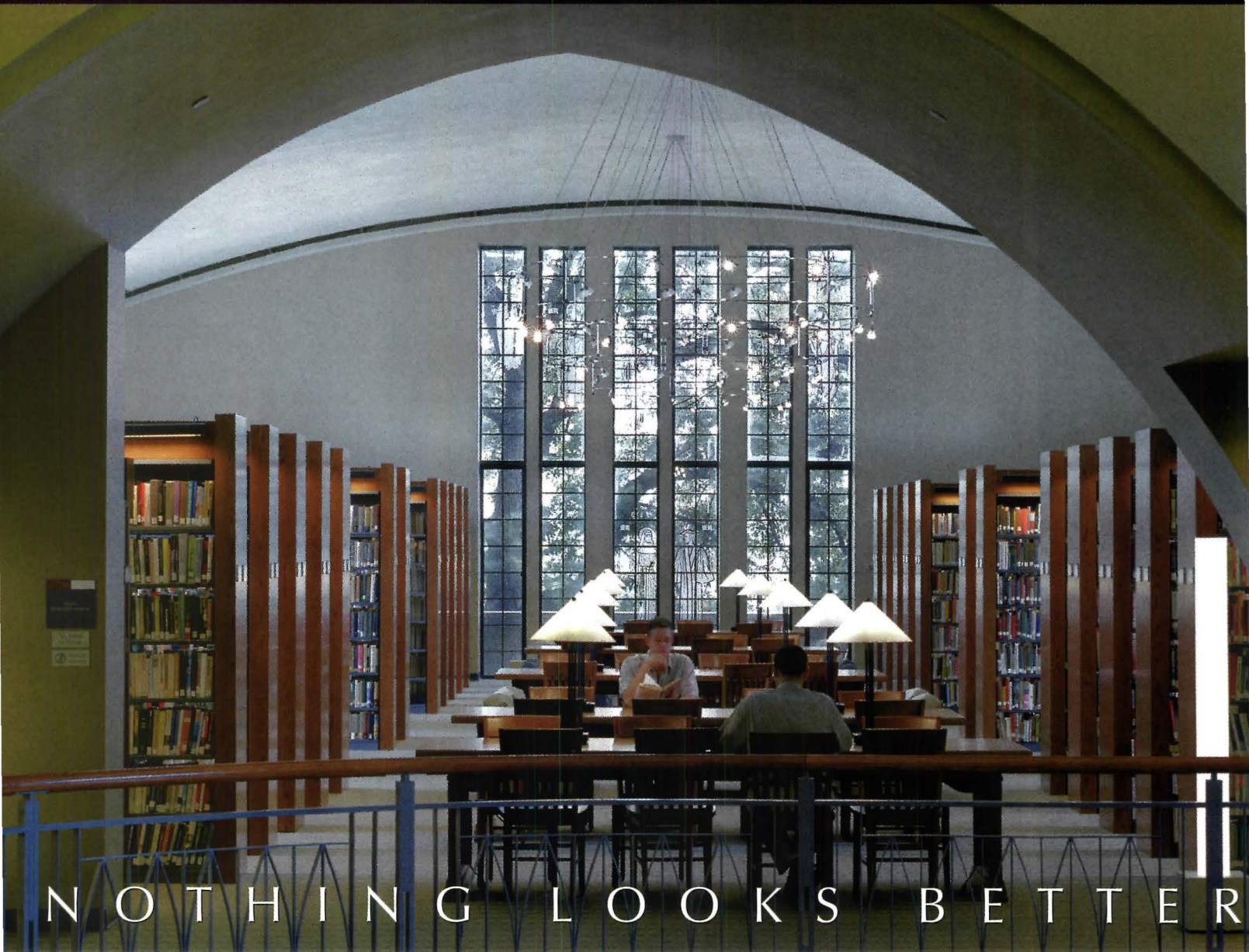
—Mehdi Sabet, AIA
School of Architecture and Design,
American University of Sharjah
Sharjah, United Arab Emirates

Corrections

The July 2002 issue [News, page 32] incorrectly refers to Enrique Norten's Brooklyn Public Library as his first commission in the United States. Also in July, in the photo caption on page 86, the Korean War Memorial was designed by Cooper-Lecky Architects, not Maya Lin, and the Brion Cemetery was designed by Carlo Scarpa. The bombing of the Oklahoma City Federal building occurred in 1995, not 1993 [caption, page 121].

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SPECIAL REPORT

Initial WTC plans raise process, program, and vision questions

Disappointment. That was the resounding sentiment of the local and national press and New York citizens in the days following the July 16 release of the six concept plans for the World Trade Center (WTC) site. Now that the public has

seen something tangible to consider, debate surrounding Lower Manhattan's future, and criticism of the planning process, has kicked into high gear.

At a July 20 public input session called "Listening to the City,"

more than 4,000 people collectively voiced mostly negative feedback: The plans are unimaginative for New York and too similar. Attendees also feared that officials were moving forward too quickly no matter what feedback was given. As the press

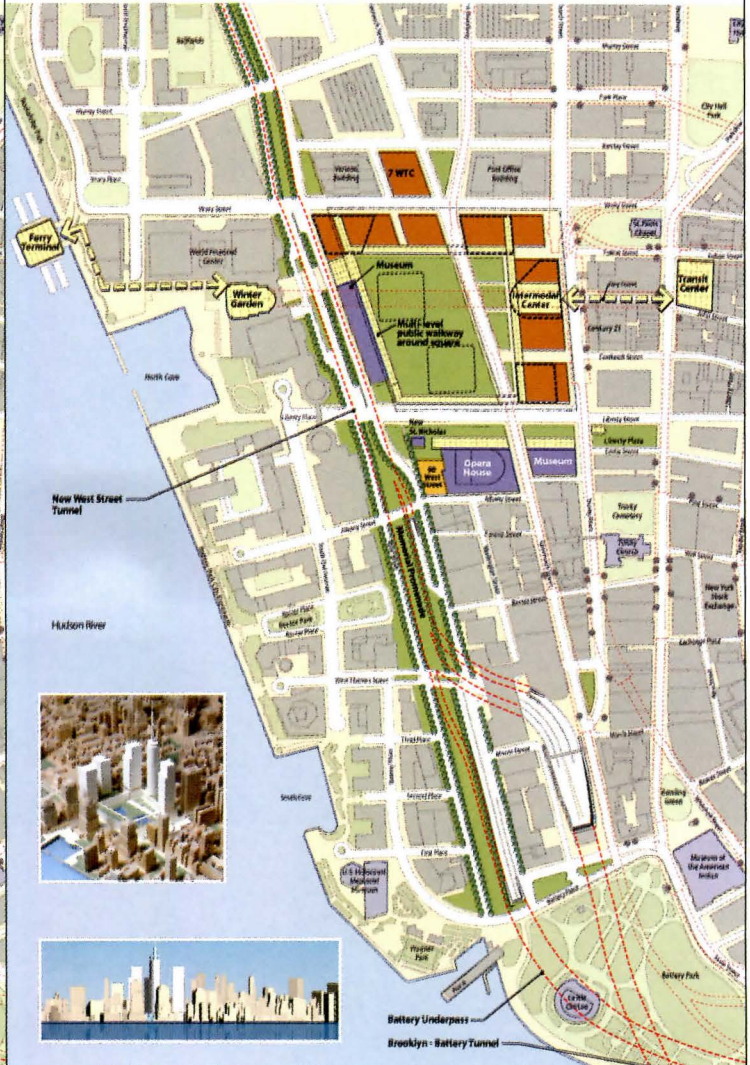
and public described the six plans as somewhere between leaden and dull, at best, what was most clear at press time in late July was that the Port Authority, with the Lower Manhattan Development Corporation (LMDC) and leasehold-

"Memorial Plaza," Concept Plan 1 of 6

- Designed by Cooper Robertson & Partners (Brookfield Properties, client).
- 8-acre plaza with a memorial/cultural building on the western edge.
- 18.1 total acres of new public space and grand promenade.
- Greenwich Street extended through site; Fulton and Cortlandt Streets extended partially through site; express lanes of West Street are submerged.
- 100 feet of West Street reclaimed at grade for open space and museum facility.
- 5 towers (1 at 79 stories, 2 at 67 stories, 2 at 62 stories).
- 1,500-foot-tall skyline element.

"Memorial Square," Concept Plan 2 of 6

- Designed by Beyer Blinder Belle.
- 10-acre square, with memorial/cultural building on western edge.
- Public arcades and rooftops overlooking square; cultural district south of site.
- 24.1 total acres of public space, including promenade.
- Liberty Street green corridor from Broadway to waterfront.
- Greenwich Street extended through site; West Street submerged in tunnel.
- Four towers (1 at 80 stories, 2 at 70 stories, and 1 at 56 stories).
- 1,500-foot-tall skyline element.



SPECIAL REPORT

(continued from previous page)
 ers Larry Silverstein and Westfield America, will be compelled to reconsider programmatic needs and timing. The anticipated release of three revised plans, which was scheduled for September, will likely be pushed back until after the November election, when New York Governor George Pataki, who controls the Port Authority with New Jersey Governor James E.

McGreevey, will be up for reelection.

Billie Tsien, AIA, the only architect on the LMDC board of directors, was encouraged by the amount of early feedback, even though much of it has been negative. "Everything should be questioned, including the parameters that generated the six plans," Tsien told RECORD. "I want people to look at this and ask, 'What's missing? What's too much? And what rules are wrong?'"

Program questions

The six plan alternatives were unveiled at a July 16 press conference in Federal Hall, just blocks from the WTC site. Before the plans were presented, however, the public generally expected them to cover a range of programmatic options, not only the uses that had been on the site. All six plans were based on one program that included all of the components that Larry Silverstein had in his lease with the Port Authority, in addition to a memorial, green space, and cultural facility.

In the program, the Port Authority called for a permanent memorial and public open space,

cultural and civic institutions, 11 million square feet of commercial office space, a 600,000-square-foot hotel (the size of the destroyed Marriott hotel), 600,000 or more square feet of retail (to replace the 430,000 square feet destroyed), a PATH train and mass-transit hub, a bus facility, and a Con Edison substation. The LMDC's primary additions to the program were a promenade along West Street and housing.

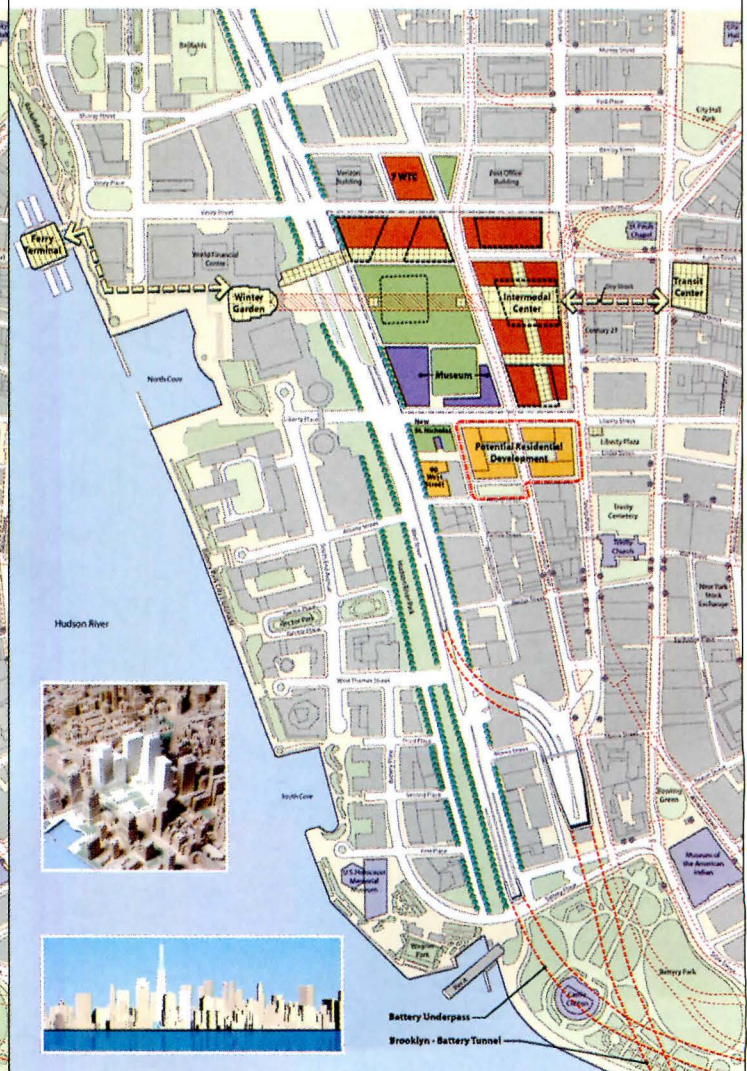
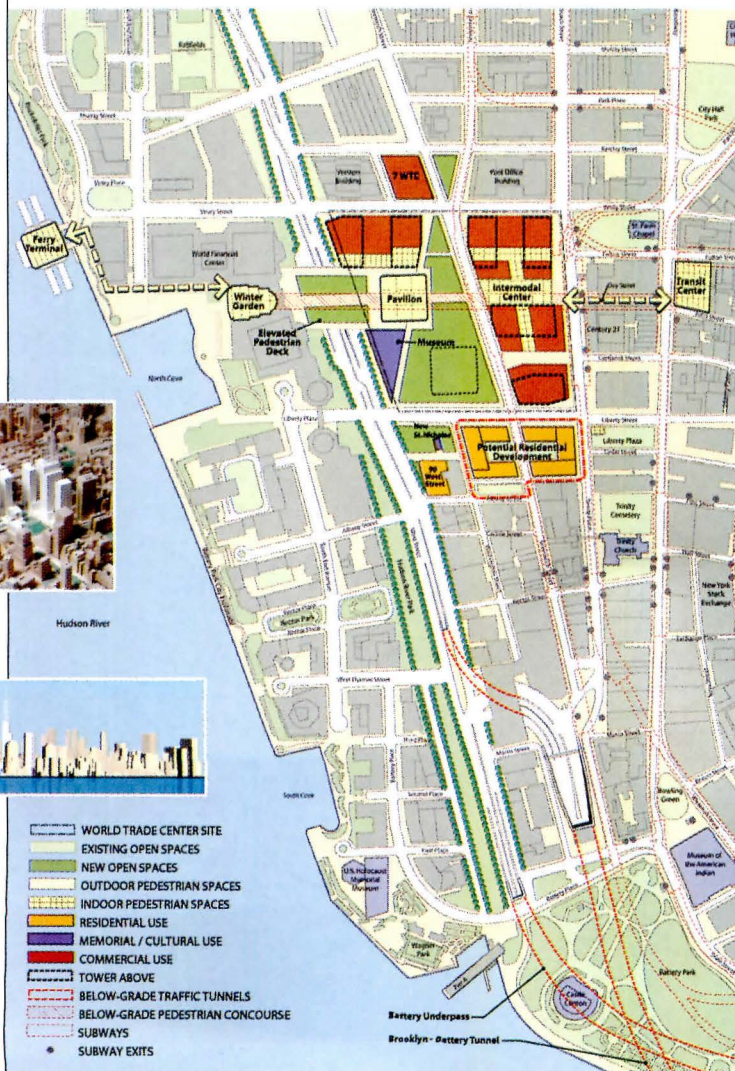
New York architecture firm Beyer Blinder Belle (BBB) was selected by the Port Authority and LMDC in May to develop the master plan. In a RECORD interview in early June (continued on page 26)

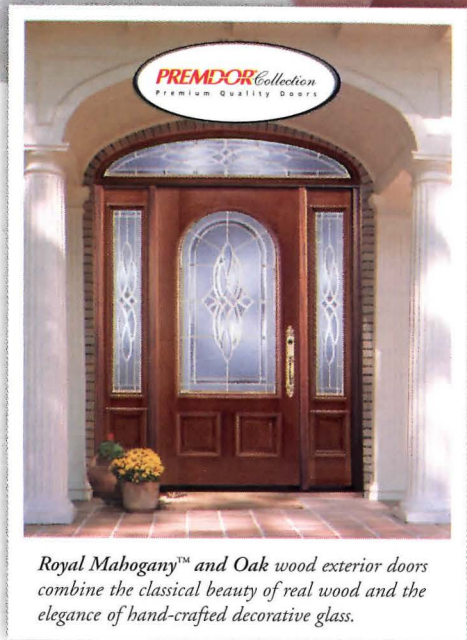
"Memorial Triangle," Concept Plan 3 of 6

- Designed by Beyer Blinder Belle.
- 5-acre triangular open space; memorial/cultural facilities with a public pavilion.
- 13.2 acres of total public space, including streets, sidewalks, and public arcades.
- Elevated pedestrian deck over West Street to the Winter Garden.
- Greenwich Street goes through site; West Street at grade with pedestrian deck.
- 6 towers (1 at 85 stories, 1 at 61 stories, and 4 at 59 stories).
- 1,500-foot-tall skyline element.
- Potential residential development south of Liberty Street.

"Memorial Garden," Concept Plan 4 of 6

- Designed by Skidmore, Owings & Merrill (Larry Silverstein, client).
- 4-acre open space; memorial or cultural facilities in the site's southwest corner.
- 6.8 acres of new public space, including streets, sidewalks, and public arcades.
- Greenwich Street extended through site; Fulton Street partially through site.
- West Street at grade with pedestrian bridge.
- 5 towers (1 at 80 stories, 2 at 66 stories, 2 at 50 stories).
- 1,500-foot-tall skyline element.
- Potential residential development south of Liberty Street.





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SPECIAL REPORT

(continued from page 24)

[July 2002, page 23], BBB partner John Belle, FAIA, said, "We'll look at a wide range of ideas that will absolutely include a multitude of uses and a variety of quantities of uses." The planners' hands were tied, though, because the Port Authority called for one set of uses with little variation in quantity.

When each of the six schemes showed 11 million square feet of

office space, immediate questions were raised in New York, where, according to Cushman & Wakefield, there is now 12.5 million square feet of vacant office space downtown, compared to 3.9 million square feet vacant in late 2000. A July 17 *New York Times* editorial that decried the plans said, "What these proposals demonstrate most conclusively is that nothing memorable can be done in Lower Manhattan if the Port

Authority insists on reclaiming every inch of commercial space it controlled before September 11." After the July 20 public session in which many citizens questioned the need for 11 million square feet of office space, Joseph J. Seymour, the Port Authority's executive director, said his agency would reexamine office-space requirements for the site.

What about housing?

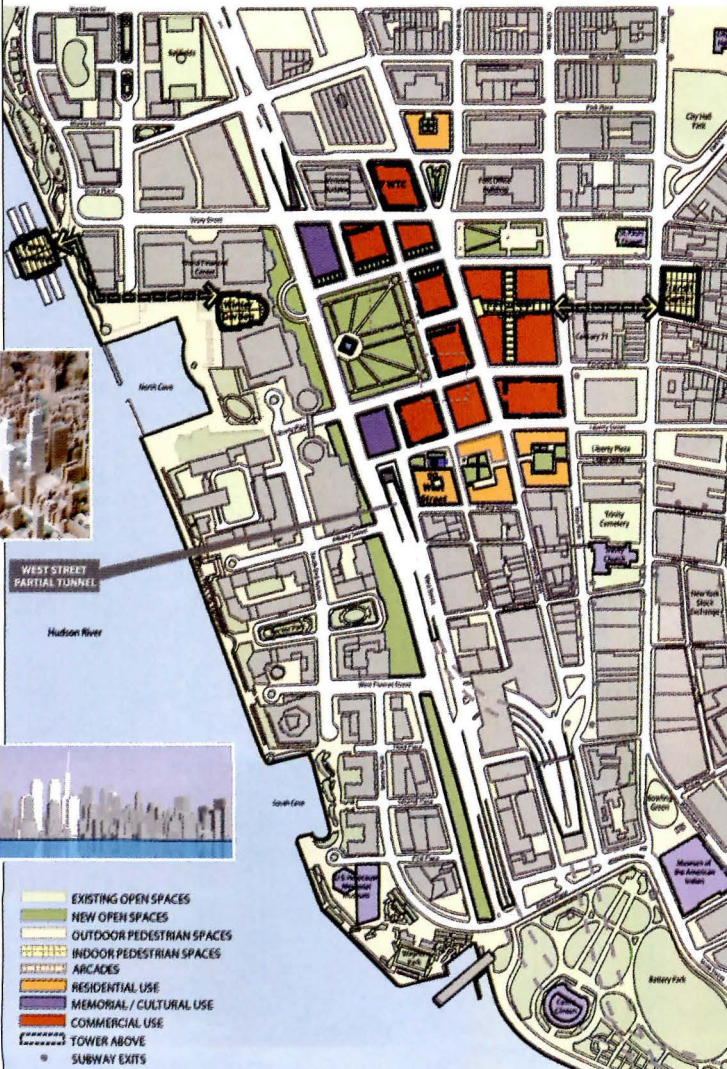
Five of the six plans show future residential development south of the WTC site below Liberty Street, but none of the plans show housing on the WTC site itself. Under current rules, the Port Authority cannot con-

rol property that includes housing. Three days after the plans were unveiled, Mayor Michael Bloomberg said he would like to see considerably more housing in the plans. Ric Bell, FAIA, executive director of the New York chapter of the AIA, expressed his own frustration concerning housing: "One thing that I thought was very sad is that no one, whether at the LMDC or certainly the Port Authority, got over this procedural hang-up about not building housing on the site."

Other potential uses that have been discussed publicly by various civic interest groups but did not appear in the (continued on page 28)

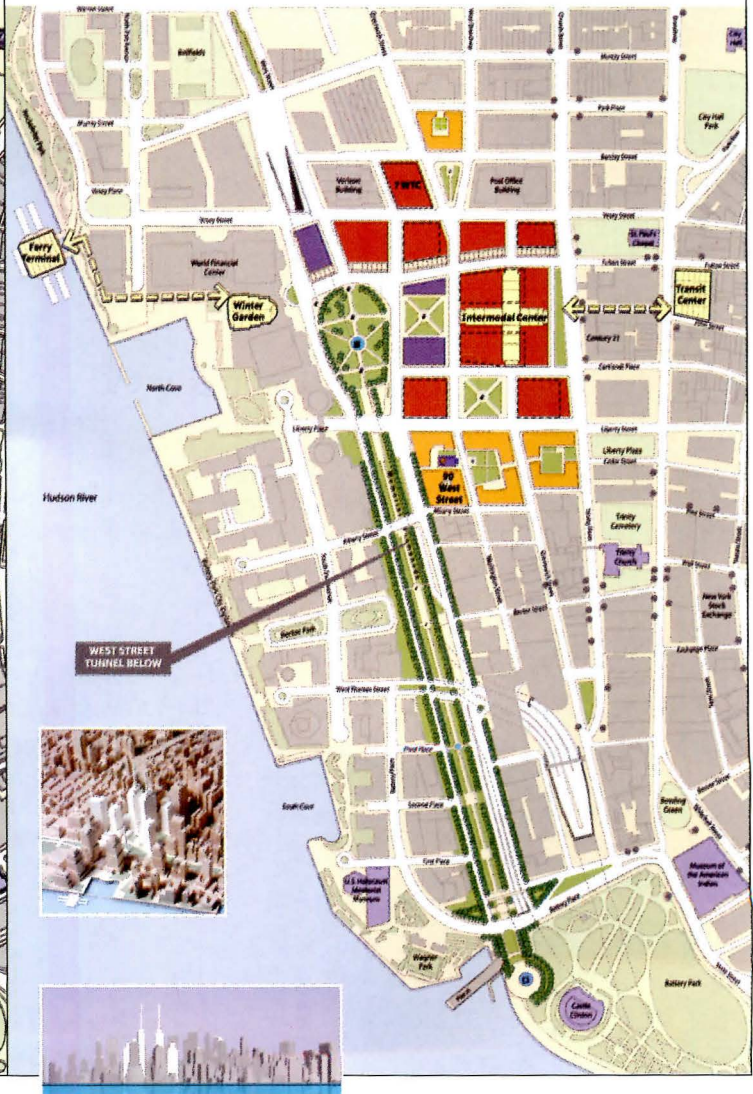
"Memorial Park," Concept Plan 5 of 6

- Designed by Peterson/Littenberg Architecture & Urban Design (for LMDC).
- 6-acre park partially situated on a deck over West Street.
- 14.4 acres of new public space, including new streets, public square, arcades, and an enclosed Galleria.
- Fulton and Cortlandt Streets extend to the World Financial Center.
- Greenwich Street extends through the site with building frontages on both sides.
- 5 towers (2 at 72 stories, 3 at 45 stories).
- 1,500-foot-tall skyline element.



"Memorial Promenade," Concept Plan 6 of 6

- Designed by Peterson/Littenberg Architecture & Urban Design (for LMDC).
- Grand promenade connecting museum/cultural facilities on the site to Battery Park.
- Cultural and memorial uses on the western portion of the site.
- 27.7 acres of public space, including the grand promenade, new streets, public squares, arcades, and an enclosed Galleria.
- West Street tunnel from Battery Park to Vesey Street (local traffic at surface).
- 6 towers (2 at 63 stories, 4 at 32 stories).
- Two 1,500-foot-tall skyline elements.



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OFF THE RECORD

The city of Chicago will install new **Robert A.M. Stern**-designed bus shelters, news boxes, and other street furniture by year's end.

The New York City Landmarks Preservation Commission voted to allow the titanium canopy by **Frank Gehry, FAIA**, to stay on the roof of the Guggenheim Museum [June 2002, page 34] for six years.

Daniel Solomon's San Francisco-based firm, **Solomon E.T.C. Architecture and Urban Design**, has merged with Philadelphia-based **Wallace Roberts & Todd (WRT)** to become **Solomon E.T.C., a WRT Company**.

The **U.S. Green Building Council** has issued an update to its rating system of sustainable buildings, simplifying documentation requirements.

Ground breaking for the \$200 million **Renzo Piano** addition to the Art Institute of Chicago [June 2001, page 33], initially planned for next January, will occur in late 2003 or early 2004, and the addition will likely open in 2007. The museum said further design development was needed.

Mayor James K. Hahn unveiled a \$9.6 billion proposal to modernize Los Angeles International Airport.

The Museum of Natural History of Los Angeles County has chosen New York's **Steven Holl Architects** to design a \$200 to \$300 million renovation and addition. Holl was selected over four other finalists—**David Chipperfield Architects** (London); **Foster & Partners** (London); **Herzog & de Meuron** (Basel); and **Machado and Silveti Associates** (Boston)—who were culled from an initial pool of 70 architects. A master plan will be unveiled in 2003.

Paul C. Holt, a founding partner of San Francisco firm **Holt Hinshaw Architects**, died of colon cancer July 12 at age 50.

WTC Plan (continued from page 26)

plans include hospitals or biotech research facilities, schools, libraries, and spaces for large and small arts organizations, not just one cultural facility.

The programmatic requirements resulted in plans that, taken together, look strikingly similar. For the most part, all of the schemes show buildings developed along the eastern edge of the site and open spaces of varying configurations and sizes on the western half of the site where the towers once stood. The footprint of the WTC towers is left as open space on four of the six plans. All six have an intermodal transportation center on the eastern edge of the site along Church Street, and all six have Greenwich Street connected through the site from north to south.

Frustrating task

Beyer Blinder Belle's role was diminished from the start. At the client's insistence, the six plans are really the work of four different architecture firms. Only two of the six plans



Jack Beyer, FAIA, presents the plans at a July 16 press conference.

were BBB's original work—Memorial Square (page 23) and Memorial Triangle (page 24). Cooper, Robertson & Partners developed Memorial Plaza (page 23) for its client, Brookfield Properties, which owns the World Financial Center just west of West Street. Skidmore, Owings & Merrill (SOM), working for Larry Silverstein, designed the Memorial Garden plan (page 24). Peterson/Littenberg Architecture & Urban Design, which has been an in-house consultant to the LMDC for more than five months, designed

Memorial Park and Memorial Promenade (both on page 26). At press time, the role of Cooper Robertson, SOM, and Peterson/Littenberg, if any, in further plan development was unclear.

At the July 20 public session, citizens rated the six schemes from "excellent" to "poor." Each of the plans received a "poor" rating from between 41 percent (Memorial Promenade) and 62 percent (both Memorial Triangle and Memorial Park) of the attendees. The crowd cheered when the negative scores were shown, and comments displayed ranged from "Feels like an open casket" to the ultimate New York City insult: "Looks like Albany."

Tsien, hoping for an informed and thoughtful response, said, "If people don't say something strong—and that's what architects should be doing—then it's everybody's loss."

John E. Czarnecki, Assoc. AIA

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Canopy distinguishes Viñoly design for Tampa Museum of Art

New York architect **Rafael Viñoly** has unveiled a design for a new home for the Tampa Museum of Art, in Tampa, Florida, which will anchor the city's 28-square-block Cultural District. The most noticeable feature of the building's exterior, its canopy, forms a steel pergola that is, according to Viñoly, a sort of "shading device on an urban scale," extending 100 feet above the museum and over Ashley Drive. Viñoly is also considering taking advantage of the Florida sun by adding solar cells on the museum's roof. Ground breaking is expected in January 2003 for the \$52 million museum, which will be completed by the end of 2004.



The 124,000-square-foot building will more than triple the museum's exhibition space at its current home on the Hillsborough River in downtown Tampa. Six levels of galleries and exhibition space will be included, with unobstructed views of the city. The museum will adjoin an enlarged waterfront park intended as the city's "front yard." Viñoly says, "We have given the city a more intimate connection to its waterfront with this design."

Tampa mayor Dick Greco was pleased with Viñoly's work. "What he's done is given us some drama at a low cost," Greco told the *St. Petersburg Times*. "The man has spent a lot of time and effort making this the 'Wow' I asked for." *J.E.C.*

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Record News

New York architects offer pro bono services for libraries



A number of New York architects donated pro bono services to an initiative to revitalize underserved public school libraries—the first of which were completed this year.

The Robinhood Foundation, an investment fund that partners with New York City antipoverty organizations, joined forces with the city's board of education to create L!brary—a project to promote learning in low-income neighborhoods by building high-quality elementary school libraries.

To highlight the importance of design, Robinhood recruited Henry Myerberg of Helfand Myerberg Guggenheimer Architects who, in turn, enlisted nine other firms to create the first 10 prototypes. To aid their efforts, the Robinhood Foundation secured \$28 million from public and private sources, as well as \$15 million in in-kind donations over the life of the initiative; these are to include books, computers, software, and architectural design. The first 10 prototypes—all double or triple the size of existing facilities—opened this spring. Another 20 are scheduled to open over the next two years.

Although each library offers space for class instruction, small-group gathering, and individual reading, firms came up with startlingly different designs. Tod Williams and Billie Tsien added a notably green ceiling and rows of clean bookcases to the Andrew Draper School library in Harlem, while Weiss/Manfredi provided undulating walls, textured curtain dividers, and playful signage to the library at P.S. 42 in Queens. Tsao and McKown created a learning space filled with colorful round pillows and nooks for more reclusive readers.

Other participating firms were Ronette Riley Architect, Deborah Berke Architect, Richard H. Lewis Architect, Paul Bennett Architect, Alex Gorlin



New York City public school libraries designed by (from top) Tod Williams Billie Tsien & Associates, della valle + bernheimer design, and Tsao & McKown Architect.

Architect, and della valle + bernheimer design.

The new libraries will play a key role in an ongoing, comprehensive program. In addition to stocking libraries with books and computers, Robinhood is helping to develop school librarian training programs, engage schools, and help teachers to incorporate libraries into their curricula. Robinhood eventually hopes to provide well-furnished, well-stocked libraries for each of New York's 650 schools. *Tess Taylor*

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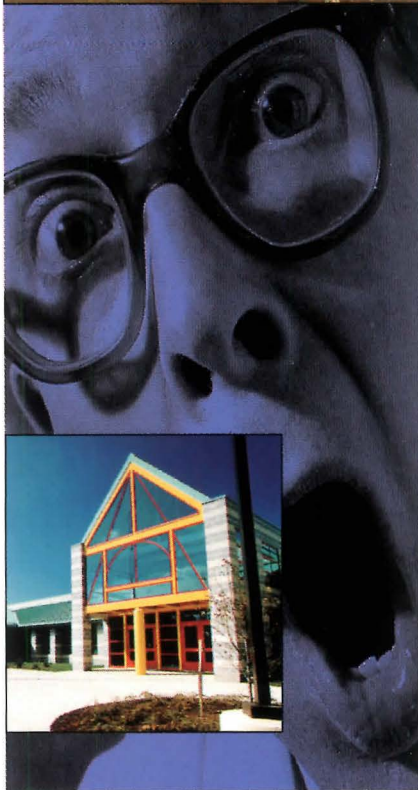
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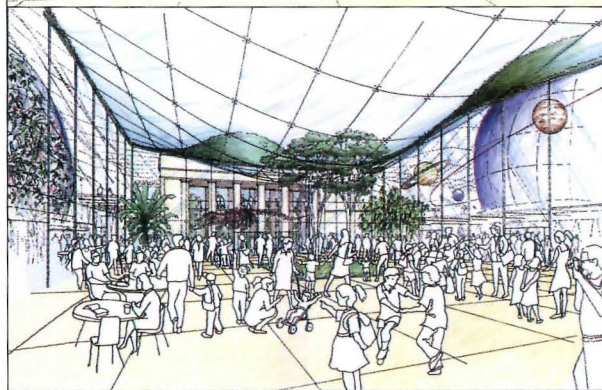
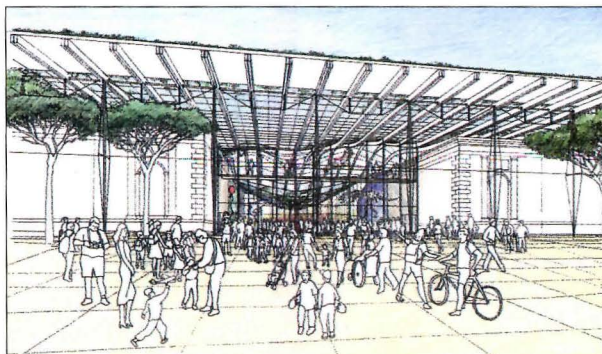


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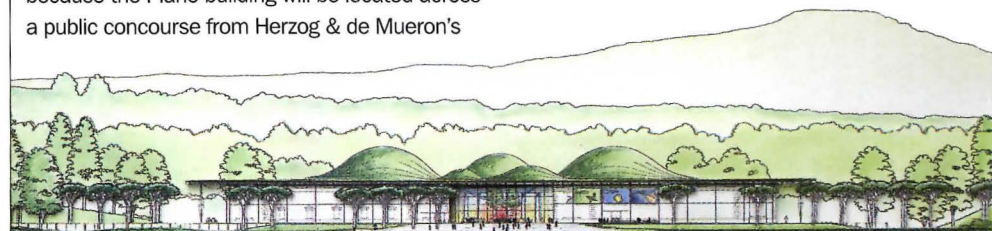
A roof of foliage covers Piano's California Academy of Sciences

Two years after selecting the Renzo Piano Buildings Workshop in association with Gordon H. Chong and Partners as the architects, the California Academy of Sciences has finally unveiled its plans for modernizing its earthquake-damaged and outdated 86-year-old complex in San Francisco's Golden Gate Park. In keeping with the spirit of the academy and its strong environmental mission, the design incorporates many green architecture strategies that Piano has been experimenting with, such as natural ventilation, sustainable materials, and roofs planted with vegetation.

The unveiling has been highly anticipated because the Piano building will be located across a public concourse from Herzog & de Mueron's

with native vegetation undulates up and over the various spaces, unifying them and echoing the surrounding park landscape. The complex will include a basement, dubbed the "factory," that accommodates the technical and mechanical systems. Construction will begin in 2004, with a planned opening in early 2008.

"Buildings like this must be very good and very flexible machines," says Piano. "It is not really a building, but a place—a town with layers of history and accumulation. It is a place about the moral and ethical dimensions of people doing science." *Lisa Findley*



Sections through the California Academy of Sciences highlight the undulating roof and public spaces.

Views of the proposed main entrance (top left) and the entrance to the aquarium from the piazza (lower left).

new de Young Museum, where construction has been delayed as locals debate the design's aesthetic merits. Will Piano's scheme generate debate?

The \$370 million scheme for the academy surgically removes the numerous additions of the past 40 years, leaving the three oldest buildings that serve as the icons for the institution. These provide an armature for two parallel buildings that enclose a central space occupied by a new planetarium, a huge rain forest exhibition, a public piazza, a café and shop, and new exhibition spaces. While the building along the concourse houses public areas, the one opposite will contain new state-of-the-art research facilities for the 100 natural scientists, administrative offices, and storage for the 18 million specimen collection. A single 180,000-square-foot roof planted

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Record News

Earth from Above lands in Chicago's Millennium Park

Millennium Park, the still-unfinished Chicago park along Michigan Avenue just north of the Art Institute, is the site of a temporary exhibition of aerial photographs by Yann Arthus-Bertrand.

Earth from Above: A Photographic Portrait of Our Planet, on display until September 15, includes 121, 4-by-6-foot images laminated to recyclable aluminum panels set on steel stands designed by Chicago architect Doug Garofalo in collaboration with Ammar Eldueini of Digit-all.

"The content has to do with perspective," explains Garofalo, who, with Eldueini, arranged the photos in seven parallel rows and developed a system of simple steel-tube supports and metal clips to hold the large-scale images without frames. The canted steel stands support an exposed conduit system and solar-powered striplight fixtures above each image. The lights visually link each stand and demonstrate the implementation of "green" design features. Chicago area utility Excelon sponsored the exhibition.

Each row is set at a progressively steeper angle—from 30 to 110 degrees off horizontal—so that portions of each image can be seen as part of a larger composition when viewed from the park's Michigan Avenue entrance. The instal-



Earth from Above features Arthus-Bertrand photographs on stands designed by Doug Garofalo with Ammar Eldueini.

lation creates its own metaphoric landscape of shifting perspective that reinterprets Arthus-Bertrand's particular photographic point of view. The images were taken from a helicopter during 3,000 hours of flying time over 100 countries. *Edward Keegan*

Plan anticipates more housing, office space in Chicago

"This is no little plan," boasts the preface to the new *Chicago Central Area Plan: Preparing the Central City for the 21st Century*. Issued by the city's Department of Planning and Development and Department of Transportation, the document outlines the accommodation of office and residential growth in downtown for the next 20 to 30 years.

Developed over the past two years at a cost of \$500,000, the plan calls for more housing in anticipation of a downtown residential population increase from 83,000 to about 150,000 people by 2020. The area workforce is expected to grow from 650,000 to 900,000 in the same time period, and the plan includes an additional 40 million square feet of downtown office space. New parks are proposed, as well as a promenade along the Chicago River and a series of islands for recreation off the Lake Michigan shore. The islands are reminiscent of Daniel Burnham's plan of a century ago.

"This is a pro-growth plan," explains city-planning commissioner Alicia Mazur Berg. "The biggest change is the emphasis on the river as a spine." The scheme is part of Mayor Richard M. Daley's oft-noted effort to make Chicago a "greener" city.

The highest-density growth is projected for an area immediately west of the Loop, where a second contiguous transportation loop is cleverly planned by connecting branches of existing subway lines. Transportation improvements call for a more integrated system of commuter-rail, subway, and bus service. *E.K. and J.E.C.*



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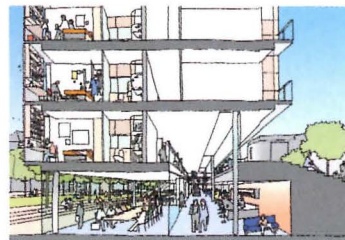
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Kohn Pedersen Fox scores second academic project in Oxford—a dormitory at St. Anne's

Adding a Modern building to Oxford University is a balancing act, says David Leventhal, principal in charge of design at Kohn Pedersen Fox Associates' (KPF) London office. KPF demonstrated its ability to find that balance with its first Oxford project—the Rothermere American Institute building (page 150)—and has recently won its second con-

tract at Oxford for a dorm and lecture hall at St. Anne's College. KPF won the commission in a competition against British firms Dixon Jones, Rick Mather, Stephen Hodder, Alec French, and Evans & Shalev.

The four-story, 40,000-square-foot building will have 110 student dorm rooms and, at its base, three



Public spaces with dorms above.

seminar rooms and a lecture theater. Staircases are placed at the far ends, as in a motel, because "it feels less institutional and is [the style] more typically used at Oxford," Leventhal says.

KPF's winning design is sympa-

thetic to the older buildings near the university site without copying them, says Leventhal, who is serving as project architect on the project with Fred Pilbrow, an office director. KPF's design lines up the cornices of the new building with those of its southern neighbor, the 1937 Hartwell House designed by Giles Gilbert Scott, and has a Bath-stone exterior similar to the Hartwell House. A glass elevator shaft mirrors the height of a Hartwell House turret.

The building's southern facade is fairly uniform, but the northern facade is broken up into components about the same width as the neighboring Victorian villas to the north.

Like the Rothermere American Institute, this structure is designed to be energy-efficient. An air-distribution system heats and cools the ground floors, using ground water and a heat-recovery system.

The new St. Anne's building, as yet unnamed, is slated for completion in September 2004.

Jaan vanValkenburg



The four-story dormitory building will have one facade that is more varied (left) and one that is fairly uniform (right).



News Briefs

University of Detroit Mercy wins NCARB Prize

The University of Detroit Mercy has won the inaugural NCARB Prize for Creative Integration of Practice and Education in the Academy. The \$25,000 prize, sponsored by the National Council of Architectural Registration Boards (NCARB), honors the school that most creatively integrates architectural education with practice.

The University of Detroit Mercy worked with the Detroit Collaborative Design Center—a nonprofit organization founded in 1994—to take part in research on architectural design and neighborhood development. Students participated in a neighborhood design studio, worked as volunteers, conducted research, and contributed in an assortment of other roles to help the center. Five other schools, all receiving \$7,500 awards, were honored: University of



The Latvian library design by Birkerts.

Pennsylvania, Miami University, Auburn University, Arizona State University, and North Carolina State University. *Sinan Schwarting*

Birkerts's Latvian library gets go-ahead

In a Latvian folk tale, a knight on horseback rescues a princess asleep atop a crystal mountain. The literary image is so familiar to Latvians, says Gunnar Birkerts, FAIA, that he designed the country's new national library in Riga as a 200-foot-tall glass peak. The Latvian parliament voted on June 13 to fund the project—which

is expected to cost over \$120 million—partly by privatizing the country's shipping industry. Construction of the library, in central Riga along the Dvina river, is set to begin in 2004, after more than a decade of financing-related delays.

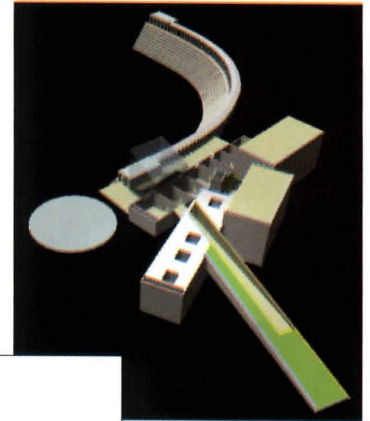
Birkerts, a Riga native, fled as a teenager during World War II and established a Michigan-based practice known for Expressionist forms, such as amoeboid galleries at the Corning Museum of Glass in Corning, New York. He has not yet built in his homeland.

Sheathed in silver-gray low-e panes, the craggy 500,000-square-foot structure will consolidate book collections and a folk music archive. "It's both a symbolic and a very practical building," Birkerts says.

At the Venice Biennale's Eighth International Architecture Exhibition this fall, Latvia will devote its gallery to drawings and models of the library. *Eve Kahn*

Voorsanger designs UVA museum

New York architecture firm Voorsanger Architects has designed a new 80,000-square-foot home for the University of Virginia (UVA) Art Museum. The site is adjacent to the UVA Lambeth Colonnade (curving form in image below). UVA is currently raising funds for the building, which would include an auditorium and galleries. *J.E.C.*



The UVA Art Museum (left) will be adjacent to the Lambeth Colonnade (above).



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Dates & Events

Ongoing Exhibitions

Three Nomadic Structures: Jean Prouvé and the Maxeville Years New York City

Through August 15, 2002

This, the first exhibition of the French architect Jean Prouvé in the U.S., was initially scheduled to run only until May 10, but it has been extended. Prouvé has had something of a revival in recent years, and this exhibition offers a rare opportunity to see his work. At the Arthur Ross Gallery, Buell Hall, Columbia University. Call 212/751-6126.

Windshield: Richard Neutra's House for the John Brown Family Washington, D.C.

Through August 18, 2002

An in-depth examination of Neutra's first project on the East Coast, completed in 1938. The show documents the creation of this home with examples of architect-client correspondence, original drawings, sketches, blueprints, home movies, photographs, and models. At the National Building Museum. Call 202/272-2448.

Helmut Jacoby: Master of Architectural Drawings Chicago

August 31–October 27, 2002

Quite possibly the best known architectural renderer of the 20th century, Jacoby has worked for some of the brightest stars in architecture—from his earlier days with Philip Johnson, Eero Saarinen, I.M. Pei, Marcel Breuer, and many others to his later work with more international architects, such as Sir Norman Foster and Helmut Jahn. His work serves to document the evolution of architecture from the 50s through the 70s. At Kisho Kurokawa Gallery, Art Institute of Chicago. Call 312/443-3600.

Artists Imagine Architecture Boston

Through September 2, 2002

The Institute of Contemporary Art, Boston opens an exhibition exploring the architectural model as sculpture. International artists investigate structure, social interactions, and scale through the examination of Modernist architecture projects. At the Institute of Contemporary Art. Call 617/266-5152.

Gerald Zugmann: Blue Universe West Hollywood, California

Through September 8, 2002

This exhibition illustrates the decade-long collaboration between architectural photographer Gerald Zugmann and avant-garde Austrian architectural firm Coop Himmelb(l)au. At the Mak Center. Contact 323/651-1510.

Skin: Surface, Substance + Design New York City

Through September 15, 2002

This exhibition skims the surface to explore the different ways skin is articulated in design. On display are a variety of objects and artifacts by such notable designers as Greg Lynn, Petra Blaisse, Ross Lovegrove, and Marcel Wanders, organized into five themes, each delving into questions of beauty, technology, and artificial life. At the Cooper-Hewitt, National Design Museum. Contact 212/849-8400.

Living in Motion—Design and Architecture for Flexible Dwelling

At the Vitra Design Museum, Weil am Rhein

Vitra Design Museum, Weil am Rhein: through September 8, 2002; Vitra Design Museum, Berlin: September 21, 2002–January 26, 2003

This exhibition covers furniture and

houses that reflect flexibility, multifunctionalism, and mobility, prime examples being Rietveld's Schroeder House, Shigeru Ban's Naked House, and Steven Holl's Fukuoka Apartments, among others. It covers a wide variety of cultures in its attempt to portray domestic flexibility. At the Vitra Design Museums, Weil am Rhein and Berlin. In the U.S., call 212/539-1900; in Europe, call 49 7621 702 3351.

Designing Oakland Pittsburgh

Through September 22, 2002

This exhibition discusses Oakland—the neighborhood in Pittsburgh, not the city in California—and is the second of the series of *Pittsburgh Neighborhoods Projects* exhibitions organized by the Heinz Architectural Center. It tells the story of the evolution of the neighborhood from an urban getaway to a cultural center sharing the spotlight with downtown. At the Heinz Architectural Center in the Carnegie Museum of Art. Call 412/622-3131 or visit www.cmoa.org.

Visions from America: Photographs from the Whitney Museum of Art, 1940–2000 New York City

Through September 22, 2002

The museum's first photograph exhibition comprising work from its own permanent collection consists of images by established as well as emerging artists whose photography has been collected by the Whitney over the past 11 years. The show runs through the summer. At the Whitney Museum. Call 212/570-3633.

Out of Site New York City

Through October 13, 2002

This exhibition focuses on how technology and communication have impacted modern-day culture. A team of international artists have come together and responded to this question by re-shaping space using different forms of media for analysis. At the New Museum of Contemporary Art. Call 212/219-5328.

SHOPPING Frankfurt

September 24–December 8, 2002

This exhibition analyses the cultural phenomenon of shopping in the cultures of the 20th and 21st centuries. More than 70 artists are featured, all of whom, in some way or another, dealt with consumer culture through visual art, architecture, and film. Among the artists on display are Rem Koolhaas, Marcel Duchamp, Jeff Koons, Claes Oldenburg, Gerhard Richter, and Andy Warhol. At the Schirn Kunsthalle Frankfurt. Call 069 29 98 820.

Lectures, Symposia, & Conferences

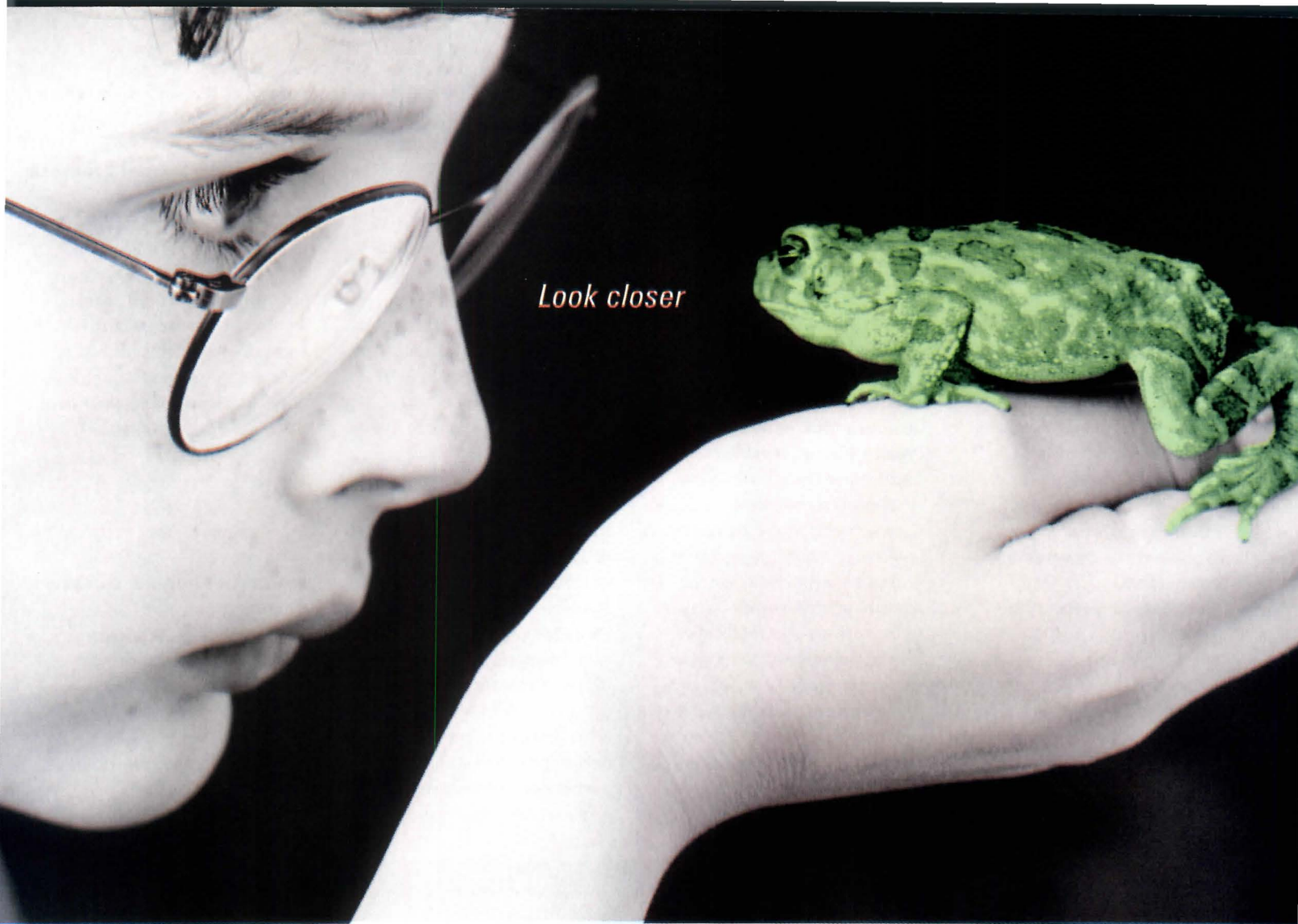
What Matters Now: 52nd International Design Conference

Aspen, Colorado

August 21–24, 2002

Join leaders in architecture, the arts, and science in this year's annual design conference. The 2002 program committee members include Walter Hood, Michael Rotondi, Lorraine Wild, Paola Antonelli, Bran Ferren, Gregg Pasquarelli, and Billie Tsien. Visit www.idca.org or call 800/815-0059 for more information.

Universal versus Individual: The Architecture of the 1960s Jyväskylä, Finland



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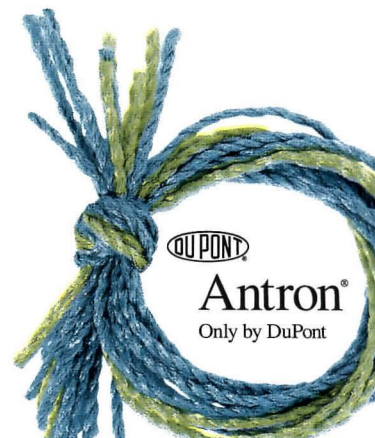
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Dates & Events

August 30–September 1, 2002

This conference will explore the architecture of the 1960s by illuminating universal currents as well as individual and regional trends. Keynote speakers include Beatriz Colomina, Claes Caldenby, and Dennis Doorman. Sponsored and organized by the Alvar Aalto Academy. For more information, visit www.alvaraalto.fi/conference/universal.

5th International Architecture Symposium Pontresina

Pontresina, Switzerland
September 12–14, 2002

This symposium is tackling a wide variety of issues that are of importance in the world of architecture today. The main discussion points will be the development of a new form of architecture for minority groups in poor cities, and the con-

cept of the Global Guggenheim and the complex relationship between architecture, art, and business. At Congress Centre Rondo, Pontresina, Switzerland. Call 41 081 838 8318 or visit www.archisymp.com.

Frank Lloyd Wright and the Modern Metropolis White Plains, New York

September 18–22, 2002

The annual conference of the Frank Lloyd Wright Building Conservancy is directed toward Wright's documented affinity to New York City, despite the general belief that he was "anti-urban." His ideas for reconstructing the metropolitan region in organic terms will be discussed, with architecture critic Herbert Muschamp of *The New York Times* as the keynote speaker. At the Renaissance Hotel. For more information, call 773/324-5600 or visit www.savewright.org.

AIA California Council Desert Practice Conference 2002 Indian Wells, California

November 15–17, 2002

This conference attempts to clarify the business of the practice of architecture. The conversation will cover project delivery, business and practice management, emerging practices, future trends, and expanded services. At Renaissance Esmeralda Resort. Call 916/448-9082 or visit www.aiacc.org/conferences.

Conventions

Rail-Volution 2002 Washington, D.C.

October 3–6, 2002

This year's conference focuses on the community's role in making transit and land-use decisions and brings a unique cross section of citizen activists, business leaders, elected officials, and planners to the table to discuss the issues. Rail-Volution features a variety of sessions, including hands-on workshops, case studies,

and moderated panel discussions. Contact 800/788-7077.

NOMA International Congress and Exposition

Ft. Lauderdale, Florida
October 15–18, 2002

An opportunity provided by the National Organization of Minority Architects to showcase their work and interact with other architects and design professionals. At the Wyndham Bonaventure and Spa. Call 301/941-1065 or e-mail avery@noma.net.

Competitions

The Great Egyptian Museum Competition

Deadline: August 10, 2002

An open invitation to architects from around the world to participate in the creative design of this new museum. Located near the Giza pyramids, the museum will house some of Egypt's most ancient monuments and treasures. Visit www.gem.gov.eg.

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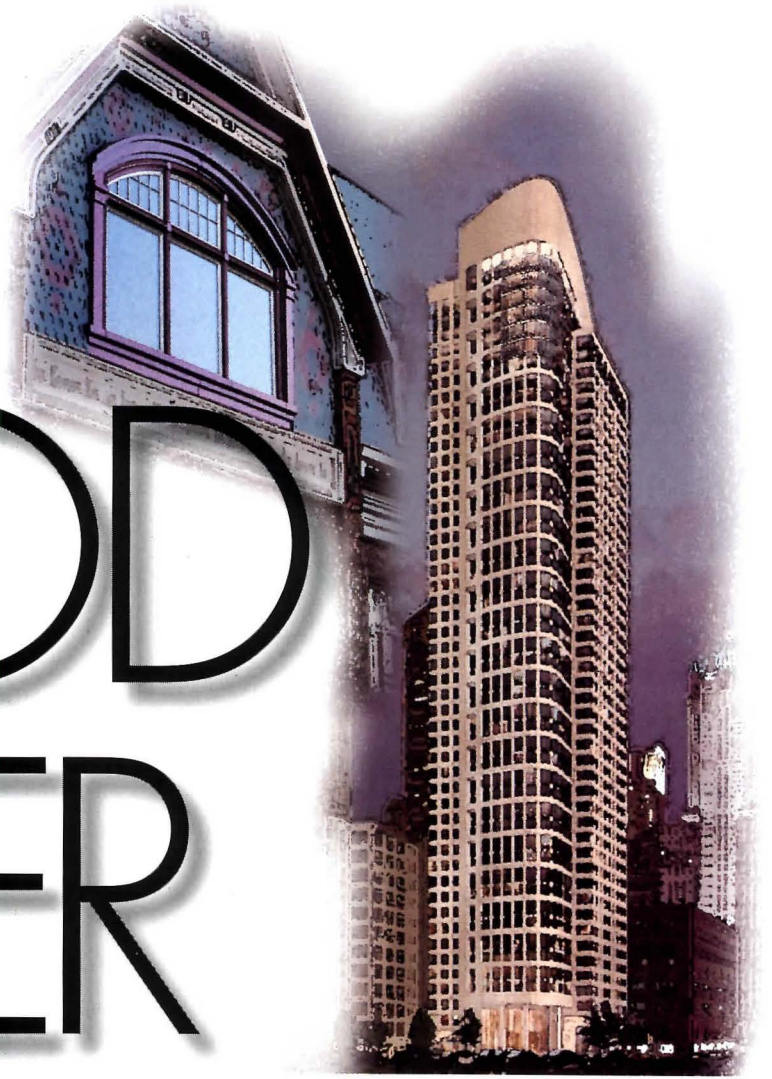
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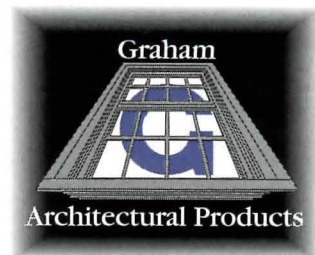
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Dates & Events

Shinkenchiu Residential Design Competition 2002

Deadline: September 2, 2002
This competition, held annually by The Japan Architect, invites architects from around the world to explore the theme "Dwelling Where the Muses are Served/Spared Emptiness." The entire competition will be judged by Daniel Libeskind. Sponsored by the Shinkenchiu-sha Company. Visit the Web site www.japan-architect.co.jp for more information.

Pentagon Memorial Design Competition

Deadline: September 11, 2002
An open, two-stage competition to select a design for an outdoor memorial on the grounds of the Pentagon, near the site of impact. The goal is obviously to honor the victims of the attack on the Pentagon on September 11, 2001,

and any individual or team may enter. For more information, call Mary Beth Thompson at 410/962-2809.

Tilt-Up Construction Association Achievement Awards Program

Deadline: October 1, 2002, with supporting materials due October 15, 2002

The purpose of this awards program is to recognize outstanding site cast Tilt-Up structures. There is a \$100 entry fee for each project submitted. Submittal forms and directions can be found on the TCA Web site, www.tilt-up.org, or obtained by contacting TCA at 319/895-6911.

Seattle Case Study Homes

Deadline: September 20, 2002
Architects and designers are invited to submit designs for a publication.

For information and to submit, see www.seattlecasestudyhomes.com.

26th Annual Cooper Source Awards

Deadline: October 25, 2002
Open to any lighting designers, architects, interior designers, or other professionals who use light in an interior or exterior application. Two categories are available, one for professionals, the other for students, who will compete for a \$1,500 cash prize. For more information, visit www.cooperlighting.com.

Mobile HIV/AIDS Health Clinic

Deadline: November 1, 2002
Architecture for Humanity, a non-profit organization, announces its 2002 international design competition. Architects are invited to submit designs for a fully equipped mobile medical unit and HIV/AIDS treatment center for use specifically in Africa. Entry fees, donations, and additional fundraising sources will be used to build the winner's prototype. Visit

www.architectureforhumanity.org for more information.

International Competition for the Design of "Ephemeral Structures in the City of Athens"

Deadline for receipt of mailed entries: November 25, 2002; Deadline for dispatch or handing in of entries: November 11, 2002
The Hellenic Cultural Heritage SA, supported by the Hellenic Ministry of Culture, is organizing this competition for the 2001-2004 Cultural Olympiad and the Athens 2004 Olympic Games. The program includes event platforms for music, dance, and other events that don't require seating; open-air theatres; and semi-open exhibition spaces, among others. For more information, call 33 10 976 95 10, visit www.culturalolympiad.gr/ephemeralcompetition, or e-mail ephemeral.competition@eeogroup.gr.

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archrecord2

FOR THE EMERGING ARCHITECT

DEPARTMENTS

Years spent watching television paid off for at least one young firm featured in this month's archrecord2. Knowledge of bad sitcoms helped them explain their design to a competition jury. The media are also helping the career of a London duo who have recently won a major award for their work in one of the toughest towns for architects to get started in. And when you're done with the broadcast and print media, visit our Web site for the best in Design, Work, Live, and Talk.

DESIGN

PLY Architecture: Four's Company



A good knowledge of television helped PLY Architecture + Design, a firm based in Ann Arbor, Michigan, to win a competition to design a Case Study House in Cleveland. The competition provided two hypothetical clients, but the four architects who make up PLY decided that their house should be more flexible, so they basically designed it for every type

of client they could think of. TV came into the picture when the architects began to explain their ideas.

"In the exhibition, we tried to show the flexibility of this house, so we laid out the furniture for four different families," said Craig Borum, one of the four principals (bottom left). "To try to make it accessible and understandable, we chose pretty well known families: We chose the Cosbys; we chose the Cunninghams from *Happy Days*; we chose Jack, Chrissy, and Janet from *Three's Company*; and then we chose *The Andy Griffith Show*. So we had a single parent. We had three adults sharing a dwelling. We had a full nuclear family with a home office—the Cosbys. And then we had a kind of traditional family with Fonzie living over the garage, which is exactly where Fonzie would live in our house."

The Cleveland Case Study House was designed as a series of premanufactured loft spaces that can be placed on top of a custom base. The upper floor can be used as bedrooms, home offices, or rental space. The ground floor is equally flexible. "The only thing that's defined on the ground floor is the kitchen," said Karl Daubmann, another one of the principals (top right). "Everything else is just a large room or a small room or a medium-size room."

Daubmann and Borum met in 1999 at the University of Michigan, where they were both teaching. The other two principals in the firm, John Comazzi (top left) and Gretchen Wilkins, also teach at Michigan. Being attached to a university has been an entirely positive experience for these architects. "The university respects our time, and our colleagues are a good source of ideas,"



Case Study House Competition, Cleveland, 2002

PLY Architecture + Design. In the winning entry for this competition, PLY designed a prefabricated upper-floor structure that could sit in various configurations atop a customized ground floor.

(continued from previous page) Borum said. "It wouldn't be the same sort of practice if we didn't have a place to talk about what we're doing in a critical way."

The firm was loose at first, with a shifting group of collaborators working on various projects and competitions. But after almost winning a competition to design a public school in Chicago, PLY took the jury's reaction to heart. "I think they sensed that we weren't a real firm," Daubmann said, "and they wouldn't give us this \$20 million school to do if we were just four professors showing up. One of the things that this forced us to do was to be more regimented about our idea of the office."

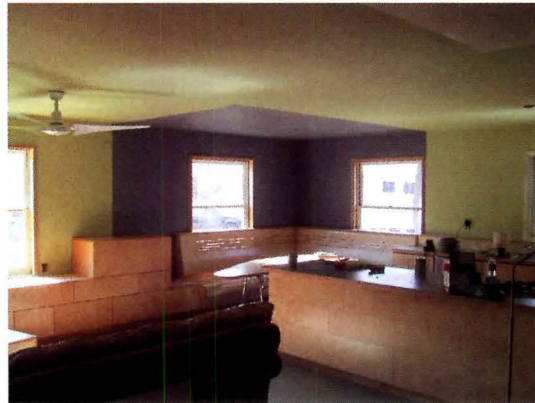
The four partners have since realized that each has something unique to bring to the drafting table, and their recent projects, which include several residences, an office building, and a retrofit of a local sushi restaurant, reflect the mingled personalities and design philosophies of the principals.

"We each tend to take on a project and guide it through," Borum said, explaining the firm's work process. "When one person is the lead on a project, the rest of us take on the role of critic. But we're all working on every project; we're all drawing. Being together as a firm has given us the chance to do something more than any one of us could do at a given moment." *Kevin Lerner*
Go to architecturalrecord.com/archrecord2 to see several more projects from PLY Architecture + Design.



House on the Huron River, Ann Arbor, Mich., 2002

PLY Architecture + Design. The renovation and addition to an existing house takes advantage of the site's commanding views of the river in the house's backyard.



Interior Renovation, Ann Arbor, Mich., 2001

PLY Architecture + Design. Color defines space in this kitchen that the architects designed and built on-site.

WORK

Plasma Studio of London wins YAYA

Plasma Studio, a London-based firm, has won the 2002 BD/Corus Young Architect of the Year Award (YAYA). Plasma's two principals are Eva Castro and Holger Kehne.

The award required the submission of a 13-page portfolio in which as many (or as few) projects as desired could be included—built, unbuilt, or under way. The only other requirement was that the entrants all be less than 35 years of age. The YAYA's jury was chaired by Richard Feilden and included Zaha Hadid, Mohsen Mostafavi, and Spela Videcnik, a member of last year's winning firm, Oman and Videcnik [RECORD, December 2001].

Castro said that working in London offered their firm, and others like it, a "good place to project from,

but very difficult to develop" within, since the city's established density offers little room for new construction. Most young firms in London subsist on renovations and restorations. The team hope that their growing success will allow them to expand their practice across Europe, and even in the U.S.

Among the projects that won them the award was a renovation of a silversmith's workshop, in which they added an upward-snaking platform made from industrial steel grating, playing with the natural light supplied by the skylight without obscuring it. They also refurbished a musicians' home, where they added a single wall that mutates to become storage, a mirror, a window, a wardrobe, or stairs. The rooms that



this wall delineates also serve multiple functions. One of the rooms is a music room with soundproof walls that also acts as a dressing room. Both of these projects are located within London, as are all of the firm's built projects. All of them are also refurbishments of existing buildings.

Since the YAYA, Plasma won fifth place in a competition for an ocean museum in Germany on the Baltic Sea. The firm competed against a group that included Coop Himmelb(l)au and other large European firms, signaling that perhaps the YAYA is just the start of its success. *Sinan Schwarting*

To view some Plasma Studio projects, visit architecturalrecord.com/archrecord2

On the Web, archrecord2 presents a series of articles about how emerging architects shape their careers. The first installment, focusing on Web sites, can be found at architecturalrecord.com/archrecord2, along with our monthly forum.

An apartheid-scarred Johannesburg continues to renovate and heal

Correspondent's File

By Lisa Findley

DEPARTMENTS

From the window of an airplane it is easy to see that apartheid is deeply written into the landscape of South Africa. Even the smallest settlements appear as two towns: One consists of a grid of tree-lined streets and comfortable houses surrounded by lawns; its shriveled twin, always some distance away, has a much tighter grid of dirt roads lined with tiny shacks. Here, trees are a rarity and lawns nonexistent. This pattern of racist neatness appears no matter the size of the population: the white town and the black "township".

While apartheid ended in South Africa legally and politically in 1994, its policies still affect everyone spatially, socially, and economically. In Johannesburg, at eight million the largest city in the country and its economic engine, these physical manifestations of apartheid happen on a huge scale—with the township of Soweto as its shadow double some 35 kilometers away. Transportation between Soweto and Johannesburg is profoundly inadequate and expensive. Although middle-class people can now move from the townships, buying houses in once-white-only neighborhoods closer to the city, the poor must remain behind.

While Soweto struggles to avoid sinking further into poverty, Johannesburg itself is also struggling with the aftermath of

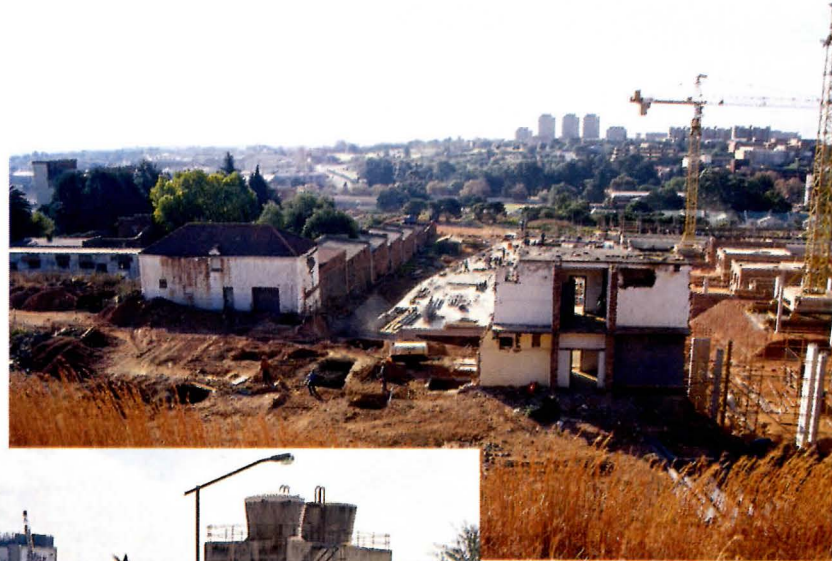
apartheid. Beginning in the early 1990s, as the end of apartheid approached, businesses started to leave the once-prosperous downtown primarily to relocate in the upper-class enclaves like Sandton, several kilometers to the north. Here, expensive gated communities are protected by high walls, electric fences, and security patrols, and closely monitored shopping malls substitute for public space. Sandton, too, has its township double: grim Alexandra. Motivated by both economic and racial fears, the trickle of "white flight" from Johannesburg turned into a flood after 1994, with the first democratic election and the elimination of the pass laws that kept nonwhites out of the given areas unless they were specifically employed there.

On the surface, things look bad for this once-thriving urban center. As businesses abandoned the city, the empty streets became more dangerous, leading more businesses to leave. Many underused office buildings now provide a silent backdrop to the informal trading that occupies the city sidewalks, while squatters illegally, but openly, occupy others. The formal economy of downtown is barely kept alive by the presence of a few bank headquarters, the Gauteng provincial government's offices, as well as the offices of the gold-mining companies that are the *raison d'être* of Johannesburg in the first place. In a final blow to the downtown's dignity, the South African Stock Exchange, the 10th-largest

market in the world, recently moved to new, sanitized quarters in Sandton. But all is not lost.

Surprisingly, the story of central Johannesburg, a fast-forward version of the declining fortunes of many American cities in the late 20th century, is now moving into the next chapter: redevelopment.

sents South Africa to itself and to the world. This makes Johannesburg a key player in attracting and maintaining investment and tourism. Consequently, an alliance of government interests, building on the city's efforts to make the downtown both safer and cleaner, are in the process of



Johannesburg's renovation efforts include transformation of the Constitutional Court Building (above) and Turbine Hall (left).

Somehow, in the midst of the other priorities clamoring for the limited resources of the post-apartheid city and provincial governments, long-term investment in urban redevelopment has gained a place. There is a consensus among decision makers that the economic and cultural vitality of its cities repre-

turning Johannesburg around.

The key players in this effort are the Johannesburg Development Agency (JDA), a fledgling city agency launched in early 2001, and Blue IQ, an imaginative economic-development initiative by the Province of Gauteng begun in 2000. While the JDA is young, it is already respected

Contributing editor Lisa Findley practices architecture in Oakland and teaches at the California College of Arts and Crafts.

Correspondent's File

as an action-oriented agency working in sophisticated ways, drawing upon the experience of cities all over the world and the knowledge of foreign consultants.

Blue IQ (no one admits to knowing where the enigmatic name comes from) is a quasi-autonomous provincial group that focuses, according to Oren Fuchs, one of the general managers, "on preselected projects in the areas including high-value-added manufacturing, 'smart' industries, and enhanced service sectors like tourism and business travel." The activities of these two groups overlap in two major efforts for Johannesburg, with the JDA as the implementing agency.

First is the revitalization of a former warehouse district known as Newtown—located at the edge of the city center—into a cultural hub by creating large venues for the performing and visual arts, training

facilities for all types of cultural production, and a center for craft training and manufacture. Already in place in Newtown are Museum Africa, the Workers Museum, the long-established Market Theater and craft market, small video and photography production facilities, rehearsal space for two dance companies, and a vast public plaza, Mary Fitzgerald Square. Cafés and bars are starting to open in the area, and a firm of young architects has set up shop in the shell of a tiny cooling tower.

Under construction on the edge of the Newtown precinct is an enormous transportation and trading hub known as Metro Mall, designed by the Johannesburg firm Urban Solutions. The hub will handle 150,000 commuters a day through a facility with 1,800 taxi bays (for the overcrowded minibus taxis that ply the routes between the townships and the city),



Carved heads adorn the bollards in the new Mary Fitzgerald Square.

30 bus bays, 800 trading stalls, and various other public accommodations. Also under construction is the Bus Factory, a renovated bus-maintenance facility that will house craft training programs and production facilities. The Mandela Bridge, a cable-stay bridge that will connect the Newtown area to the cultural venues, city government offices, University of Witwatersrand, and other activities perched in the Braamfontein district, on a small ridge just north of the downtown, is also under construction.

Still to come for the government efforts in the district are five housing projects with a total of 2,000 units, many affordable, and the renovation of a set of Goliath abandoned turbine buildings into a performing arts school and venue. In a gesture of its faith in this key site, Blue IQ located its headquarters in the center of Newtown. "Newtown has the potential to become one of the great arts districts of the world," says Leslie Musikavanhu, an architect working on the Bus Factory and other

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Correspondent's File

Newtown projects. "Imagine the creativity pent up in the people of South Africa during all of those years of apartheid. This place will be flooded with that energy."

The other large central Johannesburg precinct where the JDA and Blue IQ are catalyzing development is radically different from

Durban and Urban Solutions of Johannesburg, is due to be completed in August 2003. Unlike the forbidding grandeur of the U.S. Supreme Court, the new South African Constitutional Court comprises a nonmonumental collection of smaller buildings connected by art-filled public spaces open to all

CONSTITUTION HILL — ONCE A PLACE OF WAR AND IMPRISONMENT — IS BECOMING A PLACE OF JUSTICE AND PROTECTION.

Newtown, but more significant to the new democracy of South Africa. Up on the ridge in Braamfontein, next to an old Afrikaaner fort and the notorious "Section 4" of the "Native Prison" of apartheid years, cranes rise over the construction of the new national Constitutional Court. The building, the subject of an international competition with a collaborative entry by OMM Design Workshop of

citizens. According to Constitutional Court Justice Albie Sachs, "Given the terrible history of the abuses of basic civil rights in South Africa, it is important that justice is open and attainable for everyone. This building must symbolize the aspirations of our new constitution, which is seen as the most progressive in the world."

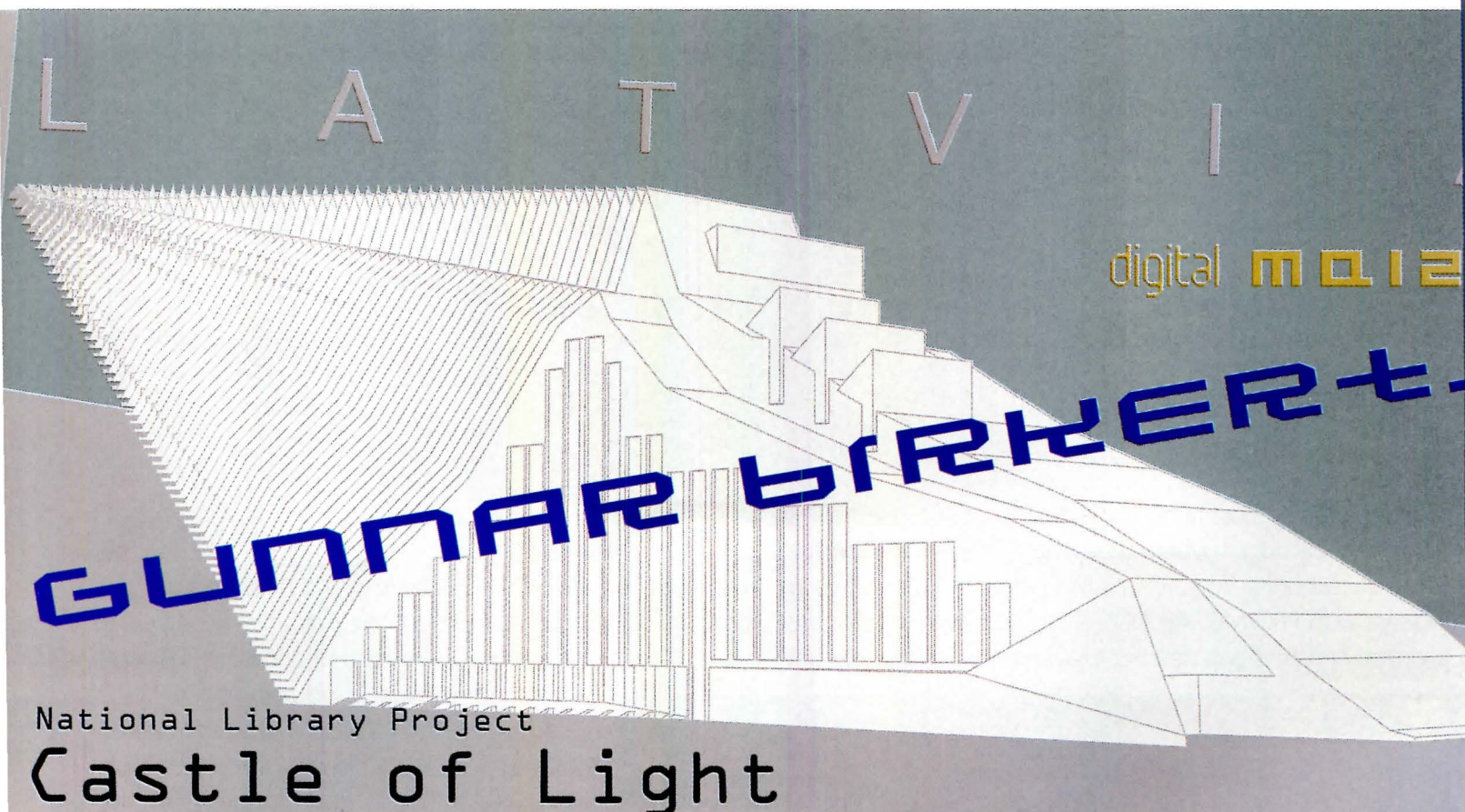
The court is the central piece of the redevelopment of what is now

known as Constitution Hill, a rocky outcrop overlooking Johannesburg. In a poetic gesture, this place of war and imprisonment is being transformed into a place of justice and protection. The fort and Section 4 will remain as cultural heritage sites, while the former women's prison will be converted into offices for various rights organizations. It is up to private developers to propose the hotels and the office and commercial blocks that are envisioned to complete the precinct.

While these two projects will not alone save downtown Johannesburg, they are already having the ripple effect that JDA and Blue IQ had hoped for. Private investment in the central city has turned around and is now increasing. Smaller public and private redevelopment projects abound, including the JDA's efforts to revitalize garment manufacture in the city's Fashion District, while once-abandoned warehouses are being occupied by artists and designers.

Altogether, the revitalization of Johannesburg appears to be shaping up as a success. However, these

huge projects are only a small step in the mammoth architectural and urban design challenges that face South Africa as it strives to undo the double-city spatial legacy of apartheid. Neither the Newtown nor the Constitution Hill project addresses the primary issue of creating one contiguous city or of adequately housing the poor downtown to achieve both racial and economic diversity. Blue IQ does have one project in its portfolio that has some potential to help: the Gautrain. This is a state-of-the-art rapid-rail transportation system that will be deployed in the coming years. However, with unfathomable economic elitism, Gautrain will not serve the townships but instead will connect the business and governmental nodes of Pretoria (the nation's capital 60 kilometers north of Johannesburg) and Sandton with Johannesburg. Many of the attitudes of apartheid linger in the air as economic elitism threatens to replace racial elitism in this complex and evolving nation. ■



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Advice to architects: Keep Howard Roark and his grand schemes away from Ground Zero

Critique

By Robert Campbell, FAIA

DEPARTMENTS

I'm looking at an e-mail from a well-known New York architect, a name many of us would recognize. This architect writes: "If allowed to stand, the decisions made to date around the rebuilding of Ground Zero will doom it forever to what verges on a national disgrace. The Lower Manhattan Development Corporation and the Port Authority, the rebuilding authorities, have already failed the nation in its expectation for a unique, uplifting, and visionary project to rise from the ashes of Ground Zero. What should become a new wonder of the world—a true statement of who we are—is emerging as just another speculative real estate development and a memorial at its side. Only the participation of the greatest architectural minds, selected through a national design competition, will allow us to rebuild the World Trade Center in the best way possible. We must act now to make the site a lasting and fitting tribute to 9/11 and its victims instead of spending billions of public dollars [on] a mundane project ..."

I quote this because it is typical of the kind of romantic, Howard-Roarkian document with which I find myself in total disagreement. As we come closer to seeing actual design proposals for the World Trade Center (WTC) site—a troika of alternative schemes is due from the Lower Manhattan Development Corporation in September—I'd like to use this

Contributing editor Robert Campbell, FAIA, is the Pulitzer Prize-winning architecture critic for The Boston Globe.

letter to suggest how we, the architectural community, should and shouldn't be reacting.

Let's take the letter phrase by phrase: "A unique, uplifting, and visionary project." I'm sorry, but I can't imagine why an uplifting and visionary project, whatever that may turn out to mean, is the proper way to memorialize a disaster. New York is full of attempts at uplifting and visionary projects, like, say, the Hall of Fame for Great Americans (does it even still exist?) or Grant's Tomb or Lincoln Center or the UN. But what makes it a great city is the ordinary streets of apartments and shops and galleries and factories and restaurants, richly layered with human use, arranged for the most part on a perfectly ordinary—mundane, to quote the letter again—grid street plan.

"A new wonder of the world." Well, let's see, what were the wonders of the world? The pyramids of Egypt? The Colossus of Rhodes? The Tomb of Helicarnassus? I've never been a fan of the too-cute phrasing of Robert Venturi's "Ugly and Ordinary," but I prefer U and O to Pompous and Self-Important.

"Just another speculative real estate development." Almost everything I love about New York began as just another speculative real estate development. Surely that is the very essence of our greatest city. When things have gone wrong, they've often done so on the advice of architects, as in the tower-in-the-useless-plaza era of the 1960s.

"The participation of the greatest architectural minds." Are we really so sure that our great archi-

tectural minds can do so much better than anyone else? Does the history of avant-garde urbanism over the past century suggest that we can? Brasília? Chandigarh? Cumbernauld?

What's distressing about all this is that, once again, we architects are carefully positioning ourselves as

doubtless thought of himself as a visionary. Until very late in its life the WTC never even made money. It survived economically only because half of it was packed with state workers. Yes, that's the same Port Authority, and yes, something bad could happen again. Judging by current rumors as this is being written,



Lower Manhattan, seen here in an earlier era, was built mostly on spec.

outcasts from the larger culture that is our only source of support.

It's important to note that the WTC, which was a terrible piece of architecture and urbanism, was not at all an example of my letter writer's "just another speculative real estate development." If it had been, it would have been better. It was, instead, the egregious work of a bullying, market-free institution very much like a Soviet Commissariat, namely the Port Authority, and of an architect who

the authority may well be lusting after another grossly overbuilt, single-use office ghetto. What will keep that from happening, if anything can, is not proposals for a new wonder of the world, but the willingness and hard work of architects and urban designers who get involved in the process.

One group has been especially notable for doing that. The reports by New York New Visions, which have been coming out since February, are, as far as I'm con-

Critique

cerned, a landmark document that everybody should read and, with whatever criticism and reservations, get behind. If there's such a thing as cumulative wisdom about how to make cities, it's well represented in this document. The Visions group calls itself "a pro bono coalition of architecture, engineering, planning, and design organizations committed to honoring the victims of the September 11 tragedy by rebuilding a vital New York." Its *Principles for the Rebuilding of Lower Manhattan* rightly sees the WTC site as a problem of city building in the context of larger issues of transportation and regional planning, not merely as an opportunity for a new wonder of the world. It seeks to learn from the lessons of the past, not merely the intuitions of the present. A follow-up document, *Possible Futures*, lays out alternative scenarios, within the framework of

the principles, for redevelopment of the WTC site. You don't have to agree with every line to feel rather proud of a profession that has volunteered so much time and energy. I don't know of a comparable example. (Both reports are available at www.newyorknewvisions.org.)

Some have expressed public outrage because Visions is the work of "corporate architects," whatever that term may mean, and have bemoaned the fact that their gifted friends haven't been handed the project on a silver platter. That's not only unrealistic, it's juvenile. Nor is it fair to accuse the Visions authors of merely seeking work—which, even if true, would only be following H.H. Richardson in his classic statement of an architect's most important skill: "Get the job."


When the general public sees nothing but architects and architectural critics bickering and accusing

one another of selling out, the public, quite rationally, concludes that if we can't agree on anything, we must not know anything. What the public wants to hear from architects is something much more like a common voice—a voice that sounds as if it speaks from wisdom and experience, not from some self-interested avant-garde vision—a voice that embodies an ethic of professionalism in words that can be understood. If it ever hears that common voice, the public may again be willing to pay for good, fresh, inventive architecture. It isn't willing to do that now because nobody agrees on what good architecture is, least of all architects. When architecture becomes Roarkian, the public becomes reactionary. Princeton is now building Gothic Revival dorms again.

In my car, I've been listening to the tape of a book, *Founding Brothers*, about the generation who created the United States Constitution. The Constitution, we can probably all agree, is the most successful example of American


design. What makes that fact interesting is that the Constitution is a tissue of compromises. It's the result of a contentious and political process. What the Constitution suggests is that compromise is not half a loaf. It may be the nearest approach to perfection. So let's stop preening on the sidewalk and in the press and, like our forebears, get inside the room where the debate is going on. We're going to have to pull together if anything good is going to happen.

My own opinion? I wish to foist it on no one, but I think the best memorial to the World Trade Center would be not a soaring thing at all but a void. What we're memorializing is loss, after all, not accomplishment. The void would occupy the two footprints of the towers, which is a lot of space. Of course the void would need to be designed. That design would be a fit subject for a competition. All around it, we'd build a better city, based not on visionary dreams but on what we have all learned from the past mistakes of the greatest architectural minds. ■



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Avoiding the Pitfalls of Limited Contract Administration Agreements

Practice Matters

By Satish Rao

DEPARTMENTS

Comprehensive contract administration remains a key element in ensuring a satisfactory outcome for all the parties of a building construction project. The architect's best chance of heading off difficulties during construction still comes from being able to fully review shop drawings and submittals and to get a reasonable number of opportunities to observe construction as it progresses, regardless of pressures on time. Yet architects often confront problems when clients seek limited contract administration, with a curtailed construction-phase role for the architect.

Limited contract administration appeals to clients for several reasons. Some naively regard construction observation as costly and unnecessary because they believe drawings are a complete product that requires no interpretation or explanation. More quality-conscious clients might hire a construction manager and therefore think the architect's observation is redundant.

These well-meaning clients might not understand that a consultant who is unfamiliar with the architect's design concept or the assumptions on which the plans were based may not know the best way to solve problems or even recognize them. Clients have even been known to use construction documents to get building permits while fully intending to cut

Satish Rao has been a project manager for more than 30 years and is currently with Torti Gallas and Partners.

corners once the architect's role in observing construction has been restricted.

What typically gets cut

A typical limited-services contract administration agreement might stipulate that the architect's fee would cover only the following:

- Site visits limited to a specific number of trips;
- Submittal review limited to selected products and specific shop drawings;
- A stipulated allowance of hours for answering contractor queries and for in-house administration;
- Review and approval of the contractor's monthly payment requests;
- Approval of the Certificate of Substantial Completion.

These limitations leave a significant void in the checking and observing of work, which can cause trouble. Consider the plethora of hazards to which the unwary architect might thus be exposed:

- The architect cannot observe whether the builder's work conforms to the contract documents.
- The client or the contractor can make mistakes or changes without the architect's knowledge. These can result in code violations or safety compromises.
- The architect's review of only selected submittals may allow many deviations from the documents.
- Facts needed to support the certifications that must be signed cannot be verified.
- The capacity of the architect to

effectively facilitate communications between the owner and contractor is severely curtailed.

- The architect loses control over aesthetic issues when the client or contractor makes changes affecting them.
- Often the client contracts for limited services but requests more as the project proceeds. Securing compensation for these additional services can be difficult.

Clients usually want to lower the level of service in order to reduce the architect's fee. But the architect's liability is not lessened

REDUCED CONTRACTS DEMAND THAT THE ARCHITECT ASSUME A HIGHER LEVEL OF RISK IN ORDER TO SAVE THE CLIENT MONEY.

even if a restricted-services agreement has been accepted. Reduced contracts demand that the architect assume a higher level of risk in order to allow the client to save money. There is really no advantage for the architect to enter into such an agreement.

Over the years, architects' acceptance of limited contract administration agreements has had unfortunate consequences. It has weakened the negotiating position of architects who are not prepared to accept limited-service agreements. It has allowed the construction-management industry to flourish, as architects have deferred more and more responsibility to them, and it has also had the effect of diminishing the stature of the profession in the eyes of the public.

Explaining the benefits

When a client wishes to limit contract administration, it is often because they don't understand the architect's role during this phase of the work. To sell your services, you need to understand this role yourself, to be able to explain its importance while negotiating your contract. Comprehensive contract administration is somewhat like an insurance policy: If things go well, its cost to the client is small compared to the losses that may well be incurred if things go awry. When millions of dollars are at stake during the construction of a project, dis-

putes arise between those writing the checks and those writing the bills. Good contract administrators facilitate communication between parties—a vital role. In this role the architect may be correctly described as “a friend of the contract.” This means the architect acts impartially in seeing that the work conforms to the contract documents, and that the client pays for it. This requires that the architect at times be an advocate for the owner, for instance through vigilance in spotting construction errors, and at other times in protecting the contractor.

Deciding to take the job

If you feel that having too limited a role during the contract-administration phase of a particular project will not provide you with the means to

Practice Matters

adequately represent your client and to protect yourself, you may be disposed to walk away from the job. In order to make such a decision, you will have to know from the outset what are the minimum services that you can provide for the fee allowed for the work. If you must assume too many risks for the amount of compensation allowed, you may indeed have to turn down the job. Before you do, however, consult your insurance provider. He or she will help you identify risks and protect you against them.

If you take on the project

Should circumstances require you to accept a commission with less than a full scope for contract administration, you still must insist on a level of service that will provide all parties to the work, including the contractor, with a reasonable amount of protection from construction prob-

lems. Here are some tips:

Craft a thorough contract. Pay special attention to role definitions and limits of responsibility. Make sure the General Conditions of the Contract also describe your responsibilities. Be sure to include a provision indicating that you will not be responsible for the contractor's failure to perform the work in accordance with the contract documents. Never surrender services when that would result in compromising the safety of the public.

Get into the communication habit. Establish a trusting relationship with your clients and maintain clear and open communication at all times. Inform your clients that they must not make field changes without consulting with you. This will allow them to understand all the ramifications of these changes.

Keep thorough notes. The owner and the contractor will have

kept detailed notes that can nail you in a dispute, so you must keep a day-by-day log of what happens on a project. Do not destroy e-mails. Legally, they are considered project records.

Never certify something you don't know for a fact. Do not certify the quality of construction you have not inspected. Do not certify the work of other disciplines. Avoid the use of words or phrases that imply unlimited scope, such as "all" and "et cetera." The architect is under no obligation to the client to sign anything from a lender or a surety company, so resist the client's efforts to include this requirement in the contract. You should never certify or warrant that the contractor's work conforms to the contract documents or to the codes and regulations.

You should decidedly refuse to sign monthly certifications for payment unless you have been able to personally visit the site frequently enough to judge the progress of the work with absolute certainty.

Liability and exposure to lawsuits from either the contractor or the owner increase if inaccurate estimates of the percentage of project completion lead to inaccurate authorizations for payment or to delays in payments being made.

Hone your in-house practices. Develop a good set of standard procedures for your office and insist that your staff use them. Make sure your staff understands what being a "friend of the contract" means. Be certain that those who administer the contracts have read them and understand them well enough to identify potential dangers. Assign experienced staff to perform contract administration.

Know your costs and negotiate with care. Every contract should include a level of service and compensation that will enable you to provide adequate contract administration services. And this means protecting the client through the early detection of construction defects while limiting your own exposure to risk. ■

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The ethics of design: A few architects who have made values part of their practices

Books

Rural Studio: Samuel Mockbee and an Architecture of Decency, by Andrea Oppenheimer Dean and Timothy Hursley. New York: Princeton Architectural Press, 2002, 192 pages, \$30 (paper).

Hale County, Alabama, is one of the least likely places on earth to find great architecture. Poor, black, and mostly ignored since Walker Evans and James Agee brought it to world attention in 1939 in *Let Us Now Praise Famous Men*, Hale is “a left-behind place,” explain Andrea Oppenheimer Dean and Timothy Hursley in the introduction to their remarkable book. But the hardscrabble land and its proud residents “seduced” Samuel Mockbee and has inspired the Auburn University students who operate out of the Rural Studio that Mockbee established there. The result is a legacy of extraordinary buildings—small in scale, miniscule in budget, but great in spirit and design.

Mockbee, who died at the end of last year, had strong convictions about the role of architects in our society and the need to teach students how to serve their communities. A big man who knew how to have a good time, Mockbee anchored his work and his teaching in a fierce sense of place. You can't understand his architecture without knowing about the land and the people for whom it was created.

This book reflects those ideas. A graceful introduction explains Mockbee, his motivations, and his methods, then gives way to a series of chapters rooted in the places—

Mason's Bend, Newbern, Sawyerville, Greensboro, Thomaston, and Akron—where the Rural Studio has built. Dean, who is a contributing editor of *RECORD*, typically begins her descriptions of projects with the people who live in or use them, just the way Mockbee and his students began each project. Photographs show the untidy belongings and loving touches residents have added to their houses. Beat-up bicycles, embroidered tablecloths, and plastic furniture feel perfect in here.

The book also includes a short section of “Interviews with Students, a Teacher, and a Client,” an essay by Lawrence Chua on “The Rural Mythology of Samuel Mockbee,” and an essay by the photographer Cervin Robinson on the different approaches photographers from Evans to Hursley have taken in capturing the character of Hale County. Like Mockbee himself, this book impresses with its clear-eyed view of real life and its sense of conviction. *Clifford A. Pearson*

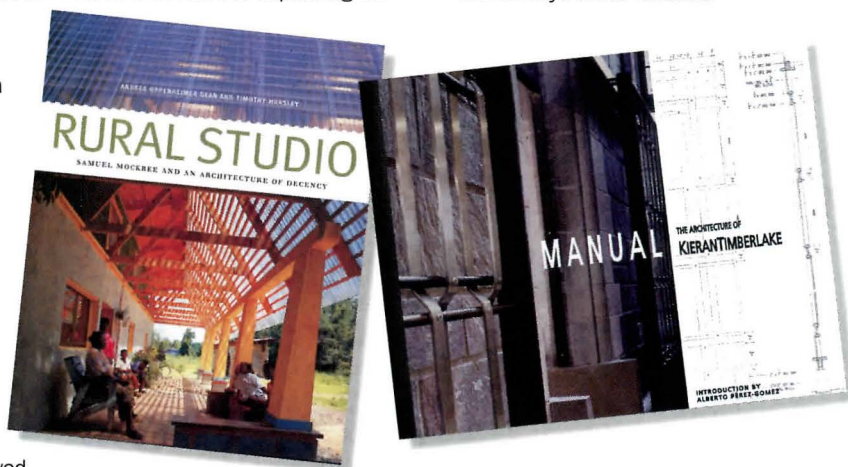
Manual: The Architecture of KieranTimberlake, introduction by Alberto Perez-Gomez. New York: Princeton Architectural Press, 2002, 216 pages, \$60 (cloth), \$45 (paper).

We have all seen hundreds of worthy architects' monographs that present the clients' programs, show handsome pictures of the results, and list the materials used. This one shows us something different, and

something much more interesting. Twenty-nine buildings and projects by Philadelphia-based KieranTimberlake Associates, founded by Stephen Kieran and James Timberlake in 1984, are given conventional—but brief—descriptions at the end of the book. Many of them will be familiar, since more than half have won AIA awards and some of them have been published in *RECORD*. But most of the book is devoted to explaining the

design strategies employed. tent in appearance, but design moves that give different results each time, and only a few of them are used in each project. Graphically, we are shown that variants of the “framing” and “weaving” techniques have been applied to 10 of the designs shown; for example, “patching” (or “episodic repair”) to six, and “selecting” to only five.

How these strategies are applied is important. As Perez-Gomez says in his valuable



design strategies employed.

To use the architects' own terms, these strategies are identified by 10 gerunds: framing, hinging, joining, lining, patching, profiling, scaling, selecting, slipping, and weaving. None is a new invention; they have all been used by many design firms in many ways, but seldom with such highly developed awareness. They are explained one by one in written descriptions and, more clearly, in specific examples from the building designs, illustrated with photos, and drawing details. These are not design motifs, consis-

introduction, “Kieran and Timberlake engage their clients in a process of discovery that is never preempted by some image of a future building.” Or by some image of a recognizable KieranTimberlake style. The appropriate strategies for each project are “discovered in the process of making,” not imposed from the outset as a Palladian or Corbusian system of proportions might be. In Perez-Gomez's words, this is an “Aristotelian” approach, in which principles “evolve from the bottom up,” rather than a “Platonic” one “in which production is dominated by

Books

preconceived ideas.”

Here is an unusually intelligent book explaining the unusually intelligent methods one firm is using to design some unusually intelligent work. *Stanley Abercrombie*

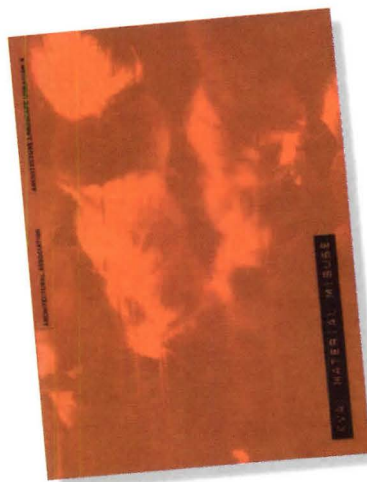
KVA: Material Misuse, by *Sheila Kennedy*. London: AA Publications, 80 pages, 2001, \$20 (paper).

This book meets architecture where it lives—in the material world—and presents an intriguing and gently subversive theory of design. Boston-based architect Sheila Kennedy speculates that today’s interest in materiality is a backlash or compensation for our increasingly “virtual” world, which “produces a renewed desire for tactility and texture in consumer culture.” Here she echoes Alvin Toffler’s “high-tech, high-touch” argument of 25 years ago: The more abstract our lives become through

electronic technology, the more we seek human and physical contact.

Kennedy is particularly intrigued by the “hollow wall” of today’s construction technology, through which weaves a hidden world of utilities, electronics, and other “guts.” “Convenient and concealable,” she writes, “the forgiving space of the wall became the site of choice for infrastructure in America. Structure, sheathing, and services were conceived and conjoined in the hollow wall as integral components of a mass-manufactured construction system.”

Such a development, Kennedy observes, forever changes the millennia-old tectonics of architecture. “The separation of volume from mass establishes a new distinction between structure and skin,” she writes. “And for the first time, the wall not only divides space, but also contains it.” The architecture of the



smooth wall is a lie. Plug ports, outlets, and all the other apertures that allow us entry to the concealed inner world are where the action is now. And because materials are constantly changing, the smooth surface will soon be alive with its inner workings. Kennedy notes, “When a material surface itself becomes a source for the transmission of light, heat, color, or information, material properties can be understood as a dynamic infrastructure with inherent variable

spatial effects. Cladding materials that appear to be solid become potentially permeable, not only through the cracks and junctures of their seams and joints, but also through their newly transmissive surfaces.”

Kennedy’s message to us as designers is to take what the industry offers and put our own spin on it, allowing us to see the “stuff of architecture” in new ways: material use as a form of cultural criticism. Kennedy enjoins us to “deform” these materials and systems, to “misuse” them, to invent new definitions and uses. “Invention resides in a critical re-vision of what is already existing,” she writes.

Kennedy backs up her theory and ideas with projects in which materials are rendered in new ways, are pushed to their limits, and call into question our assumptions about them. For a private gallery, Kennedy and her partner Frano Violich put mundane plywood through its paces, bending, blending, and transforming it from floor to

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desk to ramp. An installation at the San Francisco Museum of Modern Art becomes a treatise on the properties and surprises of drywall and plaster, collaborating with union plasterers in the discovery process. The hidden cavity for infrastructure is revealed and explored in two bathrooms at the Boston Center for the Arts. These projects and others presented in the book put meat on the theoretical bones. In so doing, Kennedy not only offers us a way of thinking anew about the materials we use every day, but also presents architects with a model of critical practice. And that is where theory begins. *Michael J. Crosbie*

The Ethical Architect: The Dilemma of Contemporary Practice, by Tom Spector. New York: Princeton Architectural Press, 2001, 208 pages, \$25.

There are many nuggets of wisdom in this book, but I can't imagine any sane architect plowing through 208

pages of grad-school English to unearth them. This is a fairly shallow Ph.D. thesis that has been inflated into the semblance of a book.

Its theme is clearly stated: "How best to cope with the ethical dimension of architecture has yet to be resolved by the leading architectural theorists. The remainder of this book will address this void through a detailed examination of the values and moral dilemmas unique to architecture."

Unfortunately, the remainder of the book does nothing of the sort. What it does do is try to clear a path for the author's own ideas by first demolishing everything anyone else has ever said about values in architecture. The author reduces the thought of each of his predecessors to a simple absolutist idea. Then he picks each one off, sometimes in a casual sentence or two. Some of these easily defeated, imaginary opponents are straw men: the Aesthete, the Strict Moralist, the Pluralist, the Modernist, many more. Others are real. The author has no

trouble deflating the likes of Gombrich, Vitruvius, Durand, Kant, Tillich, Harries, Frampton, Betsky, Venturi ... Everything seems so simple. For instance: "For modernists, function is sovereign; for postmodernists, the good resides in heterogeneity; for deconstructionists, the puzzling truth is that there is no ultimate truth; for neoclassicists, the ultimate truth lies in longevity." At other times, the author says things so obvious you wince: "Reasoning and rationality are fine as far as they go, but one should be wary of letting them carry the actor too far from the known."

As noted, the bloody sacrifice of the intellectual precursors, which takes up most of the book, is meant to cleanse the world of wrong ideas so as to make way for the author's own solution. This is crammed into a few pages of the final chapter, which is entitled "Style." Having accused everyone else of absolutism, the author, not surprisingly, informs us that we should abandon absolutist solutions. Beyond that, though, he

has some eloquent points to make, and I recommend pages 187-89 and 192-95 as well worth reading. He believes we architects can only be ourselves, saddled with our beliefs and conventions and virtues and community memberships, and that the expression of ourselves is style. No style, by definition, can be universal: "Architects work within a style precisely because of the absence of a privileged point of view. A tradition develops out of architects working out different answers to problems within a given mode of expression." He agrees with architectural historian James Ackerman that "style is a protection against chaos."

The attractive title is misleading. The book is not about ethics, it's about finding values of whatever kind that help you design. It's often confused and repetitious, but it comes out all right in the end. The biggest problem with books like this is their unfounded optimism about the amount of reading time anyone has. This should have been a pungent essay. *Robert Campbell, FAIA*

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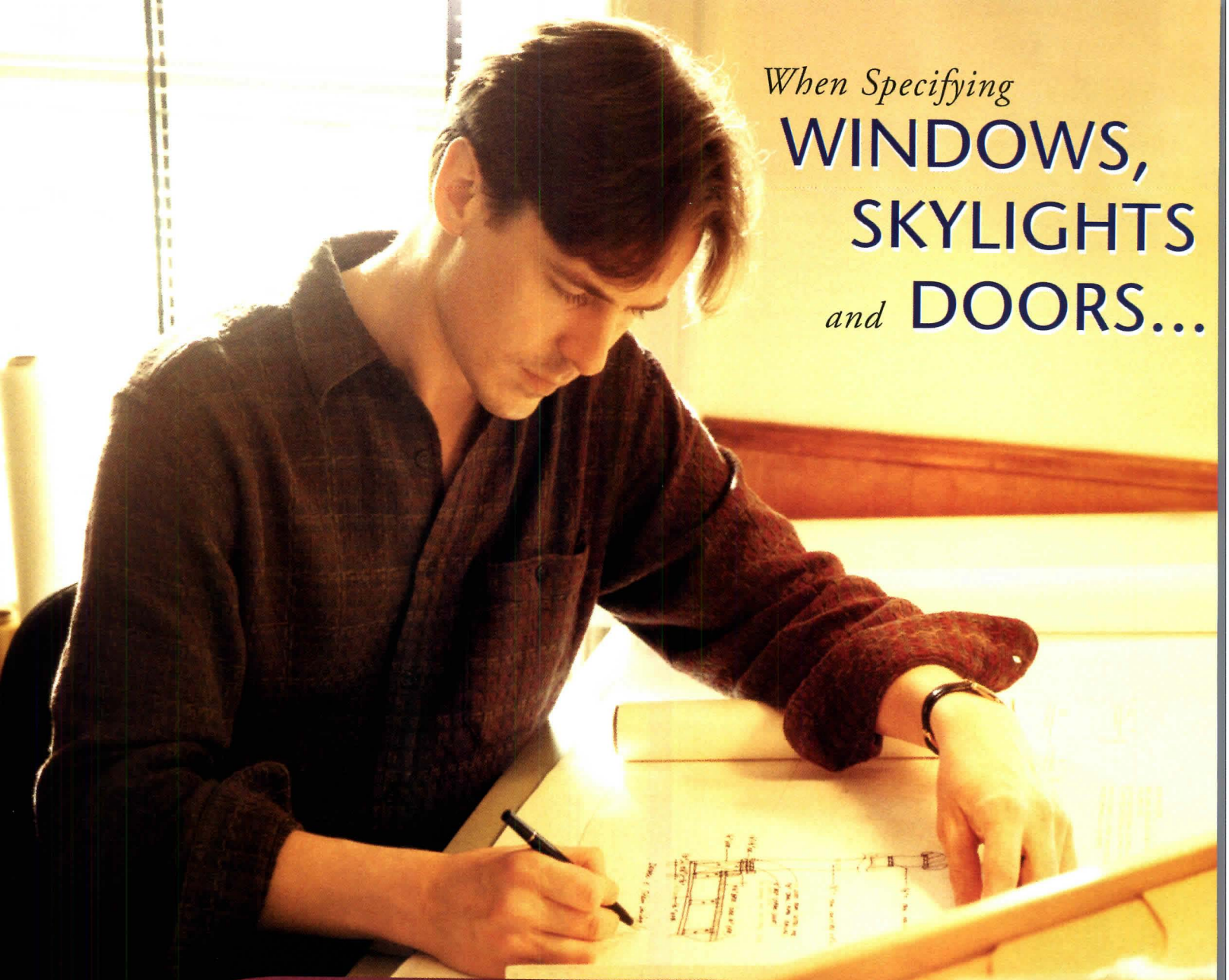


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Zaha Hadid imagines a new stratum added to Rome's architectural riches

Exhibitions

By Joseph Giovannini



Hadid's design for the new National Centre for Contemporary Arts in Rome (presentation model, left) is reflected in the flowing, curvy forms of her exhibition in the existing museum building (top and bottom right).

Zaha Hadid: Works, Planned and Completed. Curated by Zaha Hadid, at the National Centre for Contemporary Arts, Rome, Italy (until August 11, 2002).

Stop in traffic behind a bus in Rome this summer, and behold Zaha Hadid staring down from a poster advertising her summer blockbuster at the National Centre for Contemporary Arts. Posters everywhere—moving and stationary, on buses, walls, and kiosks—celebrate the advent of the London-based architect. With a dinner given by the ministry of culture in her honor at the Castel Sant'Angelo, and the city's mayor officiating at the opening, Rome has greeted Hadid as if she represents the second coming of Bernini or Borromini.

This city, like no other, intuitively understands Hadid, and even needs her. Protecting its patrimony, Rome has a long history of jealously guarding its commissions, especially during the 20th century. Since the glory days of a Papacy that consciously used buildings to propagate faith and

power, worldly architectural splendors have anticipated the glories of the beyond: Stone melts under heavenly light and vanishes into frescoes of thin air. Modernism—at least austere, low-calorie, Calvinist Modernism—never had enough flesh to stand up here to architectural Catholicism, so voluptuous in its curves and carnal in its materiality, yet ethereal in its aspirations.

Housed in old military barracks, the museum show is Hadid's largest to date. Although not a full retrospective, it adroitly highlights major moments in her career, from magisterial tableaux depicting The Peak, a club in the heights above Hong Kong, through the newest commission, a 400,000-square-foot addition to a BMW plant in Leipzig. Many of her early, unbuilt projects were developed thoroughly in model and on canvas, and they remain artifacts marking the trail of a perfectionist's driving search. Since her Vitra Fire Station established the buildability of her daring visions, her career has accelerated, and many projects are now complete or being built—including a garden pavilion in Weil am Rhein, a science museum in Wolfsburg, Germany, and the Rosenthal Center for Contemporary Art in Cincinnati,



DEPARTMENTS

Joseph Giovannini writes about architecture for New York Magazine, The New York Times, and others.

Exhibitions

all displayed in the show, among other projects. Hadid has made the transition from cult figure to builder without diminishing the intensity of her vision or research.

The show has a particular purpose. In 1999, Hadid won a competition to design the museum's new building within and among a complex of barracks near the old Olympic grounds in northern Rome. Hadid devotes a large explanatory section of the show to her design, with many models and tableaux, and as in many of her exhibition designs, she extracted ideas from projects displayed to design the installation itself, making the show a demonstration build-out as well as a freestanding installation.

The plan for the museum resembles the flowing circuits of a computer chip. Hadid takes this idea

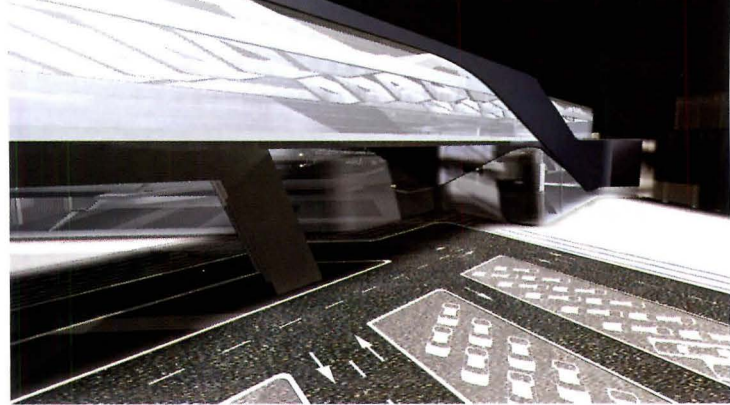
for secondary works—video projections, elevation drawings, prints. Ushered in by an undulating, leaning installation, visitors walk through on a self-guiding promenade.

Hadid is one of architecture's most gifted and original sculptors, but the plan for the museum eschews object creation in favor of the notion of a building as a field of movement. At the scale of the future museum, the striated plan bends and adapts pliantly to an irregular site. It doesn't preside over the streetscape, but shapes the whole site three-dimensionally as a system of passages—as though it were a vertically expanded, highly porous Piazza di Spagna.

The installation not only exhibits the planning of the future museum, to be started next year, but also posits a successful new paradigm for viewing art in something other than a white box. This is a show that addresses MoMA's conservative stand in its current expansion project, and it even comments on Gehry's Bilbao, where the flowing outdoor forms cede to largely conventional galleries inside.

Rome is the city that first introduced perception, and the phenomenology of viewing, as a subject in architecture. At the Palazzo Spada, Borromini created his funneling illusionistic colonnade, and at Sant'Ignazio, Padre Andrea Pozzo painted a deceptive trompe l'oeil dome true only to a single control point, but distorted otherwise. When seen from the Via Condotti, an obelisk locks the Spanish Steps on axis with the Trinità dei Monti, but seen from other angles, landings, balustrades, and stairs shift and reconfigure themselves like a Calder mobile, transforming the view into a moving experiential field. Picture becomes environment.

In the first tableaux depicting



Hadid's exhibition shows a variety of models, including those for BMW (left and above) and the Rosenthal Center for Contemporary Art (right).

The Peak, Hadid plays with shifts of perception that ultimately go back to the Roman tradition of applying three-dimensional drawing techniques to the third dimension itself. Her immediate inspiration, however, was Russian Suprematism, and in two vertical Peak canvases of 1983, *Slabs* and *Suprematist Snowstorm*, she paints axonometric panoramas of Hong Kong to create simultaneous multiperspectival views. She unlocks the canvas from the totalizing depth of one- and two-point perspective, creating contradictory depths in what emerges as a spatially indeterminate field. In some of her flyover urban tableaux, such as *Berlin Victoria*, she depicts always-changing aerial views of Berlin as an urban field. What the urban tableaux do not explicitly show is that the design of the buildings themselves embodies this multiperspectivalism. Hadid has unpinned space by removing the obelisk, releasing the buildings from fixity into play. People circulating through the constellation of parts come to feel that they, too, orbit.

The ideas Hadid is now realizing were foreshadowed early in her career. The Trafalgar Square project of 1985 posits a public promenade weaving through a suprastructure of loosely assembled volumes. Twenty years later this parti informs the museum now under construction in Cincinnati, where a promenade of discovery—what Hadid calls an “urban carpet”—winds its way into and through an array of detached and suspended galleries. Visiting a museum is about walking, and she

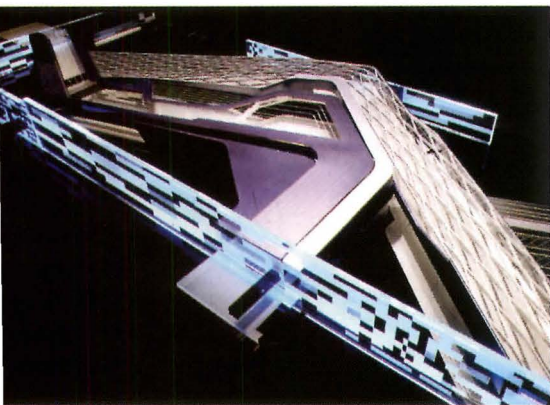


motivates the visitor by turning the museum into an exploratorium where its design provokes curiosity.

Scratch the formal brilliance manifest everywhere here and find a massive amount of raw but inspired labor. The originality of her inquisitive design process allows her to see schemes in new ways. In one Plexiglas maquette, she models space rather than form by hollowing the transparent plastic to show a system of ramps and platforms within the space: Trapped in the model like cubic bubbles, void has become solid. Her unique paper reliefs, a hybrid of drawing and model, show buildings that project out from the picture plane rather than into its depth, in a form of counterperspective.


Hadid may have had a delayed start building, but clearly she was not idle. The particular triumph of this generous show is the foretaste of the new contemporary arts museum in Rome: She explains the future museum by doing it.

Meanwhile, the show makes Rome again relevant and contemporary. We emerge from the barracks with fresh insights into the city. The future museum builds on history, adding an appropriate and welcome new layer in what Hadid proves is Rome's living palimpsest. ■



and threads tall curving walls through the cast-iron and masonry structure, establishing a continuum of mutating space and form. She grafts a dynamic system to the existing static one, turning the museum into a field of passages and pockets that changes direction and dimension. Overhead, sheet-rocked ribbons of wall, suspended from steel trusses, flow in a tango parallel to the full-height walls below. The tall walls lean in and out as they curve forward and away, creating convex and concave eddies that recall Borromini's own plays of form. The overhead ribbons offer unexpected display surfaces that Hadid deploys

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I AM PART #19

At the Land of Three Lakes, Swiss Expo.02 floats a potpourri of architectural expressions

Exhibitions

By Fred Bernstein

DEPARTMENTS



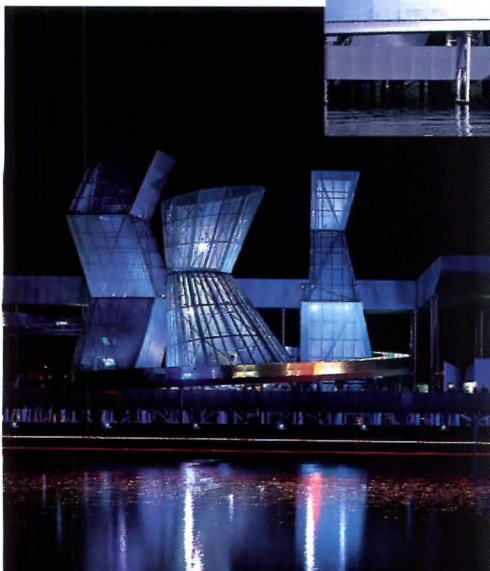
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Swiss National Exposition, commissioned by the Swiss Confederation, Martin Heller, artistic director; Biel, Murten, Neuchâtel, and Yverdon-les-Bains, Switzerland (until October 15, 2002).

Remember when national exhibitions touted industry and agriculture? These days, Switzerland produces more self-abnegation than watches or cheese, judging from the themes of Swiss Expo.02. At various pavilions, visitors are made to experience pain; are insulted by actors playing government officials; are taunted by a machine (created by the Swiss National Bank) that shreds piles of money. The shredding is, by some accounts, a fitting metaphor for the fair, which cost over \$1 billion—a staggering sum in a country of 7.2 million people, many of whom protested the expense.

And yet, architecturally, the fair is a success. Creating structures that suggest ambivalence isn't easy, but several firms rose to the challenge. The Cloud (often referred to as Blur), Diller & Scofidio's much-publicized exoskeleton building, has become the symbol of Expo.02, and for good reason—it is technologically daring, experientially satisfying, and susceptible to multiple interpretations, all existential. Almost as attention-grabbing is Coop Himmelb(l)au's concoction: three mostly empty towers and a cantilevered roof over an otherwise pristine lake. "It's so un-Swiss, building a roof for the fish," joked Pidu Russek, one of the Expo's artistic

Jean Nouvel's "Monolith" (1) is set adrift on Lake Morat; on shore, his piled-log cabin (2) forms an unconventional exhibition space. Visitors can wind their way around Coop Himmelb(l)au's towers of metal mesh at Biel (3), where at night, these monuments become lakeside beacons, beckoning exploration and discovery.

I AM
PART
HUMAN



#19

Exhibitions



4



5



6



7

Diller + Scofidio's "The Cloud" (4) shrouds itself in mist. Groupe H and Charpente Concept built "Le Palais de l'Equilibre" (5) to house an exhibition about the world's ecosystems. That site and the flying saucers of "Pebbles" (6), a marriage of nature and artifice, were conceived by Multipack. Visitors can stroll along the colorful "Oui!" pavilion (7) by Martin and Elisabeth Boesch. EXTASIA designed sweeping pavilion roofs in Yverdon-les-Bains (8).

8



directors. Pointlessness is the point. The towers, one of which resembles a nuclear power plant, are imposing and yet, because they're constructed of filigree metal, almost as ephemeral as The Cloud.

Among Switzerland's architectural stars, neither Mario Botta nor Peter Zumthor is represented, perhaps because their buildings would have felt too heavy for this lighter-than-air Expo. The more gauzy Herzog & de Meuron aren't here either, though their influence is everywhere (the "pain pavilion," made of metal straps, is a takeoff of their Signal Box in Basel.)

The fair is spread across four towns in a New York City-size region; in three of them, lakeside parks are dotted with assorted pavilions, World's Fair-style. By contrast, at the fourth town, Murten (known as Morat in French), a single architect, Jean Nouvel, was commissioned to transform a perfectly preserved medieval quarter. Nouvel's cartoony buildings look more like raw materials, piled up and waiting for construction to begin, than finished structures (in fact, they serve as high-tech galleries for installation art). A building disguised as a pile of logs contains pieces by, among others, Bill Viola. Yet none of the installations are as exciting as the architecture, which seems to ask whether the Swiss, with their postcard-perfect towns, can tolerate disorder. (Nouvel's best-known Expo structure, a rusted metal cube floating offshore, could be the container in which these ruffians arrived.)

The entire Expo will be demolished this fall. Some of the better buildings may have second lives (why not a Blur in Flushing Meadow Park?). But there is no way the accomplishment of Nouvel, who until now has been thought of as a maker of monuments, not environments, can be appreciated without making a visit to Murten, in the land of angst and Alps. ■

www To see all the schemes and accompanying texts, visit architecturalrecord.com.

Snapshot



By Ingrid Whitehead

Like jewel boxes on a green velvet blanket, the Yangsan Adonis Golf Club's latest additions, three rest areas called "tee houses," sparkle in their lush, South Korean mountain setting. A testament to the clout of golf in Asia, which has gained momentum as a popular sport in the past 15 years, the owners of Yangsan Adonis sought a thoroughly Western aesthetic for the structures on their links.

John Friedman and Alice Kimm of John Friedman Alice Kimm Architects, located in Los Angeles, were happy to oblige when the client, a South Korean corporation, asked them to quickly design three tee houses in addition to the clubhouse they were finishing up on the 27-hole golf course. The program was to include a place where golfers could rest, grab a snack, use bathroom facilities, and escape from sudden thunderstorms.

"The client wanted schemes immediately," says John Friedman, "so we came up with several as a sketch exercise over two days." Kimm and Friedman admit that little time for choice and changes worked to their advantage in

Three for tee: An Asian golf course serves up tee houses

Snapshot



this case. “We gave them some sketches, they said ‘okay,’ and that was that,” says Kimm. AutoCAD drawings were e-mailed to the local executive architect, SAC International, the next day.

Two schemes were chosen. The first, used for two of the structures, is completely rectilinear. Conceived as a table, the design is simple—four legs and a roof. Contrasting sharply with the layered volumes and tilted roof of the clubhouse, the tee house establishes its own harmonious presence in the landscape. Because it is set within rolling mountains and could be hidden from view, Kimm and Friedman added a tall light monitor on top of the roof, which adds an element of verticality that contrasts with the horizontal plane of the tabletop. The site of the third building is adjacent to one of the many artificial lakes on the course. Therefore, the roof is curved on one side to reference the shape of the water’s edge. In this scheme, the stone volume below projects out from under the roof, which was designed to sit higher than the structure’s upper edge.

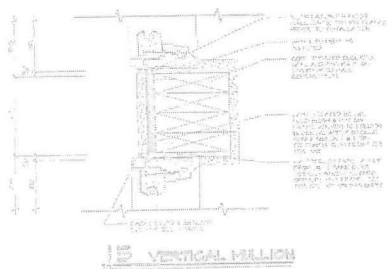
Constructed in just eight weeks, the tee houses are both elegant and practical and prove that sometimes first instincts can result in the best design. ■

All three structures were designed with roofs clad in lead-coated copper, with two volumes underneath. One volume, clad in local granite, contains the rest rooms and service counter. The other houses the air-conditioned eating space and is surrounded by glass walls.





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ABBREVIATIONS

Alum.	Aluminum
Blkg.	Blocking
B.O.	By Others
Cont.	Continuous
Detl.	Detail
Dim.	Dimension
Fr.	Frame
Max.	Maximum
Min.	Minimum
N.T.S.	Not to scale
M.O.	Masonry Opening
C.C.	On Center
Opg.	Opening
Opp.	Opposite
Req'd.	Required
R.O.	Rough Opening
Shl.	Sheet
Sim.	Similar
Tot. Fr.	Total Frame
Vif	Verify in field
W.O.	Window Opening



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ELEVATIONS

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1 OF 1

With degree in hand, are students, such as those pictured here from City College of the City University of New York, ready to go to work in an office and make a contribution?



Educators discuss what all the controversy really means

B.Arch.? M.Arch.?

By Andrea Oppenheimer Dean

GUIDE TO ARCHITECTURE SCHOOLS

Archrecord.com is home to RECORD's first Architecture Education Survey, representing 48 bachelor, 51 B.Arch., and 137 M.Arch. degree programs, as well as demographic trends. Below are some examples. *David Sokol*

- By student count, Boston Architectural Center was the largest of the respondents, with 1,206 full-time-equivalent students. Morgan State University, with 56 full-time students, was the smallest.
- The three most expensive schools to respond were Massachusetts Institute of Technology (\$28,230), Cornell University (\$27,270), and Washington University in St. Louis (\$26,900).
- Of the 137 M.Arch. programs represented in the survey, 16 are 4+1 year tracks, and 34 lead to nonprofessional or post-professional degrees.

Survey compiled and tabulated by David Sokol, with John Czarnecki and Christina Rogers

A year ago, several RECORD editors started out to report on the controversy surrounding whether or not the B.Arch. should be eliminated. We soon realized that at the root of this discussion lay a much larger argument about whether the familiar method used to teach architects is still appropriate today. In the process, we've interviewed a dozen architects and practitioners, talked to a dozen deans, and conducted a massive survey of all the schools. Here's what we learned. Charles Linn, FAIA

Confusion and ambiguity surround architectural education, what it is and what it should be. Prospective doctors, dentists, and lawyers have a clear path: an undergraduate degree, then four years of medical or dental school, or three of law school. The coursework required for each of these occupations has long been standardized. But architecture schools, by design, have less-defined curricula, and schools are able to create programs tailored to the needs and interests of their students. Budding architects can begin studying their craft right after high school and make the B.Arch. their professional degree, or they

Contributing editor Andrea Oppenheimer Dean writes often for ARCHITECTURAL RECORD. Managing senior editor Charles Linn, FAIA, coordinated this article.

THE DEBATE ABOUT WHAT THE FIRST PROFESSIONAL DEGREE SHOULD BE CALLED REFLECTS DIVERGENT OPINIONS ABOUT WHAT SHOULD BE TAUGHT.

can wait until graduate school and receive an M.Arch. as their professional degree. After that, the path to becoming an architect is reasonably standardized. Upon completing a carefully prescribed Intern Development Program (IDP), the architect-in-training is eligible to take national examinations, passage of which confers the title “architect.”

The National Architectural Accrediting Board (NAAB) announced in 2000 that it would no longer accredit new B.Arch. programs and that it would stop accrediting existing B.Arch. programs after the year 2010. When this decision raised a hew and cry among many parties, the NAAB backed down and referred the matter back to the profession’s four collateral organizations, the ACSA, AIA, AIAS, and NCARB, for review and for a decision at the NAAB 2003 Validation Conference. This provoked controversy among educators, students, and professionals: Will replacing the B.Arch. with an M.Arch. make for a “cheap” M. Arch., a merely dressed-up B.Arch.? Should the NAAB, perhaps, mandate a minimum time requirement for the M.Arch.?

These discussions are déjà vu all over again. Efforts to standardize what the architecture degree is called have been roiling since at least

NAAB President Kenneth Schwartz, FAIA, opposes eliminating the B.Arch., mainly on grounds that it would reduce variety in the profession, since only universities—and not all universities—can offer master’s programs. “In this diverse culture, no one size fits all,” he says. Financial assistance is often targeted for undergraduates, and many students would find paying off student loans nearly impossible without a substantial increase in architectural salaries, an unlikely prospect. Dean Malecha asks, what is the fate of “students like me who grew up [working] in a gas station dreaming of becoming architects?” Architectural education, he concludes, should “address the whole student, not simply what they will do for a living. That leads you to a diversity of degrees, a diversity of talent, and a diversity of roles in the profession.” AIA President Gordon Chong, FAIA, agrees, especially since, he says, fully a half of all architects are in nontraditional forms of practice and architecture must constantly reinvent itself to meet clients’ changing needs.

Another argument against eliminating the B.Arch. is that it would put rural schools at a disadvantage. Architecture remains an urban profession, and land-grant and rural schools would have difficulty attracting practitioner-educators, according to University of Kansas dean John C. Gaunt. He also believes the best students will gravitate to urban schools.

John Meunier, AIA, dean of Arizona State’s architecture school, is the main standard bearer for instituting a single professional degree, the M.Arch. He argues that eliminating the B.Arch. would have “real benefits for the image of the profession as a rigorous, knowledge-based discipline,” and, he says, “experiments that merge the benefits of a continuous 5-year professional education and the more rigorous demands of a master’s level education should be encouraged.” He recommends grandfathering existing B.Arch. programs that can’t make the transition, so long as they continue to meet the other conditions for

accreditation by NAAB. Meunier counters the argument that changing the designation of the first professional degree would create a “cheap” M.Arch. by pointing out that many B.Arch. programs already exceed requirements for the M.A. or M.S., and all M.Arch. programs will have to

fulfill their parent institution’s requirements for the master’s degree.

In 2001, NAAB surveyed 114 schools to weigh the possible effects of eliminating the B.Arch.; 77 schools—69 percent of accredited architecture schools—responded. Fifty disagreed with the statement that “the time and effort involved in pursuing a five-year course of study should lead to a Master of Architecture”; 43 percent agreed; and 7 percent were undecided. Roughly a third were considering changing their five-year B.Arch. program to an M.Arch. program; a third were not; a third said that such a change was not applicable. Nearly 75 percent agreed that “there is a qualitative difference between a student who earns a five-year B.Arch. and one who earns a 4+2 M.Arch.,” and nearly 70 percent agreed that an M.Arch. should require “a different length or depth of study” than a B.Arch.

ACSA’s Nomenclature Task Force is currently drafting a position paper for its regional fall meetings. The ACSA board will adopt a position

What’s in a name?

1916, when ACSA’s annual meeting included a vote to support the use of “Graduate of Architecture in place of the B.Arch.” Eleven years later, attendees of ACSA’s 1927 meeting heard Professor Joseph Hudnut of Columbia University insist that some system of “definite classification” was needed to allay bewilderment about “the significance of the various degrees given by architecture schools.” Even today, confusion about degree designations, or degree nomenclature, remains one of architectural education’s most stubborn and divisive issues.

One reason architecture has retained both its B.Arch. and M.Arch. is that they meet the needs of different kinds of students. For high school students who already know what they want and, perhaps, can’t afford graduate education, a five-year professional degree has strong appeal. For those who decide on an architectural career while in college or later and can afford further schooling, the M.Arch. is the logical choice. That’s why the nomenclature issue has been a dilemma for so long, says Marvin Malecha, FAIA, dean of North Carolina State University School of Architecture and a past president of ACSA. There is also the fact that each architecture program wants to control its own curriculum and what it calls its degree, says 2001–2002 ACSA president Frances Bronet, FAIA. (According to the NAAB, 2,773 students graduated from B.Arch. programs in 2001; 1,750 from M.Arch. programs.)

Deans: bureaucracy navigators, hustlers, administrators

By John E. Czarnecki, Assoc. AIA

With increasing bureaucracy and financial pressures coupled with decreasing leverage and power, the role of architecture school deans, especially in public colleges and universities, is rapidly changing. “The dean’s job, like academic administration generally, has become much more complex,” says Tom Fisher, dean of the University of Minnesota College of Architecture and Landscape Architecture since 1996. “In a given day, sometimes from one hour to the next, I have to be a thinker, a salesperson, a mentor, a booster, and a boss.”

Financial challenges appear to be a primary frustration for deans. When Wayne Drummond, FAIA, began as an architecture school administrator in a public university in the late 1970s, fund-raising consumed only about eight to 10 percent of his time. Today, he says, he spends 35 to 40 percent of his time raising money as dean of the University of Nebraska College of Architecture. “The cost to run a school is radically different than when we were using bum wad and parallel bars,” says Drummond. “We’ve moved from state supported to state assisted. State support is falling fairly rapidly for many colleges, and we’re expected to generate that on our own.”

With a slumping economy, numerous state budgets throughout the United States are running in the red. State legislatures are pulling the purse strings tighter for public colleges and universities, but education expenditures continue to increase as basic costs and technology demands rise. In general, public higher education is increasingly moving closer to a private school funding model, putting pressure on deans to raise funds to augment school budgets. No matter how fantastic an architect, scholar, or visionary a public university architecture school dean may be, now more than ever, he or she has to hustle for dollars.

(continued on page 88)

City College dean George Ranalli (left) has weathered the fund-raising storm.



in December, present it for endorsement at its meeting next spring, and prior to NAAB’s 2003 Validation Conference will lobby the other collateral organizations to support it. The underlying issue ACSA must resolve is which aspects of the degree NAAB should regulate: its content, its title, and/or its duration. If ACSA decides NAAB should not regulate degree title, the B.Arch. will stay. A straw poll taken at ACSA’s April 2002 meeting produced contradictory results. By narrow margins, the vote opposed restoring time-duration requirements for the M.Arch.—which opens the door to converting the five-year B.Arch. into an M.Arch. without significant changes. But respondents also wanted NAAB not to accept new applications for M.Arch. programs of fewer than six years—which would close the door to a five-year M.Arch. By substantial majorities, the vote was against accrediting the D.Arch. as a first professional degree and in favor of a post-professional degree as the terminal degree in architecture.

“The horse is out of the barn,” says Dean Malecha of North Carolina State. “You can bet NAAB won’t receive applications for new B.Arch. programs.” Although few would disagree, the majority seems to oppose supplanting the B.Arch. NAAB president Kenneth Schwartz, FAIA, says that although the AIA and AIAS leadership have at times supported replacing the B.Arch. with an M.Arch., the rank and file isn’t ready to part with the B.Arch.

In fact, Counsel House/Greenway’s 2001 survey for *Design Intelligence* and the *Almanac of Architecture and Design*’s 3rd edition ranked Cornell’s five-year program, which teaches architecture as a problem-solving discipline, number one among American architecture



THE RANK-AND-FILE ISN'T READY TO PART WITH THE B.Arch.

schools for the third time. The survey, sent to nearly 3,000 design professionals and answered by 800, asked for names of “schools you feel have best prepared students for the entry into, and success in, the profession.” Harvard’s three-year graduate program followed Cornell for second place. The University of Cincinnati’s 4+2 M.Arch. program ranked third, mainly for its “distinctive cooperative education curriculum,” according to James Cramer, Hon. AIA, editor of *DesignIntelligence*. He notes that architecture students rank highest among Cincinnati’s undergraduates in college test scores and high school records, and that the architecture curriculum includes jobs with pay in two dozen states and foreign countries.

Are students prepared to enter practice?

The confusion and controversy over what the architecture degree should be called reflects larger ongoing questions: With degree in hand, is a student ready to go to work in an office and make a contribution? How much should the employer be expected to teach when hiring a new graduate? Although Cornell, Harvard, Cincinnati, and other schools have solid reputations for preparing students for practice, there is plenty of grumbling among practitioners about the groundwork recent graduates have received. To see how those who simultaneously teach and work in private practice assess the situation, we conducted an impromptu survey, asking nine practitioner-educators to evaluate how well the schools prepare graduates for practice. Our interviewees were Stephen Kieran, FAIA, of KieranTimberlake Associates in Philadelphia and a professor at the University of Pennsylvania; Robert A.M. Stern, FAIA, Yale’s architecture dean; John Anderson, FAIA, of AndersonMasonDale Architects in Denver and immediate past president of AIA; Sharon Carter Matthews, AIA, NAAB’s executive director; Peter Steffian, FAIA, of Steffian Bradley Associates in Boston and NCARB’s immediate past president; Herbert (Cal) Lewis, FAIA, of Herbert Lewis

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(continued from page 88) In the 12 years that Robert Greenstreet has been dean of the University of Wisconsin-Milwaukee School of Architecture and Urban Planning, total donations to the school have grown from \$20,000 to nearly \$500,000 annually, and alumni donations increased by more than 1,100 percent. “We create our edge of excellence through fund-raising,” says Greenstreet, who spends 40 to 50 percent of his time fund-raising, as well as chairing Milwaukee’s city-planning commission.

“The development of alternative sources of funding is a critical measure of a dean’s success in times of severe economic challenge,” says Marvin Malecha, FAIA, dean of the North Carolina State University School of Architecture since 1994. His school’s annual fund-raising target has increased from \$125,000 when he began to \$465,000 today. Bob Mugerauer, dean of the University of Washington College of Architecture and Urban Planning since 2000, says fund-raising consumed 15 percent of his time when he began, takes about one third of his time today, and will likely demand at least half of his time when the school begins a capital campaign.

At the City College of the City University of New York, George Ranalli, dean since 1999 of the School of Architecture, Urban Design and Landscape Architecture, has had multiple hurdles—tight city and state budgets and competition with Columbia University and Cooper Union—for attention and resources. “We have an outreach organization, the City College Architectural Center (CCAC),” he says, “that has existed for more than two decades but was barely functioning financially when I arrived.” Under a new director, the CCAC recently procured grants from the Rockefeller Brothers Fund and the National Endowment for the Arts totaling almost \$500,000.

A complex job, everything to everyone

Although he believes the dean’s job has fundamentally remained the same, John Meunier, AIA, who this summer ended a 15-year tenure as dean of the Arizona State University School of Architecture and 27 total years as an administrator, acknowledged a dean’s current challenges. “Affirmative action and faculty governance eroded the dean as *pater familias*. The erosion of tax dollars in support of higher education has made deans more entrepreneurial. Information technology is challenging the norms of educational interaction and the autonomy of institutions. And lifelong learning has introduced an expanded student body with modified needs and expectations.”

In addition to fund-raising needs, deans are now dealing with a larger-than- (continued on page 90)

Kruse Blunck Architecture in Des Moines and Iowa State’s architecture chairman; John C. Gaunt, FAIA, the University of Kansas’ architecture dean; Helene Dreiling, FAIA, coordinator and overseer of education for AIA; and John McCrae, FAIA head of RTKL’s mentorship program and Mississippi State’s former architecture dean.

Eight out of nine think America’s architecture schools are doing a fairly good job. A caveat, they said, is that many firms have unrealistic expectations of new graduates and should expect to contribute heavily to their training. The opinion of Stephen Kieran, FAIA, was typical. Education’s role, he said, is to “prepare architects for a life in architecture. Students are best served by learning how to think rather than how to do,” especially since the majority probably won’t wind up in conventional architectural practice. “We hire recent grads all the time,” he said. “We have training programs. Almost to a person, new graduates soon become productive. Can you give them a project on their own? No. That’s unrealistic.” NAAB’s executive director Matthews said, “When I was running a practice, more important than people who could design a parapet were those who could ask good questions, something the schools teach very well.”

Yale dean Robert Stern asked, “Why should the schools teach working drawings? That’s not what education is. It’s learning methods of analysis. Should we introduce the idea of working drawings? Of course. We give them a sampling, but we don’t produce people who can go into an office, sit down, and crank.”

Part of the problem, said Matthews, is that architecture educators need to be more outspoken and clear about “what they do and what they’re good at. Architecture is a discipline, as physics and law and medicine are disciplines.” She sees architecture as a “system of thought,” not necessarily a “way to pay the mortgage.” But how can a firm afford to pay a living wage to an employee who can’t produce work for which the firm can, in good conscience, bill a client? And should students be satisfied with



EDUCATORS SAY FIRMS HAVE UNREALISTIC EXPECTATIONS OF GRADS.

an education that provides “a system of thought” but not “a way to pay the mortgage?” And since many other forms of education can impart analytic problem-solving skills, how can architectural schooling justify its existence except by preparing students as architects? Moreover, many architects believe the best way to teach students how to think, design, and analyze problems is, precisely, by teaching them to produce drawings from which buildings can be constructed. How can students learn to think like architects without a good knowledge of how buildings go together?

Peter Steffian interrupts this flurry of questions by pointing out that since the 1996 publication of the Boyer Report (*Building Community: A New Future for Architecture Education and Practice*, by Ernest Boyer and Lee D. Mitgang of the Carnegie Foundation for the Advancement of Teaching), “there’s been a shift. People in the academy are paying more attention to the [professional] practice issue.” Perhaps, but NCARB’s Architecture Practice Analysis Study of January 2001 concluded that educators still overestimate the schools’ contribution to students’ knowledge and skills and that practitioners believe students acquire most of the information and proficiency they need during internship. John Anderson further believes that “architecture schools are behind in their realization” that architecture has become an infinitely more complex, broader profession.

What’s new about the debate?

The debate over architectural education has a few new wrinkles. Not only architectural practice but the buildings it produces are increasingly com-

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(continued from page 88) ever bureaucracy of constituencies and an accompanying decrease in decision-making latitude. Gone are the days of deans with broad powers who remained at the helm until retirement. "Now we are, in many ways, middle management," says Roger Schluntz, FAIA, dean of the University of New Mexico School of Architecture and Planning since 1999 and a former dean at the University of Miami. "Deans have to get consensus from below and approval from above and have the means to scramble for money to do anything. It's not all bad, but it's different. It used to be interesting and challenging. Now it's getting to be repetitive, argumentative, and tedious."

So why would anyone want to lead an architecture school today? "People have asked me why I am doing this at all," says Eric Owen Moss, FAIA, a well-known practicing architect who began as director at the Southern California Institute of Architecture earlier this year. "That's a fair question, and maybe, in the end, the answer is 'I don't know.' But because I don't know, I am willing to go into it for a few years and try to see whether there are lessons learned that can be passed along to students."

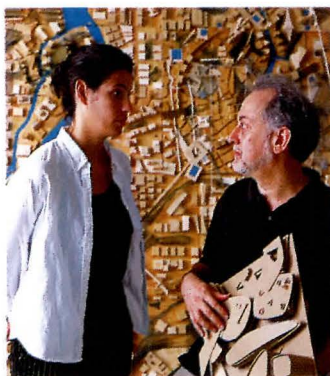
Deans switch schools

Increasing financial pressure is just one reason why a number of deans have moved from school to school in recent years. "Deans are switching positions to move to situations of greater resources," says Malecha. "There is a pecking order among schools related to opportunity, prestige, and influence."

According to survey information provided by the schools to RECORD, 19 schools of architecture—approximately one in six accredited schools in the United States—have selected new deans or equivalent directors since January 2001. In addition, the following schools are currently in the midst of a dean selection process: State University of New York at Buffalo, Arizona State, Syracuse University, and California State Polytechnic University at San Luis Obispo. Linda Sanders, FAIA, will step down as dean at California State Polytechnic University at Pomona at the end of this month, and Bernard Tschumi, FAIA, will end a 15-year tenure as dean—unusually long for a dean today—at Columbia University in spring 2003.

Greenstreet, who estimates that a dean's average tenure is 4.5 years, says, "There is greater pressure from upper-level administrators—who also have very short terms—and greater short-term demands for deans. We all have limited shelf lives."

RECORD interviewed a number of architecture school deans to gain insight on the challenges they face. Visit the "Interviews" section at www.archrecord.com for extended excerpts from their responses.



Schools should be encouraged to hire faculty who are or have been in practice.

When asked to rate the schools' basic offerings on a scale of one to 10, our sample of practitioner-academics gave theory and studio high marks, but with reservations. All but two considered theory—the ideas underlying design, including esoterica—very important. Anderson applauded the studio system for instilling passion. AIA's Dreiling commended studio for teaching creative problem-solving. "But it's too all-consuming," Gaunt chimed in. "It's the basis of what we do and the enemy in terms of keeping us from learning everything else."

Stern pointed out that often studio is led by recent graduates with little experience who simply perpetuate what they themselves learned. "Mature professionals aren't as generous with their time for educating the young as they could be," he said.

NAAB's Matthews offered that faculty often do a poor job of communicating the value of studio and how students can make better use of it. For students who don't figure out how to cope with it, she says, studio is "the most anxiety-producing, most ambiguous setting." Matthews would like to



CAN THERE EVER BE ENOUGH TIME TO TEACH THEM EVERYTHING?

see the studio system become "more rational and less shaped by tradition."

Anderson would infuse studio with more teamwork, especially with allied professionals. But, said RTKL's McCrae, "we talk about collaboration more than we do it in practice or in education." Most faculty, Matthews contends, don't know how to teach collaborative skills. McCrae recommended that architecture schools not only look for ways to enrich the studio with more group learning and decision making but also to strip it of the "hair-shirt, it's-all-on-my-shoulders mentality." Innovation, he observed, usually comes from people working together.

Computers, professional practice

The nine practitioner-educators thought the schools do well in teaching computer skills and analysis. "A lot of it is student-driven," said Anderson. Stern protested that "in many architecture programs, use of digital media has cut young architects off from the techniques that have served the profession for thousands of years—sketching, measuring, knowing how big things are, making physical things, as opposed to pressing buttons and having preprogrammed things happen. It's like training a pianist by playing CDs." He also charged that computer analysis is supplanting other methods. Iowa's Cal Lewis agreed, warning that "computer skills must be viewed as a supplement, not in place of traditional skills. It's another layer."

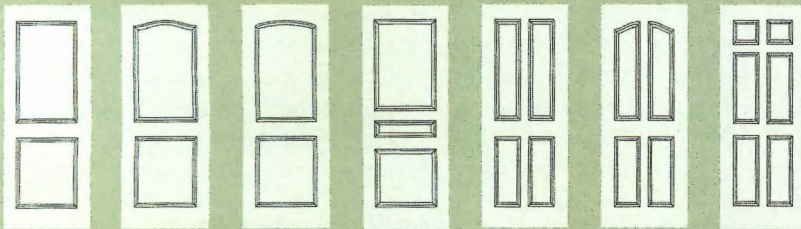
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theory, and computer skills. Those interviewed rated practice from two to eight (out of 10). They characterized as inadequate the usual three-credit course in practice, “made to be painful medicine for students whose hearts are in studio,” as Gaunt described it. Kieran said he would like to see less emphasis on studio but admitted, “That’s extraordinarily difficult, because studio is the environment in which architects thrive and [should be] learn[ing] teamwork.”

The problem, said Dreiling, is an already jammed curriculum. She suggested integrating such practice-oriented skills as team-building, collaboration, and leadership into the studio. The AIA, she said, under leadership of the Large-Firm Roundtable, has initiated a program of case studies to introduce students “to the world of practice in a more real way.” Gaunt hailed any attempt to expose students to the workings of organizations and business, though Stern warned that a curriculum totally grounded in real life would be “very limiting, very mundane. We try to instill how to question the client, the zoning, how to ask questions, how to make out-of-the-ordinary circumstances something extraordinary.” Matthews maintained that students “know a lot more about practice than is presented at school. They work summers and intern, hook up with alumni, and the practice culture permeates school culture in many ways.” A shirking of responsibility, you say?

Suggestions for fortifying students’ exposure to professional practice included a formalized system of internships. A model, said Anderson, is the work-study program at the University of Cincinnati. Matthews, while saying she believed most students would benefit from work-study programs, opposed “cookie-cutter solutions.”

An important conviction running through the comments of all nine interviewees was that educators and practitioners need to work together more closely. Schools should be encouraged, said Anderson, to hire faculty who are or have been in practice, something Stern thinks should be a requirement. The AIA, Dreiling said, doesn’t now have an education policy but is developing one focused on “integrating practical experience into education.” And last spring, NCARB, following up on its January 2001 finding (Architecture Practice Analysis Study) that “education and experience should be integrated—not separate,” initiated an awards program that gives substantial monetary prizes for creative integration of practice and education in the academy.

How about building science, research, and the humanities?

Knowledge about building science received an average of five out of 10. Iowa State’s Lewis and the University of Kansas’ Gaunt both said that, as with practice, their universities and others they know of are trying to integrate experience and knowledge about construction into the curriculum.

Research was deemed the weakest link in architectural education, receiving an average of three out of 10 points. The fault, said Dreiling, lies in the profession’s lack of emphasis on research. “We’re not even in the game,” said Gaunt, “and very few architectural schools are.” Lewis called research “the future of the profession,” and the schools “the resource that can bring the intellectual and technological together.” To work within a capitalist business environment, he said, “we’re going to have to be able to quantify *more and more* of what we do. Being able to



Young architects should be learning teamwork in the studio environment.

answer quantitative questions would empower us as a profession.” Kieran, agreeing that it’s imperative to raise the level of research conducted and taught by the schools, stressed that the construction industry lags far behind the automobile and other industries, and he blames a lack of research. “Unlike other industries,” said McCrae, “we tend to reinvent the wheel rather than creating a database from which to draw.” He cited the AIA’s Large-Firm Roundtable’s attempt to develop documented case studies as a move in the right direction.

The teaching of humanities, the interviewees indicated, varies widely from institution to institution. But most agreed with Gaunt that students “are not learning enough history, civics, geography, sociology, and about other cultures,” and that students leave school with poor communications skills. “Once you get past the 20 or 30 leading architects,” Stern argued, “the rest of the profession tends to be marginalized because it’s not respected, because it isn’t as well-educated as other professions. The system encourages students to study architecture at too young an age when they are ill-prepared in their knowledge of the world in its complexities.” Stern is convinced that architecture, like most other professional disciplines, should be taught only in graduate programs following a B.A. or B.S. “We don’t train doctors or lawyers straight out of high school. The Harvard Business School doesn’t accept students until they’ve worked in the field for three or four years. That’s the way to do it.”

Barriers to change, and the firms’ responsibility to teach

Architecture programs tend to be insular, the interviewees agreed, and faculties—especially heavily tenured ones—resist change, but no more so than in other fields, and less so than in the past, said Steffian. Stern believes that the main obstacle to change is that “our profession doesn’t think of itself totally as a profession. We’re still caught in being a craft or a trade.”

RESEARCH IS SAID TO BE THE EDUCATIONAL SYSTEM’S WEAK LINK.

Another, perhaps related, impediment is posed by the fractious nature of the so-called collateral organizations, AIA, AIAS, ACSA, NAAB, and NCARB. Lewis said that ACSA, especially, is a collection of individuals rather than a group, which, if true, renders it powerless as a force for change within NAAB, whose board includes representatives from all five organizations. NAAB’s Matthews is trying to forge the collaterals into more of a collective but lamented, “They’re architects.” NAAB, said Dreiling, “is coming along.” It recently raised its accreditation requirements in digital experience and professional practice. McCrae gives NAAB high marks for “keeping abreast of change” and having “open dialogue.”

“We’ll do much better when practicing architects don’t have unreasonable expectations of what recent graduates should be able to do, and when educators prepare them better to integrate into firms,” concluded Dean Gaunt. McCrae further stressed that practitioners “should be more engaged in the educational process rather than placing the burden on the schools alone.” The consensus was that firms must think of themselves as the next step in an unending education process and take mentorship much more seriously. “A good firm is a teaching firm,” said Stephen Kieran. ■





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Lessons from the best-managed firms

Small, medium, and large

Which size is ideal for the future?

By Jane F. Kolleeny and Charles Linn, FAIA

In this final installment of our three-part series on firm size, we're looking ahead. Several experts tell us how they believe globalization and the information age will drive changes in firm size in the future. We also explore the effect that computers and the Web have had in leveling the playing field between large and small firms, and we examine what happens to a firm's size as the company matures and one generation succeeds another. Finally, we speculate on how a possible shortage of architecture grads could affect our profession in the future.

How experts predict firms will morph in the 21st century

The rate of change in our world has been pushed to a furious pace by technical innovation. How will size affect the evolution of the architectural firm? Frank Stasiowski, FAIA, president and founder of PSMJ Resources, predicts that the profession will be turned upside down. Architects will continue to outsource more and more of their contract documents to production houses overseas, where they can be done for a fraction of what they cost here. Eventually, he says, even these workers will be replaced by "highly evolved, user-friendly computer tools. These will render such practitioners useless in a self-service design environment." This would shift what architects offer their clients away from creating a product—drawings and specifications—toward being service providers: Architects will produce information and trade in intellectual capital.

Stasiowski tells us "not to rely on the traditional subcontracting model in the future ... emphasis will shift to a fluid organization of consultant/project specialists who come together in targeted teams." He sees a future where many offices will be virtual. Firms may have a storefront, but a physical desk for employees will be neither necessary nor desirable. "Look for laptop-size or smaller devices to become the next office. Itinerant knowledge workers who gather quickly anywhere in the world

to accomplish projects will put an end to the traditional workplace. In this arrangement, the individual becomes the company, representing it everywhere," he continues.

Not everyone agrees. Hugh Hochberg of the Coxe Group recalls that 20 years ago visionaries predicted that the firms we've described in our series as medium and large were on the verge of extinction. According to Hochberg, those futurists believed that "advances in technology and the associated costs, larger projects, increased project complexity, the need to bring more resources to bear on each project, and globalization spelled doom for firms roughly defined as those with 35 to 100 staff." Instead, many small firms grew into medium-size practices during the building boom that occurred late in the 1990s and have prospered since. According to the *AIA Firm Survey for 2000–2002*, firms with 20 or more employees have steadily increased from 5 percent of firms in 1990 to 13 percent of firms in 1999. Some of the growth has been through mergers and acquisitions and some has been through hiring staff. Large firms have gotten larger, notwithstanding the very recent economic dip.

Hochberg and his Coxe Group colleague Peter Piven, FAIA, spin the future a bit more conservatively than Stasiowski. They believe the future is bright for firms of any size, partly because clients like to hire architects that mimic their own size and temperament; for example, corporate clients are attracted to large, corporate architectural firms, although we observe that occasionally such clients will hire a small, well-known firm for its "star appeal." Modest-size clients often prefer relationships with small firms because they can provide more personalized service. Hochberg and Piven also note that "technological advances will allow increased effectiveness, communications, and project exploration for any size firm, and technology itself is becoming increasingly more cost-effective."

Wired and getting more wired

It seems reasonable to think that Hochberg and Piven will be right in the short term, but that in some cases reality has already tilted toward



Part III

THERE IS NO "OPTIMAL" FIRM SIZE.
THE KEYS TO SURVIVAL ARE TO BE
FOUND IN PERCEPTION AND
PREPARATION.

Stasiowski's predictions. One thing we can say for sure is that the profession has computerized more thoroughly and rapidly than anyone would have thought possible 25 years ago. Our Gen-X architects-in-training exploit the opportunities presented by technology much more readily than managers born in the Baby Boom years, who became architects well before e-mail, the Web, cell phones, handheld organizers, and CAD were common elements in the workplace. Piven says, "What technology has fostered is higher quality, ease in dealing with repetitive situations, and greater complexity." He's right. Once-technophobic 40+-year-olds from firms of all sizes have become inseparable from their laptops. According to Zweig White's 2001 *Principals, Partners and Owners Survey*, 41 percent of principals reported using a laptop, up from 22 percent in 1997; 65 percent of principals have remote access to their computer network, up from 58 percent the previous year; and 89 percent of principals have a cell phone provided by their company, a trend that has more than doubled from 40 percent 10 years ago.

What the Internet and personal computers have done is leveled the playing field, making extremely sophisticated technology available for low cost among firms of all sizes. Large firms have the financial resources to build a significant digital infrastructure and to research new tools for design and practice management, but small firms can gain worldwide exposure on the Web. Jennifer Greene, marketing director of Kliment Halsband Architects, New York City, with 35 employees, says, "We've had a Web site for a long time that we constantly refer people to; they see a catalog of visual images. For a modest-size firm, it looks quite good." Of our 52 surveyed firms, only three did not have Web sites.

While costs for equipment have continued to decline, software is still expensive, as is the cost of the necessary personnel to purchase, assemble, train staff to use, and manage in general the digital tools of an office. Indeed, for the 40 respondents to our survey, costs associated with IT staff and equipment averaged 4 percent of firm revenue—a healthy chunk. Most firms told us their dedicated IT managers spend most of their time on general problem-solving, troubleshooting hardware, translations of files among incompatible software programs, and virus checking and monitoring.

Smaller firms are at a relative disadvantage when it comes to finding and hiring people to maintain computers and train staff. They do it by hiring part-time consultants or by having the firm's tech-savvy

staffers devote most of their time to this area. Scott McElrath of Dangerous Architects, in Chelsea, Michigan, with 5 on staff, points out that "the technology learning curve is steeper in a small firm as there are few peers with which to discuss the latest information."

Centerbrook Architects, in Centerbrook, Connecticut, with 75 employees, has found that the best people on CAD are the architects themselves, who don't particularly want to spend their day training others but want to design projects. They have taken an innovative approach, with a program they call ERIC. Jim C. Childress, FAIA, says, "ERIC means 'emergency response in CAD'" and was named after an employee. "We designate one of the better CAD operators each day to be ERIC and for that day they are responsible for helping anyone with CAD problems. This spreads out the responsibility and also, with time, assures that CAD knowledge will grow and be disseminated throughout the office."

How firm size affects ownership transition

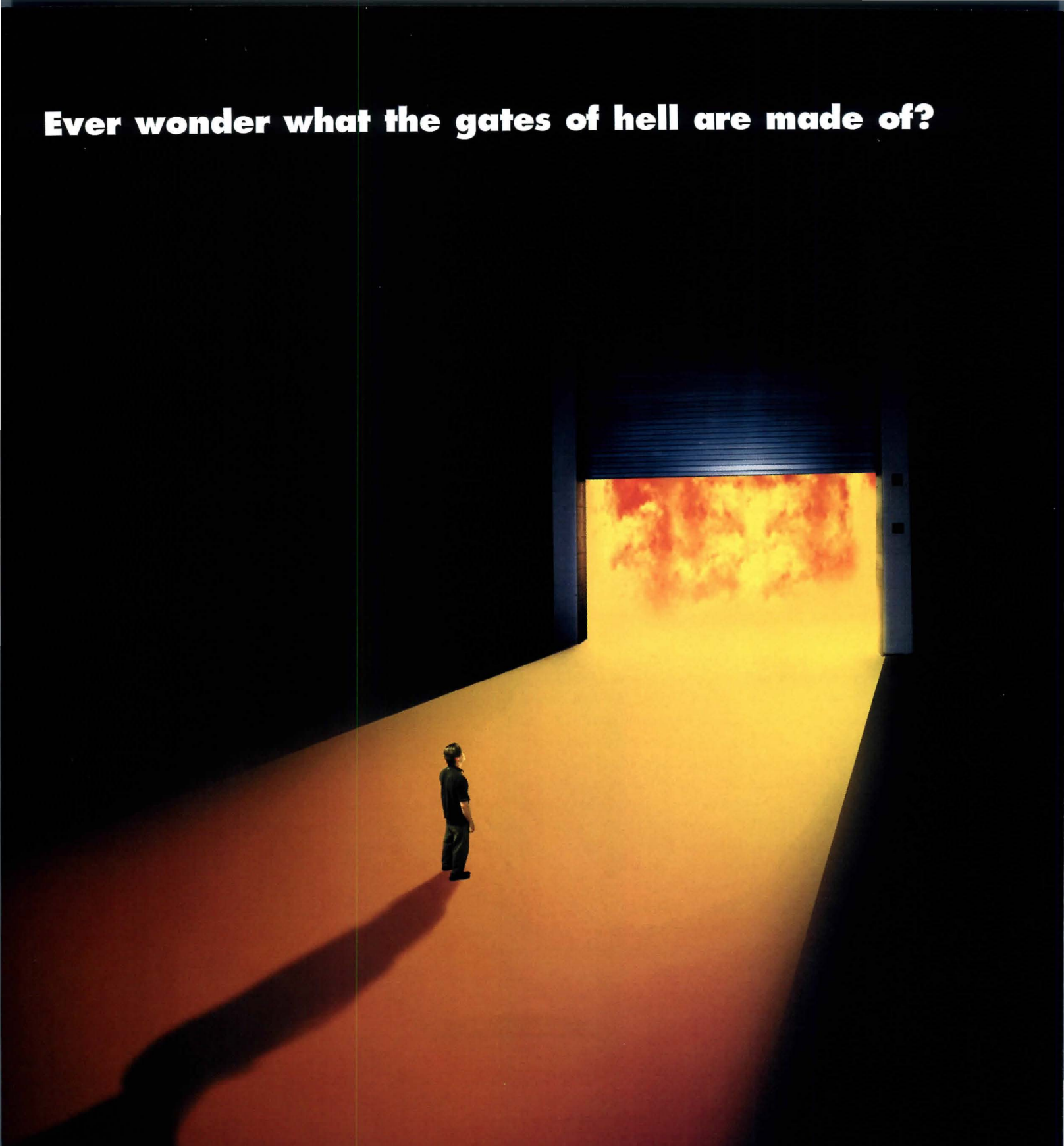
Whole volumes have been written about what is required for adding new principals to a firm, as well as accomplishing successful ownership transitions. According to PSMJ Resources consultant Sandy Blaha, "Leadership transition is usually a three- to 10-year process that involves the selection of likely candidates, capacity building, and gradual testing and advancement of a visionary entrepreneur." It takes employees years to absorb a firm's culture, to establish relationships with its clients, and to learn to manage. It cannot be accomplished by simply adding newly minted architectural graduates.

Beyond this, the most important factor for small- and medium-size firms planning an ownership transition is the employment of talented people whose beliefs and values are compatible with those of the current owners. Stephen Kliment, FAIA, editor of *Principal's Report*, says,

COMPUTERS AND THE WEB HAVE LEVELED THE PLAYING FIELD BETWEEN LARGE AND SMALL FIRMS.

"Succession in a small firm (1 to 19 employees) is linked tightly to the outlook, values, and personality of the founding partners, especially if the firm has not expanded significantly and is still subject to the sway and whims of the founding leadership." Indeed, a firm like this might not move forward into a succession plan because, Kliment says, "the leaders of such a firm are likely to balk, if not actually be alarmed, fearing the value they brought with them at the founding will be diluted or atrophy under new leadership." In

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addition, the smallest firms may not have enough assets to make an ownership transition worthwhile for its employees, who may feel they're better off starting from scratch.

A medium-size firm (20 to 49 employees), which may have three to five partners, is more likely to have the means for succession. Although firms of this size may not have been around as long as some of the larger firms, many have partners of different generations who have risen in the ranks over time, making transition more feasible and the extension of responsibility to others more natural. They also may have physical assets, a client base, culture, and reputation—even the firm's name may be established as a brand and carry its own equity.

Of the 52 firms we surveyed, about half have leadership transition plans, and most of these are among the large and extra-large firms. Those that are large (49 to 150) often have strong leaders who combine their personal management strengths with the efficiency and structure of corporate environments. Many are old enough that ownership transitions have occurred before and succession policies have had a chance to evolve enough so that those involved know what to expect.

Some large firms are moving away from the kind of structure that depends on a few senior partners to broader-based ownership. For example, in 2001, Cooper Robertson Partners (CRP), in New York City, with 75 employees, implemented the firm's first ownership transition plan. "The firm consisted of seven partners prior to 2001 but now has 25 owners with various percentages of ownership. As part of the transition plan, CRP instituted a new studio system, consisting of two studios, each run by a studio head and

assisted by a business, market, and technical lead, mostly staffed by the new partners," says principal Karen Cooper. While just under a year into the transition, workers say that transferring much of the decision making to the studio level has improved work process and product.

Many extra-large firms are market-driven. The rules about planning for ownership succession and nurturing future leaders still apply, but the ability of the firm to manage its finances, its success in marketing, and the health of its markets may have just as great an influence on its ability to survive into successive generations as who is leading it.

Are there enough architects to go around?

No matter how brilliantly a firm's managers structure their succession,

they have to have someone to pass the business to. But there are fewer successors than might commonly be believed. According to the 2000–2001 NAAB Survey, there were 2,773 B.Arch. degrees and 1,750 M.Arch. degrees awarded in 2001. Based on AIA's estimates, there are between 20,000 to 22,000 architectural firms in the U.S. If each of these firms could have an equal portion of the graduates available (and also assuming that humans are divisible), each could have about 13 percent of a person holding a bachelor's degree from this class, and about 9 percent of a person holding a master's degree. Of course, cutting people into fractions is absurd, but the statistics highlight one of the misconceptions of our profession, that colleges produce too many graduates. In fact, we saw in the late 1990s that there were not enough graduates to go around.

In addition, many talented architecture grads are pursuing alternate career paths. Management consultant Kerry Harding, president of The Talent Bank, which focuses on architecture, talks about who besides architectural firms are hiring architects. "The large management consulting firms like these young architects because they're great problem-solvers, they listen and communicate well, and they're quick studies." He continues: "Some of the top design talent is migrating to the West Coast to work for entertainment companies that do computer animation, like Pixar, who did *Toy Story*, and Industrial Light and Magic, George Lucas's company that did *Star Wars*. The 3D modeling skill learned in architecture school is merely a means to an end in an architectural firm; at these companies, it is the end product—and they often get

AS GRADUATES PURSUE OTHER CAREERS, COULD THERE BE A BRAIN DRAIN IN OUR FUTURE?

paid triple the salary!" With as many as half of all architecture graduates moving into nontraditional career paths, it seems possible that there may be a professionwide brain drain in our future.

The beauty of architectural practice: no size fits all

After all of the study we've done on firm size while preparing this article, it seems to us that the firms that always survive and prosper in changing times are not distinguished by their size. Rather, they are those that are managed by principals who quickly perceive what is changing about the world around them and adapt to it nimbly and intelligently. One of the great things about our profession is that it can be successfully pursued by firms of all sizes—small, medium, and large. ■

City Limits:

Street-smart designs to transform the urban block

By Robert Ivy, FAIA

American architecture lives. While bold new work may not predominate in contemporary construction, architects and their clients regularly produce world-class projects that challenge our thinking, asking us to reassess where we live. The best new American work speaks a contemporary language with no predominant style, on block after block across the continent.

The American City, not the 'burbs, may be the most fertile proving ground for new buildings. After all, context and constraint, two defining characteristics of design, arrive built-in with any formal urban program. As the projects in this issue attest, when placed in a pressurized urban crucible and leavened with creativity, the results can really cook.

No more so than in Queens, the burgeoning borough across the East River from Manhattan, which has attempted a self-generated transformation into an arts mecca (think PS.1 and the Isamu Noguchi Garden Museum) at Long Island City. The latest entrant into the field, the Museum of Modern Art, may effect the greatest perceptual shift. MoMA's transmigration inspires us to take the train, leading us from the museum's chaste, evolving paradise on 53rd Street to the grit and electricity of the real world. Michael Maltzan and Cooper, Robertson, & Partner's morphing of this former factory building into the Big Blue Box brings an L.A. zest that reflects the kinetic sweep of the broad U.S.A.

Speaking of constraints, whoever heard of a major structure only 25 feet wide? Raimund Abraham has managed a tour de force at the Austrian Cultural Forum, sandwiching ideas, presence, and even personality into a tiny slice that could have been easily discarded as another bland sliver. The density of the ideas present in this one risk-taking project changes our perspective, forcing us into a new appraisal of the midtown block. Highly detailed, craftsmanlike, memorable, the Forum offers a counterpoise to MoMA's free and easy transitional home.

All is not New York Sturm und Drang. American architecture spans a range of stylistic choices, from free-flowing Expressionism to neo-Modern, particularly in two West Coast projects—Eric Owen Moss's latest addition to the Samitaur Complex and Stanley Saitowitz's lofts in urbane San Francisco. For Moss, this factorylike collection for a single client has once again allowed him to attempt what few of us would dare, and the result is a whirling architectural expression, with a nod back toward Eric Mendelsohn, early in the 20th century; Saitowitz, by contrast, has taken the rigors of boxy Modernism and turned repetition into an art form with new residential units for the city street.

These highly particular examples do not stand for all American architectural design; instead, they yaw between coastal extremes. The ideas expressed may provoke others toward architectural investigation in neighborhoods ready for refreshment. The country's true building portrait, and our architectural profile, lies somewhere nearer the midcontinent, perhaps in Kansas, which we leave for another day. ■



The view from the No. 7 train in Queens with a glance toward MoMA's new digs.



Looking out of the No. 7 train, visitors first see the museum from above. As it appears along Queens Boulevard (below), the building could still be a factory. Only at the entrance (opposite) is its new use apparent.



Michael Maltzan and Cooper, Robertson

turn an old staple factory into MoMA QNS

by bringing the industrial landscape inside

By Clifford A. Pearson

The experience begins in Manhattan, where visitors pick up the No. 7 train and head across the East River to an industrial landscape of factories, warehouses, and Dominican diners. The trip, which takes just 15 minutes, turns out to be the key to understanding the Museum of Modern Art's temporary new home in Queens—explaining the building's sense of place, space, and time. For this piece of architecture is all about movement, both physical and metaphoric—not bad for a big flat box with precious few openings in it.

While others looked at the site and saw an urban hinterland on the wrong side of the river, Los Angeles architect Michael Maltzan saw the Long Island City area of Queens as a dynamic landscape, “a place of commerce and exchange, constantly in flux.” Maltzan referred to it as “a middle landscape, somewhere between urban and suburban” and appreciated its thriving mix of Latin American, Middle Eastern, and Eastern European businesses, as well as its growing concentration of cultural institutions (including MoMA's sister museum P.S.1, the Isamu Noguchi Garden Museum, and the Socrates Sculpture Park). The building that Maltzan designed with Scott Newman, AIA, of Cooper, Robertson & Partners taps into this heterogeneous context and brings indoors the spirit of the elevated rail line that rumbles above the neighborhood's rooftops.

Necessitated by a \$750 million expansion that has closed the museum's complex on West 53rd Street in Manhattan, MoMA QNS is an intriguing hybrid: a temporary venue for exhibitions and a permanent storage facility for an expanding art collection. Newman is the one who first imagined MoMA in Queens, an idea that sounded crazy just a few years ago. Charged with developing a master plan for the museum's facilities, he recommended buying an old Swingline staple factory on 33rd Street off Queens Boulevard. At 160,000 square feet, the building could accommodate the museum's long-term storage needs while offering a short-term home for exhibitions until the supersize MoMA in Manhattan, designed by Yoshio Taniguchi, opens in 2005. “When it was first suggested, I couldn't think of one reason to move to Queens,” admits Ronald Lauder, the chairman of MoMA's board of trustees. “Now I can't think of a better place to be.”

While Cooper, Robertson served as the architect for the building (including the storage and staff spaces), MoMA brought in Maltzan as architect for the public spaces (including the lobby and roofscape). Both firms worked on the exterior of the building.

“At first, the temporary nature of the project was the most fascinating,” recalls Maltzan. “But eventually, I realized the building needed

Project: MoMA QNS, Long Island City, New York
Architect (including library, collections areas, building exterior): Cooper, Robertson & Partners—Scott Newman, AIA, partner in charge; Adele Finer, AIA, project manager; Ken Dietz, Anh Truong-Montgomery, Hiro Hayakawa, Eric Boorstyn, Hasti Azar, Weifang Lin, project team
Architect for public spaces

(including lobby, roofscape, building exterior): Michael Maltzan Architecture—Michael Maltzan, AIA, principal; Kurt Sattler, project designer; Brian Cavanaugh, project manager; Dana Bauer, Nora Gorden, Michael Schulman, project team
Engineers: Goldman Copeland (m/e/p); De Nardis (structural)
General contractor: Turner Construction Co.



The main entrance on 33rd Street was a loading dock when staples were made here and will become one again when art storage becomes the building's main function after 2005.





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to be temporal as much as temporary.” In other words, it needed to embody the notion of movement through space and time. “The temporal space starts in Manhattan when the visitor gets on the train and continues all the way to the art on the walls of our building,” explains Maltzan. “I didn’t want the architecture to be a threshold or a line of separation. Rather, I wanted to create a continuous experience for the visitor.”

Although there is talk of MoMA maintaining some kind of exhibition presence in the Queens building even after the Taniguchi building opens in 2005, Maltzan notes the power that fleeting pieces of

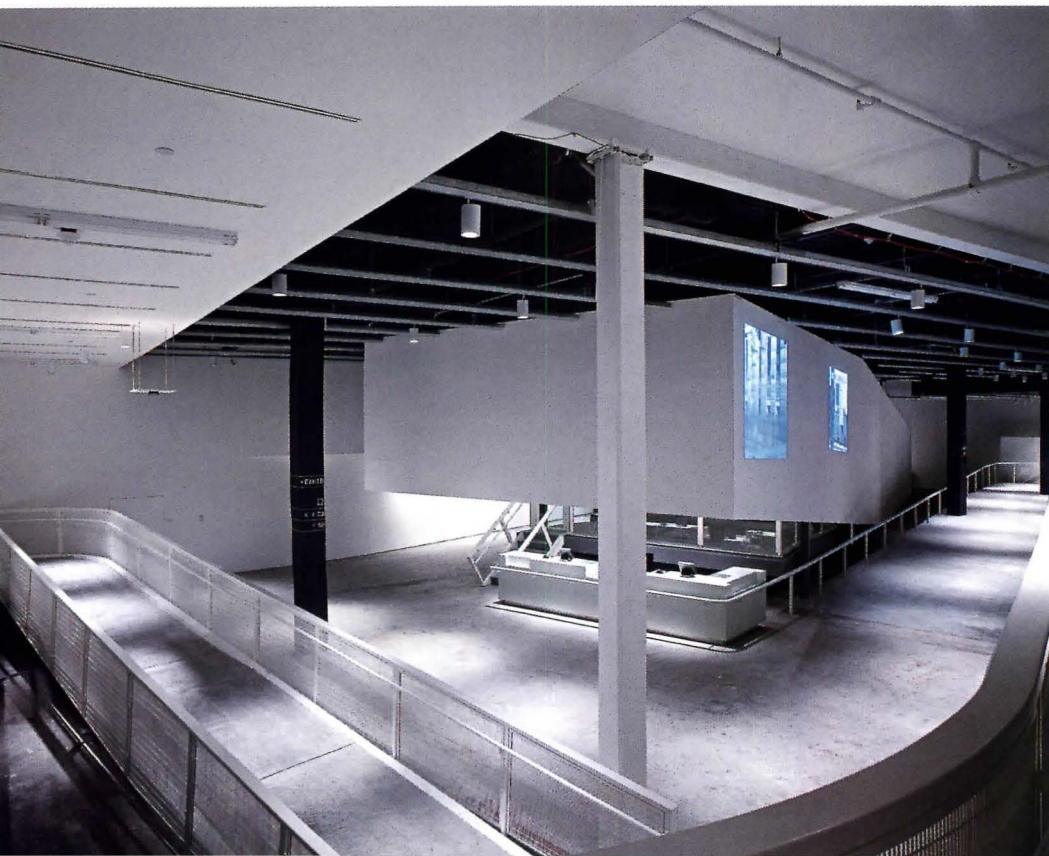
IT NEEDED TO BE BOTH AN OBJECT AND A FABRIC BUILDING, FITTING IN BUT OFFERING AN INTENSIFIED EXPERIENCE.

architecture can have, citing Alvar Aalto’s Finnish Pavilion at the 1964 World’s Fair, also in Queens. “Aalto’s design doesn’t go away in people’s minds; it has a permanent presence.” For his MoMA QNS project to be complete, for it to come full cycle, says Maltzan, “it needs to be ripped out” in 2005. “What we did was design an architectural infrastructure,” explains Newman. “While the building is a permanent part of MoMA, it needs to change over time,” adds Newman.

Occupying “the middle landscape” without dominating or disappearing within it turned out to be challenging. “It needed to be both an object and a fabric building,” states Maltzan. To catch people’s attention

on the subway train, the architects painted the building’s rooftop mechanical enclosures so they work as a sort of Cubist sign, appearing first as just pieces of letters and then snapping into place as the MoMA logo when the train pulls into the 33rd Street station. The building itself, though, remains a basic box, reclad with EIFS to create a tight weather seal for protecting the Picassos and Matisse inside. While inspired by the staple factory’s glazed-blue brick, Maltzan and Newman “intensified” the blue of the new exterior and added a line of fluorescent tubes running along a steel armature projecting 6 feet from the face of the building. The saturated color of the building and the syncopated rhythm of the lighting serve as the museum’s basic exterior signage. Only when visitors get close to the building’s entrance do they see the institution’s logo sandblasted on sliding glass doors.

Once inside, visitors encounter a series of ramps and stairs, along with angled walls and ceilings that set in motion the old factory’s vast enclosure. “We tried to create a topography within a large horizontal space,” says Maltzan. A narrow slot between two walls offers an immediate glimpse of Picasso’s *Les Femmes d’Alger* (one of the museum’s signature paintings), but the entry ramp quickly turns 90 degrees and takes visitors past a coat-check area to the spacious lobby. Overlooking this space is a bookstore and café on a mezzanine level, accessed by either a stair near the entry or a switchback ramp at the south end of the lobby. Maltzan provides a visual anchor to the entry sequence in the form of a great white box emerging from the gallery spaces and hanging above the

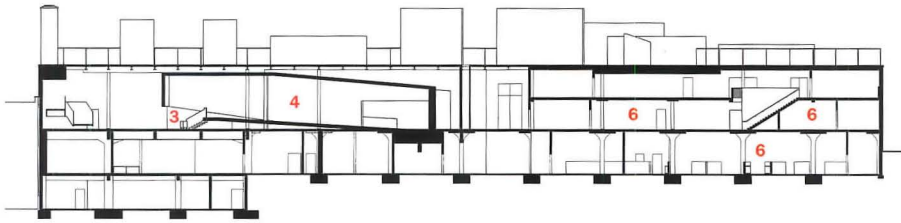


Video images can be projected on the tilted box defining the project space (left and opposite). Neutral colors and industrial materials provide a flexible setting for art, including a current show of the museum's collection of cars (above).

The main public area centers around a ticket desk and a "project" space behind it. A wide ramp leads from the visitors entrance past a mezzanine with a café and bookstore.







NORTH-SOUTH SECTION



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1. Visitors entry
2. Coat check
3. Tickets
4. Project space
5. Exhibition
6. Staff
7. Staff entry





Removed from the refined galleries of the museum's home in Manhattan, well-known artwork seems new again (opposite and below). Support spaces with oversize doors provide access to exhibition areas (opposite, top right), while a reading room (right) serves a library and archives with 180,000 volumes.



ticket counter. The box, which encloses a “project” space for exhibiting new art and videos, acts almost like a large, gentle whale sticking its head into the lobby and opening its mouth above the ticket desk. Views around and below the box create a sense of permeability, offering a continuous flow of spaces rather than a separation between front-of-house and back.

Beyond the lobby lies 25,000 square feet of flexible exhibition space, which can be divided as needed by interior partitions. When it opened at the end of June, the museum showed off the six automobiles in its design collection, two temporary exhibitions, and a sampling of works from its permanent collection. Industrial materials such as concrete floors and exposed ductwork, along with 21-foot-high ceilings, provide a pleasantly raw setting for the art, an interesting change from the refined galleries the museum had on 53rd Street.

What the public doesn't see is also impressive in a no-nonsense way: climate-controlled storage for art, labs for art conservation, staff offices, and a library with a two-story reading room. Thanks to grade changes between the front and back of the building, vehicles can deliver artwork at either of the museum's two main levels.

As designed by Maltzan and Newman, MoMA QNS is more than just a temporary home for a growing museum. With its dynamic interior landscape and streetwise exterior, it is remapping culture in New York and perhaps even changing the character of the institution it serves. ■

Sources

EIFS: Dryvit (*Ultralation System II*)

Curtain wall and skylights: Kawneer

Modified bituminous roofing:
Georgia Pacific Building Products

Steel windows: Norshield

Sliding entry doors: Besam

Plastic laminate: Nevamar

Exterior lighting: Nulux (*custom*)

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The 200-unit building occupies an entire block south of Market Street (opposite). Each two-story loft facing Folsom Street (left) has an open terrace and a space enclosed on one side by floor-to-ceiling channel glass.

Stanley Saitowitz tests the market for high Modernism with his YERBA BUENA LOFTS in San Francisco's South of Market district

By Clifford A. Pearson

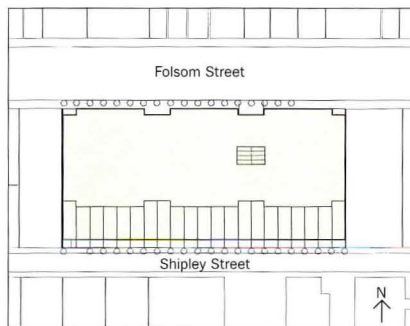
Developers of multifamily housing in America tend to play it safe in terms of design. With large sums of money at stake and often difficult approval processes to endure, they don't want to challenge anyone's taste in architecture. When the market is strong, anything will sell; so why waste money on high design? When the market is soft, nobody wants to try selling anything that's not warm and fuzzy.

Erdal O. Tansv is not your ordinary developer. An engineer by training, he had worked for Chevron, building oil fields, and then developed electrical power plants. "I know how to get things built," he explains. Big things. In recent years, he has been developing residential projects in San Francisco—mostly wood-frame buildings, nothing very big. So when the chance to acquire an entire block south of Market Street presented itself in 1996, he took it. With the dot-com boom in full-swing and young computer geeks looking to spend large sums of money on cool places to live, the project appeared to be a good bet.

While walking around the South of Market area, Tansv had noticed some small live-work buildings designed by Stanley Saitowitz and liked their straightforward expression of structure and function. Such a direct approach appealed to the engineer in Tansv. The developer in him, though, realized that selecting a Modernist such as Saitowitz for a big speculative project required "a leap of faith." Tansv leaped and didn't look back.

Saitowitz had started thinking about lofts with his design of 1022 Natoma Street, a live-work building completed in 1990, where his office occupies the top two floors. "In all of my work, the assembly is the object, the structure is the building," explains Saitowitz. For example, he refers to the 25-foot-wide structure on Natoma Street with exposed metal floor trusses and horizontal strip windows as "a loft scaffold," an apt description. "I've always been interested in systems," he explains, "and how many variations you can get with them."

Born in South Africa, Saitowitz was steeped in the Modernist tradition at the University of the Witwatersrand in Johannesburg before establishing his practice in San Francisco in the early 1990s. "I started out in South Africa with an architecture rooted in the landscape and only recently have my buildings become more urban," he says. In terms of size and num-



ber of dwelling units, the Yerba Buena Lofts is Saitowitz's most urban building so far. And in terms of construction and materials, it is his most muscularly modern.

Saitowitz envisioned the building as a giant concrete "egg crate" with a repetitive grid of double-height dwelling units. Within each 16-foot-high, 16-foot-wide bay, he would set panels of floor-to-ceiling translucent glass and a balcony or terrace. The poured-in-place-concrete frame would remain exposed, serving as finished surface, both indoors and out.

No building project in San Francisco moves quickly through the approvals process, especially if it doesn't pretend to look like a Victorian row house. The Yerba Buena Lofts was no exception. "It didn't have a tile roof or bay windows, so some people didn't like it,"

Project: Yerba Buena Lofts, San Francisco, California
Designer: Stanley Saitowitz Office/Natoma Architects—Stanley Saitowitz, design principal; John Winder, Michael Luke, project architects; Naomi De Graaf, Daishi Yoshimoto, Eric Staten, job captains; Werner Bohr, Thomas Brune, Leigh Cristy, Carl Edman, Nadine Frommer, Oliver Hoffman, Neil Kaye,

Vivian Klein, Johannes Kramer, Tamy Levin, Ulysses Lim, Verena Lindemeyer, Jacopo Mascheroni, Christine Mann, David Mathias, Oliver Steinle, project staff
Structural engineer: Watry Design Group
Acoustical consultant: Charles M. Salter Associates
General contractor: Pankow Residential Builders



Without imitating old styles, the building's main facade makes abstracted reference to traditional bay windows and establishes an arcade at street level (left). The main entry (opposite, top) offers an elegant composition in concrete and glass.

recalls the designer. “But we showed them how the scale of the project and the repetitive bays fit with the fabric of the city without actually imitating old buildings.” The city eventually agreed but required Saitowitz to make some changes in his design—such as adding recesses in two places to relieve the long, main facade on Folsom Street and setting the building back 10 feet in the rear along Shipley Street. In the spirit of making lemonade when dealt a lemon, Saitowitz and Tansev used the unusually deep setback on Shipley to create private gardens for the ground-floor apartments on that side of the building.

While the building offers units ranging in size from 900 to 1,450 square feet, all of them are two-story lofts. “I live in a high-ceilinged place, so I like high-ceilinged spaces,” states Tansev. And because he was targeting young professionals and dot-commers, most of whom hadn’t started families, he figured these people would also appreciate a sense of volume in their residences. “Instead of highly programmed square footage, you get space, freedom,” says Saitowitz. “Lofts allow more individual interpretations in terms of lifestyle.”

Lofts, though, also added height to the project, which could have been a problem in a part of town where most buildings are restricted to 55 feet. So Tansev took advantage of a city program that let him build up to 85 feet high if he set aside 10 percent of the units as affordable housing. (The affordable units are priced at 60 percent of market value.) Saitowitz’s design reduces the appearance of size, though, by articulating the concrete frame and the double-height spaces within it. Because the mezzanine in each loft is not expressed on the outside, the building reads from the street as being five stories high rather than 10.

The 200-car parking structure is another part of the building that is not immediately apparent from the street. By tucking the four-level garage in the middle of the site and wrapping the perimeter with resi-

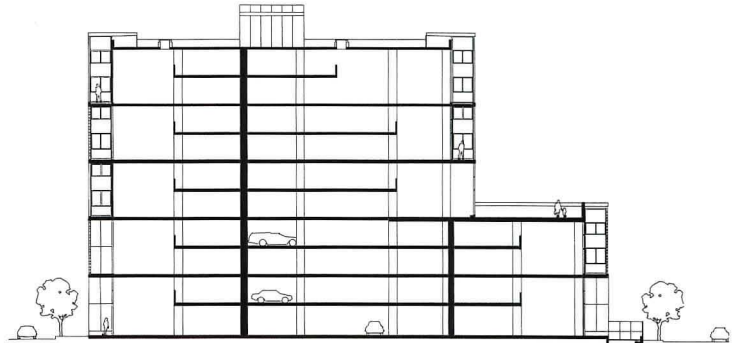
SAITOWITZ CREATED LIVELY STREETSCAPES BY ALTERNATING THE RHYTHM OF OPEN AND ENCLOSED SPACES.

dences, Saitowitz not only hid the structure but provided same-level parking spots for lofts on the lower four floors, an amenity much appreciated by Californians. “Everybody wants to park right outside their living room,” quipped Saitowitz.

Because the structure is neither painted nor clad, the concrete frame needed to be beautiful. Inspired by Modernist precedents such as Le Corbusier’s *Unité d’Habitation* in Marseilles (completed in 1952) and Alison and Peter Smithson’s *Robin Hood Gardens* in London (completed in 1972), Saitowitz designed a framing system with no columns. Instead, he used what he calls “wallumns,” load-bearing walls between units that extend 7 feet inside the lofts. This device proves to be an elegant way of bringing the building’s structural expression inside the dwelling units themselves. Although this exposed concrete frame is certainly more expensive than a typical building’s structure, it eliminated the expense of bringing in several different tradespeople, such as carpenters, plasterers, and painters, to finish the walls.

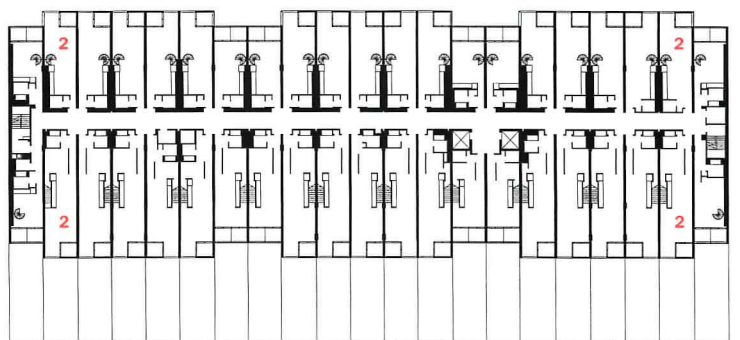
Much of the building’s impact comes from its snazzy combination of concrete with greenish channel glass and panels of clear glass. The channel glass, which has interlocking U-shaped sections, is fairly common in Europe but is just starting to be used here in the United States. While architects often blame their clients for cutting corners with materials, Saitowitz says, “Ed was determined to get the materials right. He deserves a lot of credit.”

Saitowitz created lively streetscapes by alternating the rhythm of open and enclosed spaces in front of each dwelling unit—an architectural

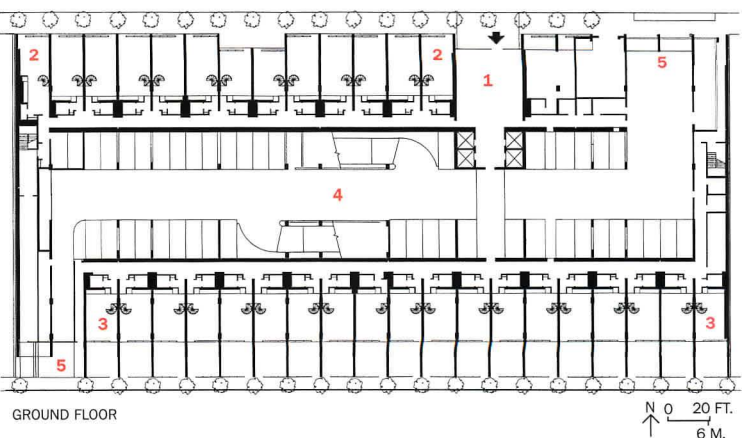


NORTH-SOUTH SECTION

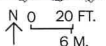
- 1. Lobby
- 2. Loft
- 3. Garden loft
- 4. Parking
- 5. Parking entry



SEVENTH FLOOR



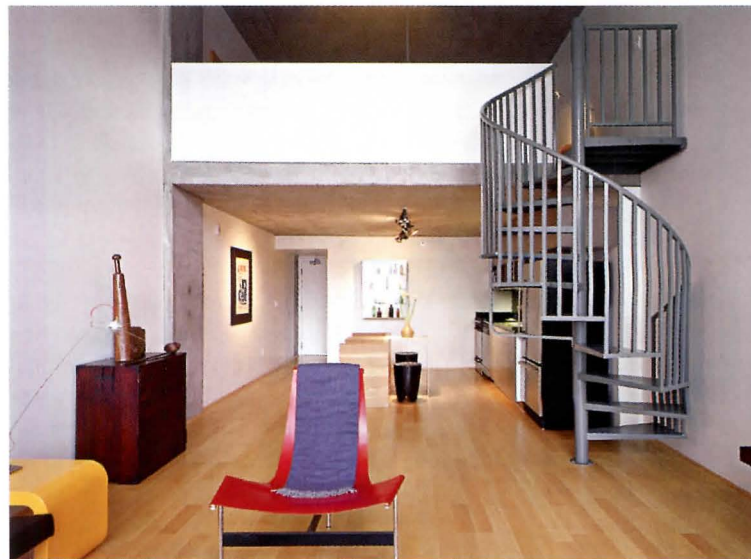
GROUND FLOOR





The south facade (above) steps back above 40 feet to let more light reach narrow Shipley Street. The building is set back

10 feet on Shipley, so garden units were added (above right). The Folsom facade catches the sun (opposite) and glows at night.





The posttensioned concrete structure employs what Saitowitz calls “wallums” (left), 7-foot-deep walls that act as columns. The lofts come in five basic plans, all with finished kitchens, mezzanines, and spiral stairs (opposite, bottom two).

binary code that expresses itself differently as the light changes during the day. Because the lofts are simple open spaces and both the clear and channel glass rise from floor to ceiling, the interiors feel big for their size.

Completed at the end of last year, the Yerba Buena Lofts hit the market after the dot-com bubble burst and the country was shaken by the attacks of 9/11. But Tansev had sold 70 percent of the units by the end of June and had increased prices from \$350,000 to \$450,000 for the small units and from \$600,000 to \$650,000 for the large ones. He expects to sell out by September or October. Despite the high quality of the poured-in-place concrete and the glass, the project incurred hard costs of \$45 million, or \$237 per square foot of habitable space—quite reasonable for San Francisco. What the project proves is there’s a market for good design and a way to make a profit building it. ■

Sources

Cast-glass wall system: Pilkington (Proflit)

Aluminum sliding windows: Traco

Aluminum window wall system: US Aluminum

Glass wall in lobby: Tempglass Western

Glass lobby door: Blumcraft

Custom woodwork in units: Sitraco

Industries

Fluorescent lights in units: Lithonia Lighting

Exterior lighting at entries: Kenall Sentinall

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Heroically conceived and intricately detailed, Raimund Abraham's **AUSTRIAN CULTURAL FORUM** has a brooding, needlelike form

By James S. Russell, AIA

Out of the machine metaphors of 20th-century Modernism, Abraham evokes menacing images of pillboxes and guard towers in the Forum's 52nd Street elevation (left). Most prominent is the open-drawer suite for the director (opposite) and the inverted wedge near the top that opens to an outdoor terrace. The zipperlike north elevation encloses the scissoring exit stairs (bottom left).

Twenty-four stories is not very high in Midtown Manhattan terms, but even the most preoccupied walker on East 52nd Street would be unlikely to miss the Austrian Cultural Forum, though it is dwarfed by far larger, bulkier neighbors. What first grabs attention is a five-story-high, sphinxlike form that juts toward the street. It projects out of suspended layers of sloping glass, which overlap each other sharp as knife edges. This needlelike tower, a mere 25 feet wide, draws the eye to its solid top, which is carved with mysterious, totemic slots. Most remarkably, the architect, Raimund Abraham, has stretched a mere 30,000 square feet over a dizzying 280-foot height.

In every respect the Austrian Cultural Forum seems to have been defined in out-of-the-ordinary terms. It is probably the most expensive building, per square foot, erected by a foreign government in America, although it is not intended to project government power or even to spur new direct investment. "The Forum's purpose is to make the dynamics of contemporary Austrian culture better known," says Christoph Thun-Hohenstein, the Forum's director, "including the marvelous and very interesting things happening in the contemporary art world in various disciplines, such as visual arts, architecture, and music." Thun-Hohenstein is programming the Forum's galleries, auditorium, seminar rooms, and library to cross-fertilize arts talent in Austria, America, and internationally.

"Here is a truly exceptional client," comments Kenneth Frampton, a Columbia University architecture professor who served on the competition jury that selected Abraham's scheme. "It was audacious to the point of craziness to put this pencil-point skyscraper on a 25-foot-wide town-house site. But the Austrians decided that the centrality of the placement in Manhattan was worth it. And they pushed it through."

In the Austrian-born, 69-year-old Abraham, the Ministry of

Project: Austrian Cultural Forum, New York City

Owner: Republic of Austria, Federal Ministry of Foreign Affairs

Architect: Atelier Raimund Abraham—Raimund Abraham, principal; Simone Giostra, Peter Leeb, John Veikos, Jeff Brown, Anders Abraham, Chris Barlieb, Jennifer

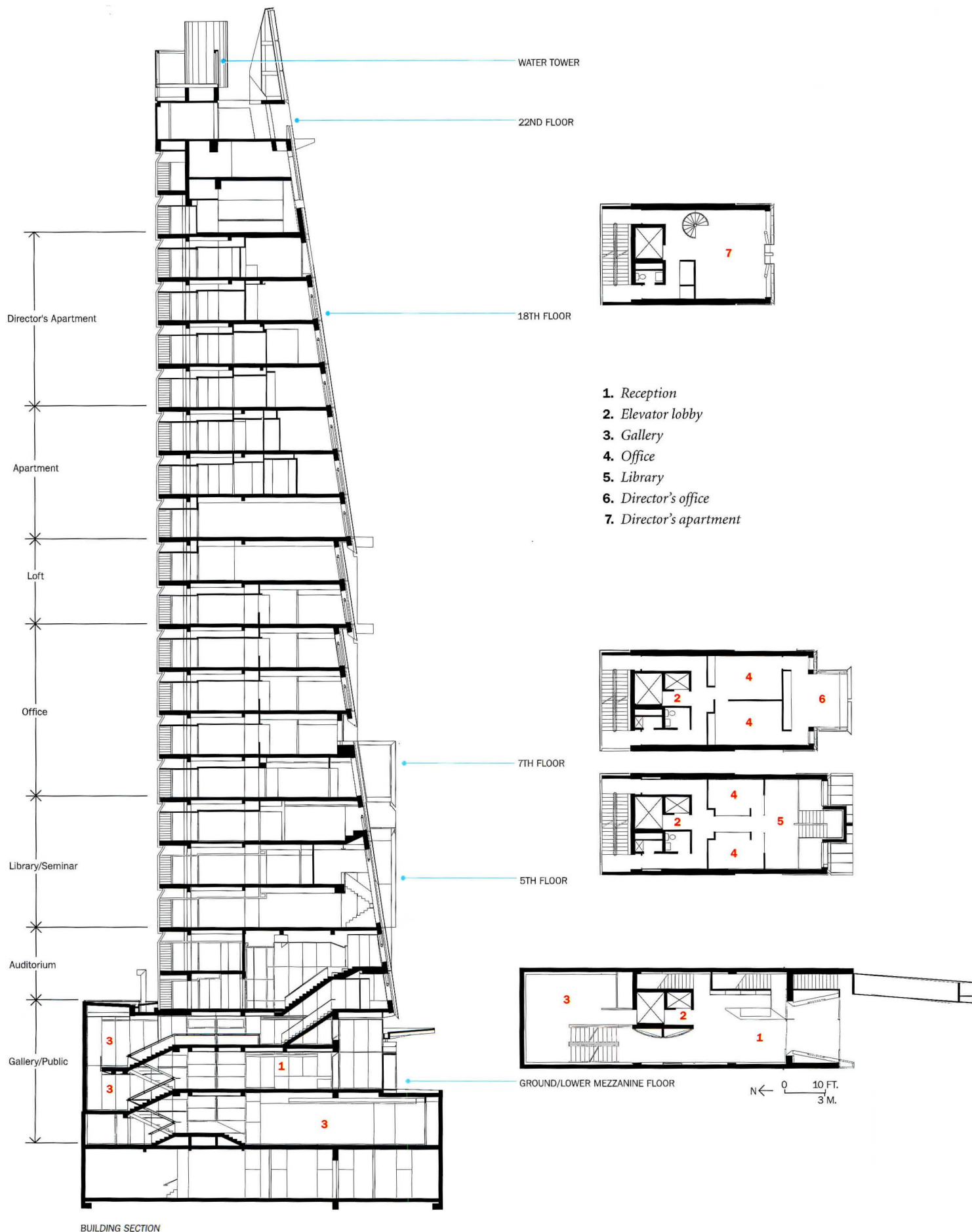
Whitburn, Catherine Seavitt, Frank Thinius, Mike Derker, Maya Ballen

Consultants: Arup (structural, mechanical, electrical, fire protection engineering); RA Heintges Architects (curtain wall)

Developer: Hanscomb

Construction manager: Barney Skanska Construction

PHOTOGRAPHY: © ROBERT POLIDORI (OPPOSITE, AND THIS PAGE, BOTTOM); MICHAEL MORAN (THIS PAGE, TOP)



BUILDING SECTION

Light from a rear skylight beckons the visitor from the lobby back to a stair leading to gallery spaces one-half level up and down (right). From the gallery level, another stair rises past the stainless-steel-wrapped elevator core (bottom right) to the Forum's culminating public space, it's diminutive auditorium. Abraham articulated the south facade to denote the progression of public to private.

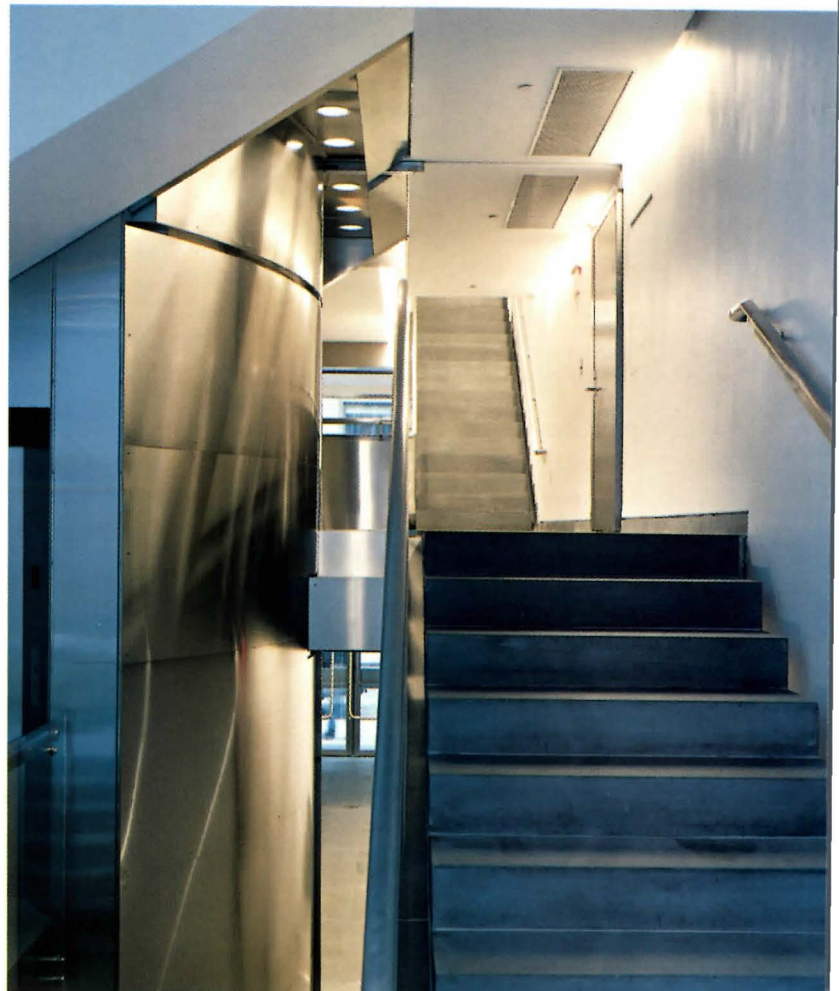


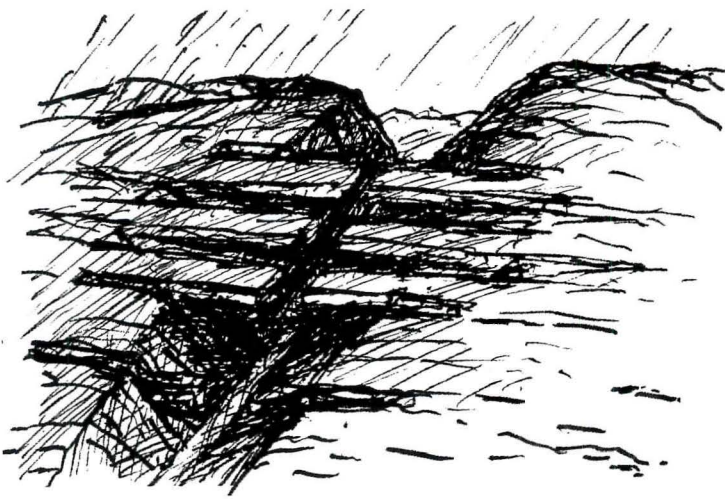
Foreign Affairs found an architect whose determination matched its ambition. Indeed, so impatient is Abraham with the compromises inherent in construction that he has completed only a handful of buildings in a career spanning almost 40 years. He has lived in America since 1964, but his substantial international reputation is based on teaching (at the Cooper Union, from which he has just retired, as well as numerous other schools) and on theoretical drawings and models of extraordinary power (see "The last iconoclast," following pages).

His approach to the Forum design was not theoretical, but, he says, "objective." Abraham worked out the amount of space needed and stacked it volumetrically. He found it almost perfectly filled the zoning envelope, which slims as it goes up along a sloping plane so that sunlight may reach the street. The crucial decision, says Frampton, which almost alone caused the jury to select the scheme over 225 competitors, was to give up the daylight from the north elevation in order to place two fire stairs that scissor over and under each other. Most of the other schemes ran the exits along one of the party walls, but the arrangement so reduced the building width that the resulting floors were "very difficult," explained Frampton. "The problem with the site was its width, not its depth."

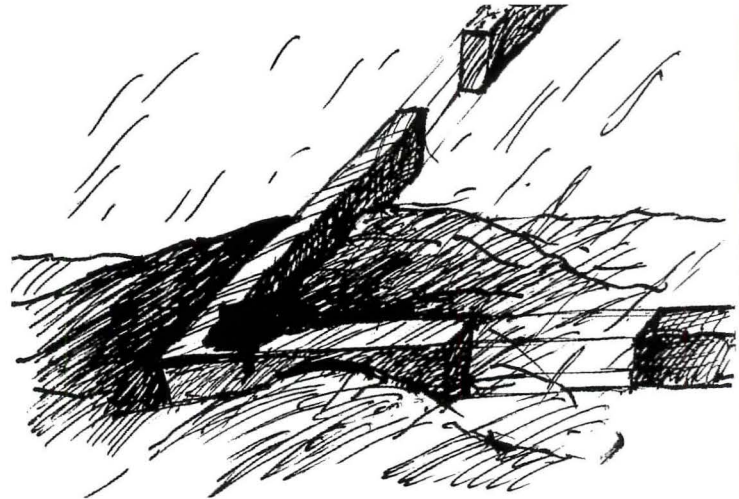
Creating usable, if small floor plates freed Abraham to deploy daylight more theatrically. A large skylight lures the visitor out of the lobby, past the stainless-steel elevator enclosure and up a short stair to a mezzanine gallery space (photos this page). Throughout, double-height spaces and the modeling of the south elevation throw surprising stripes of light and unexpected shadows into the building.

While the stone, metal, and glass vocabulary of the exterior carries into the public spaces on the lower levels, a more domestic scale emerges above, the higher the floor and the more private the program.





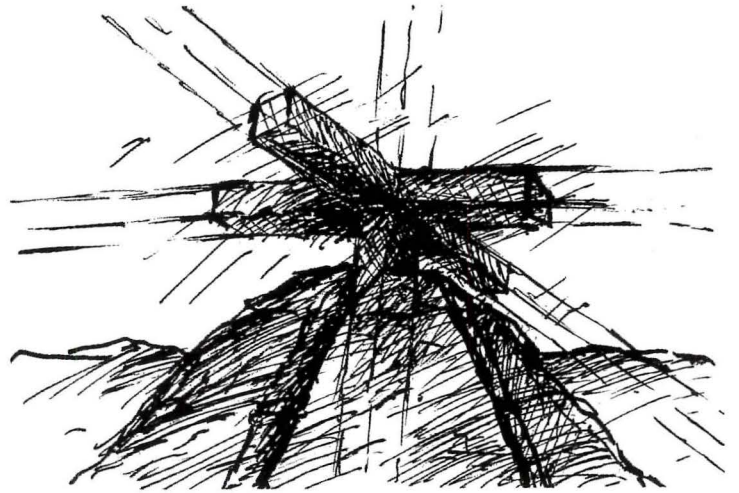
LOCUS 26 63° N / 100° W



LOCUS 23 48° N / 100° W



LOCUS 2 49° S / 75° W



LOCUS 17 15° S / 50° W

The last iconoclast

"If architecture doesn't take risks, it remains just design," said Raimund Abraham in a recent interview. He makes it clear that "just design" isn't good enough, and that architecture that is without risk, challenge, and conflict is not worth doing. *The exploratory drawings, sketches, and models he has long made evoke the Austrian Cultural Forum's armored exterior imagery.* "Raimund has always maintained that one doesn't have to build to be an architect, that the drawing and the idea are as important as the built work," says Kenneth Frampton.

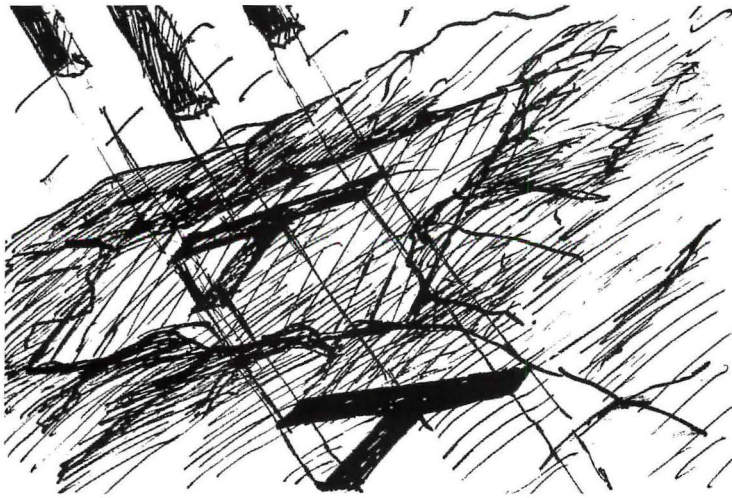
Abraham describes a dialectic of materiality and ideal geometry. It is as if every line drawn on paper were pregnant with meaning, a tactic

deployed in a never-ending battle between the intrinsic nature of substances—their material weaknesses and strengths—and the purity of primary form. "It's a whole process of anticipation—anticipating that a line becomes an edge, that a plane becomes a wall," says Abraham. "The texture of the graphite becomes the texture of the built." He seems to operate in a mode of perpetual embattlement where rules are always questioned and molds must be broken. Asked why the Forum was not more inviting in appearance, he responded, "You have to overcome barriers to really appreciate something." His design commands you to pay attention to it and try to decipher it.

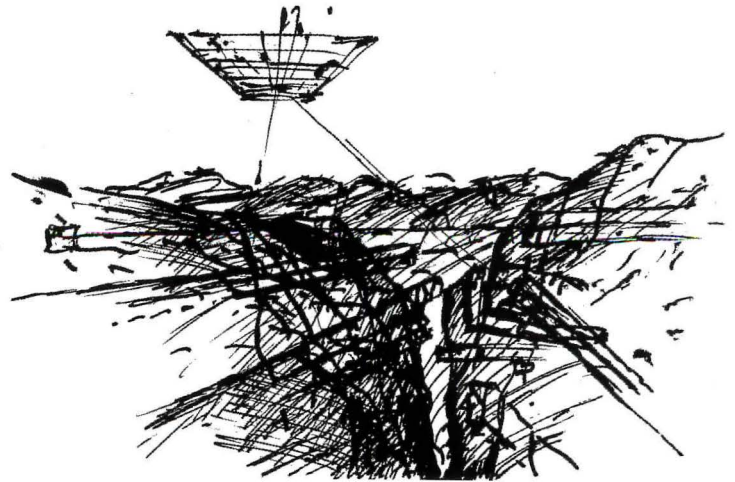
Abraham's sensibilities were profoundly formed by the Tyrolean environment in which he grew up, where "farmhouses were stone

fortresses" that appeared to have grown out of the mountainous terrain. He skied and climbed mountains, becoming intimately aware of the geology. ("You had to know if that rock would hold when you put your weight on it.") World War II brought bombs and skies filled with airplanes, which evoked in Abraham both horror and fascination with the aesthetic power of such massive machine-borne destruction. "All of this," he says, "is in the Forum building."

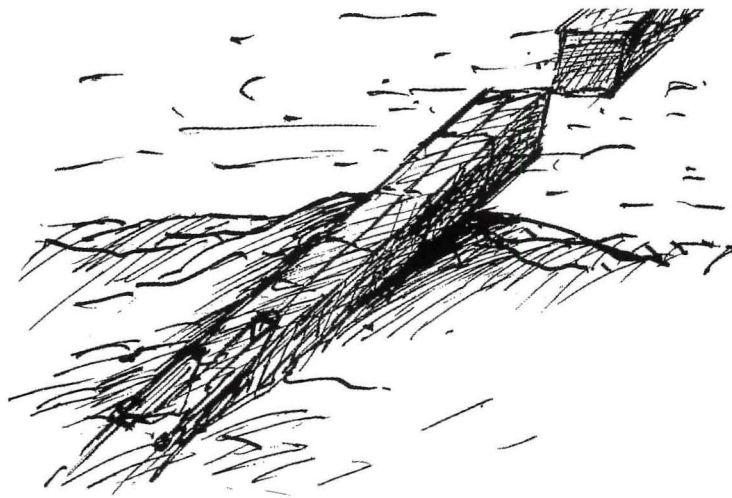
Students are attracted to Abraham's fierce integrity. He does not go easy on them, but, as one former student commented, he makes you want to go where he leads. Colleagues say he picks fights, holds grudges, and can't work well with others, but they also describe a kind of closet idealist who can rarely see the silver lining



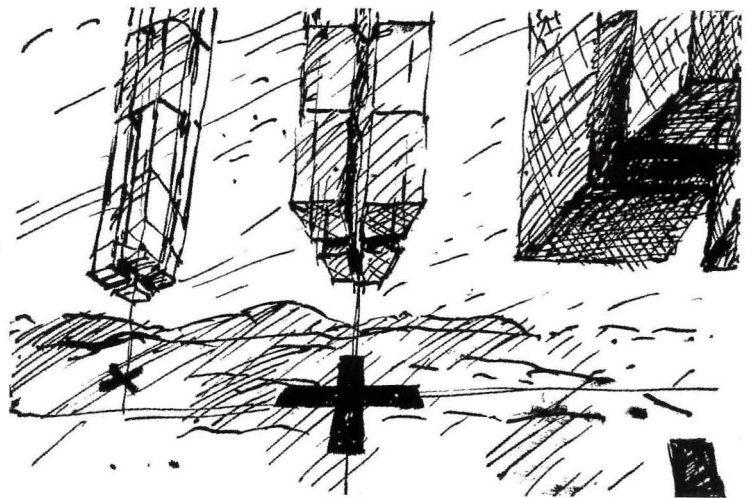
LOCUS 22 33° N / 86° E



LOCUS 21 10° S / 75° W



LOCUS 8 23° S / 140° E



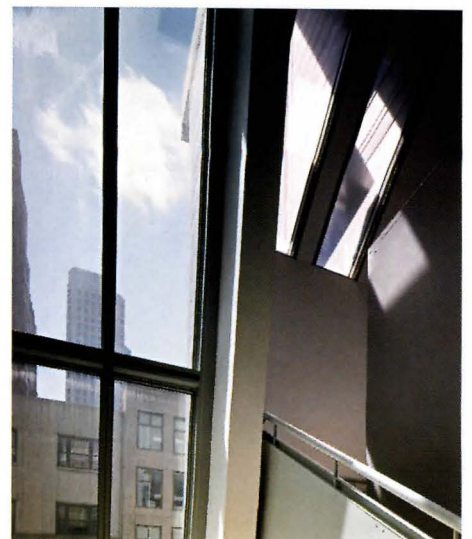
LOCUS 19 41° N / 75° W

amid the dark clouds and yet can't stop struggling to achieve his dream.

Building the Forum certainly tested Abraham's tenacity. After he won the design competition, in 1992, the project languished, as controversy erupted over its cost. (It ended up coming in at almost \$1,000 per square foot.) Although both the Austrian foreign minister and the culture minister supported the project unstintingly, Abraham found himself arguing for the project on the floor of parliament. Finally, construction was approved and began in 1998. Abraham fought with the contractor and subcontractors. New York's corruption-ridden concrete firms couldn't meet the specs, it is said. The curtain wall had to be fabricated in Austria because American makers couldn't achieve the quality Abraham demanded,

it is said. Abraham refused to give a building tour to a prominent Austrian official because he disagreed with the political direction of the country, it is said. Neither these nor numerous similar stories can be verified because of pending legal actions or fear of Abraham's temper. Abraham does note, "I lost 10 years fighting for the building."

"Raimund has enormous pride," says Frampton. "He's quite courageous and self-possessed and anarchic in a way. He's a bit Don Quixotic because too many things become issues." Out of this has come a building that Frampton describes as "heroic in conception, in a way that's been absent in Manhattan over the past 40 years. The Forum is more akin to American building of the turn of the 20th century." *James S. Russell*





The auditorium (opposite, right) has been designed to classical-recital standards. A pier above it projects out of the facade, enclosing a stair in the library (opposite, left), which refracts sun from the director's office over it (above). Abraham designed some of the furniture in the director's apartment (left).

The change is most obvious in the warm, tiny, wood-paneled auditorium, which seats only about 75. Abraham compares the four-level director's apartment at the top to a brownstone house, but this aerie—flooded with light from its sloped glass—offers from its lofty perch a far different experience than its earthbound brethren.

Abraham allowed the slope to trigger the evocative elevation strategy. The slits and overhangs in the facade denote where the program changes as the building rises (from public spaces, to offices, to the apartments at the top; see building section, page 124). As if defiant, the projecting rectangle of the eighth-floor director's office breaks through the facade's glassy membrane. The brooding totemic imagery in the projecting elements, the punched openings, and the central vertical slit give the facade its masklike, almost menacing quality. It's not obviously inviting, and about that Abraham is unapologetic: "It protects what is intimate within," he says.

This metaphorical armament seems to be as much about Abraham as it is about architecture or the aspirations of the Forum. Resistance is a way of life for Abraham, according to colleagues, and it spills into his architectural approach. Materiality is his chosen medium because he envisions truth being derived from the very fabric of architecture. The diagonal braces behind the glass facade take the place of conventional lateral supports, which usually lie invisible behind opaque spandrels. Here their pistonlike quality expresses resistance to a metaphorical as well as literal compression emanating from the comparatively large bulk of the buildings on either side.

No decision went unconsidered. "In the kind of skin I envisioned, glass was not about transparency but about weight," he explains. "I wanted to suspend glass and layer it. You perceive its platelike qualities and the knifelike edge." Inside, glass-and-metal office partitions, detailed using little I-beam shapes, elegantly display the door's pivot hinge. Mechanical services are rigorously organized and encapsulated in painted metal chases. "Considering that he presents himself as the ultimate bohemian type—the artist, the provocateur, the poet—there are two aspects of Raimund that astonish," says Frampton, "the impeccable working drawings and his capacity to work out every nut and bolt and

carry it out to the nth degree."

But Abraham's design mystifies those who have grown to appreciate the sensual and the spectacular that characterizes so much contemporary work. Instead of rigor, they see an arid obsessiveness that harkens back to a dusty golden era of heroic Modernism.

Unexpected sensations unfold out of the Forum's apparent severity, however. The sloped glass and the modeling of the front facade, with side-facing windows here and there, dramatically frames views of sidewalk life below and spectacular shaftlike vistas down Midtown's street canyons. The visitor sees an entirely different cityscape from that offered by the standard, frontal, street-wall building. In its small floors, the Forum paid a price for going so dramatically vertical. But each level offers a different experience of the city outside the full-height windows. Lower floors look toward the neo-Gothic rose window of St. Patrick's Cathedral, serendipitously visible through a jumble of water towers. Upper floors open to city panoramas.

Abraham has never hidden his disdain of architecture-as-usual—calling architects who work with developers "lackeys," for example. And it has been easy to dismiss him as one who did not want to get his hands dirty with the inevitable compromises that clients and contractors entail. But the variety of experience and evocation Abraham packs into his sliver tower makes a powerful case for his passion, for his vision, and for his adept defense of the integrity of the work against compromise-minded politicians and builders. "After the process of construction is completed," he told Kenneth Frampton in 1999, "there is no place for excuses or blame. That is the truth of built architecture." ■

Sources

Curtain wall: *GIG Fassadenbau*

Wall panels, skylights, windows:
GIG/MDE

Metal stairs, handrails: *Skyline*

Ornamental metal: *Airflex*

Glass doors and frames: *Blumcraft*

Cushioned hardwood floor:
VAL Floors

Wood paneling: *Byrne Millwork*

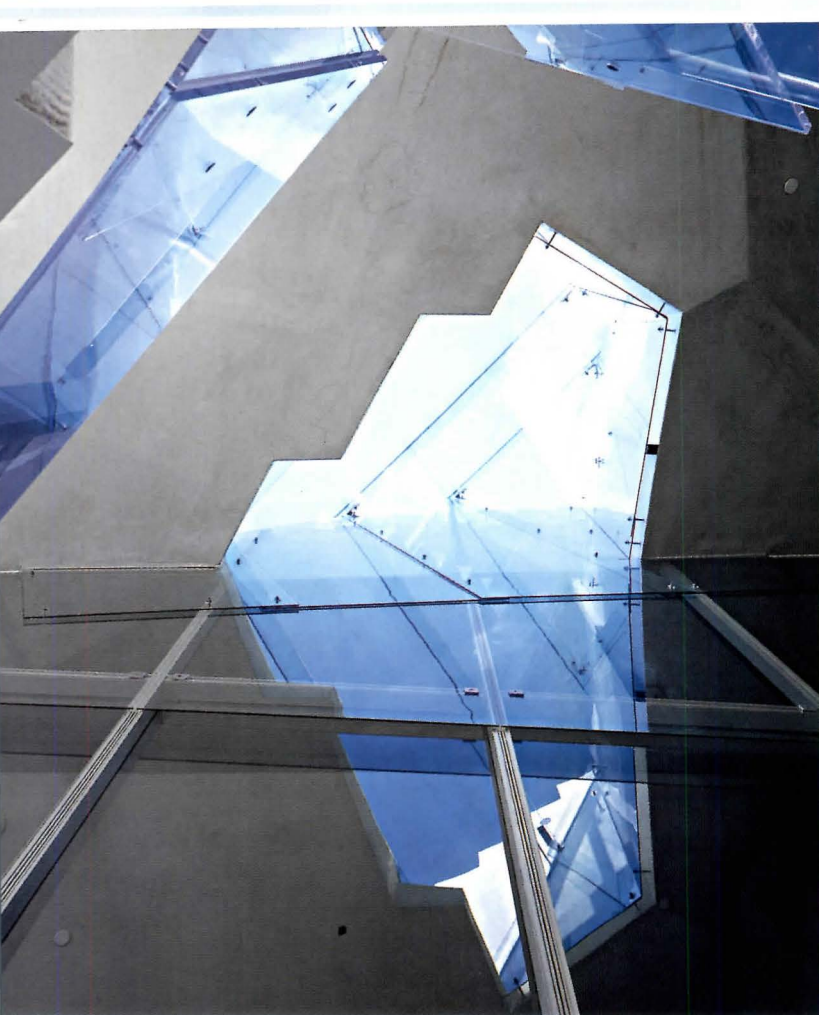
Stone flooring: *GM Crocetti*

Custom millwork: *List*

Lighting: *Zumtobel*

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glass-“draped” deck for musical performances. In each case, an attention-grabbing sculptural “anomaly,” as Moss puts it, fronts “normative” office space. Like a truck pulling a heavy rig, the Beehive’s plan delineates clearly between the irregularly shaped “cab,” or anomaly, and the rig, a two-story orthogonal office block, with its second floor longitudinally perforated to bring light from three skylights to the ground floor. The hive, or cab, houses an entry and reception area with a stair leading to a glassed-in conference room. A second stair ascends to the rooftop, which is crowned by a slanted Escherlike assemblage of staircases—a compressed abstraction of an amphitheater, encircling a pyramidal skylight. In contrast to most of the architect’s previous Culver City projects, the sculptural component here works more as an individual building with its own structure than as an intervention into a larger building. The result is the strongest integration of image and function in Moss’s work to date.

According to Moss, the Beehive’s shape was not the generating idea but emerged from a larger architectural objective: to explore “a mechanism for building a building,” regardless of form. Four sculptural steel columns, or “legs,” rooted at the edges of a previous building’s footprint, constitute the vertical structure. These columns lean and bend with apparent eccentricity to configure interior space and respond to programmatic requirements. Concentric horizontal rings of steel pipe, at 4-foot intervals, wrap the group of columns, further defining the Beehive’s distinctive form. Like a dented miniature of Frank Lloyd Wright’s Guggenheim Museum, the building’s vertical profile steps out with each interval. Orthogonal exterior walls of smooth-troweled plaster, rising from the base, partially cover and partially reveal the basketlike steel armature. A taut and fluid exterior surface—clad in curved panels of Rheinzink, a zinc-copper-titanium alloy, to the west and curved laminated glass to the north—achieves a high level of resolution in its complex geometries.

How to characterize this kind of structure? “It starts from what appears to be a clear strategic order of poles and hoops, but then the designer goes about breaking the poles, not at the floor, but above, so the poles feel the strain,” says structural engineer Guy Nordenson, who did not consult on the Beehive but is currently working with Moss on the Queens Museum expansion. He points out that the most painful moment for the structure is where it reveals the broken joint: “On one hand, the structure is under some visible strain because of the dislocation—you can see the stress and the hardest working part of the knee and, in fact, part of it is stripped away. But, on the other hand, it adds another layer of meaning to the project.” Here, the manipulation of structure clearly complements Moss’s ongoing interest in dislocation and imbalance: expressing and pushing the limits of stress are essential to the design. But is the Beehive a structural tour de force? “In a different sense: You are taking a tour and you see the forces at work,” Nordenson says. “Maybe it’s the ultimate tour de force.”

Another key step in Moss’s ongoing investigation of motion, structural transformation, and dislocation, the Beehive demonstrates a substantial refinement in construction and presumably lays the groundwork for his ambitious projects in New York and Russia. ■

Sources

Sheet metal: Rheinzink (zinc-copper-titanium alloy)

Roofing: Excel (Crete deck coating)

Doors: Turi Installation (birch)

Hardware: Schlage (locksets); Hager (hinges)

Paint: Dunn Edwards (plaster)

Lighting: Stonco and Lumière (custom-modified fixtures)

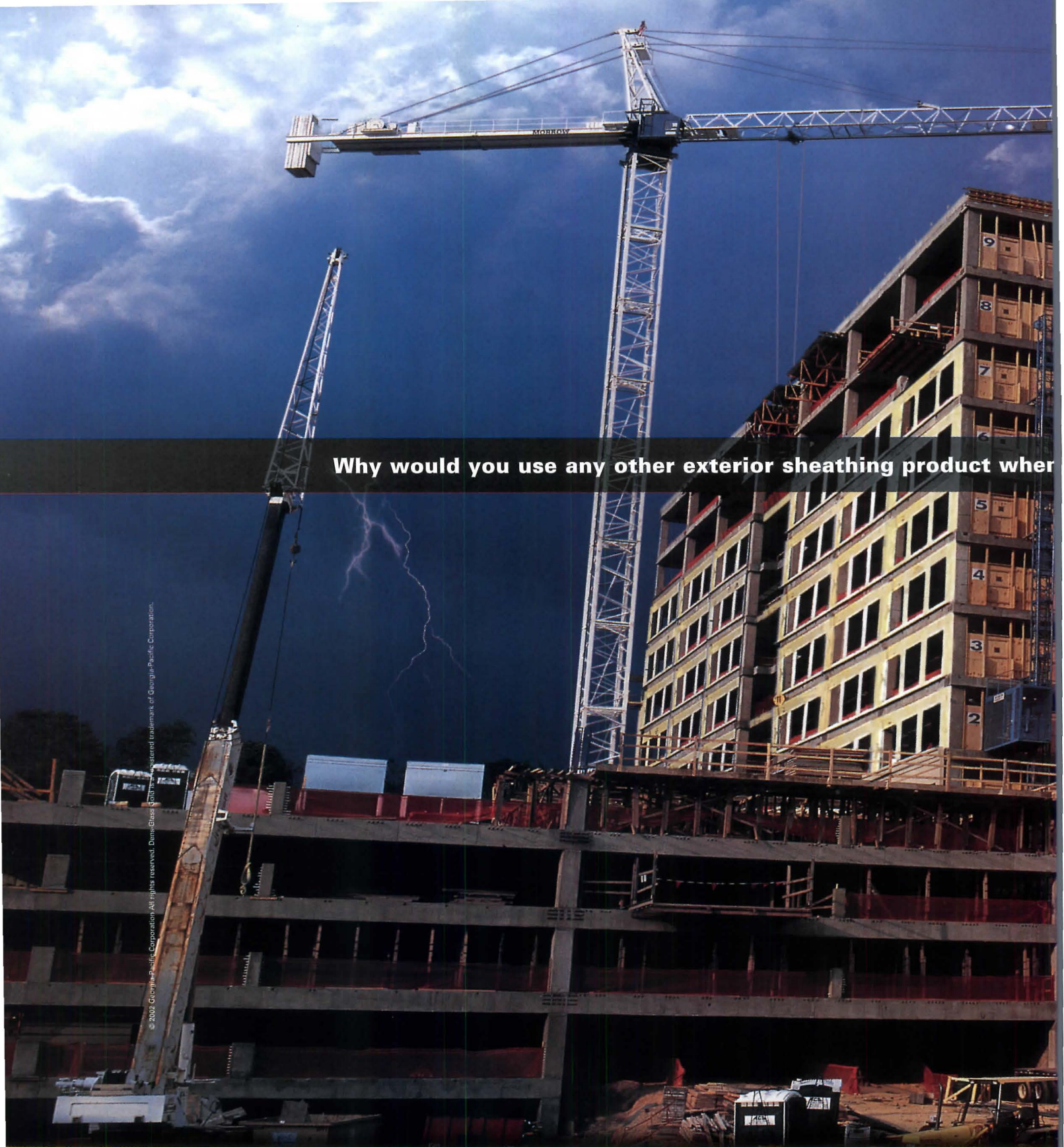
Cabinetry: AM Cabinet

Furniture: Hinerfield/Ward (cold-rolled steel reception desk and conference table)

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Spiraling upward, irregularly shaped stairs reconcile the hive's curved shell with the pyramidal form of its central skylight (this page and opposite, top). Opaque cladding is stripped away in areas, revealing the layering of materials (this page and opposite, bottom).





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COLLEGES AND UNIVERSITIES

Modernist Propriety

MODERNIST ARCHITECTURE HAS OFTEN FAILED MISERABLY IN PROPORTION, SCALE, DETAIL, AND MATERIAL. HOWEVER, AS THESE BUILDINGS DEMONSTRATE, EXCEPTIONS ABOUND.

By Suzanne Stephens

1.

Oxford, England

Kohn Pedersen Fox Associates (International) use linearity, rhythm, and proportion to help a research center fit in with its neighbors.



2.

Dunedin, New Zealand

A library expansion and renovation by Hardy Holzman Pfeiffer Associates brings a sense of scale to a gateway structure at the University of Otago.



3.

Baltimore, Maryland

Johns Hopkins University's new Mattin Center illustrates Tod Williams and Billie Tsien Architects' sensitivity to materials and site.



4.

Creve Coeur, Missouri

Nicholas Grimshaw and Partners and HOK astutely combine material and scale in the Donald Danforth Plant Science Center.



Most of us have lists of “teardowns”—big, bad buildings that mar the coherence and character of historic college campuses. At Kenyon College, in Ohio, the administration decided its 1960s banal brick boxes mixed badly with the mostly Collegiate Gothic architecture, some of which dates to 1824. Kenyon’s president, Robert A. Oden, Jr., decided to do something about it: Kenyon has already torn down one major building, while several others are reportedly headed for the dumpster.

Kenyon’s point is well taken. Too many such mediocrities clutter campuses. So, why does ARCHITECTURAL RECORD publish only Modern buildings in its analysis of architecture of American colleges and universities, many of which are known for their neo-Gothic or neo-Colonial architecture? The buildings selected for publication on the following pages show that Modern buildings can indeed fit in with traditional campuses and not ruin the gestalt of the original. Interestingly, the new buildings, designed by Tod Williams Billie Tsien Architects, Hardy Holzman Pfeiffer Associates, Kohn Pedersen Fox, or Nicholas Grimshaw, reveal a traditional kind of sensitivity. Through the use of materials with certain textures and tones, and through adherence to time-honored principles of proportion, linearity, rhythm, and scale, a Modernist vocabulary can add and enrich the campus’s architectural quality.

Not all Modernist buildings, of course, make such obeisance to texture, line, and detail. Bland brick boxes are proliferating, just as in the 1960s—only, as is the current fashion, with metal ziggies springing out of their tops. But let’s not ignore the fact that a lot of neotraditional buildings are just as problematic. They may lack the metal ziggies, but often they are brick boxes with neotrad paste-ons. They frequently lack proportion and scale; especially, for example, when large laboratories are wedged into the procrustean bed of a traditional vocabulary.

There is a strong reality to be confronted: Most campuses (and their architects) take the easy way out and settle for mediocrity—historicist or Modern. As Oden explained recently in *The New York Times* (July 6, 2002), the Modernist boxes stem from the American “desire to go with whatever works, whatever is immediately at hand.” Furthermore, he noted, “the American self ... ignores what buildings and spaces can do for your own work and your own creativity.” For its part, RECORD believes tradition and innovation can coexist comfortably and even provocatively. Handled with sensitivity, Modern architecture, as exemplified by the following projects, can indeed address that issue successfully. ■

www For additional college and university projects, and more information on the people and products involved in the following projects, go to Building Types Study at architecturalrecord.com.

Rothermere American Institute

Oxford, England

1

KOHN PEDERSEN FOX'S MODERN STEEL-AND-GLASS STRUCTURE DEFERS TO ITS NEO-GOTHIC NEIGHBOR THROUGH LINEARITY, SCALE, AND RHYTHM.

By Suzanne Stephens

Architect: Kohn Pedersen Fox Associates (International)—David Leventhal, partner in charge; Fred Pilbrow, design partner; Jim Dunster, project architect; Jon Neville-Jones, project manager; Geoff Cartwright, Ben Elsdon, Melissa Doughty, Simon Hall, Clare Mason, Neil Merryweather, Rick Milliship, Masahiro Nakatani, Graham Newell, Ross Page, Dean Weeden, Paul Yuen, project team

Client: Oxford University Surveyors Office

Consultants: Dewhurst MacFarlane & Partners (structural); Buro Happold (mechanical and electrical); Jessop and Cook Architects (planning supervisor); Arup Acoustics (acoustical); Davis Langdon & Everest (quantity surveyor)

Size: 26,900 square feet

Cost: \$7.3 million

Completion date: 2001

Sources

Stone cladding: Bath Stone Group

Curtain wall: Metal Casements

Glass brise-soleil: Evolux

Concrete: Thames Formwork

Metal roofing: Metalex

Furniture: Steelcase

www For more information about the people and products involved in this project, go to Building Types Study at architecturalrecord.com.

With its origins dating back at least to the 12th century, it is small wonder that Oxford University provided an apt model for the Collegiate Gothic architectural style that swept through American universities in the late 19th and early 20th centuries. Yet recently, even Oxford has encountered the problem American campuses often face of fitting modern buildings into a traditional fabric. Rothermere American Institute shows that it is possible to use an entirely Modernist vocabulary and still suitably defer to historic architecture. Ironically, it took parvenu Americans—the London office of Kohn Pedersen Fox (KPF)—to demonstrate how it should be done.

Program

The Rothermere American Institute was created as a center for research, teaching, and discussion about American history, politics, and government. Accordingly, the 26,900-square-foot structure, budgeted at \$7.3 million, was conceived to provide a reading room with access to book stacks and carrels, as well as a variety of seminar and discussion rooms.

Solution

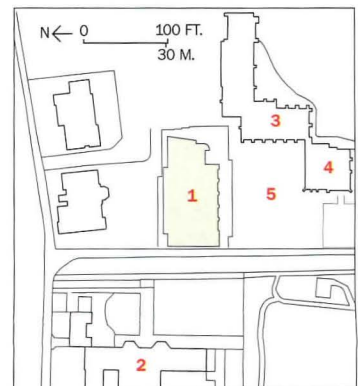
David Leventhal of the London office of KPF placed the rectangular structure catercorner to Mansfield College, the youngest and smallest of Oxford's 39 colleges. The handsome neo-Gothic buildings, designed



in 1887–89 by Basil Champneys, are distinguished by their buttery-tinted Bath-stone walls.

By having the Rothermere center form the north side of a sunken green quadrangle, the architects were able to create a private precinct, with Mansfield College wrapping around the east and south. The siting allowed Rothermere's reading room, the dominant volume in the building, to look onto the smooth, grassy lawn.

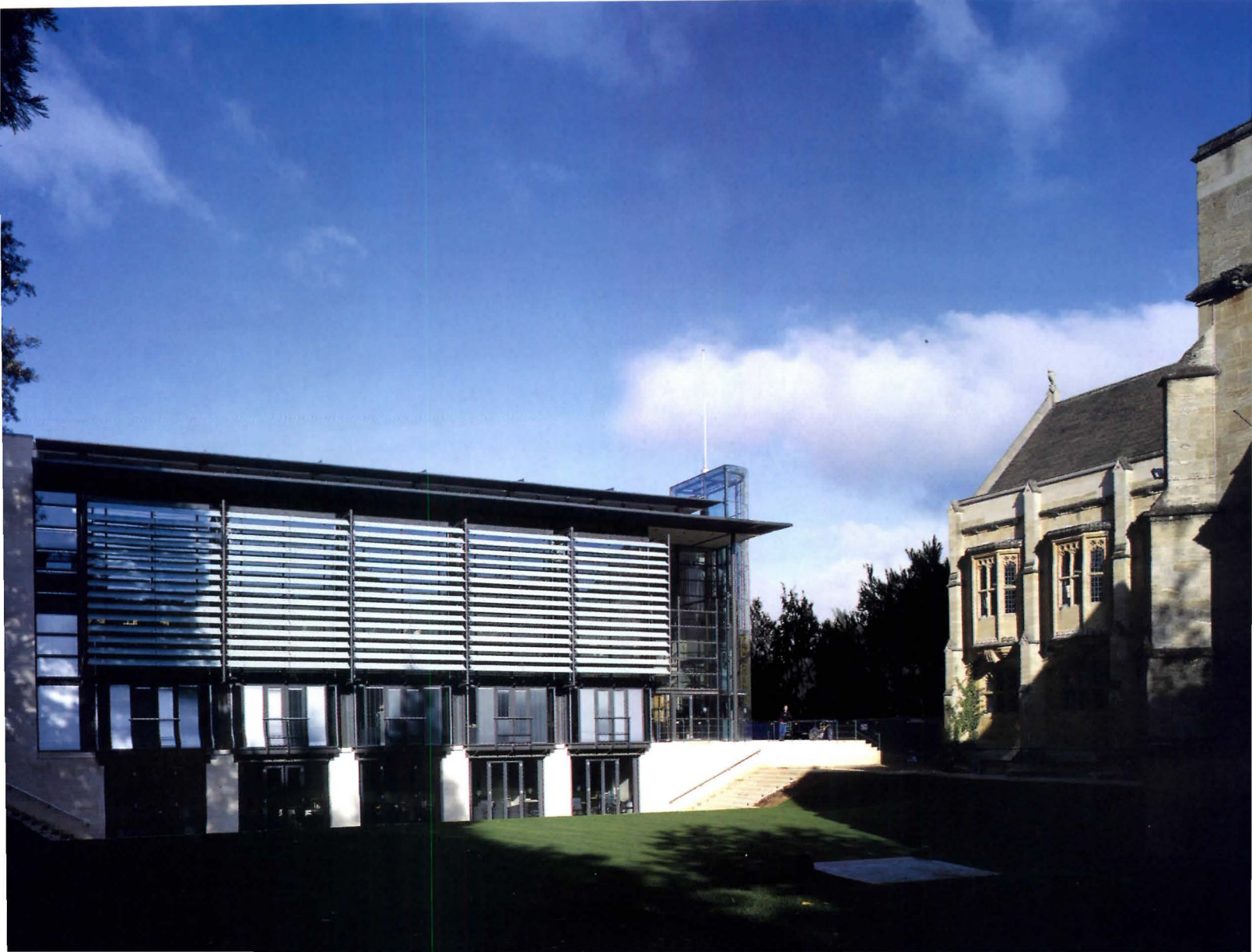
The center is sunk 11 feet below grade, so that its lowest level, which contains seminar rooms, opens out to a terrace edging the lawn, which is depressed 9 feet. By this means, the architects were able to get natural light into all four

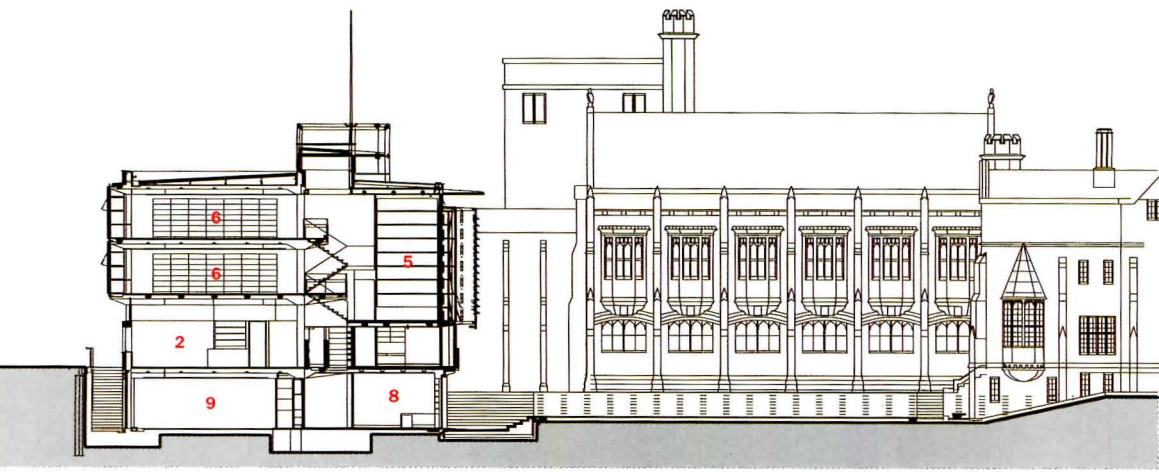


1. Rothermere American Institute
2. Rhodes House
3. Mansfield College library
4. Principal's lodge
5. Quad

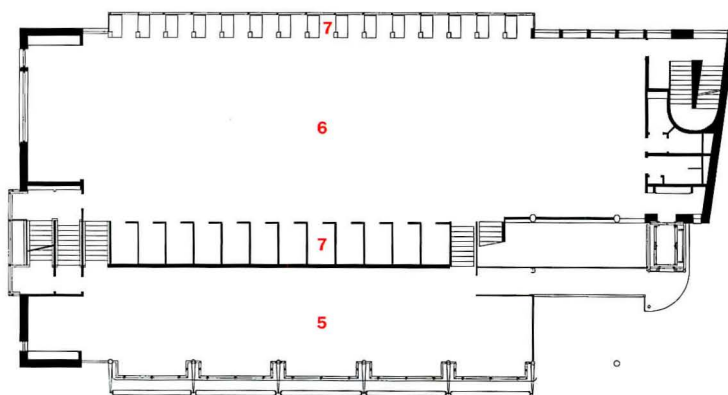


Rothermere is a hybrid poured-in-place-concrete and steel-frame structure, which, like the adjacent neo-Gothic Mansfield College (opposite and below), has an ashlar course of Bath limestone cladding its lower portion, where piers divide seminar rooms opening onto a sunken terrace.

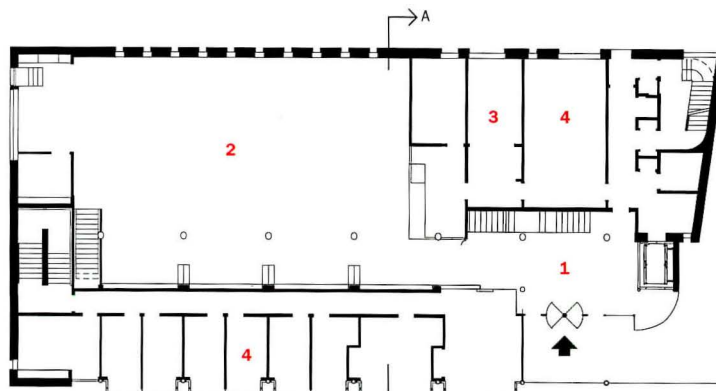




SECTION A-A



TYPICAL FLOOR



ENTRANCE LEVEL



The two mezzanine levels overlook the reading room (opposite, right top and bottom), where study carrels are enclosed with translucent glass partitions and wood slats to retain a sense of openness. The glazed corner entrance (opposite, top left) opens into a three-story-high entrance lobby. Barrel-vaulted concrete ceilings above the stacks cantilever as covers over the desks along the north wall (opposite, bottom left).

1. Entrance
2. Library catalog
3. Head librarian's office
4. Offices
5. Reading room
6. Stacks
7. Carrels
8. Garden-level studies
9. Seminar room

stories of the building, including the 23-foot-high reading room, while maintaining the eave line of the adjacent Mansfield structures.

Since the major facade's glass wall faces south, KPF was well aware that heat and glare could be a problem—even in a cool, cloudy climate. The garden elevation features fritted glass louvers over a glass-and-steel curtain wall. Backing up the double layers of glazing are vertical cable-truss wind posts on cantilevered steel floor trays. Behind this greenhouse-like assembly the reinforced concrete slab and piers carry the reading stacks, marked by barrel-vaulted concrete ceilings that cantilever over the reading desks on the north side.

For passive cooling, hot air rises through a monitor in the middle of the building and a clerestory along the top of the curtain wall. At night, all the north and south windows open automatically to draw air inside, cooling off the exposed concrete frame and the books. Since the thermal mass keeps room temperatures down during the day, only the garden-level seminar rooms and the rare-book storage need to be air-conditioned.

Commentary

On any given day, the building's interior is luminous and extremely comfortable. But, according to the head librarian, John Pinfold, some students have found heat gain is still a problem on the warmest days. In addition, the low sun angle in the winter sometimes allows rays of light to enter between the louvers. These complaints aside, the library succeeds as a sensitive addition to a venerable campus. The elegant fritted louvers and the steel framing, plus a structural bay spacing of 14 feet, 9 inches, maintain the rhythms and the linearity of the Victorian Gothic structure next door (albeit with the emphasis on horizontal rather than vertical lines). Furthermore, the interior vertical thrust at the entry and the open reading levels recreate the spatial drama of older structures nearby. ■



Information Services Building, University of Otago Dunedin, New Zealand

2

HARDY HOLZMAN PFEIFFER HAS DESIGNED A HIGHLY DRAMATIC GATEWAY FOR A NEW KIND OF LIBRARY ON AN OLD CAMPUS.

By Elizabeth Arcuri

Architect: Hardy Holzman Pfeiffer Associates—Norman Pfeiffer, FAIA, partner; Stephen Johnson, AIA, principal architect

Associate architect: Opus International Consultancy—Jeff Thompson, project architect

Client: University of Otago

Consultants: Hadley & Robinson (structural engineers); Arup (mechanical, electrical, fire, facade engineers; lighting, acoustical consultants)

Size: 200,000 square feet

Cost: \$20 million

Completion date: 2002

Sources

Steel: Naylor Love Structural Steel

Masonry cladding: Madden

Glass curtain wall, metal panel: Alutech/JVM

Composite metal panel: Alutech; Alpolic

Oamaru stone: Dooleys Masons

Tile/shingles: Little and McLeod

Glass for glazing and skylights: Pilkington (Viracon)

www For more information about the people and products involved in this project, go to Building Types Study at architecturalrecord.com.

A picturesque collection of stone-front Victorian buildings gives a strong identity to the core of the University of Otago, founded in 1868 on a peninsula of the South Island of New Zealand. Between 1960 and 1980, however, bland clusters of concrete structures along the southern part of the campus altered the gestalt. Now Hardy Holzman Pfeiffer's (HHPA) 200,000-square-foot Information Services Building (ISB) launches a third and more inspiring generation of development. Sited on a highly public corner at the southwest edge of the campus, the building proclaims its function as a gateway to the university and its symbolic role as a center for learning.

Program

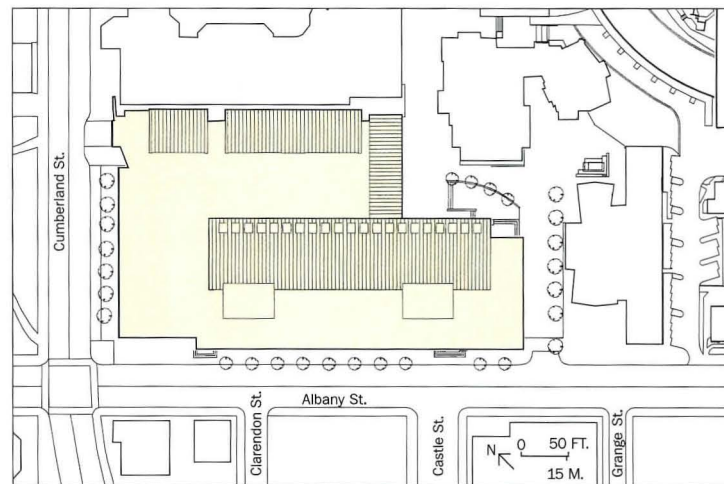
In planning the building, the university staff visited a number of American libraries, including the Los Angeles Central Library, which had been renovated and expanded in 1993 by HHPA's Los Angeles office. The client group was particularly impressed by the way the library's atrium solved the problem of getting natural light into a large space. Soon HHPA's Los Angeles office, headed by partner Norman Pfeiffer, FAIA, with Stephen Johnson, AIA, the principal architect, was commissioned to develop Otago's 1996 master plan as well as design the ISB. The Los Angeles

Elizabeth Arcuri is an educational programming consultant in New York City.

Library and ISB projects are drastically different in style. The former expansion defers heavily to the Moorish Deco style of the historic Bertram Goodhue building (1926); at ISB, HHPA felt the design should explore (and improve upon) the Modernist idiom of the adjoining university buildings with gridded glass and curved metal forms.

Solution

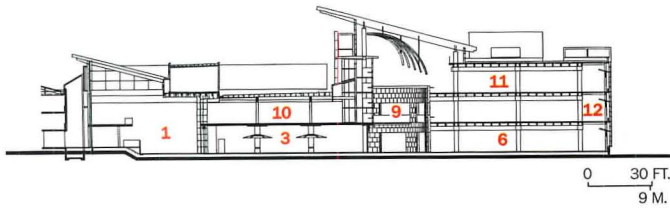
The \$35 million ISB renovation and expansion called for demolishing about a third of the existing 1960s Central Library (soundly built but deficient in space and afflicted with outdated systems) and constructing the new library to extend beyond the original footprint. The base of the new construction is a



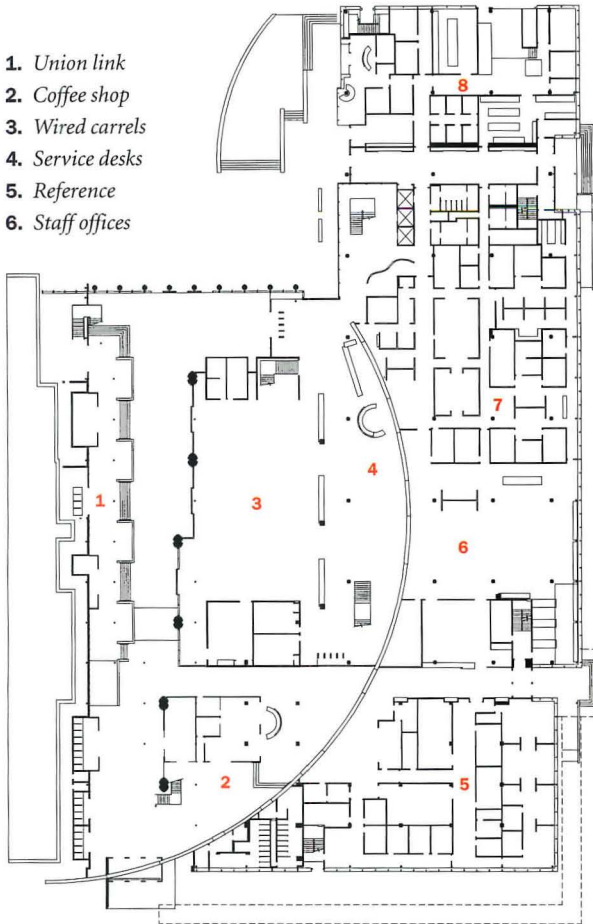


The ISB's major facade (below) faces Albany Street at the edge of the campus, while the west entry (opposite) is on Cumberland. Various arms of the renovation and expansion create an inner precinct (left).

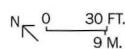




- 1. Union link
- 2. Coffee shop
- 3. Wired carrels
- 4. Service desks
- 5. Reference
- 6. Staff offices



GROUND FLOOR



- 7. Staff offices
- 8. Service
- 9. Atrium
- 10. Periodicals
- 11. General collection
- 12. Readers' seating



poured-in-place concrete grid, while a double-T-slab construction is used above. The remaining two thirds of the 1960s library was drastically remodeled: The interior was gutted to accommodate the information (computer) commons, and the exterior glazed to match the curtain wall of the adjacent new counterpart. In addition, HHPA renovated the exterior of nearby buildings and created a glass-enclosed passage between the ISB and the existing student union.

The transparency of ISB's exterior is carried into the open-plan interior. The atrium at the heart of the center is given a strong shape by a curved Oamaru stone wall: At the plaza level, the wall separates the secure zone for the collections (over

400,000 books and 300,000 micro-format volumes) from the 24-hour reading area and the information commons. Open stairways and well-spaced concrete columns augment the feeling of expansiveness, which in turn is underscored by the use of translucent materials of glass, perforated metal, and wire mesh.

Commentary

The ISB, Otago's most ambitious, significant capital undertaking, is considered "first of a new breed" by the university librarian Michael Wooliscroft. The glass-sheathed, three-story center has become a dramatic presence as a gateway to the campus, with strong visual connection to the surrounding city. ■



Sails suspended over the three-story atrium cut down on glare. More than 2,300 seats are provided in unusual and flexible arrangements. Opposite the atrium, study carrels are arranged in idiosyncratic “beehive” stacks (right), which were inspired by the rookery at Taiaroa Head, a bird and animal sanctuary near Dunedin.

Mattin Center

Johns Hopkins University

Baltimore, Maryland

3

TOD WILLIAMS BILLIE TSIEN ARCHITECTS DEMONSTRATES A PRINCIPLED APPROACH FOR FITTING MODERN FORMS INTO THE LANDSCAPE.

By Suzanne Stephens

Architect: *Tod Williams Billie Tsien Architects—Tod Williams, Billie Tsien, principals in charge; Betty Chen, William Vincent, project architects; Kyra Clarkson, Leslie Hanson, Andy Kim, Jennifer Turner, Paul Schulhof, Nina Hollein, Peter Arnold, project team*

Client: *Johns Hopkins University*

Consultants: *Severud Associates (structural); Ambrosino DePinto & Schmieder (mechanical, electrical, and plumbing); Whitney Bailey Cox Magnani (civil); Mahan Rykiel (landscape); Renfro Design Group (lighting); Acoustic Dimensions (acoustical); 2 x 4 (graphic)*

Size: *50,000 square feet*

Cost: *\$13.6 million*

Completion date: *2001*

Sources

Structural steel: *Jarvis Steel*

Masonry: *Potomac Valley Brick & Supply Company*

Exterior wood-molded red brick: *Boral Brick Company*

Exterior custom-glazed brick: *Castaic Brick*

Chinese Northern Black granite: *Walker and Zanger*

www For more information about the people and products involved in this project, go to Building Types Study at architecturalrecord.com.

With its design for a new creative arts center at Johns Hopkins, Tod Williams and Billie Tsien Architects confronted evidence of a strong case of Jeffersonitis, a condition affecting much southeast American campus architecture. The campus's two existing quadrangles, characterized by the type of neo-Georgian brick-and-white-trim architecture of Thomas Jefferson's University of Virginia, date back to 1914, when the first buildings of a master plan by Parker and Thomas, of Boston and Baltimore, were finished.

A third quad-in-the-making seems to be maintaining the loyalty to the vocabulary. In such a setting, a Modern building can look as if a UFO landed among the halls of ivy. Williams and Tsien, however, demonstrate that a Modernist approach can give a campus a new identity without destroying its character.

Program

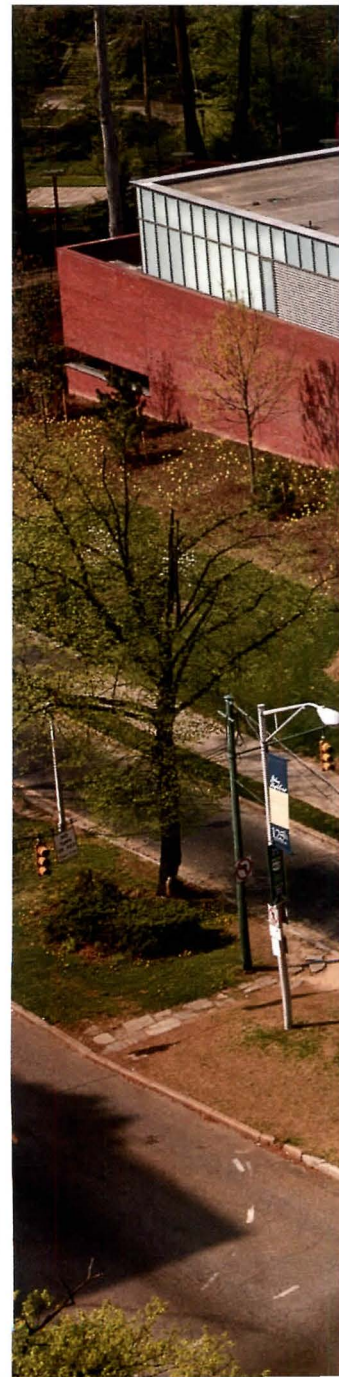
For most of its 126-year history, Johns Hopkins's reputation has been based on its science and literature programs. It has lacked a building devoted to the arts, and indeed does not have full-fledged art, music, and theater departments. Only in the past decade have students been able to take art electives for credit. And now, largely through private donations, a 50,000-square-foot facility has been put in place to add another dimension to student life.

Solution

The site for the arts center occupies 1.5 acres of a slope at the southeastern end of the campus, edged by a main thoroughfare on the east side, a power plant to the west, and a densely wooded sculpture garden that belongs to the Baltimore Museum of Art on the south.

Tod Williams and Billie Tsien developed a scheme with three wings, in which two branches spill gradually down the slope as it drops 32 feet in grade. The third short wing, for a theater and café, in effect bridges the two on the upper side of the hill, creating an open piazza in the area enclosed by the angled arms. The brick buildings, with a series of stairs, ramps, decks, and interior passages that connect various painting and digital arts spaces as well as dance studios, act as exterior gateways, interior pathways, and meeting places for students coming to the center. "We wanted to create both a nexus for student interaction and a connector to various activities," Williams explains.

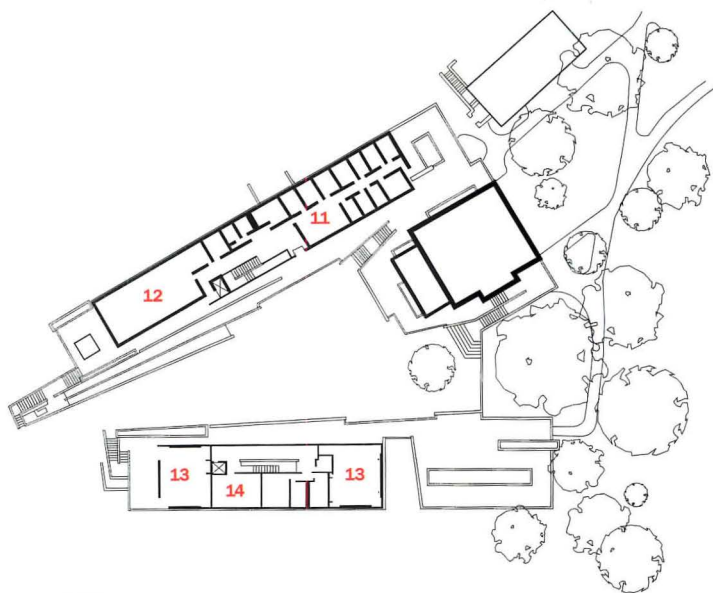
The poured-in-place-concrete structure and its retaining walls at the base of the buildings gradually give way to steel square-tube columns and beams and sand-blasted, double-paned glass walls at the top. But the dominant brick material bears a strong resemblance to the kind Alvar Aalto employed in his Town Hall at Säynätsalo in 1952.



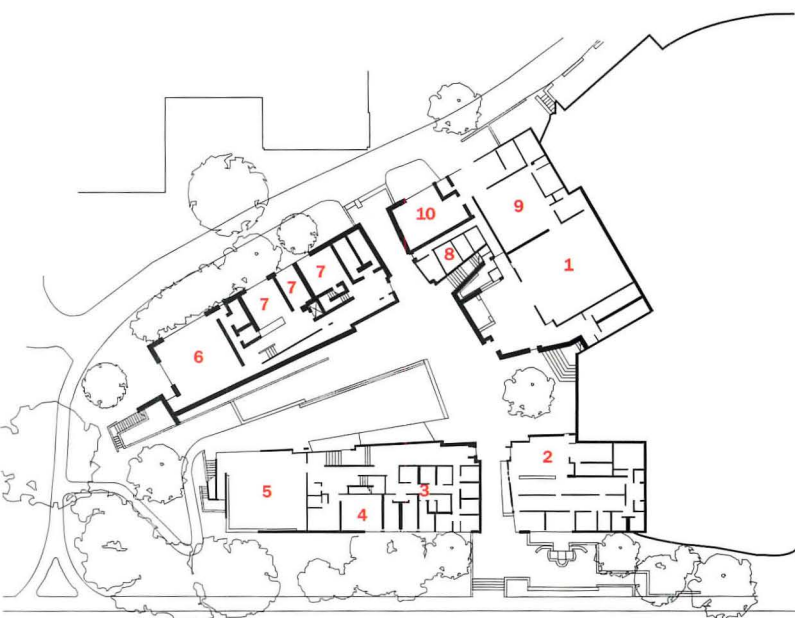
PHOTOGRAPHY: © MICHAEL MORAN



The long arms of the art center follow the drop in the slope on the campus's edge (left), while a short portion acts as a bridge element at the top, where stairs lead to the upper campus (above right). A terrace (top left) at the end of one building provides space for outdoor painting.



SECOND FLOOR



FIRST FLOOR

→ N 0 20 FT.
6 M.

- | | |
|-------------------------------|-----------------------|
| 1. Black-box theater | 7. Meeting room |
| 2. Student offices | 8. Maintenance |
| 3. Music practice rooms | 9. Back of house |
| 4. Small music rehearsal room | 10. Mechanical |
| 5. Large music rehearsal room | 11. Administrative |
| 6. Dance | 12. Film/digital arts |
| | 13. Art studio |
| | 14. Darkroom |

Two kinds of brick are used for the center, both of which show a certain affinity to that of the older Johns Hopkins architecture. Although most of these neo-Georgian buildings are built of Flemish bond, Williams and Tsien chose a ruddy, solid, running bond, but with the rough wood-molded texture of the the university's original brick. Alternating with the solid red brick is an extruded brick, custom-speckled with a gray glaze to pick up the dark color of the headers in the university's Flemish bond.

On the upper level of the center, translucent glass introduces natural light to the interiors through manipulations of section that recall the architects' Folk Art Museum in New York [RECORD, May 2002, page 202]. The horizontal extension of space, however, emphasized by changing floor planes and angled walls, bring an arresting variation to the theme.

Commentary

The center fits into the landscape with an ease that should increase with the passage of years, as the masonry walls acquire a patina of

age and more landscaping grows in. Right now, even though the brick has a rich, red crustiness, whole swaths of it seem unremitting—it cries out for ivy. Williams and Tsien are aware of the need for additional landscaping, especially on the slope at the perimeter of the center, as well as in the piazza at its core.

Nevertheless, both outside and inside the buildings, the interaction of horizontal and vertical spaces and the variety of materials work to great effect. The luxuriant textures and tones of the interior materials, such as Chinese Northern Black granite, honed for the walls and flame-finished for the floors; cherry-wood slatted wall panels and seating; and light green ceramic tile, enrich the spaces. "We believe in a Ruskinian reliance on natural materials," says Williams. "Our architecture may be different, but not the principles." Although the rooms for dance or music may not have the same pizzazz as the circulation spaces, they serve as calm end points for this dynamic choreography of planes and surfaces. ■





Vertical slices of space open up the interior, where changes in floor, wall, and ceiling planes are emphasized by rich materials and colors. Cherry-wood panels, Chinese Northern Black granite, and green ceramic tile are seen in the digital arts/dance building (right and top right), while the music and art studio building is marked by a Finnish plywood mural (opposite) and a bright yellow ceiling over the student activity offices (above).

Donald Danforth Plant Science Center Creve Coeur, Missouri

4

AN AGRICULTURAL RESEARCH CENTER BY NICHOLAS GRIMSHAW AND PARTNERS IN ASSOCIATION WITH HOK CREATES A STRONG CIVIC PRESENCE.

By Peter MacKeith

Architect: *Nicholas Grimshaw and Partners in association with HOK. NGP project team—Andrew Whalley, Vincent Chang, Graeme Dix, William Horgan; HOK project team—Bill Odell, AIA, Tom Goulden, AIA, Mark Husser, AIA*

Client: *Donald Danforth Plant Science Center*

Consultants: *Arup (structural, MEP); Landmark Contract Management (project manager); Davis, Langdon & Everest (estimator); HOK (landscape, laboratory, technical, and interiors architect); McCarthy (general contractor)*

Size: *166,904 square feet*

Cost: *\$50 million*

Completion date: *September 2001*

Sources

Maple and cedar supplier:

Architectural Woodwork

Maple paneling: *RPG Diffuser Systems*

Metal ceilings: *Ceilings Plus*

Stairs and railings: *Equus Metals*

Curtain wall, terra cotta wall system, and brise-soleil: *Josef Gartner GmbH*

Lab casework: *Kewaunee Scientific*

Greenhouses: *Nexus*

Stone flooring: *Zickel*

Growth chambers: *Conviron*

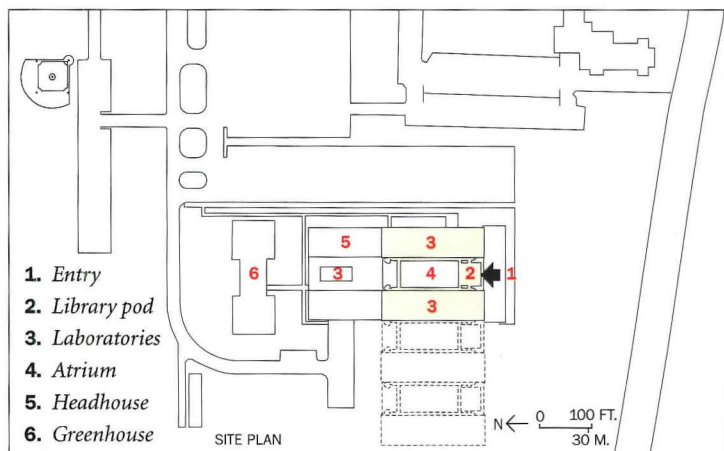
www For more information about the people and products involved in this project, go to Building Types Study at architecturalrecord.com.

The U.S.'s central agricultural region can be thought of as a 1,000-mile-diameter circle drawn over the American heartland, bisected by the Mississippi River, with St. Louis at its midpoint. Several major civic, academic, and corporate institutions that conduct agricultural and botanical research are located here, and the region shows promise as an important center for agricultural research.

Program

These ambitions were to be signaled by a new building for the Donald Danforth Plant Science Center, located in Creve Coeur, Missouri, just outside of St. Louis. The center is an independent, nonprofit institution that partners the Missouri Botanical Garden with the Monsanto Company and four nearby universities. Dr. Roger N. Beachy, president, says, "Our mission is to significantly increase our understanding of basic plant biology through research and training. That new knowledge can be applied for the benefit of human nutrition and health and to improve the sustainability of agriculture worldwide." Beachy's clearly stated mission resulted in Nicholas Grimshaw and Partners' (NGP) exactly articulated design for Danforth.

Peter MacKeith is associate dean at the School of Architecture of Washington University, in St. Louis.



Solutions

Monsanto donated the center's 40-acre site opposite its suburban St. Louis offices. This led to a two-stage development process for the center. First, HOK was engaged as the planner and architect for the research laboratories. Later, NGP's conceptual proposal was selected

from the entries of an invited competition. The design engages the site directly, providing a grand portico to the street on the south side of the building. NGP's basic diagram incorporates two laboratory wings. These flank a three-story atrium, where scientists and the public who use the research cen-



The front of the Donald Danforth Plant Science Center is covered by a brise-soleil and flanked by a reflecting pool.



- | | | |
|----------------------------|---------------------|------------------|
| 1. Laboratories | 5. Library | 9. Atrium |
| 2. Scientists' lab offices | 6. Elevator | 10. Bridge |
| 3. Lab support | 7. Service elevator | 11. Meeting area |
| 4. Administration suite | 8. Media kitchen | 12. Auditorium |

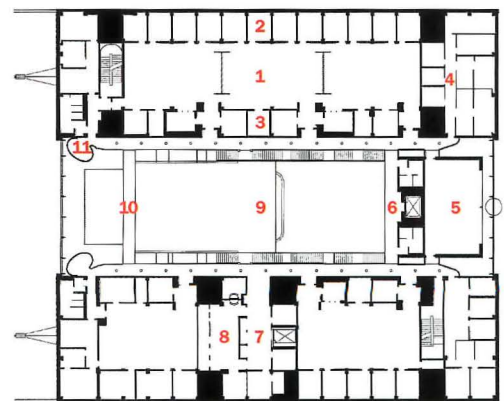


ter can interact. Footbridges span the atrium connecting the balconies that run along the atrium's east and west sides and terminate in small meeting areas. On the second and third levels, rooms are organized so that the enclosed laboratories are adjacent to libraries and social spaces, known as "pods."

Originally, the exterior comprised serrated elevations and roof profiles and a variety of cladding materials specific to each facade's orientation. A more uniform approach emerged after value engineering: all four elevations now employ a unitized rain-screen wall system made of terra-cotta panels

set into aluminum frames. These extruded aluminum sections, which support the wall system, stand vertically, transmitting lateral pressure and suction to the reinforced-concrete building structure behind. The high-performance assembly responds efficiently to rainwater, water vapor, temperature, and air transmission. Window openings are crossed horizontally by aluminum louvers that modulate daylight while still permitting the occupants to see outside.

The panelized system allowed a high level of quality control and craftsmanship in manufacturing and also served to expedite erection. The north and south ends of



LEVEL 2 & 3

N ← 0 50 FT.
15 M.



Research greenhouses (above, opposite) are located behind the building. The egg-shaped spaces cantilevered from the balconies (above) are small meeting areas. The atrium (right) is daylighted by north-oriented roof monitors.





Close-up views of the curtain-wall system (above), cantilevered balconies, and bridges (right) show off the kind of detailing NGP is known for. HOK was responsible for the planning and design of the laboratories (below).



the building's central core are enclosed by glass curtain walls supported vertically by rolled-steel mullions. The south wall is shaded at its top by a dramatic, horizontal brise-soleil, which also functions as the building's cornice. The atrium's roof is a series of north-facing, sawtooth monitors that act together with the shaded glazing to the south to allow soft light into the atrium.

The atrium's active climate-control system is a low-velocity, high-volume displacement ventilation system. Cool air is introduced at the lowest level of the atrium and displaces the warmer air above it. Conditioned air occupies only the lowest, inhabited portion of the atrium, a zone that is approximately 7 feet in height. The upper volume of the atrium is maintained at higher temperatures

and creates a thermal blanket over the conditioned space. The upper-level circulation zones at the perimeter of the atrium employ the same climate control strategy to create cooled microclimatic zones.

Commentary

Given the anomie of the center's suburban locale, the architects have succeeded in creating a building that achieves a civic presence through its siting and its use of high-quality materials. Employing formal organizing principals, NGP and HOK were able to design environments that will engender collaboration among researchers while remaining publicly accessible. They have used daylighting and climate-control technology in thoughtful, energy-efficient ways to create a precise, elegant building. ■

Facade Engineering Emerges as a Highly Specialized Science and a Striking Art Form

THE MODERN CURTAIN WALL HAS EVOLVED FROM STATIC WRAPPER TO ACTIVE BUILDING SYSTEM

By Sara Hart

In *Building Skins* (Birkhauser), Christian Schittich writes, “[In the Fagus Works shoe factory (1911–25)], Walter Gropius succeeds in collaboration with Adolf Meyer in suspending a curtain wall in front of an industrial hall as filigree, transparent skin that no longer has any load-bearing function and clearly announces this freedom.” He and other pioneers of Modernism liberated the building skin from the load-bearing frame, and there was no going back. Such liberation, however, absolved the facade maker from any obligation to the interior. Architects make careers out of creating wrappers for undetermined spaces.

Today, facade engineering is synonymous with curtain-wall design, which is to say that every facade is a curtain wall. Facade innovation first came in the form of incremental improvements—more energy-efficient glazing units, structural sealants, lighter materials. More recently, innovation has been associated with new products—new composite materials, high-strength concrete, fabrics, and photovoltaics.

The following projects show that real innovation grows out of successful problem-solving, whether it be in response to the impossible site or in developing systems integration.

Between bedrock and a hard place

The Austrian Cultural Forum (this issue, page 122) was wrenched vertically out of the ground and stuffed horizontally into what can only be called a mean fissure in a tightly packed urban block of Midtown Manhattan. The program for the building, which is only 25 feet wide and 81 feet deep, called for a 24-story structure on the site of a former town house. This incredibly tight space created a multitude of challenges for Austrian architect Raimund Abraham in his first American commission.



Raimund Abraham’s Austrian Cultural Forum in Midtown Manhattan slopes away from the street in accordance with strict zoning regulations.

BUILDING SCIENCE

CONTINUING EDUCATION



Use the following learning objectives to focus your study while reading this month’s ARCHITECTURAL RECORD/ AIA Continuing Education article and the article about Raimund Abraham’s Austrian Cultural Forum on page 122. To receive one health, safety, and welfare credit, turn to page 170 and follow the instructions.

LEARNING OBJECTIVES

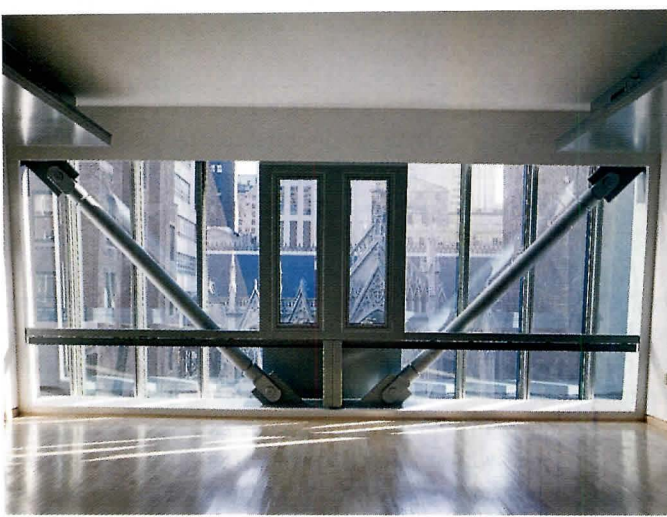
After reading this article, you should be able to:

- 1. Describe innovations in facade design.
- 2. Explain how the facade works with other building systems.

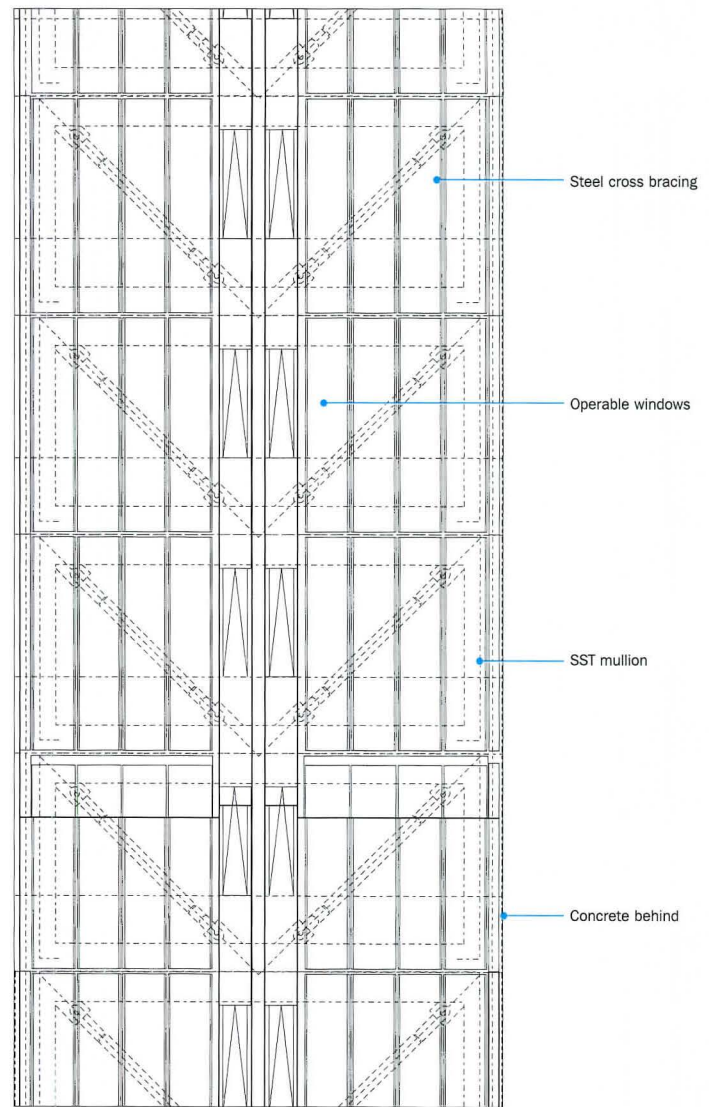
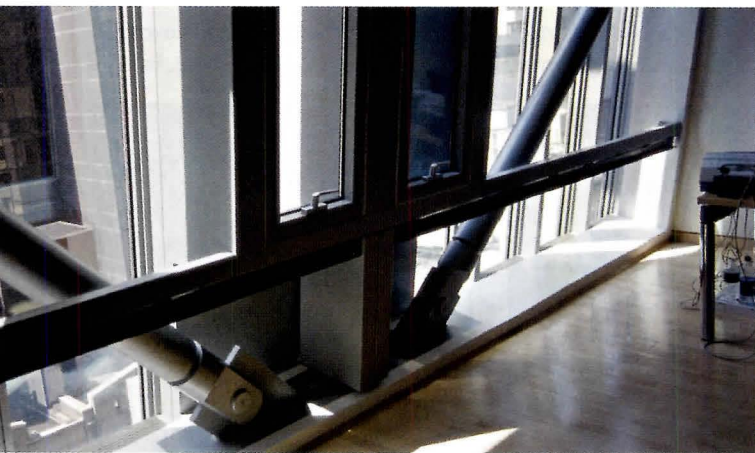
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The building envelope was the major design problem from the onset—how to give an iconic presence to the entrance facade while meeting New York City’s stringent zoning requirements.

Project manager Simone Giostra oversaw the development and installation of the glass, steel, and aluminum curtain wall. (The side and rear facades are clad in Rheinzink—a zinc, copper, titanium alloy with highly uniform properties important in facades.) From the beginning, the challenges were daunting for construction of the entire building. There was virtually no staging area for equipment and materials. Deliveries had to be small and precisely timed. With little room to stage the erection of the facade, Barney Skanska, the concrete subcontractor, used special forms built on-site. Above the 14th floor, the contractor switched to a jump-form system from Doka, an international formwork company. The system is a self-supporting concrete formwork, anchored to the lower portion of the same concrete wall under construction. It can be erected without any additional scaffold or support from the ground.



Arup's New York office engineered the facade, as well as the mechanical, electrical, and plumbing systems. Wind-tunnel tests showed that the building would be subjected to uncomfortable vibrations. The engineers stiffened the front facade with steel cross bracing. Because the steel is for stiffening only, the bracing did not require fireproofing.



CROSS BRACING DIAGRAM

Architecture of the Well-Tempered Environment that the intellectual division between structure and building systems is patently false. He lamented that discussion of what makes a building habitable rarely goes beyond space-making and form-giving. As sustainability becomes an assumed goal, such thinking seems counterintuitive. If he were here today, Banham would be glad to see the recent trend away from this segregation of building functions to what is often called “the whole-building concept,” in

A HIGH-QUALITY FACADE MUST BE ENGINEERED IN THE EARLIEST STAGES OF DESIGN DEVELOPMENT.

which all the systems—HVAC, plumbing, electricity, structure, and the building skin—are designed to be interdependent. To some engineering minds, it is in the process that realizes the whole-building concept that real innovation is to be found.

A successful example of this can be seen in the Sobanski Palace in central Warsaw, Poland, designed by Dublin-based A&D Wejchert Architects and engineered by Buro Happold's Bath, England, office. Stephen Tanno, group director at Buro Happold Facade

Engineering, applied the firm's process theory to an office-building addition to the palace.

A high-quality facade must be engineered in the earliest stages of design development. Tanno believes that the traditional approach to facade design, which has a specialist contractor arriving on the scene only after the construction documents have been bid, does not work well for complex projects. First of all, the facade contractor comes in too late after the design has been fully developed and tendered. At this stage, it is economically impossible to change the fundamentals of the documents. But more important, in a situation where the building envelope is integral to environmental performance, contractors too often don't understand the interdependence of all the systems, even though they are experts in cladding and know their own facade systems extremely well. If the contractor—or the engineer, for that matter—comes in too late, too much time is spent revising details in the shop drawings.

Tanno relies on a rule of thumb to tell him if his process-oriented approach is working. “When the facade package is tendered, if the bids come in within 10 percent of each other, then the documents were clear and complete,” he says. “By going the traditional route, I've seen bids can come in as much as 100 percent apart.”

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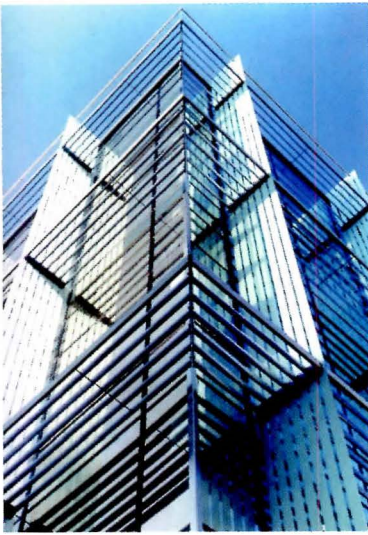


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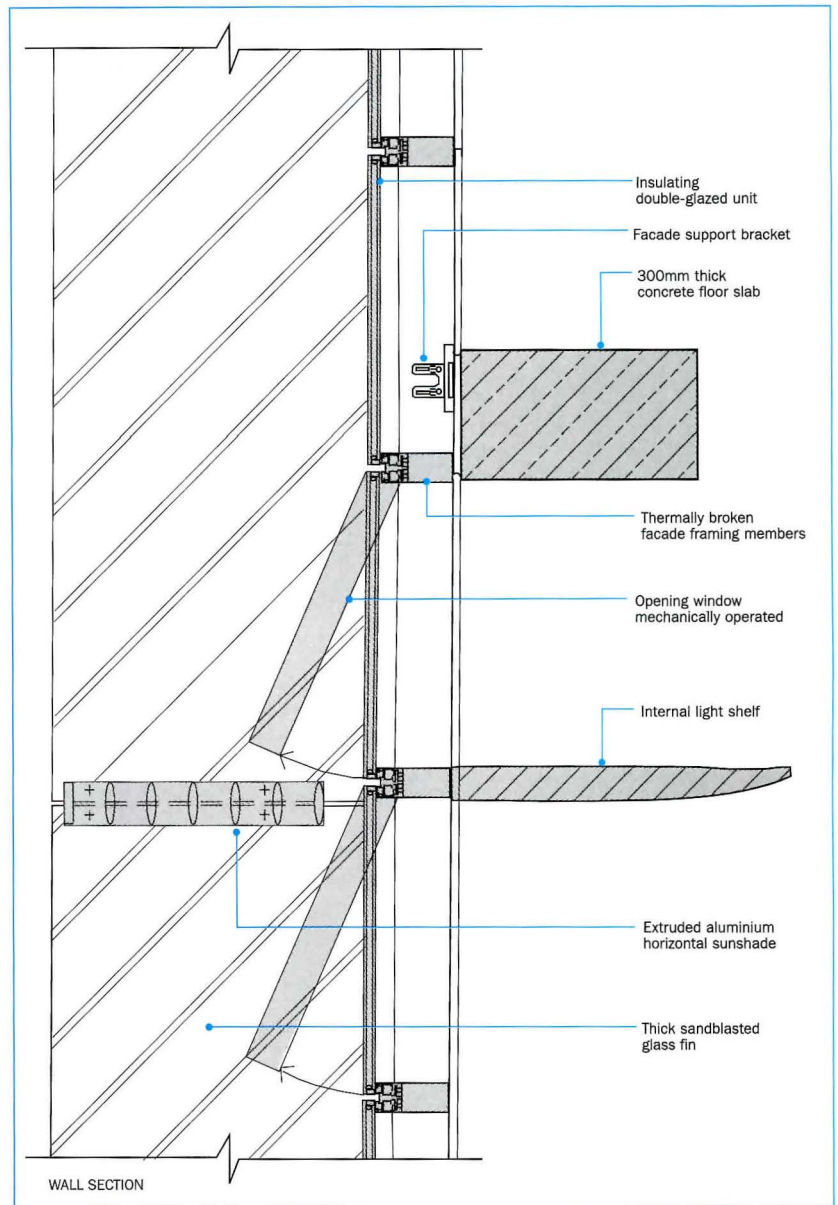
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External glass blades on the Sobanski Palace facade (left) act as sun “blinkers.” The blinkers are sandblasted to protect the occupants from oblique solar glare. The floor-plan depth is shallow; the floor-to-ceiling elevation is high; and the facade is fully glazed—a combination that ensures excellent daylight penetration (below).



More than a wrapper

Process has never been more important as sustainability becomes an essential performance criterion and forces the interdependence of the systems in order to meet its objectives. Facades are no longer mere wrappers. They are another vital system that can improve or undermine the whole-building approach. For the Sobanski addition, the client wanted

MORE CRUCIAL TO THE PROCESS APPROACH, THE FACADE MUST BE PART OF A TOTAL BUILDING CONCEPT.

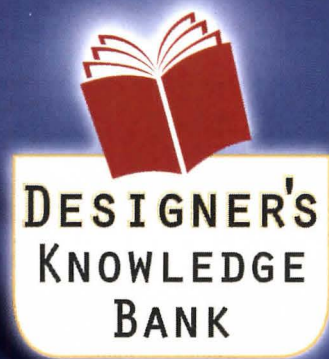
to maximize natural ventilation while providing indoor comfort mechanically during peak summer and winter conditions. This might be called having it both ways, or, as the engineers describe the solution, “a mixed-mode building-environment-control concept.” More crucial to the process approach, the facade solution must be part of a total building concept.

The principles of natural ventilation greatly influenced the composition of the fenestration in Warsaw. The fully glazed facade system now

incorporates high-performance, thermally reflective, double-glazed units. The operable windows near the ceiling of each floor and at the midpoint are outwardly opening, electrically controlled vents and provide single-sided ventilation. Successful ventilation of this type depends on adequate floor-to-ceiling height and the position and size of the operable windows. By increasing the ceiling height, the natural rising temperature gradient between floor and ceiling is increased and pulls outside air through the openings in the facade. Tanno concedes that this type of strategy probably would not work in a heavily partitioned space, but it works very well at Sobanski, which has an open plan and lightly partitioned spaces.

The facade design allows for nighttime opening of the upper vents, which, when coupled with the thermal mass of the exposed concrete floor slabs, will typically lower space temperatures by a few degrees in summer. “The high-level ones are automatically controlled by the Building Management System (BMS) and only operate at night to cool the structure,” explains Tanno. “The mid-level vents are occupier-controlled and are normally shut when the BMS operates the high-level ones outside office hours. This makes a significant contribution to reducing cooling-plant size and, hence, lowering capital and operating costs.”

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Vertical glass blades on the exterior act as sun “blinkers.” The blinkers are sandblasted to increase opacity and protect occupants from oblique solar glare while letting diffused light into the interiors. In order to mitigate the possibility of thermal-shock fractures, the blinkers were made of thermally toughened glass. The idea of screening a facade with cantilevered glass fins was a bold one, and its success, Tanno maintains, is due to a carefully considered collaboration among the Polish contractor, the Italian fabricator, and the engineers. (The facade fabricator/contractor was Aluglass International. The curtain-wall system it adapted specifically for this project was Far-Wall 200 from the Italian company Progetti.) “It helped the contractor enormously to work from a set of clear and concise intent details, developed by our facade engineers,” explains Tanno.

Resource center

The evolution of the building envelope from static wrapper to a complex, active building system has been partly motivated by the economics of energy consumption and the promise of sustainability. The proliferation of private and public research and development has produced a juggernaut of products and processes. In October 2000, Harvard University and the Massachusetts Institute of Technology launched an Internet portal—BuildingEnvelopes.org—as a public resource providing state-of-the-art information on innovation in advanced facades, heating, cooling, ventilation, and lighting systems to support preliminary design of energy-efficient buildings.



The facade is made of thermally reflective double-glazed units.

Originally supported by its founding industry member, Permasteelisa, an Italian facade fabricator, the Internet project has since developed into a consortium of professionals, universities, and research organizations that support and provide information for the site. The portal and consortium are managed by the Harvard Center for Design Informatics, which is a research center of the Graduate School of Design. ■



AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article “Facade Engineering Emerges as a Highly Specialized Science and a Striking Art Form” and the learning objectives provided.
- ◆ Complete the questions below, then fill in your answers (page 240).
- ◆ Fill out and submit the AIA/CES education reporting form (page 240) or download the form at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. Buildings in which all systems are designed to be interdependent use which?
 - a. segregated building systems
 - b. whole-building concept
 - c. passive envelopes
 - d. transparent skins
2. Rheinzink is an alloy of which metals?
 - a. zinc and aluminum
 - b. zinc, copper, and brass
 - c. zinc, copper, and aluminum
 - d. zinc, copper, and titanium
3. A wall that has no load-bearing function is known as all except which?
 - a. facade
 - b. curtain
 - c. structural
 - d. skin
4. What was the clash of cultural differences in building standards at the Austrian Cultural Forum?
 - a. American concrete was denser
 - b. American tolerances were tighter
 - c. European tolerances were tighter
 - d. European panels were thicker
5. When sustainability is part of the building’s program, this forces facades to become which?
 - a. a passive wrapper
 - b. an interdependent system
 - c. an independent system
 - d. a segregated system
6. Facade innovation came about through the use of which?
 - a. more energy-efficient glazing
 - b. structural sealants
 - c. new composite materials
 - d. all of the above
7. If all the bids for the facade come in within 10 percent of each other, this usually means which?
 - a. there is collusion among the contractors
 - b. none of the contractors picked up on the finer details
 - c. all of the contractors interpreted the documents the same
 - d. the contractors all used the same estimator
8. A facade that provides both natural and mechanical ventilation is known as what type?
 - a. mixed-mode environment
 - b. double-sided ventilation
 - c. double-glazed units
 - d. thermally reflective environment
9. In liberating the building facade from the load-bearing frame, architects were absolved from any obligation to which?
 - a. the structural system
 - b. the interior
 - c. the occupants
 - d. the code officials
10. What feature of the Sobanski Palace addition facade was a bold idea?
 - a. cantilevered glass fins
 - b. opaque glass
 - c. thermally toughened glass
 - d. high-level vents

Taking the pain out of upgrades

By Alan Joch

Sometimes, it just makes sense to walk away from a fight. That's what Kevin J. Connolly, AIA, did when software giant Autodesk released the first version of its Architectural Desktop (ADT) software. At the time, his firm, Connolly Architects, in Milwaukee, was using AutoCAD Release 14, and Connolly was wary of ADT because it represented a major change in features and function compared to AutoCAD. "We intentionally stayed away from it," Connolly, president of the five-person firm, recalls. "When ADT 2 came out, we upgraded to that version," he says, confident that any bugs in the program would have been fixed by the second release.

Connolly's firm has since switched to a new design platform, Graphisoft's ArchiCAD, but the owner still refrains from adopting every major software release as soon as it hits the market. He believes new-release bugs are endemic in the industry, not an ailment of any one vendor. "When a big new version of ArchiCAD comes out, maybe we'll take every other one of those," he says.

Connolly's wait-and-see attitude isn't unique to small firms with modest IT resources. Some technology managers at multiple-division companies that employ hundreds of

CAD users take a similarly restrained approach to the regular incremental and blockbuster upgrades common among software vendors who serve architects—even adopting, like Connolly, the philosophy of installing every other new release. "I like to be number two and let somebody else do the debugging," says Michael Walters, director of IT in the New York office of Perkins & Will.

Hidden costs

In the hotly competitive and innovative world of software development, regular changes to applications are a fact of life. No one can blame architects for being cautious. The initial cost of upgrading CAD software can range from \$200 to \$600 per workstation.

Multiply that by the number of CAD users, and the bill quickly climbs into the thousands of dollars. But that's just the beginning.

Additional costs accrue from hardware upgrades. Often, new software requires architects to pack their machines with more memory and storage capacity. In some cases, a newer, faster CPU may be necessary to run the revision effectively. "Hardware upgrading is one of the scariest parts" of adding new software, says Michael Horta, principal of Computers in Design, a New York-based training and consulting company. "Do you buy new machines or spend \$2,000 to upgrade existing computers?" He notes that the minimum hardware recommendations provided by ven-

dors aren't always practical. "Whatever the box says, automatically double that," Horta advises.

Firms must also consider personnel costs. CAD specialists may need 4 to 8 hours of instruction, at \$30 to \$40 per hour, to learn the software's new capabilities. Chris Barron, AIA, vice president of architecture for Graphisoft, recommends budgeting for training costs at two times the price of the software upgrade.

Putting new features into practice takes even more time. "You take your production person, who is

releases that boost behind-the-scenes performance but keep changes to the user interface to a minimum, according to Alex Neihaus, senior director of marketing for the building industry division. One increasingly common option used by these software suppliers, along with MicroStation vendor Bentley Systems, is software subscriptions, where users pay an annual fee, in addition to the cost of the software, in return for free upgrades and technical support. Revit, the parametric building modeler recently acquired by Autodesk,

Don't lose your footing on the upgrade treadmill. Rules of thumb on managing new software releases help firms large and small maintain their balance.



running 80 miles an hour and cut them back to 50 miles an hour" while they learn to use the upgrade, says Horta. "Do that across the whole office, and it's a sizable cost." A company may not fully benefit from a revision's enhancements until users get comfortable after four or five projects, Horta adds.

Fewer blockbusters

For their part, makers of CAD software recognize the resistance toward upgrades that require extensive retraining and corresponding hardware upgrades. "Architects tend to be quite resistant to discontinuous upgrades," says Graphisoft's Barron. Autodesk says it is avoiding big revisions every 18 to 24 months in favor of smaller, incremental

has evolved with 12 incremental releases over the past two and a half years and is marketed exclusively on a subscription basis.

While subscriptions may assuage some upgrade pain, they don't make everyone happy. Connolly complains about paying up-front for new, unknown features that his company may not need. Adds Horta, "I've seen people who just shelve many of those smaller upgrades."

Winning strategies

How can technology-savvy architects devise upgrade strategies to help make the process as painless and economical as possible? The strategy may require as much art as science, especially when it comes to

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assessing the potential return on investment of new software. "I've got one of those Magic Eight Balls on my desk, and when I turn it over, it says 'upgrade' or 'don't upgrade,'" quips Walters. Metaphysics aside, upgrade veterans and consultants advise architects to consider six key areas when facing a new release of design software.

1. Kick the tires. Thoroughly evaluate the potential benefits of the proposed upgrade before unleashing it into the production environment by analyzing how (or if) new design features and changes in the work flow will translate into making the firm more efficient. Questions to ask vendors include: How will my firm be able to work more quickly or with fewer staff assigned to projects? Does the upgrade offer tools to facilitate communication with clients and collaborators? What new graphical

and visualization capabilities does the new software offer? Also consider any potential drawbacks, such as changes the new software may require in existing symbol libraries and plotting standards. (On the plus side, architects give software makers high marks for maintaining file compatibility from one release to the next.)

2. Get the timing right. "I never ever say upgrade immediately," says Horta. Don't risk the status of an ongoing project by interrupting it with new software. Unless a new feature has a direct bearing on the special requirements of a project in progress, delay any upgrades until the work group completes the assignment.

3. Go slow. Make changes in a piecemeal fashion to identify potential problems to work around before they affect large numbers of staff or projects. "With CAD software, I have

almost never been able to roll out a new release in one big lump," says Walters. Instead, he typically installs the new software on workstations in the IT department to give his staff time to get a feel for its new capabilities and potential limitations.

4. Use the buddy system. When it's time to introduce new software to designers, designate "upgrade teams" to learn the program. Perkins & Will organized architects into project teams of eight people, who then attended outside training classes together to prepare for the first release of ADT. "We started with the stronger CAD people and built a core group of knowledgeable people" who could help others learn the program as the software was introduced to the rest of the firm, says Walters.

Connolly agrees that learning is faster "when you have others to bounce questions off of," but he believes smaller firms like his don't have enough staff to effectively create upgrade teams. He avoids upgrading each of his five architects

individually in favor of a full-office rollout. "If you do it one person at a time, they'll never get it," he warns. Connolly advises architects to tap the knowledge of CAD resellers who can help the design staff work through the transition process.

5. Clean house. Once the new software has been loaded on CAD workstations, erase the previous release. "If someone gets a rush job, they'll immediately go back to the old version," Horta warns.

6. Keep talking. Don't conclude that the upgrade process is finished once everyone is using the new software on a daily basis. People continually find shortcuts as they use the program, and these discoveries should be shared throughout the company. "Every week, we have a CAD meeting to compare notes and talk about how the software is working," Connolly says. If a particular feature of the software doesn't perform as advertised, "invariably someone else will show how to 'pat your tummy and rub your head' to get it to work," Connolly says. ■




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PLUMBING SENSOR TECHNOLOGY BRINGS INNOVATIVE SOLUTIONS TO BATHROOM DESIGN

Using Electronic Plumbing Products to Enhance Public Restroom Facilities

by: Peter Jahrling – Director of Design Engineering – Sloan Valve Company
John Lauer - Director of Technical Support Services – Sloan Valve Company



Use the learning objectives below to focus your study as you read **PLUMBING SENSOR TECHNOLOGY BRINGS INNOVATIVE SOLUTIONS TO BATHROOM DESIGN: Using Electronic Plumbing Products to Enhance Public Restroom Facilities**. To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 183, then follow the reporting instructions on page 242 or use the Continuing Education self report form located at architecturalrecord.com.

LEARNING OBJECTIVES:

- Explain how sensors help meet recent federal regulations and laws.
- Identify types of plumbing sensors and how they are operated.
- Describe why sensors are now commonly used in public restrooms.

Visit the restroom in almost any airport and you will find that the faucets, toilets and urinals are being operated and controlled by automatic sensors. “Hands Free” faucets and flushometer valves are also now common sights in a wide variety of public facilities including office buildings, restaurants, medical facilities and schools. Once thought of as fairly unique, sensor operated plumbing products are now being considered standard products for use in almost all types of commercial rest rooms.

Public facilities require restroom accommodations that are unique to that facility’s use and traffic patterns. The plumbing fixtures and fittings that are selected for use in these public facilities must be designed and built to accommodate and withstand the specific needs of that commercial restroom environment. The commercial restroom is a harsher environment than that experienced in a residential setting. The variety of people, the volume of traffic, and the variation of individual “bathroom habits” encountered dictate that the products chosen must cover a broad spectrum of diverse activities.

A restroom in a commercial facility is used for a variety of purposes. This includes the obvious ‘biological’ activities for which a restroom is designed, as well as unexpected activities, not remotely associated with the restroom’s intent. Additionally, the characteristics and habits of the restroom user have changed over the last few years. This has resulted in new attitudes, expectations and concerns by society regarding restroom design (In an interesting book, “Are You Normal”, published by St. Martins Paperbacks, the author, Bernice Kanner, dedicates a chapter to restroom

habits). The general public has become keenly aware of transmittable bacteria and viruses by hand contact as evidenced by the rapid education through the media of communicable pathogens. This awareness has manifested itself in users expecting public facilities to have “hand’s free” plumbing fixtures.

The regulatory climate has changed as well in the United States. The Federal Energy Policy Act of 1992 mandated that all commercial plumbing fixtures comply with maximum water use requirements. Water closets must now operate on only 1.6 gallons of water per flush (gpf). Urinals cannot exceed 1.0 gallon. And faucets used in public commercial installations must flow at a maximum rate of .5 gallon per minute (gpm) or be designed to meter no more than .25 gallon of water during a single cycle. A standard lavatory faucet cannot exceed 2.2 gallons per minute (gpm). This legislation recognized that the precious resource of water is not inexhaustible and that plumbing fixtures can be designed to operate on less water and still effectively comply with industry standards.

The Americans with Disabilities Act (ADA), which went into effect in 1992, is another Federal law that has tremendously affected commercial restroom and plumbing product design. ADA guidelines were developed to ensure that public facilities were accessible and compliant to handicap individuals and users with a wide range of disabilities.

All these interactions of public attitudes and governmental regulations, combined with the building owners’ desire to reduce operating costs have brought to the forefront the use of sensor operated plumbing products within the commercial restroom.

Sensor activation is quickly rendering the use of handles, levers, push buttons and kneepads obsolete in a wide variety of products that are commonly found in a public or institutional restroom. Sensors have been integrated into a wide variety of restroom products. In addition to meeting mandated water use and accessibility regulations, sensor operated plumbing products improve the public restroom environment, both functionally and aesthetically. Sensor operated bathroom products help eliminate the notion of the public restroom as a “negative building space”.

IMPROVED RESTROOM HYGIENE



There are a number of basic reasons for using electronic plumbing products in public facilities. These include improved restroom hygiene.

The most important reason for using sensor-operated faucets and flushometer valves is to improve restroom hygiene. By the very nature of what a restroom is designed to do, the fixtures and fittings in a public restroom must come in contact with the bodily functions of a wide variety of human beings. Cleanliness is important not just for the aesthetic value of the facility, but also from the health and safety standpoint. The use of sensor operated plumbing products will keep the restroom cleaner. “Hands Free” products also help prevent the transmission of disease from one person to another.

When a person touches the handle on a faucet or a flush valve, residue on that person’s hand or fingers may be physically transmitted to the handle of the product. This residue can then be transferred to the next person touching the handle. Studies have identified that bacteria can be spread from one user to another from a faucet handle or knob. This is called “cross contamination”. The use of “Hands Free” faucets and flush valves eliminates the need for physical contact between the user and the plumbing device. This in turn helps to eliminate the possible transmission of a wide variety of pathogens, including hepatitis, salmonella and a wide host of other communicable diseases. Since restroom users are aware that multiple people have been using the facilities, a restroom that incorporates hand’s free plumbing devices is also perceived a lot less risky to use. This projects an overall perception to the user that the restroom is “hygienic”.

One of the greatest hygiene concerns in a public restroom has to do with odor. In many public restrooms, people do not flush the toilets or urinals. Knowing the above, they don’t want to touch the handles on the fittings. When a urinal goes un-flushed, problems are experienced with odor in the restroom.

Sensor flushing devices are designed to deliver a single flush after each use. This eliminates the problem of standing urine and waste in the plumbing fixture. Rinsing and keeping the water fresh in the fixture is a better alternative than the use of deodorizers and other methods of “covering up” the odor. This is particularly important in a public restroom, as many people are extremely sensitive to perfumes and other fragrances that are common in deodorizers. Sensor plumbing products address this odor problem by eliminating the odor causing waste.

REDUCED MAINTENANCE AND HOUSEKEEPING

The use of sensor plumbing products can also reduce the level of housekeeping needed in the restroom. Because sensor faucets have no handles or knobs to grab, soapy water that can drip from the hands will not be left behind as puddles on the sink deck. Urinals and toilets stay cleaner as they are evacuated thoroughly after each use. Since there are no mechanical levers on sensor operated plumbing products, the user has no reason to touch the product, thus reducing the need to wipe down and clean the product.

Another common housekeeping problem in a public restroom is created when paper towels are left on or in the sink. This may be caused by people who will use a paper towel to shut the faucet off. Many people are aware of the cross-contamination that can occur after they wash their hands if they touch the handle to shut off the faucet. To address this, they will actually use a paper towel as a barrier between their hand and the plumbing device. Quite often, that paper towel is left in the sink where it can clog the drain and cause further problems. Surveys of facilities that have retrofitted to sensor operated plumbing products have identified that the use of these products have made the facilities easier to keep clean.

“Hands Free” operation will also reduce the physical impact on a flush valve product. Because people do not want to touch the handle on a flushometer valve, there is a tendency to use their foot to trip the valve. When a flush valve is kicked, it increases the wear and tear on the product. This will eventually lead to increased product maintenance requirements. Since sensor operated plumbing products do not require touching, there is less wear and tear on the product.

WATER CONSERVATION

Water conservation is a benefit that can be tied to the use of sensor-operated faucets. With a sensor-operated faucet, the water is only running as long as the user keeps his hands below the spout. Once the hands are removed, the water flow shuts off. In high frequency hand washing applications as performed by healthcare and food service workers, water savings can be tremendous. Since the water is not running while the person is scrubbing their hands, reaching for a towel or soap or looking for the comb in their pocket or purse, water savings of 60% to 80% can be achieved. Also to be included in the savings is the energy that will be required in heating the water and in treating the wastewater. The automatic shut off of an electronic faucet also eliminates water run on when the user forgets to

turn the water off and the faucet runs on for an extended period of time.

Sensor operated flushing devices can also ensure consistent water use. Incorporating a sensor with a flush valve prevents the user from flushing the valve multiple times. Sensor flushometers are also made to meet the strict water use requirements mandated by the Energy Policy Act. However, it is important to note that the most important reason for using a sensor flushometer is to ensure rest room hygiene. These products are often used to address the problem of someone who has not flushed the valve, thus leaving behind a soiled fixture. If a valve goes unflushed, water is not used. However, there will be odor and hygiene problems. A sensor flush valve is designed to guarantee one flush per use. As such, water conservation benefits may not be extreme in using sensor operated flush valves. In this case, because we are disposing of human waste, hygiene is the most important factor as opposed to water conservation.

THE ADA AND HANDICAPPED ACCESSIBILITY REQUIREMENTS

One of the most significant reasons why architects and engineers are incorporating sensor products into their bathroom designs are to meet the requirements of the Americans with Disabilities Act (ADA) and other handicapped accessibility building code regulations. The ADA and other handicap standards typically dictate the amount of force required to activate a faucet, valve or other appliance in the restroom and have strict definitions for the size, positioning and design of plumbing products and their activators. The use of electronic plumbing products, which is specifically identified within the ADA Guidelines, easily allows the products to meet the force and positioning requirements.

Not only do the sensor faucets and flush valves meet the requirements for the handicapped user, these products also meet the needs and requirements of the non-handicapped user. As such, a single product meets the needs of the full user population. The use of sensor products, particularly in a retrofit installation is often the most cost effective way of bringing a restroom in line to meet the ADA requirements.

FACILITY IMAGE

All too often restrooms are considered backwaters when it comes to building design. Sensor plumbing products help put an end to this notion. The use of sensor products in a facility’s restrooms helps convey a message to the public.

That message is that the building management is doing all that they can to improve the restroom experience for the user. It shows that the building is concerned about cleanliness, hygiene and accessibility.

Sensor products also convey technology. They identify that the facility is using the latest innovations to improve the bathroom experience. A wide variety of sensor valves and faucets are available to compliment almost every restroom design. Products are designed for both their functional and for aesthetic qualities, each of which is an important consideration when integrating electronic products into the facility.



THE HISTORY AND EVOLUTION OF SENSOR OPERATED PLUMBING PRODUCTS

Sensor operated plumbing products have been in existence over 25 years. Prior to that, the use of electronic timing mechanisms had been prevalent for flushing banks of urinals. These products were used in installations such as stadiums and schools that saw considerable usage. Initial application of this technology included motor operated flushometers that would evacuate multiple urinals through the use of a clock timer or a door switch that activated upon a user's exit. While these devices keep the fixtures clean, they often resulted in excessive water usage as they flushed whether the urinals were used or not.

Enhancements to these crude electronic devices eventually led to the design of individual fixture activation through the technology of sensors. Rather than evacuating the fixtures in an entire washroom through a timing mechanism, a sensor could now detect when a user was at each individual toilet or urinal. This resulted in substantial water savings, while guaranteeing that the fixture was cleansed.

With the advent of individual fixture activation, sensor technology migrated to other restroom products, including faucets and hand dryers. More recently this technology has also been incorporated into soap dispensers, towel dispensers, chemical dispensers, and fragrance dispensers. Considerable use of sensor operated plumbing products has occurred not only in North America but also in Europe and Asia.

The majority of products available on the market today operate using active infrared sensing devices. The technology used in these plumbing products is very similar to the technology used in other infrared devices, including the hand held remote control that is used with a television or a VCR. While other sensing devices can be found in the market, the use of active infrared sensors is most prevalent.

An active infrared sensor emits a concentrated beam of infrared light from the sensing device. This light is

directed away from the product. When this beam of light makes contact with a user's body or hands, the light is reflected back to the sensor. A detector in the sensor picks up this reflected signal. Once the sensor sees this reflected infrared light, the internal circuitry then directs the sensor to function under pre-programmed guidelines depending on the type of product the sensor is being used with. This means the sensor will act as a switch, turning on immediately as in the case of a faucet application, or it may go into a hold and trigger sequence, as is the case for a water closet or urinal application.

While the majority of sensor products in the market today utilize active infrared sensors, other technologies are available with varying positive attributes promoted by their manufacturers. Other devices include passive infrared detection that detects changes in body heat, capacitive activated devices that can sense touch or presence, and RF or radio frequency activated devices. Each of these methods of activating plumbing devices has unique operating characteristics. However, it is not always safe to specify a product by the technology. Consideration has to be given to how the manufacturer has incorporated that technology into their products and how that development was achieved.

The first sensor-operated products typically operated on a low voltage power supply (usually 12 or 24 volts) and were connected to a transformer that was then connected to the building's electrical supply. These products are typically referred to as "hard wire". Integration of these products into a facility often required the work of both an electrician and a plumber. While "hard wire" products are still popular, a wide variety of products are now available with battery operation. The use of battery operation has allowed greater flexibility with reduced initial labor requirements. Battery operated sensor valves and faucets allow for easier and more cost effective installation. This is particularly important when retrofitting an existing building.

The advent of battery valves and faucets does not eliminate the need or use of the "hard wire" products. Battery products often have greater maintenance needs (the batteries will have to be changed at some point) and "hard wire" products are often the better choice when designing facilities that have high impact usage. It is important for the architect to consider the long-term use of the facility when making the product choice. In today's product selection an architect has a world of choice in a variety of electronic activated plumbing devices as well as a variety of operating characteristics.

Like all technology, the circuitry used for sensor plumbing products has experienced considerable evolution over the last 25 years. Sensing devices have been improved for their ability to better distinguish between light and dark colors and sensors are also incorporating other features to help eliminate problems that can be found with reflective light. These problems include the high intensity reflections that can occur off of mirrors and stainless steel.

Sensor design is continuing to evolve. Current products are often designed to be communicating. Faucets, flush valves and hand dryers and other devices can be linked together with information being collected by a PC or other electronic data device. Electronic plumbing products are being designed to be an integral component of a smart building design.

CHOOSING THE APPROPRIATE SENSOR PRODUCT FOR A FACILITY

With all the variety of products now available for the architect to specify it is important to understand that specific devices are not necessarily well suited for all projects. In many high traffic areas such as airports, bus stations, and sports stadiums, quick on and off operation and rapid cycling are a must as the owners of those facilities demand that users be serviced quickly and exited into the more important aspects of their facility. Water closet applications are particularly important because of the variety of activities that go on within a stall (activities that often go beyond their designed intent). Sensor water closet valves should feature an override button that allows the user a "Courtesy Flush" to clear any tissue or other debris that has been added to the bowl before or after is its primary use. Timing delays should be incorporated into the sensor circuitry to help prevent false flushing that can occur as the user moves within the water closet compartment.

Sensor design continues to evolve. Electronic plumbing products are being designed to be an integral component of smart building design.

"Point of Use" or "Body Bounce"

When considering automatic faucets for a facility, it must be determined whether "point of use" faucets should be used or if "body bounce" faucets should be incorporated. In a "point of use" automatic faucet the sensing area is immediately within the range of the user's hands under the faucet. In these instances, the faucet will only activate water when the user's hands are close to the water faucet. This saves water as flow is only dispensed when the user's hands are underneath the exit point of the spout. In a "body bounce" application a sensor turns the water on when a user is standing in front of the sink basin. This keeps the water flowing as long as the user is standing in front of that individual fixture or until the sensor reaches a preprogrammed time out setting. In cases where there are mirrors above the sinks inviting users to stay for extended periods at the fixture, a body bounce application wastes water.

Maximum Faucet Run Time

It should be noted that all automatic faucets specified on a project should have a maximum run time. A maximum run time, or time out setting, ensures that the faucet will still shut off even if the sensor is blocked. Vandals will often attempt to damage a facility by blocking the sensor and sink drain in the attempt to cause the faucet to remain on and ultimately overflow the basin. A maximum run time assures building owners that faucets will not continuously run, eliminating the chance of an overflowing sink basin. Products are available with both preset and adjustable time out settings.

Durability and Functionality

In high impact environments, which can include shopping mall facilities, school restrooms and high usage public access sites, the automatic plumbing fixtures must be strong enough to withstand abuse beyond the normal operation of the plumbing device. In these applications, concealed flushometers and more substantial low profile rugged automatic faucets are often recommended.



In the case of multifunction restrooms that may be in a hospital or process industry environment, “gooseneck” style faucets may be necessary in order for the user to not only wash their hands but also their forearms. The appropriate “gooseneck” product must reckon with the fact that the target area is a much larger area and the sensing elements need to be of a broader design to accommodate the rapidly moving targets of the hands and fore arms.

Adaptable to Diverse Habits

In all of the above applications, the sensor-activated product must be sturdy enough to deal with the diverse habits of a broad spectrum of the population. Pedestal type sensor operated faucets are subject to unintentional abuse by users unfamiliar with automatic faucets. These users try to activate the product by physically moving it from side to side. This is not an abnormal tendency as the innate habits of the general public have been trained to rotate some sort of mechanical device in order for the faucet to activate. Faucets need to be secure on the sink and should incorporate an anti-rotation device or positive stop to resist the rotation of the faucet. One automatic faucet on the market actually features a sensor installed separate from the faucet that looks like a faucet handle. This intentional deception causes the inexperienced user to grab for the round knob thinking that it is a manual handle. As the user reaches towards the device, the sensor picks up the hand and begins the flow of water from the faucet. This simply teaches the user how the faucet works.

When specifying electronic plumbing devices, a decision must be made as to whether or not to use a “hard wire” or battery powered product. This is not a simple task and must be evaluated by several offsetting considerations. In a large facility that uses multiple fixtures (such as a stadium), the correct plumbing device is typically the “hard wire” product. The additional initial cost of pulling the wire and having an

electrician wire to the individual fixtures are outweighed by the inevitable maintenance of having someone going around and changing the batteries on all of the fixtures. While “hard wire” products are preferred in high impact facilities, battery operated products are ideal in low impact settings such as office buildings and restaurants. However at some point the batteries will require changing. Whether this is done only after the batteries “run dry” or whether a regular maintenance program is established to ensure that the batteries are changed regularly, the building operator must be aware of these requirements. While the architect need not be involved in planning these activities, it is certainly incumbent upon the architect to point them out to the customer who is in a better position to know what is important in his facility.

Impact of Other Electronic Devices

When specifying electronic plumbing devices, an architect must be sensitive to the many modern electronic devices that are now incorporated within a commercial restroom design. High intensity lights and ballasts can cause interference with some electronic plumbing devices. Only those manufacturers that use blocking electronic circuits should be considered when specifying electronic plumbing devices. Experience plays a very large factor when selecting electronic plumbing devices. Service both before the sale and after the sale are critical to the operation of the specified product.

Fit Facility's Traffic Profile

The ruggedness of the electronic plumbing product must fit the facility's traffic profile. Pedestal type faucets without anti-rotation devices are doomed in a harsh restroom environment. Equally inappropriate are obtrusive electronic plumbing devices in a pleasingly set architectural design where vandalism is not a prime consideration. When determining which product to use, it is important to consider both form and function. A delicate Euro-design faucet spout may be appropriate for the restroom in a 5 star restaurant, but would typically not be appropriate in an amusement park, just as a gooseneck faucet designed for a hospital scrub sink would not be appropriate in the 5 star restaurant.

INSTALLATION AND DESIGN REQUIREMENTS WHEN DESIGNING A RESTROOM WITH ELECTRONIC PLUMBING PRODUCTS

Sensor plumbing products often require greater care and expertise in their installation and initial adjustment. Most manufacturers identify that the majority of problems that occur with sensor plumbing products are the result of poor installation. As infrared light and other sensing signals are invisible to the human eye, the installer must ensure that the product is installed per all manufacturer requirements and recommendations. With many of these products it is not always as easy as “slapping it in” and walking away.

That said, it must also be noted that the installation, adjustment and initial operation of these products is not difficult. It is just different than a manually operated product. The installer must be fully aware of all installation requirements and must be held accountable for the quality of his work.

When specifying ‘hard wire’ products, the architect and engineer must be clear which trades are involved in the installation of the product. When wire must be run, and electrical boxes or conduit installed, it must be clearly identified which trade will be responsible for that phase of the installation. Most manufacturers supply specification guides, rough-in templates and concise installation instructions for their products. It must be made clear to the installer that these instructions must be fully reviewed and understood before the installation of the product is begun. Familiarity with the product and installation procedures will ensure that the product performs to the satisfaction of the user and building owner.

Because every bathroom design may vary slightly, fine-tuning or adjustment of the sensing range is often required and expected after the faucet is installed. These procedures can typically be made quickly and easily during the installation of the product. Many manufacturers often design their electronics to be housed separate from the actual plumbing fitting. This allows for easy access to the circuitry for making an adjustment without having to disturb or remove the faucet from the sink or the valve from the fixture. Recent advances in some manufacturer's products have incorporated automatic self-adjustment of the sensing device. This automatic calibration electronically adapts the sensing range of the sensor for the varying light conditions that may exist in a particular restroom design. These innovations save installation time and provide continued effective operation of the plumbing device through multiple building remodels during the life of the building.

Like any plumbing product, be it manually operated or sensor operated, it is important to be certain that the fitting is properly matched to the fixture. In the case of faucets, it is important to make sure that the hole punchings in the lavatory match the size and location requirements of the spout design being used. Sinks and faucets are available for both single hole and center set spread applications. Electronic flushometers must also be matched to the proper urinal and water closet fixture to ensure that the valve and fixture are matched for water use and connection compatibility.

When properly specified and installed, sensor operated plumbing products will perform to the expectations all those concerned with the commercial restroom. This includes not just the user but also the building owner and maintenance and housekeeping staff.

For many architects, engineers and building owners, the use of sensor operated plumbing products is no longer an option – they are a “given”. Electronic flush valves, faucets and other restroom products have addressed specific building needs and are beneficial to both the restroom owner and the restroom user. As an architect it is extremely important to consider the needs of the facility when considering the choice of product. The proper selection and use of these products will enhance your building design and increase the overall satisfaction of your clients. ●

Click for Additional Required Reading

As part of this CES learning activity, you are required to read "Are You Ready To Go To War Over Water?". Some of the test questions below will relate to the additional reading material. Go to www.architecturalrecord.com/CONTEDUC/ConteducC.asp to access the material online. To obtain a faxed copy, contact Susan Kennedy, 800/9VALVE9, ext. 5034, fax 800/501-3989 or e-mail skennedy@sloanvalve.com.

Learning Objectives

At the end of this article you will be able to:

- Explain how sensors help meet recent federal regulations and laws.
- Identify types of plumbing sensors and how they are operated.
- Describe why sensors are now commonly used in public restrooms.

Instructions

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 242. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—architecturalrecord.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

Questions

- Q: 1. The Federal Energy Policy Act of 1992 requires that water closets must operate on how many gallons per flush (gpf)?
- A: a. 1.0
b. 1.3
c. 1.6
d. 2.0
- Q: 2. Sensors make a restroom more hygienic by:
- A: a. Self cleaning themselves to be antiseptic
b. Reducing the spread of bacteria and disease
c. Reducing the amount of water used
d. Preventing the water from running onto the sink and floor
- Q: 3. Sensors can reduce the odors in restrooms by eliminating standing urine and waste in plumbing fixtures.
- A: a. True
b. False
- Q: 4. The most important reason for using a sensor flushometer is:
- A: a. To conserve water
b. To ensure restroom hygiene
c. To meet the ADA guidelines
- Q: 5. Most sensor products on the market today operate by using:
- A: a. Active infrared sensing devices
b. Radio frequency activation
c. Passive infrared detection
d. Capacitive detection
- Q: 6. A maximum run time will:
- A: a. Ensure that the faucet will shut off, even if the sensor is blocked
b. Control the temperature of the water
c. Increase the flow rate of the water
- Q: 7. In a high use setting such as a stadium or airport, which is more likely to be a better option?
- A: a. Battery operated sensors
b. Hard wired sensors
- Q: 8. The benefits of battery operation products versus hard wired products include all but which of the following:
- A: a. Greater flexibility
b. Reduced initial labor
c. Cost effective installation
d. Reduced maintenance requirements
- Q: 9. Which type of flushometer is a better choice for conserving water?
- A: a. Non-hold open
b. Hold open
- Q: 10. While studies vary, most agree that the largest usage of water is?
- A: a. Residential
b. Industrial
c. Commercial

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USG Presents: Design Techniques for Controlling Movement Stress in Partitions and Ceilings

By: *Robert J. Lindegard*
Architectural and Construction Systems Manager (retired)
United States Gypsum Company

Buildings are subject to a wide range of forces that affect structural integrity. Some forces are obvious and easily identified. Hurricanes, tornadoes and seismic events, for instance, are examples of extreme forces that can severely impact building

structure and create distress to building sub-elements such as partitions and ceilings.

Other forces are more subtle, but over time, they may be just as damaging to partitions and ceilings. Variations in temperature and moisture conditions, for example, can exert a significant force on a building's structural integrity, leading to (among other problems) cracking and other symptoms of distress in partitions and ceilings.

Cracking is the distress mode most often associated with plaster and drywall membranes. It is defined as a break or fissure originating on the surface of, or within the membrane, and is due to one primary cause – movement stress. More

specifically, cracking results from a concentration of stresses that in magnitude exceed the maximum strain capacity of the material. The stress is relieved in the form of a break or crack.

Whether the stress movement stems from dimensional changes due to varying temperature or moisture conditions or from external forces that directly affect the membrane such as impact or vibration, structural movement can be controlled through a variety of design techniques. Perimeter relief and slip connections, for example, are used to reduce the transfer of stress from the structure to the building sub-elements. Integral stress relief can also be achieved through the use of expansion joints, control joints and construction joints.

Flat Plate Construction Stress

Flat plate concrete construction, which constitutes a large portion of residential high-rise buildings, is subject to two types of stress movement: racking and slab deflection.

Racking of the building frame is especially likely on the upper floors of the building and where exterior columns are exposed to major changes in temperature. As structural elements are exposed to racking stress, the partitions that they surround and support are distressed, typically leading to diagonal cracking in the partition face. In effect, the partition is forced to function as a shear wall, though it has insufficient strength to resist shear wall forces (Figure 1).

Another type of movement relates to deflection of the slab, which in flat plate construction increases for some time after the installation due to plastic creep of the concrete. Partition cracking from this type of movement results from flexural tension as the wall panel tries to follow the deflection of the structural floor (Figure 2).

While cracking resulting from flexural tension will decrease and diminish over time as the deflection process stabilizes, cracks due to racking are seasonally affected by thermal expansion and contraction, since the stress reverses with prolonged changes in outside temperature.

AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series

Use the learning objectives below to focus your study as you read **Design Techniques for Controlling Movement Stress in Partitions and Ceilings**. To earn one AIA/CES Learning Unit including one hour of health safety and welfare credit, answer the questions on page 189, then follow the reporting instructions on page 244 or use the Continuing Education self report form located at architecturalrecord.com.

Learning Objectives:

At the end of this article you will be able to:

- Control structural movement through design.
- Know proper installation techniques for control joints.
- Understand how drywall corner edge cracking can be minimized and how cracked plaster walls and ceilings can be repaired.

Advertising supplement provided by **USG Corporation**

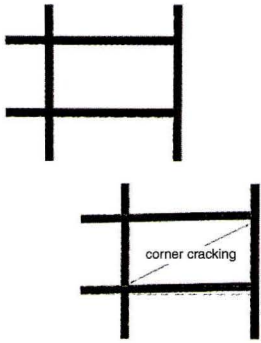


Figure 1. Frame movement can cause racking cracks in partitions.

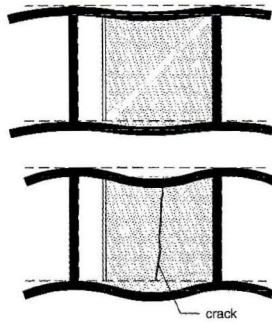


Figure 2. Slab deflection can also cause partition cracking.

Design Considerations

Design professionals can calculate the amount of anticipated movement required to cause racking stresses. Similarly, the amount of anticipated slab deflection can be calculated based on the initial dead load, with compensating partition and ceiling details providing for an amount ranging from two to five times the initial dead load deflection.

When designing partition and ceiling assemblies with perimeter relief or control joints, architects should bear in mind the following general considerations:

- Distress problems are usually most serious when partitions are tightly connected to the structural frame, or when partition membranes are abutted to the structure rather than supported by a suspension system.
- In high-rise buildings (more than eight stories), a relief joint must be incorporated at the periphery of the partition to allow for sufficient vertical movement to meet the anticipated stress conditions.
- Initial and creep deflection can be reduced with a stiffer floor system or with a pan-joint structure and a suspended ceiling. For flat plate construction, perimeter relief and/or control joints should be used to compensate for deflection of the floor and ceiling.

Control Joints

Control joints are time-proven means for accommodating stress relief. When designing with control joints, architects need to analyze the structure and determine when, where and which type of control joint will deliver the desired performance. Several options are available.

Expansion joints (also referred to as building control joints) prevent structural cracks due to building movement resulting from a variety of factors, including the structural materials (concrete, steel, etc.), the length of the structure, area temperature variations, foundation conditions and occupancy. Expansion joints extend entirely through the footing, foundations and superstructure of a building. They consist of a complete frame separated with a space between the structural members. They are filled or bridged with a compressible and resilient material, and they include a suitable joint closure on the outer face.

Expansion joints are needed:

- Where a long narrow structure abuts a rigid mass;
- At the ends of a low structure between two heavy masses and at intervals of approximately 150 feet;
- When a new building adjoins an existing building;
- In freestanding buildings at intervals of approximately 200 feet;
- When interior and exterior temperature differentials are extreme (for example, a cold storage building).

Construction joints are horizontal or vertical features introduced into the building design to conform with material limitations such as the amount of concrete that can be poured in a day's operation, the size of the selected component or panels, aesthetics and other considerations. Generally, these joints are located at ledges or other architectural features such as window jambs, heads and sills.

Control joints/perimeter relief joints are used to limit cracking in partitions and ceilings. Control joints are located within the face of a partition or ceiling, while perimeter relief joints (also called slip joints) are located at perimeters. Control joints are effective in limiting cracking due to tensile or compressive movement in a membrane resulting from thermal, hygrometric and structural effects. Perimeter or slip joints are necessary at perimeter interfacing to control shear movement when flat plate construction is employed.

Proper installation of control joints in wall and ceiling membranes requires breaking the lath or gypsum panels behind the control joint. On ceilings, the framing at control joint locations should be broken. In partitions, separate studs should be installed on each side of the control joint, and the runner track should be separated at the joint location. (Figures 3, 4, 5 and 6 detail suggested locations for perimeter relief and control joints.)

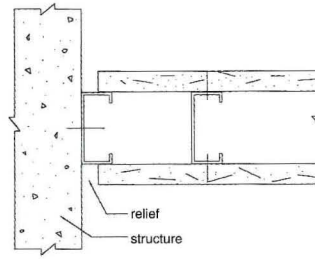


Figure 3. Perimeter relief at junction of partition and structural wall.

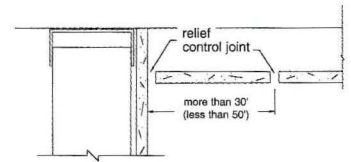


Figure 4. Perimeter relief of large ceiling space.

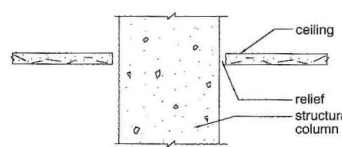


Figure 5. Perimeter relief of ceiling at structural column penetration.

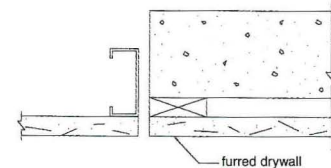


Figure 6. Control joint at junction of drywall partition and masonry.

The use and location of partition and ceiling control joints is the responsibility of the design professional. Generally speaking, control joints should be used:

- Where a partition, furring or column fireproofing abuts a structural element (except for a floor) or dissimilar wall or ceiling;
- Where a ceiling or soffit abuts a structural element, dissimilar wall or partition, or other vertical penetration;
- Where construction changes within the plane of the partition or ceiling;
- Where a partition or furring run exceeds 30 feet;
- Where ceiling dimensions exceed 50 feet in either direction with perimeter relief, or 30 feet without relief;
- Where exterior soffits and ceilings exceed 30 feet in either direction;
- Where wings of L-, U-, and T-shaped ceiling areas are joined;

(See Figures 7, 8, 9 and 10 for typical perimeter relief and control joint details.)

Following are some additional design considerations regarding the use and placement of control joints:

- While ceiling-height door frames may be used as vertical control joints in partitions, frames of lesser height require control joints extending to the ceiling structure from both corners of the top of the frame.
- Control joints in ceilings should be located to intersect column penetrations, light fixtures and air diffusers that can impose stresses on the ceiling membrane.
- Experience has shown that to relieve stresses in portland cement-stucco surfaces, control joints should be spaced no greater than 10 feet.
- The ratio of length to width in ceiling membranes should be in the range of 1:1. For example, a Portland cement plaster ceiling formed of 10- by 10-foot panels (100 square feet) is considerably less prone to cracking than a soffit measuring 2 by 50 feet (100 square feet).
- A control joint in a partition should extend through a bulkhead/soffit condition with the same consideration for separation of the membrane and framing.

TYPICAL PERIMETER RELIEF AND CONTROL JOINT DETAILS

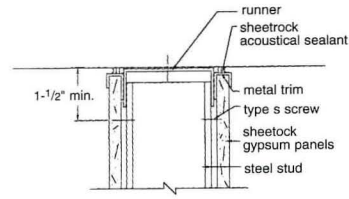


Figure 7. Perimeter relief of partition at structural ceiling.

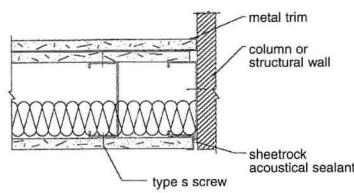


Figure 8. Perimeter relief of partition at structural wall or column.

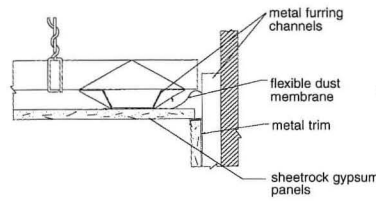


Figure 9. Perimeter relief of suspended ceiling at exterior wall.

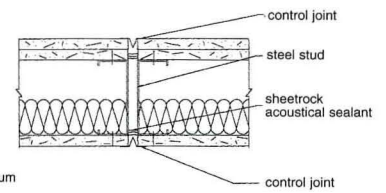


Figure 10. Control joints in the face of a drywall partition accommodate lateral expansion or contraction of up to 1/4 inch.

Fire-Rated Considerations

The introduction of a control joint into a partition or ceiling membrane that is part of a fire-rated assembly necessarily creates an opening for flame and temperature transmission. For gypsum drywall ceilings Underwriters Laboratories (UL) provides generic details for maximum one-hour floor/ceiling assemblies in the G500 and L500 series. Since typical fire tests of floor/ceiling assemblies incorporate an end joint backed with a continuous gypsum strip, the detailing for control joints in ceiling membranes for higher ratings should be acceptable to a code jurisdiction.

For gypsum partitions, details have been tested at an independent fire test facility on a two-hour partition using gypsum panel strips as back-up members in one case and mineral fiber insulation in another. The details are considered pertinent to one-hour assemblies as well (Figures 11 and 12). The development of special details to satisfy head of wall conditions is a relatively new consideration for design professionals and must be factored into the overall design as required by local codes.

FIRE-RATED PARTITION CONTROL JOINT DETAILS

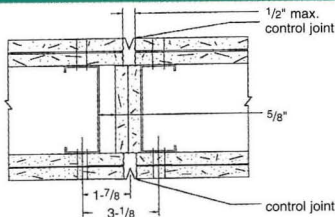


Figure 11. A two-hour fire-rated steel stud partition.

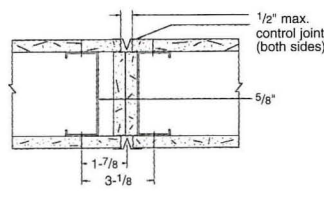


Figure 12. A one-hour fire-rated steel stud partition.

Wood Framing Considerations

In wood frame construction, the basic framing material—wood, which is subject to lumber shrinkage—is often the root cause of distress in a gypsum membrane. Gypsum surfaces do not react like wood in response to moisture changes, and thus may buckle or crack when firmly anchored across the flat grain of wide dimensional lumber. The gypsum surface should either “float” over the wood or a control joint mechanism should be provided.

Wood shrinkage is greatest in the direction of the annular growth rings (tangentially). It is less across the rings (radially) and is minimized even further along the grain (Figure 13). Using lumber in which the bearing is across the grain presents the potential for damaging shrinkage. In fact, a major contributor to wall surface damage in cathedral type installations is western or platform framing, which uses dimensional lumber up to 2 by 14 inches for floor joists at intermediate floor locations.

Figure 13. Wood shrinkage is greatest in the direction of the annular growth rings (tangentially), and is less across the rings (radially).

Platform framing shrinkage can be addressed through the use of resilient channels on the wood frame studs and by spanning the gypsum panels across the wood member (Figure 14). Another option is to use a control joint at

the bottom edge of the top and first floor studs, which positions the joint where the greatest amount of shrinkage and dimensional change needs to be absorbed (Figure 15). The gypsum panels are then applied horizontally with a 1/4-inch separation between panels at the control joint location. The bottom gypsum panel is applied with its top edge aligned with the bottom of the top plates. One-quarter inch shims placed on the top edge provide the proper spacing. The upper gypsum panel is not nailed below the level of the toe plate allowing the edge to float over the header joint. The control joint can be finished with a manufacturer accessory or with wood molding, applied so as not to restrict movement of the gypsum panel above the joint.

USING RESILIENT CHANNELS WITH PLATFORM FRAMING

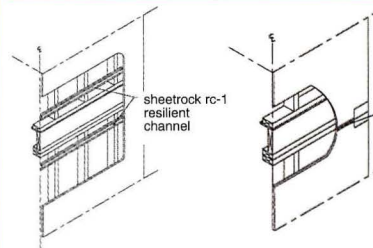


Figure 14. Platform framing with a resilient channel.

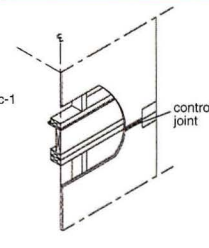


Figure 15. Platform framing with a control joint.

Seismic Considerations

In areas of earthquake activity, structures are designed and constructed to resist the lateral forces induced by seismic disturbances. Per the Uniform Building Code, drywall and gypsum plaster membrane ceilings do not require lateral bracing when they are braced by walls or partitions spaced a maximum of 50 feet apart. Where walls do not brace the ceiling, independent bracing, as designed by a structural engineer, is required. Light fixtures need to be supported independently of the ceiling runners.

While direct-hung suspended acoustical ceilings are not subject to the same stresses as continuous membranes, they are affected by seismic forces. Damage is often exhibited by battered and collapsed ceiling edges at walls and partitions, and the dropping of light fixtures. The common type of lateral bracing for suspended ceilings consists of diagonal (45 degree) wires connected between the ceiling runners and/or tees and the floor or roof structure above. The spacing of the diagonal braces is a function of the lateral force produced by the ceiling, lights, partition, etc., the load capacity of the wires and their connection to the ceiling system members and the structure above. The load brought into the brace points is a horizontal force and the wire braces are tension diagonals, resulting in a vertical uplift component to be resolved. This is usually satisfied with a vertical compression strut.

Various organizations offer additional design reports and recommendations on partitions and ceiling design under seismic conditions. The Gypsum Association addresses the issue through its Seismic Bracing of Steel Stud/Gypsum Board Partitions—Design Tables (GA-350). The California-based Drywall Information Trust Fund offers an Evaluation Report (ER-4071) on the topic. And the Ceilings and Interior Systems Construction Association (CISCA) offers reference materials on seismic criteria for acoustical ceiling systems.

In the end, controlling stress movement within a building structure requires both good design practices and proper installation techniques. The architect is responsible for understanding movement within the structure and creating the details for perimeter relief and slip connections, as well expansion joints, control joints and construction joints. When these details are designed correctly—and installed properly—movement can be effectively controlled within any structure.

Minimizing Corner Bead Cracking

Washington D.C.'s National Research Council Uses the Latest in Corner Bead Technology



Paper faced metal drywall bead is applied with joint compound instead of mechanical fasteners. It doesn't fasten directly to framing like conventional nail-on bead.

When Centex Construction completed the new headquarters building for the National Research Council in downtown Washington, D.C., in June 2002, it proved to be a fitting showcase for the work being done by the council. Founded by the National Academy of Sciences in 1916, the council's mission is to associate the broad community of science and technology, to further knowledge and to advise the federal government, the public and the scientific and engineering communities.

The 260,000-sq.-ft. project consists of 11 stories of unique, modern offices and a stunning atrium on the third floor that extends over 80 feet to a dramatic skylight in the ceiling. The Smith Group, a Washington D.C.-based architectural firm, designed the building in a grand style.

In a building dedicated to science and technology, it's fitting that a leading-edge drywall technology played a key role in the construction of the building's interior walls. Interiors subcontractor C.J. Coakley Co., Inc. managed to virtually eliminate any potential for corner-edge cracking – and the associated callbacks – in the building through the use of an innovative corner bead that offers the unique ability to “move” with drywall surfaces, providing the flexibility needed to withstand structural shifting and settling.

“This is one of the best technology breakthroughs in drywall finishing in a long time,” said Michael Coakley, senior project manager and part owner. “We love it.”

Coming from Coakley, that statement carries a lot of weight. His company has been completing interiors on some of the biggest and most prestigious projects in the Washington, D.C. area since 1962. Based in Falls Church, Virginia, C.J. Coakley's 480 employees handle approximately \$35 million in interiors work annually. Over the past

four decades, the company has completed drywall, plaster, fireproofing and acoustical ceiling applications on everything from Dulles International Airport to Fed Ex Field, from the Dirksen Federal Building to the Pentagon. C.J. Coakley has also completed hundreds of lesser-known commercial projects, including local hotels, hospitals, universities and shopping malls.

The corner bead that C.J. Coakley raves about is known as paper faced metal drywall corner bead. C.J. Coakley began using the product in 1998 during renovation work on the Pentagon.

“We had been using conventional metal clinch bead until that time,” said Coakley. “But on the Pentagon project, we decided to try the paper faced metal product. It handled really well and we realized a cost savings. We've never turned back. We now use paper faced metal bead for a significant part of our drywall work.”



Paper faced metal bead applied over a gypsum board corner.

So what's the attraction behind the product's performance? “For one, we don't find that we have to go through jobs fixing up damaged corner beads with this product,” said Coakley.

The key to the product's performance lies in the fact that tape-on paper faced metal bead is not fastened directly to framing. Rather, it is attached to gypsum board corners using joint compound applied under the paper flanges that extend from the metal corners. This gives the product the flexibility to withstand cracking resulting from normal building movement. It also delivers superior strength and impact resistance.

“If you hit a paper faced metal corner, it won't crack all the way up and down the wall like conventional metal bead will,” said Coakley. “The damage will only be at the point of impact. And it's much harder to damage because it's so much stronger.”

Coakley also points out that the product installs more quickly than conventional metal clinched-on bead. It cuts easily with tin snips, and can be quickly applied using joint compound and either a 4- or 6-inch taping knife, a multiuse hopper and corner roller, or a mechanical angle applicator.

C.J. Coakley crews installed more than 90 boxes of paper faced metal drywall corner bead on the National Research Council building. To begin the application, workers generously applied ready-mixed joint compound to both sides of the corners, extending 2 inches wide on each side. Once cut to the desired length, the paper faced metal bead was aligned to the corner and pressed firmly along its length. Excess joint compound was then removed using a drywall knife. The paper faced metal bead was then finished with two coats of ready-mixed joint compound applied over the paper flanges.

Alternatively, the paper faced metal bead can be run through a gravity-fed hopper to spread a layer of joint compound over the inner surfaces of the paper flanges. The bead is applied to the corner and pressed into position using the roller tool. A mechanical angle applicator can also be used to apply joint compound directly to corners. The bead is then simply pressed in place and wiped clean with a rag or drywall knife.

“Although the paper faced metal bead costs a couple of cents more per foot than regular bead, you don't put as much mud on the walls when applying it, you don't have to hit it as many times and you eliminate one pass on the finishing,” said Coakley. “So, the amount of material you are using and the actual finishing time is less. When you add those factors in, you're actually saving money.”

Compared to the bare metal or plastic surfaces of conventional corner bead, the paper tape provides superior adhesion of joint compounds, textures and paints, ensuring a strong, smooth finish. “It goes on a lot straighter than the typical metal bead. When you install metal bead, you're crimping it on the surface and you inevitably kink the bead, and often, installers won't fill it in just right,” said Coakley. “So if you have a bulkhead that you're running down a line, you'll see it run in and out. Whereas the paper faced metal bead will stay straight and true.”

The paper faced metal bead's superior performance also minimizes—and sometimes eliminates—subsequent repairs.

Getting workers to try a new product is often the hardest part. “It's sometimes hard to get our guys to switch to a new product when they've been using an established product for a long time, even if the product is superior,” said Coakley. “When we started this project, we gave our workers five boxes of traditional bead and five boxes of the paper faced metal drywall bead to use. Many of them initially went for the first box of traditional bead. Once the traditional beads were used up, the men were forced to use the paper bead. When we replaced the order for bead, the men went with paper faced bead. Once they tried the paper faced metal bead, they never went back. They had all become converts.” ■



Drywall corners treated with paper faced bead “float” with the gypsum board surface, providing the flexibility needed to withstand structural shifting and wood frame shrinkage without cracking.

Click for Additional Required Reading

As part of this CES learning activity, you are required to read some additional material. Some of the test questions below will relate to the additional reading material. Go to www.architecturalrecord.com/CONTEDUC/Conteduc.asp to access the material online. To obtain a faxed copy, contact Marty Duffy at 312-606-5781 or mduffy@usg.com.

Learning Objectives

At the end of this article you will be able to:

- Control structural movement through design.
- Know proper installation techniques for control joints.
- Understand how drywall corner edge cracking can be minimized and how cracked plaster walls and ceilings can be repaired.

Instructions

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 244. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—architecturalrecord.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

Questions

- Q: 1. Which is seasonally affected by thermal expansion and contraction since the stress reverses with prolonged changes in outside temperature?
- A: a. Cracks due to racking stress
b. Cracking resulting from flexural tension
- Q: 2. The amount of anticipated slab deflection can be calculated based on the initial dead load, with compensating partition and ceiling details providing for an amount ranging from _____ times the initial dead load deflection.
- A: a. One to three times
b. Two to five times
c. Five to seven times
- Q: 3. Distress problems are usually most serious in which situations?
- A: a. When partition membranes are supported by a suspension system
b. When partition membranes are abutted to the structure
- Q: 4. Initial and creep deflection can be reduced with a stiffer floor system or with a pan-joint structure and suspended ceiling.
- A: a. True
b. False
- Q: 5. Expansion joints are needed in all situations except which?
- A: a. When interior and exterior temperatures are extreme
b. When a new building adjoins an existing building
c. At the ends of a low structure between two heavy masses
d. At perimeter interfacing in flat plate construction
- Q: 6. You generally find which control joints at ledges or other architectural features such as windows, jambs, heads and sills?
- A: a. Expansion joints
b. Construction joints
c. Perimeter relief joints
d. Slip joints
- Q: 7. For the proper installation on ceilings, the framing at control joint locations should not be broken.
- A: a. True
b. False
- Q: 8. While ceiling-height door frames may be used as vertical control joints in partitions, frames of lesser height require:
- A: a. A ratio of 1:1 for door height to width in ceiling membranes
b. Expansion joints extending through the footing, foundations, and ceiling.
c. Control joints extending to the ceiling structure from both corners of the top of the frame
- Q: 9. Generally speaking, control joints should be used in all but which of the following:
- A: a. Where a ceiling or soffit abuts a structural element, dissimilar wall or partition, or other vertical penetration
b. Where construction changes within the plane of the partition or ceiling
c. In any ceiling space less than 30 by 30 feet
d. Where wings of L, U, and T-shaped ceiling areas are joined
- Q: 10. Gypsum surfaces may buckle or crack when:
- A: a. Firmly anchored across the grain of lumbar
b. Provided with a control joint mechanism
c. They "float" over the wood
d. Used with resilient channels on the wood frame studs
- Q: 11. Drywall and gypsum plaster membrane ceilings do not require lateral bracing when they are braced by walls or partitions spaced a maximum of 50 feet apart.
- A: a. True
b. False
- Q: 12. When the relative humidity increases from 13 percent to 90 percent, gypsum panels can expand at a rate of approximately:
- A: a. 1/4 inch per 100 feet
b. 1/3 inch per 100 feet
c. 1/2 inch per 100 feet
d. 2/3 inch per 100 feet
- Q: 13. Benefits of paper faced metal drywall corner bead include all but which:
- A: a. Flexibility to withstand cracking
b. Costs less per foot than regular bead
c. Harder to damage
d. Installs more quickly

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U.S. Gypsum's SHEETROCK™ Brand Paper Faced Metal Drywall Bead effectively minimizes drywall corner edge cracking resulting from structural movement and expansion and contraction.

USG Interiors, another subsidiary of USG Corporation, is a leading manufacturer of acoustical ceiling panels and suspension systems.

For technical advice relating to building movement, contact USG Corporation, at P.O. Box 806278, Chicago, IL 60680-4124, call USG's Customer Service Department at 800-USG-4YOU or visit the company's Web site at www.usg.com.

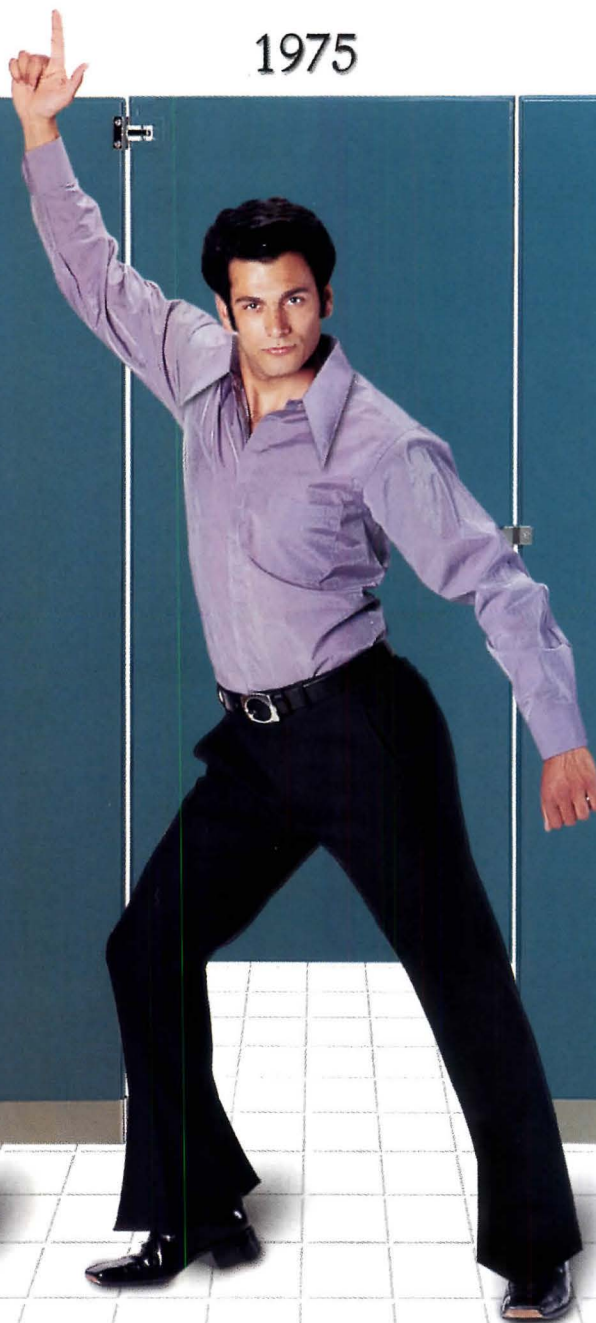


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LIGHTING

From mind's eye to glass artisan's kiln: Architects creatively leap toward the light

Commissioned by the Bullseye Glass Company and its sister showcase, the Bullseye Connection Gallery, seven architecture firms in Portland, Oregon, were invited to take creative leaps toward the light: design a chandelier adhering to few ground rules other than the use of glass.

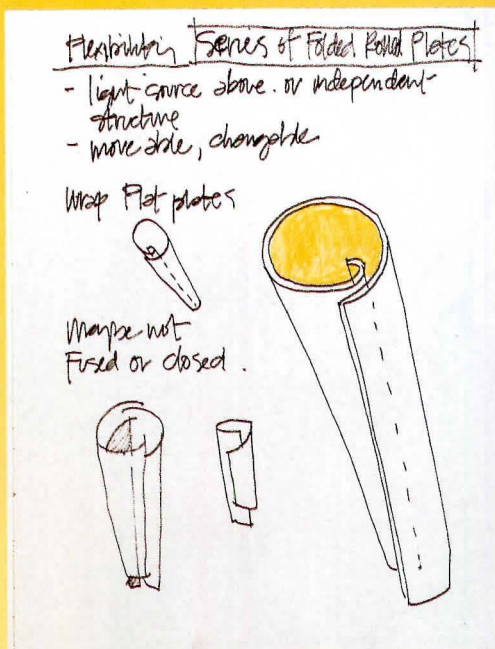
The residency program continued a tradition that has brought other creative artists—including printmakers, sculptors, ceramicists, and painters—to the company's facilities over the years to explore the glass artisan's realm.

Many of the architects arrived with fantastical sketches and new trajectories toward the 2,500-year-old medium. "The glass-working methods required to execute the architects' visions demanded a creative stretch that outdistanced anything we'd done before," says Connection executive director Lani McGregor. "Glass was cast, fused, slumped, hotworked, drilled, and blasted in ways that even our most practiced technicians could not have imagined. The architects and studio team worked side by side and demonstrated a graciousness and endurance, despite challenges that probably made them feel as twisted, overheated, and deformed as the chandeliers seemed at times."

One design (rendering, left), by a team from the architecture firm DECA, led Bullseye technicians to invent a patterning system and seven-step molding process to achieve the long, slender, semicircular forms that make up the "Fire and Ice" chandelier. A technician said of the challenge, "The architects knew what they wanted and kept pushing and pushing. We would tell them we would never slump glass in a certain way, but

they wouldn't take no for an answer."

The chandeliers, exhibited in a Connection show called *Multiplied Light*, demonstrate the creative calculus factoring in form, function, craft, light, and the architect's inimitable search for new formulas. *William Weathersby, Jr.*



195 Creative Uses

196 MTV Online

Horton Lees Brogden
Lighting Design

200 Multiplied Light

Bullseye Connection Gallery;
various Portland architects

209 Rumi

Nancy Mah Design

215 Technology: HID-dimming equipment

217 Lighting Resources

MTV Online heads downtown from Times Square, bringing along playful lighting and architectural forms

By Leanne B. French

Carson Daly's glass-fronted studio overlooking Times Square has made the telegenic headquarters of MTV as identifiable as the popular television host is himself. While the music channel's base remains firmly rooted at Broadway and 43rd Street, its Internet division has established its own beachhead farther downtown on Broadway, with a move to a 145,000-square-foot outpost in the East Village.

"Fast, fun, flexible, and inexpensive" were the client mandates for the design and build-out. Architects Laszlo Kiss and Todd Zwigard collaborated with Barbara Horton and Doug Russell of Horton Lees Brogden Lighting Design on illumination that appears playful yet polished, complementing similarly spirited architectural forms. Lighting also helps to differentiate work areas of the edgy music division from adjacent spaces occupied by its child-oriented corporate sister, Nickelodeon (though the office complex carries the umbrella name MTV Online). Working with a tight budget and construction schedule "required us to creatively use readily available, rudimentary lamps and fixtures," Russell says.

"Essentially, the lobby is a neutral zone connecting the two sides—the music group versus the children's creative sector—where we wanted to make a strong visual impact," Kiss says. Within the double-height space, a reception desk bisects a towering inverted cone. Sheathed in translucent fiberglass, the structure is illuminated from within by halogen striplights.

Placed above the lobby elevators, fluorescent strips gelled with alternating blue and gray sleeves create a moody glow. Ambient lighting levels remain low enough for company logos to shine, projected as accents. On either side of the main ninth-floor corridor, the music and kids' divisions take on divergent personalities yet share an open-plan format enhanced with employee-controlled lighting schemes.

"At some of MTV's previous offices, employees would tape cardboard to fixtures to keep light levels low," Russell says. "Here, it became a question of how to control lighting on a more personalized level."

The "democratic" plan features 140-foot-long stretches of back-to-back office banks and workrooms that each accommodate three, five, or eight employees. Lighting is equally democratic, yet adjustable. Energy-

Leanne B. French is a freelance writer based in New York City who specializes in architecture and entertainment design.



Project: MTV Online, New York City

Architect: Kiss + Zwigard

Architects—Laszlo Kiss, Todd Zwigard, principals

Lighting designer: Horton Lees Brogden Lighting Design—Barbara Horton, IALD, senior principal;

Doug Russell, associate

Electrical engineer: Edwards and Zuck

General contractor: Lehr Construction

Electrical contractor: Forest Electric



Halogens backlight the translucent fiberglass cladding of the conical reception tower. Stock lighting components work with colorful architectural forms for an updated industrial ambience (opposite).



Track halogens light the curved wave that wraps one of the meeting pods at MTV Online (left). Pinwheels of suspended linear fluorescents put a playful spin on stock fixtures in the music division offices (above).

efficient, glare-free fluorescent systems allow employees in each office to control light levels, as well as either direct or indirect distribution.

An abstract, urban industrial aesthetic suits the music division. Thick plaster columns, remnants from the building's former life as Wanamaker's Department Store, are left exposed as found objects. To enclose offices, aluminum-framed glass "storefronts" are wrapped with translucent fabric to provide a level of privacy without making each 9-by-10-foot space seem claustrophobic. Partitions measure either 5 or 7 feet high to separate workrooms and are reinforced by exposed V-shaped studs that stretch to the ceiling to create a visual rhythm within the open plan. Custom fixtures on top of the partitions provide general illumination. Original terra-cotta ceiling tiles are painted a monochromatic white.

The Nickelodeon offices feature a more literal-minded village design, with house-facade office enclosures and "garden" workrooms. Abstract tree shapes constructed of translucent green acrylic are mounted on the vertical metal studs that suspend workroom partitions. A whimsical pantry area has its own artificial swimming pool, Adirondack chairs, and festive paper lanterns. A breakout room called "the factory" is clad with red chalkboard panels framed by aluminum joints to mimic a brick pattern. Smokestacks made from perforated sheet metal cylinders are lit

from within by silver bowl lamps that also provide ambient lighting.

While the ninth floor was built-out from an unoccupied space, the tenth floor adapted some elements left in place from a former banking office. Upstairs, the music and children's themes are continued in a simplified manner, with an emphasis on a new visual richness. To aid orientation, walls and flooring are color-coded for varied sectors. Fluorescent striplights provide ambient illumination in hallways. Functioning as impromptu meeting spaces, cove-like lounges have curved walls that wrap around in one continuous wave. Lit with halogen accent fixtures, the pods are equipped with TVs and plug-ins for computers. ■

Sources

Fluorescent pendants, recessed and track lighting: *Lightolier*

Cove lighting: *Belfer Lighting*

Fluorescent strips: *Legion Lighting*

Porcelain sockets: *Leviton*

RLM fixtures: *Exceline*

Low-voltage accents: *Tech Lighting*

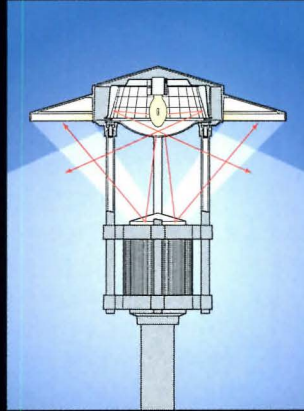
Custom accents: *Luminary Tools*

Fluorescent gels: *Special FX Lighting*

Lamps: *General Electric*

www For more information on the people and products involved in this project, go to Lighting at architecturalrecord.com.

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Grid meets glass: Seven Portland architects explore the limits of fabrication with chandelier designs

By Sheri Olson, AIA

Glass has played a central role in architecture since the Crystal Palace, but architects have not often had the chance to directly explore the material as a harness for architectural lighting. A project commissioned by the Bullseye Glass Company and its affiliated gallery in Portland, Oregon, recently allowed seven of the city's architectural firms to forge the connection between sketches on paper and completed chandeliers. Like kids in a candy store, the architects were given free reign with the company's product line, technicians, and Portland facilities. Their task: produce a chandelier. There were no budget limitations, and initial deadlines came and went over the course of two years as the design teams struggled to realize their fanciful ideas in glass. After chewing through 2,000 pounds of glass and running the technical department ragged, the chandeliers ranged from bombastic one-of-a-kind art pieces to a market-ready fixture now hanging in a municipal train station. All designs pushed the limits of the craft.

Bullseye, a manufacturer of colored sheet glass primarily used by artists, was the first to develop tested compatible glasses that allow crossover between kilnwork, blowing, and torchwork. For 20 years the company has sponsored in-house residencies to introduce nonglass artists to its process, but this was Bullseye's first experience collaborating directly with architects. Randy Gragg, architecture critic of Portland's *The Oregonian*, selected the participants and curated the show.

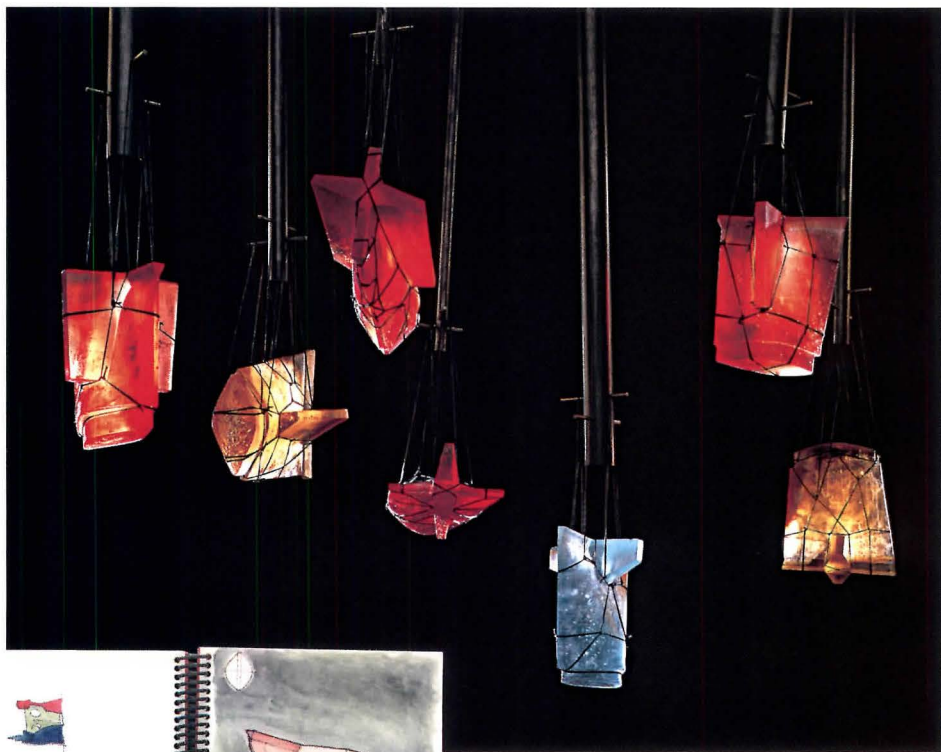
Bullseye does not have facilities to blow glass, a limitation that added a twist to lighting design, as most glass for commercial and industrial applications is blown—for precision and scale—rather than cast. Experimentation was fostered,

RECORD contributing editor Sheri Olson, AIA, is author of *Miller/Hull* (2001) and architecture columnist for the *Seattle Post-Intelligencer*.

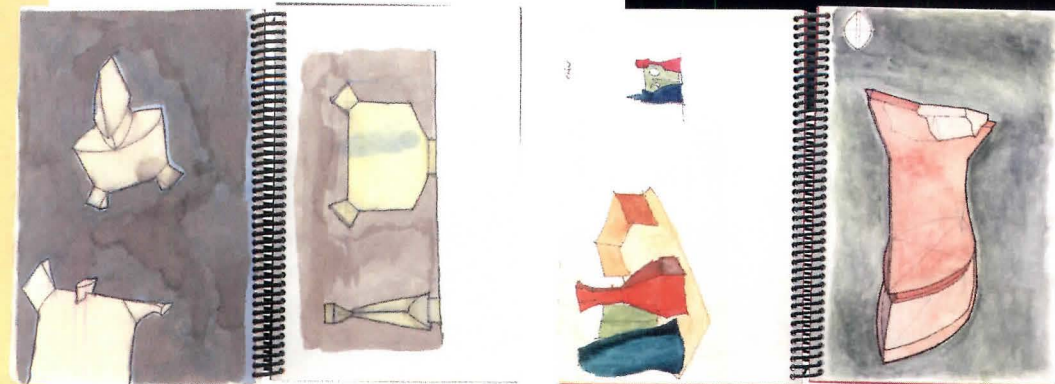
since the architects, while not skilled at glass blowing, could personally participate with technicians in fusing, slumping, and casting glass.

James Harrison of the former art and architecture collective RIGGA discovered that “steel is like a dog, glass is like a cat,” referring to the obedient nature of the first material and the fickleness of the latter. His dense, multifaceted cast-glass pieces (which he calls “clots of congealed light”) required trial and error to arrive at the exact time required in the annealing ovens. “If glass is not evenly cooled, it's likely to break,” explains Ted Sawyer, head of research and education at Bullseye. The pieces were cast using the lost-wax method, then sandblasted, acid etched, cold ground, and rubbed with oil of frankincense. Each element was hung by black hemp from a ceiling-mounted steel pipe housing an MR-16 lamp.

Many participants quickly ran afoul with their misconceptions about glass. “We thought of glass as a molten liquid that we could mold

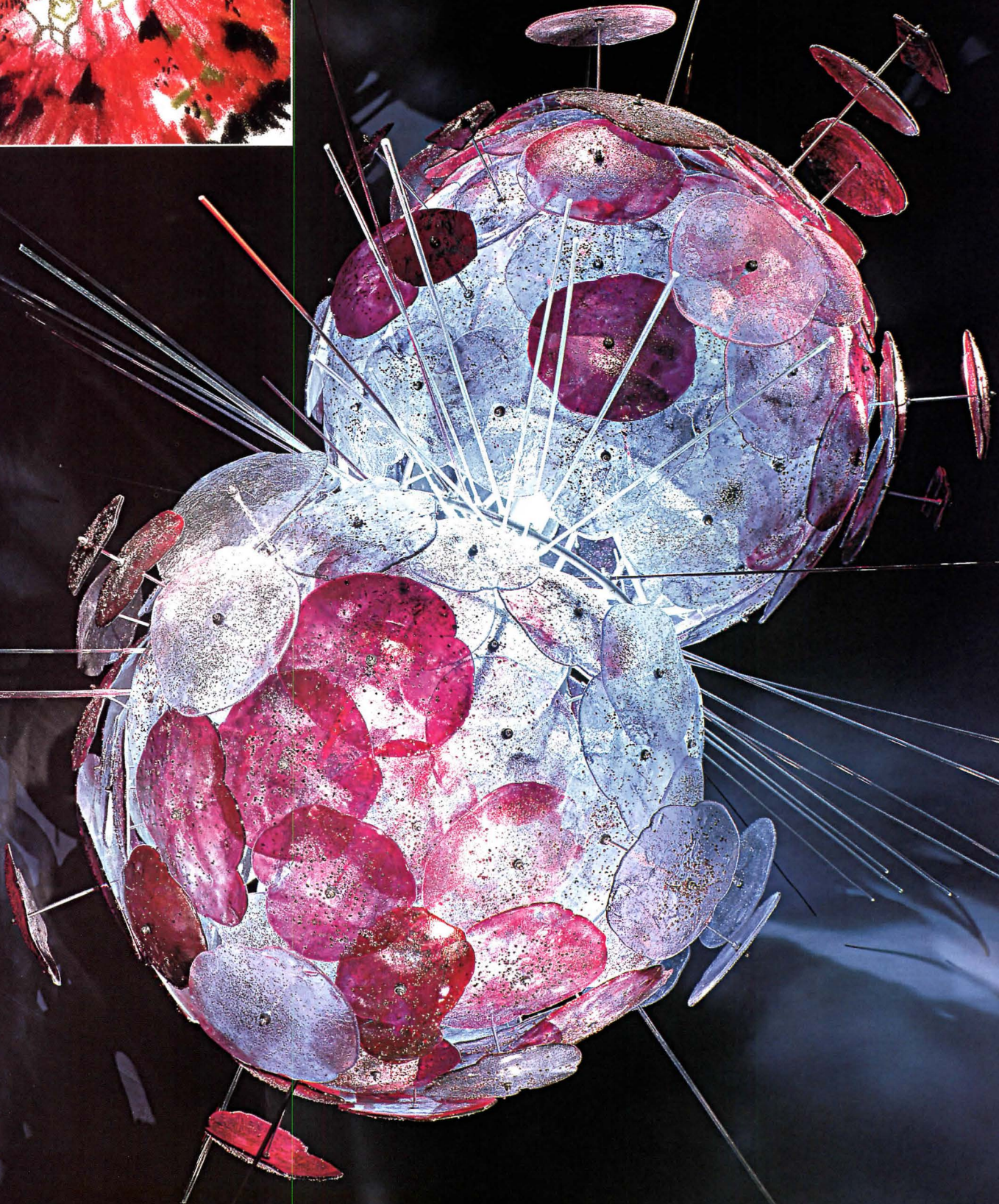


James Harrison, then part of the now-defunct collective RIGGA, sketched free forms that were “stinky, gooey, and old-looking, a wad of glass to put on a pike.” Hung by black hemp and rubbed with oil of frankincense, the pieces have the look of “Parma hams,” he says.

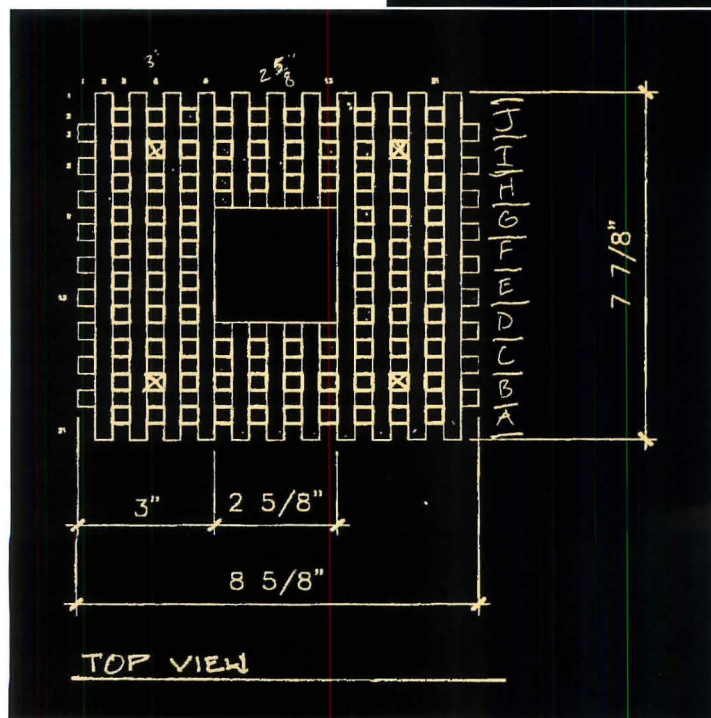




Stan Boles of BOORA Architects was inspired by a NASA photo of an exploding star taken by the Hubble telescope. His team's sketch (inset) sparked exploration of some 200 glass types and fusing techniques to achieve the right molten coloration.



Perhaps the most rigorous and rational of the chandelier designs, Thomas Hacker's fixture was actually inspired by the ephemeral: the refractions of light through the ice crystals of a cloud seen from the window of an airplane. Its cubic structure is half open, half solid.



like plastic, but we soon realized it has its limits," says Kim Wilson of Holst Architecture. The firm's first designs were complex organic shapes easily achieved with blown glass but impossible to slump. In the end, their chandelier came closest to the planar qualities of the sheet glass material while pushing the limit on how tight a corner it can slump. Each luminaire Holst made had two interlocking cast-glass pieces (one clear and smooth, the other opaque and matte) wrapped around two 10-watt xenon low-voltage lamps mounted on a steel channel frame.

Architect Richard Potestio employed glass rods in an atypical way. Usually worked and shaped with a small torch, the 2-millimeter rods were randomly thrown into the kiln in layers to create cotton-candylike sheets of fused glass. "I was after that burst of light where the rods intersect," he says. The glass was cut into swaths and slumped in spirals over a plaster mold based on the shape of a stainless-steel armature. The finished glass was held by wires 2 inches off the 6-foot-long armature and raked by a single external MR-16 lamp to play up its crystalline qualities.

DECA also chose not to integrate a light source in its chandelier—a cluster of 34 multicolored, fused and slumped glass cylinders. "We liked how an external light source bounced off the glass's slight imperfections," says principal Sallee Humphrey. Ninety percent of the labor lay



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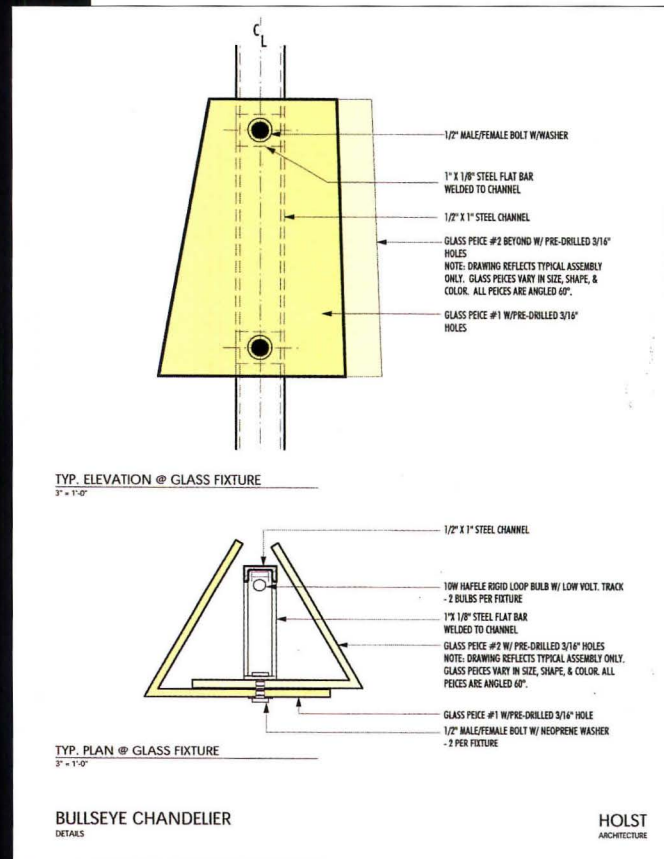
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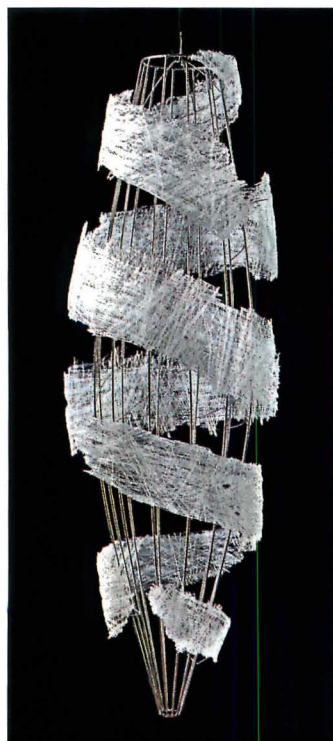
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The team from Holst initially developed organic shapes based on Grecian urns. After slumping glass themselves, the designers shaped fixtures (left and below) that feature overlapping folds, “peeled and split.”



For Richard Potestio, the project was a way to engage in “experimental creation versus the dogmatic creation architecture so often is,” he says. Creating the “Chrysalis” chandelier (right) helped him to continue his exploration of “suggested enclosure in the Platonic form of glass.”



in developing a series of 2- to 3-foot-long, hull-like forms made of wood strips. By varying the length of the sheet of fused glass and the section of the mold it is slumped over, a variety of sizes and shapes were possible.

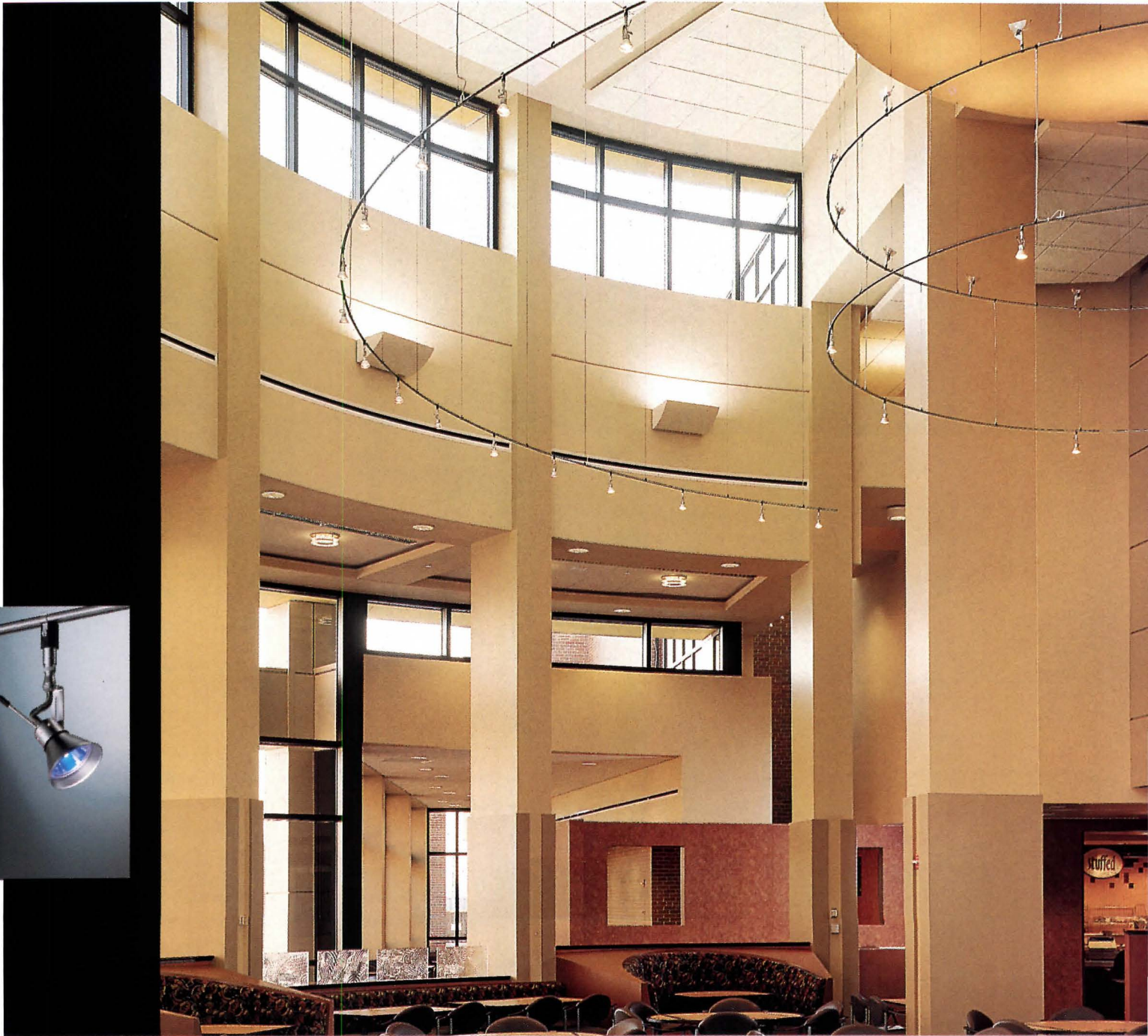
Greg Baldwin, ZGF Partnership principal, was the only architect to approach the project as a prototype; now six of his firm’s fixtures hang in Everett Station, a transportation center in Everett, Washington. The design was technically challenging due to the precision and scale of the fixture’s three components: a 42-inch-diameter outer bowl of slumped glass; a reverse-curve, slumped-glass middle; and a blown glass center (fabricated by an outside facility) cradling an incandescent lamp. Baldwin provided calculations and detailed drawings of the fixture’s superstructure to Keller House, a company licensed to give the chandelier a UL rating.

Thomas Hacker’s matrixlike design began with a 100-watt lamp and his desire to approximate the way light expands as it passes through ice crystals in a cloud. In his experiment, glass bars were stacked, then glued together using a special epoxy catalyzed by infrared light. Four steel cables threaded through the grid of glass to stainless-steel plates on the bottom, and an incandescent bulb rested inside.

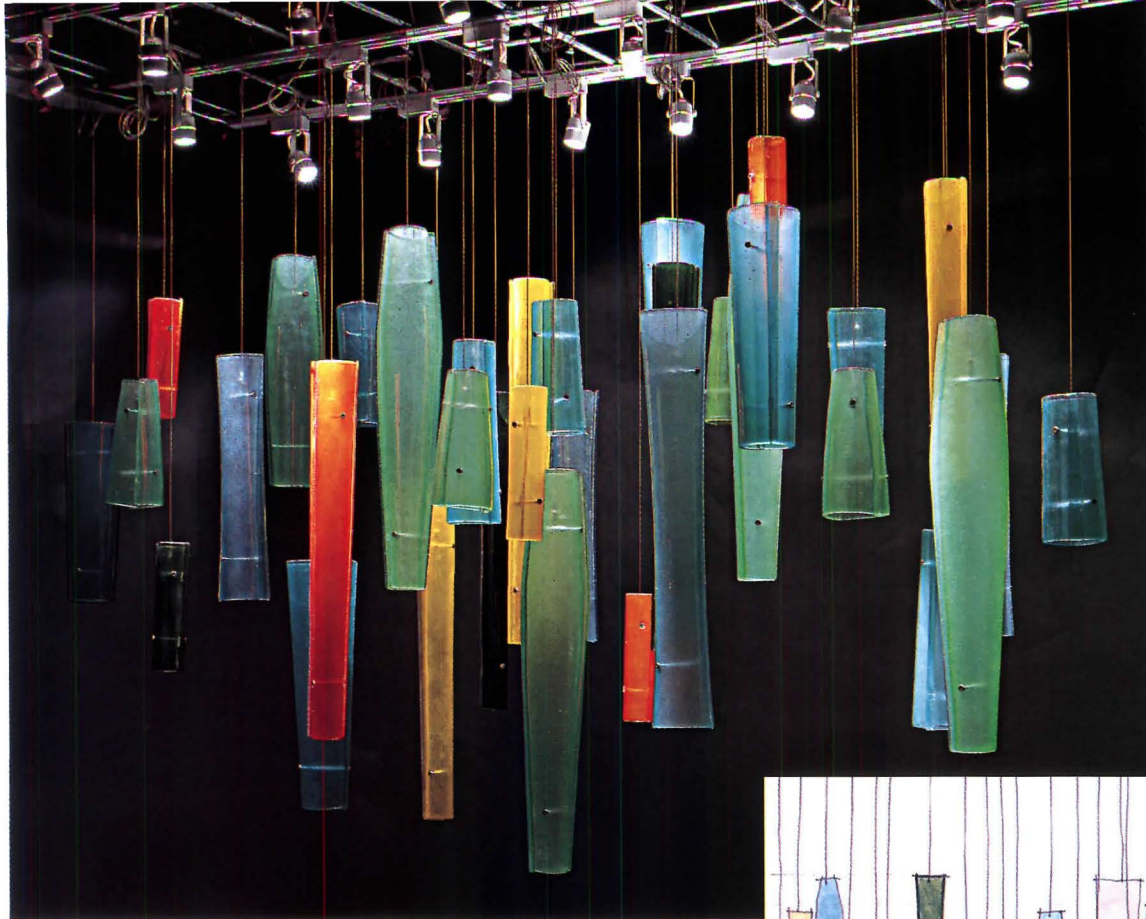
In contrast to Hacker’s Minimalism, Stan Boles, BOORA Architects principal, created a 13-by-9-foot chandelier inspired by a

BRUCK

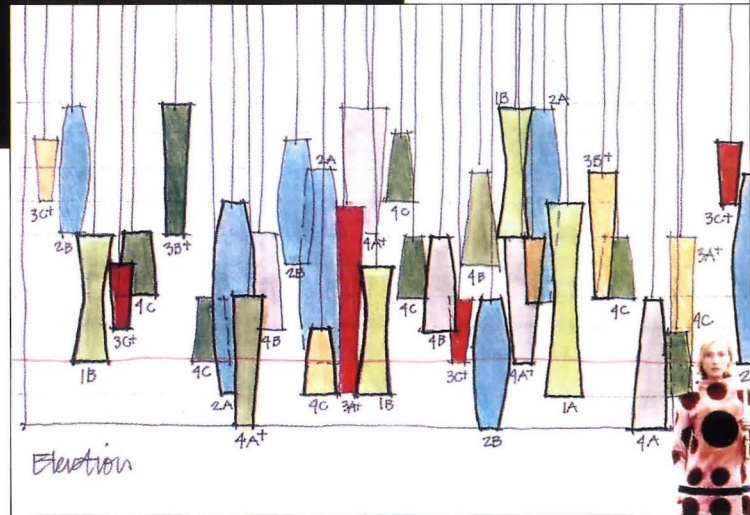
L I G H T I N G S Y S T E M S



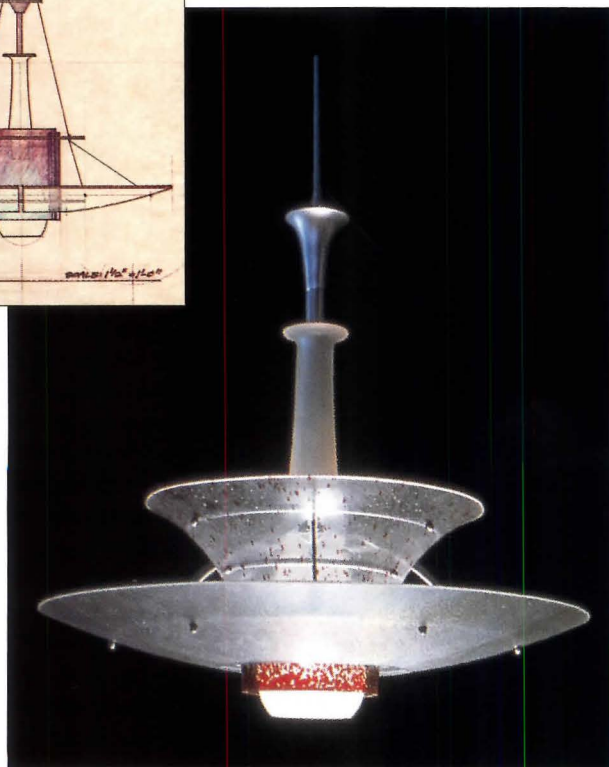
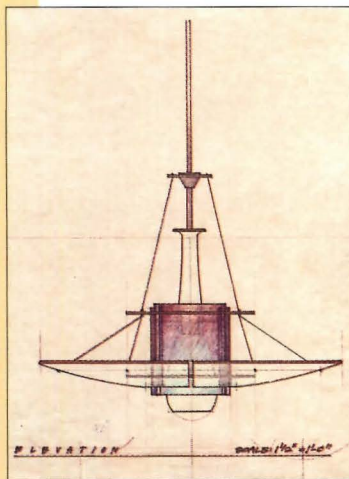
VIA, one of eight systems from Bruck, is a low profile track system that can easily change directions and elevations. Available in straight or curved segments, in chrome, matte chrome, or gold finish.



Bullseye technicians fused two different colors of sheet glass together in various combinations to create hundreds of samples from which the architects of DECA could choose. Toplit by metal halides, the iridescent glass elements create a chromatic effect (left and below).



ZGF Partnership designed a site-specific fixture (left and below) for the multilevel Everett Station "so that the glass reads as structure," says architect Greg Baldwin.



NASA photo of an exploding star. To match the color of the dying star, he chose the most expensive material, glass colored with the rare earth element praseodymium, a natural dichroic. A new technique of heating and slumping the glass outside a kiln was used to create the 167 irregular concave tiles attached to an aluminum frame. Inside, two metal-halide and two halogen lights altered the glass surface from dark red to light green.

Bullseye deemed the project a success (an auction of the chandeliers raised \$35,000 for the Portland Institute of Contemporary Art) and plans to do it again, but "within a budget next time," says executive director Lani McGregor. Several architects are incorporating glass in plans for current projects, which they might not have considered before, they say. "Now we know the sources and process and have connections with experts; it was a wonderful opportunity to experiment," Humphrey says. ■

Project: "Multiplied Light," The Bullseye Connection Gallery, Portland, Oregon

Architects: BOORA; DECA; Thomas Hacker Architects; Holst; RIGGA; Potestio Architect; ZGF Partnership

Fabrication: Bullseye Glass Company

www For more information on the people and products involved in this project, go to Lighting at architecturalrecord.com.

Cascading light boxes juxtaposed with mirrored surfaces raise the curtain on drama at Miami's Rumi supper club

By William Weathersby, Jr.

Like moths to a flame, people are attracted to light," says architect and lighting designer Scott Kester. With partner Nancy Mah, he has perfected the sophisticated balance of darkness and illumination at restaurants and clubs that seems to draw the heat-seeking genera known as "night crawler" and "social butterfly." At hip New York nightspots Sushi Samba and Lotus [RECORD, September 2000, page 199], the duo has orchestrated lighting, textural materials, perspective, and scale to establish rooms brimming with exotic ambience.

Adapting their flair for Miami's South Beach nightlife culture, Mah and Kester recently designed the supper club Rumi. Named for the 13th-century mystic Jalal ad-Din ar-Rumi (an obscure reference perhaps lost on patrons even after they hear his poetry read by Madonna over bathroom speakers), the long, narrow space might be dubbed "rumba

meets retro." Caribbean-inflected vernacular details include resin tabletops inlaid with crab shell, ebonized-mahogany and goatskin bar tops, and basket-weave panels formed from shards of coconut shell. Yet a midcentury Modern aesthetic overlays the space: Low, curvaceous banquettes, walls clad with faceted mirrors, and a palette steeped in gold, navy, oxblood, chocolate brown, and copper recall the beach resort's golden age.

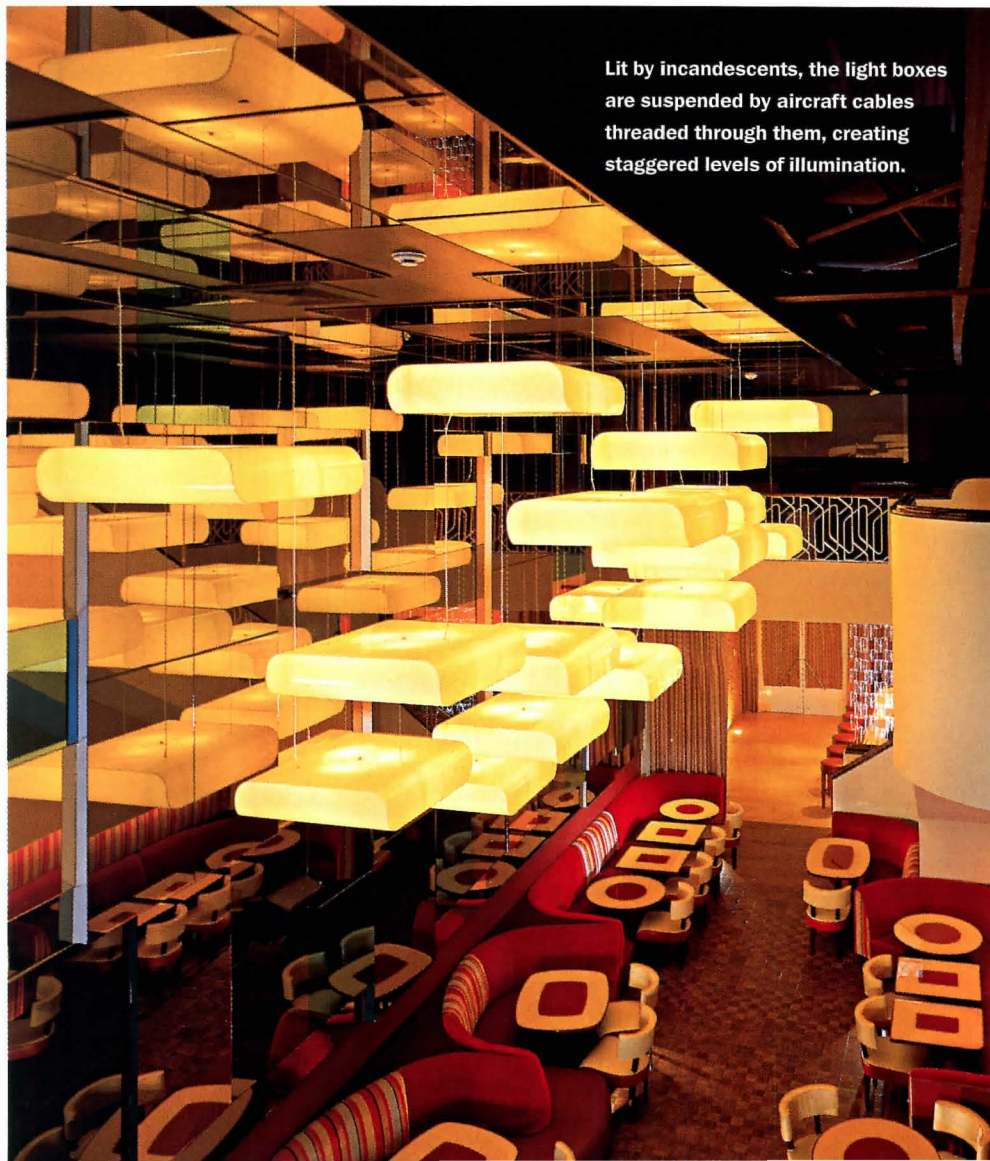
"With Rumi we wanted to bring back the lost elegance of nightclubs and ocean liners of the '30s and '40s," Mah says. "Our inspiration came from French designers of that period, but updated with modern fabrication techniques." Adds Kester, "We rely on custom interior finishes and furnishings for every project. It is a parts and assembly approach, with custom tables, lighting, banquettes, wall screens, every element working together." At Rumi, for example, adjustable silk-screened tabletops are lowered from dining- to cocktail-table height as the evening progresses, while mezzanine banquettes feature integral sconces punctuating the fabric upholstery.

Alumni of the Rockwell Group in New York, where they worked on a variety of restaurant projects before launching their own studio, Mah and Kester are well versed in lighting techniques that can spark liveliness in dining spaces. Trained in architecture and art history, Kester developed a special interest in lighting fabrication and design

and leads most of the firm's lighting projects. "The contrast between light and dark plays a crucial role in the use of color and how a restaurant is defined," he says. Mah, who studied design at Parsons but honed her craft largely on the job within the cross-pollinated worlds of restaurants, events planning, and museums, notes that "Rumi is an environment experienced only at night, so light levels remain low and are meant to flatter. Throughout, shiny surfaces and rounded corners catch the light."

The dimensions of the Rumi building, formerly a storefront backed by a warehouse on Lincoln Road, sent Mah's thoughts sailing back amid the romance of classic ocean liners. Approximately 140 feet long by 17 feet wide (a bit broader at

Project: *Rumi, Miami*
Architect, interior and lighting designer: *Nancy Mah Design—Nancy Mah, Scott Kester, principals*



Lit by incandescents, the light boxes are suspended by aircraft cables threaded through them, creating staggered levels of illumination.

Contributing editor William Weathersby, Jr., edits the lighting and interiors sections for RECORD. He lives in Westport, Conn.

Striplights graze the textured-brick wall and tile bar front near the entrance (left). Upstairs (right), sconces built into banquettes glow beneath the illuminated ceiling.



22 feet wide on the mezzanine level), with a height of 24 feet, “the space had a verticality and length that called out for emphasis,” Mah says.

The centerpiece of the main dining room is a cascading Modernist chandelier that fills the length of the space. Elegantly sculptural, like a mobile grazed by moonlight, the chandelier is the “Big Design Move,” Kester says. Patrons who proceed from the front bar at the entrance are dazzled by the layers of light emanating from the 15 light boxes ascending through the air. Meanwhile, people seated on the mezzanine have a dramatic bird’s-eye view of the light sculpture aimed at alleviating any feeling of social banishment from the main floor. Areas to the side of the main room, plus a 5-foot-tall, blacked-out void above the chandelier, are kept relatively dark to create “an arena effect, with a focal point in the center and light fading as you move away,” Kester says.

Mirrored surfaces on the wall behind the chandelier and along part of the ceiling create the illusion that the light boxes extend within a more expansive volume. The smoky, mirrored panels randomly alternate between dark gray, bronze, and blue tints to vary reflections and depth.

Technically speaking, the chandelier takes low-tech toward high style. “The materials are stock items used in a different way,” Kester says.

“With custom specifications, it’s easier for on-site contractors and fabricators to understand how simple components go together.” Each light box is a curved wedge of Plexiglas measuring 36 inches square with a depth of 10 inches. With three incandescent lamps per box, the units are each suspended by three aircraft cables, which thread through the staggered layers of boxes. For maintenance access, each light box has an access panel, “like reaching into the top of a cookie jar,” Mah says.

In the mezzanine bar, the light-box strategy goes from sculptural to flat and monolithic: A ceiling of overlapping Plexiglas panels is backlit by gelled neon like an amber canopy. Neon and striplights illuminate the textures of walls and bar cladding, while tall banquettes envelop patrons who want a more discreet ringside seat. Internally lit cocktail tables, also custom designed, punctuate Mah and Kester’s light touch. ■

Sources

Striplights: *Starfire*

Floor lights: *Martini*

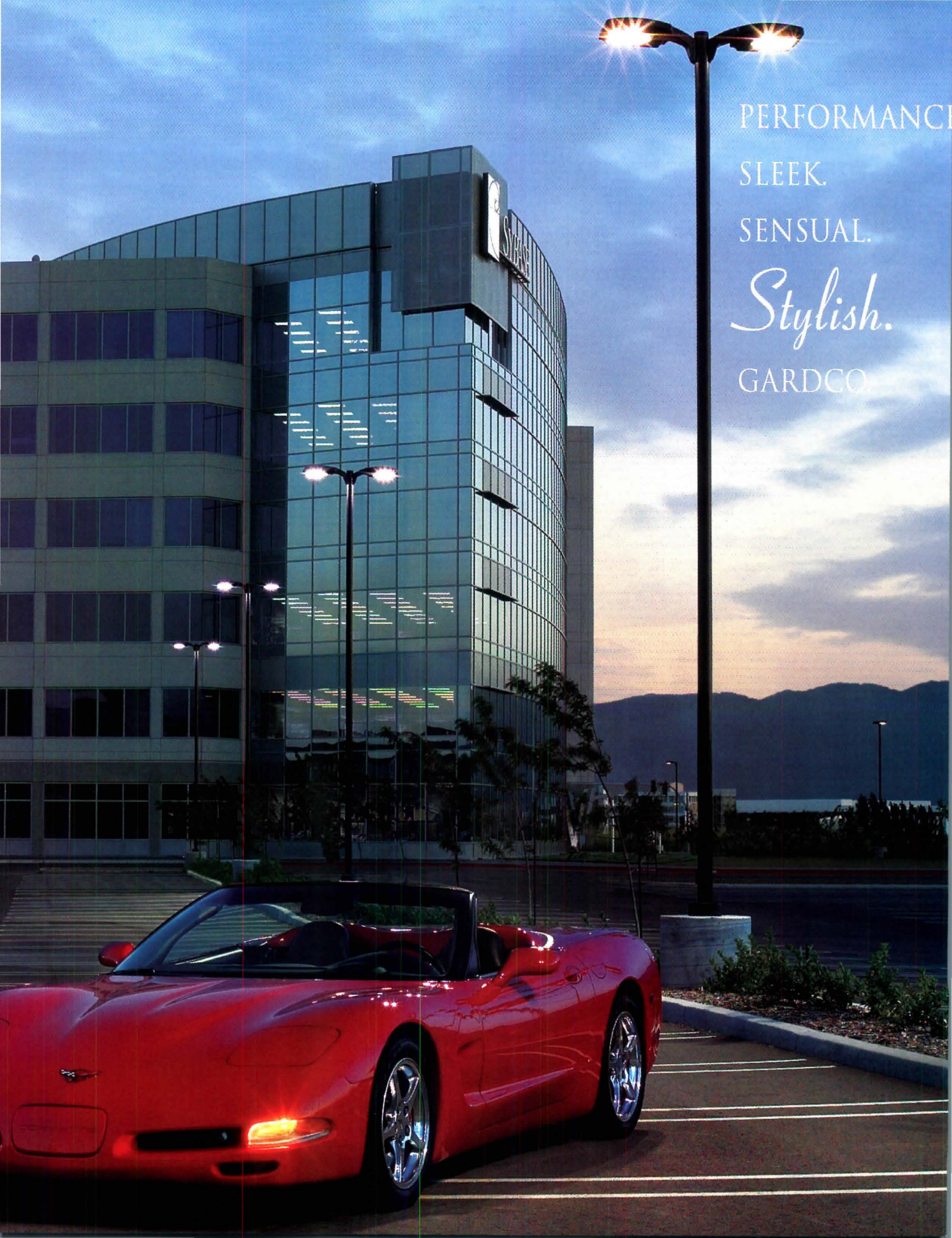
Downlights: *Lightolier*

Step lights: *Lumière*

www For more information on the people and products involved in this project, go to Lighting at architecturalrecord.com.



Overlapping layers of Plexiglas create a geometric canopy in the mezzanine. Backlit by neon, the ceiling meets a wall clad with mirrors to extend the perspective. Striplights outline the edge of the bar top.



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Caution: HID-dimming equipment ahead

HID-DIMMING SYSTEMS CAN SAVE ENERGY, BUT DESIGNERS SHOULD VERIFY MANUFACTURERS' CLAIMS

By Lindsay Audin

The latest wrinkle in lighting-energy management is the introduction of industrial-size dimming equipment to control high-intensity-discharge (HID) lamps. These systems are used in large-scale interiors, like warehouses and exhibition halls, and

for exterior applications, like parking lots and street lighting. Cost savings within reasonable payback periods can be achieved, but architects and lighting designers thinking of specifying these systems should consider the other possible consequences, including shorter lamp life than usual and diminished color-rendering quality.

How dimming systems save

Up until a couple of years ago, the strategy used to save energy in most large-scale indoor HID systems was to turn lights down when spaces were not occupied. For existing spaces, each light fixture had to be retrofitted with a bilevel ballast that had an infrared motion sensor. If no movement in a space was detected for a preset period of time, the sensor would switch the light level back to its low setting, cutting wattage and light output. Energy savings of 25 to 40 percent could be obtained, depending on lamp type. The labor required to retrofit a high-bay system with such equipment was expensive because this lighting is typically located up high, making installation difficult.

Outdoors, lighting energy may be wasted because most fixtures are intentionally fitted with lamps that produce 40 to 70 percent more light than is necessary to compensate for "lumen depreciation." That's a problem that occurs when a fixture's output dims with use and as dirt builds up on its lens and reflector. This common practice boosts electric bills considerably. A dimming system can help by cutting the output of a group of new lamps with new or recently cleaned fixtures. Over time, brightness increases to compensate for lumen depreciation. This can cut the electric consumption of a lamp by 25 to 40 percent over its lifetime.

Two new HID-dimming-system products

Two vendors—Electric City, of Chicago (www.electriccityecc.com), and PowerTec, of Wilmington, North Carolina (www.lightlogix.com)—are now promoting new, advanced HID-dimming systems. These can be sized to handle a range of loads. The equipment provided by both firms is similar. Their large, heavy electrical cabinets contain equipment that intercepts power and conditions it specifically for use in the lights. The units are typically located at floor level in utility rooms near a building's main service panels, not within the light fixtures. The cost is therefore much lower than it would be to buy and install a new ballast and sensor kit for each fixture

in a facility. The dimming mechanism may be remotely controlled and monitored through a building management system. Both vendors claim reductions of 20 to 50 percent in the lighting portion of electricity costs, without reducing essential light levels. While each manufacturer claims its



Inside a PowerTec dimming system.

equipment will pay for itself in two to three years, specifiers are advised to refer to their client's electricity purchasing contract when making these calculations rather than using average power prices. Under some contracts and tariffs, rates vary according to the time of day. Where a dimming system might be used to compensate for overbright street or parking-lot lighting, only cheap, off-peak power is likely to be saved, and this may lengthen the payback period relative to calculations using average power pricing. Costs for either system range between \$300 and \$1,000 per kilovolt-ampere (kVA) of lighting demand, depending on the number and size of the controllers. A system to control 200 fixtures of 400-watts each, enough for a 40,000-square-foot exhibition hall, would cost between \$20,000 and \$30,000. Electric City's equipment dims

lamps in increments, not continuously. PowerTec's system allows nearly continuous variability in its light-output settings.

Component longevity and color shifting

Both vendors claim their system extends lamp and ballast life, but designers are advised to verify this. Manufacturers have cautioned in the past that operating lamps continuously and at very low power will reduce life and increase lumen depreciation. All lamp manufacturers warn that dimming below 50 percent of rated power will likely reduce the lives of high-pressure-sodium and metal-halide lamps significantly, and if dimming levels are kept above 50 percent, there will be no appreciable extension of lamp life. It's also a good idea to reread what your HID lamp warranties may have to say about dimming these lamps.

When some HID lamps are dimmed, a significant color shift may be perceived, especially after roughly half of their useful life has passed. While generally not significant in warehouse applications, poor color rendering in an exhibition hall may unfavorably alter the appearance of displays. Philips Lighting's engineers have found that clear metal-halide lamps may suffer a 35 percent reduction in color rendering index (CRI) when dimmed; the CRI of coated metal-halide lamps is reduced by 15 percent. A Lighting Research Center study of dimmed high-pressure-sodium (HPS) lamps found that color degraded to the point that these lamps eventually appear similar to the very yellow low-pressure sodium, notorious for its inability to render color. ■

Lindsay Audin is the president of Energywiz, Inc. (www.energywiz.com), an energy and technology consulting firm in Croton, New York.

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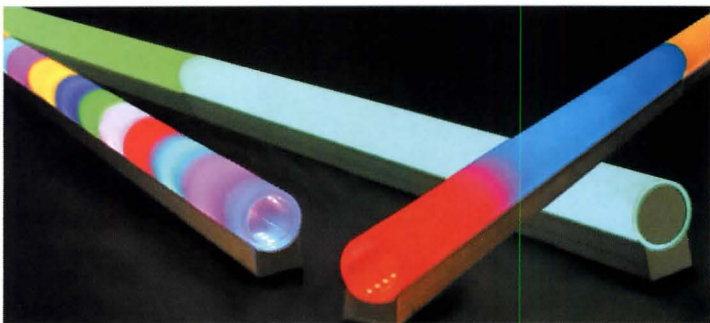
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Lighting solutions

Lighting Briefs

▼ Dreaming in color

Color Stream, the first product from newly formed Bright Lighting, looks like a fluorescent tube, but it changes color, generates patterns, and moves the patterns along the tube. The effect is created by a linear array of LEDs housed in a weather-proof tube suitable for interior and exterior applications. When multiple tubes are linked together, preprogrammed or custom effects cascade down the daisy-chained units. 512/834-2624. Bright Lighting, Austin. **CIRCLE 200**



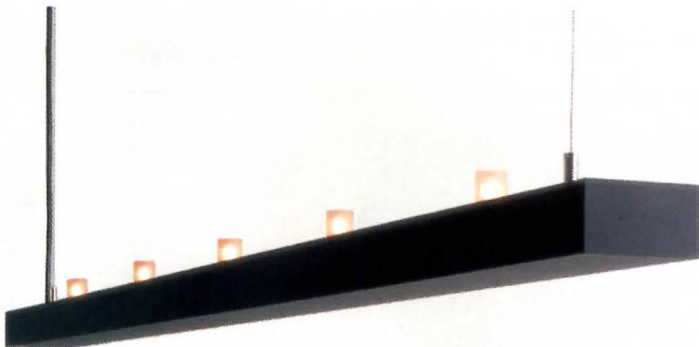
► Double helix

McGuire has expanded its collection of copper repoussé lamps by artist Robert Kuo. Repoussé, a hammering technique also known as chasing, is used to create decorative relief in metal. The Helix lamp design comes in either a table- (shown) or floor-lamp model. Both feature a square base with sharply concave sides that twist to form the neck. Each is paired with a dramatic squared, tapered shade in ivory linen or black lacquered parchment. The table design has a single lamp with a three-way switch, while the floor design is a double-cluster lamp. 414/626-1414. Kohler Company, Kohler, Wis. **CIRCLE 202**



◀ Retail lighting system

The Vertical Double Rail system was created by MP Lighting in response to a demand from retailers for an affordable system that could be versatile enough to illuminate wall displays, floor displays, cash counters, and ceilings. Two parallel copper-based, alloy-plated rails, one positioned above the other, are connected to moveable low-voltage lighting fixtures and pendants. 604/708-1184. MP Lighting, Vancouver. **CIRCLE 204**

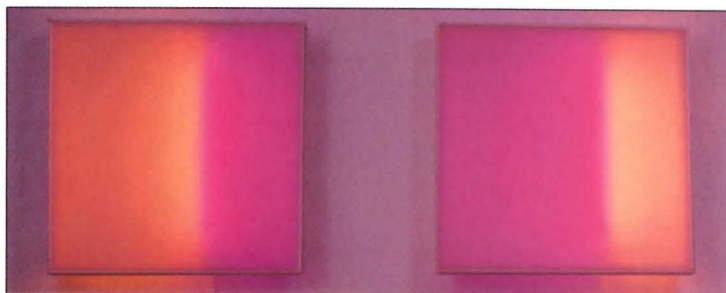


▲ Liteweight platform

Emily McLennan's Longlite features a narrow rectangular platform suspended from the ceiling at both ends by stainless-steel cables. The platform, aluminum with a nonreflective black coating, supports five widely spaced, quartz-glass chimneys housing low-voltage halogen lamps. Based on feedback at this year's ICFE show, McLennan is devising a variation with downlights recessed into the underside of the platform. 612/339-7746. Emily McLennan, Minneapolis. **CIRCLE 201**

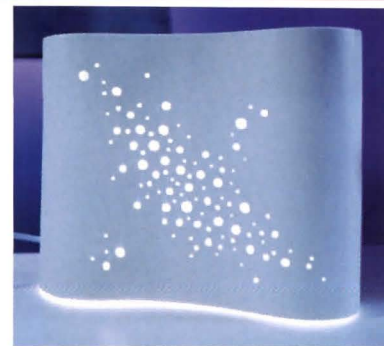
► Outdoor area/accent series

The Lumière Monaco Series was awarded "Best New Product of the Year" at Lightfair International 2002 held in San Francisco in June. The Monaco 2002 accepts the 30-watt metal-halide T4 lamp and the Monaco 2001 was designed around the 39- and 70-watt T6 lamp. The Monaco Series features a fully adjustable beam spread, from narrow spot to wide flood, ideal for field adjustment and eliminating the stocking of multiple lamp types. 805/484-7713. Cooper Lighting, Camarillo, Calif. **CIRCLE 203**

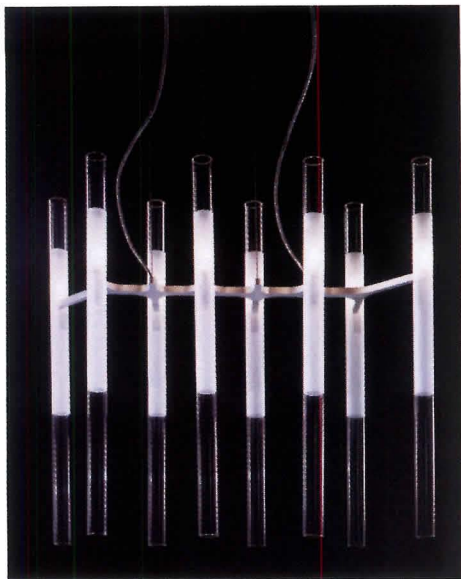


▲ Rainbows and stars

Introduced at the ICFE show in May, the Therapie lamp from the Montreal firm Snowlab was inspired by color and light therapy. Therapie comes in either a square or rectangular shape and features a stretched PVC canvas on an aluminum frame. The color effects are created simply by a 120-volt fluorescent tube and three basic interchangeable color acetates. The Bio lamps, also on display at the show, are made of nonenameled white porcelain. Thin rays of light from a 40-watt incandescent bulb escape from the perforations on the front and back of the lamps. 514/808-9483. Snowlab, Montreal. **CIRCLE 205**



Lighting Briefs



▲ Modern romantic

When she designed the Helen Chandelier as one of several custom fixtures for a client, Larissa Sand created a Modernist interpretation of the Romantic chande-

lier. "The objective of the design project was to distill the multifixture light to its essential elements and redefine a traditionally ornate object into a strong sculptural piece," says Sand. To accomplish this, Sand suspended slender tubes of lab glass on an armature of precision CNC machined aluminum. Eight partially etched laboratory glass tubes are pierced by the armature, which holds the 12-volt halogen light source. The glass is held in place by an internal spring mechanism, maintaining

the clean lines of the piece. Helen is part of a line of etched-glass and aluminum fixtures available through 100watt Network. 888/477-9288. 100watt Network, New York City. **CIRCLE 206**

▼ Whatever floats your boat

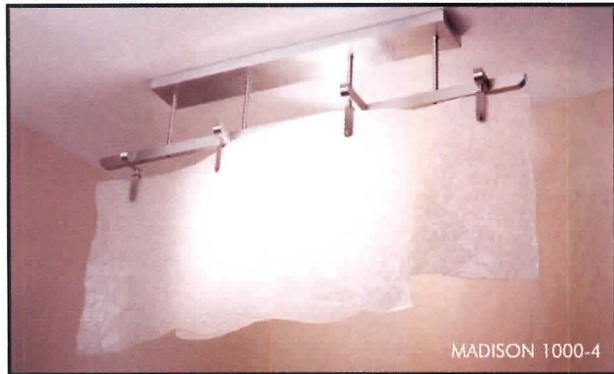
Launched at this year's ICFF, Lolah is a brand-new Canadian furnishings company that already has a history: For 60 years, Lolah's parent company has been designing custom interiors for the luxury yacht market. Therefore, it's not surprising that this new interiors company has a collection of products that utilize both the technology and the materials of the nautical industry. The Jube Jube lamp, designed by



Canadian Scot Laughton, is an adjustable halogen pendant featuring an earthenware ceramic body with a matte finish glaze. The lamp uses two 40-watt halogen bulbs and a 15' cable line current. The lamp is 13" long x 7 7/8" wide x 20" high. Jube Jube can be used alone or in a group of lamps. Lolah also offers an array of new tiles, tables, chairs, and accessories. 800/909-8233. Lolah, Toronto. **CIRCLE 207**

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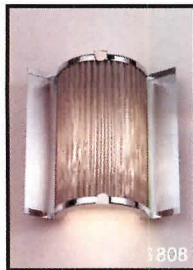
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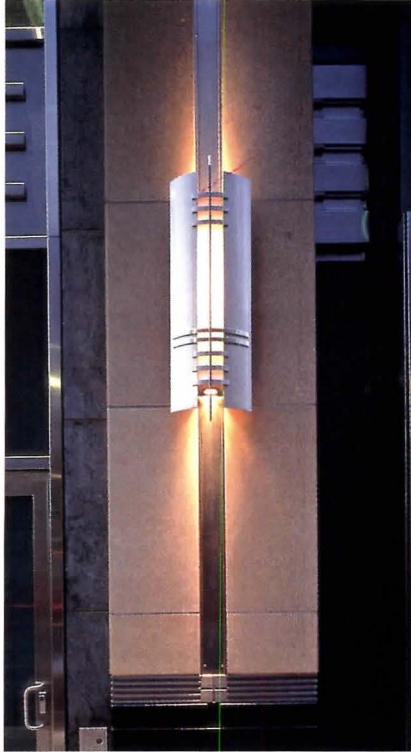


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Lighting Briefs

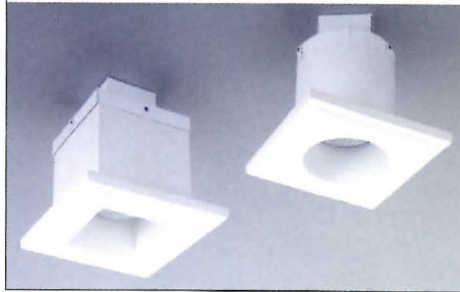
► Aluminum fixtures

Fifteen sculptured aluminum light fixtures designed and built by New Metal Crafts illuminate the new 18-story office building at 550 W. Jackson Boulevard in Chicago. The 5' x 18" lamps have combination polished and satin-finish curved aluminum-plate face panels with vertical fins at the center and eight horizontal ribs across. An acrylic panel that emits light down the front of the lamp is hinged for easy relamping. Each fixture is lit by two 17-watt T8 fluorescent lamps and two 40-watt Par20 up and down lamps housed in a weather-proof aluminum back box. 800/621-3907. New Metal Crafts, Chicago. **CIRCLE 208**



▼ Not just another hole in the ceiling

Engineered Lighting Products' new Hole in the Ceiling downlights are offered in three sizes, with round or square 4½", 6", and 8" apertures. Once installed, the fixtures actually appear to be a part of the ceiling and look like a custom-formed drywall



"light niche". There is no visible metal or trim in the normal viewing angle, and the design provides a 45 degree visual cutoff for the lamp. 626/579-0943. Engineered Lighting Products, El Monte, Calif.

CIRCLE 209

► Wireless radio frequency technology

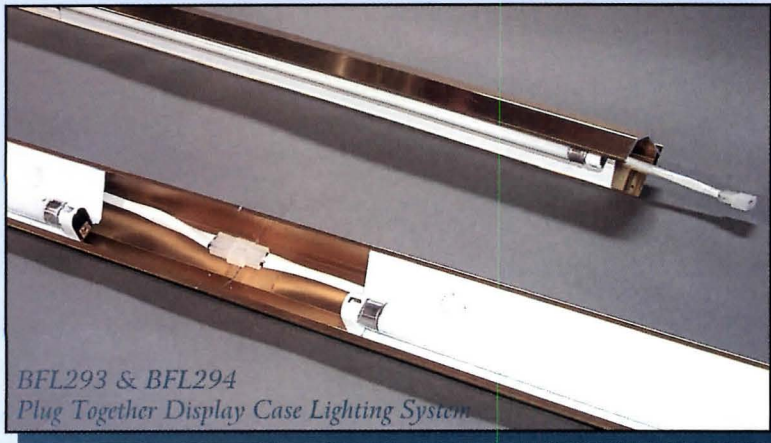
RadioLink, Vantage's new wireless RF system, provides a completely integrated automation system for residential and commercial use. A single RadioLink system handles up to 15 controllers and provides error-free transmissions as far as 100 feet. With RadioLink, small transceivers are built into each component and control not only lights but audio/video, draperies, blinds, security, heating, cooling, and more. 800/555-9891. Vantage Controls, Orem, Utah. **CIRCLE 210**



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New Products

New cast-glass textures, long-span acrylic, safety interlayers: **glass and glazing** technologies are always evolving. Starting on December 13, glass fans can visit **"From Tiffany to Stephen Holl: American Glass and Design from 1900–2000"** at the American Bible Society in New York City. The work of glass artists such as Ellen Mandelbaum (whose work is shown on these pages) will be on display. *Rita F. Catinella*

Crumpled paper texture is the newest addition to cast-glass family

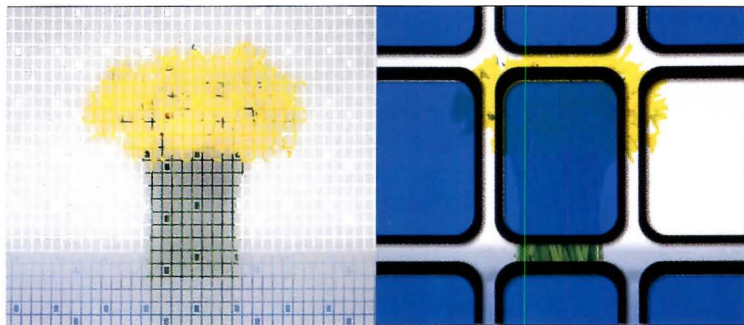
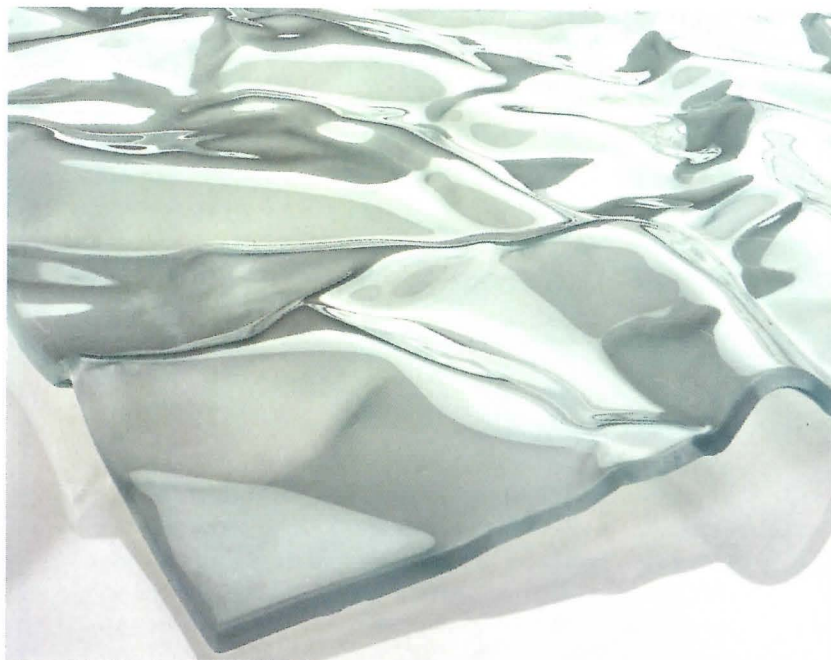
After two years of research and design, Joel Berman Glass Studios has developed new casting methods for three-dimensional molds. The latest addition is the Arrigado texture, an abstraction of folded paper that can be developed as a clear, frosted, matte, or colored sheet in any Pantone color. The product is available either in thermal formed plastic or in tempered, laminated, or annealed glass.

Joel Berman Glass Studios uses a process of recycling and reusing tempered glass that traditionally cannot be processed any further, according to company design director and president Joel Berman.

Since the glass is both struc-

tural and functional, it can be used for indoor and outdoor partitions, boardroom walls, office side-lite panels, curtain walls, and signage. The corrugated sizes range up to 5' x 10', with 12' available for some configurations. Pattern directions include both horizontal and vertical. Arrigado is offered in 42" x 98", 48" x 102", and 32" x 102" sheets. If nontempered, almost any size is available.

Arrigado joins a family of products that includes textures similar to corrugated sheet metal and corrugated cardboard. A line of table accessories will be launched this fall. 888/505-GLASS. Joel Berman Glass Studios, Vancouver. **CIRCLE 211**



Compendium of standard glass options

Skyline Design's G Glass Compendium, created in collaboration with architects, includes two collections of five patterns each with 11 options available to alter scale, texture, translucency, finish, and color. To help architects visualize more than 100 options, Skyline developed a unique Web-based specifying tool. The site displays 10 patterns, allowing the user to choose from available options and then view the option selected in an actual

installation. Designers can store their selections in an online sample library and e-mail favorites to their clients for approval. Patterns include both geometric and organic variations; new patterns are to be added yearly. All large-scale sandblasted patterns are protected by Skyline Etch Sealer. The palette includes red, blue, green, yellow, orange, and black, and the glass is available in 1/4", 3/8", 1/2", or 3/4" thicknesses. 888/278-4660. Skyline Design, Chicago. **CIRCLE 212**

Large-span acrylic sheets add possibilities

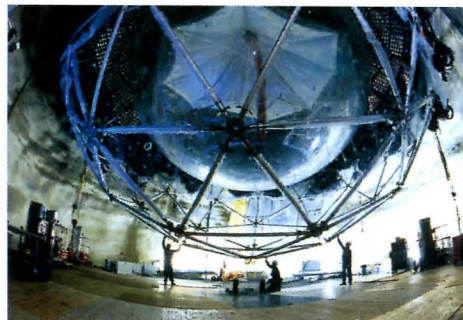
Known as a manufacturer and installer of cast-acrylic windows for aquariums and marine parks, Reynolds Polymer Technology can also use its single-pour casting method to manufacture crystal clear acrylic in almost any shape, size, and color for an array of other architectural projects.

Customers of monolithic acrylic sheet have countless sizes from which to choose, since the sheet is custom fabricated for specific projects.

Options include sheet sized in any dimension up to 27 1/2' x 10' and in thicknesses from 1 1/2" to 40". Reynolds can also chemically bond acrylic panels together, in the factory or on-site. Varied surface treatments for

different effects are available, and acrylics also provide weatherability and optical clarity for a light-piping effect.

For the SNO Sudbury Neutrino Observatory in Sudbury, Canada (shown below), Reynolds created a seamless acrylic sphere 40' in diameter, for astrophysics research. 800/433-9293. Reynolds Polymer Technology, Grand Junction, Colo. **CIRCLE 213**



New Products



◀ Rainy glaze

Nathan Allan's cast-glass products are used in hotels, offices, and custom homes. Recent installations include this entry foyer feature wall for the Rivers Reach condominium project in British Columbia. Half-inch-thick glass lites are pin-mounted over a river-rock wall with stainless-steel mounting rods that are deep set through the rocks into a concrete wall. The lites feature a Rain texture that simulates a water flow over the rocks into a "creek" on the floor. 604/277-8533. Nathan Allan Glass Studios, Richmond, British Columbia. **CIRCLE 214**

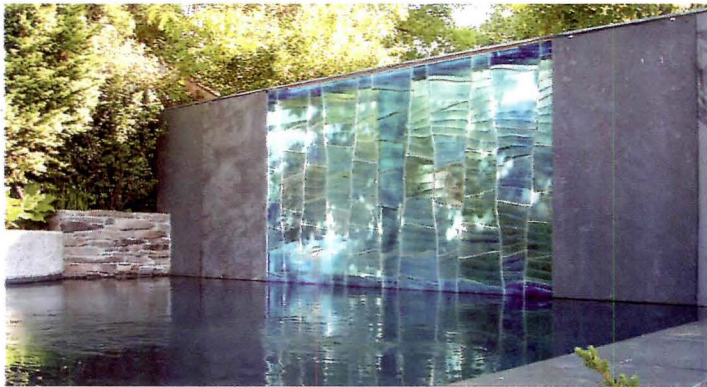


◀ Cool glasses

Solarcool Solex glass (left) combines reflective Solarcool coated glass and light green Solex tinted glass in a single product that provides interior glare control while transmitting visible light. PPG claims that Solarban 80 coated clear glass (insert), in a 1" insulating unit, has the best balance of high visible-light transmittance (47 percent) and low solar-heat-gain coefficient (0.23) in architectural glazing today. 800/377-5267. PPG Industries, Pittsburgh. **CIRCLE 215**

▼ Vertical pool of glass

A collaboration between landscape designer John Thompson and SWON Design, this 7' x 10' glass wall was designed to simulate the movement of a pool of water and visually integrate with the overall design of a Toronto residential landscape. Each of the 77 glass blocks, approximately 1" thick, are individually cast using graphite molds. As the sun moves, it changes the color transmitted and the reflective values of the wall. 866/285-4096. SWON Design, Sutton, Quebec. **CIRCLE 216**

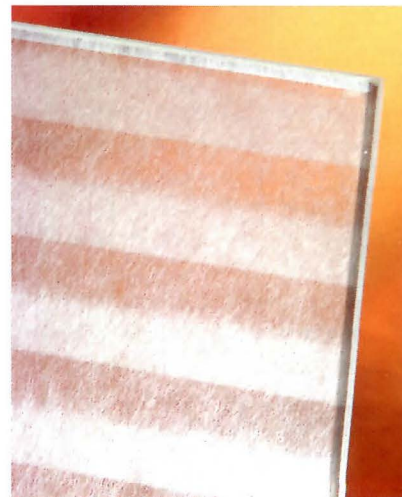


▲ Open for interpretation

Located in Hartsdale, New York, the Marion Woods project is an adult home and chapel for five orders of nuns that features 28 stained-glass windows designed by artist Ellen Mandelbaum. Rather than illustrating literal narrative imagery, the chapel's stained glass features abstract forms inspired by the landscape and changes of light and season. 718/361-8154. Ellen Mandelbaum, Long Island City, N.Y. **CIRCLE 217**

▶ Metallic interlayers

While exploring the possibilities of creating a metallic interlayer for glass, Solutia's technology team discovered a way to add texture to the glass at the same time. This special metallic interlayer can also be combined with Solutia's range of 10 Vanceva Design color hues. The three textures within the Metallic Series include the fine fabric look of Linen, the subtle geometric effect of Honeycomb, and the grainy look of Sandstone. 877/674-1233. Solutia, St. Louis. **CIRCLE 218**



◀ Quick safety glass

Bendheim's new product line, Quickship, includes 14 varieties of an architectural safety glass that conforms to building safety codes. Bendheim claims that Quickship is the first line of laminated glass fabricated to the customer's requested dimensions and shipped within two weeks at volume pricing. At the core of the line are three popular Bendheim products: Laminated Rice Paper, Laminated SatinTech, and Laminated Tuxedo. 800/835-5304. Bendheim, New York City. **CIRCLE 219**

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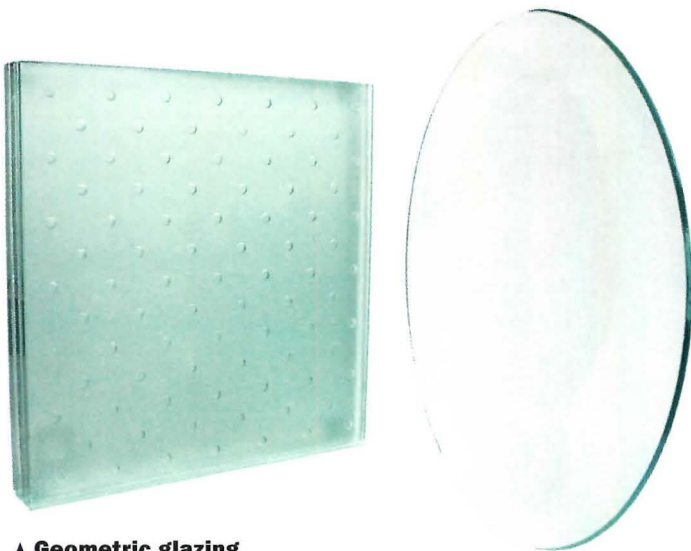
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New Products



▲ Geometric glazing

The Raindrops glass tread (above left) features layers of laminated, tempered glass bonded together. The surface layer is acid-etched to increase slip-resistance, and different effects can be achieved by applying a frit layer, spandrel coating, or mirrored film. The Cumulus circular glass (above right) is a sheet of tempered glass curved into a lens form. The glass is first heated to the optimal temperature required for the forming of the curvature and then tempered after it takes shape. 718/599-0350. UAD Group, Brooklyn, N.Y. **CIRCLE 220**

▼ Laminated-glass awards

Celebrating its 10th anniversary, the DuPont Benedictus Awards is an annual competition to recognize innovative architectural uses of laminated glass. The winner of this year's award was the Talus du Temple glass pavilion (below), a small summer residence in the Burgundy region of France designed by Dirk Jan Postel of the Netherlands. The TGV train station (right) in Avignon, France, received a special recognition. 800/872-5001. Dupont Benedictus Awards, Washington, D.C. **CIRCLE 221**



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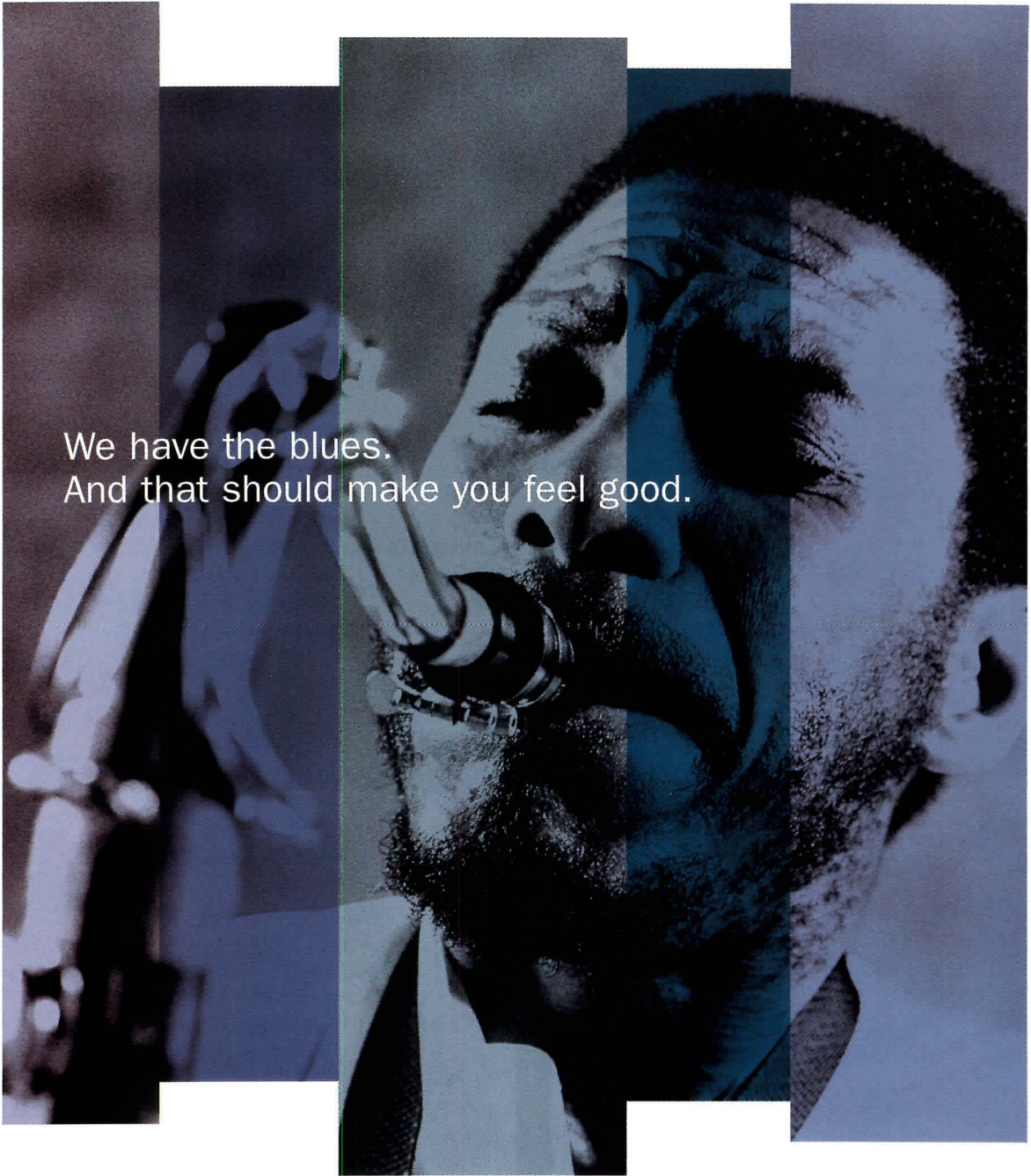


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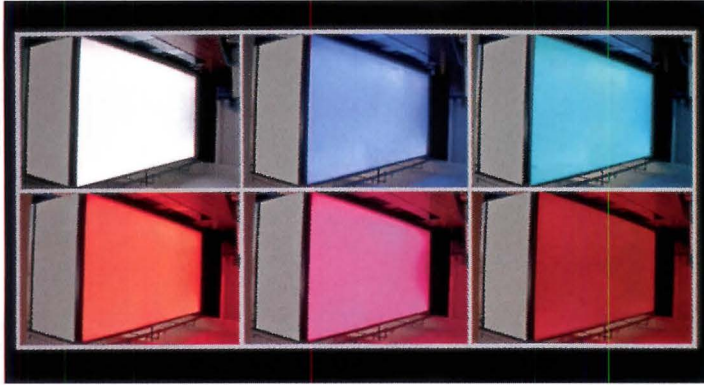
Versalux Blue is now available in 10mm thickness.

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New Products

▼ Wall of light

ChromaTransFusion is a system from Cesar Color that enables designers to create walls of pure, colored light that can be programmed to emit any color in the spectrum, changing slowly from one color to the next. ChromaTransFusion was developed using a Cesar Color process that involves the bonding of a proprietary interlayer material between two layers of safety glass. The frosted interlayer is able to evenly distribute a light source cast upon the glass edges, so that the entire surface area glows. The system is available in panels up to 5' x 12' that can be ganged together to form a wall. 800/275-7272. Cesar Color, Phoenix. **CIRCLE 222**

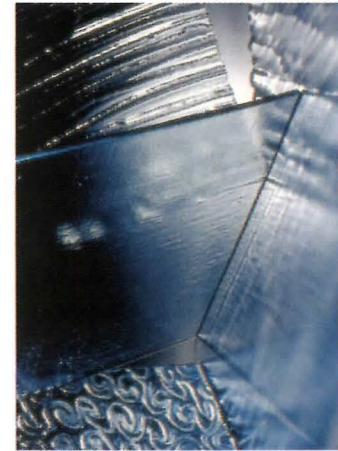


▼ 3D glasses

UltraGlas handcrafted architectural glass can be sculpted into an extensive array of translucent, three-dimensional designs. Ideal for a number of applications, the material can be specified in any of 12 glass colors or finished in virtually any specified color or color combination. Shown below is UltraGlas with a squiggle pattern, linen surface texture, and UltraSwirl design texture. 818/772-7744. UltraGlas, Chatsworth, Calif. **CIRCLE 224**

▲ Adding texture

Pilkington has released three new patterns in the company's Texture Glass product line: Matrix (shown), Staccato, and Strata glass. Ideal for partitions, glass inserts, shower doors, and other applications, all three additions are available in standard sizes and in either 1/2" or 3/4" thicknesses. 419/247-3731. Pilkington North America, Toledo. **CIRCLE 223**



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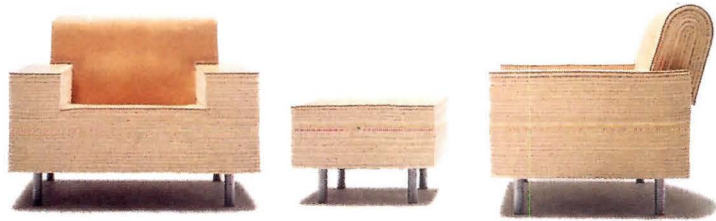
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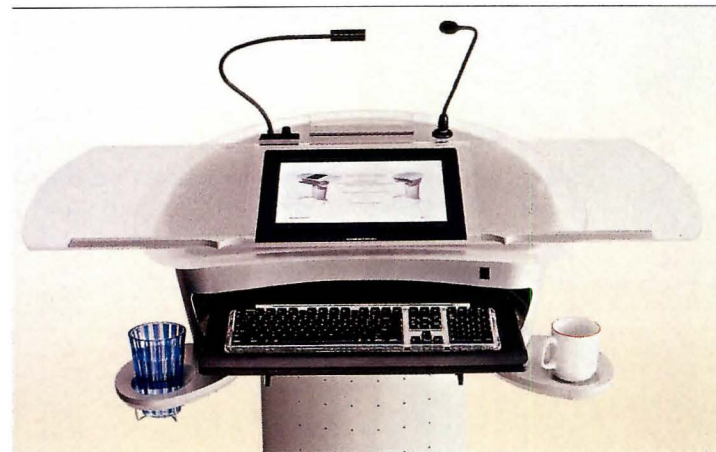
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Product Briefs



▲ Felt better

Introduced during NeoCon in Keilhauer's new showroom designed by Toronto firm Yabu Pushelberg, the Felt chair attracted a lot of attention. Designed by Canadian Brent Corder, the chair consists of an internal structure of steel, over which layers of felt are folded and finally covered in leather. The chair is constructed entirely of all natural and/or biodegradable materials, and features naturally dyed leather. An ottoman is also available. 800/724-5665. Keilhauer, Toronto. **CIRCLE 225**



▲ Watch out all sleeping students

Developed in collaboration with the Wharton School of the University of Pennsylvania, the Wharton Lectern from KI features electronic height adjustments and a panel to manipulate room lighting, audio, and video. The user can access the Internet and LAN directly from the lectern, control cameras located in the room, and store "user preferences." The lectern is suited for college and university markets, corporate auditoriums, large training rooms, and conference facilities. 800/424-2432. KI, Green Bay, Wis. **CIRCLE 227**

► Faster flooring

Trac-Loc is Wilsonart's new laminate flooring installation system for commercial interiors. The system consists of an aluminum track onto which laminate flooring planks or tiles are inserted and locked into place without glue. The system allows the floor to be quickly reconfigured or taken apart piece by piece and reused at another site. More than 4,000 square feet of flooring per day can be installed using Trac-Loc. 800/710-8846. Wilsonart Flooring, Temple, Tex. **CIRCLE 229**



Product of the Month **McDry**

Usually, a urinal that doesn't flush is a problem. But in the case of McDry, Duravit's new waterless urinal, that is all part of the design.

The McDry urinal functions according to a simple principle: a specially developed sealing liquid that has a specific gravity lighter than urine fills the ceramic siphon of the unit to keep odors away. The liquid, McDry Blue, is largely biodegradable and

sufficient for at least 5,000 uses. Renewing the liquid is quick, hygienic, and requires no physical contact.

The convex, hygienic rear wall, ceramic material, and lack of a flushing rim make the urinal easy to clean. Duravit recommends a special cleaner for daily maintenance and advises occasionally emptying a bucket of water into the urinal for a more thorough cleaning. McDry's droplet shape prevents dirt and bacteria from building up, and the product is completely contact-free for the user—a hygienic benefit that extends far beyond the Men's Room. 888/DURAVIT. Duravit USA, Duluth, Ga. **CIRCLE 226**

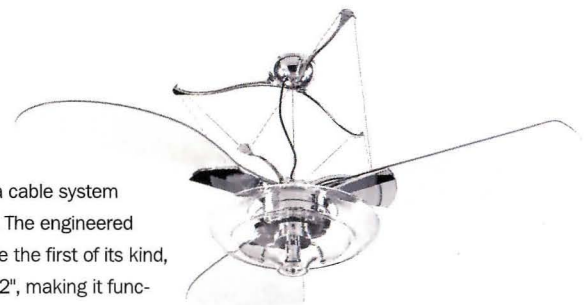


▲ Zinc composite cladding material

The Ontario architectural firm B.H. Martin Consultants is one of the first in the world to clad its designs in Alcoa Cladding System's new Reynobond Zinc Composite material (ZCM). The firm used the material as part of a wood and glass facade for the Shania Twain Centre in Timmins, Ontario. Approximately 5,000 to 7,000 square feet of ZCM were used to fabricate the panels. 770/840-6456. Alcoa Cladding Systems, Norcross, Ga. **CIRCLE 228**

► Floating fan

Like its namesake, the Jellyfish fan is also an invertebrate, foregoing the typical down rod for a cable system that lets it float in the air. The engineered suspension, claimed to be the first of its kind, is adjustable from 6" to 72", making it functional for both high and low ceilings. The fan features a standard crystal-clear glass body, mouth-blown in the Murano technique, and three transparent blades. 800/443-4626. Quorum International, Fort Worth. **CIRCLE 230**



Product Briefs



▲ Tall or short order

The Latte chair, launched by Arconas at this year's NeoCon, is available in two versions: a stacking chair and a bar-height chair. Latte stacks six high and provides a complementary look for dining to bar areas. The chair is finished in clear maple and five other translucent finishes, including Espresso, Berry Frappa, Curaçao Blue, Green Tea, and Mochaccino. Latte's silver epoxy-coated frame is constructed of welded tubular steel. 800/387-9496. Arconas, Mississauga, Ontario. **CIRCLE 231**

► Clay roof tiles

U.S. Tile has introduced Montoro genuine clay roof tiles to the U.S. market. Manufactured in Australia by Boral Montoro, the tiles have a water absorption of less than 6 percent and are guaranteed safe for use in areas subject to repeated freeze-thaw cycling. The two-valley shape of the French profile is shown above in a full ceramic-glaze finish in ebony. The tiles are also available in a Tuscan profile. 800/252-9548. U.S. Tile, Corona, Calif. **CIRCLE 232**

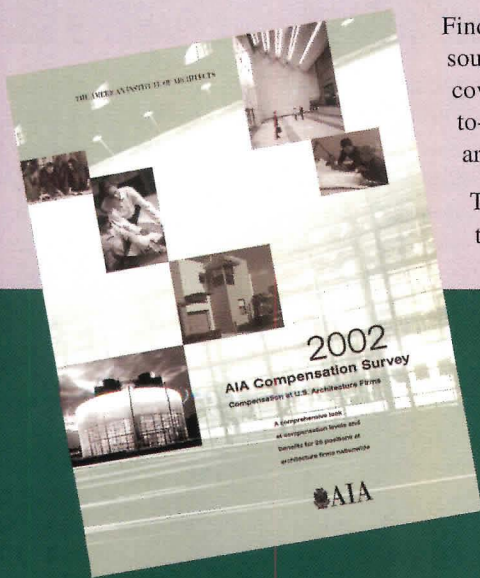


◀ Natural shades

Conrad introduces the Sunne collection of handcrafted sunshades. This collection joins palm leaves with hand-tied flax strands, wild mulberry, and other select fibers. Conrad shades are individually handwoven to size and available in over 50 weaves of natural fibers, with sun control, privacy, and motorization options. The shades can fit any size window, including arches and angles. 415/626-3303. Conrad, San Francisco. **CIRCLE 233**

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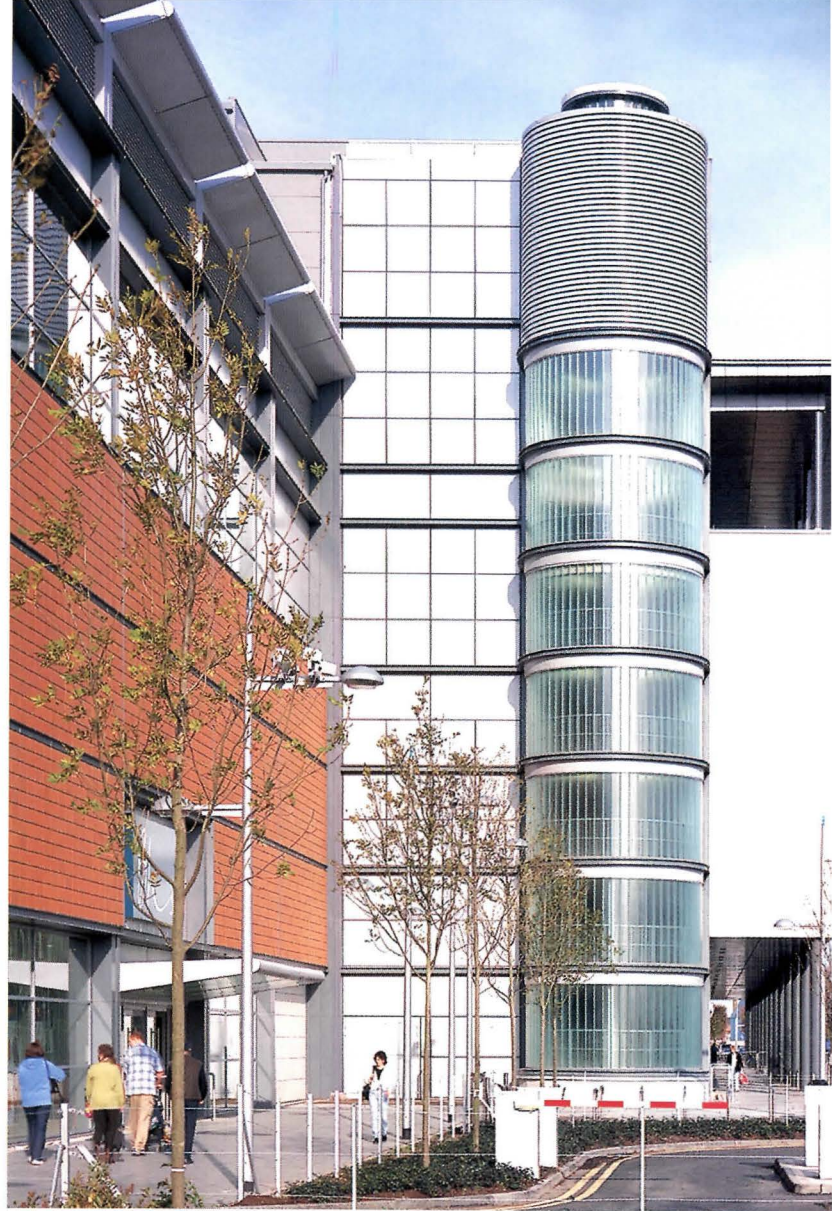
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Product Briefs

▼ Stylish storage options

Spacesaver's new Designer Series program incorporates all visible surfaces, from end panels and handles to aisle-identification cardholders, and is available with any of Spacesaver's mobile storage systems. The series offers an upper panel that can be fabricated of almost any material—from steel, brushed aluminum, or formed-and-contoured acrylic to wood veneer with crown molding—that can be easily changed when needed. Surfaces can also be fabric-covered, laminated, or matched to other furnishing finishes. 800/492-3434. Spacesaver, Fort Atkinson, Wis. **CIRCLE 234**



▼ Taking warming ovens out of the kitchen

Dacor has taken a luxury normally found in the kitchen—the warming drawer—and introduced it to other areas of the home. Dacor's new warming oven (IOW024) can be used indoors or outdoors, in wet or dry areas. Used in the bathroom, it can keep towels or sleepwear warm for after showering or bedtime. Outside, the warming oven can complement a built-in outdoor grill to keep items warm until ready to



serve, or to keep towels warm after a lap in the pool. The warming oven fits four bath towels, two beach towels, one over-size terry-cloth robe, or four dinner plates side by side. An integrated drawer front allows a custom panel to match the overall look of kitchen, bath, or outdoor cabinetry. The temperature settings range from 100 to 200 degrees and are safely concealed behind the drawer panel. 800/793-0093. Dacor, Diamond Bar, Calif. **CIRCLE 235**




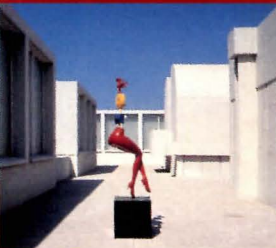
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Friedfeld, Joan Maly, Barcelona, Spain, 2002; AIA Twenty-Five Year Award recipient, architect; Bill Jackson and Associates, photographers; Ferran Frutos, Jaume Jansana, Marisa Frutier, and Jordi Trots.

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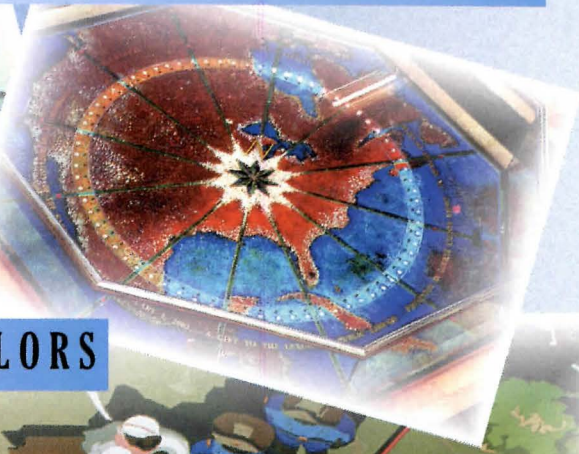
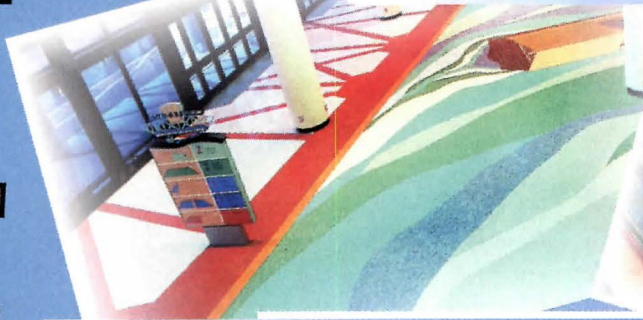


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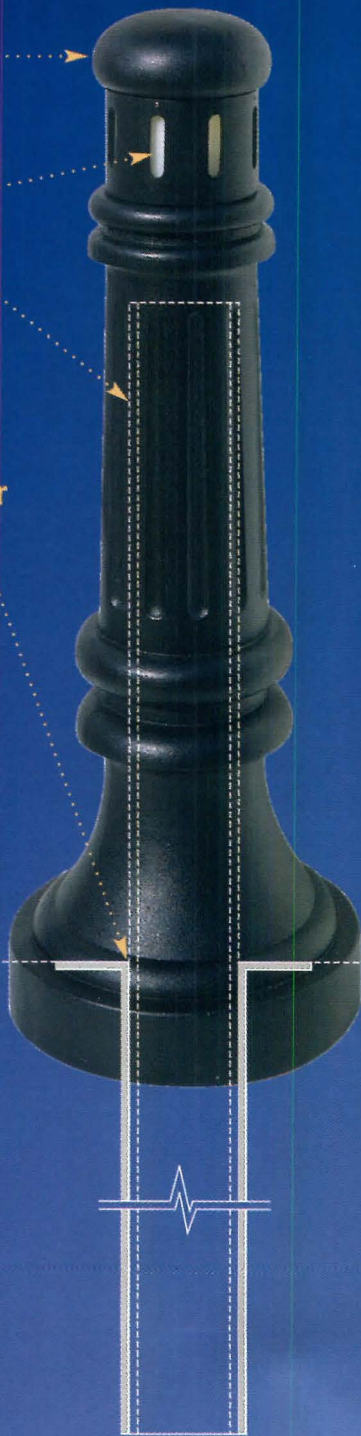
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Product Literature

Wood stain fan deck

Benjamin Moore has introduced a new color-selection tool, the Moorwood double-sided fan deck, to assist in the selection of exterior stain color. The new tool shows how the type of wood can influence the appearance of a stain. 800/672-4686. Benjamin Moore, Montvale, N.J. **CIRCLE 236**

Guide to New York

The premier issue of *New York Design to the Trade* is a comprehensive source for the New York area's showrooms, manufacturers, and products. Designers and architects can request a complimentary copy. 561/620-3010. Direct Response Publications, Boca Raton, Fla.

CIRCLE 237

Flooring design

Congoleum Corporation has published the 2002-2003 edition of its *Design Book*, which presents the company's complete offering of residential and commercial resilient and laminate flooring products. 800/274-3266. Congoleum Corporation, Mercerville, N.J. **CIRCLE 238**

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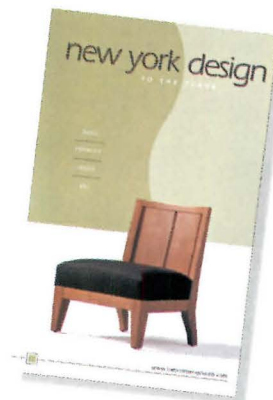
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Communication Systems describes custom solutions for door communication and security applications. 800/847-3353. Siedle Communications Systems, Broomall, Pa. **CIRCLE 239**

Metal roofing brochure

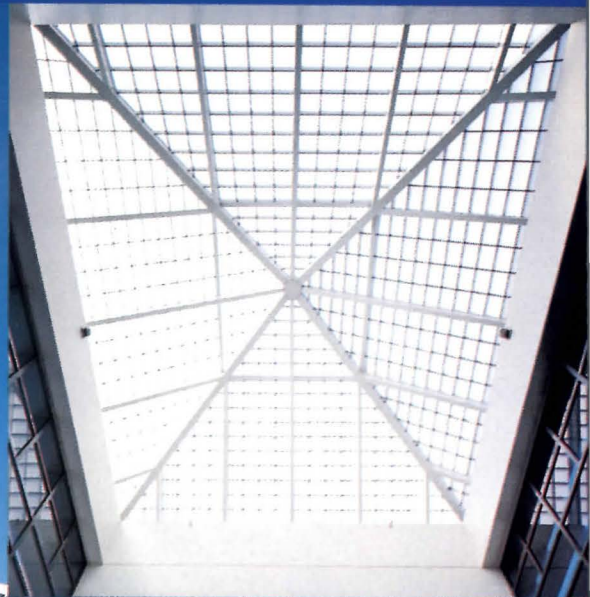
An eight-page brochure is now available from Petersen Aluminum Corporation describing the company's new Tite-Loc line of metal roofing panels. 800/323-1960. Petersen Aluminum Corporation, Elk Grove Village, Ill. **CIRCLE 240**



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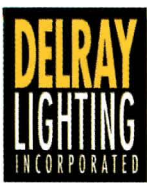
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Wausau Window and Wall Systems offers *Wausau's Windows on the Windy City*, a free illustrated information brochure on the company's contributions to the Chicago skyline. 877/678-2983. Wausau Window and Wall Systems, Wausau, Wis.

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Heavy timber brochure

Trus Joist offers a new eight-page brochure for the Parallam PSL Heavy Timber product line. Application and installation information is provided for this environmentally-friendly building material for heavy timber structures. 800/562-0931. Trus Joist, A Weyerhaeuser Business, Boise.

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Green commitment

An updated and expanded 16-page brochure from USG Corporation details the company's environmentally-friendly products and manufacturing processes. Entitled *Committed to the Environment*, the brochure closely examines the content and manufacturing process for two of the company's primary product lines: wallboard manufactured by United States Gypsum Company and ceiling panels

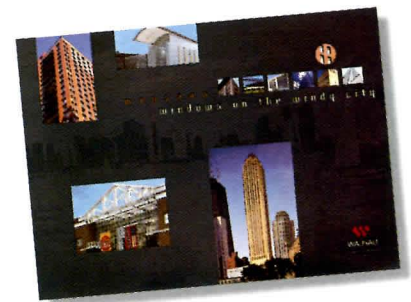
made by USG Interiors. The brochure also outlines USG's use of alternative resources—including recycled industrial materials, wastepaper, and renewable agricultural sources—to preserve natural resources and support clean air. 800/USG-4YOU. USG Corporation, Chicago. CIRCLE 243

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Timely catalogs

The 2002-2004 *Wall, Mantel, and Tabletop Clock* and the 2002-2004 *Floor Clock* catalogs are now available from the clock experts at Howard Miller. 616/772-9131. Howard Miller, Zeeland, Mich. CIRCLE 245



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Program title: **Facade Engineering Emerges as a Highly Specialized Science and a Striking Art Form, Architectural Record (08/02, page 163).** 08YEDITE

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The American-Scandinavian Foundation, ARCHITECTURAL RECORD, and The Architectural League present a lecture by architect **Mikko Heikkinen** of Heikkinen-Komonen, the well-known architectural firm located in Helsinki, Finland. Recent work by Heikkinen-Komonen includes the Embassy of Finland in Washington, D.C., and the Vuotalo Cultural Center in Helsinki.



Embassy of Finland in Washington, D.C., by Heikkinen-Komonen. Photo by Jeff Goldberg/ESTO

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Program title: **Plumbing Sensor Technology Brings Innovative Solutions To Bathroom Design (08/02, page 179)**

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Program title: **Design Techniques for Controlling Movement Stress in Partitions and Ceilings (08/02, page 185)**

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Patricia Gay: Working hard for preservation in the Big Easy

Interviewed by Ingrid Whitehead

Any major urban city in this country would be fortunate to have Patricia Gay at the helm of its preservation organization. As it happens, New Orleans has the luck. As executive director of the Preservation Resource Center (PRC) of New Orleans, Gay relies less on luck and more on hard work and persistence to convince developers, politicians, and the general public that urban revitalization and preservation of historic architecture and neighborhoods is crucial to the health and welfare of the Big Easy. Passionately committed to preservation, Gay has been with the PRC since its inception in 1974. She plays a big part in the organization's main focus—finding buyers for historic buildings.

Q: *How does New Orleans's Preservation Resource Center work with architects? I'd like to think that we're "friends of architects." It's buildings that give cities their identity, especially in New Orleans. We have many programs in place to inform people about architecture—programs such as "Where They Lived," which is an initiative to inform the public about historic houses once occupied by jazz musicians. Many of those houses are for sale, and, if they wish, we'll help interested people get in touch with owners. *Preservation in Print*, the monthly magazine we publish with the Louisiana State Historic Preservation Office, is full of interesting information about architecture in New Orleans. When people know the difference between a Creole cottage and a shotgun house, they're more likely to appreciate the architecture of the region, and more likely to want to preserve historic neighborhoods and buildings. Also, since one of the main things we do is try to match people up with historic buildings, we encourage buyers to use architects to renovate.*

What makes neighborhoods and buildings in New Orleans special? Every city should have a strong preservation effort. That said, New Orleans has an amazing history, as a city. It is a place where the European approach to living was really established. It was laid out by the French in a typical French military camp plan that still remains today in the Vieux Carré, then it was occupied by the Spanish until the Louisiana Purchase made it the fifth-largest city in the country. It was also the second-largest port after New York, so it always had a very international flavor, and the architecture is very unique in this country.

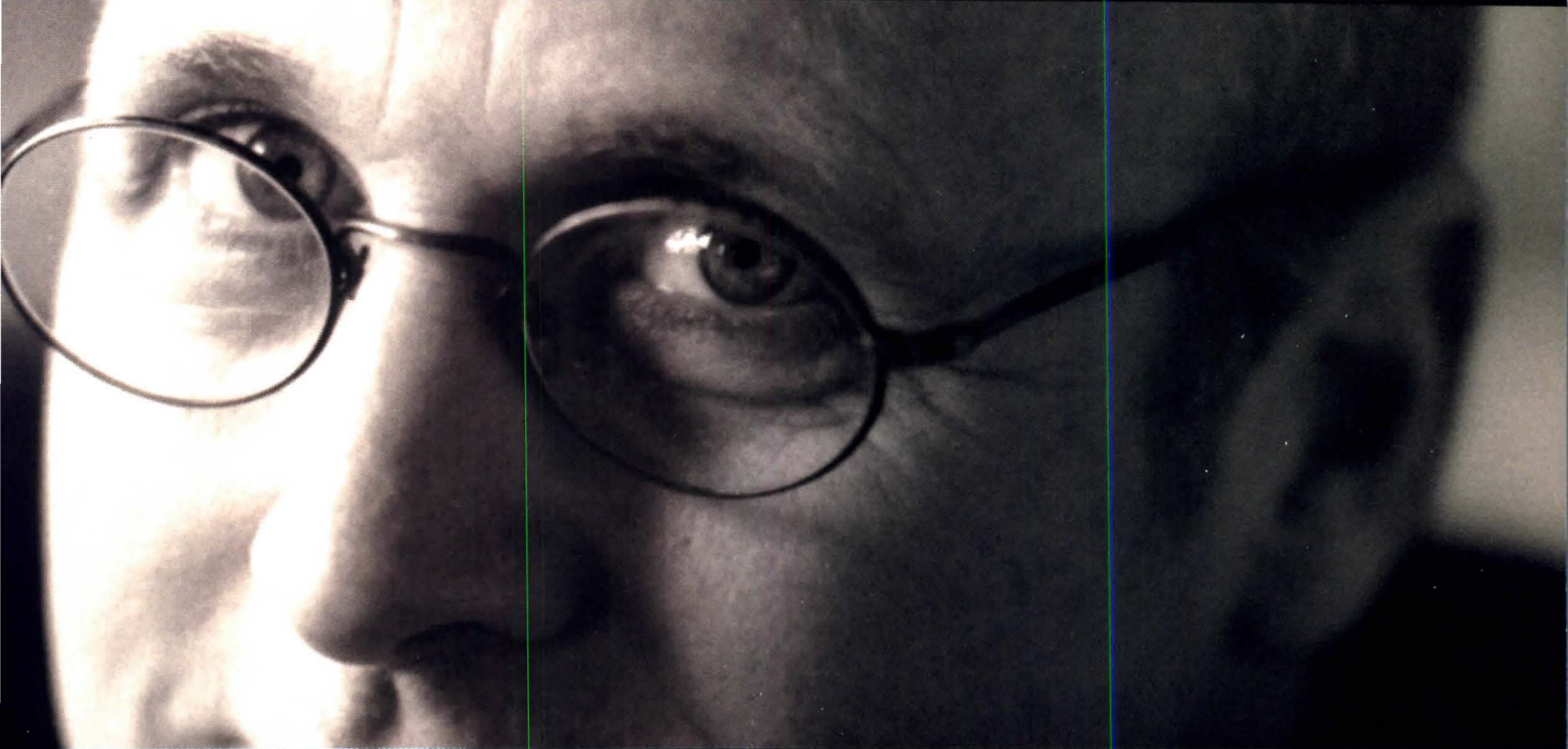
When, and why, did you get involved in the PRC? I've been with the PRC since it began in 1974, first as a volunteer, and as executive director since 1980. Over the past 28 years we've grown from a staff of two having an annual budget of \$100,000 to a staff of 19 full- and part-time employees with an annual budget of \$1.4 million.

Do you like developers? We do like developers. Especially the ones who donate the facades of their historic buildings to our Facade Donation Program. They get a tax deduction, and the PRC is then able to review all renovation propositions in perpetuity. There are so many developers and owners that we work with who understand how valuable their property is in terms of preservation.

What gratifies you the most? Probably winning a fight for a building—keeping it from being demolished. Or watching a neighborhood come back. Cities have been making a comeback, you know. It's exciting.

Photograph by Will Michels. For information on the PRC, go to www.prcno.org.

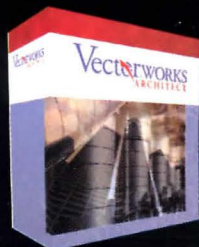
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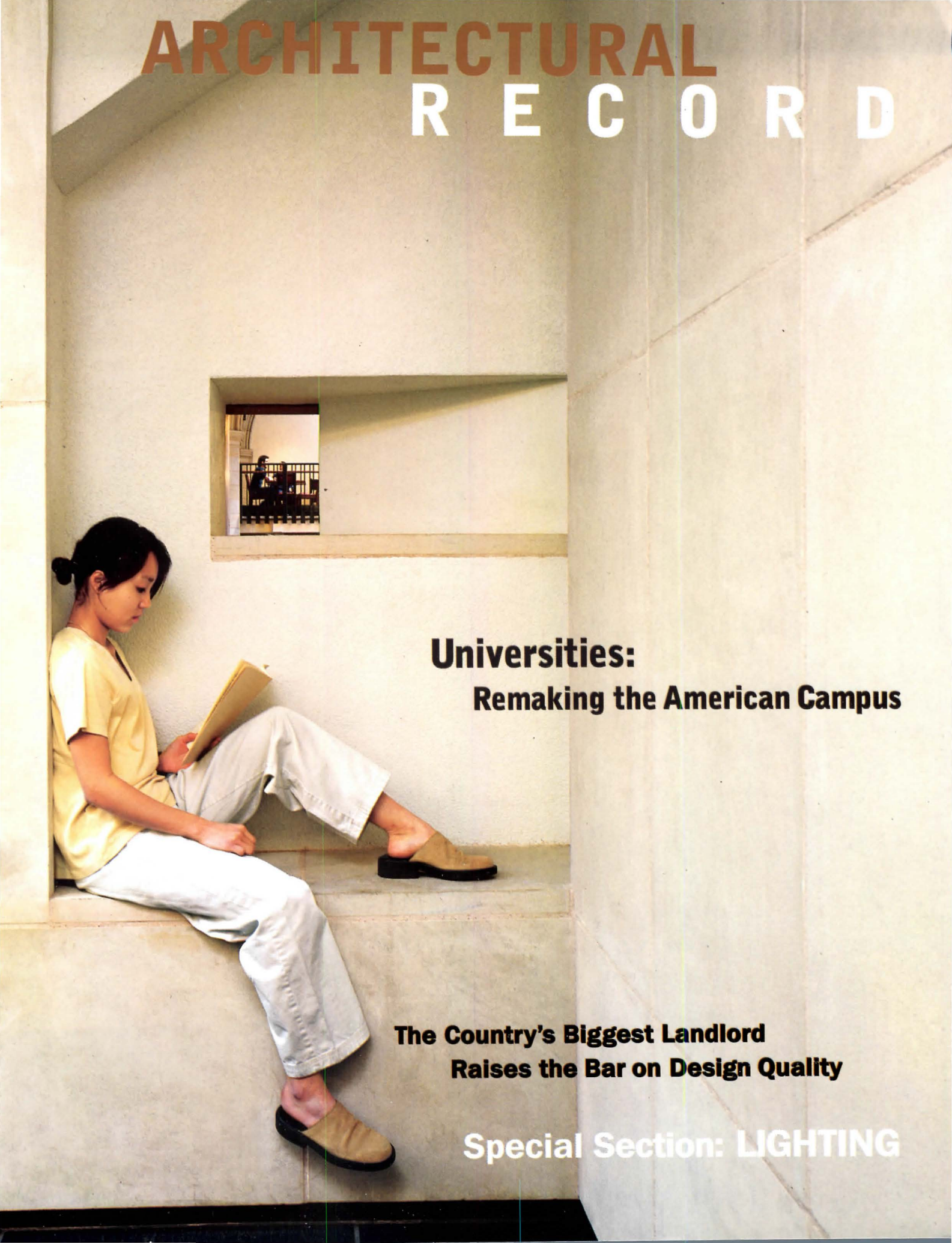
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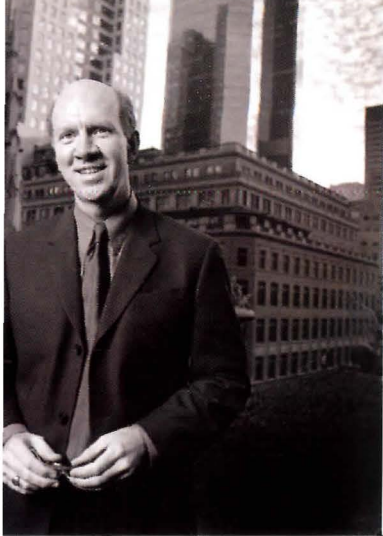
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Editorial

By Robert A. Ivy, FAIA

Who said renovations are simple? The university commission had begun with such fanfare. It seems only yesterday that the provost called a kickoff meeting in the school cafeteria, over rubber chicken, for you, the new architect, to meet the powers of academe. What a group—six vice presidents present, three deans, the head of the state building authority, his assistant, two inspectors, and the campus architect—and the university types all addressed each other as “Dr.” You itched, a bit uncomfortable as the only Armani-wearing, round-glasses-sporting, non-doctoral person in a sea of gray suits.

Unfortunately, everyone there but you already knew a secret: with one stray match, the 110-year-old tinderbox would go up in flames. Oil-rubbed wood floors make superb fuel. You were supposed to bring the old hall up to code, which you were perfectly willing to do, despite the fact that the state historic preservation officer, who was attending the luncheon (a thin man, carefully cutting his chicken in the corner), didn’t smile very much.

In high hopes, buoyed by the toasts, you proceeded with the work. Everyone agreed that the building needed a new set of stairs, which you promptly designed. Then the historic preservation officer nixed the neoexpressionist fire-stair tower that was your sole personal flourish. The complications compounded with every turn, from the ductwork in the corridors to the wiring. Every note brought a rejection, even for the sprinkler system.

So, you flew the lot up to a neighboring university 300 miles away, where a similar problem had been solved. The trip had a good effect, and that night, at the Olive Garden, where everyone had too much wine, they admitted that they were actually “on the same team,” even the preservationist, who wept effusively.

Meanwhile, to tie things down, you hired a code consultant, at your own expense, who backed up what you had already suggested in a 200-page, 2-inch-thick document that cost you \$12,000. The fire-code guru suggested sprinklering the glazed walls separating the wooden stairways for “an equivalency rating.” It was daring, but worth every penny to meet the code.

Just when things had been resolved, disaster struck. The state building director had a stroke, throwing the entire process into hiatus while he regained the ability to speak. His job, which involved late-night calls from the legislature and harangues from the governor, finally got to the man, an architect with an even temper and strong political skills, who had allowed the pressure to gnaw on him internally. Subsequently, he conducted his meetings with a slight lisp.

As he recovered, a group amnesia fell on the assembled monthly meetings, such that no one could rightly remember just how and why all those decisions had been made. Liabilities loomed. You, and you alone, seemed to bear the weight of memory, but it was fading fast.

Despite this circle through the Inferno, it all worked out. At the final inspection, everyone slapped each other on the back, admitting that the work eminently suited the old hall. Kids casually draped themselves on the benches and the steps, jabbering away and sucking on soft drinks as if this building had been transformed without human aid. It was, in short, a miraculous conversion.

On the rededication day, with the president of the university and even the great philanthropist there, the building was renamed, and where were you? Back of the dais, third row from the rear, unacknowledged but unconcerned, focused on the installation of the light fixtures, which seemed a trifle skewed. One more call to the contractor.

As the crowd dispersed, you walked past the plaque that listed the governor, the building and university officials, and you, the architect, on the last line. You touched the plaque and smiled: At least they spelled your name right. Have you been there?



THE KAWNEER WINDOW

Letters

Driving housing points home

Your November 1999 article on the state of public housing ["Public Housing: A Hard Assessment," page 76] raised many fine points, but neglected to discuss some necessary issues.

One issue is that the home mortgage deduction program is this country's most successful "subsidized housing" effort. Clearly, without that "program," the landscape of housing, particularly the single-family residence, would look radically different. Unlike support for the public-housing movement, support for this form of indirect public-financed housing is broad, cutting across class, social standing, and cultural preference.

Issue two: It will take more than good design intentions to hold the tide against the decline and abandonment of HUD's "new" publicly sponsored housing developments. Housing authorities will have to hold the line, municipal leaders will have to show more than good faith, and residents will have to be vigilant. Beneath the surface, however, the city's social, racial, political, economic, and cultural mix remains volatile and antagonistic.

The emergent middle-class resident looks outside city limits for the education, recreation, and social benefits that mark a better quality of life. Your article leads me to wonder if we as a society are truly up to the task to expand on the optimism of an earlier and somewhat surer generation.

—George R. Hill
Baltimore

Don't fence us in

Witold Rybcynski [Critique, November 1999, page 29] writes that the Lawrenceville School campus is arranged around two open spaces. One is formal and the other informal in its layout. Rybcynski reports that the informal one is heavily used while the other one is not, then draws a

direct correlation between the form and its popularity and extrapolates that the informal layout creates a democratic, American type of space while the formal type does not.

These are far-reaching conclusions. The design of an open space does affect its use, but as William Whyte has empirically proven, the effect is due to a complex series of determinants such as size, the straddling of paths, the equipment, its management, and the use and porosity of the buildings that surround it.

But this is to answer the small question. The larger question is the effect that formality of design has on utilization. In this case, Rybcynski's contention can be disproved instantly by remembering that cross-axial Bryant Park in New York City is crowded, while dozens of picturesque squares built in the 70s are not.

This however, assumes a rudimentary, utilitarian definition of use. Must public space, to justify itself, be heavily occupied? By such measure, the relentlessly commercial shopping mall would be the most successful space in America. But the fostering of civic pride and community consciousness are also palpable functions, and this effect can be achieved by passively gazing at a beautiful square or just knowing it is there. Hundreds of town squares, as well as the Mall in Washington, serve that purpose without being constantly trampled.

The biggest question behind the essay is the proposition that there is contradiction between formal design and a democracy. This notion, pushed to its conclusion, has led to a widespread and possibly dangerous tendency within the architectural avant-garde to equate order with repression, and by extension, disorder with democracy.

Look to the campus, said to be the only real invention of American

urbanism. American campuses, from the University of Virginia through Columbia, S.U.N.Y. Purchase are much more orderly than the European universities, scattered as they are throughout the urban fabric. And the higher education purveyed in these American campuses is a triumphant achievement, unrivaled in the world for scope and quality, despite the fact it is subject to a hierarchy of president, provost, deans, chairmen, and the minutely classified professoriat.

Rybcynski is seldom wrong, but the correlation he draws between orderly and disorderly space at Lawrenceville is not a reflection of democracy or otherwise, but the manifestation of a different system of order: the position of spatial type in the rural-to-urban continuum, called the *transect*. Urbanism requires a full variety of open space.

The curious allergy to order and convention endemic to the architectural avant-garde is, I suspect, at the heart of Professor Rybcynski's bias. This may explain it: an experienced practitioner knows that a chaotic design vocabulary elides the contribution of the client. The architecture of a democracy has always been, and must continue to be, a shared common language. The elite, abstract language of the avant-garde represents the privileging of the artist. This, while acceptable when confined to the gallery and the salon, tends to become exclusionary when determining the design of the public realm. It is not democratic.

—Andres Duany
Miami, Fla.

Museum addition sedition

J. Carter Brown, in his critique of museum additions [October 1999, page 35] is clearly taken to enormous understatement. In his review, he wonders if perhaps Daniel

Libeskind's proposed addition to the Victoria and Albert Museum in London might be uncomplementary to the adjacent existing building, suggesting that it is "too early to say." Too early? How about too late?

The directors of the famed Victoria and Albert have decided to proceed with the construction of Mr. Libeskind's completely uncomplementary, dominating white composition of intersecting cubes jammed into an inadequate space between the existing stately brick buildings along Exhibition Road. This is the wrong place for this addition! It is an addition that contains not a single obvious reference to its neighboring structures, and it is a project that the Victoria and Albert Museum directors and visitors will surely grow to regret. There is a place for buildings such as Mr. Libeskind's, but this is not it. The powerful forms of this structure need space and distance for full expression, and the adjacent buildings deserve more respect.

—Eric Lassen, AIA
Santa Barbara, Calif.

A rumble by the bay

I was confused by the placement of Lisa Findley's article regarding the ruckus over the design of San Francisco's de Young Museum (which is to be placed on the Music Concourse in Golden Gate Park) in December's RECORD News [page 55]. I'd like to share another view.

The article is mistaken in categorizing those concerned about de Meuron's design of the new de Young as if we are only preservationists. We have coalesced under the name "People for a New de Young" specifically to show that we're looking for a new design—one with the timeless quality of Lou Kahn's Kimbell in Fort Worth. We're concerned that the current proposal is not one for welcoming, but for separating the

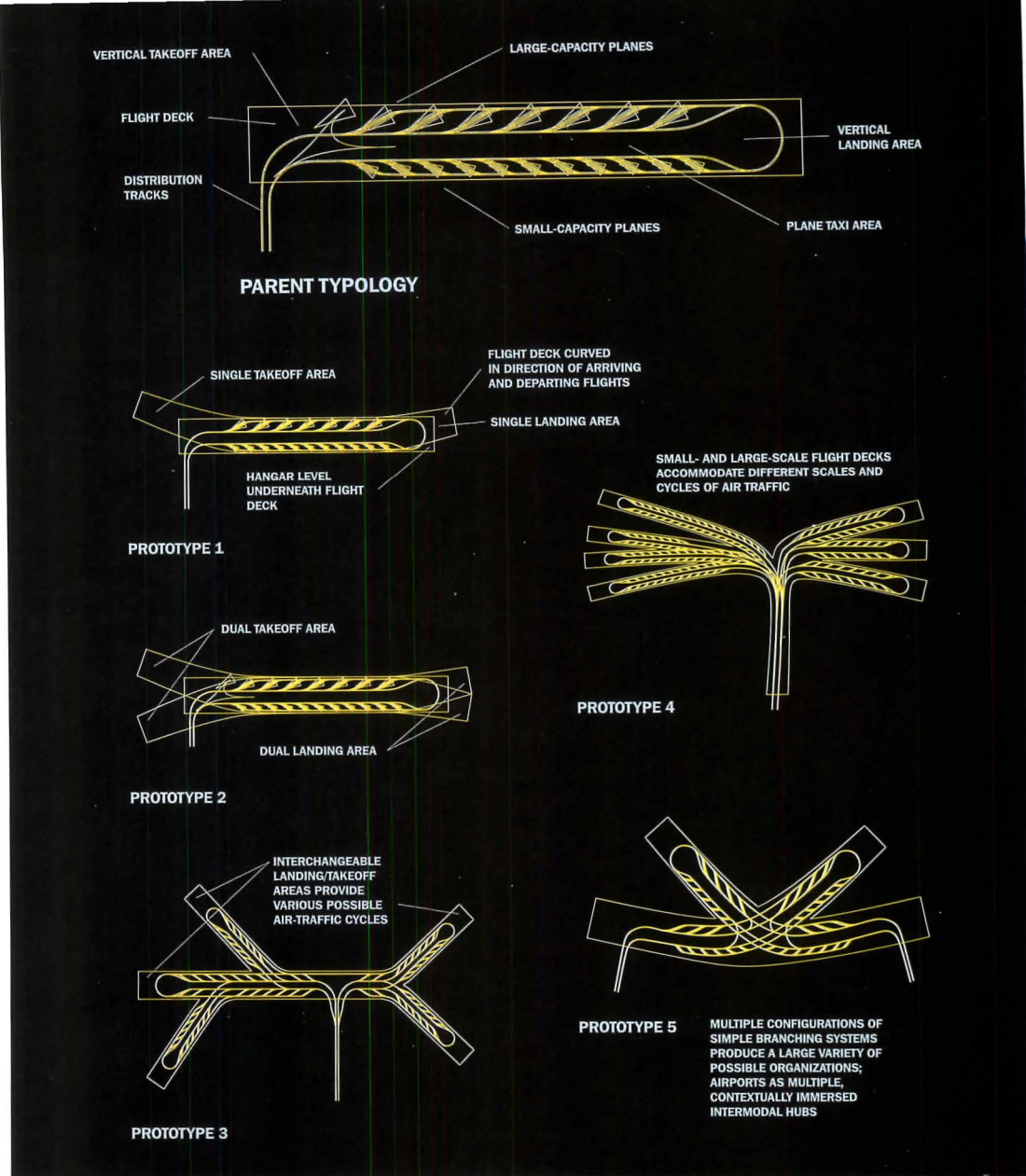
Letters

effete from the rabble with its intellectually lofty design. Further, the Music Concourse is the formal core of the wonderful soft landscape of Golden Gate Park, and the buildings that surround it should play a transitional role bridging these contexts.

The article is mistaken in stating that the AIA supports the project. The board of directors of the San Francisco chapter of the AIA (on which I have sat for the past two years) sent a formal letter of support for the process the Fine Arts Museum board set up to obtain public input. The letter took no position on the design.

Those of us concerned about what the current design does to its environment are trying to assure that we have a new museum with which all of San Francisco can identify, rather than one, which the author admits, "is not easily understood."
—Bruce Bonacker, AIA
San Francisco

Lisa Findley responds: Bruce Bonacker is correct in stating that the letter of support sent by the AIA board of directors to the de Young Board supported the process rather than the design. The letter commends the de Young for its open and responsive public process and states that the process has influenced the design. The chapter did, in fact, endorse the design, however, through a letter from its Design Committee, read into the public record at the museum board meeting where the design was approved. Incidentally, 82 percent of those who spoke that evening were in favor of the project, 18 percent were against. It seems most trust that the talented, proven firm of Herzog and de Mueron, regardless of its nationality or architectural style, will develop its intriguing design concept into an excellent, site-sensitive building.



Prototypes for Reiser + Umemoto's airport, were printed incorrectly on page 121 of the December 1999 issue.

The butler did it

Brave new world, indeed! Where have I seen projects like those featured in your December issue [page 85]? In my library! *Kinetic Architecture* by William Zuk and Roger H. Clark, 1970, and *Arthropods* by Jim Burns, 1972, are two books that attempted to foresee a future that looks a lot like the daydreams in your millennium issue.

Architecture has little to do with technical possibilities that may prove to be impractical. It has to do with Vitruvian propriety, common sense, and craftsmanship.

After 40 years of practice, I have come to realize that architects are not saviors of the human condition. We are more like valets—we want to make sure our employers look their

best within their means. Jeeves I am, I am not Albert Schweitzer.

—James A. Gresham, FAIA
Tucson

Corrections

Plans for Reiser + Umemoto's prototypical airport for New York City were printed incorrectly on page 121 of the December 1999 issue. In December's Product Reports [page 167], a description of Pilkington LOF's Arctic Blue float glass was mistakenly pictured with the company's new Solar E solar control glass. The pictured project (above right) uses Pilkington's Arctic Blue Eclipse reflective and tinted float glass. The December article about Jim Cutler's residential detailing



[page 170] should have stated that Cutler used 280,000 board feet of salvage lumber. In the January 2000 issue, Jury Alvarez and Cono DiZeo of Ian Schrager Hotels were omitted from credits for St Martins Lane Hotel [page 91]. They were design coordinator and project manager, respectively. ■

Letters may be E-mailed by clicking **Letters** on our Web site at www.architecturalrecord.com.

NEW PIANO TOWER TO SHINE IN SYDNEY FOR THE OLYMPICS, WHILE FOSTER WAITS IN WINGS



Just in time for the Olympics this summer, Sydney will have a new building to help define its skyline: Renzo Piano's tallest high-rise to date (above), a 41-story office tower the architect says will "wave to" the Sydney Opera House a half-mile away. Lord Norman Foster, HON. FAIA, also plans to contribute to Sydney's new look with an office tower (top, center building), though the project is on hold. Piano's tower, in a prime position overlooking the Sydney Harbour

and Botanic Gardens, is part of a \$440 million development that also includes a Piano-designed 18-story luxury residential tower. The taller tower has almond-shape floor plates that increase in size with each floor. Wrapped in a curved skin of fritted, low-iron glass, the tower will be less opaque toward the ends and top, making the building visually dematerialize. Each floor will have a 430-square-foot winter garden on its north and south corners, with glass louvers that open to let in the breezes.

The lower tower, with 62 units, will also feature glass louvers and winter-garden spaces. Linking the two buildings will be a plaza covered by a column-free, glass canopy with a web of stainless-steel cable—a kind of "spiderweb," says Piano.

Foster's foray

Close by, a high-rise designed by Lord Norman Foster, in conjunction with the Sydney firm Hassell Architects, has been put on hold by its new owner, Principal, following the acquisition of the former client, BT Funds Management. When work

THE AIA'S HONOR ROLL The AIA has recognized 38 projects with its 2000 Honor Awards, to be doled out at the AIA National Convention in Philadelphia in May. Skidmore, Owings & Merrill captured three awards in the regional and urban design category, while Weiss/Manfredi Architects, Shelton, Mindel & Associates, and Richard Meier & Partners garnered two awards apiece. In addition, Meier's Smith House, completed in 1967 in Darien, Conn., earned the Twenty-five Year award. The Topaz Medallion, for contributions to architectural education, will go to Alan Balfour, dean and professor of architecture at Rensselaer Polytechnic Institute. (In December, the AIA announced that Ricardo Legorreta will receive the Gold Medal and Gensler the Firm of the Year Award).

This year's honor awards for architecture will go to the Kaufmann House Restoration by Marmol and Radziner Architects; Neugebauer House and the Getty Center by Richard Meier & Partners; Olympia Fields Park and Community Center and Women's Memorial and Education Center by Weiss/Manfredi Architects; Massachusetts Museum of Contemporary Art by Bruner/Cott & Associates; Methow Valley Cabin by James Cutler Architects; the Hill County Jacal shelter in Texas by Lake/Flato Architects; Le Fresnoy National Studio for Contemporary Arts by Bernard Tschumi Architects; the U.S. Port of Entry by the Miller/Hull Partnership; Mashantucket Pequot Museum by Polshek Partnership Architects; desert housing for low-income seniors by Studio E Architects; Center Street Park and Ride by Herbert Lewis Kruse Blunck Architecture; Grand Central Terminal restoration by Beyer Blinder Belle; and Kuala Lumpur City Centre, Phase I, by Cesar Pelli & Associates.

The interior architecture awards will go to the San Francisco City Hall Improvement Project by Heller · Manus Architects (on behalf of a joint venture); SHR Perceptual Management Workspace by Morphosis Architects; Helmut Lang Flagship Retail Boutique by Gluckman Mayner Architects; Long Meadow Ranch Winery by Turnbull Griffin Haesloop; the preservation of Farnsworth House by Lohan Associates; Seiji Ozawa Hall at Tanglewood by William Rawn Associates; St. Jean Vianney Catholic Church Sanctuary by Trahan Architects; Iwataya Passage by WalkerGroup/CNI; Colleen B. Rosenblat Jewelry Showroom by Gabellini Associates; Ocean Liner Dining Room and Lounge and Fifth Avenue Duplex by Shelton, Mindel & Associates Architects; Greenwell Goetz offices by Greenwell Goetz Architects; Ackerman McQueen Advertising Executive Offices and Video Conferencing by Elliott + Associates Architects.

The AIA will also hand out 10 awards for regional and urban design.

starts again, says architect Ken Maher of Hassell, it will be the next in a global lineup of sustainable towers designed by Foster. Air drawn in through glazed roof terraces will feed into the tower and channel through voids or atriums that run the length of the

building, instead of using conventional ducts. This system will lower energy costs. The tower will step down in an arc, somewhat like the nearby Harbour Bridge, and an illuminated roof garden will glow as a beacon in the night sky.
Anne Susskind



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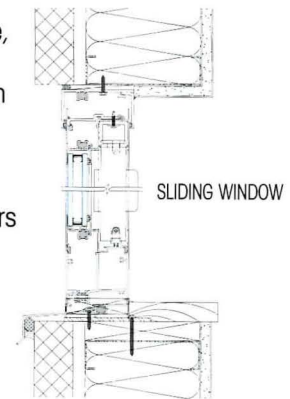
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CIRCLE 14 ON INQUIRY CARD



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 STOREFRONTS



Marc Hewitt, a landscape architect, urban designer, and senior vice president of Concord Adex Developments, the project's developer, says some of the architectural features typical of high-rise condominium towers built on North America's West Coast have been adapted to the Toronto market. Glass and steel high-rise condominiums are popular in Vancouver, whereas masonry or precast concrete often clads Toronto's high-rise condos.

CityPlace will employ the western aesthetic. The two inaugural towers (left) were designed by Page + Steele Architects/Planners of Toronto. Sol Wassermuhl, the firm's president, says the design "had to make a bold statement to be noticed, and in a modern vocabulary, because of the proximity to SkyDome and CN Tower, with no historical context in the neighborhood." The elliptical tinted glass-and-aluminum towers will overlook the lakefront and share a podium, providing street-level retail and a recreational/fitness center on the second floor.

Hewitt says the next two towers—28 and 35 stories, respectively, with up to 650 units—will be designed by Architects Alliance of Toronto (not the U.S. practice with the same name). About half the sprawling CityPlace site has been set aside for parks, bike paths, jogging trails, and other open spaces, as well as for an elementary school, community center, and two day-care centers. *Albert Warson*

ANOTHER SCENE FROM THE DEMOLITION OF DETROIT: AN ALBERT KAHN PLANT FROM 1903 BITES THE DUST

The Packard Plant, designed by Albert Kahn in 1903, was the first reinforced-concrete factory in Detroit and the model for Ford's groundbreaking Highland Park Plant. Early on, it was celebrated for inaugurating a new style of factory that improved both efficiency and working conditions. Much later, in 1970, it was still being lauded: the Detroit Institute of the Arts' house publication praised the "bright, clean and cheerful aspects of the different departments."

Now, the Packard Plant is disappearing portion by portion, a casualty of city demolition of decrepit structures abandoned in the wake of Detroit's glory days. The space where it stood (top, the factory with one wing destroyed) holds few signs of its long history—the plant flourished until World War II, when Rolls Royce airplane engines were manufactured there, and then into the 1950s, though it stopped producing automobiles in 1957. Other tenants arrived, and, until recently, the plant hosted

more than 100 small businesses—but the city had other ideas and began tearing it down. Demolition of the 3.5 million-square-foot facility could cost the government around \$15 million. *Camilo Jose Vergara*



TORONTO'S CITYPLACE CLAIMS A VACANT SITE

A nine-hole golf course with a driving range and clubhouse at the edge of downtown Toronto's financial district? This conjunction of commerce and caddies may seem implausible, but the course will open this spring to promote the \$1.4 billion, 5.4 million-square-foot

CityPlace mixed-use development, recently begun on former railyards.

The public course, which isn't permanent, is meant to generate publicity for the project, whose first 28- and 32-story towers, with a total of 642 apartments, should reach completion next year. As many as 6,000 apartments in 20 towers, some with low-rise and townhouse condos, are planned for the 44-acre vacant site over the next 10 years.

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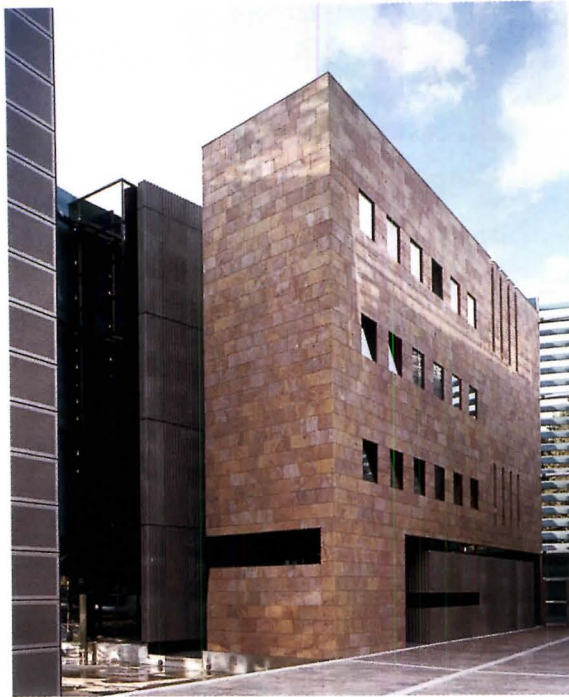
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NORDIC EMBASSIES STAY CALM IN BUSY BERLIN

In the heart of rapidly changing Berlin, next to its central park called the Tiergarten, stands a new oasis of Scandinavian serenity. Coinciding with the reconsolidation of the German government in the country's historic capital, the five Nordic countries have banded together to share a complex of embassies for the first time anywhere. The result is a grouping of structures that express the unique characteristics of the host countries while blending into a cohesive whole.

The process began when the five countries—Denmark, Finland, Iceland, Norway, and Sweden—launched a competition for a master plan for their chosen site. The Austrian/Finnish team of Alfred Berger and Tiina Parkkinen got the job with a design that ties the complex together by wrapping a wall of 4,000 copper louvers around the exterior, providing a connecting skin for the structures within. The wall curves through the site skirting clusters of existing trees. Berger and Parkkinen also designed the shared reception and exhibition building, the *Faelleshuset*. The individual embassies were then designed by an architect based in each country, using native materials when feasible.

On entering the complex via a gate near the *Faelleshuset*, which was inaugurated in late October, visitors encounter the Finnish embassy, designed by VIIVA of Helsinki. A forest of wooden slats forms a minimalist pattern over the facade. Next to the Finnish building is a shallow pool of water that marks the transition to the Swedish Embassy, designed by Wingårdh of Göteborg. Inside, a spiral staircase anchors one side of a soaring all-wood atrium where diplomats meet on *cantilevered balconies*.



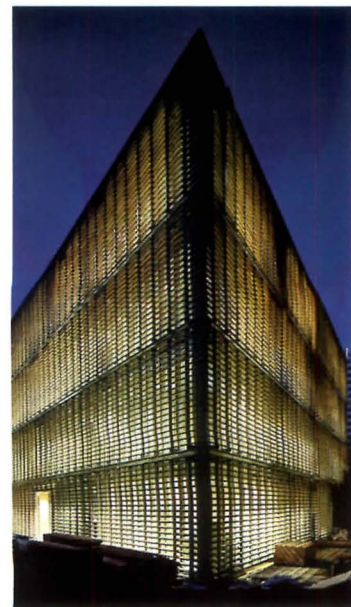
Across the courtyard, in the middle of the complex, stands the Norwegian embassy, by Architect Snøhetta of Oslo. A monumental, 120-ton slab of gray Norwegian granite on the main facade provides a weighty focal point for the complex. As with the other embassies, the structure's corridors, lobbies, and conference areas were conceived to maximize daylight and views, while a garden atrium at the north end provides a contemplative environment. The east and west facades are glazed.

In the corner sits the Icelandic Embassy, designed by Architekt Palmar Kristmundsson of Reykjavik—smaller than the rest, as

befits the country's population, but made solid by a granite facade.

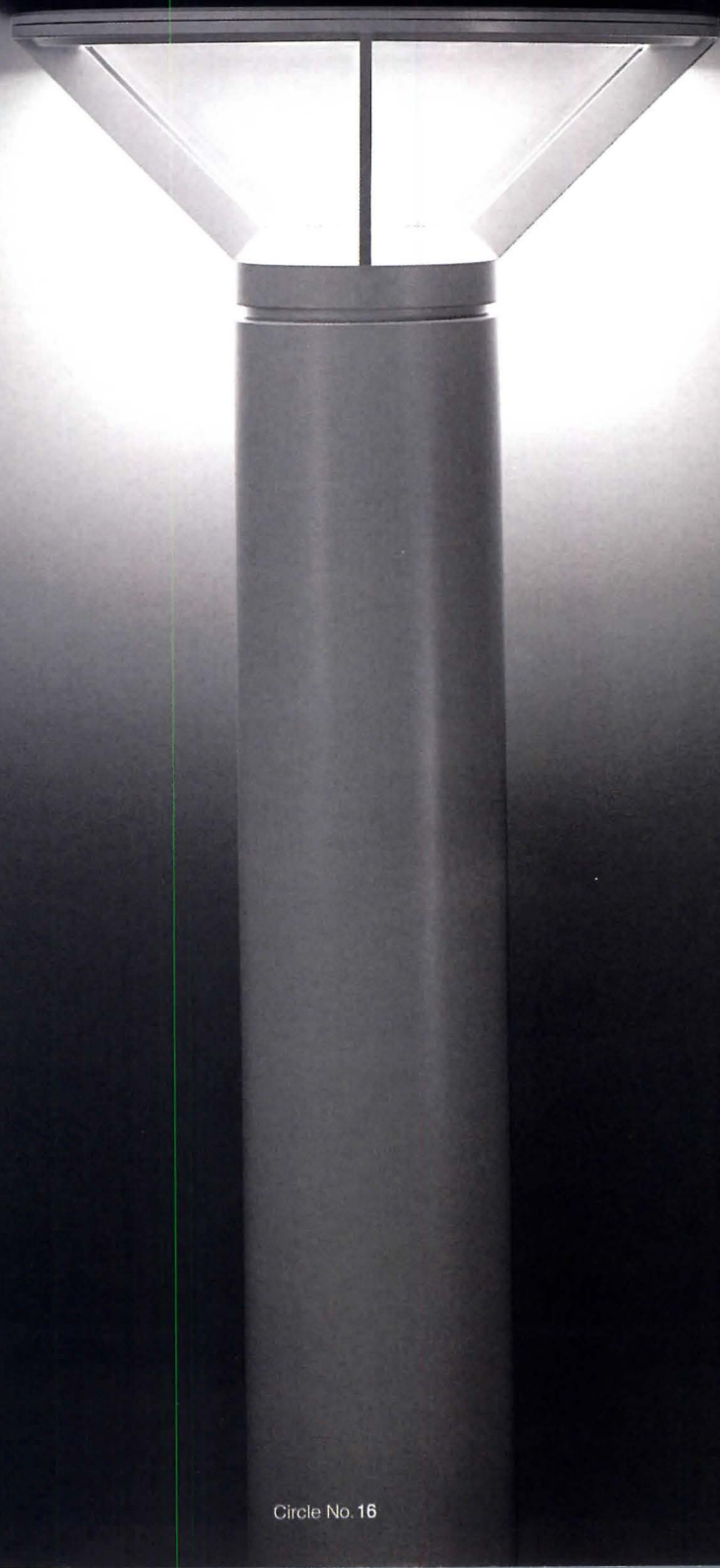
A stroll by the wood and stainless steel-clad Danish embassy, by Architekt Nielsen, Nielsen & Nielsen of Aarhus, leads back through the gate next to the *Faelleshuset* and into Berlin's forest of clamoring construction sites. *Soren Larson*

Top row: The Icelandic and Danish embassies. Middle: The Swedish embassy, with its lower-level pool that separates it from the Finnish embassy, and the Norwegian embassy, between the Icelandic and Swedish embassies. Bottom: The Finnish embassy.



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Circle No. 16

A SUNDIAL IN ST. CROIX MARKS THE MILLENNIUM

Point Udall, an isolated promontory on St. Croix, is the easternmost land in the territorial U.S. Historically, the spot was seldom visited, except for occasional sightseers who drove up a dusty road to enjoy the point's views of the Caribbean. Yet the point's geography gave it a millennial distinction as the first U.S. land to see the sunrise on January 1, and last year, the U.S. Virgin Islands' government, with the local AIA chapter, decided to hold a competition for architects practicing in the Virgin Islands to design a monument for the site and the moment.

The winning design came from C. William Rich, AIA, an architect from the neighboring island of St. John, who fashioned a sundial that bears a permanent mark indicating

the shadow cast at the first dawn of the new millennium. Four 18-foot-high triangular stone piers surround the sundial's circular center and abstractly suggest the Latin numerals for 2,000: MM. In the center, a bronze finial, also 18 feet tall, works as the shadow pole. On the periphery of the podium, beyond the center piers, are four bronze pins designating north, south, magnetic north, and the point of the sun's azimuth at 6:52 A.M. on January 1, 2000.

The monument owes its existence to the guidance of a Virgin Islands public works official, Aloy Nielsen, who saw it through a tangled bureaucracy and two hurricanes that swept devastatingly across St. Croix. As for the architect, Rich says he was trying to make a "small statement" with his sundial, rather than an overpowering design. "To me," he says, "it is significant that time and the passing of time have always been measured by the sun."

Beth Dunlop



CHATTANOOGA, ONCE A HEAVILY POLLUTED CITY, TURNS TO GREEN DESIGN FOR NEW CENTER

Chattanooga is going green. The city has picked a joint venture team of New York City's Croxton Collaborative—known for sustainable architecture—and Artec of Chattanooga to create a sustainable design for the city's new Development Resource Center. The new office building will consolidate the majority of city and county government agencies and divisions related to the built environment, including planners, architects, and engineers.

The 85,000-square-foot structure, slated for completion in 2001, will rise in an aging industrial zone that the city has targeted for revitalization. The architects will

promote pedestrian traffic by incorporating 5,000 square feet of retail space into the site, while the building itself will have a number of environmentally conscious features. Customized daylighting controls will be installed, bringing direct sunbeams into some areas and more low-impact, diffused lighting into others. Apertures in public and work spaces will be coordinated to conserve energy and create varied environments. The "smart" landscaping will enable rainwater recycling.

Chattanooga was infamous 30 years ago as one of America's most polluted cities, according to Croxton. Now, it is making amends. *S. L.*



GOVERNOR'S ISLAND: A PLAN AT LAST? In 1995, President Clinton offered Governor's Island, which the federal government had used for military purposes since 1755, to New York City and New York State for \$1. The catch: the city and state had to come up with a joint redevelopment plan for the island, including provisions for preservation and public use, and have Congress approve it before the exchange could take place.

Now, city and state officials think they have the desired plan for the 172-acre island in a prime spot in New York Harbor off the southern tip of Manhattan. The ideas, presented by Mayor Giuliani and Governor Pataki at a January press conference in New York City, include ballfields and tennis courts; small museums for art, ecology, and military history; an inexpensive motel; and artists' studios. The entire 2-mile circumference would be circled by a public esplanade. The island's southern end would be the site of the proposed art and ecology museums and playing fields. The military history

museum is proposed for the north side, an area dotted with historic fortifications and mansions protected by the federal government. No permanent residents will occupy the island.

The scheme has to generate enough income to cover the estimated \$22 million annual maintenance budget and some of the estimated \$150 million that the state and city will contribute to the projected \$350 million development cost. To that end, many of the biggest and most important existing buildings would be used for a conference center, with retail outlets nearby. Architects have yet to be chosen for the projects, and developer bids have yet to be proposed—though the Guggenheim Museum is rumored to be interested in building a new museum on the island. The biggest hurdle facing the plan is to persuade Congress of its worth. When asked if the \$1 offer was still on the table, Pataki said he wasn't sure, quickly adding, "But we'll take it!" *S. L.*



A Panel Discussion



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CIRCLE 17 ON INQUIRY CARD

VANCOUVER FIRM TRIES NATIVE COLLABORATION

Silence does not imply consent. This was one of several design lessons learned by Acton Johnson Ostry Architects of Vancouver when designing community structures for two American Indian tribes in British Columbia, the Skidegate and the Mount Currie.

An elementary school for the Skidegate (above), serving both native and nonnative children, reached completion in September, followed in December by a day-care and health center for the Mount Currie tribe. The firm's Russell Acton describes the design process as "unusually long and col-



laborative—there was lots of back and forth. We took their traditional expression and then expressed it in a contemporary medium." Extensive research was required to understand the American Indians' background, traditional building types, relationship to the land, and spiritual values. And because the elders are greatly revered, their input was considered invaluable.

Frequently, the tribes were silent in their response to a design proposal, but according to Acton,

their silence did not necessarily signify approval. Thus, the architects had to continually question the group to gain final consent.

Final design for each new building responded to both tribes' desire for cedar as a prominent material. The 30,000-square-foot Skidegate school features cedar for ceilings, as well as structural and partition wall finishes. Roughly turned cedar columns throughout the building support framing. The classroom corridor, with an exposed

"vertebral" roof structure, is crowned by a dramatic skylight. The daylight corridor has benches for small group instruction. Students and elders from the community are encouraged to gather here and use the adjacent Haida Studies Room, where they can practice traditional teaching methods.

The 7,400-square-foot Mount Currie Day Care and Health Center had a more limited budget than Skidegate, but the architects were able to apply the idea of a structural wood-carved interior space, based on the tribe's traditional "pit house," which uses a wooden pole framework. Wood was critical to maintaining the visual integrity of the building, says Acton. "If the same thing was done with gypsum board, it would be like a shopping mall," he adds. "You need the wood to get the traditional idea through." *John Gracey*

NEW HOME FOR LIBERTY BELL RINGS CLEAR AMID REVAMPED INDEPENDENCE MALL PROJECTS



The new Independence Mall is taking shape. The design for the last of the major new projects in Philadelphia's historic area, Bohlin Cywinski Jackson's new home for the Liberty Bell, was revealed in January, and construction should begin in August.

Philadelphia first assembled the three-block tract that became Independence Mall a half century ago, but has struggled to find a

proper housing for the Liberty Bell, which attracts more than 1.6 million visitors a year. The architects have proposed a new \$11.2 million light-filled building with a view of Independence Hall, to be constructed along Sixth Street between Market and Chestnut Streets. The glass, steel, granite, brick, and wood complex will include the bell's chamber, an area for exhibits and talks, and a shaded outdoor interpretive area. As in the present location, visitors will be able to touch the bell; they will also be able to see it through the glass even when the building is closed.

The \$200 million renovation of the three-block Independence Mall includes three other major projects. A design by Pei Cobb Freed & Partners is already in place for the new National Constitution Center, which will celebrate the U.S. Constitution. Also in the works are the \$32.3 million, nearly block-long Gateway Visitor Center and the Independence Park Institute, both designed by Boston firm Kallmann, McKinnell & Wood. *S.L.*

BUSY IN BUDAPEST AND BEYOND Unlike the majority of Hungarian architecture firms, Aula-Planconsult Kft. is finding extensive work outside the country's borders, and more is in the offing. The key: the Budapest firm's biggest client is German development giant Mahler Project International; Aula-Planconsult is designing for Mahler in Poland, the Czech Republic, Romania, and the Canary Islands, as well as in Hungary.

One of the first major development projects in Poland following the collapse of Communism, Aula-Planconsult's 950,000-square-foot Ochota Office Park for Mahler stands in the heart of Warsaw's commercial district. "Before, there was just open ground and a few houses," says János Bordi, Aula-Planconsult's general director. "Mahler led the way; now, others are building in the area."

Construction began in 1996 and three of the complex's four buildings have been completed and are occupied. Costs so far are estimated at \$60 million. The first three buildings are stepped, with four, five, and six levels, respectively, while the fourth structure will include 140,000 square feet on eight floors and two levels of underground parking. All four will be connected by a common ground floor and a pedestrian walkway. The main pedestrian area will have restaurants, a fitness center, and an atrium over an interior court. Bridges will link the upper levels.

"The architecture," says Bordi, "is a very simple modern style with a Scandinavian influence: clean lines, correct geometrical forms, and simple materials such as stone, glass, stainless steel, and plaster. Stone is used on the ground-level elevations and plaster on the upper levels." The fourth building, he continues, "is interesting because of its curved form. It will feature structural glazing on the main elevation and wrap around a square grid of interconnected reinforced-concrete columns."

Also in Warsaw, Aula-Planconsult designed the approximately \$18.5 million, 150,000-square-foot, eight-story Wspolna Office Building now under construction. *Carl Kovac*



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Record News

EXERTING ITS STATUS, KUWAIT GOES COASTAL

Kuwait apparently has no shortage of deep-pocketed clients, including its government. Two massive new projects that take advantage of the country's dramatic 50-mile coastline exemplify the extravagance.

Kuwait's Archicenter/JQE has designed a 1.8 million-square-foot government complex (below left) in Kuwait City to house the offices of the Amir (the country's ruler), Crown Prince, and Prime Minister, as well as the Council of Ministers' buildings. The white, reinforced-concrete structures feature highly decorative facades in the manner of traditional Islamic architecture. Two spines connect the three main building complexes and provide protected access for pedestrians,

while a new outer breakwater creates a lagoon that helps fortify the complex against any threat arriving via the Persian Gulf.

Meanwhile, Cambridge Seven Associates (C7A) won a competition late last year to design a new public entertainment and shopping center on the 1.3-mile Feheheel waterfront, south of Kuwait City. The C7A design (below right) includes a beachfront framed by palm-tree-shaded promenades and punctuated by piers that jut

out perpendicular to the coastline. The twin piers will have a 70-meter Ferris wheel at their terminus and will feature markets, cinemas, restaurants, and retail shops. According to C7A, the design includes many traditional Islamic elements—arcades, entry towers, and delicate screens—though contemporary forms and material were also used. C7A knows the territory—the firm has also designed two large science centers in Kuwait. S. L.



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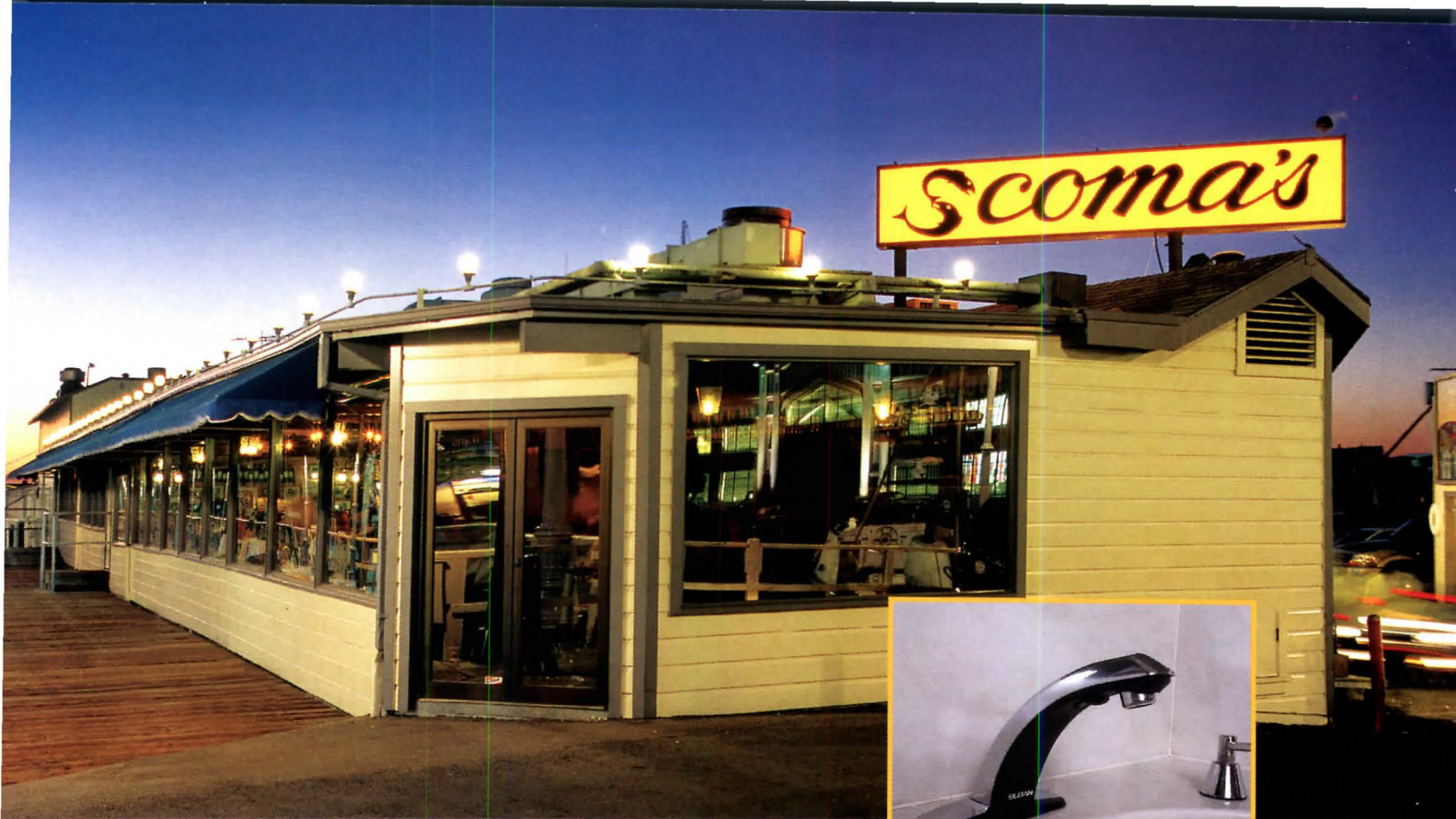
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CIRCLE 20 ON INQUIRY CARD

News Briefs

Penn's big plans After a limited competition to generate proposals for renovating Hamilton Village, four square blocks of student housing (right), the University of Pennsylvania has picked Patkau Architects, of Vancouver, and Kieran, Timberlake & Harris, of Philadelphia, to contribute designs for the site's northwest quadrant. Patkau is designing 700 new accommodations in low- and mid-rise buildings, organized around courtyards. In addition, the firm will create a "visual arts hub," supporting the practice and study of visual arts, and retail and office space on nearby 40th Street. Kieran, Timberlake & Harris will renovate the high-rise Hamilton College House by dividing the tower into two facilities, with separate elevators and lobbies, and adding new public space with a two- or three-

story "skirt" around the base. Penn hopes to start construction in 2001.

Canadian pride The Royal Architectural Institute of Canada has launched a competition that invites architects to redesign a prime, three-block area in the center of Ottawa facing the national parliament buildings. The middle block has several vacant spaces, and the organizers are hoping to generate innovative ideas that will celebrate the spot's importance.

Library laments Correcting the dysfunctional layout of San Francisco's central library may cost an estimated \$28 million, according to a new report commissioned by the city. The six-story library features a full-height atrium that complicates using and getting around the 377,000-square-foot facility, the report says. Completed in 1996 with a design by Pei Cobb Freed & Partners in association with San Francisco-based Simon Martin-Vegue Winkelstein Moris,

"the building has been well respected as a piece of civic architecture, but it has met with negative criticism with regard to accommodating the typical library functions of a large central city library," the report says. Recommendations include creating storage space next door by renovating a one-story, underground exhibit hall built in 1956 and closed in 1994. The report also calls for spending another \$17.7 million in the central library itself on various interior design, mechanical, and structural reconfigurations. What happens with the recommen-

dations will depend on the city's Library Commission.

Air time Arcwelder Films in Los Angeles has launched a series of architecturally related documentaries on the Discovery Channel. The first of three films—"Skyscrapers: Going Up"—premiered in January, while "Bridges: Reaching Out" and "Tunnels: Digging In" will make their debuts this month and in March, respectively.

Modernist monuments America's National Historic Landmarks, typically buildings from the earliest days of the



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News Briefs

republic, may soon include some very modern-looking structures. A group of buildings in Columbus, Ind.—where the Cummins Engine Foundation has been boosting innovative architecture since 1957—is under evaluation for landmark status by the National Historic Landmarks division of the National Park Service. The area includes buildings designed by I. M. Pei, FAIA, Eiel and Eero Saarinen, Kevin Roche, FAIA, Robert Venturi, FAIA, Cesar Pelli, FAIA, and a long list of other notables.

Friendly design The Friends of Photography Gallery in San Francisco, which includes the Ansel Adams Center, will open later this year in a new location designed by San Francisco's Pfau Architecture. The new structure, which will provide access to the neighboring SFMOMA, will have a pristine look of white walls

and hardwood floors and will have wood-and-metal shelving systems that stretch from floor to ceiling.

Earth first at Oberlin Work is complete on the Adam Joseph Lewis Center for Environmental Studies at Oberlin College. The center, designed by the Charlottesville, Va., firm William McDonough + Partners, is meant to be a model of sustainability and serve as a practical teaching tool for students. The building and landscape were designed to illuminate underlying lessons about the impact of human beings on the earth, the elimination of waste, and the environmental costs of energy consumption. The 13,500-square-foot complex includes a two-story building with classrooms and offices and a smaller structure with an auditorium and a "Living Machine," which filters the building's waste water through a series of marshlike ecosystems. The main building's north wall is insulated by an earth berm planted with fruit trees, while a pond and wet-

lands filter storm-water runoff.

Not a bridge too far A federal appeals court has rejected opponents' objections to a new Woodrow Wilson Bridge near Washington, D.C., and said federal officials adequately followed environmental and other statutes in their reviews of the \$1.9 billion project. The decision reverses an April ruling by a federal district court. The case centers on plans to replace the existing Wilson bridge, a six-lane bascule bridge constructed in 1961 that is straining under the more than 190,000 vehicles it carries each day. A study has found that, by

about 2004, the existing bridge will require a major overhaul or a ban on heavy vehicles. The replacement plan favored by federal and state officials calls for two new 6,000-foot-long bascule bridges, each with five lanes, plus room for two future lanes for high-occupancy vehicles or light rail.

Hello, Cleveland The Arcade, a shopping and business center in Cleveland since opening in 1890 and the first Cleveland building to be placed on the National Historic Register, will soon have a new life—as a Hyatt Regency. The structure's two towers and the top

three floors of the atrium concourse will be a luxury hotel, while the first two floors of the concourse will host a food court and retail shops. The hotel, designed by architect Johnathan Sandvick, AIA, is expected to open in 2001. ■



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Fearing runaway sprawl, Silicon Valley heads downtown

Correspondent's File

By Eric C. Y. Fang, AIA

DEPARTMENTS

Driving down Route 101 or Sand Hill Road, two of the main drags in Silicon Valley, it's hard to tell you're in the technology capital of the world. With its jumble of strip centers, parking lots, and tile-roofed office parks, the region—properly known as the Santa Clara Valley—looks much like any other California suburban landscape.

With \$1 billion of venture capital per month flowing into the area and land prices quadrupling in the late 1990s, however, this 50-mile-long strip running south along the San Francisco peninsula between the Santa Cruz Mountains and the Diablo Range is undergoing extensive change.

The local press has naturally looked to the valley's research and development campuses for tangible built expression of the hype surrounding computer companies like Intel, Cisco, and Netscape. Indeed, recent projects, such as those by San Francisco's STUDIOS for 3Com, Silicon Graphics, and Excite@home, have given Silicon Valley R&D campuses their own sense of style.

Nevertheless, a broader transformation is taking place, one that involves regional planning, transit initiatives, and a renewed focus on downtown areas. These strategies promise to alter the valley's landscape much as the influx of industry after World War II transformed the citrus groves and

Eric C. Y. Fang lived in San Francisco for nine years before moving to New York City to be an urban designer and architect at Beyer Blinder Belle.

canneries into a vast carpet of suburban developments and tilt-up industrial buildings.

Nowhere is this change more evident than in San Jose, a city of more than 900,000 people that has cleverly fashioned itself the capital of Silicon Valley. Although historically it was the commercial center of the Santa Clara Valley, San Jose's downtown was decimated by insensitive urban renewal, massive freeway construction, and sprawling residential development after World War II.

A fresh start

In the 1980s, Mayor Tom McEnery appointed architect Frank Taylor to bring new life to the San Jose Redevelopment Agency, known primarily as the perpetrator of urban renewal. Taylor rebuilt the agency into a powerhouse, complete with a 10-person urban design studio, but he still faced many challenges. San Jose has had to contend with a pair of stifling physical constraints: the proximity of the San Jose International Airport, which limits buildings to 27 stories, and a high water table, which effectively eliminates underground parking. Because of the height restriction and the enormous parking podiums, the cost of downtown commercial development has been prohibitive, as the redevelopment agency's Jeff Oberdorfer explains.

A key breakthrough for the agency under its new regime was to merge the city's redevelopment areas into one discrete entity. As a result, the downtown would benefit from tax revenues generated by

other locales, most notably the Rincon de los Esteros industrial redevelopment area to the north. The success of Rincon, dubbed the "Golden Triangle" because of its many high-tech companies, ensured a revenue stream of about \$90 million a year into downtown San Jose.

With its funding scheme in

new arena. More recent projects, such as the iconoclastic steel-clad Repertory Theatre designed by now-disbanded Holt Hinshaw Pfau & Jones, the recently opened Biblioteca Latino Americana by Steven Erlich Architects, and the blue-domed Tech Museum by Legorreta—perhaps the first monu-



San Jose, which calls itself the capital of Silicon Valley, has tried hard to draw residents and businesses back downtown.

order, the redevelopment agency concentrated on the city's cultural and institutional infrastructure. The strategy bore fruit by the late '80s with the construction of the San Jose Museum of Art, designed by Skidmore, Owings & Merrill's San Francisco office; the Children's Discovery Museum, by Ricardo Legorreta, HON. FAIA; a convention center by Mitchell/Giurgola; and a

ment to Silicon Valley's technological culture—have revealed the agency's predilection for innovative, contemporary design and its goal to address the city's Hispanic heritage.

Most important at present is the agency's initiative to revitalize the downtown civic center. The strategy has been guided by an urban design framework developed

Correspondent's File

by Sasaki Associates' Marin County office that calls for incremental growth of a seven-block civic district through a series of infill projects organized around a linked public framework of arcades, plazas, and courtyards. The first buildings in this plan will be a symphony hall, designed by SOM San Francisco, the Horace Mann School by Moore Ruble Yudell, and a public library by Gunnar Birkerts, being developed jointly with San Jose State University.

A new city hall by Richard Meier & Partners will anchor the revitalized civic center—eventually. Meier's preliminary design for the building, scheduled to open in 2003, features a 16-story tower sitting above a double-height arcade and a sculptural city council chamber. Despite efforts by Meier to convince the community of his design's worth, the concept has been roundly criticized and was recently ridiculed by the *San Jose Mercury News* as a "cold, semi-futuristic spaceport." Last fall, Mayor Ron Gonzalez ordered the firm back to the drawing board for changes.

The redevelopment agency has also aggressively promoted the construction of housing units downtown, for which the agency has drawn on the talents of notable San Francisco housing designers: Projects like 101 San Fernando by Daniel Solomon and Paseo Padre by Bruce Ross of Backen Arrigoni and Ross are remaking the character of the city's downtown residential neighborhoods from single-family bungalows to more urban-scaled four- and five-story complexes organized around raised courtyards.

Despite the progress, all is not well with the redevelopment agency, which is receiving mounting criticism from preservationists and affordable-housing advocates. With the state legislature debating the possible expiration of the agency's funding authority, and Taylor's retire-

ment last summer, the golden era may be waning.

Outside San Jose, tax revenues generated by the surge in high-tech development have been harnessed by several smaller cities to revitalize once struggling downtowns. In Mountain View, industrial land formerly occupied by defense contractors is being transformed into R&D parks and residential developments, while the city has built a series of downtown public buildings, including a city hall by the late William Turnbull, a public library, and urban-infill housing projects. Meanwhile, in Palo Alto, the converted industrial buildings in the area south of Forrest Avenue (known, of course, as SOFA) have become favorites of hip product design firms.

The flip side of Silicon Valley's success is an imbalance between jobs and housing that has caused housing prices to spiral out of control. While residential developments continue to sprawl farther to the south and the east, increased land costs and worsening traffic have spurred cities in the valley to try different approaches.

Transit tactics

As a result, transit stations have become focal points for significant residential development. The Santa Clara Valley Transportation Agency has initiated a series of developments that incorporate a mix of uses and densities, creating a walkable, villagelike environment. Several of the smaller cities located along Caltrain, the commuter rail line linking San Jose and San Francisco, have followed suit.

These "transit-oriented developments" are designed to get people off the roads and—for the first time—onto mass transit. Two projects by Peter Calthorpe offer a glimpse of this new suburban future. The Crossings, 400 housing units on the site of a failing strip center, was



Gunnar Birkerts' public library in San Jose will also be a university facility.



The Crossings provides easy access to a neighboring Caltrain station.



3COM's Santa Clara headquarters, designed by San Francisco's STUDIOS Architecture.

designed to create easy pedestrian access to the neighboring Caltrain station and supermarket. Calthorpe's plan for Bay Meadows, on the site of an old racetrack in San Carlos, combines corporate campus housing and entertainment, mainly cinemas, in a pedestrian-oriented development linked to another Caltrain station.

Even a belated focus on transit may curtail the sprawl that is so

deeply etched into Silicon Valley's landscape and lifestyle. Optimistic planners envision a network of villages linked by light rail. Critics of the plan fear that superimposing mass transit on an auto-oriented region may create what San Jose city planner Andrew Crabtree calls a Tokyo-style "transit sprawl." Still, the new urban plans are supported by environ-

mentalists, business leaders, and regional government and non-government agencies—disparate antisprawl advocates and commuters fed up with traffic and rising housing costs. As the gold rush that has become Silicon Valley enters a new decade, the looming question is whether real change can be implemented before, as Daniel Solomon warns, "they strangle the goose that laid the golden egg." ■

Competitions: Opportunity or exploitation?

Practice Matters

By Andy Pressman, AIA

DEPARTMENTS

Architectural competitions have often been likened to a double-edged sword. On one hand, they can provide architects with opportunities to enlighten the public, and advance design dialogue. On the other, they can exploit architects from financial and intellectual property standpoints. One thing is clear: the stakes can be very high—big money and reputations are often at risk.

Opportunities

Wolf Schnebli, a Swiss architect, views competitions as “continuing education,” because they offer the opportunity to experiment with new technologies and design options. Tetsuro Kuwabara, principal of the Toronto architecture firm KPMB, is also emphatic: “Competitions are an important way of expanding our thinking. We see them as part of our daily work.” Indeed, architects often push the design envelope in competitions because they encourage an open and inventive approach to projects. Even losing schemes can enhance a firm’s marketing portfolio, particularly in difficult economic cycles. Moreover, competitions provide a chance for small, evolving firms to have a shot at large-scale commissions.

Roger Schluntz, FAIA, a noted professional advisor for competitions, suggests that one of the biggest beneficiaries of design competitions is the public. The

Andy Pressman, AIA, is associate professor of architecture at the University of New Mexico and leads his own architecture firm in Albuquerque.

educational consequences of presentations, exhibits, and the media can be extraordinary. Schluntz says, “as a result of the increased awareness of the value of design and heightened expectations, both the profession and public can profit.”

Regardless of the outcome, participating in competitions can benefit a firm. New York City-based Kohn Pedersen Fox (KPF) used a competition to pursue its first project in the health-care industry, an effort that earned a third-place award. Even though KPF didn’t win, the partners were delighted; the experience increased the firm’s knowledge of this market and positioned it for similar future projects.

In theory, competitions provide the possibility to secure commissions on pure merit. KPF’s London office entered 30 competitions (and won a staggering 17) in its first four years, giving the firm an almost instant reputation and workload. Competitions in Europe tend to be more frequent, shorter in duration, and less costly than those in the States, thus minimizing the risks and increasing the potential return for the architect.

The down side

Still, all competitions involve some risk for the professional. The biggest problem, according to New River, Ariz.-based architect Will Bruder, FAIA, is politics. Jurors frequently have personal agendas. Bruder cites a competition in which he participated where all five finalists were either former students or employees of jurors. “How can jurors be objec-

tive under those circumstances? It’s a travesty!” exclaims Bruder.

In the most egregious examples, clients or juries have chosen an architect before the competition begins. Architects have also charged that their ideas have been used even when they did not win. RECORD has received numerous complaints from architects who felt that their intellectual property had been appropriated without credit or remuneration.

For architects who don’t win, the costs can be substantial. Even if an honorarium is given, it rarely covers all the architect’s expenses. Michael Graves, FAIA, deems this “a hideous way to select an architect.” Notwithstanding the aforementioned successes of his firm, KPF, Gene Kohn, FAIA, believes it’s unfortunate that architects are eager to do competitions without a fee. He says these professionals are giving away their most valuable assets: creative ideas.

Because good buildings require the consensus of users and designers, competitions are further criticized because there is no dialogue between client and architect. Hugh Hardy, FAIA, of Hardy Holzman Pfeiffer Associates in New York City, believes the process is inherently flawed. Lacking “proper access to the client,” he says, “an architect alone cannot represent all the values required for the best buildings.” Schluntz suggests this may not always be the case: “Development of a detailed program for the competition should help distill the issues. After the architect is select-

ed, the dialogue begins anew.”

Recommendations

Entering competitions requires vigilance on the architects’ part. Critical assessments of selection criteria and jury predisposition are essential to understanding the politics. The financial risks are too high if a firm has no chance to win.

The architect should also understand the competition’s rules regarding intellectual property. Typically, the architect owns the “Instruments of Service” and grants the sponsor a nonexclusive license to publish and display submission drawings and models. Once ideas have been published and displayed, however, they can creep into the subconscious, making it difficult, if not impossible, to prove plagiarism. Having an agreement that binds the sponsor and each firm to the competition’s schedule, requirements, and honorarium prior to the start of the competition is a must.

The very best competitions result in better designs than the RFQ process and provide ways for architects to excel based on talent alone. Poorly run competitions, on the other hand, can mire architects in a political muck, which can be costly and unnerving.

The notion of the architectural competition is analogous to a Shakespearean play. In addition to the rarefied layer of design excellence, there’s an abundance of subtexts: power struggles, political agendas, and financial issues. Indeed, the Bard might have been “in love” with architectural competitions. ■

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CIRCLE 27 ON INQUIRY CARD

Does the “starchitect” system promote good design?

Critique

By Cynthia Davidson

Architects are normally called in when one intends to build a beautiful building: this is what we may well affirm architecture consists of today . . . all the rest of architecture, other than ornamentation, is of so little importance and of so little glory for architects that few of them are proud of it.

—G. B. Piranesi, *Parere su l'architettura* (1765)

These days, hardly a week goes by without a mention of Frank O. Gehry, FAIA, in the mass media. In late June and July alone, for example, the *New York Times* ran four articles, respectively, in the metropolitan, arts, and home sections, describing Gehry's current work in Chicago; Spain; Washington, D.C.;

Cynthia Davidson is editor of ANY magazine and a series of books documenting the Anyone Project conferences.

and Panama. Each article was illustrated with a photograph of the architect, not of the architect's work, in effect equating Gehry's thoughtful, slightly ruffled visage with the already well-known, shiny image of his Guggenheim Museum in Bilbao.

This media attention, clearly owed to the fantastic image and related success of the Bilbao building and not to the unrealized designs of the new projects being reported, cannot hurt the career of Frank Gehry. Name or face recognition may even help him get the power table at a good restaurant. But, is celebrity good for architecture? And for the many in the profession who have disparaged the so-called “starchitects,” can we argue that fame can also lead to good architecture?

I, for one—and I take myself to be in the minority—say yes to both questions. If the fame game is not played in architecture, then the pro-

fession is not engaged in contemporary life.

A celebrity culture

That celebrity drives the aesthetic and economic engines in America today is obvious to anyone who follows current events. Just recall the August launch of *Talk*, yet another celebrity magazine, only this time the editor, Tina Brown, is a celebrity herself. Or take last summer's show at the Museum of Modern Art in New York City, “Fame After Photography.” Mounted in galleries more reminiscent of the celebrity-inspired Hard Rock Cafe than the midtown bastion of high culture, the exhibition featured images of celebrities—all made famous by the power of the pervasive image—in and on everything from newsreels to magazine covers to cereal boxes.

Nowhere in this popular show—which to the crush of viewers on a July morning appeared to

be simply a trip down memory lane—was there a photograph of an architect. No Frank Lloyd Wright in his signature cape and porkpie hat; no Philip Johnson, FAIA, or I.M. Pei, FAIA, in their iconic owly glasses; not even Michael Graves, FAIA, hawking shoes or Target tea kettles. By comparison, “The Un-Private House,” an architecture exhibit in the adjacent galleries, was sparsely populated that day, with most viewers gathered around an interactive image-producing dining-room table.

Architecture and architects may not have a history in the image banks of mass-market media, but as “Fame After Photography” curators Marvin Heiferman and Carole Kismaric write, “In the visual culture we live in, there's no relief from fame.”

The image-driven media clearly has become the staple of the American cultural diet. The most powerful illustration of media's

Known by the masses (left to right): Philip Johnson, FAIA, Frank O. Gehry, FAIA, and Richard Meier, FAIA.



increasing manufacture of and reliance on fame for its own sake was its coverage of John F. Kennedy Jr.'s death last July. As photographs and video clips of the young Kennedy were endlessly replayed across TV screens and tabloids, one realized that, given his relative youth, JFK Jr.'s primary contribution to society had been his celebrity status itself.

As Heiferman and Kismaric write, "Human achievement doesn't appear on schedule, but newspapers, television shows, movies, and magazines have to." In his life and in his death, JFK Jr. served the media's voracious need to fill air time and column inches.

A different animal

Architecture moves too slowly for media's schedule. It is seldom seen as media material unless a roof collapses, leaving a dramatic photo opportunity in its wake, or, in the case of the Guggenheim Bilbao, something extraordinarily different and beguilingly photogenic rises on the landscape.

Neither scenario, however, occurs with any frequency. As a result, such an occurrence brings a certain degree, unwanted or not, of fame to the architect involved. It is simply the media's—and society's—way of assigning blame and/or credit

and a human face to an inanimate object. Yet architecture as a profession has seemed reluctant to claim a piece of media space or otherwise seek celebrity. For example, the AIA's managing director of communications, Charles Hamlin, declined to discuss the subject of fame in relation to the AIA's long-studied television advertising campaign, saying he thought the concept relatively unimportant.

But it may be to its own detriment that the profession continually denies rather than recognizes the power of the media image, whether it be of a famous face or a famous facade.

Signs of the times

How did fame become such a pervasive value of our culture? Times were simpler when architecture functioned as a sign, when a steeple signaled a church, or columns and a pediment the strength of society's basic institutions. The changes in social and economic values that accompanied and even fostered the Modern movement eventually reduced the power of the sign to an abstraction. The new "sign" became the image, the logo, or the cover photo, which in turn helped to spawn the visual culture that now predominates in the Western world.

As if unaware of the changes, architecture has relinquished its role as meaningful icon to the 30-second sound bite, becoming primarily a mute background to media's

visual cacophony. As a result, architecture's significance in the public eye was lost to the cult of the image and, concurrently, the cult of celebrity.

When Philip Johnson beamed from the cover of *Time* magazine in 1979, cradling his Chippendale-topped AT&T tower, he unwittingly ushered in a new era of architectural celebrity. Perhaps eager to recognize leaders of the new, image-making Postmodern style—an architectural movement that

York Times profile. As the proliferation of media demonstrates daily, fame is not the provenance of the few. But it is the few who achieve sustained celebrity, a status architects earn by consistently producing not only work that creates an image but also, in the case of Gehry and Rem Koolhaas, for example, original and important work.

The influence of media is a fact of life that architecture must learn to use. Repeated exposure may lead to a kind of celebrity sta-

REPEATED EXPOSURE CAN LEAD TO WORK OPPORTUNITIES FOR ARCHITECTS WHO MIGHT OTHERWISE REMAIN INVISIBLE.

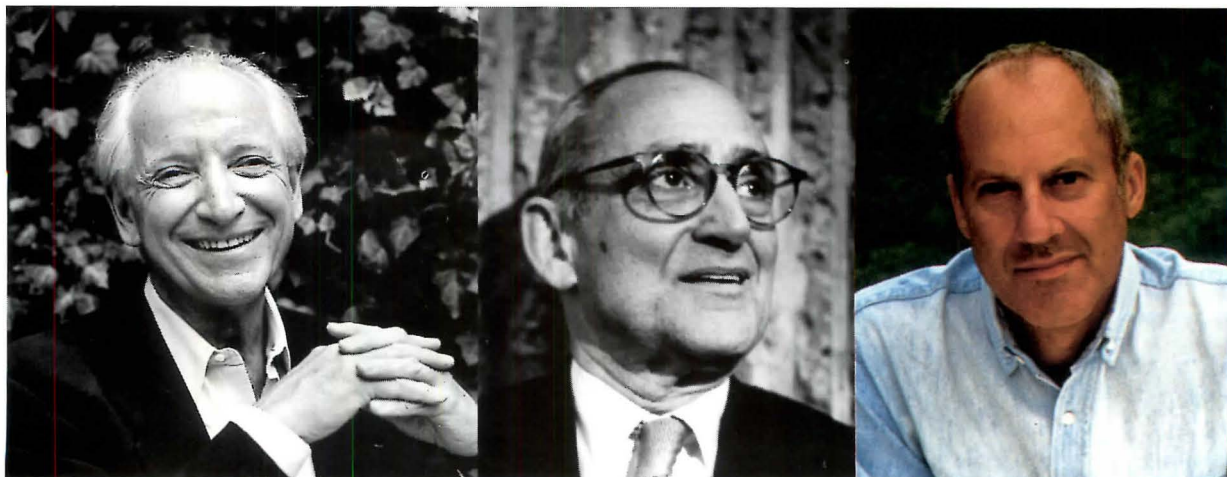
reintroduced signs like the column and pediment—the media tapped Johnson, Graves, and Robert A.M. Stern, FAIA, each of whom became nationally recognized. "Pomo" passed quickly, lasting maybe a decade, but the famous architect syndrome did not; indeed, there are more "starchitects" than ever. Richard Meier, FAIA, has been one since the 1970s, and the media hoopla surrounding his Getty Center in Los Angeles solidified his place in the public eye. Across the Atlantic, London's Lord Norman Foster has achieved a similar status.

The most recent is perhaps Peter Zumthor, the Swiss "recluse" whose celebrity status was announced in 1999 with a slim volume of thoughts, a richly printed, oversized picture book, and a *New*

thus, but it can also lead to work opportunities for architects who might otherwise remain invisible. Today, clients who want not just a building but an image that can be used for market advantage—the new IBM Headquarters in Armonk, N.Y., by Kohn Pedersen Fox is one example—often seek "stars" who attract media attention to bring their projects notice.

When architects use their celebrity to also bring such commissions to a level of distinguished design, this can only benefit the public and the profession as a whole. The media spotlight puts pressure on architects, for it raises public awareness, and expectations, of architecture, and in so doing it keeps architecture culturally at play. In this task, media and fame, are architecture's allies. ■

Star quality (left to right): Michael Graves, FAIA, Robert A. M. Stern, FAIA, and Lord Norman Foster, HON. FAIA.



Snapshot



By Elizabeth Harrison Kubany

Designed in 1964 by Kevin Roche, FAIA, and the late John Dinkleloo, the Fine Arts Center at the University of Massachusetts at Amherst is a Brutalist mass of cast-in-place concrete that houses a concert hall, black-box theater, and art gallery.

In between the volumes that contain the concert hall and theater, an open plaza formerly ran from north to south. Instead of creating one clearly identifiable entrance into a central lobby space, Roche and Dinkleloo put separate theater entrances on either side of the plaza. Their use of an architectural void to signal an entryway was problematic for several reasons.

The open plaza took the place of lobby space for the two theaters—an inappropriate solution for this temperate climate. Particularly in winter, this open space became a vortex and sucked in wind off the pond on the north side of the building, making it an uncomfortable place to be. Moreover, the entrances were shallow, with only about 12 feet between the entrance doors and the far walls of the

A trio of glass boxes makes a colorful entrance

Snapshot



Two types of glass offer differing levels of transparency to direct the viewer's gaze through the building (above and below). Colored lights animate the south elevation at night (below right).



theaters, giving patrons no place to gather before, during, or after performances. Finally, water leaking from the plaza into the art gallery below it was a constant problem.

The challenge for Perry Dean Rogers & Partners of Boston, commissioned in 1997 to solve these problems, was to define a 5,000-square-foot entrance that would act as a marquee—announcing the building's presence on campus—and a gathering space. Like a bejeweled howdah on the back of a two-ton elephant, the tiny shelter commands far more attention than the original 250,000-square-foot structure.

Conceptually, the project consists of three glass boxes—one large, central box and two smaller boxes—that connect the concert hall and theater and make a large gathering space while maintaining a link between the upper and lower parts of the campus. Two types of glass—semitransparent, cast channel glass (a German product where one piece of C-shaped glass interlocks with an adjacent piece) for texture and standard shop-front glazing—offer differing levels of transparency and direct the viewer's eye through the entrance.

In clear contrast to the massive opaque concrete volumes of the existing building, the new lobby is luminous and colorful. As design principal Peter A. Ringenbach, AIA, explains, "amid the dull, monochromatic mass of the concrete structure, the use of light and bright colors was intended to attract people to this object and announce it clearly as the entrance."

Plaster sculptural lanterns—the northernmost one painted bright yellow and the one in the center bright red—hang from the structure of two of the glass boxes. During the day, their bright colors are visible through the glazing. At night, the illuminated, painted surfaces fill the glass boxes with saturated color. At the south elevation, colored lights provide a continuously changing spectacle.

The new entrance, while of a different time and style, completes the existing building. Where

the original architects left only a void, Perry Dean Rogers & Partners has designed something powerful, which functionally and aesthetically fulfills its purpose and does so with flair. ■



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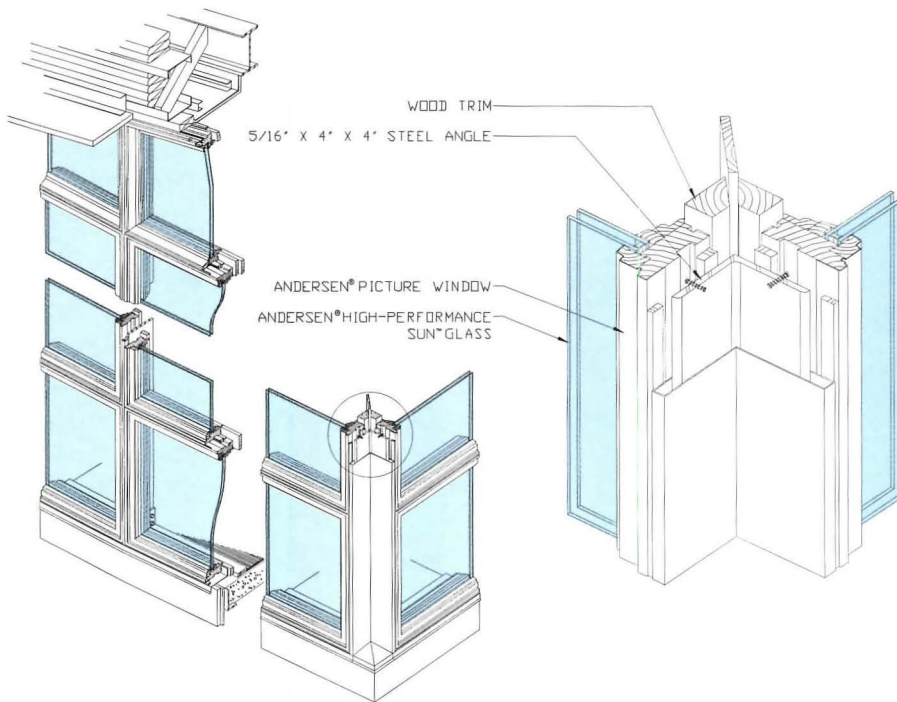
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CIRCLE 31 ON INQUIRY CARD

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CIRCLE 32 ON INQUIRY CARD





GSA: Uncle Sam speaks up for high design

The nation's biggest landlord just found style

By Andrea Oppenheimer Dean

If you want to see how American public buildings are changing, just look at Ed Feiner's walls. Edward Feiner, FAIA, is chief architect of the General Services Administration (GSA), landlord for 350 million square feet of space and director of the federal government's biggest building boom since the New Deal. On one wall in Feiner's Washington, D.C., office are images of Great Society-era federal building projects: isolated, faceless boxes, most of them designed by interchangeable firms. On the adjoining wall are drawings and photographs of recently commissioned projects. Most are urban-oriented and as diverse as their designers, among them Richard Meier, FAIA, Kate Diamond, FAIA, Henry N. Cobb, FAIA, Thom Mayne, AIA, Frances Halsband, FAIA, Mehrdad Yazdani, AIA, Robert A.M. Stern, FAIA, and Andrea Leers, FAIA.

What happened to effect this extraordinary change in course? At

Andrea Oppenheimer Dean is a contributing editor for RECORD based in Washington, D.C.

the turn of the last decade, two forces were pushing in the same direction. One came from the outside, from a new courthouse building program and the example of a couple of judges intent on nabbing the best architect for their new building. A similar impetus came from within GSA, largely instigated by Feiner, an unlikely bureaucrat. "If he didn't exist, we would have had to invent him," says Robert A. Peck, GSA's Commissioner of Public Buildings. Feiner—shod, as always, in cowboy boots and coiffed in a crew cut—will tell you excitedly in a Bronx accent that he was "always interested



Project: Oklahoma City Federal Campus
Architect: Ross Barney Jankowski
Consulting architect: The Benham Group
Budget: \$25-\$30 million
Completion date: 2002

n finding the basis of how design molds culture.” He arrived at GSA in 1981, charged, he says, with changing the quality of government design.

Opportunities to do so were scant during the Reagan and early Bush years, until 1990, when the government launched a \$10 billion building program. By coincidence, the government’s building boom began during the economic recession of the early 1990s when even widely published architects were short of work. Since the 1960s, the number of federal judges had nearly quadrupled; criminal cases alone had increased by nearly 200 percent between 1980 and 1990. Most old courthouses, bulging at the seams, were nightmares for the federal marshals in charge of security, mainly because existing circulation forced the public, judges, and defendants to traverse the same corridors and use the same restrooms. The courtrooms, themselves, were ill-equipped to cope with increasingly complex trials that often involved teams of attorneys, multiple expert witnesses, and sophisticated information technology. And so the bulk of new construction, about \$8 billion worth, would go to building 159 courthouses, of which 25 have been completed. An additional \$700 million a year was slated for modernizing existing courthouses.

Reinventing the standard

In Boston, district judges Douglas P. Woodlock and Stephen Breyer (now a Supreme Court justice) insisted that their planned courts building be exemplary and, consequently, helped reshape GSA’s criteria for selecting designers. Until then, GSA had favored large, unadventurous firms. Woodlock, an architectural history buff, says he was convinced that “government architecture is to architecture what military music is to music,” and that GSA, left to its own devices, would not select an architect worthy of the commission.

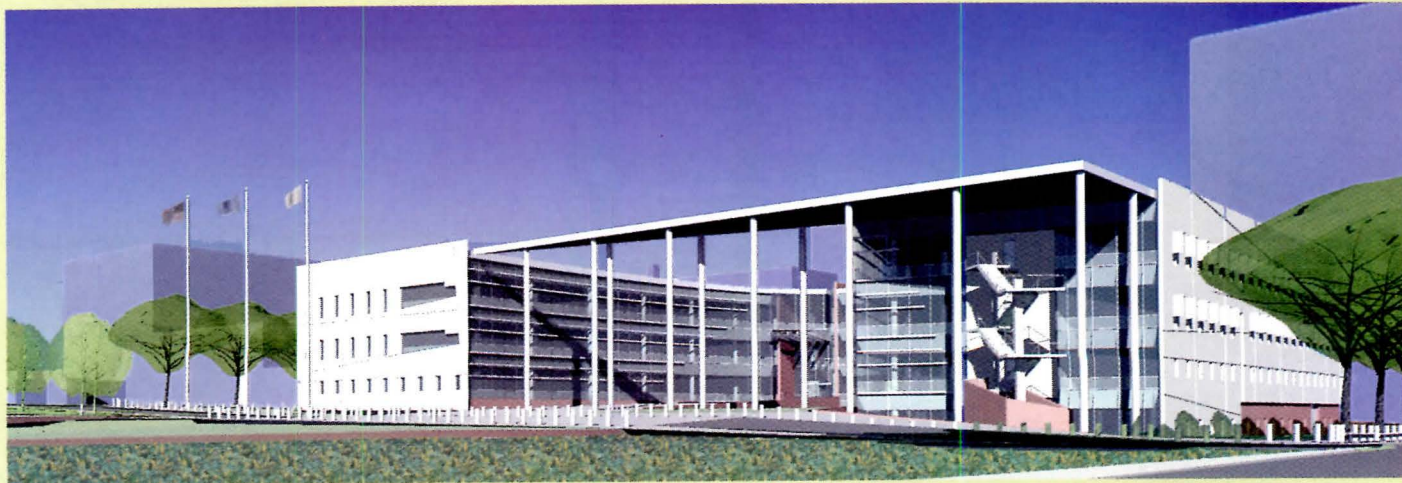
Observing an architect-selection process for another courthouse persuaded Woodlock that judges should be included. In 1991, Woodlock and Breyer took matters into their own hands. They insisted that Feiner be a member of their selection panel, an experience that opened his eyes,

Feiner says, about how the process should be conducted. The judges placed advertisements in *Progressive Architecture*, *ARCHITECTURAL RECORD*, and *Architecture* magazines “to inform the profession that this was not to be business as usual for GSA,” recalls Woodlock. And he and Breyer hired William Lacy, FAIA, secretary to the Pritzker Architecture Prize jury and an architect-selection consultant. Lacy helped draw up a shortlist composed of Gerhard Kallmann, FAIA, and Michael McKinnell, FAIA; David Childs, FAIA; Robert Venturi, FAIA, Moshe Safdie, FAIA, Cesar Pelli, FAIA, William Pedersen, FAIA, and Henry L. Cobb, FAIA. Cobb was the panel’s choice.

Feiner, meanwhile, had begun to make significant changes within GSA. In 1990, in an attempt to elevate the profile of design within the agency, he revived GSA’s design awards, which had been suspended for more than a decade. For three years, few new buildings made the final cut. Hoping to find ways of improving GSA design, Feiner brainstormed with all three years’ award winners and jurors. Hugh Hardy, FAIA, advised that if GSA really wanted to attract the best and brightest, it needed to shift the emphasis of architect selection to design talent, simplify the process, and add outsiders to the selection panel. Moving with uncharacteristic speed, GSA replaced its cumbersome and costly application procedure with a boiled-down, two-stage system that sought the best designer for the job. Feiner dubbed it the Design Excellence Program.

Number-one priority: Can you design?

By late 1993, architects answering proposal requests in the *Commerce Business Daily* faced a selection process that began by winnowing applicants on design-ability criteria. Competitors submitted a design portfolio accompanied by a statement of the lead designer’s intent and qualifications. Gone was the requirement for previous experience with the same building type. Gone also were the four-inch-thick application forms asking for lists and qualifications of every subcontractor. The reforms reduced the cost of applying and opened the door to new designers. Not until the second stage did specifics of the project team, the designer’s



track record, and the firm's experience with similar government buildings—formerly GSA's main selection criteria—become important issues. Now, a lead designer could compensate for inexperience—on, for example, a courthouse complex—by partnering with a seasoned firm that would act as architect of record. Similarly, a national firm new to an area could join forces with a local firm. All selection panels for projects estimated at more than \$25 million now include “peers”—GSA's moniker for accomplished nongovernment professionals, who participate in selecting designers and assessing their work during design review.

Since initiating the Design Excellence Program in 1994, GSA has extended it to all its construction programs. In addition to courthouses, it is building 20 to 22 office and laboratory structures a year, most of them under a lease-construction program, and spending \$30 million a year for new border installations. Jim King, director of the Border Station Center of Expertise in Fort Worth, says that although GSA will build only three stations in 2000, “there's potential for 30 to 40 projects in the future.” GSA is also applying its new approach to the renovation of 1,800 existing buildings—400 of which are listed on the National Register—especially to their interiors, “which send symbolic signals to the American people—many of them embarrassing,” says Commissioner Peck.

Dignity has no formula

The list of design architects recently commissioned by GSA suggests a laissez-faire attitude toward style. A minority view is represented by John Paul Carlhian, FAIA, who believes that historical styles are the most appropriate for public buildings. But GSA stands by a characterization of public architecture expressed by Senator Daniel Patrick Moynihan (D-N.Y.) in a

Senate subcommittee report he authored in 1962, as special assistant to Secretary of Labor Arthur J. Goldberg. The report opposed prescriptions while



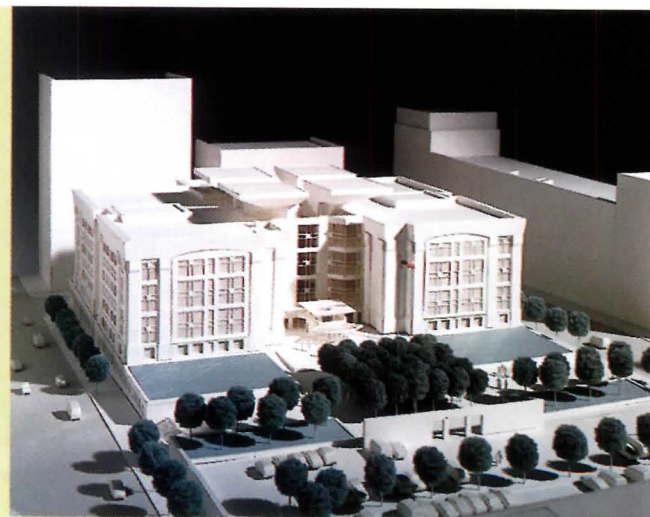
“We want a broad range of talent,” says Peck (above), “which means getting the right people on our selection panels and doing better outreach.”



Project: *United States Courthouse, Minneapolis*
Architect: *Kohn Pedersen Fox*
Associate architect: *The Alliance*
Total project cost: *\$91.5 million*
Completion date: *1997*



Project: *Mark O. Hatfield Courthouse, Portland, Ore.*
Architect: *Kohn Pedersen Fox*
Associate architect: *BOORA Architects*
Total project cost: *\$129.4 million*
Completion date: *1997*



Project: *Federal Building and United States Courthouse, Omaha*
Architect: *Pei Cobb Freed & Partners*
Budget: *\$49 million*
Completion date: *2000*

PECK SEEKS “ADVENTURESOME” DESIGN

Shortly after being appointed commissioner of GSA's Public Buildings Service four years ago, when the phrase “distinguished new public buildings” seemed an oxymoron, Robert A. Peck threw his support behind the fledgling attempt to upgrade GSA design from mediocrity to model. Peck, an attorney, had honed his design advocacy skills working for the National Endowment for the Arts' federal design improvement program during the 1970s, overseeing GSA's building program as Sen. Daniel Patrick Moynihan's chief of staff during the late 1980s, and serving as the AIA's chief lobbyist during the early 1990s.

“There were certain folks here who thought design excellence was silly,” he says. “To me that flew in the face of the history of federal architecture from the time of [George] Washington until the end of World War II. Then, something went seriously off the tracks. Take the Helena, Mont., federal building at the end of Last Chance Gulch. The building is ugly, and that's been the image of the federal government in Montana.”

To blame until recently, he believes, was the architect-selection process. “It used to be,” he says, “that we'd think, ‘I know I won't get into trouble if I pick a big firm that I know is safe.’ Since we changed our selection process, it's become, ‘I know I won't get into trouble as long as I pick a real star.’ But we want a broad range of talent, which means getting the right people on our selection panels and doing better outreach. We have to convince regional and emerging talent that it's worth their while to come in. We're not there yet.”

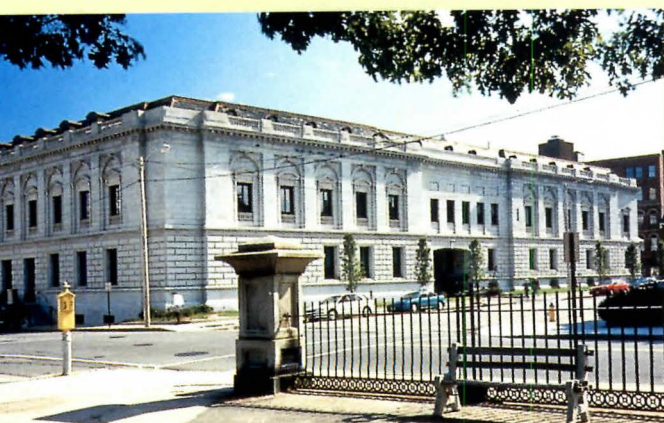
Peck regards design review by “peers”—GSA lingo for high-caliber non-government design professionals—as critical for proving the agency's commitment to quality. “Even if you select the best designers,” he says, “they may be tentative until they're sure you'll actually go along with their best work. At times in the past, GSA selected some pretty good designers,

but they wouldn't put their best people on the project or give it their best work because they were afraid to be too adventuresome for the government. It's good for them to have someone looking over their shoulder saying, ‘No, that's not good enough. Give it your best shot.’”

What about government agencies or departments that don't care about quality design or are leery of it? “The profession needs to make it clear that quality design is not distinct from design that works,” he says. “And you have to say, ‘Do you really want to be on the trailing edge of public image or do you want to be out there with something up-to-date, creative, a little adventuresome?’”

Peck dismisses charges that good design costs too much. “We may be paying a little bit more for good design,” he says, “but on a \$60 million project, the difference is maybe a tenth of a percent of the total. The design fees are, in some cases, tragically low and capped by statute. We've set up a system of cost benchmarks. Where we're clearly paying more—and I don't apologize for this—is in the construction.” GSA recently extended the design excellence program to construction, and Peck recounts that when a crooked contractor complained to his senator about being eliminated from consideration for a project, “I told [the contractor], ‘for 20-plus years you've been a low-ball artist, a change-order artist, and we're not going to hire you 'til you change around.’”

A big design issue, he says, is providing security without sacrificing openness—“a huge opportunity for architects. It's up to them to help us prevent security from overwhelming everything else, to the point that buildings aren't attractive or friendly or inviting.” If failure results, he says, “a time will come when the public reacts with, ‘Those damn bureaucrats are walling themselves off from the people they're supposed to serve.’ We can't let that happen.”



Project: U.S. District Courthouse
(Edward Gignoux Federal Courthouse), Portland, Maine
Architect: Leers Weinzapfel Associates
Cost: \$13 million
Completion date: 1996



Project: U.S. District Courthouse
(Harold D. Donohue Federal Building and Courthouse), Worcester, Mass.
Architect: Leers Weinzapfel Associates
Cost: \$14 million
Completion date: 1995



recommending “an architectural style and form which is distinguished and which will reflect the dignity, enterprise, vigor, and stability of the American National Government.” In courthouse design, observes William Pedersen, GSA’s attitude toward aesthetic expression is, however, often sabotaged by “more conservative judicial clients,” namely judges.

Tweaking the new, improved system

For Feiner, the matter is simple: he wants his agency’s buildings to pass muster with the aesthetic sensibilities of design professionals and for the public to like them. In fact, one of his favorite trophies is a telephone book for Berkeley, Alameda, and Oakland; gracing its cover is the Oakland Courthouse and Federal Building, designed by Kaplan McLaughlin Diaz. “Imagine,” Feiner says, “Berkeley with a picture of a government building on its phone book.”

GSA’s amended selection has, in fact, attracted firms such as Thom Mayne’s Morphosis that would not have applied for government commissions or, perhaps, even been considered under the old system. Still, very few minority firms apply for commissions, a failing that Feiner is attacking mainly by spreading the word about GSA. More small firms will be attracted, Feiner believes, as jobs for smaller courthouses and more border stations come on line.

Another weakness in GSA’s push for design excellence is inescapable: the staffs of the agency’s 11 regional offices are not uniformly knowledgeable or interested in design. For example, asked his opinion of GSA as a client, Richard Meier remarked, “The judges were the client.”

The peer-review process has been evaluated and criticized during annual discussions between Feiner and the peers. As a result, GSA now introduces review earlier in the design process and has expanded a single review session to three. Feiner concedes that, in some cases, review can be a mere formality, especially when the reviewer may fear antago-

nizing an eminent designer who can ignore recommendations anyway.

To architects’ complaints that they are prevented from seeing their designs through to completion, Peck responds that he, too, is concerned with follow-through. GSA employs construction managers, who, he says, stepped into the void left when “someone gave architects bad advice, telling them not to supervise construction. You get sued anyway; lawyers sue everyone in sight once they decide to go for it.” Feiner says he’s open to any changes that can improve the final product.

The main criticism from officials, the public, and the press has had to do with—you guessed it—costs. Kohn Pedersen Fox’s 1996 Foley Square Courthouse in New York City was censured as a wasteful folly, and Cobb’s Boston courthouse of 1998 was castigated as “a Taj Mahal” while

“IMAGINE,” SAYS FEINER, “BERKELEY WITH A PICTURE OF A GOVERNMENT BUILDING ON ITS PHONEBOOK.”

in construction. Architecture critic Robert Campbell, FAIA, who reported on the Massachusetts controversy for the *Boston Globe*, recalls that a congressional subcommittee “accused the architect of seeking to do a distinguished building, as though that was a crime. That’s what architects should be trying to do.”

GSA, whose erratic budgets are vulnerable to congressional impulse, responded by establishing benchmarks for construction costs that are updated every couple of years. As a group, however, courthouses are 15 percent more expensive than office buildings because of security



Project: U.S. Courthouse (Sen. Robert C. Byrd Courthouse), Charleston, S.C.

Architect: SOM, New York

Associate architect: Gandee/Kreps Associated Architects

Cost: \$80 million

Completion date: 1997



Project: Federal Building and United States Courthouse, Las Vegas

Architect: Dworsky Associates

Associate architect: HCA

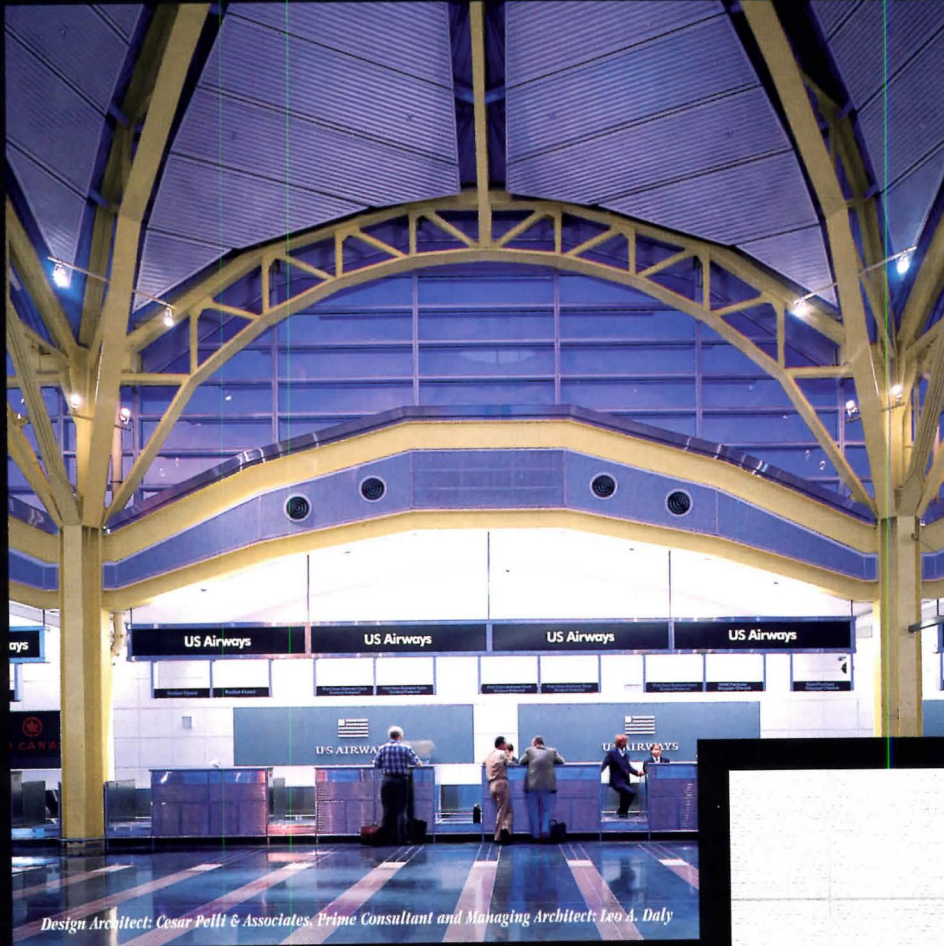
Executive architect: Langdon Wilson

Budget: \$90 million

Completion date: 2000



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CIRCLE 33 ON INQUIRY CARD

measures and information technology, not aesthetic extras.

Most of the remaining challenges to improving public building design have to do with risks and the willingness to take them. One obvious threat to maintaining GSA's momentum is government inertia. "If you stand still, you die," says Feiner, warning that it's important both to go slowly and to take risks. The inherent conflict of security needs for a building accessible to the public is, perhaps, the thorniest problem. Last December, Sen. Moynihan, while introducing a symposium on the subject, insisted, "We will not let Timothy McVeigh be our most influential architect. Worrying is a lot easier than learning that we cannot do anything about risk but move it around."

The experience of Carol Ross Barney, FAIA, designer for Oklahoma City's new federal courthouse and office building, highlights the issue's ambiguity. She recounts that when prospective tenants—people displaced from the former Alfred P. Murrah Federal Building—were surveyed, they said their primary concern was security; second most important, they said, was having a parking space next to the building.

The Feiner effect, its problems notwithstanding, is spreading to state and local governments, first to courthouse construction, which gratifies Feiner. "Someone once asked me if we're creating great buildings," he says. "I think there probably are some in the pile, though we can't predict which ones. But if you took a baseline and asked, in toto, Is this better than before? I think the answer would be yes." It's hard to disagree. ■



Project: U.S. Border Station, Sault Sainte Marie, Mich.

Architect: Ross Barney Jankowski Architects

Budget: \$10 million

Completion date: 2001

WHAT ARCHITECTS SAY ABOUT GSA

Andrea Leers, FAIA: "The GSA process has improved tremendously. I think GSA is looking to cut through the cumbersome procedures, but they're up against a mountain. When we begin a GSA project [her firm has done three], we get a carton full of loose-leaf notebooks with guidelines. It's daunting."

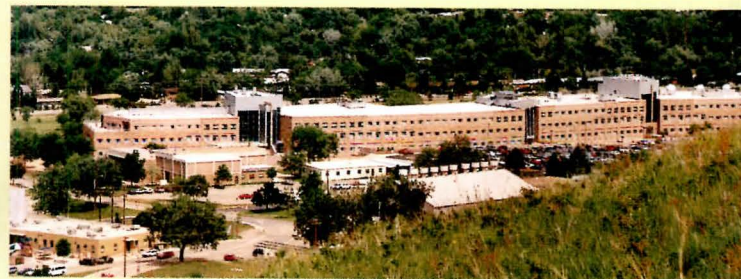
William Pedersen, FAIA: "GSA compares favorably to the best institutional clients. There's a genuine attempt to find a legitimate architectural expression for government buildings."

Carol Ross Barney, FAIA: "The Design Excellence Program eliminated the need to have experience in the building type. Also, the regional GSA officers have become more sensitive . . . There are frustrating things: you can't get a slower-moving client. But the current regime is willing to look at unorthodox ideas; in some ways, they may be at the cutting edge."

Henry N. Cobb, FAIA: "It's a process with an attitude of openness, of testing things, getting feedback—things you don't associate with bureaucracies. That said, not enough responsibility and authority is placed in the hands of the design architect . . . It's a problem; not a fatal flaw."

Thom Mayne, AIA: "When my office shows up with two commissions at once, I suspect that must signal something. At the beginning, I was enormously skeptical. But you sense you have someone who knows who you are and wants you. You can't get a better start than that."

Richard Meier, FAIA: "I thought the selection process went pretty well; I was chosen. Of course, they put monkey wrenches in our way; that's how the government works. [During the process] the budget for our courthouse in Islip [N.Y.] was reduced 12 percent. The program wasn't reduced 12 percent. But they do come out with a better building than any other group in government."



Project: David Skaggs Research Center, National Oceanic & Atmospheric Association, Boulder, Colo.

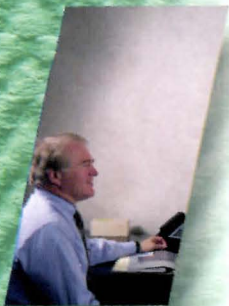
Architect: Fentress Bradburn Architects

Cost: \$57 million

Completion date: 1999

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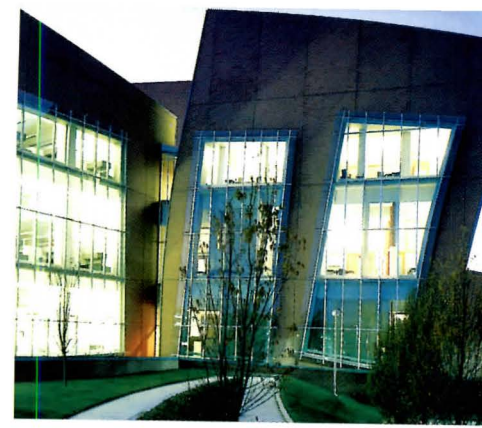


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CIRCLE 38 ON INQUIRY CARD

THE AMERICAN CAMPUS

Universities and colleges, such as the University of Cincinnati, are devising architectural and planning strategies for dealing with the pressures of growth.



By Suzanne Stephens

The construction boom at colleges and universities in the last decade has been good for architects. And, it goes on: F. W. Dodge reports that \$4.4 billion was spent on college facilities in the U.S. in 1999, up 54 percent from the previous year. *American Schools and Universities* magazine reports that more than \$24.3 billion will be spent from 1999 to 2001. About 70 percent is for new construction. But what has the boom done for the architecture and planning of campuses?

To accommodate their undergraduate and graduate students, who in 1995 numbered about 14.3 million, schools and universities have been rethinking their planning strategies and are trying to rectify mistakes made in the last growth period in the 1960s and 1970s. At that time, many colleges and universities, once considered models of community cohesion and architectural identity, devolved into a chaotic hodgepodge of mediocre buildings surrounded by parking lots. Correcting past errors, retaining continuity with existing architectural heritage, and allowing for growth obviously takes imagination, critical judgment, and (let's be real) money. There is also another important ingredient: clients prepared for the long haul.

The University of Cincinnati, which has spent more than \$1 billion on capital construction in the last 10 years, illustrates this point particularly well. Faced with reshaping an overbuilt campus, university officials brought in architects with high-design reputations, as well as a master planner in the vanguard of landscape design. In addition to affirming the desire for improved architectural quality, the new master plan calls for designing infill buildings that leave more open space, create pedestrian connections between campuses, and change parking lots into green areas.

We love the halls of ivy

Until about 1940, colleges were paradigms of architecture and planning, as John Venable Turner shows in his book *Campus, an American Planning Tradition* (AHF/MIT, 1984). In the 17th and 18th centuries, they were built around open quads or yards, such as Harvard, or malls, such as the University of Virginia. During the 19th century, more informal landscape planning and a relation to nature were favored, especially where land was plentiful. The Beaux Arts influence in the early 20th century reintroduced a formal order, and the English medieval enclosed quadrangle came back. But after World War II, the modern campus, arranged according to circulation patterns, and new buildings, conceived as objects in space, predominated. By then, many campuses, once so unified in image, had grown into messy compilations of architectural and planning typologies.

Even paradigms aren't perfect

Even the most revered campuses, over time, have experienced problems that sound familiar today. In October 1909 in *ARCHITECTURAL RECORD*, Montgomery Schuyler called Harvard a "higgledy-piggledy" grouping of "raw and bald brick edifices." Schuyler's description of 19th-century Harvard could be applied to the University of Cincinnati in the early 1980s. Except that Cincinnati's far worse situation would have made Schuyler roll over in his grave. Cincinnati had been founded as a city university in 1819, starting with a law school and medical college. Michael Graves, FAIA, who studied there in the 1950s, remembers it as a "streetcar school," where most students commuted from home. It had one main quad (Baldwin) and old Colonial or 1920s Beaux Arts brick buildings enhanced by the patina of age. "You walked everywhere," Graves recalls, "it was very domestic in scale." Any potential charm he remembers was all but eradicated by the growth in the 1970s. By the beginning of the 1980s, about the only common denominator was brick. "There was no architectural statement," says Ron Kull, AIA, the university architect, "you couldn't do much except plant kudzu."

Give me architecture over kudzu

Burgeoning enrollment had prompted ungainly construction at Cincinnati. When the school became a state university in 1977, its student population mushroomed from 15,000 students to 35,000. In the early 1980s, the incoming president, Joseph Steger, decided to deal with its second-rate architectural image right away. Steger explains his approach today: "With a diverse student body and curricula, we said 'Why not enhance the diversity with architecture?'" The school, he knew, could never have the cohesion of the University of Virginia. "Even if it did," he says, "That would be boring." Fortunately, he found a knowing ally in Jay Chatterjee, then the new dean of the School of Design, Arts, Architecture, and Planning (DAAP).

Chatterjee had already been agitating to have a nationally known architect renovate and expand the DAAP building. Starting in the 1980s and continuing to the present day, Chatterjee and Steger, joined by Kull and the vice president of finance and administration, Dale McGirr, have brought in big-name architects to work with local firms to design a group of buildings for the West Campus. The architects included Peter Eisenman, FAIA, who got the commission to design the Aronoff Center for Design and Art (1996); David Childs, FAIA, of SOM, who designed the Edwards Center (1992); Michael Graves, who did the Engineering Research Center (1995); and Henry Cobb, FAIA, of Pei Cobb Freed, who



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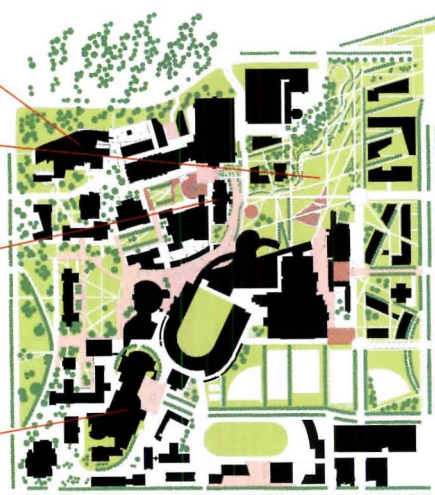
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UNIVERSITY OF CINCINNATI/WEST CAMPUS



EAST CAMPUS



The master plan by Hargreaves Associates shows proposed new construction (near left and bottom edge) and new buildings on campus: 1. The Vontz Center (Gehry); 2. Aronoff Center (Eisenman); 3. Walker Memorial (Machado Silvetti); 4. Engineering Research Center (Graves); 5. C-CM (Cobb)

just finished the College-Conservatory of Music (1999). Now Frank Gehry, FAIA, has designed the Vontz Center for Molecular Studies on the East (medical) Campus [see page 80]. Machado and Silvetti Associates was commissioned to create a 60-foot-high monument for Sigma Sigma honorary fraternity in the open space designed by Hargreaves Associates, a landscape firm with offices in San Francisco and Cambridge, Mass.

A new kind of plan

George Hargreaves, a landscape architect known for his geometrical earth forms and unusual textures, was hired to conceive the master plan for Cincinnati in 1989, after he had come to Chatterjee's attention. "Here was a young man on the rise who would give us a different product," says Chatterjee. Hargreaves had never done a master plan for a campus before, but the clients were willing to take a risk. Hargreaves and his project landscape architect, Mary Margaret Jones, went to work to provide the connective tissue between the West and East campuses and create a sense of place out of the 168 acres. Also needed was 2 million square feet to be added to the physical plant, which would mean a total of 12 million square feet of buildings. As a result of the plan, Cincinnati has managed to increase its open space by about 25 percent over the last 15 years. Some buildings were razed, others were converted to different uses, and new ones were fit into densely packed clusters. Parking lots, however, remain an asphalt blot, which the university is still in the process of removing, as more linked pedestrian walks, transit, and garages are put in place.

Hargreaves' sculptural landscaping—in evidence in the Sigma Sigma Commons, the medical center's University Commons under construction behind the Vontz Center, and three other such public spaces—is a far cry from the elm trees, ivy, and rhododendrons in campuses of yesterday. His landscapes stress manipulating the earth and precisely trimming low vegetation in geometrical patterns that often relate to buildings nearby. "Landscaping is the fifth facade of the building," Hargreaves states.

Still Hargreaves' design stamp has its critics. Graves, whose building overlooks the Sigma Sigma Commons and forms a link to Hargreaves' Library Square, comments, "Traditional landscaping and walkways for the spaces between buildings would work better in putting the Humpty-Dumpty of the Cincinnati campus back together. 'We're not looking for avant-garde here.'"

On the other hand, Rodolfo Machado, a colleague of Hargreaves at Harvard, who designed the distinctive, 60-foot-tall, concrete, stainless-steel, and wood Walker Tower for the Sigma Sigma honorary fraternity in the Commons, defends the concept: "A figural architectural ground plane helps make a place and define it."

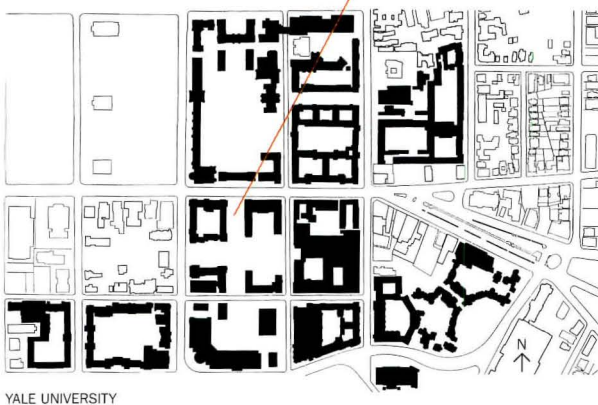
Planning strategies elsewhere

Other universities share some of Cincinnati's planning principles (but do not necessarily embrace their sculptural approach to open space). Having executed master plans for the University of Virginia, Emory University, and Johns Hopkins University, the Baltimore firm Ayers Saint Gross is a strong proponent of high density (but not high towers) and expansion through infill. "Density makes sense because it cuts down on infrastructure needs, reduces crime and encourages walking," says Jim Wheeler, AIA, a principal in the firm. Another principal, Adam Gross, AIA, adds that parking is the most severe problem on campuses. Housing students on campus can cut down on cars and "goes hand-in-hand in creating a collegial feeling."

Dorms make a comeback

The University of Cincinnati has been revising its master plan to entice more students to live on campus. It is not alone. Colleges and universities across the board are realizing that the best way to promote a sense of community and reduce dependence on cars is to build new residential halls or renovate old ones [such as the Berkeley College at Yale, page 94] and to make them more attractive to students by adding food courts, more bathrooms, and other amenities. An architecturally appealing stu-

The plans of Yale and Simon's Rock show the different approaches to campus design evolved since the 17th century, from the open and enclosed quads (below) to buildings in the landscape (right). New work includes: 6. Berkeley College (Kieran Timberlake & Harris); 7. Fisher Center (Bohlin, Cywinski, Jackson).



6



SIMON'S ROCK COLLEGE OF BARD



7

udent center also helps promote that old collegial feeling. At Penn, Venturi Scott Brown has been designing Perelman Quadrangle, a student center complex that involves renovating three historic buildings and designing a new addition to another. Although towers have proved to be unpopular with students (and university officials), the existing high-rises at Penn's Hamilton Village are being renovated by Kieran Timberlake & Harris of Philadelphia [see RECORD NEWS, page 38].

Housing and other student services in the revised master plan at the University of Cincinnati involve more brand-name architects. The projected construction (another 400,000 square feet) will take place along a not-yet created Main Street situated, for the most part, on the West Campus. Gwathmey Siegel is designing a student union there, Leers Weinzapfel is doing an enrollment services building, and Moore Ruble Yudell a student services facility. In addition, Morphosis is drawing up a student recreation hall that will incorporate residential space, and William Rawn Associates, with Centerbrook, is designing a dormitory. Because Main Street will have shops and cafes where students gather, Kull sees it as a strong link. "In three years, all this will hang together as a street that goes diagonally across two superblocks connecting the east and west campuses," he says.

Growth and the client

Despite the pedestrian emphasis, Cincinnati could still use advanced transit. Keeping the ever-expanding campus to a walkable, livable, and teachable size consistently presents a problem for colleges and universities. "We need to put a lid on the total gross square footage of buildings, the number of students and faculty, and the acreage of the campus," says Adam Gross. Yet universities with high student enrollments at one site tend to want to grow to attract more students, revenue, and research money.

Making growth an asset through architecture and planning takes time. And the staying power of the client is crucial. Most architects concur with Chatterjee's assessment that "Longevity is the characteristic

of success." Gross explains, "Mistakes are often made when reacting to an issue that must be resolved in the short run."

Money counts

Focusing on good architecture; low-rise, high-density buildings; pedestrian connections; living on campus; and landscaping means money. MIT will spend \$700 million in construction over the next five years with buildings by prominent architects that include Gehry, Fumihiko Maki, and Steven Holl, AIA. Meanwhile, Yale has commissioned Polshek and Deborah Berke for arts buildings, and it is putting \$500 million into new construction and renovation of its science and engineering buildings.

Stanford University, which has one of the nation's architecturally outstanding campuses, designed in 1888 by Frederick Law Olmsted and Charles Coolidge of Shepley Ruten and Coolidge, is spending \$650 million in the next three years on renovation, expansion, and new construction. Possibly fearing its architectural identity might be weakened by growth, Stanford has launched a competitive design process that has resulted in buildings by James Freed, FAIA, of Pei Cobb Freed; Hardy Holzman Pfeiffer; Ricardo Legorreta, HON. FAIA; Polshek and Partners; Antoine Predock, FAIA; and Robert A.M. Stern Architects. With 16,000 students spread out on a 1,500-acre campus, Stanford hardly has the density problems of Cincinnati. But then again, it has more of an architectural tradition to hang on to.

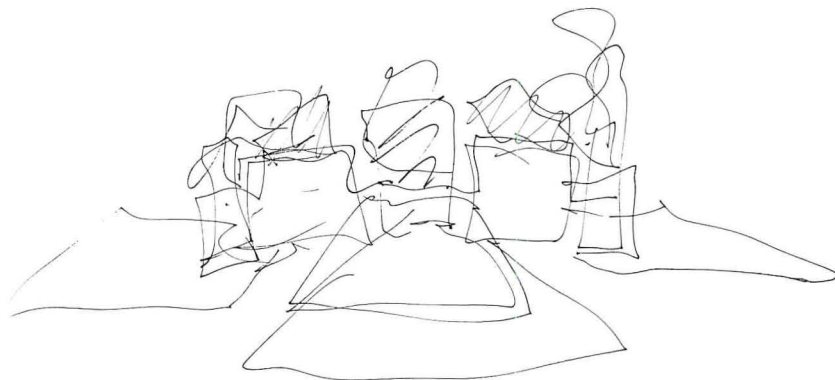
Placing high hopes on architecture can end in disappointment. Montgomery Schuyler criticized Princeton University's architecture for being too individualistic in 1910 [RECORD, February 1910] and blamed this condition on donors' desire to be enshrined by distinctive buildings. As can be deduced given some of the names of new buildings (and now open spaces), rich alums are still important. With this money and effort, let's hope that the right strategies are being adopted. The University of Cincinnati is still very much a work in progress, and even some of the new work could use a little kudzu. Over the years, who knows. Our perceptions today about Harvard and Princeton are not Schuyler's of a 100 years ago. ■



At the University of Cincinnati, Frank Gehry designed a sculptural complex of forms as a gateway building to the medical campus.

Gehry says about his contoured design (above and opposite), "Artists have it easy. They don't have to worry about windows."

ANALYSIS Frank Gehry veers away from the brick box with his dynamic **VONTZ CENTER** at the University of Cincinnati



By Suzanne Stephens

So titanium doesn't wrap the Vontz Center for Molecular Studies at the University of Cincinnati. It's just plain old brick. Nevertheless, the first completed work by Frank Gehry, FAIA, since his shimmering Guggenheim Museum Bilbao opened (October 1997), still screams *Architecture*. The center, like so many of Gehry's designs, demands to be addressed in terms of its form, that is, as an aesthetic object. It is a far cry from the brick boxes that clutter so many American campuses.

It helps that Gehry doesn't use brick in a plain old way. But interestingly, he does not ask a brick "what it wants" à la Louis Kahn, either. If Kahn felt a brick wanted to be an arch, Gehry has decided the brick wants to be a bulge, (even if the bulge lacks the structural rationale of the arch). Going beyond Kahn, he has also gone against the brick's grain. And he doesn't stop there. By splitting up the building into a connected cluster of contoured masses, Gehry further departs from a conventional structure. "It's a still life of brick chunks," he explains. In counterpoint to his curving shapes, Gehry has kept the expanses of glazing flat and pushed the gridded fenestration out from the skin. "This way the sheets of glass look lighter," he explains.

Irony and perversity in Cincinnati

The result is startling, in many ways because it is so volumetric in feeling without being tectonic, that is, without indicating how those volumes are determined structurally. To begin with, the Vontz Center has a concrete column-and-slab frame. Because of the concave and convex surfaces, the brick could not be laid the normal way. Brick panels had to be fabricated off-site where they were assembled in sections, reinforced with rods and grout, and placed in a steel armature. Then the panels were attached to the concrete structure. (Needless to say, the curves required very precise computer drawings.) The irony, of course, is that brick prefab panels are anathema to most architects because they look like cheapo wallpaper. And yet the effect at the Vontz Center is opposite. While the grid for the brick panels is easy to spot, the workmanship and the texture of the brick are both good: they give the contoured skin an unexpected crafted quality. In



sum, the perverse use of brick, the pronounced extrusion of the fenestration, and the lopsided forms create an eye-catching abstract sculptural landscape that retains a sense of scale and context.

Another surprise is that the building is whimsical without seeming to strain to amuse. As R.W. Apple noted in the *New York Times* (October 29, 1999), the Vontz Center "looks like one of those cartoon buildings that are jumping off their foundations, almost ready to burst." This cartoon theme in Gehry's work is discussed in more detail by Michael Sorkin in his insightful essay in *Gehry Talks: Architecture + Process* (Rizzoli). While Sorkin does not refer specifically to the Vontz

Project: *The Vontz Center for Molecular Studies, Cincinnati*

Owner: *The University of Cincinnati*

Architect: *Frank O. Gehry and Associates—Frank O. Gehry, FAIA; principal; Jim Glymph, AIA, Hiroshi Tokumaru, Randall Stout, AIA, Michael Maltzan, Matt Fineout (design team)*

Architect of record: *BHDP—Carl Monzel,*

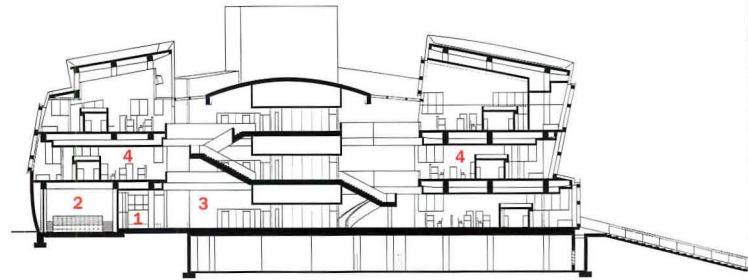
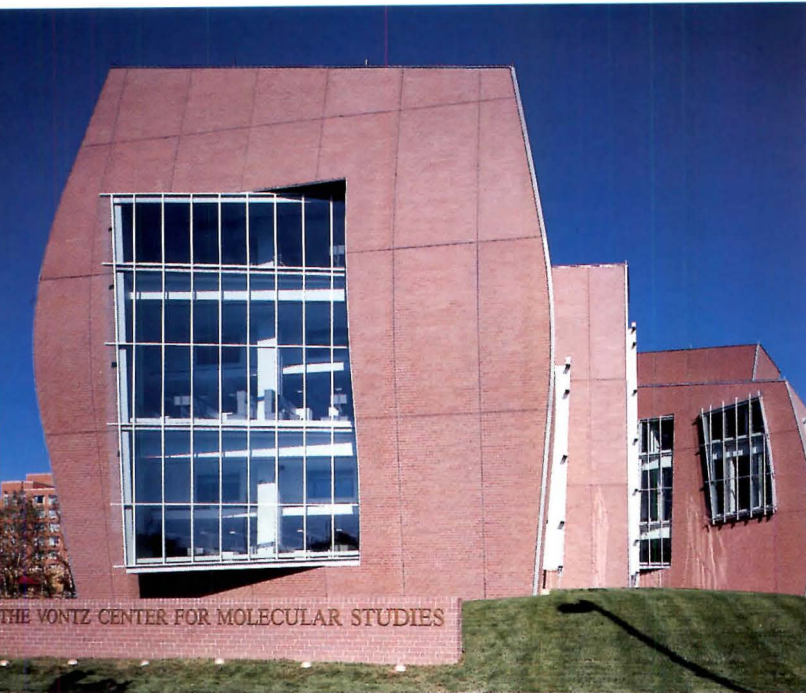
partner-in-charge; Terry Briggs, project architect; Tracy Santoro, George Kemper, Mike Fraser, Pam Lilley, Rick Howard, Greg Hutzler, Jim Knappenberger

Associate architect: *Stallworth Architecture Inc.*

Consultants: *THP Ltd (structural); HAWA (mechanical); Earl Walls Associates (laboratory)*

No elevations are alike at the Vontz Center, on the edge of Cincinnati's medical campus. Glass expanses recede and protrude from the brick-paneled curved walls to enliven the north elevation

(below), the east (bottom and right), and the west one (opposite). The latter opens onto a commons being completed by landscape architect George Hargreaves, the university's master planner.



1. Entrance
2. Lecture hall
3. Atrium
4. Offices





Center, he observes that Gehry often creates a happy tension between the “familiar Platonic solids and a set of spontaneous forms.” Like the balletic hippos in Walt Disney’s *Fantasia*, Sorkin notes Gehry’s shapes “are dancing not-cubes and not-rectangles, distorted away from the familiar.” Still, they don’t lose their connection to reality.

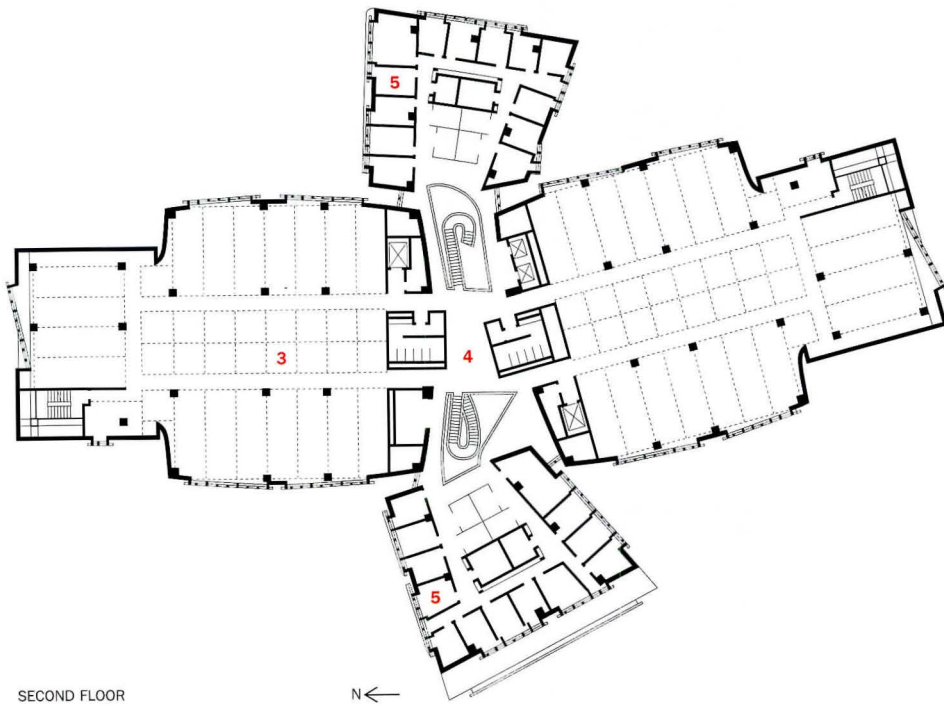
Naturally, Gehry’s bouncy solution for a scientific research center might raise some questions, such as How does the building function for its cancer and neurosciences researchers? Does it generate built-in construction and maintenance headaches? Does the unusual environment inspire scientists to be creative? Finally, what does the Vontz’s idiosyncratic form suggest for future science buildings?

The story behind the bulge

As mentioned, the University of Cincinnati has been implementing a major plan in the last two decades to give some cohesion to its two campuses, the West Campus for arts and sciences and the East Campus for the medical center. Selecting Gehry was part of a process initiated in the 1980s to inject architectural oomph into a dreary setting. The president of the university, Joseph Steger; along with the dean of the College of

Design, Architecture, Art, and Planning (DAAP), Jay Chatterjee; the university architect, Ron Kull, AIA; and the vice president of finance and administration, Dale McGirr, started pairing high-profile architects with local firms. So far designs by David Childs, FAIA, at SOM; Michael Graves, FAIA; Peter Eisenman, FAIA; Henry Cobb, FAIA, of Pei Cobb Freed; and Machado and Silvetti Associates have been completed. More such architects are slated for the future. Providing the “connective tissue” between the buildings is the master plan by George Hargreaves, a landscape architect from San Francisco and Cambridge, Mass.

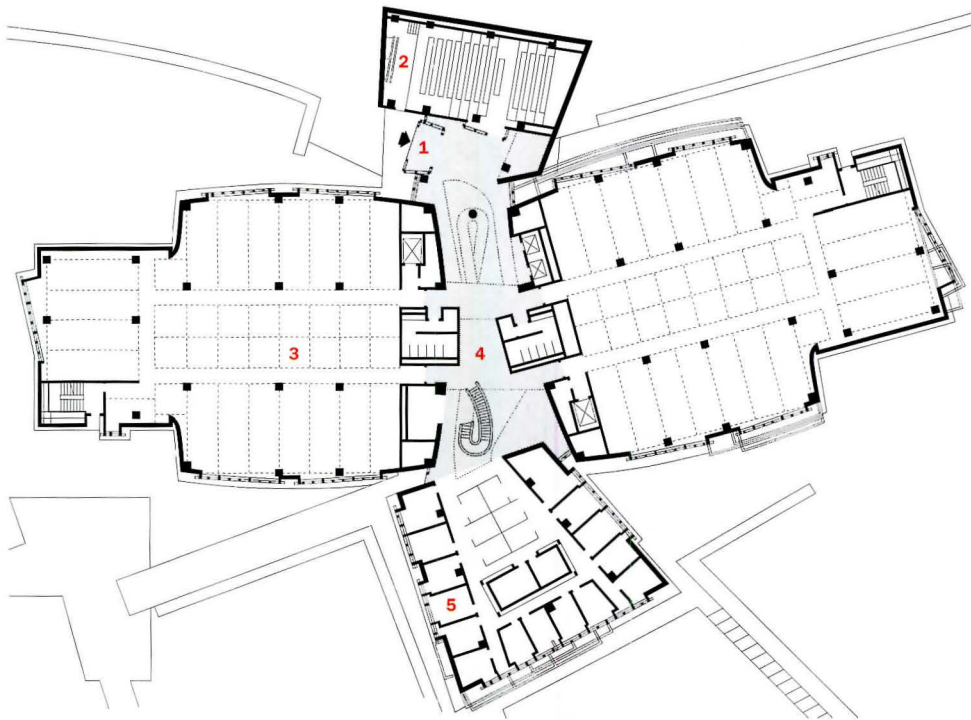
After Gehry was interviewed for the College-Conservatory of Music—a commission that eventually went to Cobb—he was proposed for the Vontz Center. A “gateway” building to the medical center’s campus was desired. Donald Harrison, the senior vice president and provost for health affairs, particularly wanted the architecture to reflect the increasing importance of medical research at Cincinnati, where outside funding has tripled in the last 10 years. The site was at the edge of the medical campus, on land reclaimed from a parking lot and recreation field. Because the Vontz Center would be in a bowl between two hills, even its roof would be visible from a number of vantage points. Furthermore, it was surrounded



SECOND FLOOR

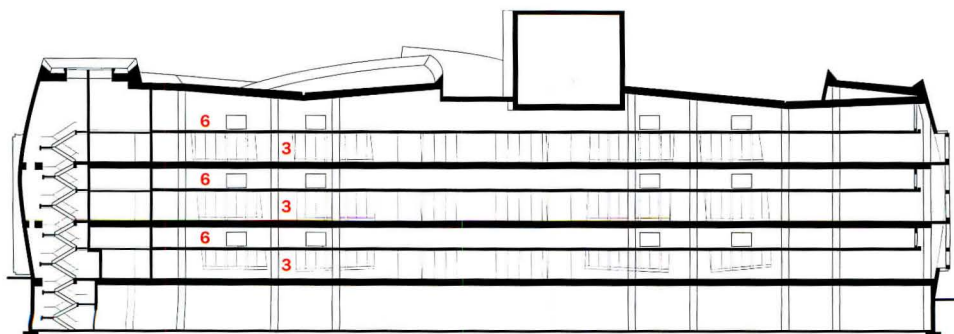


A bent crossed-axis plan (left and below) with a central atrium (opposite bottom) provides the basic parti for the Vontz Center. The three floors of labs, an open grid of concrete columns, and pan-joint floors are served by interstitial spaces. A skylight illuminates the central atrium (opposite top).



FIRST FLOOR

- 1. Entrance
- 2. Lecture hall
- 3. Laboratories
- 4. Atrium
- 5. Offices
- 6. Interstitial floors



LONG SECTION THROUGH LABS AND ATRIUM LOOKING EAST

0 20 FT.
6 M.



by other midrise brick buildings. University officials were reluctant to depart from this context, although they were already aware of Gehry's penchant for metal.

Working with a name

Donald Harrison admits to being suspicious of "signature" architects. Above all, he wanted to make sure the 150,000-square-foot building functioned. Fortunately for those concerned, Gehry was amenable to working with Earl Walls, the laboratory designer, who had made his reputation with Louis Kahn's Salk Institute in La Jolla and was consulting on two buildings at Cincinnati's medical center. Walls not only advocated modular, open-plan laboratories, he urged that interstitial space, that is, floors with a 6-foot, 4-inch clearance for mechanical and electrical distribution equipment, be part of the scheme.

"We just followed Walls' lead," says Gehry, even though the three floors of interstitial space would take a slice out of the \$46 million budget, for which Albert Vontz, an alumnus of the university, donated \$5 million. Yet Gehry acknowledged the need for flexibility allowed by the interstitial floors. If he had any thoughts about putting some metal on the outside (and initially he did), Gehry soon agreed that lower cost brick would be the way to go. He started working with sketches and models. "There was a new idea a week," recalls Harrison. At the beginning, the brick exterior walls were slanted and sloped. Then, Gehry added curves. "When I first saw them, I thought, 'uh-oh,'" says Harrison. "They were our only extravagance," replies Gehry. "They are not functional—they are our equivalent of pilasters and columns. But," he goes on, "the bulges give the labs and offices a lift; they aren't just phony stuff on the outside." Harrison admits, "I'm always a functionalist. Yet as we went along, I fell in love with the building."

The interior is organized so that concrete columns are placed on a grid, 31 feet, 6 inches by 29 feet, 8 inches (although it varies: sometimes the grid is 21 feet by 29 feet, 8 inches) for the open-plan labs. Smaller appendages for offices run east to west on one axis while another bent axis goes north to south. The offices, not quite orthogonal in plan, are intimate, quirky but still spacious because their ceiling heights range from 14 to 16 feet at the windows to as high as 28 feet on the upper floors. Both labs and offices are organized around the central atrium, topped by a skylight, through which spirals a staircase like a strand of DNA. Because the atrium was a bit cramped, Gehry gave it spaghetti-like dimensions, arguing that the scientists would be encouraged to interact on this stage.

Scientific creativity and architecture

Can architecture foster creative scientific interaction and discovery? A panel discussion moderated by television commentator Charlie Rose addressed the topic when the Vontz Center opened in September. Earl Walls noted that Harrison had urged him to "keep an eye" on Gehry. In the end, Walls decided the building "is more alive than the Salk. Every turn you make stimulates you."

Two scientists on the panel were more cautious. Farid Murad, a Nobel Laureate and director of the pharmacology department at University of Texas in Houston, contended that the environment was mainly important in enabling researchers to work in peace and quiet and in minimizing fatigue. He wasn't sure that the architectural setting itself spurred creative synthesis. "Creative moments don't necessarily occur behind a desk," he stated, adding that some of his best ideas came to him while repairing automobiles. Still, Murad did suggest that "traffic patterns and accidental encounters lead to productive collaborations." Another panelist and Nobel Laureate, Paul Berg, the director of the biochemistry department at Stanford, said he didn't think creativity was diminished by architecture, but he

felt scientists who worked 18 hours a day should not be distracted by their surroundings.

Just to make sure that the scientists were neither distracted nor discomfited by too much natural light, automatic shades were placed on the lab windows facing east and west. And to prevent water from seeping in through the walls, waterproofing liners were installed inside the brick panels. "So far there are no technical problems," reports Kull. Only time will divulge how the building works, of course, but, for now, accounts are optimistic.

Solving it all

With regard to other expectations, the center fulfills its programmatic requirement to be an "icon." To be sure, the university may not have been thinking of a joint-is-really-jumpin' kind of symbolic statement, but a molecular biology center doesn't need to look like a city hall. Dynamic design seems apropos for the area.

The interior atrium is the most disappointing space architecturally, partially because the stair takes up so much room. As a result, one notices the heavy-handed quality of the wood capping on the balustrade, as well as the 1970s-looking white, blond wood and red-brick aesthetic. Nevertheless, the surprise of entering the bulging exterior and moving through the void to the rectilinear spaces of the labs is varied without being unsettling: you don't feel the need for the consistent expression of structure and program in the facade that was *de rigueur* in a purer modern era. The masking over of function and structure may be something of a lie, but it does not mystify; it only tantalizes. Part of the secret is in the scale: by breaking down the massing, Gehry has kept the building from being a disorientingly abstract sculpture. Another part of the secret is the retention of the material and the height of the surrounding buildings. Gehry has played the game, albeit unconventionally. Then again, the expanses of fenestration also help, imparting glimpses of activities inside. And you can find the front door.

The design doesn't advance the typology of science buildings. Gehry's architecture is clearly one-of-its-kind. This solution is not easily imitated, nor does it postulate a new parti (such as Kahn's now questionable served-servant spaces at Richards Medical Research Building in Philadelphia). Gehry's contribution, rather, shows you it is possible to take a straight geometrical grid and tamper with it inventively, without an untoward sacrifice to function. It is a fitting testament to the ongoing need for architects to be creative. Forget the brick box. And for now, let tectonics take a rest.

It should be added, that in all honesty, the one-off, or "signature," architecture and landscape design has not solved the chaotic quality of the whole campus. Too many tear-downs remain. Yet, in this mix, Gehry poses another irony: In spite of the admirable commitment by the university for denser, infill architecture, he shows it is possible to insert a free-standing object (with landscaping) and have it alter one's perception and memory of the place. ■



The offices (above) and conference rooms (opposite) at the Vontz Center receive ample daylight through changing ceiling heights and

large expanses of glazing. As the labs (below) demonstrate, rectilinear labs are contained within the nonplanar exteriors. Counter

surfaces are an acid-proof synthetic material, while cabinets are metal and wood. Floors are covered in seamless vinyl.



Sources

Computer system and software:

AutoCAD, Prima Vera

Structural system: Cast-in-place concrete frame

Exterior masonry cladding:

Vet-O-Vitz Masonry Systems Inc.

LaBrique Masonry Inc.

Metal/glass curtain wall:

Waltek & Co.

Elastomeric roofing: Carlisle

Metal: Zero Breeze Inc.

Aluminum: Waltek & Co.

Glass: Viracron

Skylights: LinEl

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Bohlin Cywinski Jackson's science center for **SIMON'S ROCK COLLEGE** harmonizes with its rustic surroundings

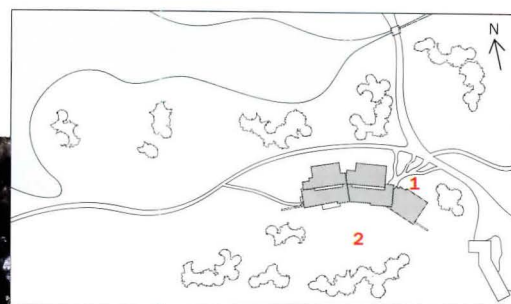
By David Dillon

Most good buildings tell us about themselves and their circumstances, but few do it so clearly and unaffectedly as the new Fisher Science and Academic Center at Simon's Rock College in Great Barrington, Mass. Designed by the Wilkes Barre, Pa. office of Bohlin Cywinski Jackson, the center is a kind of three-dimensional essay in materials and construction in which individual architectural elements are called out and celebrated, yet the whole blends seamlessly with its rustic surroundings. Expository without becoming dogmatic, it also manages to be lively without being self-indulgent.

Simon's Rock, a semiautonomous unit of New York's Bard College, is a four-year liberal arts school for "younger scholars," meaning bright and restless high school students who have been turned off by traditional programs. It is the only institution in the U.S. that allows 10th graders to become full-time college students; no high school diploma is needed. Students can earn a bachelor of arts degree in four years, though most transfer after two years to other colleges. Small classes with an interdisciplinary and experimental focus are the norm. Because the students are so young—the average freshman is only 16—the Fisher Center had to be intimate and engaging. And because Simon's Rock is so small—approximately 350 students—it also had to serve the entire community, not just science majors.

"We told the architects that the building had to break down the perceived barriers between science and the other disciplines," explains Dean Bernie Rogers. "It couldn't be slick or institutional."

To reduce the center's bulk and cost, project architect Peter Bohlin, FAIA, tucked it into a hillside in the middle of campus known as "Siberia." Students use this area for everything from stargazing to kite flying and playing Frisbee, and weren't happy about losing their park to a building, even one that was desperately needed. Keeping its profile low and linear allowed Bohlin to preserve most of the open space as well as



the magnificent views of the Berkshires.

From the south, or Siberian, side, the Fisher Center appears as a series of overlapping roofs, which seem about to sail off into the nearby trees. Only a small greenhouse hints at what's going on inside. On the north, however, it becomes mostly expressed structure: wood columns set at acute angles, as though buffeted by high winds; beams, trusses, and decking all exposed in a seemingly random manner that says "work in progress." The look is appropriately raw and unfinished, underscoring the spirit of exploration and discovery that is the soul of science, as well as the rationale for Simon's Rock. A physics teacher using the front entrance as a textbook on how buildings are put together would look right at home.

The lobby, a tall glazed space that glows like a lantern at night, leads to a 60-seat auditorium on one side and a two-level interior street on the other. The auditorium is used by everyone and is, therefore, turned slightly toward the center of campus, yet with its unpainted concrete walls, thick laminated beams, and intricate wood-and-steel truss, it has the same elemental feel as the rest of the building.

The laboratories, for physics, chemistry, biology, and ecology, occupy two levels, connected by a steel staircase that rises dramatically from the lobby. Housed in lively blue, yellow, and coral boxes, the labs

Project: Fisher Science and Academic Center, Simon's Rock College of Bard, Great Barrington, Mass.

Architect: Bohlin Cywinski Jackson—Peter Q. Bohlin, FAIA, principal for design; Allen H. Kachel, AIA, project manager; Heather Woofter, project architect

Associate architects: Architecture +

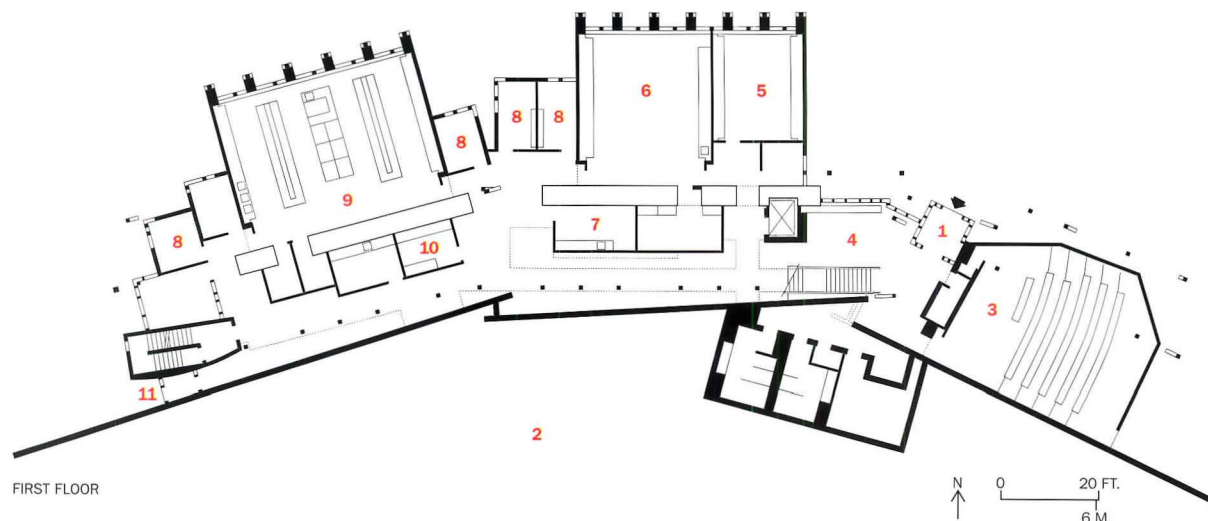
—Frank M. Pitts, AIA, principal-in-charge; Paul R. Lewandowski, project architect; J. Michael Bergen, AIA, principal

Engineers: Ryan Biggs Associates (structural); Van Zelm Heywood & Shadford (MEP)

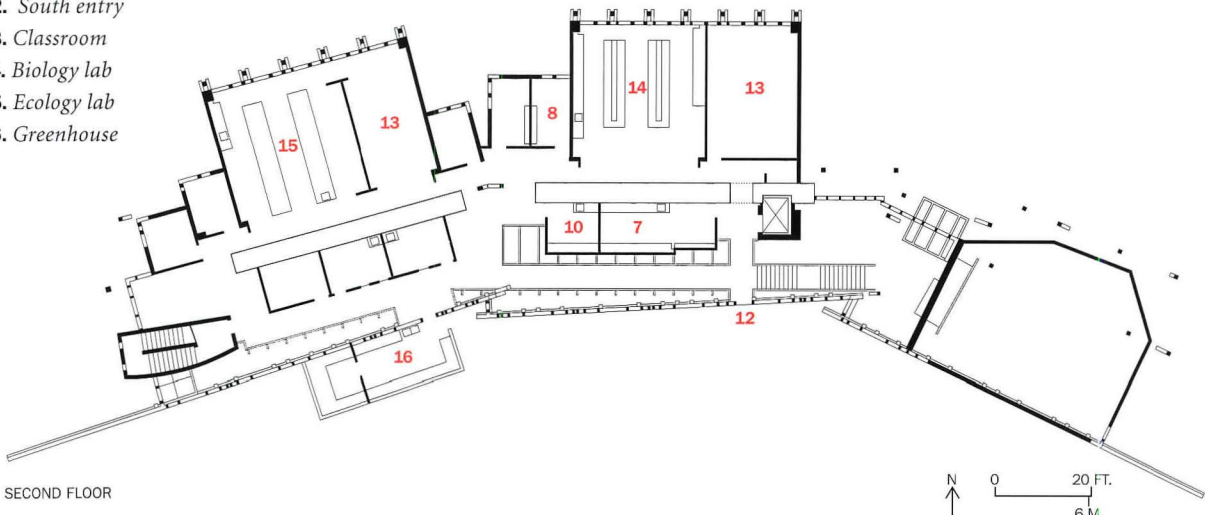
General contractor: Mullany Corporation, Leominster, Mass.

David Dillon is a RECORD contributing editor and architecture critic for the Dallas Morning News. He lives in Amherst, Mass.

1. Main entrance
2. "Siberia"
3. Auditorium
4. Lobby
5. Computer lab
6. Physics lab
7. Research
8. Offices
9. Chemistry lab
10. Storage

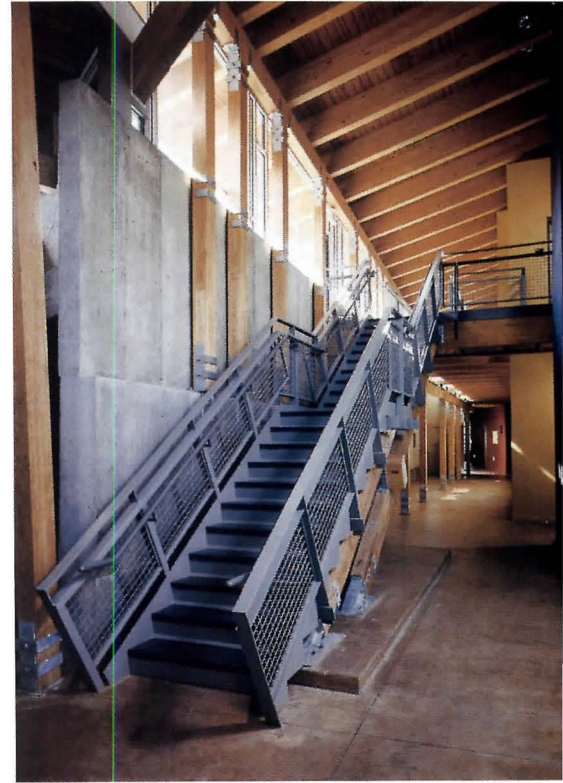


- 11. West entry
- 12. South entry
- 13. Classroom
- 14. Biology lab
- 15. Ecology lab
- 16. Greenhouse

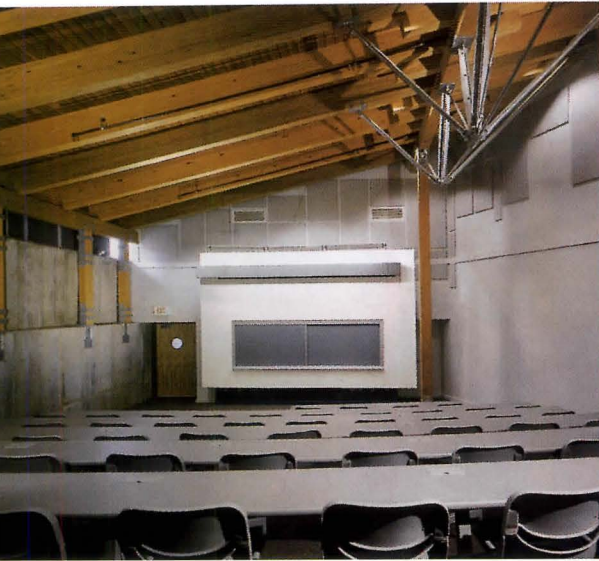


SECOND FLOOR

The glazed main entrance turns toward the center of campus and acts as a lantern at night to draw people into the building (far left); the student lounge is on the second floor (left); a steel staircase (above) ascends from the main entry.



The 60-seat auditorium is used for many purposes (below); pulling the catwalk away from the retaining wall allows light to penetrate to the core of the building (right).



erase all memories of antiseptic science buildings. Those on the second level are entered from a narrow catwalk that twists and turns like a village road. Pulling the catwalk away from the retaining wall allows light to penetrate the core of the building.

Between the labs, Bohlin inserted small classrooms and seminar rooms with tall windows that create the feeling of a tree house. Here and there he added what he calls “mixing and gathering spaces,” where students and teachers can hang out and exchange ideas. “We tried not to program every square foot,” he explains. “We want students to interact with the building and make it their own.” The best of these fluid spaces is a second-floor lounge with comfortable chairs, a handsome maple table designed by the architects, and stunning views of fields, ponds, and the distant Berkshires.

Simon’s Rock was originally a 200-acre farm (the name derives from a favorite gathering place for the owner’s children) that evolved into a country estate with gatehouses and carriage houses and small out-buildings for fishing and boating. Despite a flurry of dreary Pizza Hut dorms and classrooms erected in the early 1970s, the campus has retained a loose, unstructured character. The original family house is still the spiritual center of the campus, where most of the important ceremonies take place. A boathouse has been converted into a health clinic; a chapel, moved from a nearby seminary, now serves as a concert hall.

The Fisher Science and Academic Center is the first new building at Simon’s Rock in nearly 30 years, yet it takes most of its design cues from what went before. Its broad, sloping roofs with large overhangs; its exposed beams; and its shingle siding all belong to the existing campus vernacular, which it transforms, rather than mimics. It is a refreshingly clear and direct building that doesn’t strut or preen or take itself too seriously. Instead, it unfolds gradually, section by section, detail by detail, like an equation; from certain angles it almost disappears into the landscape. Though modern in concept and execution, the Fisher Center celebrates its natural surroundings and the spirit of the institution that it serves. ■

Sources

Structural system: *Glulam by Unadilla*

Curtain wall and entrance doors: *Efco*

Wood siding and shingles: *Western Red Cedar*

Wood windows: *Eagle*

Wood doors: *Weyerhaeuser*

Metal: *Englert*

Resilient flooring, acoustical ceiling,

ing, suspension grid: *Armstrong*

Interior ambient lighting: *Zumtobel*

Cabinetwork: *Wood Metal*

Paints and stains: *Benjamin Moore*

Carpet: *Lees*

Floor and wall tile: *American Olean*

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Instructors and students enter the second-level labs from a catwalk that twists and turns like a village road.



To differentiate between new and historic fabric, the architect detailed a new balcony and stair using materials that contrast with the existing wood and stone.



Kieran Timberlake & Harris revamps Yale's historic **BERKELEY COLLEGE**, stirring up controversy and clashes over old and new design.

By James S. Russell, AIA

Architect James Gamble Rogers' slate-roofed, carved-stone structures for Berkeley College at Yale University once enfolded a world of almost unimaginable gentility. Though much of the country was wracked by the Great Depression when Berkeley was completed in 1934, undergraduates wore jackets and ties to meals taken in a magnificent Oxford-inspired dining room, where waiters in uniforms with white collars and aprons served them. At leisure, students gathered around a grand piano or a record player, gifts of alumnus Paul Mellon.

T-shirts and backpacks have replaced the jackets and ties, women have moved into the once male-only precincts, and a bowl of cereal now frequently constitutes a meal. Yet the splendor of the dining commons remained intact, if worn, when Philadelphia architect Kieran Timberlake & Harris (KTH) took on the challenge of upgrading the college. As part of what Steve Kieran, FAIA, KTH partner-in-charge, considered a deft and discreet upgrade, his firm added a small mezzanine. To denote the contemporary nature of the insertion, his team detailed it with contrasting materials, and introduced a new fluidity of space by adding an eyebrow window and inserting an opening onto an elaborate, historic lounge.

Even before the balcony was built, this new element became a cause célèbre at Yale. Labeled a travesty by critics, it inspired a petition for its removal and an editorial denunciation in the *Yale Daily News*. It attracted attention from the *Wall Street Journal* and elicited disapproval from Vincent Scully, Yale's celebrated professor of architectural history, and architecture school dean Robert A. M. Stern, FAIA.

The battle of the balcony is only the latest clash in the long-running debate over how institutions can keep a landmark building vital while preserving the original work of art. Our era demands accom-

modation of stringent life-safety regulations, access for the disabled, new technologies, and—in the case of college residences—an expanding panoply of social and recreational possibilities. (Singing around the piano no longer cuts it, even at Yale.) Can contemporary needs and expression find a place within cherished traditional design?



Berkeley College was the eighth of 11 residential colleges underwritten by Standard Oil heir Edward Harkness in a 1930s building spree. Recalling the isolation of his Yale years in a New Haven boarding house, Harkness offered the university the then-vast sum of \$15.7 million to rebuild its student housing in the residential-college mode of Oxford University. His gift enabled Yale to house students in manageable units of about 200, sharing garden courtyards, elegantly appointed lounges, dining halls, libraries, music rooms, and game areas with a master, dean, and fellows. All these features were intended to nurture both lifelong friendships and academic achievement.

With additional gifts, mainly from Harkness, most of Yale's academic structures rose in a relatively short period of time, meeting a very high standard. Rogers designed most of them. By the mid-1930s, Yale possessed an architectural quality and completeness arguably unequalled in America.

Project: Berkeley College Renovations, New Haven, Conn.

Owner: Yale University

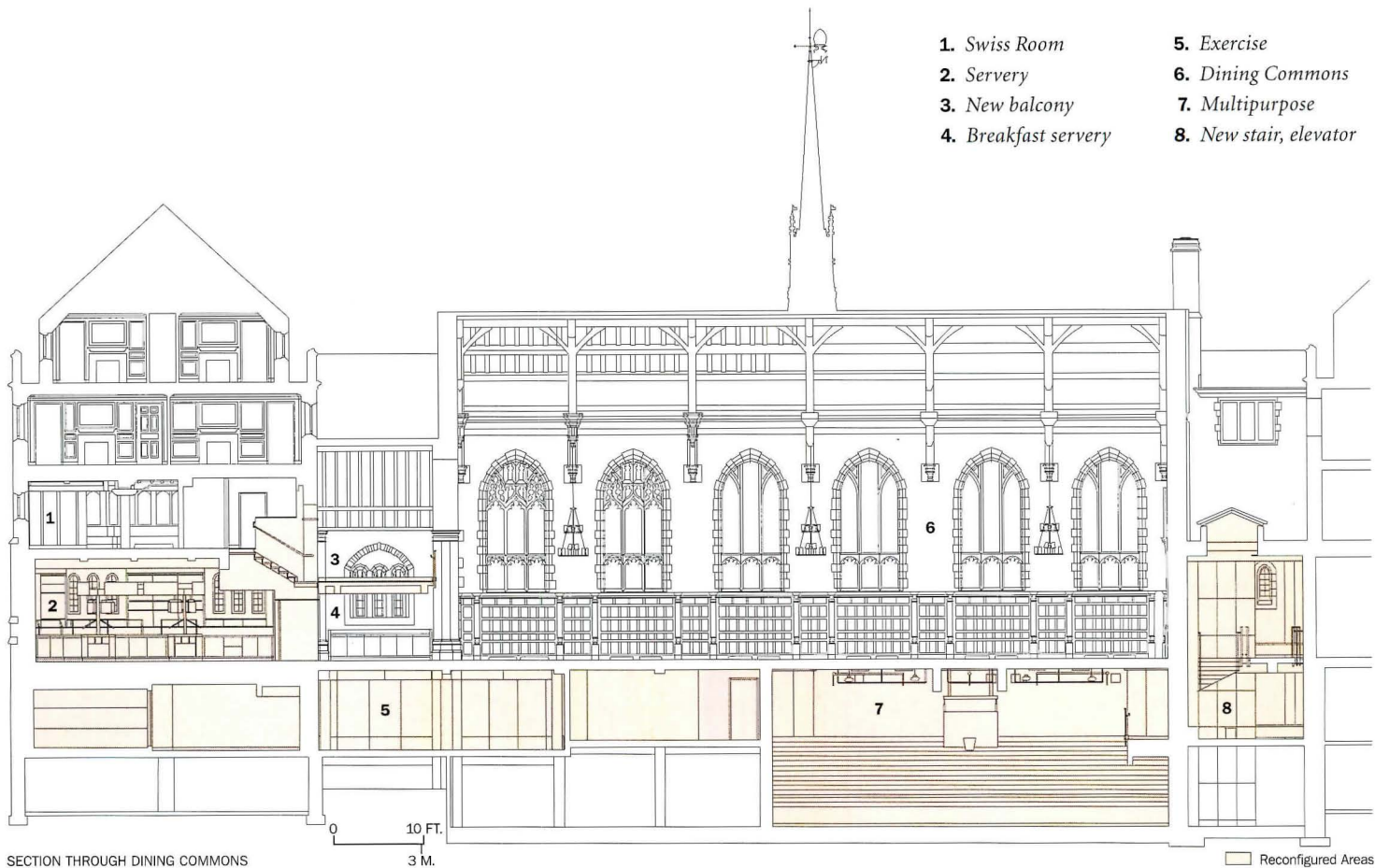
Architect: Kieran Timberlake & Harris—Stephen Kieran, FAIA, partner-in-charge; James Timberlake, FAIA, Samuel Harris, AIA, Christopher Macneal, AIA, Amelia Floresta, AIA, Steven Johns, Patreese Martin, Ron Crawford, Clifton

Fordham, Yves Gauthier, Kimberley Jones, Vanessa Keith, Catherine Moy, Lisa Neely, Alix Peck, Jane Pfaff, John Poros, Dana Reed, Marie Reichardt, Nicole Rittenour, Anne Roderer, Amanda Sachs, project team

Engineers: Robert Silman Associates (structural); Lev Zetlin Associates (mechanical, electrical, plumbing)

Construction manager: Linbeck





SECTION THROUGH DINING COMMONS

When an institution possesses a campus of such singular character and when it has graduated thousands of influential people who cherish their highly individual memories, the prosaic process of bringing older structures up to date can resemble tiptoeing through a minefield. To many teachers, students, and alumni, altering the buildings means tampering with the university's very identity.

A rare architect who actually cares how cavity-wall drainage works and who can derive aesthetic inspiration from the performance of materials over time, Kieran Timberlake & Harris seemed an excellent choice for the first of the Rogers-era colleges to receive a long-overdue rehabilitation. The extraordinary high quality of the 1934 structures meant that much of the building fabric needed little more

CAN CONTEMPORARY EXPRESSION FIND A PLACE WITHIN A CHERISHED TRADITIONAL DESIGN?

than spot repairs. Still, almost all the \$35 million budget (made possible by a gift of Ann T. Bass and Robert M. Bass) went to conventional historic restoration. Much of the work, such as air-conditioning in public spaces, sprinklers throughout, wheelchair ramps, and screened trash-disposal areas, called for a high order of sophisticated detailing and design discretion.

Among the subtlest interventions was the reconfiguration of the floor plans. KTH created more single dorm rooms while maintaining a bed count higher than Rogers had originally designed. Using alarmed communicating doors, the architect also assured two means of egress from each suite, while permitting building managers to reconfigure suites (by switching the door alarms and locks on and off), to

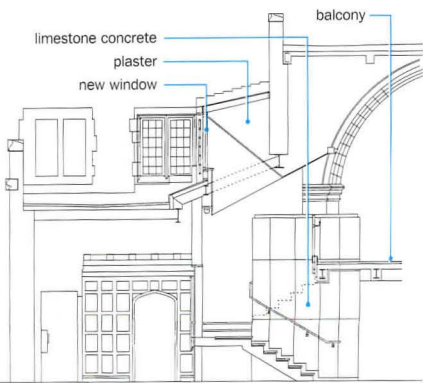
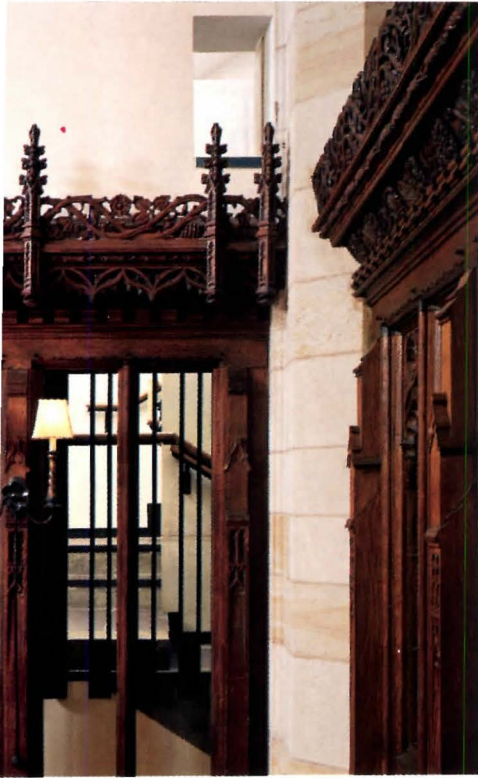
accommodate groups of varying size.

The thousands of panes of leaded art glass set in standard steel sashes presented the greatest technical challenge. Replacing the windows with insulated units in aluminum sashes would have met current energy codes while depriving the building of a key aspect of its original design personality. From neither a functional nor aesthetic point of view could the rusted sashes be restored. The architects considered a weatherstripping retrofit and the equivalent of interior and exterior storm windows, and finally settled on an interior-glazed vented steel frame that matches the existing windows' exterior profiles. This alternative nearly equals the energy performance of insulated units, yet aesthetically, it is barely distinguishable from the originals.

Following the mandate of a planning study by architect Herbert S. Newman and Partners and consultants at Bovis Management Systems, KTH placed new social and recreational spaces in the basement. A laundry, an exercise room, and a multipurpose area surround a small cafe. In converting former storage space, the architects made no attempt to emulate lofty above-grade grandeur. Instead, they exposed brick walls, cut discrete openings for skylights, cast quotations from the college's namesake George Berkeley (a figure prominent in Yale's early history) into the black stones that trim the tinted-concrete floor, and disguised surface-mounted conduits, sprinklers, and light fixtures with overlapping grids of blackened metal.

Only two contemporary elements intrude into the areas of the building most richly detailed by Rogers. KTH placed a new stair leading to the basement social spaces adjacent to the Dining Commons, filling a former cloakroom and washroom and thereby avoiding the alteration of important Rogers-designed areas. The stair's combination of concrete, steel, and stone eschews neo-Rogers style, proclaiming

The controversial mezzanine was added at the far end of the Dining Commons (right). The stair is semiconcealed (below) and skylit (bottom).



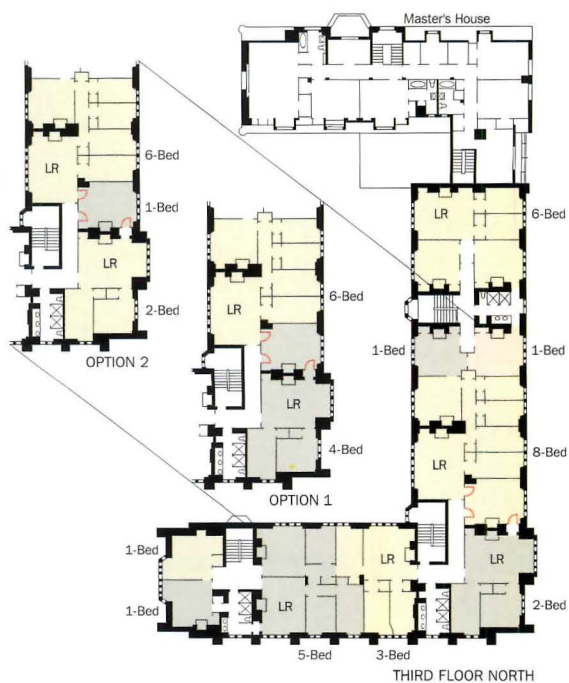
NEW STAIR AND BALCONY





A niche with a view (above) was added at the new stair (above right), which leads to a new cafe (opposite, top left) and multipurpose

room (opposite, top right). Battens, holding insulation, screen stairs and chair storage. Wood panels reverse to dance-studio mirrors.



instead a design approach akin to that of Carlo Scarpa, the Italian architect known for modern insertions into historic buildings, such as the Castelvecchio museum in Verona.

The stair has attracted little criticism. By contrast, the inclusion of the balcony in the Dining Commons, which shares the stair's design vocabulary, was excoriated because it altered an important Rogers-designed space. Kieran says it was needed to reconfigure the kitchen and food-service areas. It also added 30 seats and improved access to the Swiss Room, a period interior given to the college for private dining.

Now that Kieran's work is complete, Yale has given it mixed reviews. Robert A. M. Stern professes himself happy with the result. "What they did was not all that bad," adds Scully. Robert Irving, an architectural historian who led the protesters, remains an unrepentant critic, still hoping Yale will remove the mezzanine, which he calls, "a major and irrelevant architectural intrusion in materials, style and proportions, as insensitive as was the Kodak mural in Grand Central Terminal's main hall."

Tiny as it is, the mezzanine has become a larger symbol in the preservation debate, especially as Yale has contemplated alteration and even destruction of a number of older structures. Says Scully, "Should we be able to butcher really beautiful buildings to serve changes that are not fundamental? If we change the building every



time we make a slight functional change (which is how he regards the mezzanine), pretty soon there won't be much left."

"A generation ago, the world was far too ready to demolish and dramatically alter our past," says Kieran. "Today, the pendulum has swung too far the other way. We place all too many buildings and land-

SHOULD RENOVATIONS RECOGNIZE "REAL TIME" OR "LEAVE NO FINGERPRINTS"?

scapes beyond time, where no change is acceptable." He wonders whether the university today would have demolished the substantial 19th-century buildings that Berkeley replaced, or whether it would now build anything as daring as Paul Rudolph's celebrated—and still controversial—1963 Art and Architecture building.

A further irony, Kieran adds, is that "Gamble incorporated a multiplicity of styles and times in the design of Berkeley," ranging from 16th-century English Tudor to 19th-century American-style Gothic. "We had an opportunity to add real time to the design in the way we addressed program needs."

"No one wants to harm these buildings," observes Thomas H. Beeby, FAIA, of the Chicago firm, Hammond, Beeby, Rupert & Ang. He has for several years advised the corporate body governing Yale on architecture. "But surveys of the faculty show that user groups want first-rate

facilities. So you have a convergence of not necessarily common interests."

Irving argues that the preservation community does not want the landmarks to be unchangeable museums. Instead, he argues, new functions should be placed "behind closed doors," not intermingled with historic fabric. That no contemporary expression can be allowed to coexist with historic expression, Kieran feels, is to embalm the buildings. Must new spaces, functions, and design be relegated only to leftover spaces, he asks. Out of the Berkeley controversy has apparently come a new consensus if not a new orthodoxy: architects are to leave "no fingerprints." Kieran calls this "the dogma of total retention."

Beeby, for one, sees neither side of this argument prevailing: "To be fair to the buildings, you have to deal with each situation as you come to it. I think, in the end, most architects are forced to do a little bit of everything." Expect more aesthetic fireworks. ■

Sources

Slate and stone: *Vermont Structural Slate, Indiana Limestone*

Replacement windows: *Crittall Steel Windows*

Glazing: *Rohlf's Studios*

Custom steel doors and frames: *E. H. Friedrich*

Stile and rail wood doors and cabinets: *Modern Industries*

Hardware: *Best, Stanley, Rixon, LCN, Von Duprin, Detex Haëfle*

Reception furniture: *Trouvailles, Chairmasters*

Chairs: *GF, Dakota Jackson, ICF*

Special lighting: *Edison Price*



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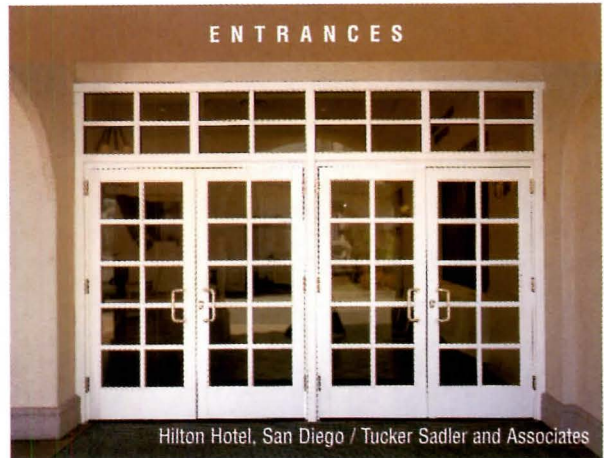
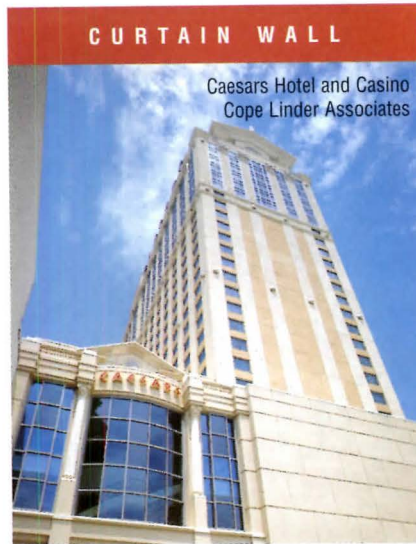
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The Second Wave

YOUNG ENTREPRENEURS AROUND THE CONTINENT ARE TAKING OUTDATED BUILDINGS, ADDING STYLE AND ATTITUDE, AND TURNING THEM INTO ONE-OF-A-KIND HOTELS.

By Clifford A. Pearson

1.

Beverly Hills, Calif.

Koning Eizenberg Architecture and Kelly Wearstler Interior Design bring a trio of postwar buildings back to life as the Avalon.



2.

Chicago

Daniel Burnham's Reliance Building trades its office cells for guest rooms with the help of McClier and Antunovich Associates.



3.

Seattle

Minimalist spaces mix with organic forms and a few campy touches to create a small hotel for style-conscious travelers on a budget.



4.

Montreal

Lemay Michaud Architecture Design shows how the small floor plates of a 1960s office tower work just fine as a new hotel.



It may have started with Ian Schrager, who opened Morgans in New York City in 1984 and then the Royalton in 1988, but the boutique hotel wave has now hit both coasts and looks a lot like a full-fledged movement. Inspired by Schrager and other hip hoteliers such as André Balazs (the Mercer Hotel in New York City and the Chateau Marmont in Los Angeles) and Anouska Hempel (Blakes and the Hempel in London), a flock of young entrepreneurs is taking the boutique concept to smaller, less trendy cities where a runway is still what planes land on. In the process, this second generation is finding intriguing ways of adapting the boutique model to fit new markets and making it available to design-hungry travelers who can't afford top-of-the-line.

The second half of the 1990s has been a boom time for all hotel construction. After hitting bottom in 1991 when only \$1.775 billion of construction contracts were in place, hotel building jumped to \$8.674 billion in contracts in 1998, according to the F.W. Dodge Division of the McGraw-Hill Companies. Although construction dipped slightly to \$8.134 billion in 1999 and is forecasted by Dodge to ease a little further to \$8.083 billion this year, it remains at a plateau that is more than four times the nadir reached during the last recession.

Boutique hotels' share of the total market "is tiny but growing," reports Nancy Novogrod, editor in chief of *Travel & Leisure*. Novogrod sees boutique hotels "fanning out geographically" from their epicenters in New York and Los Angeles and affecting larger hotels and chains. "Their sense of style and design is having a significant impact on the whole industry," she says. And Novogrod doesn't think these quirky inns are just a passing fad. "The small hotel has always existed in places like London. The new boutique hotels are a response to the mass-produced experience. They're trying to deliver a more authentic experience, along with a sense of place and intimacy."

Some of the large hotel groups have responded by developing their own lines of hip establishments. For example, giant Starwood Hotels & Resorts Worldwide (which owns the Westin and Sheraton chains and many other properties) is rolling out a string of W Hotels that are too large to be considered boutique but clearly borrow the genre's sophisticated use of high design. Targeted at style-conscious business travelers, the first W Hotel opened in New York in December 1998 and quickly drew hordes of 20- and 30-somethings who turned its comfy lobby into an all-night hangout. Key ingredients in the hotel's success include a casually elegant design by David Rockwell, a hot restaurant run by Drew Nieporent (of Montrachet, Nobu, and TriBeCa Grill fame) and a



The decor of the lobby of the International House in New Orleans changes seven times a year (above and right).



Chip Conley turned an old motor lodge into the Hotel Del Sol (above) and built a new luxury campground called Costanoa (above right).

celebrity-infested Whiskey Bar run by Rande Gerber (who also has the Skybar in Los Angeles and other Whiskey Bars in New York to his credit). And like many boutique hotels, the first W inherits much of its character from the older building that was renovated to house it. By borrowing the skin of an early 20th-century building, the hostelry quickly assumes a certain patina and individuality that otherwise would take years to develop.

Finding the essence of New Orleans

Independent developers like 34-year-old Sean Cummings in New Orleans, however, aren't worried about the big guys squeezing them out. "A real boutique hotel is by definition a one-off," states Cummings, whose 119-room International House occupies a 1906 bank building across Canal Street from the French Quarter. Opened in 1998, International House is the first in what Cummings hopes will be a collection of unique hotels around the country. "Real innovation doesn't come from large organizations, it comes from individuals," asserts Cummings. "The trick is to build things that can't be readily repeated. Chains, on the other hand, are based on the concept of repetition."

At International House, Cummings wanted to introduce guests to the peculiar ways of his home town, not give them plagiarized Philippe Starck. "This hotel is fundamentally about its time and place—the culture and spirit of New Orleans." This is expressed, says Cummings, in the building's recreated lanterns on its street facade, the restored 23-foot-tall pilasters in its lobby, and the guestrooms' 12-foot ceilings, which let the steamy local air rise out of the way.

While the building's bones follow the timeless lines of traditional Southern architecture, the hotel lobby's decor changes seven times

a year to call attention to local events or customs. So artwork, flowers, and colors in the lobby morph from Mardi Gras (late January through early March) and St. Joseph's Day (mid-March) to Summer Dress and All Souls/All Saints Day (early November). "The lobby is a stage where we can observe local rituals and customs," explains Cummings.

Working with New Orleans architect Brooks Graham and the interior design firm Chrestia, Staub & Pierce, the developer restored the building's historic exterior, while creating a more contemporary interior. "Like New Orleans itself, the hotel mixes old and new," says Cummings. Two of the new pieces are the Lemon Grass Café, a French-Vietnamese restaurant by chef Minh Bui, who epitomizes the changing ethnic mix of southern Louisiana, and Loa, a Voodoo-inspired bar that echoes recent interest in some of the lesser-known aspects of African-American culture. "Loa" means "divine spirit" and the bar, which is usually packed with people, "represents the sexy, sophisticated side of Voodoo," says Cummings.

Hotels that jump off the page

In San Francisco, Chip Conley has spent the last 13 years applying consumer-marketing principles to the boutique-lodging business. Conley, who is the president of Joie de Vivre Hospitality, which owns or runs 16 small hotels and five restaurants and bars in the Bay Area, believes that establishing brand identity is the key to creating a successful boutique hotel. "Brand identity reflects the identity of the guests," says the 39-year-old entrepreneur, who earned an MBA from Stanford University.

Conley and his staff model each of the company's hotels on a particular newsstand magazine. "We use the magazine to create an identity for the hotel." For example, when Conley bought a down-on-its-heels



The old Chemists Club in Manhattan is being converted into the Dylan Hotel, with restored stained glass and Jeffrey Beers interiors.



motel in San Francisco's rough Tenderloin district in 1987 and turned it into the oh-so-hip Phoenix Hotel, he saw it as a check-in-and-spend-the-night version of *Rolling Stone*. "We came up with five words to characterize *Rolling Stone*—young, irreverent, funky, adventurous, and hip," says Conley, and then incorporated these traits in the design of the hotel. The result is a small hotel with swoopy '50s-style graphics, a pink-and-turquoise color palette, and Caribbean-inspired decor.

In 1995 Conley bought the Orchard Hotel at Union Square in San Francisco and then spent \$800,000 turning it into the 94-room Hotel Rex. "The Orchard was pretty generic," remembers Conley, "but it had an antiquarian bookstore that became the inspiration for the new hotel." So the developer used *The New Yorker* as the brand identifier and gave the Rex a clubby, literary-salon kind of feeling. "We look for anything indigenously to the property to use in creating a new identity," states Conley. "We ask ourselves, 'What is the kernel or soul that we can develop?'"

The Hotel del Sol, a recent project by Joie de Vivre, had been a motor lodge with a sleazy reputation. Repainted in south-of-the-border colors and given kitsch cachet by lights strung in palm trees and a mural of sunflowers, the hotel is now what Conley describes as "*Martha Stewart Living* meets *Islands* magazine."

Moving the boutique concept out of the city, Conley last year opened Costanoa, a rustic lodge and camp on the San Mateo County coast about an hour south of San Francisco. Aimed at cappuccino-sipping folks who drive sport-utility vehicles, Costanoa has a 40-room lodge, small Craftsman-style cabins, and furnished "tent bungalows," along with a "gourmet general store" and spa services. Guests can imagine they're living in the style found in the pages of *Outside* magazine.

Joie de Vivre has four projects in development, reports Conley. Magazines waiting to be turned into hotels include *Wired* and *Fast Company*, which will go on line in Silicon Valley, and *Metropolitan Home*, which will establish residence on San Francisco's waterfront in two years. "We don't have a *Wallpaper* or *Details* hotel," says Conley, "but those would be more in Philippe Starck's territory and I'm not sure we want to go there." Conley's plan is to "branch out beyond hotels" and apply the boutique concept to everything from day spas to campgrounds. "It's boutique if it offers the customer an identity refreshment. What we do is create escapes—whether it's a hotel, a resort, or a restaurant."

Room at the top

While most new players in the boutique market enter at the lower price points or in less developed locations, Morris Moinian, a 38-year-old businessman who got his start in fashion and real estate, is trying to break in at the top. The Dylan, Moinian's first hotel, will open in New York City early this year in a 1903 Beaux-Arts building that had been the Chemists Club and will have rooms for \$300 to \$1,000 a night. The 108-room Dylan will have restored details such as stained-glass windows and a grand staircase to go along with new interiors by architect Jeffrey Beers. Moinian is bullish on boutique hotels and says they can work in all kinds of places, as long as they offer unique lodging experiences and an alternative to the cookie-cutter approach of the large chains.

The new wave of hoteliers may not be introducing major innovations to the boutique model, but it is softening some of the attitude and making hip easier to take. Responsive to local cultures and tighter budgets, this generation is giving the boutique hotel a more popular face. ■

Avalon Hotel

Beverly Hills, California

1 **KONING EIZENBERG AND KWID RECASTS THE BOOMERANG CHARM OF A 1950S HOTEL IN A HOME AWAY FROM HOME FOR THE WIRED GENERATION.**
 By Clifford A. Pearson

Architect: Koning Eizenberg Architecture—Hank Koning, FAIA, Julie Eizenberg, principals; Jim Jackson, Dan Parks, Fernando Bracer, Norah Edelstein, Carole Chun, Tim Andreas, project team
Interior designer: kwid—Kelly Wearstler, principal
Consultants: Mia Lehrer & Associates (landscape); ReVerb (graphics); Vortex (lighting)
Engineers: Nabih Youssef & Associates (structural); M.O. Engineering (mechanical/electrical)
Contractor: Eric Hinds Construction

Construction cost: \$6 million
Size: 88 guest rooms in three buildings; 60,000 square feet
Date opened: May 1999

Sources
Windows: Fleetwood
Skylights: Bristolite
Swan chairs: Designtex
Platner chairs: Clarence House
Eames storage units and George Nelson bubble lamps: Modernica
Bathroom sconce: Artemide

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

Program

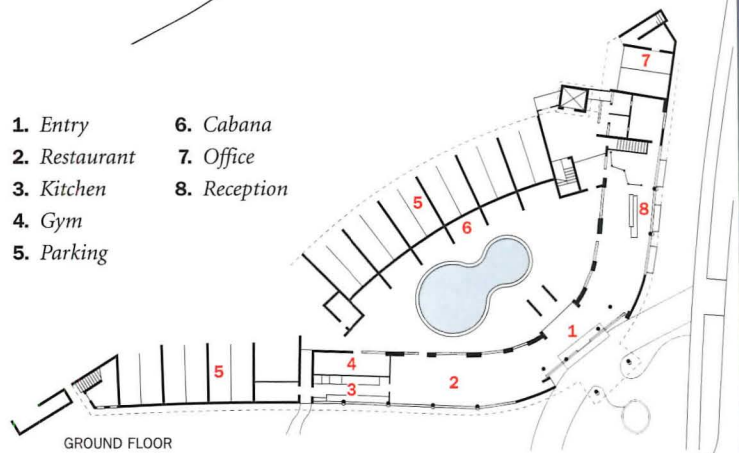
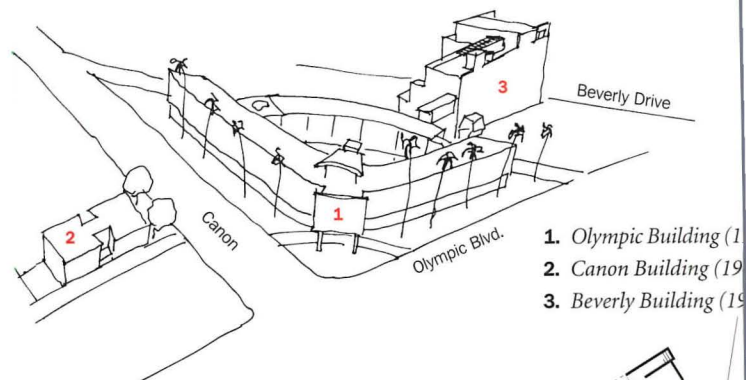
Turn a rundown hotel in a residential section of Beverly Hills into an up-to-the-minute retro-chic hangout for people in the fashion and entertainment industries. Originally called the Beverly Carlton, the hotel comprises a trio of buildings (the Olympic, the Beverly, and the Canon), each facing a different street and dating from a different part of the postwar era. Although the Canon Building began life as an apartment block and none of the three buildings is physically connected to its mates, the structures have long functioned as one hotel.

The hotel has history. Marilyn Monroe lived in Room 305 for two years, and episodes of *I Love Lucy* showed Ricky and Lucy checking in. But the Beverly Carlton had lost its glamour and most of its charm by the time Brad Korzen and Jeff Elowe, two young developers, bought the property in 1997.

Transforming the place into the Avalon, architects Hank Koning, FAIA, and Julie Eizenberg worked with interior designer Kelly Wearstler to recapture the original postwar spirit while creating a free-flowing character. In the process, they upgraded all mechanical and electrical systems.

Solution

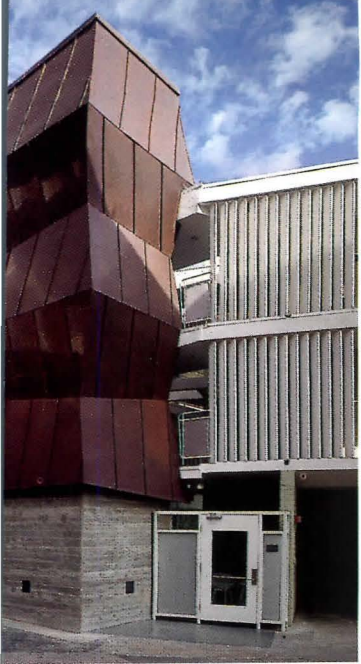
Making three separate buildings feel and work as one hotel was the biggest challenge. Painting all the structures a distinctive seafoam



green was a simple but effective way of linking them visually. The architects didn't stop there. They pared down the architecture—stripping away modifications such as canvas awnings and French doors—and simplified the procession throughout the hotel. "We

needed to establish a coherent identity for all three buildings," explains Eizenberg.

At the same time, each building came with its own set of design issues. The architects created a new face for the hotel by replacing a damaged cement-tile mural on the front of the main building (the Olympic) with a new glass-tile mural. They also expanded the lobby and dining area and opened up views to the pool by adding curving glass walls and moving the elevator from the entry to a location beyond the reception desk. A



The hotel's lobby, which is in the Olympic Building, was gutted and then redesigned with a new terrazzo floor and a mix of vintage and contemporary furniture. A guest room in the Beverly Building (below) has its own outdoor space.



blue terrazzo floor now sweeps through the lobby and out to the pool. Today, vintage sofas and lucite chairs from the '50s blend with a new copper-topped reception desk and a cluster of bamboo poles to create an updated mid-century modern sensibility.

The Beverly Building, which sits across an alley from the Olympic, was improved with new sun-control louvers and landscaping on its street facade and a new metal trellis and patio partitions on its south elevation. White metal arbors and a landscaped roof terrace make the two penthouse suites here the best rooms in the hotel.

To add street presence to the two-story Canon Building, the smallest and oldest of the hotel's three components, the architects designed a new canopy with a bubble skylight and worked with landscape designer Mia Lehrer to create a new ramped entry lined with bamboo and tropical plants.

The strategy for the hotel's guest rooms, interior designer Wearstler says, "was to create rooms that feel like apartments." Although the 88 guest rooms range in size from 400 to 1,000 square feet (for the penthouses) and include 28 different floor plans, Wearstler used a common palette of cool colors and natural fabrics to establish a shared identity. "In a hot place like L.A.," explains Wearstler, "it's nice to come back to a room that feels cool."

The rooms combine furniture from the '50s such as George Nelson lamps, Noguchi tables, and Eames storage units with headboards and cabinetry designed by Wearstler. A coffeemaker, fax machine, television with VCR, stereo, and modem hookup handle all the entertainment and telecommunications needs of today's laptop-toting professionals. As Koren, one of the owners, puts it, "We wanted you to feel like you're in a friend's apartment, one who has a really good interior designer."

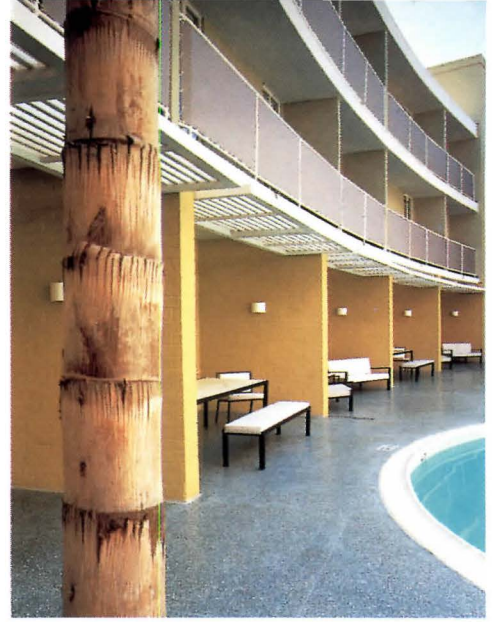
Commentary

The odd arrangement of three separate buildings in one hotel actually contributes to the Avalon's quirky charm. Because each piece is small (46 guest rooms in the Olympic Building, 26 in the Beverly, and 16 in the Canon) and none is more than three stories, the three buildings work as a neighborhood hotel. Indeed, the place fits its surroundings so well that first-time visitors often drive right by it.

While some boutique hotels are designed within an inch of their lives and seem too hip to breathe, the Avalon has a relaxed demeanor that's stylish without being intimidating. New elements such as a copper-clad elevator tower and metal-frame patio dividers on the Beverly Building are clearly contemporary and ensure that no one takes the '50s theme too literally or too seriously. ■



Metal sunshades over pool cabanas replaced old canvas awnings (right and below). The kidney-shaped swimming pool, the focal point of the Olympic Building, was repaired and resurfaced.



Hotel Burnham Chicago

2

MCCLIER AND ANTUNOVICH ASSOCIATES RESTORE THE GLORY OF THE HISTORIC RELIANCE BUILDING AND REINCARNATE IT AS A HOTEL.

By Blair Kamin

Owner: Canal Street Partners LLC

Developers: Baldwin Development Co. with R.M. Chin and Associates (Phase 1); McCaffrey Interests, Mansur & Co., and Granite Development (Phase 2)

Architect/Restoration architect:

McCluer—Thomas Rossiter, AIA, principal-in-charge; Christopher Martersteck, AIA, project manager; T. Gunny Harboe, AIA, restoration architect; John Bowers, AIA, project architect; Dina Barthel, Doug Gilbert, Elizabeth Trail, project team

Architect (Phase 2): Antunovich Associates—Joe Antunovich, AIA, principal-in-charge; Jeff Zelisko, project manager, David Kelley, project architect

Hotel interior designer: Intra-Spec—Susan Caruso, principal; Caroll Enriquez, Chris Porter, project designers

Construction cost: \$30 million

Size: 122 guest rooms, 15 stories

Date opened: Fall 1999

Sources

Terra-cotta: Boston Valley

Double-hung windows: Pella

Storefront: Kawneer

Stone floor in lobby: Walker Zanger

Resilient flooring: Armstrong

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

Program

The Reliance Building, a seminal work of modern architecture from 1895, was derelict by the early 1990s. Fronting State Street, which had hit on hard times, and suffering from a neglectful owner, the Daniel Burnham-designed landmark had only six tenants, including a tea-leaf reader. Its once-glistening white terra-cotta facade was covered with soot and clumsy fire escapes.

In 1994, the city of Chicago took control of the Reliance, initiating a process that would bring this landmark back to life. The first phase of work stabilized and cleaned the structure's dirty, crumbling exterior. Eventually, a team of developers stepped in to convert the former office building into a luxury hotel operated by the Kimpton Group.

The hotel, which opened this past fall and includes a ground-floor restaurant, is geared toward both business travelers and tourists.

Solution

Working with the precision of detectives, restoration architects at McCluer replaced 2,000 of the building's 14,300 pieces of terra cotta and made new molds for more than 130 types of terra-cotta panels. They also replaced a long-missing terra-cotta cornice with a

Contributing editor Blair Kamin is architecture critic for the Chicago Tribune.

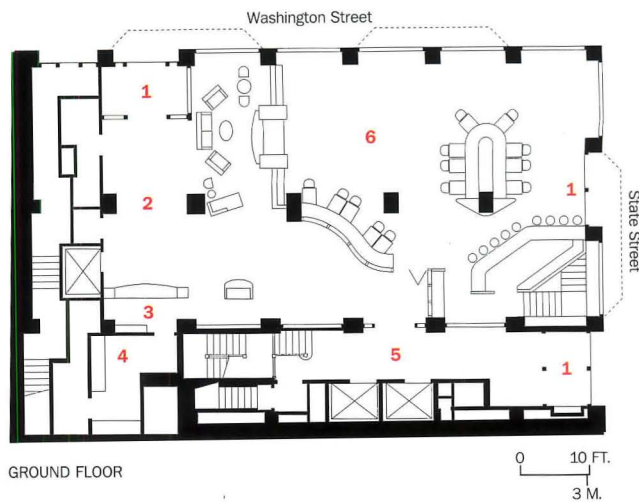


The new hotel is part of a revived State Street (above). Prior to the restoration, the elevator lobby bore little resemblance to its old self (left). Today, it is once again a remarkable space (opposite).



A restaurant (bottom right) and hotel lobby (top right) have been created on the ground floor. Old office areas are now guest rooms (opposite top), but the historic stair and many of the original corridors have been preserved (opposite bottom).

1. Entry
2. Hotel lobby
3. Reception
4. Office
5. Historic lobby
6. Lounge
7. Guest
8. Storage



new, lightweight cast-aluminum version, reconstructed bronze window-bay bottoms, and replaced the original windows with new energy-efficient double-glazed ones.

In the second phase, McClier worked with Antunovich Associates to convert the old office building into a new hotel. They identified missing materials in key areas, such as the original storefront facade, with its brown-granite cladding and neo-Gothic bronze decoration. They also recreated the original look of the office-building lobby, with its exotic combination of Italian, French, and domestic marbles.

The architects strove to balance the functional requirements of a modern hotel with the formal integrity of a landmark office building. They revived the Reliance's old lobby on State Street while creating the hotel's main entrance on a side street. In addition, they turned a former ground-floor retail space into a restaurant.

Upstairs corridors provide a glimpse back to turn-of-the-century office-building interiors. While carpeting and other typical hotel touches are new, the design team restored terrazzo tile floors, white marble wainscoting, and mahogany door and window frames. Best of all, hotel room numbers, painted on translucent glass doors, stylistically recall the office numbers that once graced the Reliance.

By inserting two new fire stairs in the back of the building, the

architects were able to preserve the openness of the Reliance's richly detailed internal staircase, which graces upper-floor lobbies like a piece of sculpture.

The guest rooms, while relatively small, proved surprisingly adaptable to their new role. There was no need to knock down walls between former office cells to create new rooms. The decor now echoes the lightness of the exterior, especially with drapes that are blue on the inside and white on the outside.

Commentary

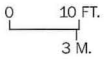
What is remarkable about this project is the way it has transformed the 104-year-old Reliance without compromising the building's brilliant original design. The architects returned the building's exterior to the ethereal glory that inspired postwar modernists—"a thing of space rather than stuff," the late architectural historian William Jordy described the Reliance.

The new interior is also successful. For all its bold use of color, the lobby never becomes florid and excessive. Like the exterior, the inside spaces exhibit a stunning sense of transparency, with the Gothic metalwork of the new elevator grilles and an enormous interior wall of glass combining to make the lobby, the new cafe, and the street outside appear as a single, continuous space. ■





TYPICAL FLOOR



Ace Hotel Seattle

3

ERIC HENTZ MIXES ORGANIC FORMS AND TOUCHES OF STREET CULTURE WITH A MINIMALIST AESTHETIC TO TURN A FLOPHOUSE INTO A HIP HOTEL.

By Sheri Olson, AIA

Owners: Doug Herrick, Wade Weigel, Alex Calderwood

Designer: Mallet, Inc.—Eric Hentz

General contractor: Ruddesign Concepts

Construction cost: \$270,000

Size: 24 guest rooms; 6,500 square feet

Date opened: April 1999

Sources

Wood windows: Weathervane

Aluminum windows: Windorco

Storefront doors: Contract Hardware

Custom cabinets and wenge counters: Gabe Stern, Issue Design/Build

Eggshell and high-gloss paint: Benjamin Moore

Walnut paneling: Ruddesign and Larsen Woodworks

Plastic laminate: Pionite

Mosaic tiles: Huntington Pacific, Daltile

Coir carpet: Associated

Downlights: Lithonia

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

Program

Cash-conscious urban nomads flock to Seattle's Ace Hotel for a fusion of European pension and minimalist luxury. "We didn't set out to be hip—if you do that you're already out of it—we just wanted an alternative to the standard hotel experience," says part-owner/operator Doug Herrick. The white-on-white interior, stainless-steel fittings, and picture-postcard photomurals provide a low-key backdrop for visiting DJs, filmmakers, and lifestyle journalists.

The hotel is on the second floor of a former early-20th-century maritime flophouse in Belltown, now a stylish neighborhood on the fringe of downtown. To keep rates affordable (rooms start at \$65 a night), the existing hotel layout was left in place with minor alterations to accommodate 15 standard rooms and 9 suites. Guests mingle in bathrobes on the way down the hall to six toilet/shower facilities shared youth-hostel style by the standard rooms. Each suite has a private white-tiled bath concealed behind an oversized pivoting door.

Solution/Intention

A steep flight of crisply detailed walnut stairs leads to a reception desk on the second floor. "WELCOME" is formidably engraved on the limestone face of the reception desk but

Sheri Olson, AIA, is RECORD's Seattle-based contributing editor.



the cheekiness of a 10-foot-square technicolor photomural of Mt. Shuksan takes the edge off any self-consciousness.

The lobby, a dazzling white volume carved out of an old light well, lies directly to the left of the reception desk. The simplicity of the tall narrow space encapsulated by glossy white fiberboard panels provides an otherworldly transition from the

street. "It opens your mind to the whole experience," says designer Eric Hentz. A strip of skylight, the only outside opening, suffuses the space with glowing light under even the most limpid gray sky.

All interior surfaces, including the worn plank floors, wood molding, and rough brick walls, are painted stark white. Phones, clock-radios, and remote controls are also



Carved out of an old light well, the lobby makes the most of inexpensive materials like fiberboard coated with high-gloss enamel paint. The Ace occupies the second floor of an old maritime building (opposite).

The reception desk stands in front of a campy photo-mural at the top of a flight of stairs (right), with the lobby to the left. Guest rooms (opposite) are spartan but have 14-foot ceilings and witty touches, such as old French military blankets.



white to reduce visual clutter. Low platform beds, 14-foot ceilings, and large double-hung windows create an illusion of spaciousness in the spartan rooms. Other furnishings—mostly stainless steel and bolted to the wall—are kept to a minimum: a sink, a desk-height shelf, and tiny open-ended cubes for bedside tables and storage. “You are beautiful,” stenciled on the bottom of each mirror, diffuses the institutional look.

To stretch a tight budget, the design relies on common materials used in innovative ways. High-gloss enamel paint on medium-density fiberboard mimics expensive porcelain panels on the stair and lobby walls. The chocolate brown carpet running down the hallways is coir—a coconut husk material usually used for brush-off mats.

Natural materials effectively play against high-tech materials throughout the interior. The dense grain of the black walnut floor adds another layer of detail and interest to an otherwise monotone lobby. In the large interconnected suites at the back of the hotel, walnut paneling inset with a long horizontal mirror covers an entire wall.

For economy, as well as local flavor, many of the furnishings are salvaged from unlikely sources. The vintage modern Thonet bench in the lobby is from Boeing surplus and once graced an old airport lounge. The stainless-steel vanities mounted in the suites are from a demolished nursing home. Replacing the ubiqui-

1. Lobby
2. Reception
3. Guest



tous floral bedspreads found in most hotels are circa 1950 French military blankets with “Service Sante De L’Armee” marching along the bottom edge.

Commentary

Austere modernism, organic forms, and a dab of street culture come together in an ordered yet fresh mix. “The trick is in the proportions of rough and smooth, sweet and sour,” says Hentz. The hotel’s design embraces both the natural and the machined, the high and the low. For example, Hentz places rough coir next to stainless-steel furnishings in the guest rooms and juxtaposes tongue-in-cheek photomurals with original oil paintings.

What could have been too cool, even cold, is inviting instead, thanks to the sense of comfort, and fun, running throughout the project. “We want people to look good in the rooms,” says Herrick. Soft light from frosted-white Plexiglas cubes and a few strategically placed mirrors flatter everyone’s image. Works by emerging artists such as graffitist Kaws and pop-culture satirists Ken Sakurai and Dave O’Regan enliven the guestrooms.

With glass transoms over every door and the predominance of hard surfaces, the Ace may not be the quietest place to sleep at night. Perhaps in this hotel—where a copy of the Kama Sutra replaces the standard issue Bible—that might just be part of the ambiance. ■



Hotel Le Germain Montreal

4

LEMAY MICHAUD ARCHITECTURE CREATES A MIDTOWN HOTEL WHERE THE 9-TO-5 WORLD DOESN'T INTRUDE BUT IS PART OF THE HISTORY.

By Susan Doubilet

Owner: *Développement Germain-des-Prés*

Architect: *Lemay Michaud Architecture Design—Viateur Michaud, partner-in-charge; Marielle Landry, project architect*

Engineers: *Expert-Conseil Genecor (mechanical and electrical); BPR Ingénieurs-Conseils (structural)*

General contractor: *Les Constructions Pierre Blouin*

Construction costs (including furnishings): \$4 million

Size: 101 guest rooms, 16 stories, 71,000 square feet

Date opened: May 1999

Sources

Curtain wall: *Les Industries Cantex*

Acoustica ceiling: *Armstrong*

Cabinet work: *Designed by Lemay Michaud Architecture, built by Renova*

Wooden venetian blinds: *Stores de Bois Montréal*

Wood flooring: *Lefebvre McCaffrey*

Ambient lighting in rooms: *Lampada*

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

Program

Is it hip or corporate, loftlike or traditional, raw or refined? The new 101-room Hotel Le Germain tries to be all of the above. Housed in a former office building in midtown Montreal, this urban inn targets business travelers yet features arty elements such as exposed concrete and seductive views of glazed showers from guest-room beds. Not unlike Montreal itself—which is at once French, North American, and worldly—Hotel Le Germain offers a series of contradictions.

Muscular building meets mahogany and white linen is one way to describe the hotel. Designed by Montreal architect Viateur Michaud of Lemay Michaud Architecture, the project offers a unique perspective on 20th-century commercial design, working with the bones of a 34-year-old office building and providing excellent views of a neighborhood filled with mirrored-glass, granite-faced, and precast-concrete-clad office towers.

When erected in 1966, the 16-story building now occupied by the hotel was one of the most thoughtfully conceived of these modern towers. Designed by Andre Vescei as the headquarters of the Order of Engineers of Quebec, the building shows off the art of engineering—

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expressing its concrete Vierendeel trusses on its front and rear facades and exposing interior poured-concrete ceilings.

Solution

Architect Michaud took advantage of some of the original features and softened others in deference to the more conservative members of the hotel's clientele. Most foreign to the aesthetic of the original building are the attempts to make the entrance

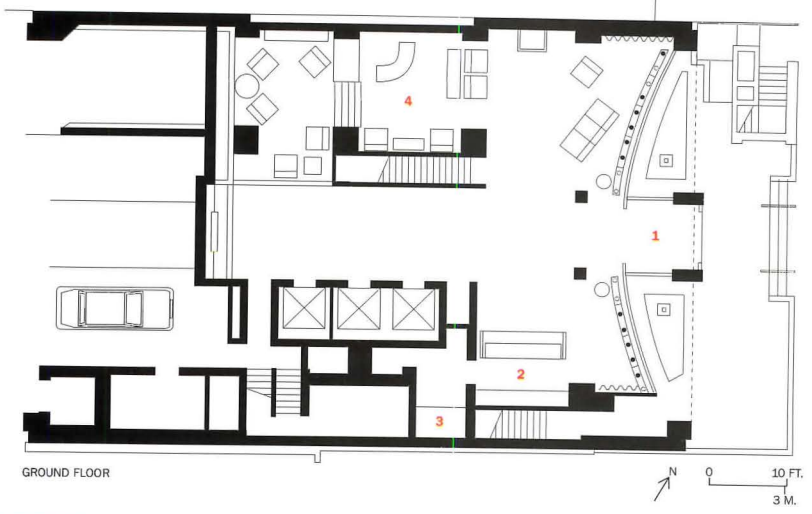


and lobby more inviting.

The new entrance is a glitzy polished-steel assembly inserted into a new, two-story curved wall of mullionless glass, while the lobby is divided into several cozy but fussy seating areas. Mahogany-stained pressed-wood paneling in the lobby adds warmth to the atmosphere, says Michaud. Even the original concrete coffers above the elevator lobby are wrapped in wood, a case of gilding the cabbage rose.

Before its \$4 million makeover, the 101-room hotel (opposite right), was a 1966 office tower (opposite left). Like much of the hotel, the reception area (below) blends the corporate with the hip.

- 1. Entry
- 2. Reception
- 3. Office
- 4. Concierge





- 5. Guest
- 6. Utility

Glass walls allow bathrooms (below) to act as extensions of guest rooms (bottom) and afford views out to office buildings that are mostly empty at night. Each floor has only eight guest rooms.

A wall of exposed concrete, whose silver tints seem to glow in a sea of wood surfaces, makes a more successful contribution to the reception area. Up one level, the mezzanine bar with its spare, custom-designed furniture allows a panoramic view of the urban canyon to inspire awe.

Earthy refuges, guest rooms juxtapose rough and soft materials, rawness and hedonism. Dubbed "lofts" by the architect because of their openness and simple finishes, the rooms are 14 feet wide and 9 feet high, with poured concrete ceilings covered only by a coat of gray paint.

Beds and cabinets, custom-designed by the architect, are made of silky, walnut-stained wood. Luxuriant white-linen duvets and pillow cases also make welcome touches. Also contributing to the upscale setting are CD players in every room, 27-inch TVs with VCRs, good lighting, and black-and-white prints by Quebec photographer Louis Ducharme. "Hotel design is detail design," Michaud points out.

Bathrooms are unexpectedly open features in the guest rooms. Because nearby office buildings are rarely occupied at night, the architect separated the showers from the sleeping areas with only glass walls, giving the bathrooms great city views. For the faint-hearted, however, wooden venetian blinds between each shower and bedroom can mod-

ulate the view, and vinyl shower-curtain liners can exclude it altogether.

Bedroom windows are framed by concrete on the floors occurring within the Vierendeel trusses, or they run as ribbons of glass on the alternate stories. The former window type is furnished with venetian blinds, while the latter is veiled by sheer crinkled polyester curtains, providing subtly muted, ethereal views of the city by day and an undulant silken scrim when the black-out drapes behind them are drawn.

There are only eight guest rooms per floor in the 16-story tower, whose 4,000-square-foot floor plate is more appropriate, as it happens, for a hotel than an office building. Two two-story suites occupy the top of the building. The hotel also has a small conference facility and a fitness room.

Commentary

Spare, finely detailed guest rooms give Hotel Le Germain much of its appeal. And, perversely, its location contributes as well, offering a special haven for those cool enough to relish the relative remoteness from both the city's lively night scene and the enchanting but tourist-clogged Old Montreal area.

The hotel's developers are gambling that there are enough corporate souls hip enough to appreciate not only the convenience but also the architectural charms of a modern-day business district. ■



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