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On the Cover: *The British Museum*, by Foster & Partners, Photograph by Nigel Young
Right: *Phoenix Courthouse*, by Richard Meier, Photograph by Scott Frances/ESTO

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CONTINUING-EDUCATION OPPORTUNITY is
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WWW * You can find these stories at www.architecturalrecord.com, including expanded coverage of the this month's featured projects.

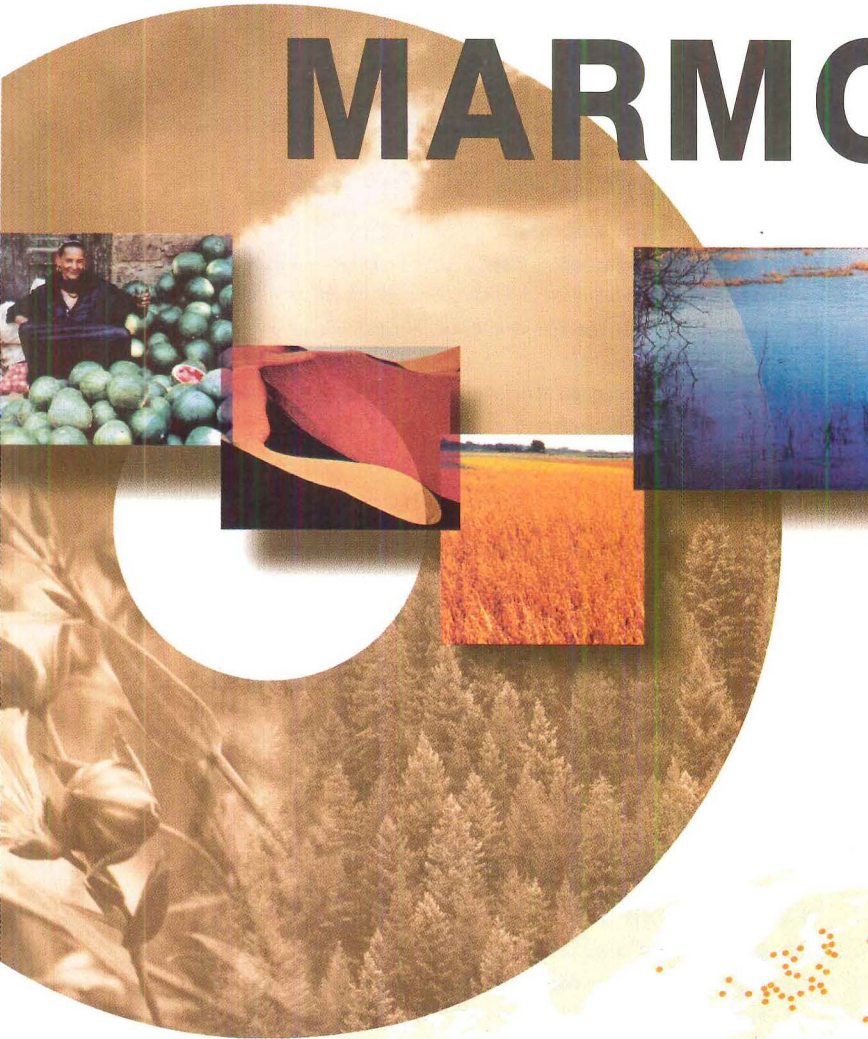
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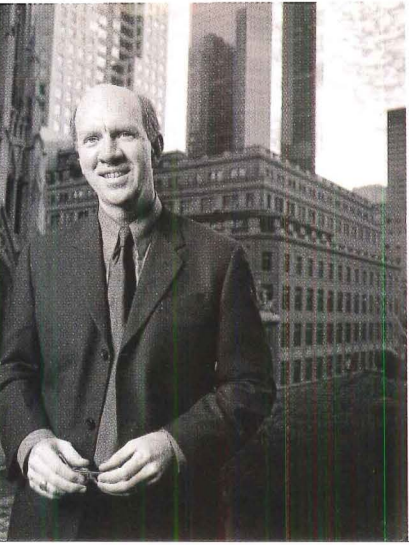
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Ankara, Turkey	25 April
Athens, Greece	8 March
Atlanta, USA	17 May
Basel, Switzerland	23 January
Berlin, Germany	19 February
Bratislava, Slovakia	14 June
Brussels, Belgium	15 February
Budapest, Hungary	23 March
Buenos Aires, Argentina	12 June
Cairo, Egypt	6 March
Chicago, USA	18 June
Coimbra, Portugal	8 February
Cologne, Germany	5 March
Copenhagen, Denmark	6 March
Dallas, USA	21 May
Den Bosch, The Netherlands	21 February
Detroit, USA	14 May
Dubai, UAE	11 April
Dublin, Ireland	1 February
Edinburgh, UK	15 February
Fátima, Portugal	13 February
Frankfurt, Germany	12 March
Gothenburg, Sweden	6 March
Guangzhou, China	3 April
Hamburg, Germany	26 February
Helsinki, Finland	6 March
Istanbul, Turkey	18 April
Kaunas, Lithuania	25 April
Klaipeda, Lithuania	26 April
Krakow, Poland	7 June
Lisbon, Portugal	15 February
London, UK	12 February
Malmö, Sweden	6 March
Mexico City, Mexico	24 May
Montreal, Canada	7 May
Moscow, Russia	29 March
Munich, Germany	19 March
New York, USA	10 May
Oslo, Norway	6 March
Porto, Portugal	6 February
Prague, Czech Republic	17 May
Reims, France	16 March
Reykjavik, Iceland	31 March
Riga, Latvia	29 March
Riyadh, Saudi Arabia	8 April
Rotterdam, The Netherlands	8 February
San Francisco, USA	30 May
Sao Paulo, Brazil	25 April
Seoul, Korea	23 February
Shanghai, China	30 March
Stockholm, Sweden	6 March
Sydney, Australia	5 March
Tallinn, Estonia	19 April
Toronto, Canada	3 May
Turin, Italy	11 May
Vancouver, Canada	30 April
Vienna, Austria	15 February
Vilnius, Lithuania	24 April
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CIRCLE 8 ON INQUIRY CARD



Editorial

By Robert Ivy, FAIA

Unlike a book, a magazine should continue to evolve in responsive and interactive ways. Here is one consistent message we've heard: You want more information about a variety of good projects, not just the work of the stars. One group of readers has continually asked for something special. Newer architects, those in the process of career development, have asked for a place in our publication universe that would help them develop their careers and build community. With the March issue of ARCHITECTURAL RECORD, we offer something new and substantial for both requests.

Our answer, *archrecord2*, capitalizes on the strength of the whole publication, print and Web. Flip to page 47 of this magazine to see it in print, then switch on your laptops, log on to architecturalrecord.com, and witness its digital incarnation. As you surf down the homepage, you'll encounter *archrecord2: for the emerging architect*, our cool (or hot) new mini-magazine for young architects (we refer to them as "emerging," since even octogenarian architects can fiercely cling to young attitudes, and they're welcome here). This tremendous pool of plugged-in talent finds itself busier than ever before, no longer relegated to menial tasks, but specifying, drawing, meeting with clients, and collaborating with consultants.

archrecord2 gives you a place to stand and gain perspective on your own architectural scene. Each month, you'll find stories and images from other young architects in a more casual, conversational tone, grouped into four categories: live, work, design, and talk. In "Design," we'll show you previously unpublished or unrealized projects, since younger practitioners have good ideas but limited opportunities to build. We'll share news that can advance your career, including profiles of other emerging architects and their paths to success. Just for fun, we'll take you into the apartments and workspaces of your peers, saying, "Show me." In *archrecord2* you can illustrate how you live and work. And we'll launch a conversation area, where you can share your ideas on a provocative topic.

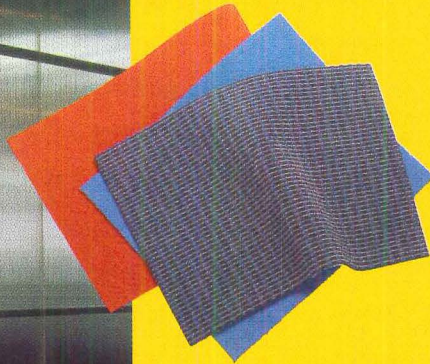
More projects. To answer your request for more information, in January we launched a Web-based, expanded Building Types Study. You're

familiar with the original print version. For half a century, you have relied on ARCHITECTURAL RECORD to help you compare examples of specific types of projects, whether schools, hospitals, or museums. Using this pragmatic, analytical tool, architects can learn how other designers and clients are solving similar problems. Print limited us, however, to a few selections each month.

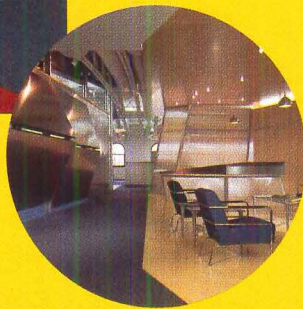
In 2001 you can find up to 10 more projects of equal quality on our Web site. For example, in February, although we focused on smaller schools in print, we reviewed numerous larger buildings in preparation for the issue. Both small and large schools show up on our expanded Building Types Study on the Web. Our commitment to the quality of the selected work, however, remains invariable; none is second tier. All projects, whether in print or online, must adhere to the rigorous standards as juried by our editorial staff.

By building up a database of projects over time, we expect to become the authoritative resource—a place where people will come to find more about specific building types. The audience expands and changes as well, since in addition to our normal readership, clients will refer to our Building Types Study on the Web as a comprehensive overview of projects and the firms that produce them. The broadened section also serves as a teaching tool for architects at all stages of their development, emerging or emeritus.

Throughout our careers, whether we are 27 or 72, we love to learn. Our publication, be it the magazine that you hold in your hand or the Web site that you hook into during lunch, mirrors your interests—to keep on learning, to acquire more information, and to grow in our careers, as fast as an idea. This is our commitment to you: at ARCHITECTURAL RECORD, we're more than a magazine.



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CIRCLE 11 ON INQUIRY CARD

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Opposing views on the housing crisis

James Russell's articles on the politics of housing policy [DECEMBER 2000, "Housing Subsidies: America's Misplaced Priorities," page 132] are right on target. In particular, his point about the inequitable subsidy system we've created is correct: Massive, indirect (but real) subsidies to (primarily upper-income) homeowners via the tax system is unfair given the meager direct subsidies for the lower-income households that need it most.

The government's direct appropriations for low-income housing (now about \$25 billion a year) should be raised to match the amount of the homeowner deduction (now three to four times the figure spent on direct subsidies). Or, set a reasonable cap on the amount homeowners can

deduct and assign these additional tax revenues to building and renovating low-income housing.

—*Chester Hartman, Executive Director of Poverty & Race Research Action Council Washington, D.C.*

James Russell makes a serious misrepresentation in his article about housing subsidies. At the bottom of pages 134–135, he states that a "family of four earning \$200,000 a year owns a \$650,000 home" and that as a result of deductions for mortgage interest, equity loan interest, and property taxes, there is a "total annual federal housing subsidy of \$15,072."

This is contrasted with a "single mother with two children holding Section 8 vouchers and earning

Letters

\$16,000 annually in a two-bedroom apartment at HUD fair-market monthly rent of \$900" who ends up receiving HUD voucher payments of \$530 per month for a "total annual federal housing subsidy: \$6,360."

It is a travesty of both logic and justice to equate a reduction in the taxes one pays on earnings from productive work with the unearned wealth-transfer payments received by the occupants of HUD housing. The clear implication here is that all earnings are the property of the State and that being allowed to retain a portion of one's income is equivalent to receiving a handout (i.e., a "subsidy"). I emphatically disagree with this. These two activities are not merely different—they are diametrically opposed. It is the taxes taken from the group of productive

citizens that makes the subsidies to the second group possible, and I find the attempt to obfuscate this fact extremely offensive.

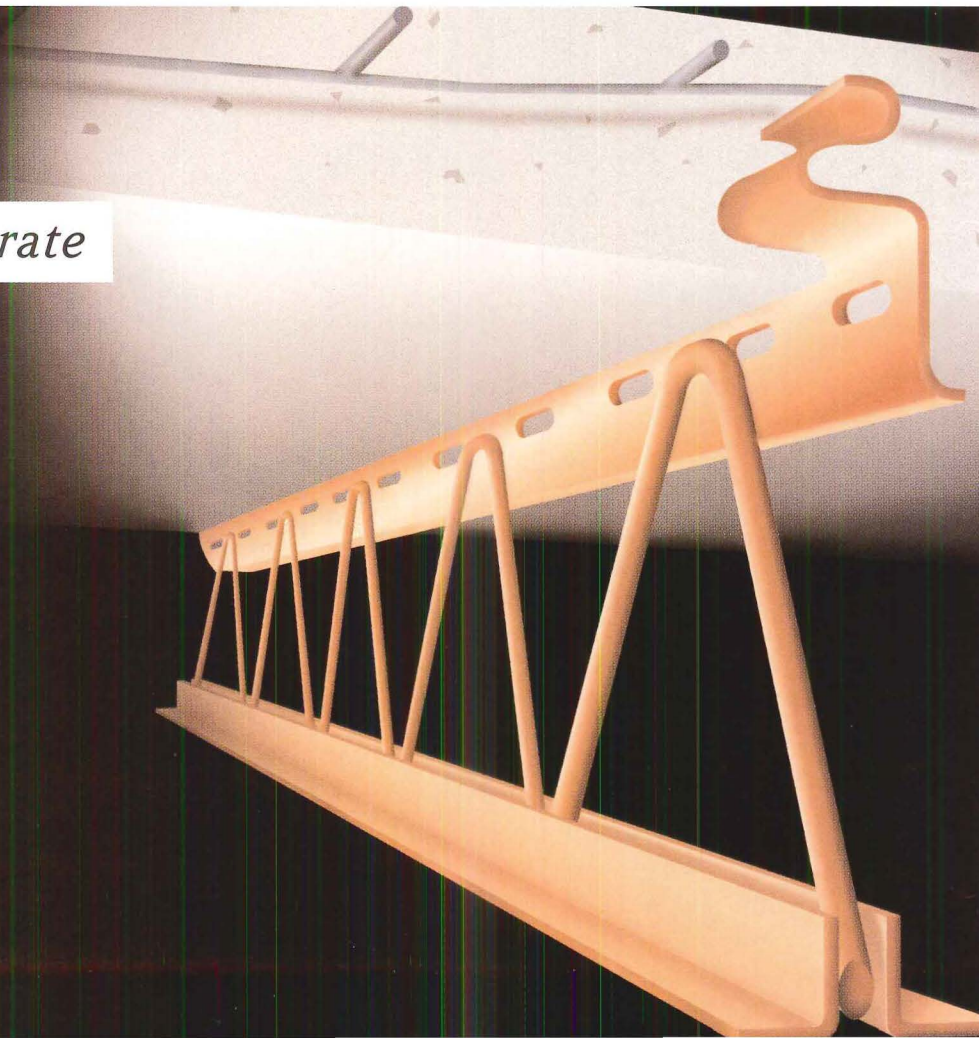
—*C. Jeffery Small
Mercer Island, Wash.*

I fail to grasp why James Russell would tarnish the logic of his article by equating tax deductions for homeowners with federal housing subsidies and direct aid to the working poor. Contrary to the intimations of the article that "subsidies go to the affluent," homeownership in America crosses all economic strata, with the majority of homeowners being middle-class, working Americans. Their tax deductions can hardly be equated with a federal aid program; such deductions are not tax credits and simply reduce the

COMPOSITE FLOOR SYSTEMS

0%

replacement rate



total amount of federal taxes paid on income that has already been earned, rather than being a direct payment through a government program like a Section 8 voucher.

The helpful chart supposedly illustrating the way the government unequally distributes housing subsidies needed clarification, as it tried to paint an untrue picture of federal government favoritism toward higher-income homeowners. While renters receive no tax deductions for their payments, neither do they pay the often-high federal and state taxes and local property taxes to which homeowners and landlords are subject. Further, in his illustration, the tax saved by the "affluent" is 7.536% of income, whereas the direct payment received via a Section 8 voucher is 39.75% of income earned. Also, why is it assumed that the "affluent" have a \$40,000 home-equity loan?

I also take issue with Russell's subtle intimations of class warfare where the tax breaks of the home-owning "rich" siphon money directly out of the hands of the working poor

by limiting the amount of money available to HUD for more Section 8 vouchers. Adding to the middle-class tax burden by removing this small tax relief for homeowners is not the answer to the housing subsidy crisis. Instead, why not try to partner with those states where the housing crisis is at its worst to match federal housing funds and provide more vouchers?

—David F. Schultz, AIA, NCARB
Via E-mail

James S. Russell replies: If the government selectively forgives a tax liability (in this case, only for those who buy homes), it is a subsidy as surely as if it sent a check every month. Mr. Small's most disturbing presumption is that anyone who buys a house is productive, while renters and others who live in HUD housing are not.

Mr. Schultz questions why "the affluent" would have a \$40,000 home-equity loan. The assumption was made for calculating the value of the homeowner

subsidy and demonstrating the value to the homeowner of the deductibility of such interest. The complexity of the tax code is such that with only a few changes in circumstances, RECORD's "example" family could benefit more or considerably less from federal tax deductions. Also, the article did not say that "the tax breaks of the home-owning rich siphon money directly out of the hands of the working poor," but only noted that if the nation can afford to be so generous to homeowners, it can afford to aid those who are really in need.

Growing pains

Smart Growth is upon us [FEBRUARY 2001, page 51]. The question is, at what price? Curtailing supply in both rural and urban areas has predictable consequences. Any idea that it is cheaper is nonsense. Cheap housing is the outlier of sprawl.

Notwithstanding the rhetoric for affordable housing, Smart Growth is, in my experience, another clearance,

both an enclosure act and urban renewal all in one—sending the poor where? The blue-collared homo sapiens deserve equal protection with the white-faced marsh mouse.

—John M. Campbell, AIA
via E-mail

Corrections

In our DECEMBER 2000 issue [News, page 36] we did not acknowledge Spector Group, the architect of record for the new U.S. Courthouse in Central Islip, N.Y. In the JANUARY 2001 issue [page 131] we failed to mention that the First Step Prototype housing shelter for the homeless was photographed at the Van Alen Institute, New York City, in fall 2000. In the same issue, ["Lighting and Building Technology," page 62], there was no mention of DHA Design of London, the lighting consultants for the Wellcome Wing in London's Science Museum. In the FEBRUARY 2001 issue, Richard Johnson should have been credited as photographer of the HoneyHouse and BarnHouse [pages 98–101], designed by M. Blackwell.

49

*hurricanes**

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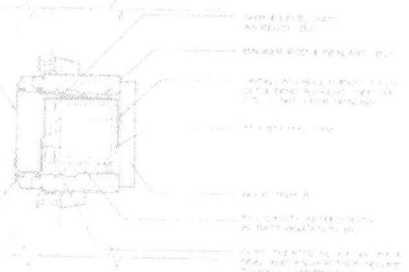
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* NUMBER OF HURRICANES THAT HIT THE ATLANTIC BASIN FROM 1995 TO 2000.

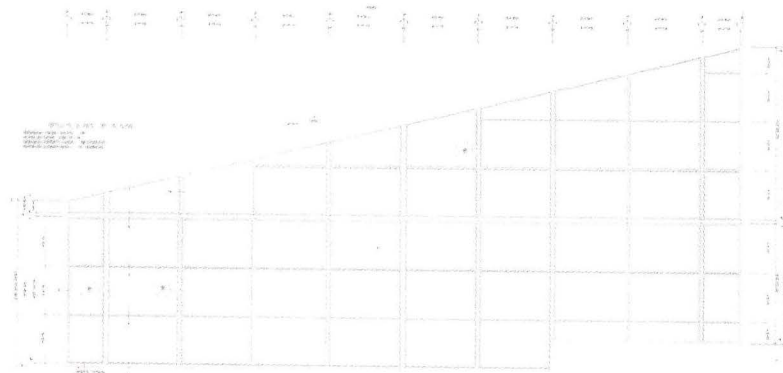


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SECTION THROUGH MUSEUM
ELEVATION: 100'-0" TO 110'-0"



3. WEDDING MUSEUM



With or without Met, Lincoln Center plans \$1.5 billion renovation



Lincoln Center for the Performing Arts includes (both photos, from left) the New York State Theater, the Met, and Avery Fisher Hall.



New York's Lincoln Center for the Performing Arts, poised for a \$1.5 billion reconstruction and renovation of its 1960s buildings, faces a major hurdle getting its multiple constituencies to agree on a planning process. Construction may begin in early 2002, but one of Lincoln Center's 12 arts groups, the Metropolitan Opera, withdrew from the project in late January, claiming it had an inadequate role in the process thus far.

A master plan for the 16-acre campus is being drafted by New York's Beyer Blinder Belle Architects & Planners and Cooper, Robertson & Partners, and is scheduled for release in June. Architects have not been named for the eventual construction, but the work will likely include renovations of Avery Fisher Hall (home of the New York

Philharmonic) and New York State Theater, and possible additions to the Juilliard School of Music, Alice Tully Hall, and other buildings.

A new facility for the New York City Opera, which shares the New York State Theater with the New York City Ballet, may be planned for Damrosch Park, immediately behind the State Theater. City Opera claims its current facility, built for ballet, is too small and lacks appropriate acoustics. The Met Opera would not get a new home.

In a letter to Lincoln Center officials, Joseph Volpe, general manager of the Met Opera, wrote, "Our input has been disregarded and actions have been taken by Lincoln Center without our consent."

New York City has committed \$240 million for the project. *John E. Czarnecki, Assoc. AIA*

Groundbreaking takes place for ambitious JVC Center in Guadalajara

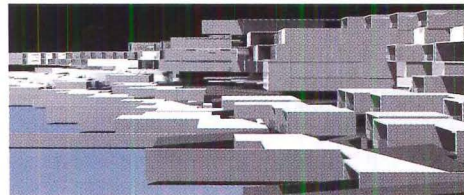
With a cast of all-star architects in attendance, groundbreaking took place on February 4 for the \$460 million JVC Culture, Convention and Business Center in Guadalajara, Mexico [JUNE 1999, page 120]. The brainchild of businessman Jorge Vergara, the mixed-use development will feature buildings by 11 internationally recognized architectural firms, most of whom have never built in Mexico.

The groundbreaking—attended by government officials and the international press—was clearly intended to signal that plans are moving forward. Since RECORD profiled the project in 1999, the master plan and individual buildings have undergone some changes. Steven Holl, who was to design a hotel, has

dropped out, while Zaha Hadid has come on board to design the hotel and Teodoro González de León will design a clubhouse.

Construction is scheduled to begin at the end of this year on the first group of buildings: a 1.6-million-square-foot convention center by Enrique Norten and Bernardo Gómez-Pimienta of TEN Arquitectos; a *palenque*, or cockfighting ring, by Thom Mayne of Morphosis; and a shopping-and-entertainment center by Wolf Prix and Helmut Swiczinsky of Coop Himmelblau. Vergara hopes to open the convention center in 2003. Other projects in the development

will be a university by Daniel Libeskind, an office complex by Jean Nouvel, an art museum by Toyo Ito, a children's museum by Philip Johnson, an amphitheater by Tod Williams and Billie Tsien, and



A hotel by Zaha Hadid is part of the JVC Center.

fairgrounds by Carmen Pinós.

Set on the outskirts of Guadalajara, the JVC Center will, if all goes well, draw international attention to Mexico's second-largest city. *Clifford Pearson*

CHILDS AND MEIER GAIN YALE COMMISSIONS

Yale University has named architects for two campus arts projects. David M. Childs, FAIA, senior design partner at Skidmore, Owings and Merrill, New York, will lead the renovation of the Art and Architecture (A + A) Building [FEBRUARY 2001, page 36] designed by Paul Rudolph. Childs was a student under Rudolph at Yale.

Richard Meier, FAIA, will design a new 65,000-square-foot center, adjacent to the A + A Building, for the art history department and arts library.

Both projects, scheduled to begin construction in fall 2002, should be complete in 2004. *Kevin Lerner and JEC*

Record News

OFF THE RECORD

Mack Scogin Merrill Elam Architects of Atlanta will design a 75,000-square-foot campus center for Wellesley College.

Members of Congress introduced legislation for a \$2.5 million, 1,200-square-foot educational and high-tech multimedia center near the Vietnam Veterans Memorial in Washington, D.C. The "temporary" structure will be funded completely through private donations.

Fundraising has begun for construction of a Harlem museum in honor of **Malcolm X**.

Cornell University has announced four finalists for its College of Architecture, Art and Planning building: **Steven Holl Architects**, **Morphosis**, **Tod Williams Billie Tsien and Associates**, and **Peter Zumthor**. Presentations to a jury will be April 18 and 19.

Philip Johnson, FAIA, 94, is working on the renovation of an 88-year-old former geological museum, to reopen in summer 2002 as an art gallery, at the University of Wisconsin-Milwaukee.

Aaron Betsky, 43, is leaving his post as curator of architecture, design, and digital products at the San Francisco Museum of Modern Art to be director of the Netherlands Architecture Institute in Rotterdam.

For Chicago's Grant Park, **Santiago Calatrava** is designing a pedestrian connection from Buckingham Fountain to Lake Michigan.

Architect **Michael Maltzan** of Los Angeles, designer **Bruce Mau** of Toronto, and landscape and interior designer **Petra Blaisse** of Amsterdam are collaborating on a \$25 million expansion and reconfiguration of UCLA's Hammer Museum.

Gensler will design the interiors for the New York Times tower by **Renzo Piano** [NOVEMBER 2000, page 33].

No small world: New Disney park opens

California Adventure, a 55-acre, \$1.4 billion complex, opened February 8 on a former surface parking lot adjacent to Disneyland in Anaheim, Calif. Unlike the original 45-year-old Disneyland, though, California Adventure's attractions have a strictly Californian theme, and the park is half the size of Disneyland, with 25 features as compared to the original park's 60.

Entrances to California Adventure and Disneyland face each other on a pedestrian plaza adjacent to the Downtown Disney area—a retail/entertainment district linking the theme parks to parking and the Disneyland Hotel.



The complex—with Disneyland, California Adventure, Downtown Disney, the Disneyland Hotel, Paradise Pier Hotel, and the new Grand Californian Hotel—is now billed as the Disneyland Resort. The intent is to offer a multi-day destination resort for visitors,



California's Adventure (above) and Downtown Disney (left) have opened.

in the same vein as Disney World in Florida.

Disney Imagineers led the design of the California Adventure park and Downtown Disney, working with the master plan developed by Jacquelin Robertson, FAIA, of Cooper Robertson. Elkus/Manfredi Architects designed the exteriors of the Downtown Disney components. The Grand Californian was completed by Urban Design Group of Denver. *JEC*



New architect and design for Chicago's Block 37

In the heart of Chicago's Loop, a three-acre chunk of real estate lies, quite improbably, empty.

The site, called Block 37 and located between Marshall Field's flagship State Street store and the mighty Richard J. Daley Center court building and plaza, was cleared in 1989 and 1990 for a Helmut Jahn-designed twin-tower office and

retail complex. The office market subsequently collapsed, killing the project and leaving the block empty through the 1990s. FJV Venture, the same partnership that attempted to develop Block 37 a decade ago, is trying again, now touting its second design for the site in less than a year.

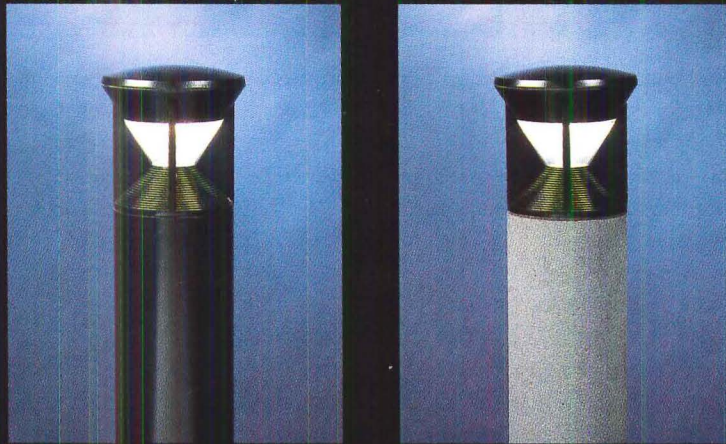
In April 2000, FJV unveiled a design by New York's Kohn Pedersen Fox (KPF) for a mixed-use development on Block 37. Its main features were a Lord & Taylor department store, a Marriott Suites Hotel, and more than 300 condominiums. But the plan, featuring a massive retail base clad in faux fieldstone, was roundly criticized for resembling a suburban shopping mall. KPF was replaced by Solomon Cordwell Buenz (SCB) of Chicago.

SCB's design (above) has the same program as the KPF scheme,

but rearranged in a site-specific, Modernist composition of simple shapes accentuated by dynamic, sculptural forms. The low-rise retail portion of the project, still fronting State Street, has more storefront windows than the KPF scheme did. The mid-rise hotel is L-shaped and shifted to Block 37's southwest corner, framing the urban room of the Daley Center plaza. Above its southern wing soars a 66-story condominium tower with a swooping glass curve that strikes up a powerful dialogue with the Daley Center. As in the KPF proposal, a public roof garden tops the department store, but it now is more accessible, with two banks of elevators (rather than KPF's one) connecting it to the street.

With the economy faltering, however, the big question is whether history will repeat itself and Block 37 will remain empty. The project, with an estimated cost of at least \$250 million, is slated for a fall groundbreaking. *Blair Kamin*

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Ben van Berkel and Caroline Bos of Amsterdam's **UN Studio** have won the competition for the expansion and renovation of the Wadsworth Atheneum in Hartford, Conn. Other competition finalists were **Brad Cloepfil** of **Allied Works Architecture**, **Morphosis**, and **Zaha Hadid**.

Ohio State University plans to renovate or replace 51 of its buildings. **Antoine Predock**, **FAIA**, in association with **Moody/Nolan**, was selected for the \$96 million Larkins Hall Recreation Center.

Finalists in the "Big Shoulders, Small Schools" competition to design two new Chicago public schools are **Jack L. Gordon Architects**, **Lubrano Ciavarra Design**, **Marble Fairbanks Architects**, **Craig Borum**, **Karl Daubmann**, and **Oliva Hyde**, **Ross Barney + Jankowski**, **Koning Eizenberg Architecture**, **Mack Scogin Merrill Elam Architects**, and **Smith-Miller + Hawkinson Architects**. Winners will be announced in March.

Kazuyo Sejima and **Ryue Nishizawa** of the Tokyo-based firm **SANAA** will design a Center for Glass for the Toledo Museum of Art.

The competition shortlist for an expansion of the Virginia Museum of Fine Arts in Richmond includes **Hardy Holzman Pfeiffer Associates**, **Machado and Silvetti Associates**, **Moshe Safdie and Associates**, **Polshak Partnership Architects**, **Rick Mather Architects**, and **Smith-Miller + Hawkinson Architects**.

Toronto's **Kirkor Architects & Planners** is designing a \$200 million, 60-story tower for downtown Toronto that will include a Ritz-Carlton Hotel and condominiums. Construction will begin by early 2002.

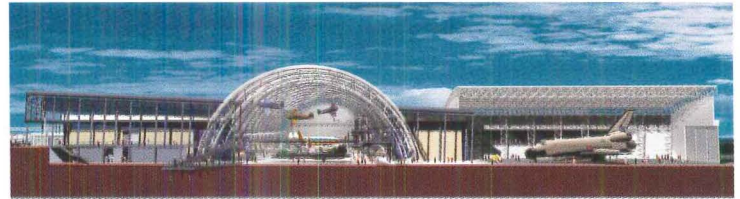
The University of Michigan has hired **Barton Phelps & Associates**, Los Angeles, with **OWP&P Architects**, Chicago, for a new building for the Gerald R. Ford School of Public Policy.

HOK designs Air & Space museum annex

The world's largest architectural firm is completing an annex to the world's most visited museum.

Hellmuth, Obata + Kassabaum (HOK) has designed the National Air and Space Museum's \$250 million annex, called the Steven F. Udvar-Hazy Center, at Dulles International Airport in northern Virginia. Site preparations began last October, and building construction will start within the next few months. The new museum is scheduled to debut in December 2003 on the 100th anniversary of the Wright brothers' first powered flight.

The 760,000-square-foot building will showcase the space shuttle *Enterprise* and more than 300 other aircraft and space artifacts that



cannot fit into the flagship museum on Washington's national Mall. A trio of hangars will also display the once super-secret SR-71 Blackbird and the Hiroshima-bombing B-29 Superfortress *Enola Gay*. The 10-story main exhibition hangar will be more than two football fields long.

"Its sheer size is awesome, a sort of 'gee whiz' space," says Bill Hellmuth, design director of HOK's Washington, D.C., office, which also created the original museum. "It's modeled after the Zeppelin hangars in World War II."

Visitors will enter the museum at an upper level similar to an airport's departure area. A long, fuselage-like hallway leads them into the main hangar and along a

catwalk for a "nose-to-nose" view of aircraft suspended from the arched ceiling's three-dimensional triangular trusses. Ramps will lead to the spaceship hangar and to a smaller hangar, where spectators can watch technicians restore airplanes.

The steel, concrete, and enameled-metal facility also will feature restaurants, gift shops, an Imax theater, archives, classrooms, offices, and an observation tower that overlooks Dulles' runways and boasts an air-traffic-control exhibit.

The only Smithsonian museum built entirely with private funds, this center is named after Udvar-Hazy, founder of International Lease Finance Corp., who donated \$60 million toward its realization. *Barbara Saffir*

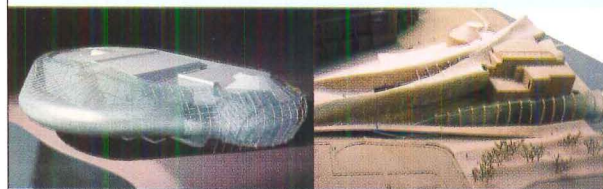


The Steven F. Udvar-Hazy Center, near Dulles Airport, will feature the space shuttle *Enterprise* (top photo, right).

Eisenman and Tschumi quit Carnegie Science Center competition

As reported January 31 on *architecturalrecord.com*, architects Peter Eisenman, FAIA, and Bernard Tschumi, AIA, withdrew from a competition for an addition to the Carnegie Science Center in Pittsburgh [FEBRUARY 2001, page 32] after learning that the other three competitors were given more time and money to respond to questions. Seddon Bennington, director of the Carnegie Science Center, apologized for the situation.

"What has happened is a shortcoming in my handling of the process," Bennington told RECORD. Eisenman (competition entry in right photo) and Tschumi (competition entry in left photo) were competing against Daniel Libeskind, Jean Nouvel, and UN Studio (Ben van Berkel). Each received \$30,000 for his entry. In mid-January, Bennington said he notified Libeskind, Nouvel, and van Berkel that they would receive an additional \$20,000 for



more work in response to specific questions. Eisenman and Tschumi were not given the extra \$20,000, nor were they notified that they were eliminated. In the next two weeks, Eisenman and Tschumi learned through other sources, not the Science Center, that Libeskind, Nouvel, and van Berkel were given additional money and instructions to proceed. Without a notice of elimination, Eisenman and Tschumi quit. *JEC*



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Volunteer architects examine ways to save Mies' King Library, making it user-friendly

A group of architects in Washington, D.C., has volunteered to develop options to save the city's flagship library in the heart of downtown. The Martin Luther King Jr. Memorial Library, one of Ludwig Mies van der Rohe's last buildings and his only building in Washington, is ill-serving city residents.

Opened in 1972, the library never garnered much popular affection and does not have an official landmark status. Assailed as dank,

cavernous, and inefficient, the library has heating and cooling systems that often malfunction, and the lighting is poor. Acknowledging the building's shortcomings, Kent Cooper, FAIA, leader of the volunteer team that examined the building, admits, "It's not one of Mies' better buildings, but it's the Mies we've got."

Library administrators have been considering options for the building since the resurgence of the general downtown core began sev-



A group of architects developed conceptual designs (left) for renovation of the Martin Luther King Jr. Memorial Library (above) in Washington, D.C.

eral years ago. The team of architects, working through the local AIA chapter, explored ways to make the library more serviceable and attractive. Their study, which Cooper termed "a series of investigations and interventions," advocates preservation of the current landmark, albeit with significant alterations. Most prominent would be recoating the black steel structure with a light-colored metallic finish and reglazing the tinted glass with clear low-e thermal glass. A fifth floor, originally omitted for budgetary reasons, would be completed, with a rooftop terrace as well as additional library space. On the interior, central portions of the third and fourth floors would be removed for a tall reading room on the second floor.

Cooper anticipates possible resistance from strict Miesians but maintains that the proposals are consistent with other examples of the architect's work, and they are simply concepts. "We tried to have this all make sense from the standpoint of being faithful to the original while being more user- and staff-friendly," Cooper says.

After the pro bono group made its recommendations, library officials hired Providence Associates, an Arizona-based library consulting firm, to write a building program, solicit public opinion, and analyze downtown library needs. Library officials hope Mayor Anthony Williams will put the library on an upcoming capital budget for an estimated \$50 million to \$100 million.

Ellen Sands and JEC

Everything you ever wanted to know about Mies in two New York exhibitions this summer

Ludwig Mies van der Rohe was already a Modern master when, in his 50s, he left Germany for the United States in 1938 and forever changed Modern architecture in this country. This summer, a short walk between Manhattan museums will link Mies' entire career—from Germany to America. Two shows will be presented concurrently: *Mies in Berlin*, June 21 through September 11 at the Museum of Modern Art (MoMA), and *Mies in America*, June 21 through September 23 at the Whitney Museum of American Art.

Mies in Berlin will include 275 original drawings, many from the Mies van der Rohe Archive at MoMA, illustrating his career from his 1905 arrival in Berlin until he directed the Bauhaus and left Germany. Highlights will include 14 new scale models of his early work. This exhibition will focus on the effect that Mies' contemporaries in Europe, including Peter Behrens, had on his work. Terence Riley, chief curator of the department of architecture and design at MoMA, is organizing the exhibition with Barry Bergdoll, professor of art history at Columbia University.

Mies in America will trace the last three decades of the architect's life in four phases—from Chicago's IIT campus to the Farnsworth House, Chicago's Federal Center, and Toronto Dominion Centre—documented in 220 drawings

and 60 photographs. Models of four buildings will be shown, including Resor House, the unbuilt Chicago Convention Hall, the Seagram Building, and the New National Gallery in Berlin. Organized by the Canadian Centre for Architecture (CCA) and the Whitney Museum of Art, *Mies in America* is curated by Phyllis Lambert, founding director and chair of CCA, and is organized for the Whitney Museum by K. Michael Hays, adjunct curator of architecture at the Whitney.

A symposium on Mies van der Rohe, cosponsored by MoMA, the Whitney Museum, and CCA, will be held in New York in September.

Mies in Berlin will next be shown at the Altes Museum in Berlin, from October 2001 to January 2002. *Mies in America* travels to the Canadian Centre for Architecture in Montreal, October 17 through January 20, 2002, and will be at Chicago's Museum of Contemporary Art later in 2002. JEC





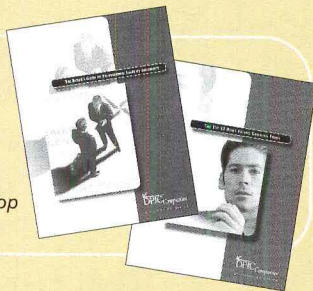
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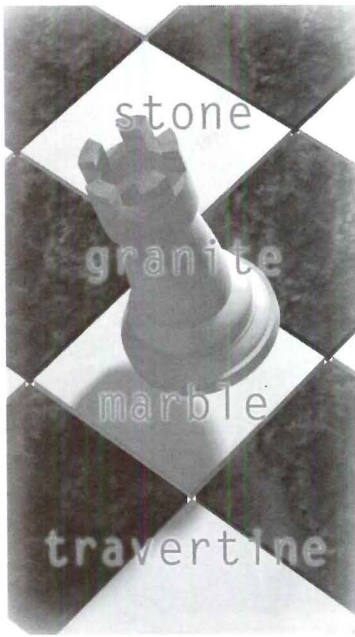
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Record News

Need for new stadium drives redevelopment of North London

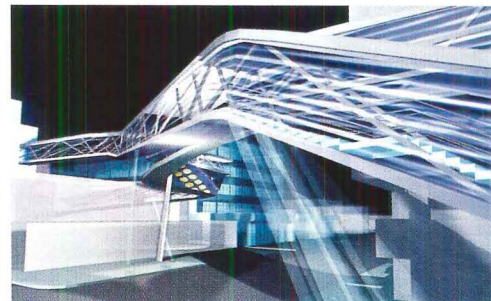
Britain's most popular pastime, soccer (or football to the British), is the driving force behind the proposed revitalization of a vast area of North London. Soccer has historically influenced the shape of the nation's urban fabric, with swathes of 19th-century residential Britain arranged around stadiums. Things are no different today.

Arsenal Football Club, one of the largest and most successful clubs in the game, is planning to relocate from the dense urban area surrounding North London's Highbury Stadium, its headquarters since 1913. If Islington Borough Council accepts the club's request for planning permission this spring, a new stadium will be built on a derelict brownfield site at Ashburton Grove, just two blocks away. HOK Sport has designed a 60,000-seat, state-of-the-art stadium with an undulating roof canopy suspended in an ellipse above the stands. Rod Sheard, chair of HOK Sport in London, says that his firm is "aiming to build the most beautiful stadium in the world."


The existing stadium, a 38,000-seat Art Deco structure, will be converted into an innovative residential development. According to plans by Allies and Morrison, the east and west stands,

originally designed by Claude Waterlow Ferrier, will be retained and converted into 500 apartments. The east stand, built in the 1920s, is listed by English Heritage for its architectural and historical significance. The master plan also includes areas dedicated to light industrial use and a restaurant. The former pitch (playing field) will be landscaped according to a design by Christopher Bradley Hole.

Arsenal's decision to move into a new stadium is the catalyst behind an initiative to integrate a series of urban-renewal schemes in North London. A team of academics and architects called the Holloway Transverse Discussion Group has promoted the merits of linking the new Ashburton Grove stadium, the radically refurbished Highbury Stadium, and another site proposed as a business park to the south. New infrastructure, including a tram system, would provide access to a nearby waste depot, designed by Sheppard Robson, and an extension to the University of North London's Holloway Road campus. The university's plans include a pedestrian bridge designed by Zaha Hadid and a new public square. *Adam Mornement*



London redevelopment will include a new Arsenal stadium (top) by HOK Sport, a pedestrian bridge (above, left) by Zaha Hadid, and the old stadium, converted into housing (above, right) by Allies and Morrison.



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Record News

Five win Green Homes for Chicago competition

Designing homes that are energy-efficient, affordable, and easily produced by a conventional builder is no easy task. Five architecture firms, though, showed how it could be done in their winning designs in the Green Homes for Chicago competition. This green building initiative and international competition is part of a city-wide effort to promote energy-efficient housing and development. Five winners and four semifinalists were selected from among 73 entries from the United States and abroad. The five winners each received \$20,000 and the chance to see their homes built in Chicago. The semifinalists received \$10,000 each.

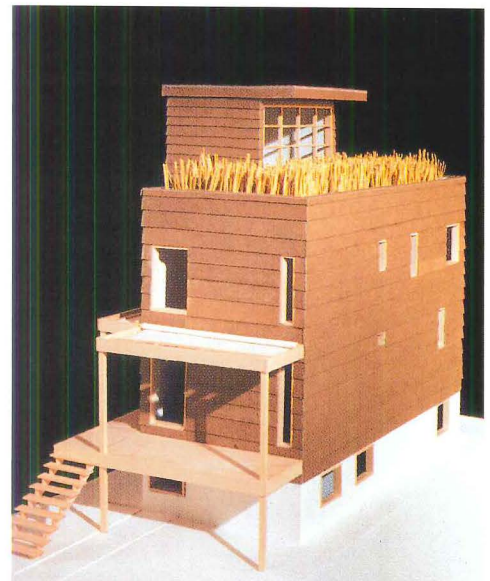
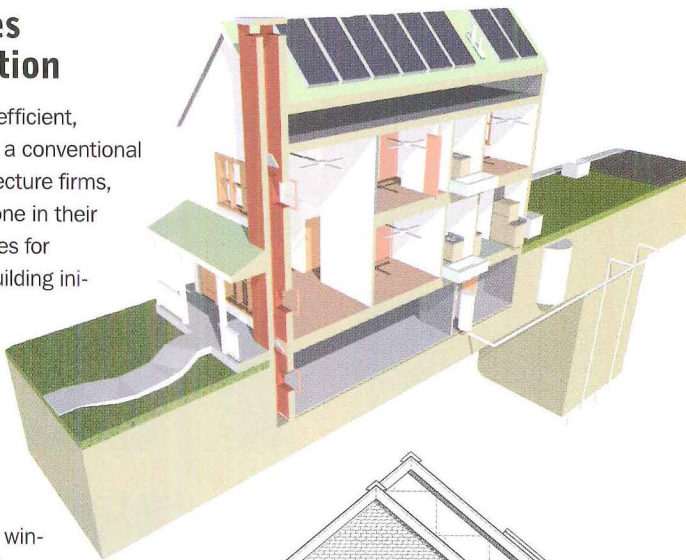
Four of the winners practice in Chicago: EHDD Architecture, Ross Architecture, Wheeler Kearns Architects, and William Worn Architects. The only winner outside of Chicago was Sean Garrett Architecture in Denver.

In announcing the awards, Chicago Mayor Richard M. Daley said, "With this project, we're getting much more than just five energy-efficient new homes. We intend to use these homes as an opportunity to make people in Chicago—and across the country—more aware of the need to protect and respect the environment when we make our housing choices."

The houses will be built on city-owned land with funding from ComEd, a local utilities provider. Green features proposed by winning architects include solar-powered heating and cooling, and a stairwell that uses water bottles for insulation.

Construction of the five homes will be complete by fall. The maximum construction budget for each home is \$175,000, excluding the value of the lot. This includes a \$115,000 construction budget, with up to \$10,000 of green upgrades and up to \$50,000 in innovative enhancements. When completed, the buildings will be open to help educate the public about environmentally responsible design. Eventually, Chicago's Department of Housing will sell the homes and incorporate their successful features into specifications for future affordable-housing projects.

Semifinalists were Darren Hoppa of Brooklyn, Alfons Poblocki Jr. of Chicago, Nathan Kipnis and Mark A. Miller of Chicago, OWP&P Architects of Chicago, and Hanno Weber & Associates of Chicago. *Deborah Snoonian, P.E.*



Designs by William Worn Architects (top), Sean Garrett Architecture (middle), and EHDD Architecture (bottom) were among the winners in the Green Homes for Chicago competition.

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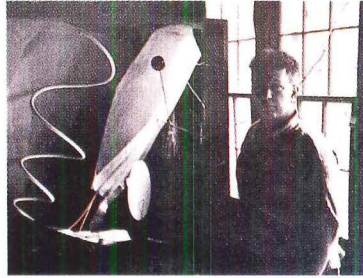
Record News

Calder Foundation selects Philadelphia and Ando for museum honoring three generations

After months of reviewing qualifications of a select group of world-class architects and examining possible sites in several U.S. and European cities, the New York-based Calder Foundation chose Japanese architect Tadao Ando to design a new 35,000-square-foot, \$50 million Calder Museum along Philadelphia's Benjamin Franklin Parkway at 22nd Street. The museum will display the works of three generations of Calder sculptors, including Philadelphia native Alexander Calder (1898–1976), who is best known for his mobiles.

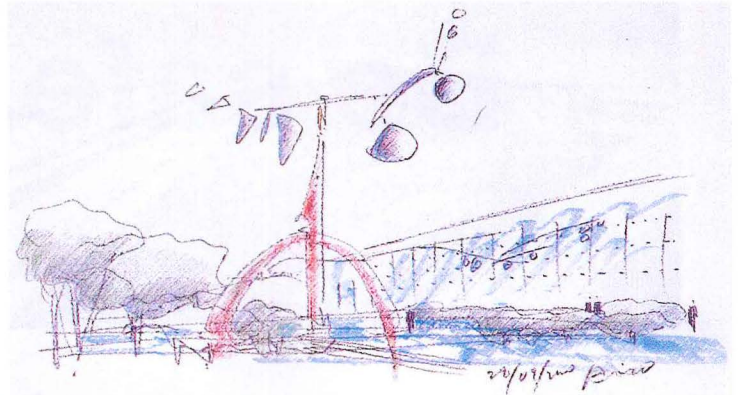
The announcement was made at a February 14 press conference in Philadelphia's City Hall, a building topped with a statue of Benjamin Franklin and adorned with more than 200 sculptures: all the work of Alexander Milne Calder. His son,

Alexander Stirling Calder, father of the mobile sculptor, designed the Swann Memorial Fountain at Logan Circle on Benjamin Franklin Parkway. At the far end of the parkway, at the

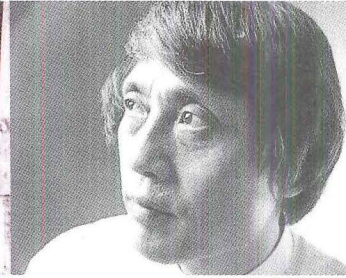


Philadelphia Museum of Art, the mobile *Ghost* by Alexander Calder hangs in the Great Stair Hall.

"The site at Benjamin Franklin Parkway . . . is where the thread of three generations of the family's achievement extends, unbroken, in



A preliminary sketch (above) for the Calder Museum by Tadao Ando (left) to honor Alexander Calder (far left).



Ando says he plans to create an architectural tribute that captures "the presence of the wind" he sees in Calder's mobile work.

Administered by the Philadelphia Museum of Art, the museum will house most of the foundation's collection of 300 sculptures, 3,000 works on paper from all three Calders, as well as a private collection of work by other artists.

Joseph Dennis Kelly II

eloquent sculptural form," Ando said at the press conference.

"The work of the Calder family has long been a part of this city's cultural fabric," Calder Foundation Director Alexander S.C. Rower, Alexander Calder's grandson, said.



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Record News

Philadelphia's City Hall, needing \$350 million renovation, may add retail and restaurants

Philadelphia City Hall celebrates its centennial this year, and it has never looked worse. City Controller Jonathan Sidel introduced a plan in December that would introduce retail and other uses into the aging structure, infusing private monies to save the building.

Most Philadelphia city government functions are housed in other nearby buildings, while many of City Hall's ornate rooms sit abandoned. Water seeps through dilapidated roof tiles, and exquisite vaulted ceilings and elaborately stenciled walls are rotting, creating internal deterioration and structural weakness.

Sidel's document, "City Hall Revitalization—A Plan," proposes a massive restoration and adaptive reuse project to transform the

building into a thriving center of civic life and tourist activity. Currently under review by an 11-member mayoral task force, the plan describes this grand 4.5-acre, 700-room marble and granite French Second Empire-style building as an asset in jeopardy. Once the world's largest occupied structure and currently the largest municipal structure in the United States, Philadelphia's City Hall has more floor space than the U.S. Capitol and is the largest masonry building anywhere.

The plan calls for restoring and transforming portions of the building into upscale retail, restaurant, office, and public museum spaces, as well as an expanded visitors' center. Courtyard spaces covered in glass could function year-round as café

and entertainment venues. New uses would target Philadelphians and tourists alike. The city would still own the building and occupy about 35 percent of the renovated spaces.

"It is unrealistic to keep City Hall primarily a public building," says 2001 AIA Philadelphia President Janice Woodcock, AIA. "There must be creative thinking to keep it alive."

Opponents, however, fear losing the structure's authority and historical presence. Critics envision a shoppers' heaven overrun with food courts and teenagers. Sidel disagrees: "The building is the city's. It always will be. Our lease agreement dictates how the space would be used."

The overall project cost is estimated at \$350 million. The exterior



Philadelphia's City Hall may add retail.

is currently undergoing a \$125 million renovation by VITETTA. Possible financing options include historic tax credits, nonprofit stewardship, and constituency-based fundraising. *JDK*

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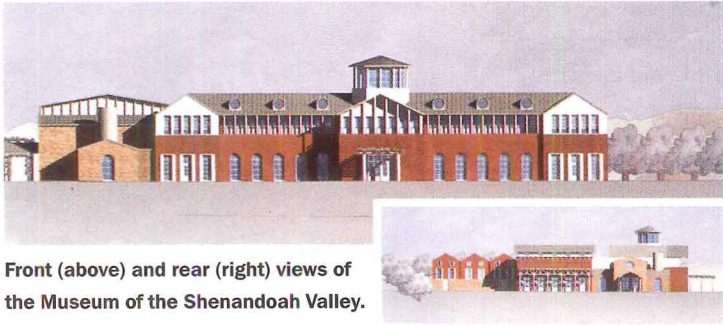


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News Briefs



Front (above) and rear (right) views of the Museum of the Shenandoah Valley.

Graves' Virginia vernacular

The 2001 AIA Gold Medalist, Michael Graves, FAIA, unveiled his design in February for the Museum of the Shenandoah Valley, formerly Glen Burnie Historic House, in Winchester, Va. The design is based on the regional vernacular architecture of western Virginia and the Shenandoah Valley. The \$20 million, 50,000-square-foot museum, which will include five galleries and an auditorium, will open in 2003. Construction will begin this fall.

Calatrava's MAM addition may not "fly" until 2002

The wait to see the completion of Santiago Calatrava's first building in the United States might be a little longer than expected. The brise soleil, which is the crowning feature of the Milwaukee Art Museum (MAM) addition, may not be ready to "fly" until summer 2002.

The original date for completion of the entire museum expansion was May 4, 2001. A portion of the addi-

tion, namely an exhibition hall, will open on that day. The reception hall under the brise soleil will open in late summer or early fall 2001.

The winglike brise soleil, which will mechanically open and close to filter sunlight, was initially scheduled to be installed early this year. But the 88-ton structure has been delayed because testing took longer than anticipated. Museum officials said a prototype of the brise soleil passed its final strength test in mid-February, but fabrication of the final form has yet to begin.

With a 200-foot wing span, the brise soleil will be composed of 72 carbon-fiber fins. Chris Smocke, the construction executive over-



RTKL's new office will be on waterfront.

seeing the project, says the structure will not be stable if the fins are even a thousandth of an inch out of place.

Yale hired Cesar Pelli for engineering building

Yale University has named Cesar Pelli, FAIA, as the architect for a new 50,000- to 55,000-square-foot building for its engineering school.

RTKL designs its new headquarters in Baltimore

RTKL Associates will move its headquarters in fall 2002 from a downtown Baltimore skyscraper to a new 200,000-square-foot building that it designed on the waterfront near Fells Point. RTKL's 230 employees will occupy approximately 50,000 square feet of the building, called Bond Street Wharf, which was made to appear like a century-old warehouse building. Restaurants and retail will fill the ground floor.

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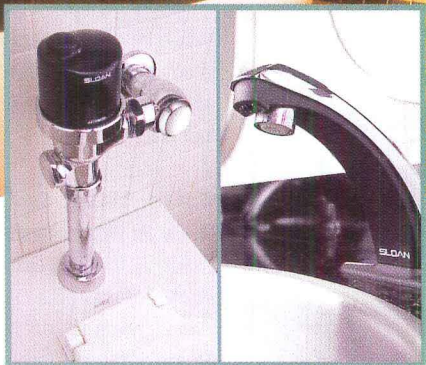
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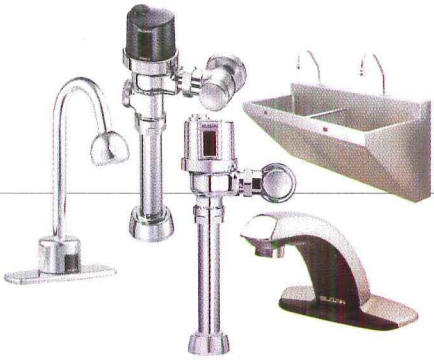
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News Briefs

Eisner and Disney win National Building Museum Honor Award

Walt Disney Company and its chairman since 1984, Michael D. Eisner, will be presented with the National Building Museum's annual Honor Award in a ceremony in Washington, D.C., on April 5. Given annually since 1986, the award recognizes individuals and companies that have enhanced public life in America through architecture, planning, and building. An exhibition, *The Architecture of Reassurance: Designing the Disney Theme Parks*, will be shown at the museum from March 17 through August 5.

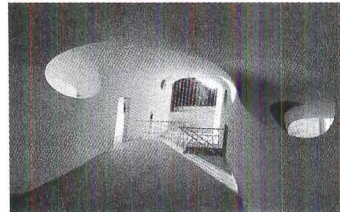
Exhibition on Wright and Japan The exhibition *Frank Lloyd Wright and the Art of Japan: The Architect's Other Passion* will show at the Japan

Society in New York City, from March 28 to July 15. Tim Culbert and Celia Imrey of Inline Studio designed the exhibition.

Space Odyssey begins Hardy Holzman Pfeiffer Associates, in association with HLM Design, made public its design for Space Odyssey, the \$45 million space science education center with multistory atrium at the Denver Museum of Nature and Science. The 40,000-square-foot renovation of existing museum space will be complete in 2003.



A glass atrium will enclose Space Odyssey.



Buildings by Preston Scott Cohen (left) and NOX (right) in *Folds, Blobs, Boxes*.



Whitney hires Koolhaas to study expansion needs The Whitney Museum of American Art hired Rem Koolhaas to carry out a planning study for possible future expansion of the museum on Manhattan's Upper East Side. The museum confirmed that Koolhaas would be the selected architect if the study suggests that an alteration or addition is needed. A time frame has not been set.

Folds, Blobs, and Boxes on view in Pittsburgh

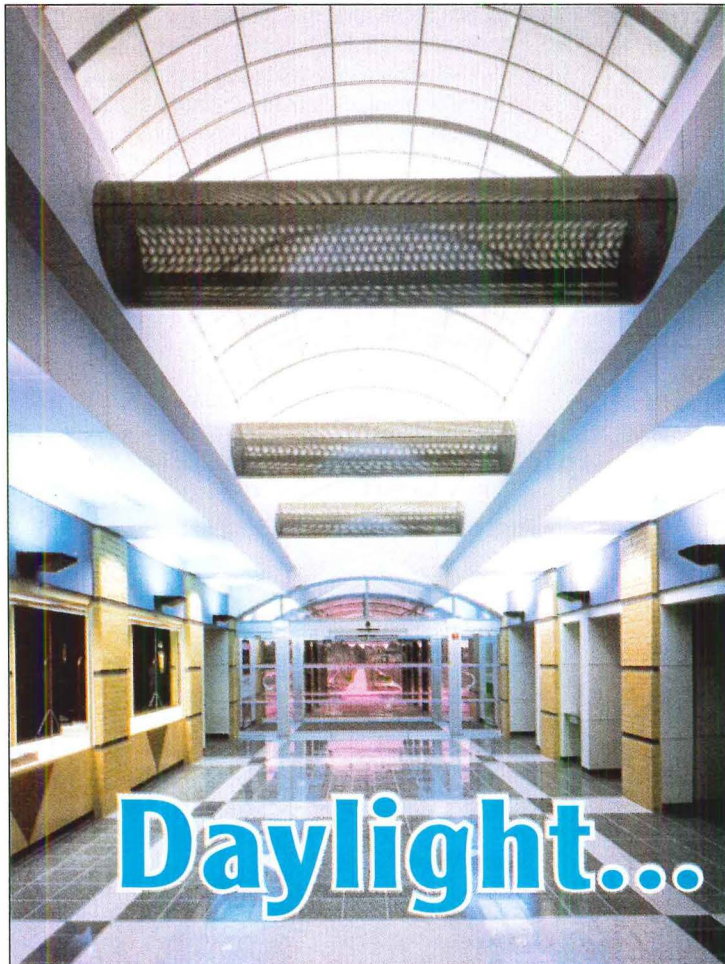
Folds, Blobs, and Boxes: Architecture in the Digital Era, the first significant exhibition by Joseph Rosa, curator of architecture at Carnegie Museum of Art's Heinz

Architectural Center, runs through May 27.

The exhibition presents computer-generated drawings, models, and built work by Frank O. Gehry, FAIA, Preston Scott Cohen, Wes Jones, NOX, Foreign Office Architects, Kolatan/MacDonald, and Greg Lynn, among others. Rosa places this recent work in a historical context. For example, he links Frank O. Gehry's 2000 Experience Music Project with Frederick J. Kiesler's 1933 Space House.

Siza wins Wolf Prize

Portuguese architect Alvaro Siza is the recipient of the 2001 Wolf Prize in Arts, awarded annually by the Israeli-based Wolf Foundation.



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21st Century

East Columbia Library, Columbia, MD Architects: Grimm & Parker

Ridding the American landscape of lawn: Is nothing sacred?

Critique

By Will Yandik

DEPARTMENTS

One landscape remains unchallenged in our built environment, a vernacular Virgin Mary, worshiped seasonally by millions—the lawn. Anyone who doubts that Americans are willing to place form ahead of function need only observe an August suburb and its throngs sweating their way to a perfect carpet of green. We cultivate more grass than wheat, corn, or tobacco, with almost 50,000 square miles of grass in the U.S. alone—an area roughly the size of New York State. The lawn's adverse effects on the environment are well documented: chemical pollution and runoff, a voracious appetite for water, mowers that belch hydrocarbons. Yet I suggest another reason, an aesthetic one, to rethink the concept of the lawn. It is an outdated pastoral fantasy, a bland backdrop that hinders the imaginative use of landscape. Much of what we dislike about sprawl is simply lawn.

It is time for a change, and architects must be part of that change. After all, the lawn is more architecture than landscape, more design than nature. It is no more natural than the concrete that often forms its border; in fact, we exterminate any real nature (moles, grubs, dandelions) that violates our green. The lawn is the imposition of designed interior space onto an exterior frame (thus the ubiquitous description of a healthy lawn as a “carpet”), and this kind of design

Will Yandik is a freelance writer and editorial intern at Preservation magazine in Washington, D.C.

may have outgrown its purpose. As new architectural designs break free from strict, boxlike intersections of 90-degree angles, it is less important to provide a horizontal, neutral surface to complement those axes.

The origins of the lawn are in Western Europe, likely in the British Isles, where the Atlantic climate keeps native grasses naturally green and short. What began as practical, enclosed grazing fields evolved into the estate lawn, cultivated by an upper class that was drunk on classical pastoral literature. Wealthy colonial families in North America slavishly imitated the English landscape until the middle class caught on in the 19th century, encouraged by fashion leaders such as A.J. Downing, who urged others to adopt “the unrivaled beauty of [England’s] velvet lawns.” The lawn flourished in the new suburbs, reaching its icon status after World War II, when Madison Avenue challenged returning soldiers to fight crabgrass instead of an evil empire.

Quest for perfection

The lawn has become a quest for perfection, a singular standard of color, shape, and texture. A flip through a grass seed catalog is initially inspiring and expansive—Bermuda grass, buffalo grass, centipede grass, St. Augustine, zoysia—but the poetry ends with the nomenclature. The seeds are used to produce the same uniform shapes. The aesthetic problem with the lawn is that it allows no room for innovation, growth, or art. The lawn is a front door, a symbolic facade

constructed to communicate conformity. It advertises that the owner honors such values as dependability and hygiene. In essence, I shave, therefore I mow. The idea of the lawn has become so universally sacred that in the arid Southwest even gravel and hardscaping have been painted green and arranged in squares.

way for the main event.” A problem arises when we fail to recognize that the periphery in architectural renderings constitutes most of our built environment. As the boundaries of our cities fade into suburbs, we realize that the lawn surrounds more than the single-family bungalow. Our schools, hospitals, libraries,



Lawns consume vast amounts of water to keep the suburban landscape green.

Must the lawn always be the green canvas, the neutral background for an architectural event—something that unifies brighter, bolder colors and textures? Mark Wigley, author of *The Electric Lawn*, describes architects' renderings: “It is assumed that wherever there is nothing specified in the drawing there is grass. The lawn is treated like the paper on which the projects are drawn, a tabula rasa without any inherent interest, a background that merely clears the

museums, and corporate headquarters have become isolated in lawn.

Some successful lawn alternatives already exist. Xeriscaping with varied, drought-resistant grasses and cacti has become popular in the West, and some landscapers use native wildflowers and indigenous shrubs creatively in the East. But there must be a stronger relationship between architect and landscaper or, better yet, architects willing to design whole landscapes. Architects rely too heavily on the

Critique

lawn to sew buildings together. The result is often a predictable composition that triggers our knee-jerk reactions against nonurban environments. The lawn prevents the suburb from achieving a balance of harmonious differences—the juxtaposition of different architectural styles and textures described and admired by critics like Ada Louise Huxtable. By replacing the lawn with an architectural landscape that integrates geometry within existing regional and natural geographic variation, we could advance suburbs beyond the predictable and prosaic.

Fusing structure and land

The 1994 Japanese Soft and Hairy House by Ushida-Findlay Partnership illustrates a more ambitious lawn replacement. A simple motif that could be expanded, the design fuses structure and natural topography. An unfussy tangle of

native vegetation coils around the roof of the smooth, sculptural frame; the composition cannot be teased apart. Viewed from ground level, the green elements provide a hairy texture against the sky, softening the concrete and stucco and pulling the piece together. A similar example is the 1987 Brunsell Residence by Obie Bowman, AIA, in Sea Ranch, Calif. The house appears to have been raised from the surrounding California grasses. Natural elements are not sacrificed through the introduction of geometry to the landscape, but rather assimilated into the composition. The architectural design expands beyond the four walls and bleeds into its environment. More recently, the Diamond Ranch High School by Morphosis in Diamond Bar, Calif., integrated classrooms into the natural topography of low hill barrens and scrub oak of a Los Angeles sub-



Natural landscape envelops the Brunsell Residence by Obie Bowman.

urb. No dirt was removed or added. By cantilevering buildings off a hillside slope and choreographing the irregular rooflines with the natural contour of the landscape, the school campus eliminates the lawn.

If lawn-alternative designs exist, why then have they had such limited impact? One obstacle is zoning ordinances. In many municipalities, homeowners must specifically devote a certain percentage of their property to lawn, and citizens have the right to sue if their neighbor's grass grows a few inches above regulated standards.

Another obstacle is simply consumer resistance. Americans have been taught for more than a century that the lawn is a safe, responsible statement of taste. Therefore, this time-tested standard will not vanish overnight. And despite the lawn's negative qualities, the lawn and garden industry successfully markets a familiar, accessible product. It's a reality that is unmistakable, but not immutable. Architects, like all artists, should pride themselves on pushing, rather than following, consumer tastes. Our landscape begs for an alternative to the sea of green. ■

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Using the psychological contract to help retain young staff members

Practice Matters

By Debra Lehman-Smith and James B. McLeish, AIA

Architectural firms spend a significant amount of time and money recruiting talented younger staff. We attend on-campus job fairs, participate in university architectural and interior design boards, interview countless potential employees, and hire interns in the hope that they will continue to work for the firm in the long term. But firms often drop the ball when it comes to retaining the younger staff members after their initial excitement wears off.

This is a relatively new problem. When we first started our firm, we knew that we wanted to build a solid team of highly talented people, and we knew that this would not be easy. In order to attract talented employees, we had to entice them with a good financial and benefits package, as well as interesting projects. The job market in the past was much tighter, and younger employees felt lucky to have work and stayed at jobs longer.

Recent architectural graduates have much more job mobility, thanks to the economy and the fact that many alternative careers in fields such as real estate, construction, and industrial design have opened up. Our culture has changed, too. Young people may forego job security for the opportunity to work at a start-up, where

their stock options might even make them rich. Today, it is not enough to hire smart graduates and offer them good salary and benefits packages. In order to retain these employees, the people who already work at the firm must interact with new hires in a supportive manner. By implementing the following four-step proactive process on an ongoing basis, you can greatly reduce your firm's turnover rate.

1. Create the psychological contract

People who hire new employees must understand that during the interview and hiring process, a verbal, psychological contract is forged between employer and employee. During the interview, what message are you giving potential employees? Interviewers must be clear about what they want in a new hire, what the job responsibilities are, and what the firm is committed to offering its young employees. Start by talking about the work environment. Explain the firm's organizational structure, the amount of client contact there will be, the kind of projects younger staff will work on, and the challenges and rewards of the work.

In the interview, it's equally important to learn what the applicant wants. Often, recent architectural graduates do not know what they really want, and it is up to your firm to decipher the applicants' goals based on their interview responses and portfolio.

Look beyond professional training and skills to an applicant's drive and ambition, his expectations from a job, and his areas of interest and enthusiasm. Then, hire the best match for the firm.

Firms are organized in different ways. A good match for one firm may be a terrible match for another. Does the potential employee want to be involved in every stage of the design process from start to finish within the first year? If so, then he could be a great candidate for a small to mid-sized firm looking for young talent for small projects. However, he would not be a good match for a firm that only works on extremely large projects or for a firm that is looking to staff a 1 million-square-foot project that is just beginning and is projected to last for years.

Be sure that your goals and those of the potential employee are similar. One of the worst mistakes a company can make is to make promises that will not be kept.

2. Mentor the new employee

At many architectural firms, a partner or principal will conduct the interview, yet often he or she does not actively supervise new employees. This is where problems often start. It is crucial to remember that new hires believe that the person who discussed what the firm was offering during the interview—the psychological contract—will be the person who sees to it that these promises are kept. But new employees often find themselves supervised by associates who are

not aware of what the partner may have said about the work environment or what opportunities were promised. When the job does not meet an employee's expectations, he may feel that the verbal contract was broken and may decide to leave the firm.

To prevent this, the firm must assign a mid-level staff member to act as a mentor toward new employees. That person should be part of the interview team and should make the psychological contract with applicants, because he or she will be supporting and interacting with them in the coming months and years. Mentors should be chosen carefully. Not everyone has the interpersonal skills or the interest necessary to support new employees in an advisory or mentoring role. It may take extra effort on the mentor's part to maintain the connection with the new employee, especially if they are working on different projects.

In addition, contact with the firm partners or principals should be continued after these initial interviews. Even if the new employee is not working directly with the partners, there should be other times for this interaction to occur. At Lehman-Smith+McLeish, we often have firm events, such as in-house project critiques and presentations, trips to art exhibits and architectural lectures, as well as an annual tour of prominent architectural spaces. This gives our staff more opportunities to interact with one another than they have during a normal workday. And, given the

Debra Lehman-Smith and James B. McLeish, AIA, are partners at Lehman-Smith+McLeish (LSM), an architecture and interiors firm based in Washington, D.C.

Practice Matters

nature of each event, the interaction is often a chance for the more experienced people in the firm to share their knowledge with younger members. We consider interaction between employees in architectural settings outside of the office to be essential in creating lasting relationships.

3. Manage the morale curve

When a young person comes to a new job, he is excited and idealistic. However, in a few months he may well go from feeling euphoric to feeling mired in the workaday world, not because of anything the architectural firm has or has not done. This can often just be reality setting in after weeks of routine work and late nights.

The mentor must be aware that this will happen and manage the situation appropriately. If new employees lose some of their initial

enthusiasm, let them express their frustration and disappointment and be careful not to become defensive if some of the feedback is negative. To bring the morale curve back up, the mentor first should help young employees get a handle on the reality of the situation by helping them understand what they should expect at this stage of their career—and what they can achieve in the future. And, as trivial as it may sound, it helps just to say that almost all of us have had times when we thought we would never get past doing stair details or picking up redlines, but eventually we did.

Finally, the adviser should also take the time to really think about the relationship between a hire's professional growth and her satisfaction, to find the tasks that are best suited to her, thus allowing her to have some authorship of

her own career. In addition, it is helpful if, during the first months of new employees' tenure, principals check in with them regularly, ask how things are going, and encourage them to discuss any problems honestly.

4. Communicate openly

Occasionally, an architectural firm will undergo a significant change, perhaps in its organization or in the nature of its work: A partner may be added to the firm, a principal may leave, or a high-end retail design may shift to corporate work. The change can be like a big rock thrown into a quiet pond: The ripples may start the gossip mill and raise questions, uncertainty, perhaps fear or anger. It can also alter the psychological contract between younger staff and the firm.

How can a firm help its employees weather and even welcome the change? The key is communication, starting at the top. A senior partner should tell associates exactly what is going on

and explain the change fully. Don't wait until the last minute. Do it up front. Otherwise, employees will imagine the worst. The associates should give younger employees a chance to ask questions. This two-pronged approach is both reassuring and informative, and it will help allay fears that might otherwise lead to turnover.

It is inevitable that architectural firms will lose some of their younger staff. But they can minimize attrition by creating an organizational structure that supports the psychological contract, by establishing a mentoring structure, by proactively managing the morale curve, and by communicating early and clearly any significant company change to all employees. In today's market, we must be more creative in our initial search for new employees, and we must forge strong relationships with them so that the firm can make it to the next level. Remember: You recruit younger employees once. But you retain them one day at a time. ■

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Working it out: Tracing the evolution of design in the American office

Exhibitions

By Andrea Oppenheimer Dean

On the Job: Design and the American Office, *National Building Museum, Washington, D.C., through August 19. Curated by Donald Albrecht and Chrysanthe B. Broikos; exhibition and catalog design by Pentagram.*

Plus ça change, moins ça change. The exhibition *On the Job: Design and the American Office* contends that the office has been an incubator of radical social and cultural change. Yet we leave the exhibit feeling the office has come full circle. The first image on display—of the typing department at National Cash Register in Dayton, Ohio, in 1890—shows a bullpen with lamps dangling from an exposed ceiling. One of the concluding images, of a cyber cafe, has similarly simple furniture arranged—albeit more randomly—beneath lamps dangling from an exposed ceiling. This déjà vu is intentional, says curator Chrysanthe Broikos. “It shows how we’ve gone from regimentation to a more open way of working.”

But *On the Job* is not a simplistic show. It covers more than a century of office history and casts a wide net over the technological, political, social, and design changes that have altered the workplace. It tells the story through photos with long explanatory captions, excerpts from films and television shows, interactive computer stations, computerized versions of nearly

everything in the exhibit, and examples of furniture and technology. The office gadgetry ranges from an 1874 typewriter to a 2000 Clio computer, and the furniture from an 1874 office conceived as a cabinet to a 1997 workstation prototype called Flo, by the Haworth Ideation Team.

If anything, the exhibit is too ambitious. Because space is tight, three workstations—a Knoll desk, credenza, and occasional table from the 1960s; a 1964 Action Office, designed by George Nelson with inventor Robert Probst for the Herman Miller Company; and the Flo—are asked to sum up nearly four decades of change in open-office design. They can’t do the job, especially out of context. A space squeeze also explains the disconnect between 1960s workstations and their backdrops, photographs of 1980s and 1990s office buildings. The catalog, published by Princeton Architectural Press with chapters by Thomas Hine, James Russell, Stanley Abercrombie, Phil Patton, and others, fills in the exhibit’s gaps and smooths its sometimes fitful storytelling.

The exhibit sees the office as a microcosm of American social transformation beginning after the Civil War. With the rise of “the company,” a term derived from military usage, came middle management to implement new marketing strategies, coordinate distribution networks, and track sales. The paper chase had begun.

Frank Lloyd Wright’s Larkin Administration Building (1906) in Buffalo was the first architectural embodiment of a desire by enlight-

ened Progressive-era capitalists to improve the factorylike conditions of clerical workers and make work an uplifting experience. In part to attract the best workers, the Larkin company provided a clean, light-filled environment. It had rudimentary air conditioning, as well as a YWCA and a music lounge to encourage self-improvement. Not least, the Larkin was a machine for working in which thousands of pieces of correspondence were efficiently processed daily from the building’s upper level downward.

In the 1910s, American business made efficiency its mantra. Frederick Winslow Taylor, the father of scientific management, applied himself to streamlining office procedures in 1911, and the Ford Motor Company developed the assembly-line based on his time-and-motion studies. The Modern Efficiency Desk, created in 1915 for the Equitable Assurance Company, was, unlike the rolltop and cabinetlike Wooton desks it replaced, devoid of drawers and cubbyholes. Papers couldn’t be hidden, so they had to be kept moving: The office worker as paper pusher was born.

World War II reinforced the office’s image as a corporate barracks, and business adopted military hierarchies. The touchy-feely 1960s ushered in the office as a friendlier environment, and the German Quickborner Consulting Group originated the open-office and flexible-furniture systems to improve office communications and paper flow. The rest, as we know—though not from the exhibit—has

been largely a matter of fine-tuning the open-office plan and its systems, primarily in response to resistance to them from upper management, about which the exhibit is also silent. Offices have adapted to new technologies, to more casual and interactive styles of working, and to new venues. That brings us to the contemporary cafe, so eerily reminiscent of the typing department at National Cash Register in 1890. ■



From top to bottom: the Flo workstation, 1997; SEI offices by Meyer, Scherer & Rockcastle in 1997; the Remington Typewriter Co. in 1916.

Contributing editor Andrea Oppenheimer Dean works out of her home office in Washington, D.C.

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CIRCLE 35 ON INQUIRY CARD

Snapshot



By Rita F. Catinella

"This is where hand-embroidered fabric meets carved stone," says fashion designer Naeem Khan of his New York showroom by designer and architect Tarik Currimbhoy. A protégé of fashion designer Halston in the late 1970s, Khan shares the Fashion District showroom with his wife's company, Phoenix, which supplies the hand embroidery for haute couture houses around the world. Khan uses the showroom to display his line of dresses that have been worn by an array of celebrities, including Hillary Clinton, who wore a Khan original at the first inauguration of then President Clinton. Both companies employ about 2,500 workers in a third-generation workshop in India where every single garment is hand-stitched. "It's an old art form and we are not going to let it die," says Mrs. Ranjana Khan.

The Khans wanted an open, loftlike space bathed in natural light. Since the 2,500-square-foot space would also need to serve as an office, it had to work twice as hard. "Khan had little room, so he wanted it to be open, and clean," says Currimbhoy, who is trained as a designer, architect, and industrial designer. "Based on that, the premise

Turning stone into fabric for a fashion showroom

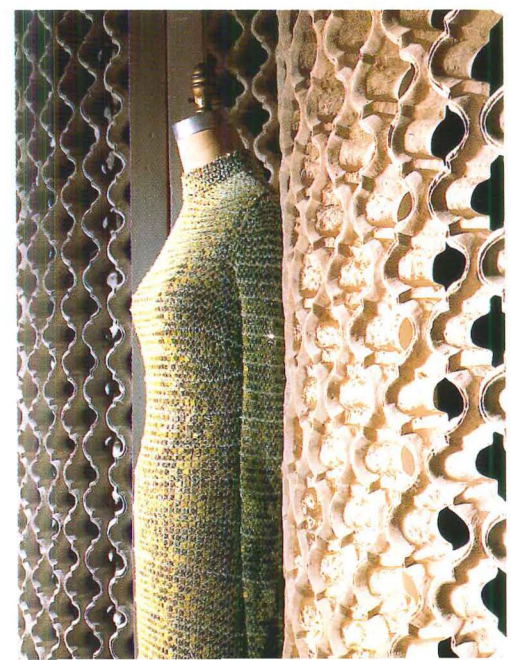
An undulating sandstone screen divides the showroom from the office and replicates the intricate Indian handwork of the dresses on display.

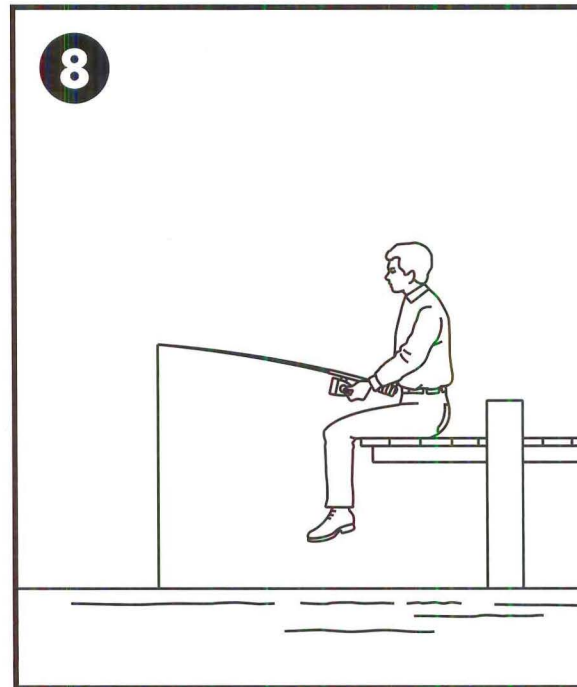
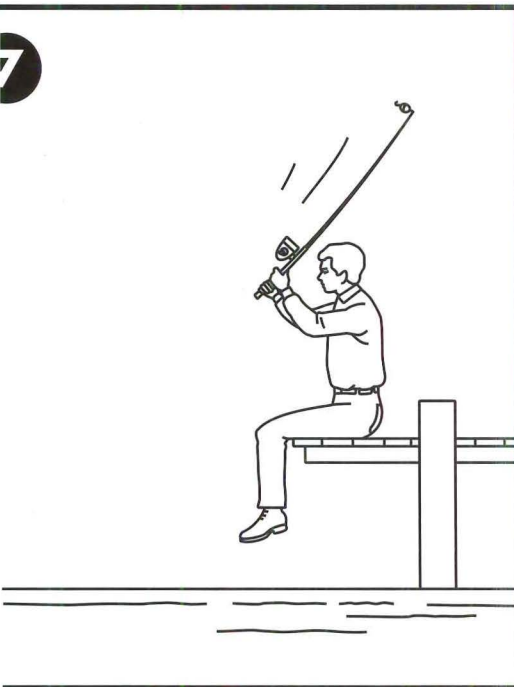
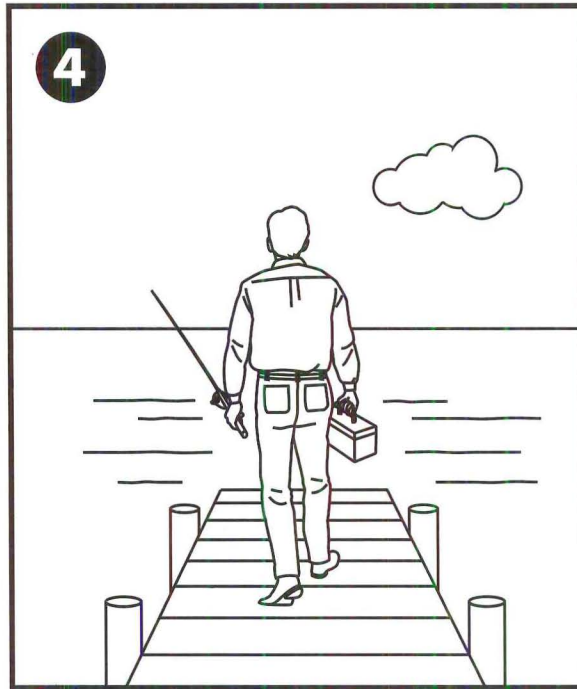


was to have one clean wall conversing with another clean wall." The colorful dresses are lined up against one wall of the rectangular space, and between these two elements is a freestanding serpentine sandstone screen. "The intent was to create what would be the representation of a weave in stone. The undulation was to evoke a sense of fabric," says Currimbhoy.

The 48-foot screen was hand-carved of sandstone from a quarry near the Taj Mahal in India and shipped to New York in sections. A team of five cutters worked on each of the twelve 1,200-pound screens over a four-month period. In order to protect the stones from breaking during cutting, each piece was lifted by crane and placed in a pit of sand to absorb the pressure of the carving. Designed, executed, and installed by Sana Stone, a subsidiary of Currimbhoy & Co., each curved section is 3½ feet long, 8 feet high, and 2½ inches thick. Between the folds of each undulation, like a display at a museum, stands a mannequin in a Naeem Khan dress. "The folds of the screen are sensuous, like the folds of a dress," adds Khan.

Ivory Venetian plaster finish on perimeter walls and a cream-painted concrete floor define the boundaries of the space. A row of cream-colored, flowing Ingamaro limited edition "Jinkins" lights serves as a sensuous complement to the screen. ■





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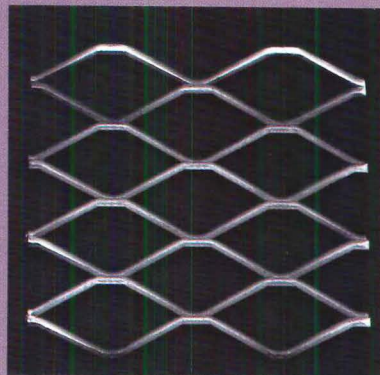
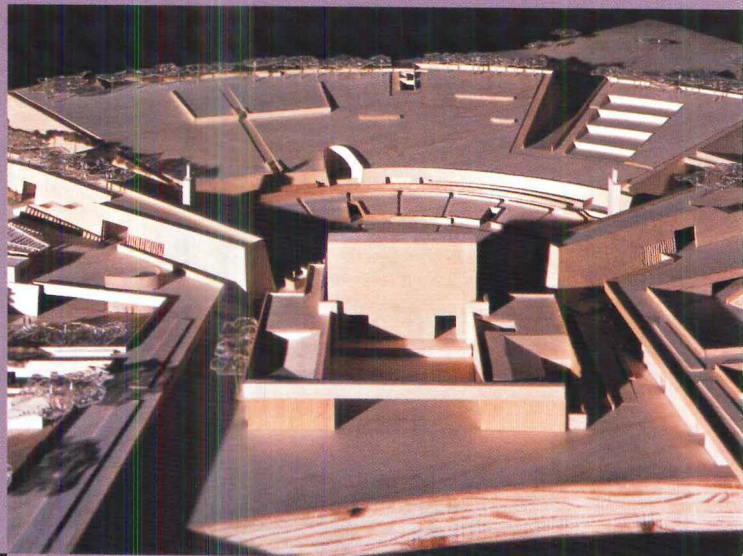


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CIRCLE 37 ON INQUIRY CARD

Material Affairs

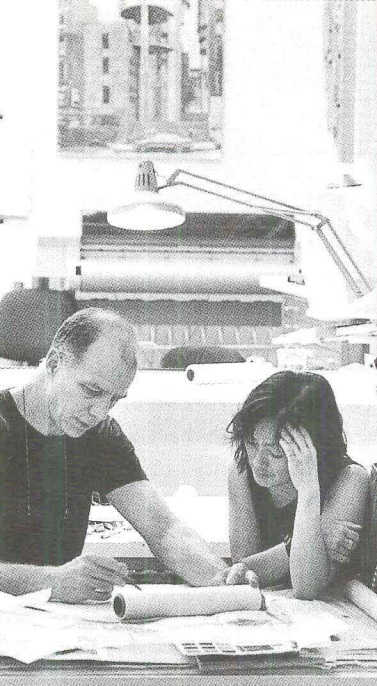
Tod Williams & Billie Tsien talk about going slowly and letting materials emerge from place, time, and process.



AMPHITHEATER,
GUADALAJARA,
MEXICO

Heavy walls set into the land evoke ancient Mayan structures (far left), while an expanded metal mesh (left) is used for the roof (right).





By Clifford A. Pearson

The works of Tod Williams, FAIA, and Billie Tsien beg to be touched. Walk up to their Neurosciences Institute in La Jolla, Calif., and you find yourself running a hand over the low-slung

building's long concrete walls, which have been softened by heavy sandblasting to expose their blue-green aggregate. Or go inside their addition to the Phoenix Art Museum and compare the smoothness of a grand limestone stair with that of its cast-in-place concrete mate. The architects bring out the timeless qualities of materials such as stone, concrete, steel, glass, and wood, and they experiment with newer ones such as Homasote, plastic laminates, and resins. Theirs is a tactile architecture.

Having worked together since 1977 and been partners since 1986, Williams and Tsien (who are married to each other) have developed a practice known for its lyrical designs that bring out the humanity in institutional buildings and highlight the poetic in residential ones. Although many of their projects involve the arts, the architects have tackled a broad range of commissions. They have designed sets and costumes for the Elisa Monte Dance Company, an installation for Isamu Noguchi light sculptures, swimming pools for educational institutions, college dormitories, houses, lofts, and museums. They describe their work as emphasizing "the importance of place and explor[ing] the nature of materials." The mission statement for their office states, "Whatever we design must be of use, but at the same time transcend its use. It must be rooted in time and site and client needs, but it must transcend time and site and client needs."

Early in his career Williams worked for Richard Meier, while Tsien spent several years as a painter before completing her architectural studies. Today, the couple is finishing work on the Museum of American Folk Art in New York City and the Student Arts Center at Johns Hopkins University in Baltimore, both of which will open this year. In 2000 the Monacelli Press published a monograph on Williams and Tsien, entitled *Work/Life*. RECORD senior editor Clifford Pearson caught up with the architects recently and spoke to them about materials and architecture.

ARCHITECTURAL RECORD: The cover of your new book has a close-up photo of the cast-metal panels that will clad the main facade of the Museum of American Folk Art on 53rd Street. The book cover and your buildings themselves send a message about the importance of materials. Could you explain how you go about selecting and using materials?

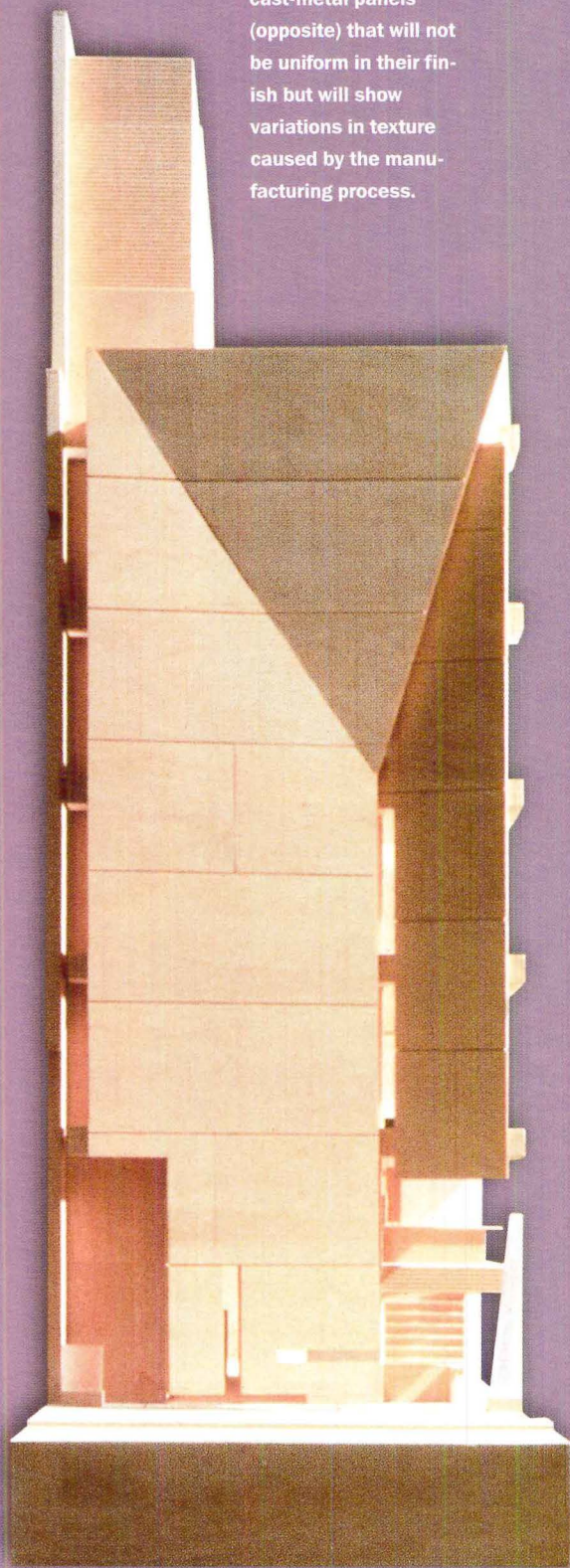
TOD WILLIAMS: I've heard people say, "Oh, Williams and Tsien, they're experimenting with materials." They seem to think we go to the closet, set out a bunch of materials, and see what happens. We do almost the opposite. We try to hold the materials at bay for as long as possible. We keep asking ourselves what is the right material. And the right one is not found



El Caracol (above and opposite, far left), the Mayan observatory at Chichén Itzá, combines a sense of weight with the visual release of a spiraling stair.

MUSEUM OF AMERICAN
FOLK ART, NEW YORK

The faceted street elevation will be clad with cast-metal panels (opposite) that will not be uniform in their finish but will show variations in texture caused by the manufacturing process.



by going into a box and just picking something out.

BILLIE TSIEN: It comes slowly. And requires a lot of very boring problem solving. Someone in our office might say, "Let's try fiberglass." Tod and I will reply, "Okay, then you'd better figure out how to make it fire-retardant." Once they make it fire-retardant, then it doesn't look like fiberglass anymore. So people in our office will send things to fabricators, asking if they would make samples. Things go back and forth, back and forth. There's a great deal of struggle. It's not just picking stuff out of the storage room. Materials emerge from a particular place and from some very dull grunt work.

TW: We think about materials for a building as much from the inside going out, as from the outside going in.

BT: We start with what is particular to a problem. For example, with the folk art museum, which right now has a very strong presence, we tried to find a material that would be unique in a certain way and would have a

**"WE THINK ABOUT MATERIALS
AS MUCH FROM THE INSIDE GOING OUT
AS FROM THE OUTSIDE GOING IN."**

sense of the human hand being involved in making it. Now it's true that all manufactured materials have some hand involved, but it's not always so visible. The challenge was to establish a direct relationship between what you see and how it was made, so you make a connection between the hand and the finished object.

TW: And we're going to display the material in such a way as to show how it's connected to the building. When the museum opens in December, everyone in the press will talk about the panels because they're out front. But the building will be important not because of the panels but because of the space-making inside.

AR: *But the material, Tombasil, is fascinating. And so is the process of fabricating the panels.*

BT: The material fabrication is connected to the meaning of the museum. This is a building that exhibits art by people who are not trained as artists. It's about a direct translation of vision through hands.

TW: We see the people at the foundry who made the panels, Peter Sylvester, Vinnie Nardone, and Peter Holmstead, as the artists, and we're the ones who assembled their panels for the facade.

AR: *How did you arrive at the decision to use Tombasil?*

TW: Our first idea was to try to cast a concrete facade directly on the street, to use the imprint of 53rd Street as the facade. That would have been extremely interesting, but rather disruptive to traffic. We didn't get a very positive response from the folk art board to the idea of making the facade of cast concrete. So we looked to other materials. We thought of aluminum because aluminum can have some sparkle and shine and it is ordinary enough to be affordable. But once we melted an ingot [of aluminum] and then cast it, it was no longer shiny. It became rather dull and didn't look like aluminum. So we said, "Let's look at something that's not aluminum and not copper, but maybe a mix of the two."

Through a series of investigations, we learned about Tombasil, which is a form of white bronze.

BT: It's used for boat propellers and fire-hose nozzles, so it can deal with weather. We took the Tombasil to an art foundry because they're used to dealing with . . .

TW: Odd requests.

BT: We had to work out a lot of technical difficulties because when Pete poured the Tombasil on the concrete floor, the air in the concrete and the moisture caused tiny explosions. We destroyed the floor, but we had some interesting panels. Eventually, we figured out how to pour and cast the material in a controlled way.

AR: *That's a lot of work to get the right material. Is this something that a typical architect can afford to do?*

TW: Because this is a public, spectacular building, our process was perhaps more intense than usual. But I think in various ways, all architects can do it. And it doesn't have to stop here with this project. It's a baton that one carries and passes to the next architect. Just as titanium panels didn't start with Frank Gehry and shouldn't stop with Frank Gehry.

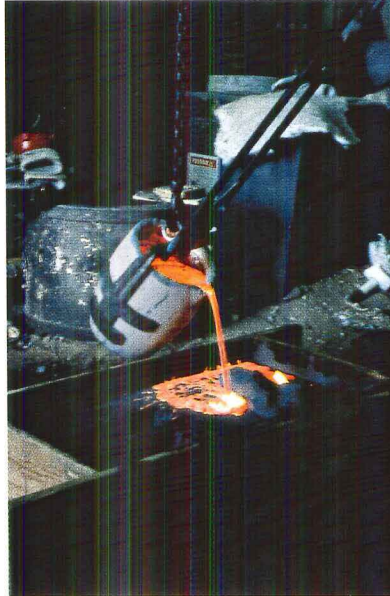
AR: *Are there certain materials you would like to work with that you haven't yet?*

TW: Every one on the surface of the earth. They're all interesting and we try to learn from other architects. We go down to Tucson and see Rick Joy's house and we're envious. We go to see Peter Zumthor's work in Switzerland and we're envious. And it's not just the Tombasils and titaniums that are interesting. Something as common as house paint can be exciting when polished to a mirror finish—as we saw recently in a piece of art in the show *Open Ends* at MoMA.

AR: *You've said your work must be rooted in time and site. Explain how that relates to materials.*

TW: We feel that buildings in general should be connected to the ground, the earth. We think of buildings in terms of heavy and light. There is a notion these days that architecture is increasingly becoming lighter. But I don't believe it one bit. It's just an illusion of lightness. Buildings are heavy. I haven't met a building I could lift.

BT: I think what we're always looking for is a weightiness—a pressing down—and then a release. We did this at the natatorium at Cranbrook [School of Art], which has a stone floor and is concrete block on the inside. The pool itself is excavated from a hillside. The materials are certainly about durability. But when you look up toward the ceiling, there is that very intense color and the oculus with light coming in, so you get a



To create the panels for the folk art museum, skilled workers at the Tallix foundry ignite a gated form placed directly on the concrete floor so the mold's resin hardens. Then they pour molten Tombasil (a form of white bronze) into the form. As the metal cools, eruptions of air and moisture leave their imprint in the panels (top), creating a rich and subtle variety of finishes.



sort of flight. It's both roots and wings. We know that materials can be evocative; they can bear emotional weight.

TW: We're doing something similar with our amphitheater in Guadalajara [JUNE 1999, page 136], which is pushed into the land.

BT: It has the sense of a giant earthwork with battered walls, which are rooted, of course, in the Aztec and Mayan traditions there. We're trying to

“THERE IS JUST AN ILLUSION OF LIGHTNESS. BUILDINGS ARE HEAVY. I HAVE NOT MET A BUILDING I COULD LIFT.”

think about materials that make sense in the place where we'll be building. This is the first time we're working outside the U.S., so the architecture has to have a sense of the climate and be appropriate for the place.

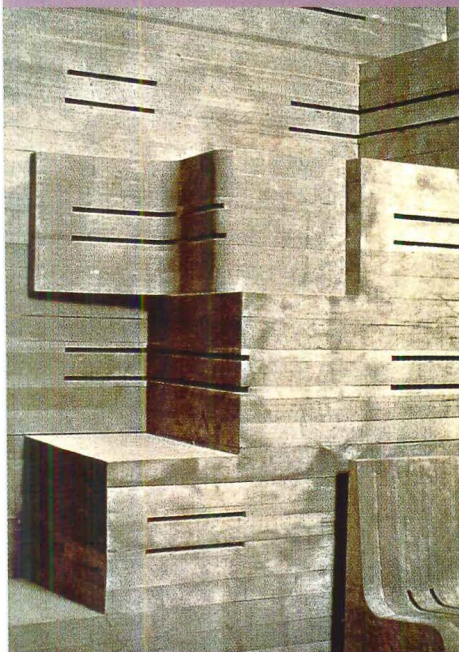
TW: The seating is ground-based, so it's seen as a kind of land form. And there's a very big roof that is both light and heavy. On the underside of the roof, we're using an expanded-metal mesh that we've seen in Mexico as a fencing material.

BT: The stuff is really cheap, very crude, and made in Mexico.

TW: The material itself weighs seven pounds per square foot or so. If you look at it straight on, it's maybe 85 percent transparent. But from an angle it looks almost solid. So is it light or is it heavy?

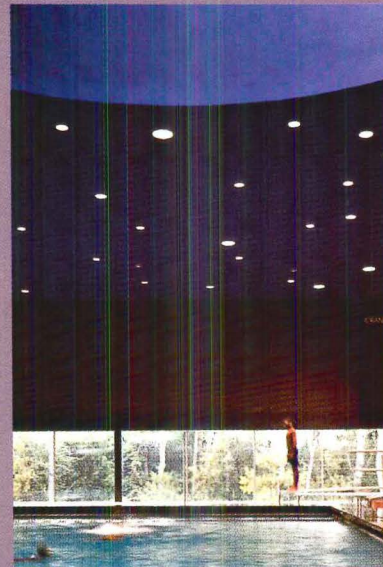
BT: An important value for us is drawing together all of the various elements of architecture—materials, space, form, light, color—and producing a unified whole. We're not at all interested in producing a collage. People's lives are the collage and you don't need a collage on top of a collage. You need to provide some sense of wholeness so the kaleidoscope can occur within it.

TW: The issue of the hybrid is interesting. It's not wrong to recognize that odd partners can come together. We're a perfect example of that ourselves. But I think it's very, very important that one show restraint in order to let certain things come to the fore and have some force and authority. ■



DOMESTIC ARRANGEMENTS EXHIBITION

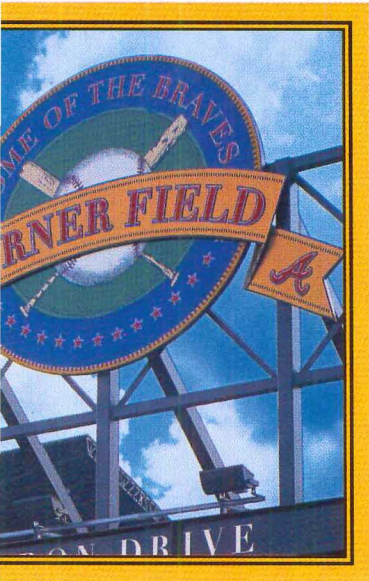
Part of a series of exhibitions organized by the Walker Arts Center in Minneapolis in 1990, the show featured innovative use of Homasote, a tackable material made from recycled post-consumer waste paper. The architects showed how elegant the material could be.



CRANBROOK ATHLETIC COMPLEX
An addition to the Eiel Saareinen-designed campus for the Cranbrook School in Bloomfield Hills, Mich., this natatorium complements “heavy” materials such as glazed brick (far left), concrete block, and stone with a sense of release created by large panes of glass, an oculus skylight, scattered downlights, and a sky blue ceiling.

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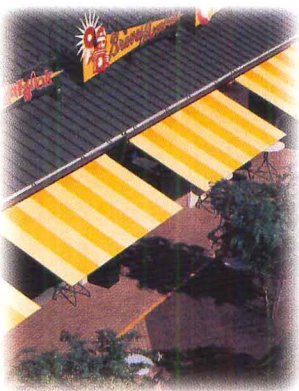


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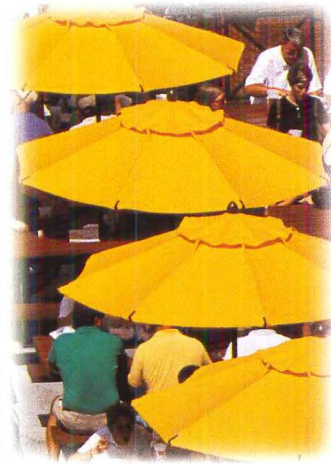
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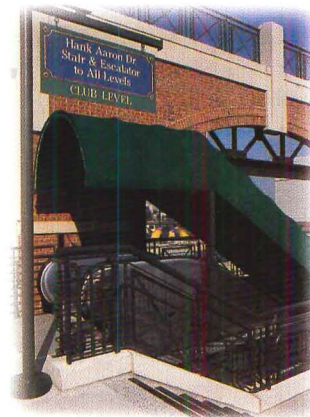
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Lessons from America's Best-Managed Firms

PART 2

Marketing: Building your firm's incredible

By Jane Kolleeny and Charles Linn, AIA

The sign of a successful marketing effort is that your firm is getting profitable, desirable new work. To create that kind of success, firms must set themselves apart and gain recognition from clients. It sounds simple, but is it? Maybe your firm has a good track record for getting shortlisted, but you fail to get selected over and over again. Why? Or, you seem to be the last one to find out about exciting new work—you should have been positioning yourself with the client far before the word hit the streets—how did you miss it? Or, you're tired of spending a fortune getting projects professionally photographed, submitting them for publicity and awards with pitiful results. How can you ever make the jump to professional-looking proposals like the competition's with the technology you have? Everyone is talking about the joys of using digital libraries to sort and access their images, and you hardly have a slide library. In terms of human resources, infrastructure, and expense, the idea of improving your marketing is frightening, yet you must move forward.

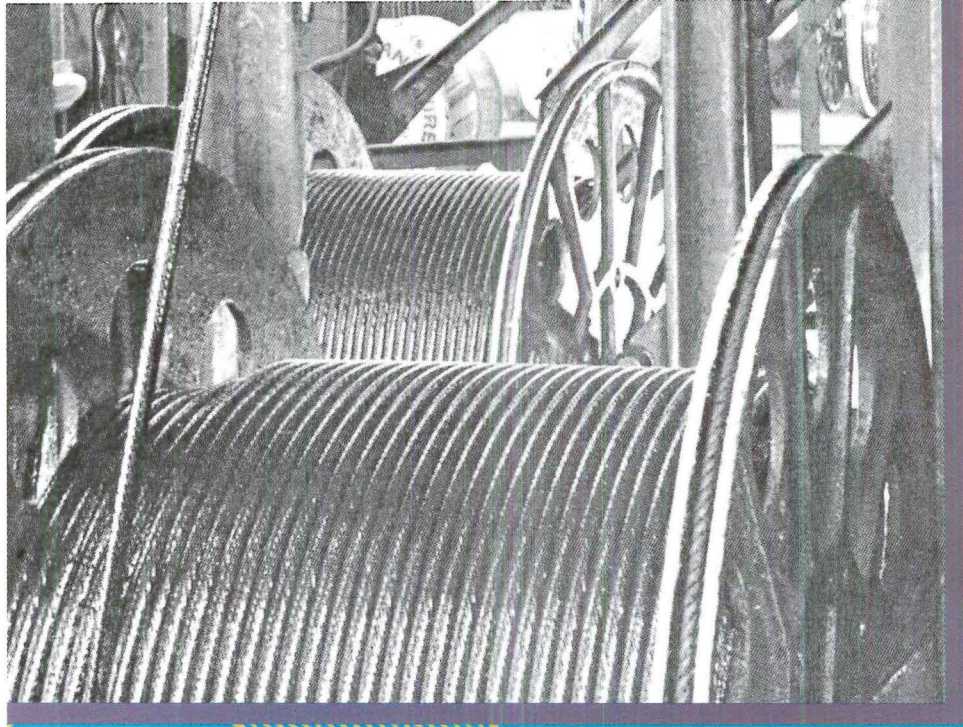
Most firms share these laments. But there is no single solution, since no two architectural offices are alike and the services they offer vary, as do the talents, interests, and personalities of their people. Nevertheless, certain characteristics are common to all successful marketing efforts. In this second part of our series, we focus on fundamentals: the strategic planning that stands behind a marketing program and how this informs the entire marketing process. We touch on public relations, technology

for marketing uses, successful strategies to win work, and various forms of organization.

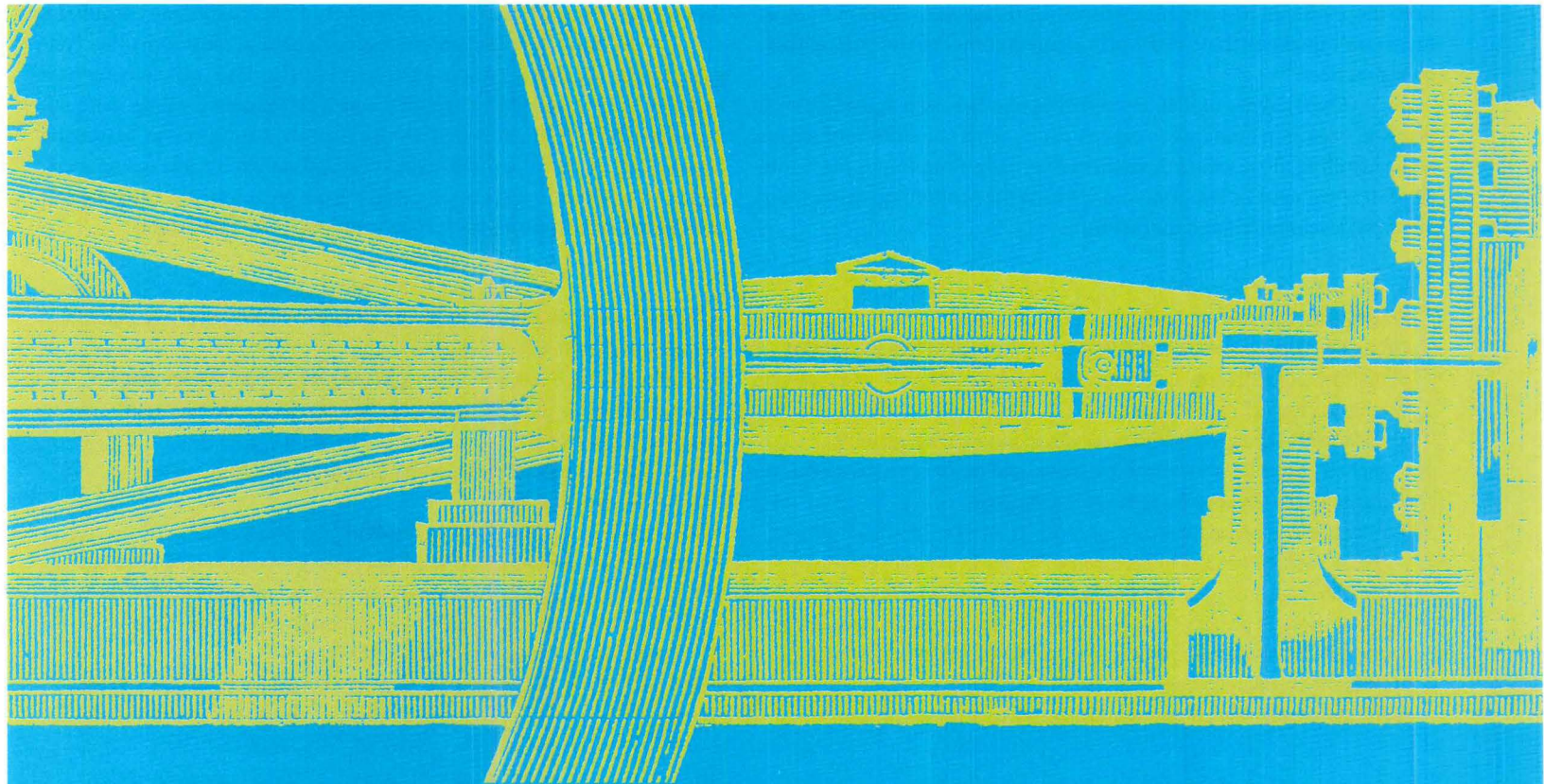
Today, practically every large- and medium-sized firm has full-time marketing staff. According to the AIA's *Firm Survey 2000/2002*, 87 percent of firms with 50 or more employees have a marketing person on staff, and 71 percent of these have two or more. Over half the firms with 20 to 49 employees have someone engaged in marketing, with 20 percent reporting two or more. It is notable that 5 percent of total staff added at firms in 1999 was marketing staff, a higher proportion than was hired in subsequent years. This may suggest that firms anticipated that the recent economic boom was leveling off and were preparing to enhance their future marketing efforts.

Strategic planning

How do you get started? Strategic planning forms the basis of any marketing effort and is necessary to successfully brand and position the firm. The firm's principals and managers must take a long, hard look at where the



marketing machine





STRATEGIC PLANNING IS THE BASIS OF ALL

MARKETING. WHEN IMPLEMENTATION IS ATTEMPTED WITHOUT IT, TIME, ENERGY, AND MONEY WILL BE WASTED.

firm really is—assessing the current mix of work and forecasting the viability of these markets for the future. Is the firm client-driven or market-driven? What are the firm's past successes and failures, and what goals realistically capitalize on its strengths while remaining honest about its weaknesses? A planning process will typically occur annually, reviewing the previous year's plans to see if the firm is on track, and devising a strategy for the coming year. Sometimes serious planning will be reserved for a management retreat, with a specialized consultant overseeing the process.

"When firms do not understand what makes them different, they have a difficult time creating a competitive edge," says Richard Burns, a consultant with PSMJ (Professional Services Marketing Journal) Resources. "Architecture, one might argue, is a parity product. Any number of firms can provide the service. Being able to clearly identify how a client will derive greater value by using your services than those offered by your competitors is fundamental. However, most firms can't quantify these attributes when it comes to describing their own practices."

Once a sense of identity and direction has been agreed upon, a firm will engage in branding to express the benefits you offer your clients while instilling those values in the firm internally. Branding spreads into all of the firm's public relations and informs the positioning activities of business development and marketing.

Checklist for the interview

There is nothing worse than showing up for a presentation to find that in the rush something crucial has been forgotten. Here is a list to review when you prepare for the big day.

- Has the firm designed its interview around the client's stated or implied goals? Did the firm obtain plans, photos, or supporting documentation to help compose the presentation?
- What is the appropriate media for the presentation? If more than one medium will be used, is there redundancy in the information?
- Get names and titles of the selection committee. What is the percentage of users to owners? Is the selection "process-driven," by its future users or "trustee-driven," that is, directed by the building's owners? Does the presentation address this?
- Will the presentation hold the audience's interest?

CAVEAT: Strategic planning doesn't always succeed. Sometimes firms attempt implementation without assessment, which is time-consuming and can reveal serious shortcomings that firms wish to ignore. In other cases, assessment takes place, plans and budgets are developed only to be shelved, because the firm's principals aren't committed to them and because more imminent deadlines became an excuse for brushing them aside.

One marketing director from the East Coast, for example, had earned his stripes, developing a marketing plan that was simply ignored. The firm's partners continued to pursue their own marketing efforts as "Lone Rangers," going in different directions. The associates and marketing staff broke into factions, taking sides with one or another of the partners, working against each other rather than as a team. When direction and responsibilities become blurred, it shows up in every step of the marketing process, confusing staff and clients, to whom you especially wish to be clear.

Laura Stillman, marketing principal at Flad and Associates, of Madison, Wisc., has found: "The happiest marketers work in firms where marketing is a strategic function and business strategies are clearly outlined and followed. Usually the most dissatisfied marketers work in firms where multiple principals give conflicting directions, and where marketing is a support function. In those firms, marketers generally have less experience, quickly burn out, then go back to school or pursue other careers."

Sales and business development

Once a marketing plan has been established as a foundation, it should inform the business development or sales activities, which involve prospecting for opportunities. Prospecting includes market research and networking, which ultimately leads to contact with potential clients, and it often results in valuable information that can lead to advantageous teaming arrangements in pursuing new work.

Many firm principals choose to undertake these activities themselves and others abhor the task, leaving it to the marketing staff. "While these functions are crucial, not every principal or associate will be comfortable performing them. Principals should be sure that they have people who enjoy doing it as part of the core management team and then support them," says Richard Staub, a New York City-based marketing consultant.

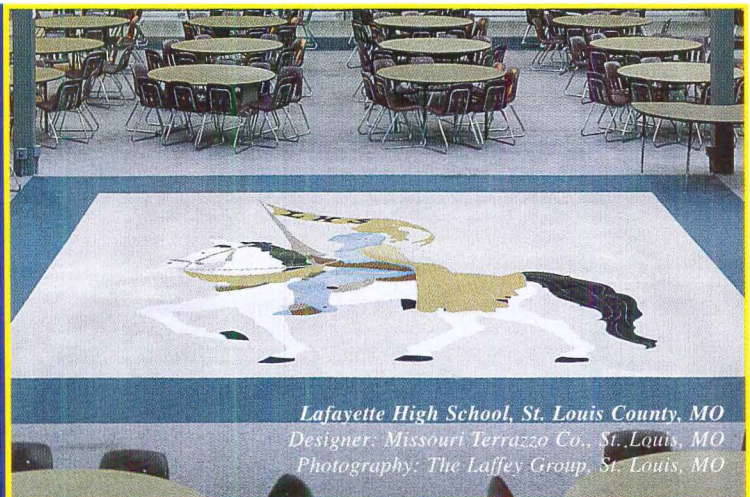
Business development professionals obtain leads from other consultants, existing clients, or influential contacts. They also use references such as the local, state, and federal registers, which list requests for proposal/qualifications (RFP/RFQ) as well as Dodge Reports, Construction Marketing Data's (CMD) Early Planning leads, local construction trade newspapers, and other publications (the AIA's Web site is a great source). Participation in industry activities and trade organizations is also important.

- Did key speakers rehearse the presentation and does everyone have something worthwhile to say?
- What degree of effort will be put into the development of interview materials and is this commensurate with the chances of winning and/or fee potential?
- What are the characteristics of the room and is there a place to assemble and rehearse?
- If the client provides equipment, be clear about what it is and familiarize yourselves with it. If bringing your own equipment, check it out first—did you remember extension cord or projection lamps?
- Can the presentation materials be transported and did you bring materials to assemble and disassemble them?
- Has the firm scheduled an early flight in case there are delays and are essential materials packed so that they can be carried on the plane?

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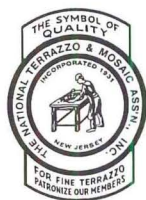
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Some firms attend conferences sponsored by associations serving a variety of clients such as museums, historic buildings, libraries, higher and lower education, facility managers for a number of industries, the federal government, and the developer community. Here, they reaffirm existing client relationships and aspire to cultivate new ones. Most of these conferences offer the additional opportunity of the trade show. Some firms are now committing part of their marketing budgets to cover the cost of having booths at trade shows that serve their market sectors.

One effective way to get recognition at a conference is to present a paper or give a lecture. According to Christa Mahar, marketing director at Graham Gund Associates, in Cambridge, Mass., "Giving a presentation with a client about an innovative practice you've developed together or a case study can be extremely beneficial. This activity gives your principals and senior staff the opportunity to contribute their time and expertise to show how the firm has worked with and supported its current clients."

CAVEAT: Trade shows may draw attention better than a pretty face can. Some architects think that they can get new work by hiring a persuasive, charismatic, or attractive salesperson to woo their clients. This can backfire and undercut the firm's integrity. Lest we forget, prospective clients are often rookies in understanding architecture and the building process and are relying on the architect to educate them. Or they may be sophisticated enough to know when someone is trying to snow them. This is not to say that compelling people should never be hired in marketing positions. Persuasive power must be accompanied by an understanding of the client's needs and of your firm's services and by the ability to articulate that understanding.

Winning work

Perhaps the most common and essential marketing activities are those that occur after a lead lands on the doorstep. The "winning work" process begins with the receipt of an RFP/RFQ. The firm must first consider the likelihood of being shortlisted but more specifically being selected (see "The Go/No-Go Questionnaire," above). If the prospect seems good, examine the complexity of the response, the strengths of the firm's experience and staff, and then assemble a strong and responsive team of consultants. Even proposals can involve considerable research into the project (see "Strong Research is the Key to Winning Work," page 82). "Clients are the best source of information, and yet firms are reluctant to ask for feedback and help. My best efforts have always been preceded by research," says Karen Courtney, director of marketing, NBBJ, Seattle.

"The sharp marketer organizes the proposal by the evaluation

**IF YOU CAN'T PREPARE A GOOD RESPONSE,
IT IS BETTER TO PASS ON AN RFP/RFQ
THAN TO WASTE A PROSPECTIVE CLIENT'S
TIME WITH A BADLY DONE PROPOSAL.**

The Go/No-Go Questionnaire

Give 1 point for each "yes" answer, 0 for each "no." If the total is 7 or over, it is considered a "go"; if less, a "no-go."

- Did the firm hear of the opportunity from an inside source (yes) or publically (no)?
- Do we have an existing relationship with the prospect?
- Will the project fall into one of the firm's primary markets?
- Is the fee commensurate with its technical complexity?
- Do we know anyone with influence on the selection committee?
- Are marketing and technical staff available to meet the necessary time commitments to respond to the prospect?
- Is this a complex or simple selection process? Will it require a high or low investment in marketing? A low investment is a "yes."
- If the firm needs a local partner, does it have existing relationships in the area?
- Will travel expenses incurred on the project be worthy of the profits or other goals, such as getting more work, that might be achieved?
- Does the firm have something strong to show at the interview?
- If selected, will the firm have the staff needed to service the project?

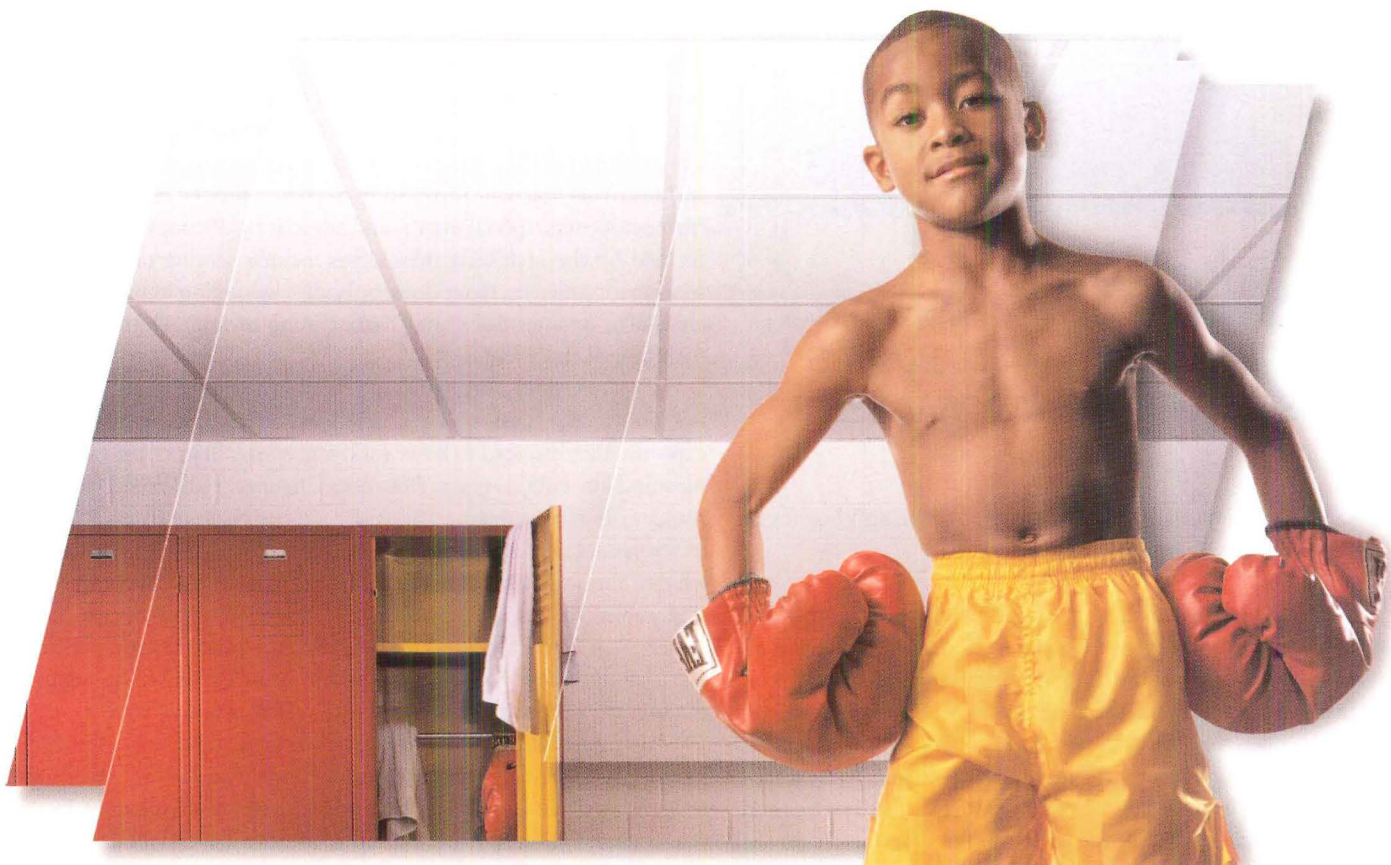
criteria cited in the RFP, which is often the client's wish list, to show that a firm thinks like the client!" says Lori Miller, marketing director of Perkins Eastman Architects, Pittsburgh. These days, with desktop publishing and in-house production, proposals can be custom-designed quickly and beautifully. Everyone agrees that it is best to create an attractive proposal, short and to the point, responsive to the client's concerns, well written and interesting. "In essence, you want to get the reader, and ultimately the decision maker, nodding their heads in agreement with what you are saying as they read it. If your proposal does not address 'the things that keep the client awake at night,' you have lost an opportunity to connect with that client," says Sherri Bowman, vice president, Ewing Cole Cherry Brott Architects, Philadelphia.

CAVEAT: Firms are guilty of impulsively responding to RFP/RFQs that are out on the street. Indeed, go/no-go strategies (see sidebar above) are employed in only 22 percent of the firms in the country, according to the *ZweigWhite 2000 Marketing Survey*. Instead, firms need to build long-term business relationships in target markets. It is also important not to waste the time of a prospective client by submitting a poorly composed document—a mistake that may block any future hopes of doing business with them.

The interview

When presenting yourself face-to-face with the client, you want to establish and convey the special chemistry of your team. This most important marketing opportunity is where the architect often closes the deal and the people on the team can really shine. According to a recent study released by SMPS, capability, chemistry, and client orientation are the three primary issues on the minds of clients, with chemistry rated as most important. Given this scenario, it behooves the architect to use whatever resources are available to enhance the human dimension of the interview.

These days, PowerPoint has become the standard fare in presentations. But, "It's not the tool that sells, it's the person," cautions Lisbeth Quebe, director of marketing services at RTKL, Chicago. Scott Smith, a principal at Sasaki Associates' San Francisco office, says, "While Powerpoint does have strong virtues, we now evaluate its effectiveness for specific situations. Visually, projected digital images still fall short of what other means can achieve. When I show a client our archi-



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ecture, I want its brilliance and clarity to engage them, and I continue to rely on slides for many presentations.”

CAVEAT: Conducting rehearsals and training staff to speak simply and articulately in interviews are necessary steps that are often neglected. Architects make the mistake of favoring personal statements about their work over investigating what the client has asked for. Another common problem is the tendency some architects have to engage in intellectual grandstanding, speaking at length in highly abstract or technical language, not to mention usurping other team members' contributions and interrupting the overall rhythm of the presentation. If you don't get the job, request a debriefing from someone on the selection committee. This will help your firm identify its weaknesses and hone its skills, so you will be less inclined to make the same mistakes twice.

Remember that winning the job doesn't mean the job will be a success. Service and follow-through are crucial if a firm is interested in developing a relationship that will lead to repeat work.

Public relations

While it may sound obvious, many architects would benefit from a clear definition of who they are when communicating their image to the public—this what we broadly call public relations. Marketing and business

development are about positioning—winning work through the pursuit of specific targets; PR is about branding, establishing your firm's image and spreading the word. In addition to performing the tasks required to get published in the trade press, newspapers, and other media, PR duties include managing your firm's Web site, photo shoots, award submissions, firm newsletters, special events, and advertising. PR activities usually performed by the architects themselves include serving on design juries; writing for journals, magazines, or books; belonging to professional and charitable organizations; and participating in leadership and speaking roles at industry events.

Why does a firm want to get published? It provides personal satisfaction to the hard-working architects, offers them opportunities for exposure that can lead to new work, and shows that a firm can compete meaningfully with its peers. How does a firm get published? According to Nancy Fishman, marketing principal at Zimmer Gunsul Frasca Partnership, in Portland, Ore., “First, a firm must do good work, and understand that's what editors are looking for. Next, one must understand the process of getting published. ‘Selling’ is not an appropriate approach to an editor, but rather you present story ideas that are interesting and relevant to their readers. Supply editors with well-written materials, good drawings and photographs, organized in a professional, easily readable way.”

Assemble awards binders so the images tell a story. According to Jennifer Greene, marketing director of Kliment and Halsband Architects in New York City, “If the nature of the project isn't apparent from the drawings and photos, then no amount of text will help you understand it. You will be lucky if a jury even reads your text.” Her boss, Robert Kliment, was Chair of the 2000 AIA Honor Award for Architecture jury. It received over 400 submissions and had a day and a half to pare them down to 30! The average time allotted to a submission was 30 to 45 seconds.

High-quality photography is of the utmost importance for doing publicity, winning work, and keeping records. However, some firms find the expense too much to bear. “You can save money by arranging to share with the project's owner, engineers, and other consultants. But many photographers add a ‘sharing’ fee into their contracts and some may require the firm to order all prints from them. Read the contract carefully,” says Veda Solomon, marketing director at NBBJ's New York City office.

Strong research is the key to winning work

Below are examples of questions one might ask when pursuing a prospect:

- Does the client have a budget for the project or a capital improvement plan in progress? Does the budget cover total project or construction costs?
- If there was a study prior to the RFP, who did it? Is that firm submitting? And is there a copy available?
- What type of fee will be awarded and is there a scale?
- How many other firms received the RFP? Who are they? What are their strengths or weaknesses?
- Are maps, photographs, or other data available?
- Of those that received the RFP, how many are national, in-state, or local firms? Which have previous experience with the client?
- What is the approval process for a project to proceed? Are state, local, architectural, or an institution's review boards involved?
- Are other consultants (such as campus planner, city planner, city architect, or landscape architect) involved and in what capacity? Try to interview them regarding the project.
- Where are the funding sources—a donor, bond referendum, legislative appropriation, etc.?
- Does the client have a preference for engineers? Such engineers can be a great source of information on the client.
- What architects has the client worked with recently? Was the experience favorable or unfavorable? Are these firms submitting?
- What is the anticipated schedule for obtaining funds for the project? Is there a fund-raising campaign under way?
- What type of facility does the client favor stylistically—conservative, modern, classical, signature, etc.?
- If teaming with a local is necessary to selection, do research to determine the appropriate local. Roughly speaking, what would the division of work be?
- Go to the client's Web site to do research. Can you find images and logos for use in the submission?
- See the Web site of the Chamber of Commerce in the city where the project is located to familiarize yourself with the demographics and issues in the area. Does the project have links to the larger community?
- Get an idea of the date for the interview early on. Are staff members available to attend?



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CIRCLE 42 ON INQUIRY CARD



MOST MARKETERS FEEL THAT BUSINESS DEVELOPMENT SHOULD BE DONE IN-HOUSE. BUT IT'S BETTER TO HAVE AN OUTSIDE CONSULTANT THAN NO ONE AT ALL.

And how about doing a monograph? It seems these days every firm has one—it's practically a prerequisite of getting noticed, especially after your firm has a number of successful projects under its belt. Sometimes it is the only way some projects will ever see print, if they were never published in the trade press. We explored some of the reasons for the proliferation of these books. Cooper Robertson and Partners recently decided to publish a monograph after 20 years in business. Communications principal Karen Cooper says, "First, we wanted to document the work in a cohesive way; second, potential clients ask for our book. Before we had one, they wanted to know why we didn't, as if that had become the test of whether a firm was 'real.' Third, the staff wanted it so that the evolution and implementation of the firm's work could be understood."

However, most "vanity" publishers require a firm to commit to buying several thousand copies of the monograph, and there are costs associated with writing and editing the copy, doing photo research, and obtaining rights. It can often take a staff member years to complete such a task, if you are lucky enough to have someone to do it. Eric Mott of Civitas, Denver, former national president of SMPS, wonders if the expense is worth it. Sure, the result is attractive, but is it simply an expensive ego boost for the firm? Be sure the cost can be justified in terms of your marketing objectives.

Finally, PR is not just press releases, publications, and training seminars, but it is image-making in its entirety. For example, answering the telephone can express an attitude of competence and cooperation, or it can completely turn off a potential client or member of the press. "We insist on a live voice instead of voice mail when greeting callers to emphasize our personalized service," according to Karen Cooper.

CAVEAT: Many firms feel that unless they are among the most recognized, getting published is too difficult to be worth the trouble. Architectural publications are limited, but individual market sectors have their own trade journals. Both these and local newspapers reach prospective clients, and impressing them is more important to your practice than showing off to your peers. Seek publication where it will be of most benefit, cultivate relationships with those working the appropriate beats, be realistic about the possibilities for publishing your work, and educate yourself on what to emphasize in your press releases. See "Submitting work for publication" on the Web at architecturalrecord.com.

Marketing infrastructure

This includes project and client databases, electronic image databases, slide libraries, photo collections, and equipment for color output and binding. These tools support the rapid creation of in-house marketing-

communications materials and proposals. The database requirements of design firms are surprisingly large and complex. Marketers will want to track and sort past projects, store boilerplate text for staff and consultants' capabilities, previous proposals, and manage images while also tracking contacts, "hit rates" for making short lists and winning jobs, leads, and more. In larger firms the complexity is compounded. (For more on this topic, see , "Technology Tools for Marketing," [Digital Architect, JUNE 2000, page 190]). For more information on digital image databases, see "How to Manage Your Images," on page 164 in this issue. We will address in-house publishing systems in a future Digital Practice article.

Organizing your marketing department

It is usually the size of a firm that determines if marketing activities will be conducted in-house or by outside consultants. For modestly sized firms with fewer than 20 employees, it is often not economically feasible to employ full-time, in-house staff, so using consultants makes sense.

Outside consultants can do some things better than others: for example, public relations, strategic planning, marketing research, Web site design, database setup, or creation of copy for a brochure. However, the general task of producing proposals should usually be performed in-house. One novel approach that works for small architectural firms is used by the Marketing Partnership, a consultancy serving New York and New Jersey. Acting as interim marketing directors, they supervise and train non-marketing staff assigned to marketing activities, as well as full-time or temporary marketing personnel. The Partnership does not focus on PR or business development for its clients, however, as it might pose a conflict of interest in their client mix. Hugh Hochberg, president of the Coxe Group, in Seattle, suggests an alternative: "Architects can work with a PR firm that aligns itself within a specific market sector, such as one that specializes in health care, which can represent many constituents within a field."

Most marketing professionals feel the business development function must remain part of in-house staff. "I have never seen a successful outcome from involving consultants in business development, other than in a research capacity," says Joy Fedden-Habian, a New York City PR consultant. Linda Eklund, a business development consultant who successfully performs this function for two to three noncompeting firms, shows another side to the argument. "My observation is that business development is better done by a consultant than by no one at all. And it is well practiced by a consultant who is dedicated to a long-term relationship with the architect."

Larger firms should also consider whether their marketing might be best organized to parallel the firm's organizational model. Given the niche nature of the market today, some firms find it best to divide into camps according to building typologies—education, retail, public—with a principal heading up each. "Thus each principal becomes an expert in a field and can focus all marketing and business development efforts within this one area. Without the focus this model offers, it is virtually impossible to really dig one's heels into a market and develop name recognition within the prospective client base," says Joy Fedden-Habian.

Scott Smith says, "Sasaki's 32 partners work with specific client types and develop a practice base within those areas. The marketing activities are organized around these client groups, which include public agencies, corporate entities, universities, and one international group." ■

In May, we will conclude the series by discussing two perennial topics: how firms expand into new markets and how to find the right person for your firm. We will also look at how the Web is forcing the culture of marketing to change yet again and a new generation of architects who promote themselves without hesitation. Wrapping it all up, we will look at how our educational institutions are teaching marketing today.

MATERIALS...

What's behind those new glass curtain walls and eye-catching surfaces

With the Modern movement's taboo against ornamentation, architects lost one of their traditional tools for expressing emotion and establishing character in their work. So they fell back on other strategies—such as sculpting form, articulating structure, and orchestrating procession through space. But the underlying reasons for ornamentation didn't disappear and, as Freud might have predicted, they found expression in a variety of alternative guises. Think of the sumptuous use of translucent stone in Gordon Bunshaft's Beinecke Rare Book Library at Yale University or Frank Gehry's exploitation of titanium, and you'll see how modern architects have employed materials as professionally acceptable ways of dressing up their buildings and dazzling the eye. No need for gargoyles or carved friezes if you can get people's attention with magnificent stone or brawny concrete or high-tech materials originally developed for spaceships.

Recent developments in computer technologies and renewed interest in Modernism have focused greater attention on surface in architecture. Whether they are bulging blobs or precise boxes, many of the latest buildings make their skins the stars—requiring special care in the selection of materials. Of course, one of modern architects' favorite materials has always been glass, the

SOME OF THE EXCITEMENT OF MATERIALS COMES FROM USING THEM IN INNOVATIVE WAYS AND STRETCHING THEIR CAPABILITIES.

better to express the lightness of a curtain wall or connect indoors with outside. Several of the projects shown in this issue use glass as a featured element in their designs. For example, TEN Arquitectos wrapped an old office building

with a new glass skin to help create an up-to-the-minute hotel in Mexico City, while Foster & Partners captured a remarkable new space at the British Museum by covering an old courtyard with an ethereal glass roof. In a show of bravado in the desert, Richard Meier & Partners designed a giant glass box for Phoenix's new federal courthouse and made the crystalline structure work as an energy-efficient show-stopper. In its modern palace for the regional government of the Canary Islands in Spain, AMP Arquitectos took a very different approach to materiality, forsaking transparency for a muscular use of concrete and stone.

Some of the excitement of materials comes from using them in innovative ways and stretching their capabilities—for instance, erecting a glass wall 115 feet high and 350 feet long (as Meier did in Phoenix) or making an 800-ton glass-and-steel roof appear to hover (as Foster did at the British Museum). Another way of handling a material is to highlight its essential nature—making concrete look and feel as strong as possible, for example, as AMP did in the Canary Islands. When used effectively, these materials function in conjunction with structure, space, and procession to make architecture work in three dimensions and engage all of our senses. *Clifford A. Pearson*

WWW For more information on the projects profiled in the following pages, including details of building technologies used and more on the people and products involved, go to www.architecturalrecord.com

Richard Meier adds crystalline glass to his white, linear, modernist vocabulary for the **PHOENIX COURTHOUSE**

By Suzanne Stephens

PROJECTS

There is something peculiarly defiant about designing a glass box for a U.S. courthouse in a hot, dry climate. In Phoenix, Ariz., after all, summer temperatures can soar to 122 degrees. There also seems to be a certain bravado in having glass walls rise to a height of 115 feet, extending 350 feet along one side and 150 feet on the other, after the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City.

Obviously, Richard Meier's design for the Sandra Day O'Connor United States Courthouse created a challenge for his team of architects and engineers. It also tested the commitment of the client, the General Services Administration (GSA), to its vaunted Design Excellence Program established in 1994 [MARCH 1999, page 105].

To beat the heat, Meier and engineers Arup developed an ingenious solution to air-cool the building through a misting system that Meier first noticed being used in a cafe near the site. "Let's do it on a grand scale," he proposed (see details at architecturalrecord.com). To mollify anxiety about security, which had mounted after the design process was under way, Meier undertook a number of measures: He increased the use of laminated glass, reinforced the structure to guard against progressive collapse (one column falls, bringing down another, and so on), and doubled the number of bollards edging the plinth on which the building sits.

The success of the air-cooling system won't be truly apparent for some months, and the security measures, one can only hope, will never be really tested. Nevertheless, certain urbanistic, symbolic, and aesthetic aspects can now be assessed for the recently opened building. Only in the last category does this observer have some reservations.

When, in 1994, Meier was awarded the commission for Phoenix (in collaboration with local architect Langdon Wilson) he was

Project: Sandra Day O'Connor United States Courthouse, Phoenix

Architect: Richard Meier & Partners and Langdon Wilson

Architecture—(for Meier) Richard Meier, FAIA, principal-in-charge; Thomas Phifer, AIA, partner-in-charge (former); Donald Cox, AIA, Stephen Dayton, AIA, project archi-

tects; James Sawyer, AIA, project manager; (for Langdon Wilson) Michael Schroeder, AIA, partner-in-charge; Ken Lufkin, AIA, Toby Rogers, project managers; Andrew Wolfe, AIA, Bob Lufkin, project architects

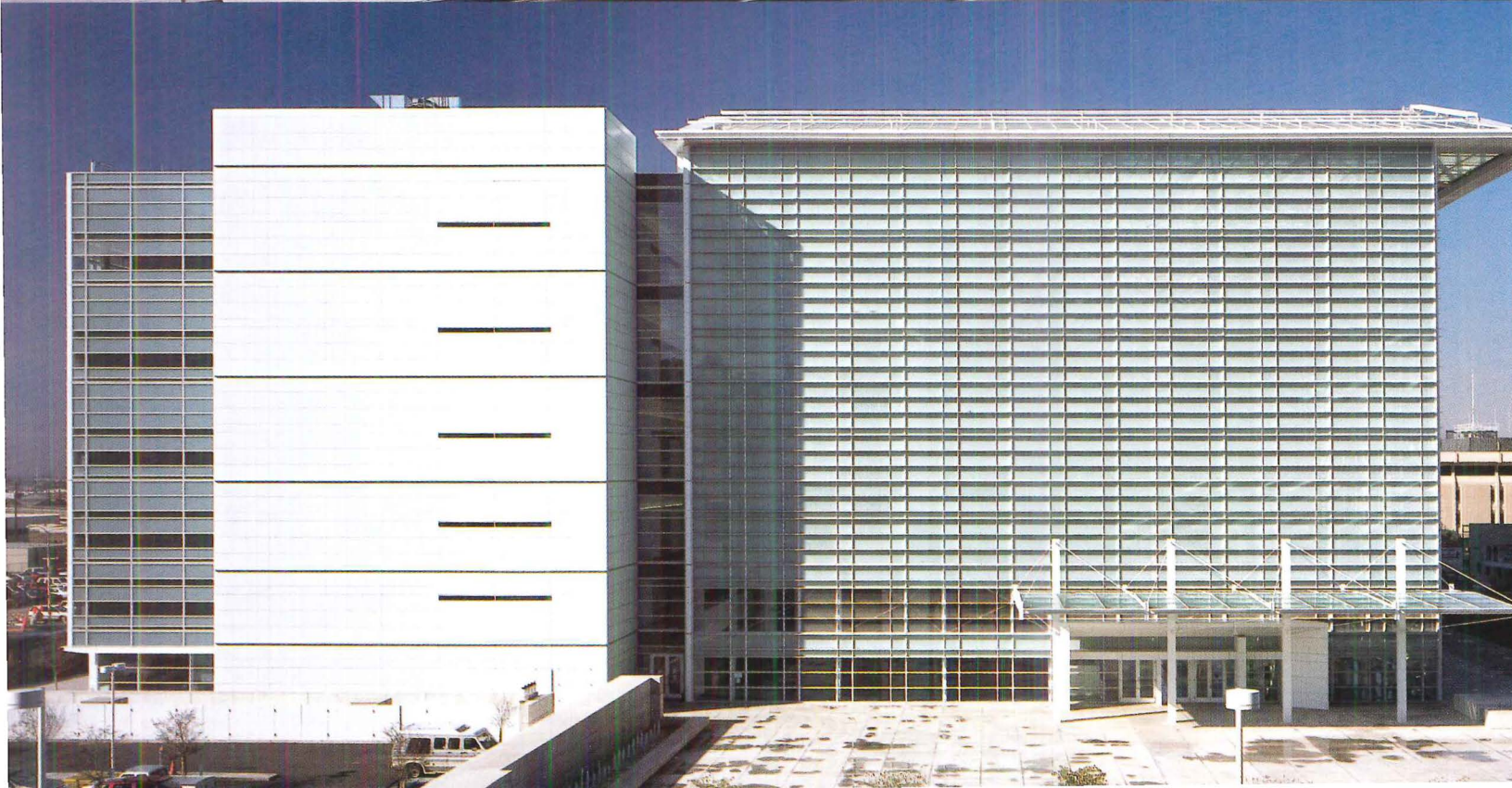
Engineers: Paragon, (structural); Arup (passive cooling)

Consultants: R.A. Heintges (curtain wall)

PHOTOGRAPHY: © SCOTT FRANCES/ESTO





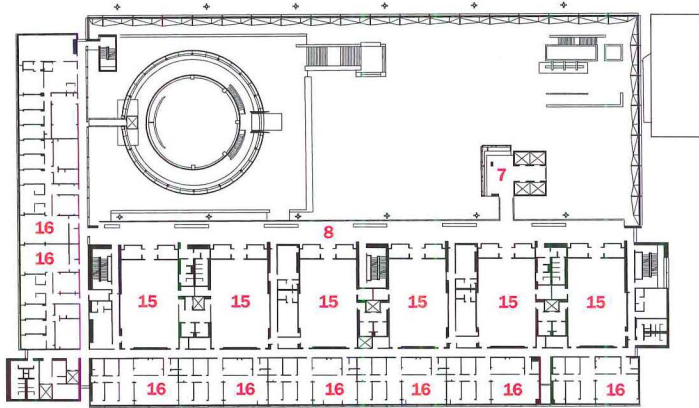


The Phoenix courthouse is oriented to the east, with the main entrance (opposite, top and bottom) opening onto a plaza; however, the north facade (opposite, top and left) is given more prominence because of the strong verticality of its six 100-foot-high columns. The west facade (right) the south facade (below), plus the east facade, display a disciplined horizontality.

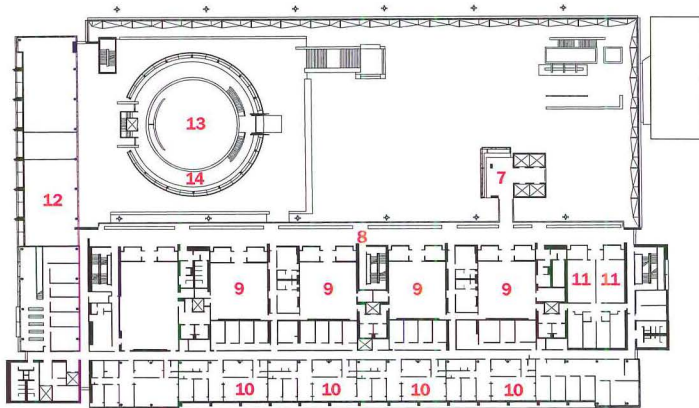


Transparent justice

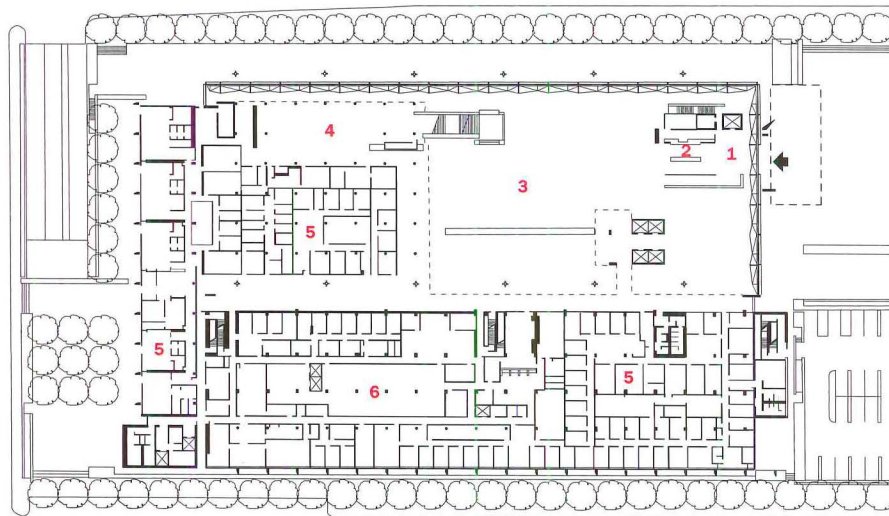
A glass-enclosed atrium offers the right sort of accessible note to the community. But since the walls are 115 feet high in a hot, sunny climate, the amount of light coming into the interior had to be carefully controlled. Meier's not the sort who would want solarized (brown) glass. . . . So ceramic frit is used on the inner surface of the exterior light (surface 2) for 60 to 70 percent of the east facade, and 50 percent of the others. The surfaces of the interior light (3 and 4) are clear, with a low-e coating. For security reasons, laminated glass is installed in the first three bands on the east and north exterior walls, the first three bands of the Special Proceedings Courtroom, and the roof's skylights. A network of extruded aluminum (spaced only 35 inches apart) holds the glazing of the exterior walls, with a steel backup and hangers for lateral bracing.



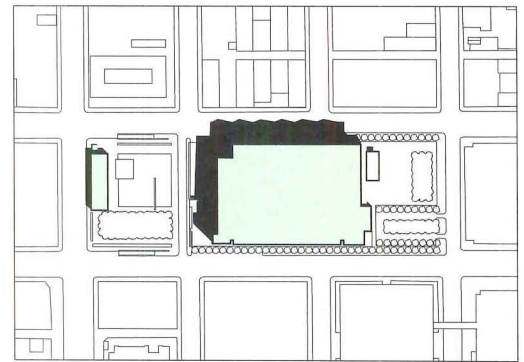
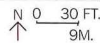
FIFTH FLOOR



THIRD FLOOR



FIRST FLOOR



SITEPLAN

- | | |
|------------------------------|--|
| 1. Entrance | 10. Magistrate chamber |
| 2. Security | 11. Grand Jury |
| 3. Atrium lobby | 12. Cafe |
| 4. Jury assembly orientation | 13. Special Proceedings Courtroom |
| 5. Offices | 14. Balcony of Special Proceedings Courtroom |
| 6. Records | 15. District Courtroom |
| 7. Elevator lobby | 16. District judge's chamber |
| 8. Courtroom waiting area | |
| 9. Magistrate courtroom | |



already working on the federal courthouse in Islip, N.Y. [DECEMBER 2000, page 36]. Getting two GSA courthouses was a coincidence, says Edward Feiner, GSA's chief architect, since the design process calls for final selection by a group of peers that changes with geographical location. In addition, Feiner explains, "The GSA has a policy of not keeping anyone from doing more than one project."

While the \$84.7 million Phoenix courthouse is not as dazzlingly sculptural on the exterior as Islip, it delivers the big whammy on the inside—in the atrium. It also demonstrates Meier's confident manipulation of a taut, Modernist, metal-paneled vocabulary. He has a copyright on white: If others use it, it looks as if they are trying to imitate him—and obversely, if he explores a material of another color, the result doesn't look enough like "a Meier." While Meier was thwarted in adhering totally to this vision with the Getty Center in Los Angeles [NOVEMBER 1997, page 72], ironically, the GSA seemed to sense better than did the Getty that the linearity and planarity of his spatial and structural syntax don't read as clearly if the building is a tan or textured material. "Richard does white," states Feiner, who studied under Meier years ago at Cooper Union. "We try to give the architect enough latitude to create an art form."

In adjusting the Phoenix courthouse to its context, Meier could hardly ignore the fact that the sixth largest city in the country is dominated by a gridded plan. On the flat desert plain of the city's 2000 square miles, block after block of houses, office buildings, and shops, spread out

like thin batter over a waffle iron. When the six-story courthouse springs up on a two-block site at the edge of downtown, it seems more than appropriate in scale to this strangely suburbanized urban context. Situated to encourage future expansion of downtown, the large courthouse lies in an axial sequence that connects to the state capitol, city hall, and other government buildings.

Meier wanted to evoke the awe-inspiring stateliness of traditional courthouses, but do so on his own terms. No classical columns, cornices, and capitals are to be found (although there are abstracted equivalents, but more about that later). As part of its design process, the GSA reviews three design schemes by the architect: Meier came up with nine. His favorite one got built—the straightforward 571,000-square-foot structure is composed of an L-shaped concrete-frame block containing 18 courtrooms wrapping around a steel-frame glass atrium, extraordinary at its 120-foot height.

Inside, the vast, enclosed, skylighted plaza is bathed in a luminescent glow. The two walls of translucent ceramic-frit-and-transparent glass, held within a white latticelike aluminum frame, plus the filigree of trusses and skylights above, give a sense of scale to the monumental space. Freestanding "objects" in this 58,000-square-foot atrium contain various programmatic functions, such as the white cubiform gatehouse at the security checkpoint and the vertical elevator tower connecting to the L-shaped bank of balconies and courtrooms. But the most riveting



The circular Special Proceedings Courtroom (opposite) is paneled in anigre wood and topped by a glass ceiling executed by James Carpenter Design Associates as part of the GSA Art in Architecture Program. Along the south side of the atrium are the district courtrooms (left), also paneled in anigre and about 15 feet high. The balconies, behind the six steel columns of the atrium structure, provide waiting areas.

sight is the radiant 60-foot-high glass drum atop a concrete base at the far end of the atrium. This totemlike cylinder, created from steel beams acting as compression rings and clad in fritted-and-laminated glass, houses a special proceedings courtroom.

If you take the grand stairs from the atrium to the platform and enter through the courtroom door, you find yourself in a circular anigre-paneled interior, above which floats a crisply fashioned convex lens ceiling of randomly patterned pebble-grain glass. Designed by James Carpenter and his architect, Luke Lowings, the large lens is suspended by cables attached to the drum, and even includes a sprinkler system (see page 185 for details).

Elsewhere in the building, courtrooms may not have the same dramatic impact, but rectangular rooms achieve an abstracted elegance largely due to the almost 15-foot-high ceilings and the wood paneling. Indeed, all of the spaces are executed with Meier's precise sensibility, even when materials shift to drywall and a let's-cut-costs workmanship. More impressive than the detailing is the rationality of the plan in the L-shaped portion, with its layering of public corridors/balconies, courtrooms and jury rooms, private corridors, and finally, on the perimeter, the judges' chambers.



Outside, the south, west, and east elevations are crisp, linear, classic Meier. The north elevation, the major street facade, is not. Indeed, its design looks faintly like a Modernist riff on the classical porticoes of the old days but without the entrance, which is around the corner on the east. The north elevation is marked by a row of six columns—star-shaped steel instead of fluted. These columns are topped by trusses, where ordinarily the capitals would be, and above that, the trusses are capped by a flat overhanging lid, much like a cornice. Sitting on this 23-foot-deep lid is a series of peaked trusses for the vaulted skylights, looking faintly like a serial homage to a Greek pediment. Only here, the peaks are slightly off center. On top of that, the vaulted skylights are pushed to the edge of the overhang, adding a weightiness that is all the more incongruous. (The rationale that the north-facing overhang shades the interior from the sun's western rays doesn't mitigate the suspicion that this gesture resulted from a desire to create a strong profile against the skyline.) If this is a send-up of the classical courthouse imagery, it works. If it is supposed to look like a well-resolved major elevation, it doesn't quite make it.

As one moves around the building, the disjunction between the

verticality of this facade and the strong horizontality of the others, wrapped as they are in smoothly articulated, extruded-aluminum mesh and painted-steel panels, becomes all the more noticeable. True, this aesthetic flaw does not detract from the environmental, functional, or symbolic success of the atrium—justifiably the major memorable feature. But this external gesture creates a glaring inconsistency in the overall formal composition that otherwise is so accomplished. ■

Sources

Atrium roof, wall space frame, and exterior canopy: *Schuff Steel Co.*

Metal-and-glass curtain wall: *Harmon Ltd; Cupples Products.*

Glass: *Viracon and Interpane*

Skylights: *Supersky*

Acoustical ceilings: *Armstrong*

Cabinetwork and custom

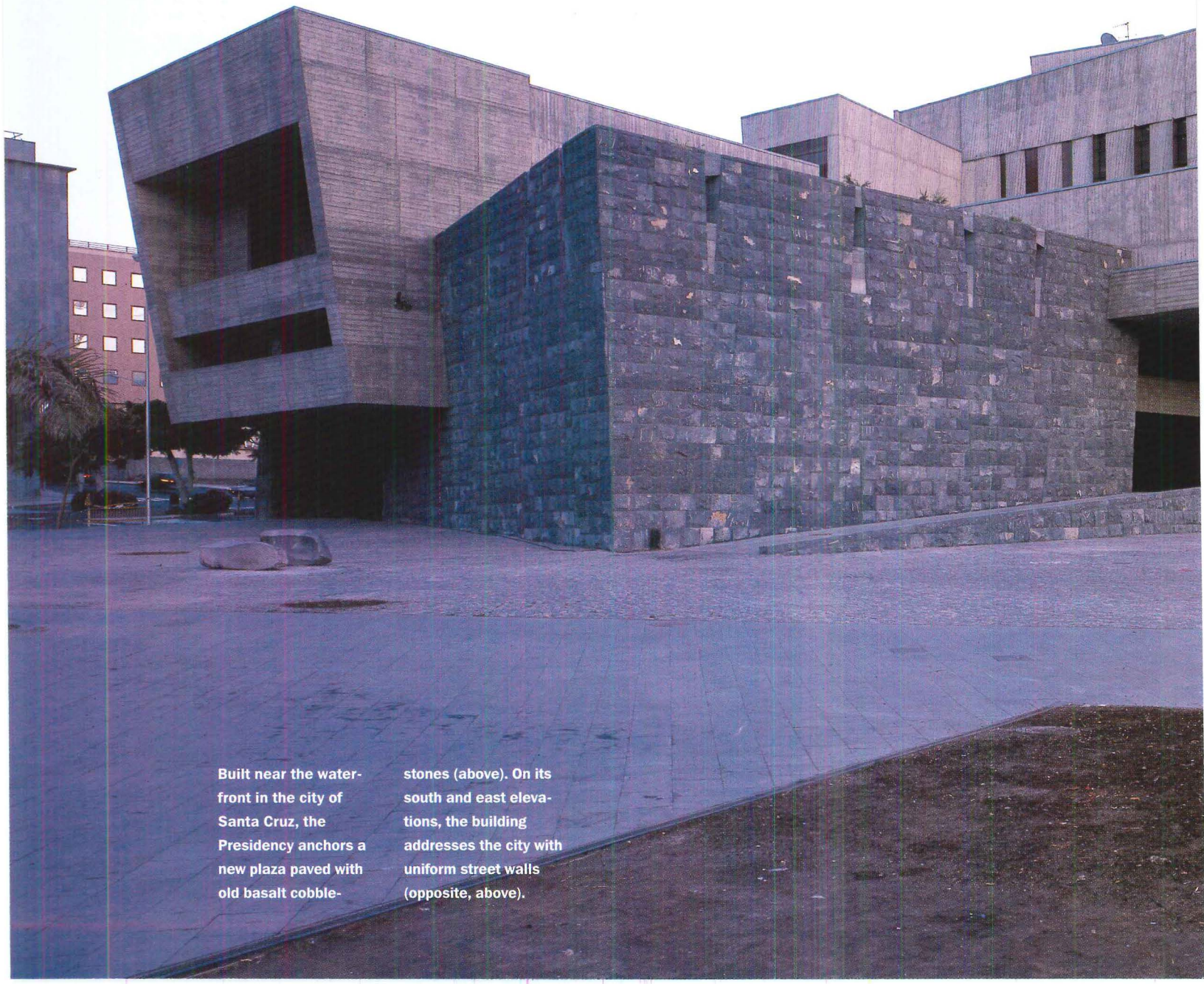
woodwork: *Mid Canada Millwork*

Terrazzo flooring (atrium, public floor and holding cells): *Roman Mosaic and Tile*

Interior ambient lighting: *Metalux and Cooper*

www For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com

AMP Architects pursues a rugged materialism
in the new **PRESIDENCY BUILDING** for
the government of Spain's Canary Islands



Built near the waterfront in the city of Santa Cruz, the Presidency anchors a new plaza paved with old basalt cobble-

stones (above). On its south and east elevations, the building addresses the city with uniform street walls (opposite, above).



By David Cohn

This modern palace for the regional government of the Canary Islands is all muscle. Nothing like the brawny, quarry-cut basalt of its lower floors has been seen in architecture since the days of H. H. Richardson, and nothing like its rugged, board-formed concrete since Le Corbusier's Carpenter Center at Harvard nearly 40 years ago. Inside its stone and concrete interiors, laborious details meet the eye at every turn: a three-ton steel gate that pivots at the touch of a button; a pair of doors, crafted of solid concrete and stone, that disappear into their respective walls; a 20-foot auditorium lectern hewn from the heartwood of single Canary pine more than 250 years old, unvarnished and resinous. Most surprising, an imposing 18th-century wood patio from the Hamilton House, a local historic mansion demolished in 1973, surrounds a central courtyard and serves as a contrast to the rest of the project. The architects discovered the patio languishing in a storage container and incorporated it in the building—a decision that required the redesign of the project and a full-scale preassembly of the patio simply to measure it, but which added a sense of history and connection with local architecture.

The Canary Islands, a chain of volcanic islands 700 miles southwest of the Spanish mainland and 70 miles from the African coast, have been controlled by Spain since the 15th century and are now one of the country's 17 autonomous regions. The province's executive branch of government, or Presidency, is located in the port city of Santa Cruz on the island of Tenerife. The building serves on a rotating basis, together with a similar facility on Gran Canaria, the archipelago's other major island.

The Presidency, which opened earlier this year, is the first major work of Tenerife architects Felipe Artengo, Fernando Menis, and José

Contributing editor David Cohn writes from Madrid and is the author of Young Spanish Architects, published by Birkhäuser in 2000.

Project: Presidency Building, Santa Cruz de Tenerife, the Canary Islands
Architect: AMP Arquitectos—Felipe Artengo Rufino, Fernando Martín Menis, José M. Rodríguez-Pastrana Malagón, principals; Almudena López Villalba, Félix Morales, collaborators; Pino Artengo Rufino, Javier Elejaveitia, Isabel Nichaldas Nazco,

Norberto Méndez Melián, master builders; Fernando Álamo, Juan Bordes, Pedro González, Juan Gopar, collaborating artists

Engineers: Arcal S.L. (structural); IHD Ingenieros (services); Terrain SDP (mechanical/plumbing)

Landscape consultant: Zona Verde
General contractor: ACS

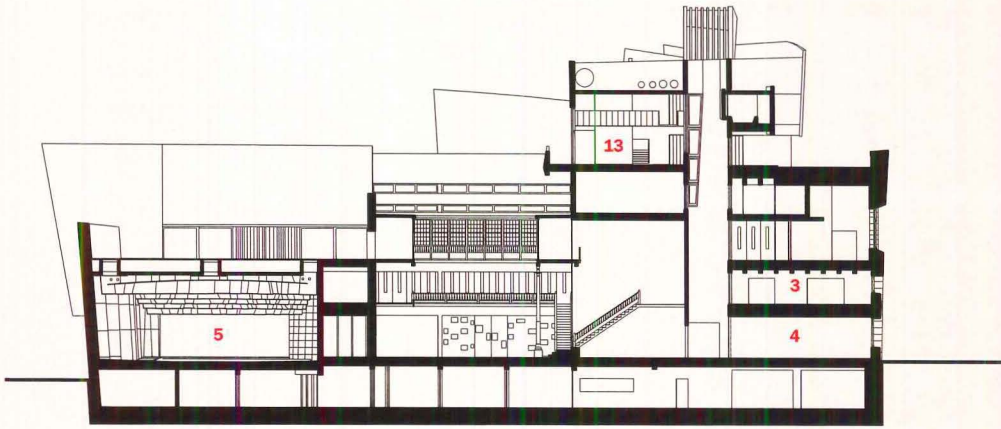
PHOTOGRAPHY: © HISAO SUZUKI



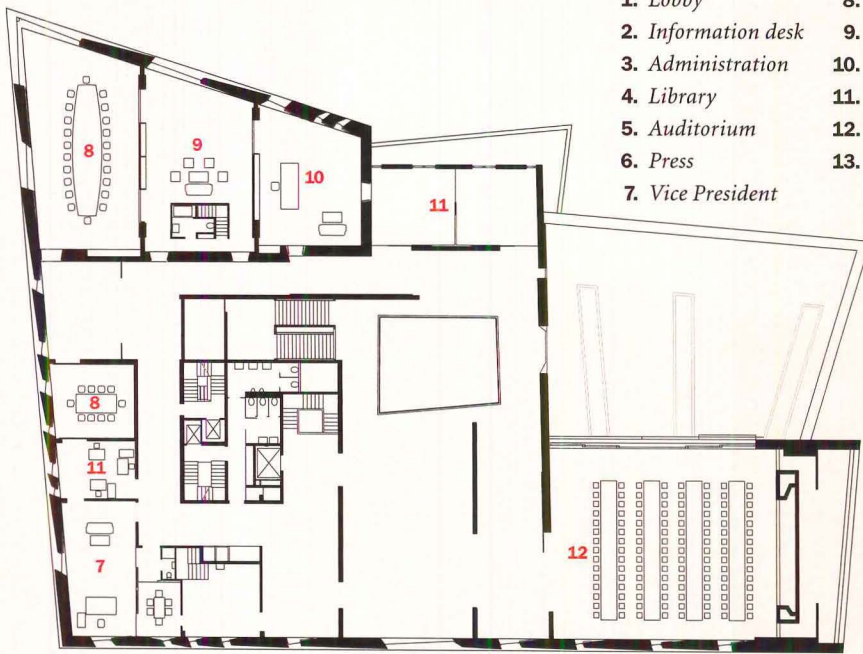
Finding the expressive nature of materials

Exploiting the dramatic character of weighty materials was an important strategy used by the architects. For example, concrete walls are curved and layered to define the president's penthouse apartment (opposite), while basalt walls facing the plaza (this page) are canted to energize the structure. "As we learn more about concrete, we take greater risks to get the greatest expressive and dynamic force we can from it," says AMP partner José Rodríguez-Pastrana. "What concerns us is how to adapt the material to our formal intentions, how to obtain, for example, inclined volumes, a certain play of light and shadow, effects of creases, folds, or tensed surfaces. We have good craftsmen here, and labor costs are not high, so the possibilities are infinite."



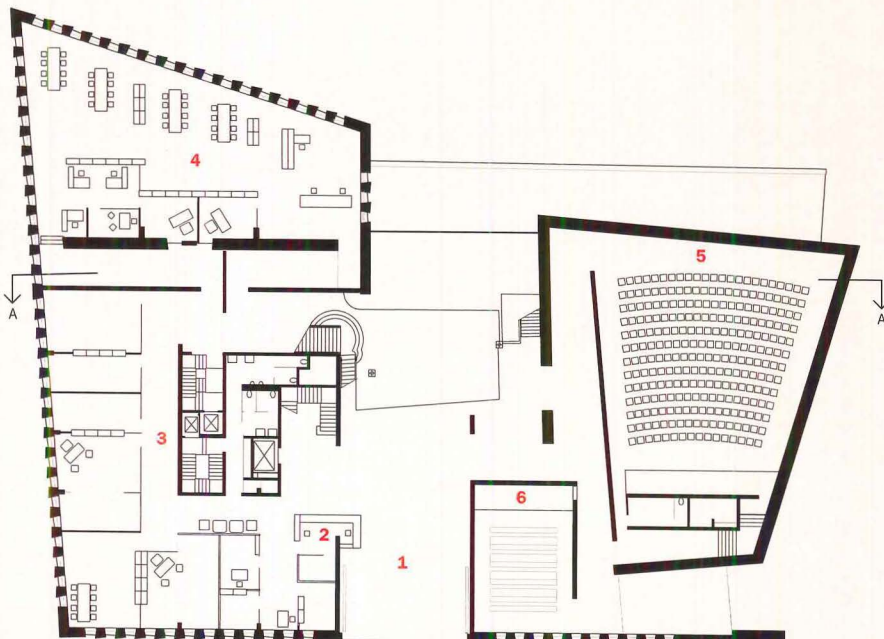


SECTION A-A

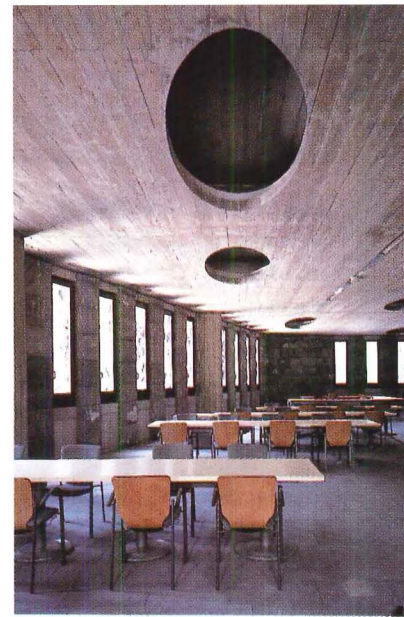
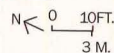


- 1. Lobby
- 2. Information desk
- 3. Administration
- 4. Library
- 5. Auditorium
- 6. Press
- 7. Vice President
- 8. Boardroom
- 9. President's office
- 10. Ceremony room
- 11. Secretaries
- 12. Banquet room
- 13. President's apartment

THIRD FLOOR



GROUND FLOOR



Slicing oval holes in concrete ceilings in the library (above), the architects exposed the material's plastic capabilities. In other public spaces, AMP combined various kinds of stone with concrete and wood (opposite, top left) or brought daylight in between concrete beams in the auditorium (opposite, top right) to contrast light and heavy. The Hamilton patio (below) was salvaged from an old local mansion.





Pastrana (AMP), who won a national competition for the project in 1986 (the present design dates largely to 1993). It is located near the center of Santa Cruz, in a waterfront area currently undergoing redevelopment. Not far away, a concert hall by Santiago Calatrava is under construction, as is a contemporary art center by Jacques Herzog and Pierre de Meuron—all part of the government's effort to use architecture to raise the island's cultural profile. The site of the Presidency, formerly the parade grounds of a historic barracks, has been redesigned as an urban plaza by AMP, incorporating an impressive stand of ancient laurel trees and old basalt cobblestones arranged in lavalike flow patterns.

In urban terms, the building has two faces, presenting a uniform street wall to the bustling areas to the south and west, and a more dynamic, pinwheel composition on the two sides facing the cobblestone

THE RUGGED CHARACTER OF THE BUILDING WAS INSPIRED BY THE VOLCANIC LANDSCAPE OF THE ISLANDS.

plaza. A ceremonial vehicular route penetrates the building through cast bronze doors on the south, takes dignitaries to the Hamilton patio, and exits to the plaza through the wide three-ton gate—establishing a strong axis between patio and plaza.

Inside, public spaces such as an auditorium, press room, and library spread out on the ground floor, while staff offices occupy a mezzanine level, and executive offices and ceremonial spaces sit on the third floor. The large footprint of these spaces forms a base and garden terrace for the president's official residence above, a two-story penthouse whose sail-like concrete forms are cantilevered from a vertical circulation core.

José Pastrana says the expressive character of the building was inspired by the "abrupt volcanic landscape" of the islands, where steep, rocky mountains plunge into the sea. AMP developed this expressive analogy largely through its innovative use of concrete, part of an ongoing investigation in its work. At the Presidency, the basalt-and-exposed-concrete walls of the exterior are canted outward to "dynamize the forms and eliminate any sense of overbearing weight," explains Pastrana. Inside, the architects turned ceilings into dramatic demonstrations of concrete design, giving a distinctive character to each public space. For example, they spanned the auditorium with deep concrete beams whose chipped and jagged profiles grab attention and scatter sound waves. Gaps between the beams admit bands of daylight and ventilated air. In the low ceiling of the room's entry, rough splints were introduced into the concrete's formwork during construction to create light-filled cracks and crevices. One

side wall, finished in book-matched leaves of gray volcanic stone from the island of Fuerteventura, has porous surfaces that are sound-absorbent, while the opposite wall is finished in rough basalt. The overall effect, as Pastrana notes, is like that of a "volcanic cave."

The play of stone and concrete continues in the library—which features oval-shaped cutouts and cove lighting in the ceiling and stone from Lanzarote on the walls—and in the third-floor banquet room, where a honeycomb ceiling and red stone from Gomera work together. The architects used tropical inoko wood for many of the interior details such as sliding interior window shutters and paneling in the executive offices, adding warm notes to complement the predominantly masonry building. The Hamilton patio itself was inserted into the building in the same spirit, as a fine-crafted wood element. The incongruous presence of the patio in the otherwise tough contemporary design is a dramatic example of the architects' scavenger approach to materials. Notable examples in other projects include recycled telephone poles and scrap metal. The architects also designed the conversion of an old petroleum storage tank into a remarkable cultural center for the city, a case in which the entire building is scavenged space.

All told, the project took 14 years to design and build, and it survived four changes in government (with corresponding design changes ordered by incoming presidents), as well as the bankruptcies of two general contractors. Though the building may seem overwrought in some of its details and uncomfortably dense when compared to the transparency of other contemporary Spanish designs, it offers important lessons for anyone interested in the continuing possibilities of crafted form. Artengo, Menis, and Pastrana are examples of what critic Kenneth Frampton has called *homo faber*, or man as builder and artisan. At a time when so much confidence is placed in vague ideas of virtual space or digital design, AMP is engaged in the struggle to wrestle expressive form from raw material, and in the transformation of the physical world through hard work, risk, and invention. ■

Sources

Zinc roofing: *Roferlo S.L.*

Wood windows and doors: *Teodoro Del Pino e Hijos S.L.*

Entry doors: *Fernando Páramo Solano*

Patio restoration woodwork: *Reconstrucciones Escobar S.L.*

Floor tile: *Pemoro Especialioades de*

la Construcción S.A.

Raised flooring: *Mero Systeme*

Furnishings (lecture hall): *BD Canarias*

WWW For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com

In creating a hotel, TEN sheathed a former 1950s apartment building in glass (this page and opposite, top). On a dense urban site (opposite, bottom) the original building's adjacent twin still stands beside it in derelict condition (this page).



TEN Arquitectos miraculously turns a dilapidated Mexico City apartment building into **HABITA**, a dazzlingly chic, glass-veiled hotel

By Sarah Amelar

Like performing surgery,” is the way Enrique Norten describes his architectural transformation of a grimy, derelict 1950s apartment building in Mexico City into a sleek and radiant little hotel. Demolition of the existing structure, followed by new construction, was ruled out because it would have brought a panoply of zoning restrictions—constraints that do not apply to renovations. And so, architect Norten and his firm, TEN Arquitectos, opted for radical plastic surgery (with organ transplants) on the shabby five-story apartment building with its network of interior bearing walls.

“It was tricky,” recalls Norten. “We had to carefully cut little pieces of wall to carve out, for example, a corridor, a tiny elevator shaft, or an air-conditioning plenum.” To turn three apartments per floor into a total of 36 rooms or suites, the architects had to find hidden light wells. In other places, they grafted on new elements, sometimes inserting partitions or small structurally essential beams.

But the challenge went further. Sited on a major shopping boulevard, the building and its adjacent twin suffered from urban maladies at odds with an upscale hotel: undesirable views and noisy, severely polluting traffic. TEN responded by literally giving the hotel a second layer of skin.

A box within a box, the concrete-reinforced brick building is now encased in translucent green-blue, sandblasted glass: a protective sheath set four feet from the face of the original exterior walls. The existing facade’s windows and sliding glazed doors (replaced and slightly modified by TEN Arquitectos) now open onto a buffer zone of enclosed balconies between the old and new exteriors. In effect, the building has been sealed off from the visible and audible chaos around it.

While the great wrapper plays a straightforward, pragmatic role, the use of materials throughout the project also generates a playfully provocative dialogue about masking, veiling, and revealing, about seeing

Project: Hotel Habita, Mexico City
Architect: TEN Arquitectos—Enrique Norten, FAIA, Bernardo Gómez-Pimienta, Barbara E. Wilks, FAIA, principals; Aaron Hernandez, Sergio Nuñez, Francisco Pardo, Hugo Sánchez, Claudia Marquina, Carlos López,

Martine Paquin, Rubén Garnica, Adriana Díaz, project team
Owners: Carlos Couturier, Moises Micha, Rafael Micha, Jaime Micha
Engineers: Colinas de Buen
Lighting: Houbar & Bourlon
General contractor: Gavaldón



and being seen, about glass paradoxically setting and denying spatial limits, simultaneously shielding and exposing.

The first suggestion of this discourse comes with the clear (non-sandblasted) strips that punctuate the vitreous outer shell, controlling inward and outward views in markedly different ways. Through these slots, insiders are permitted precisely edited glimpses of the streetscape that screen out the unsightly; while the same slots—exploiting the coquettish nature of a translucent veil—offer outsiders only teasing flashes of what lies within. At night, when illuminated between its skins, the building glows like a lantern, divulging shadowy images of balcony plants and furnishings, occasional moving figures, and layers of windows with drawn curtains or barely discernible lit interiors in the background.

In jarring juxtaposition to this luminous facade, the apartment building’s original twin stands vacant and in squalid disarray—posing a striking snapshot of “before” and “after” in a former residential neighborhood that is currently becoming an elegant avenue of offices and boutiques. (Habita may eventually expand into the adjacent structure.)

Inside, the hotel’s design continues in a Minimalist vein—like most TEN Arquitectos work—articulated here in stainless steel, glass, and maple. The architects designed virtually all the interior fittings, except for chairs and lamps. The custom elements range from tables and counters to stainless-steel pigeon holes behind the front desk and ceramic tableware (by TEN partner Bernardo Gómez-Pimienta) in the hotel restaurant.

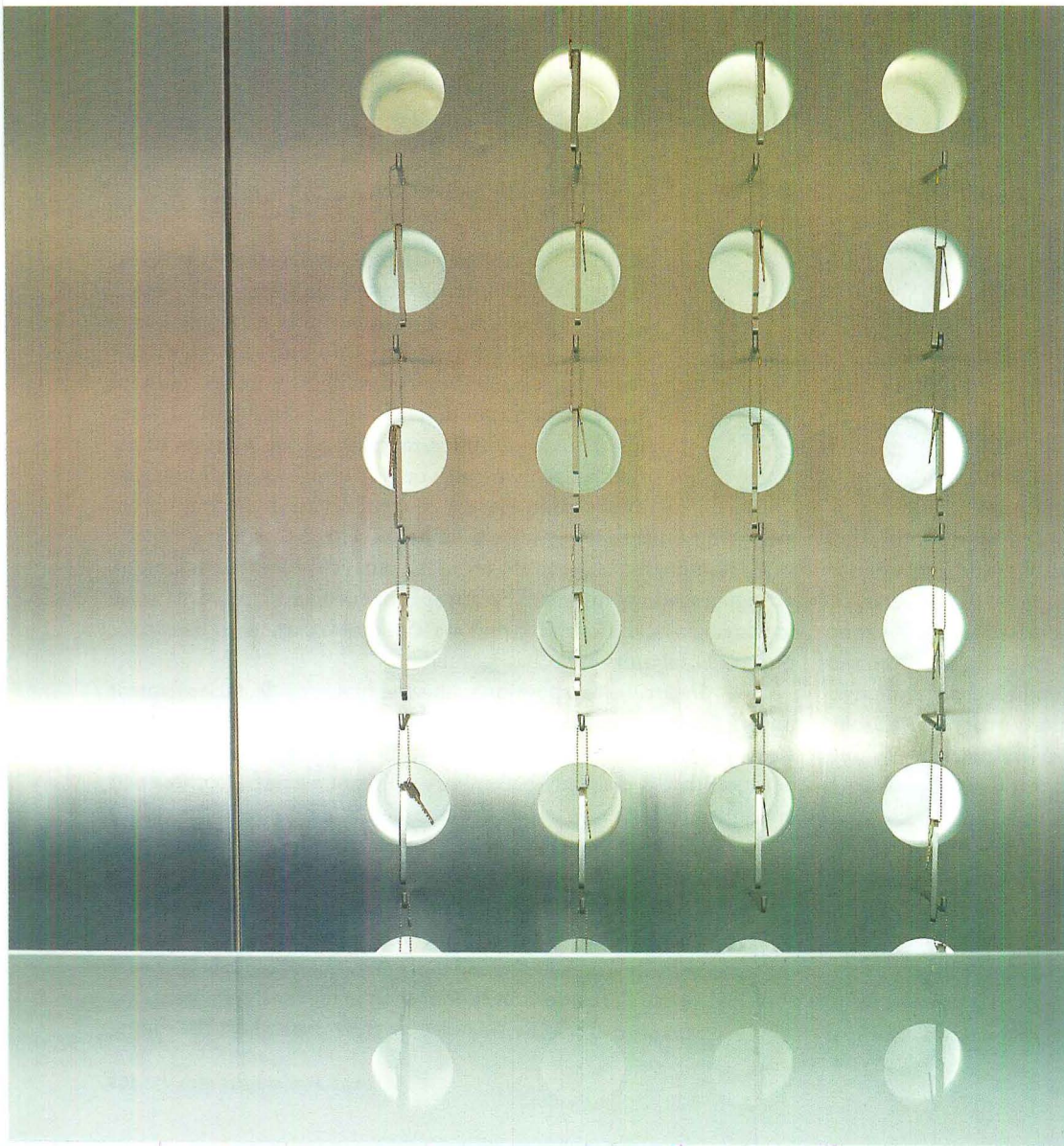
Separated from the sidewalk by clear plate glass, the dining

Cool compositions in glass and stainless steel

TEN created clean-lined Minimalist tableaux, drawing on a limited palette of precisely detailed materials: glass (sandblasted and clear), stainless steel, and blond maple with white sonora and travertine marble floors.

On the exterior, the architects produced a second skin by attaching sheets of tempered, laminated, partially sandblasted glass to the concrete slab with stainless-steel angles. The simple-looking hardware was designed to withstand wind, suction, and earthquakes.

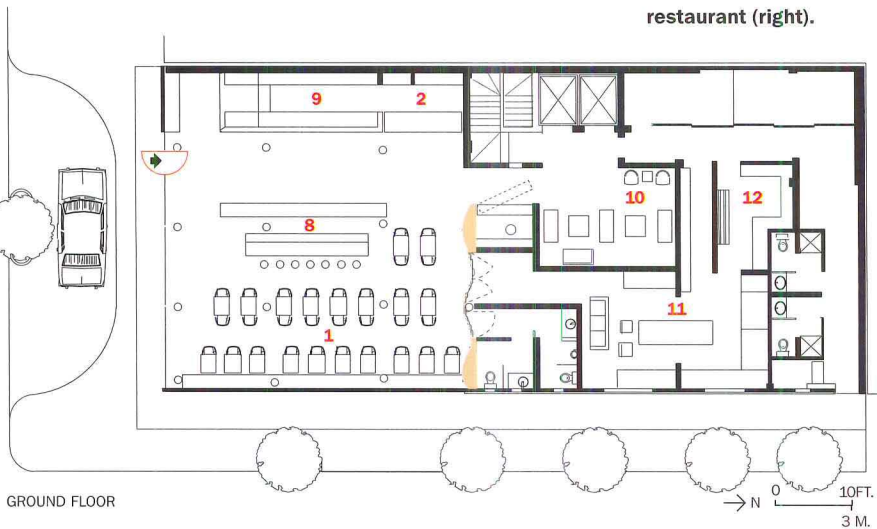
Inventive glazing and steelwork continues throughout the interior: from the translucent back-lit check-in desk with stainless-steel pigeon holes for room keys and messages (below) to the glass-screened sauna and, in guest bathrooms, custom steel fixtures and opalescent glass partitions.



- 1. Restaurant
- 2. Check-in desk
- 3. Guest room
- 4. Cafe/bar
- 5. Gym
- 6. Sauna

- 7. Swimming pool
- 8. Bar
- 9. Office
- 10. Lobby/lounge
- 11. Kitchen
- 12. Storage

With oblique views out toward the entry and street (below, center), the luminous check-in desk (bottom, right) faces the bar and restaurant (right).





room and bar dominate the entry level. So much so, in fact, that the check-in desk's existence is not immediately apparent. Subtly tucked to the side, it could as well be a maitre d' station. The design, says Norten, intentionally inverts hotel-lobby conventions, in order to make the entry area a prime "social zone." On weekend nights, in full view to the street, that ambition is realized, but perhaps the hotel's hottest social zone is its rooftop.

When Habita opened last fall, the roof terrace instantly became a venue for fashion shoots and shows, and for beautiful people at stylish parties: a place to be seen. But like much of the design, this amenity came in response to existing limitations. Since zoning laws would not permit additional stories, TEN provided much-needed space by creating a glamorous outdoor lounge—a reasonable strategy in Mexico's warm climate.

White-tiled and redwood-planked, this open-air living room is a duplex: its upper level, the sixth floor, features a bar, tensile overhead shade, and open brick fireplace, while the lower level, one flight down, has a swimming pool and second bar. A spiral stair links the two tiers (as do the elevators), but the bigger connecting gesture is the upper level's stepping down toward the Mexico City skyline. Whereas the hectic street-level views may be off-putting, this skyscraper vista fortuitously captures the luster of urbanism at an idealizing distance—close but removed from the hassle. The effect is accentuated by clear glass rails that mark the upper deck's edge



In guest rooms (opposite page), clear glazing facing the balconies extends the sense of spaciousness. The double skin aids interior climate control. On the roof (this page), a pool-side spiral stair (far left) connects lower and upper levels, leading up to an open-air fireplace lounge (left). The lower deck has an outdoor jacuzzi (below).





while momentarily giving the breathtaking sensation that one could fall over the brink. Visually compressing the middle ground and dramatically connecting this six-story roofscape to a grander skyline, the architects enhance the play of perspectives by framing views and placing a shallow lap pool beside an abstract ceramic mural at the lower deck's leading edge.

The resulting *mise-en-scène*—produced in glimmering Minimalism—has the makings of a trendy and extremely photogenic backdrop. (Lots of Windex, daily laborers, and an exterior glass-cleaners' track help keep the place pristinely aglow.) Playing off the design's blank-slate and theatrical qualities, nighttime party gives frequently project images onto the pool's smooth surface and a neighboring building's side wall.

Back inside, the more private guest facilities are serene and spa-like. An exercise room with sauna and jacuzzi adjoins the pool deck, also shaped by extensive glazing and carefully circumscribed views. Surprising conditions often appear at the junctures between the two skins, revealing the precision and variety of the glass detailing.

Almost every room required a unique configuration, given the existing parameters. TEN Arquitectos finessed the details in each case, customizing sleek built-in furniture and, for the bathrooms, stainless-steel fittings with translucent glass partitions. Within the original low-ceilinged, unremarkable interiors, the architects achieved calm, airy spaces. Doubly insulated from the outside world, the accommodations are unusual in their inward focus—a feature that gives them tranquility, as well as a strangely hermetic quality. But just when the wrapper verges on feeling excessive, it releases, as at the ends of the dual-layered buffer zones, where slab-to-slab clear glass affords oblique, yet unexpectedly expansive, streetscape views. Standing on the protected balcony, you may suddenly find yourself completely, almost amusingly, exposed from the side.

Of course, the idea of hermetically sealing (well, almost) an existing building may initially seem questionable—but in TEN Arquitectos' hands, the result is remarkably elegant. With overt ambivalence toward its setting, this cocoonlike enclave sequesters its guest quarters from the urban realm, only to open its top in celebration of the city. A wild celebration, that is, at a safe distance away. ■

Sources

Lighting: *Artimede*

Elevator: *Kone*

Glazing: *Val & Val*

Showerheads: *Kroin*

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On the upper roof terrace, a tensile overhead structure frames skyline views (opposite, top). The taut, waterproof fabric, as a “temporary” cover, complies with

building code. On the lower deck (this page and opposite, below) the ceramic poolside mural—like artwork throughout the project—was designed by Jan Hendrix.

Foster & Partners revives that imperial dowager, the **BRITISH MUSEUM**, for life in the 21st century, while restoring its lost architectural past



The British Museum is eternal. For nearly 250 years, it has been the über-repository for the world's art, antiquities, and artifacts spanning thousands of years of human history. Within its 100 galleries reside icons of past and present civilizations, such as the Elgin Marbles, the Rosetta Stone, and the mummified remains of scores of Egyptians. Buried, quite literally, in the museum's courtyard stands the British Library's round Reading Room, fabled in literary circles but formerly unknown to most museum visitors. Indifferently constructed buildings containing iron book stacks surrounded the room, and, until recently, access was restricted to those deemed worthy of a reader's ticket. But on December 7, all the necessary, albeit regrettable, architectural transgressions of the past were forgotten, when the Queen

Elizabeth II Great Court, designed by Foster & Partners, was given to the public. With its gravity-defying glass canopy and perfectly laid limestone surfaces, it is the first architectural marvel of the 21st century.

The transformation of the British Museum from solemn dowager to a vibrant urban oasis happened rather quickly by museum standards. Several years before the 1996 departure of the library to a new building, designed by Colin St. John Wilson, in St. Pancras, the museum trustees saw the opportunity to recover the long-lost heart of the museum—the courtyard, designed by Sir Robert Smirke in 1823 and occupied by the Reading Room and surrounding book stacks since 1857. The trustees initiated an open selection process to find an architectural firm to develop a scheme that would address the commercial





A glass-and-steel roof, weighing 1,000 tons, cover the 65,000-square-foot Great Court (left, below, and opposite). The Spanish limestone of the new building is Galicia Capri in a perfectly laid stack bond.

needs of a modern museum while respecting the original architecture. One hundred thirty-two firms responded, from which a short list of 22 firms emerged. The list was then narrowed to three finalists—Foster & Partners, Arup Associates, and Rick Mather. In July 1994, the museum appointed Foster & Partners as the architect. Norman Foster's 40-year career is distinguished by high-profile, award-winning commissions. The reconstruction of the Reichstag in Berlin [JULY 1999, page 102], the Hong Kong International Airport, [NOVEMBER 1998, page 92], and the Greater London Authority headquarters for London's first mayor (to open in 2002), to name only three of hundreds, have etched his architectural reputation in stone and glass and steel. Then came the British Museum. In 2003, it will celebrate its 250th anniversary and a wonderful, if tortured, architectural history, during which architects and directors struggled to accommodate rapidly expanding collections and the proliferating British Library. The stakes were high. This was no mere upgrade of a musty, albeit venerable, institution, but a once-in-a-lifetime opportunity for an architect's legacy to extend into a broader historical context.

Since 1754, when it purchased a crumbling mansion called

Montagu House, the British Museum has resided at its current location on Great Russell Street in literary Bloomsbury. It quickly outgrew the mansion and the subsequent expansion completed in 1802. In 1816 the trustees hired Smirke, then the official architect to the Office of Works, who recommended building two parallel wings to the north of the mansion. However, when the museum inherited the library of King George III in 1823, the trustees redirected Smirke's efforts to the design of a new museum. Smirke developed a quadrangular scheme with facades rendered in the Greek Revival style enclosing a two-acre courtyard, which he envisioned as a grand public space. During the 30 years it took to construct the museum, Smirke struggled to keep pace with the museum's and library's burgeoning collections by adding galleries to the south and west of the quadrangle. Smirke lost the battle and his courtyard in 1852, when the trustees held a competition to develop the central space for the library.

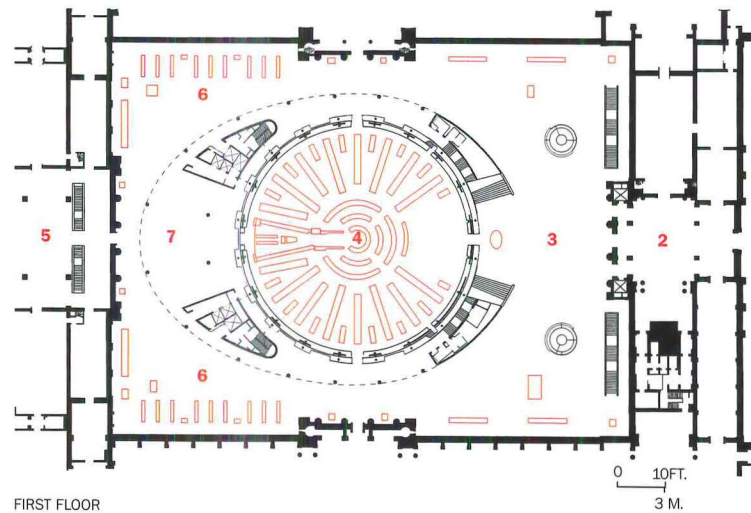
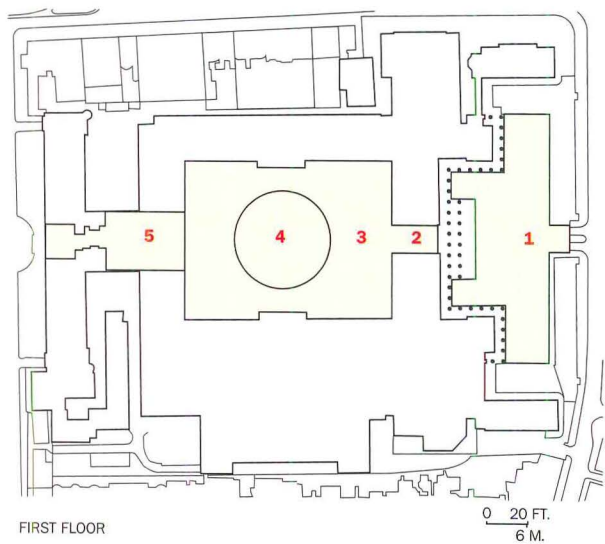
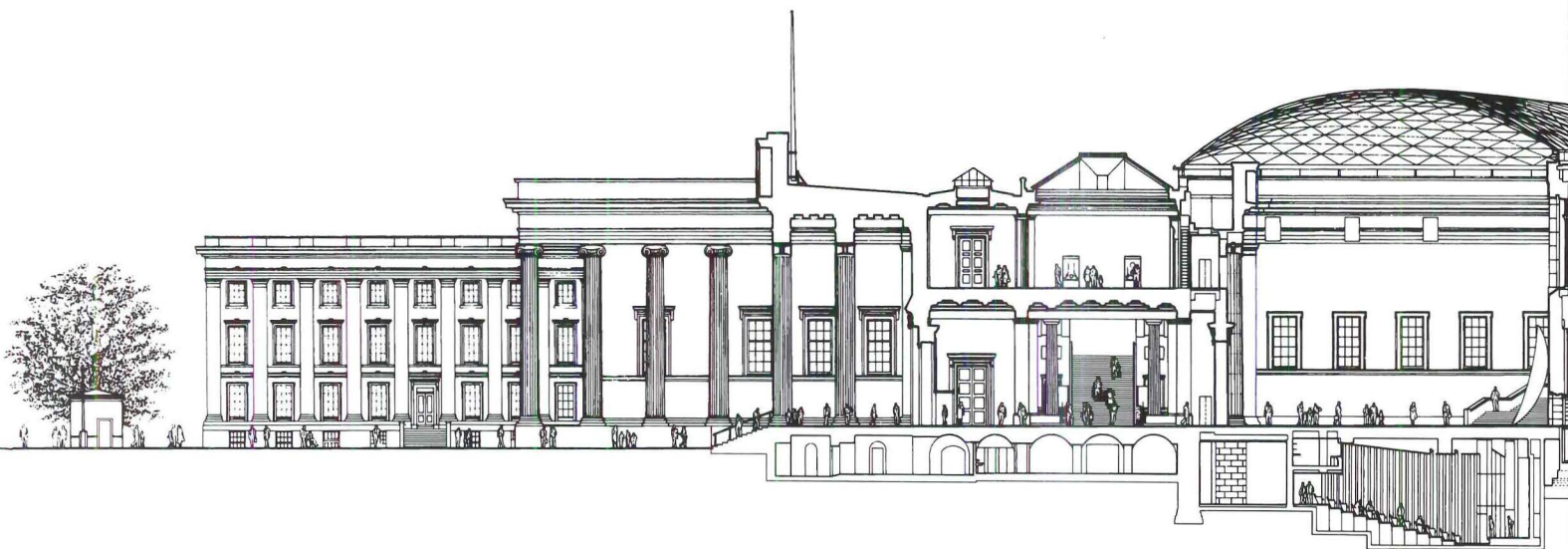
The winning design was actually the idea of Antonio Panizzi, the library's zealously acquisitive Keeper of Printed Books, whose sketch of a round reading room centered in the courtyard was developed by Smirke's younger brother, Sydney, and completed in 1857. In this innovative cast-iron structure, famous authors have read at its leather-covered desks, including Karl Marx who came daily for almost 30 years and wrote *Das Kapital* there. The spirits of Virginia Woolf, T.S. Eliot, John Ruskin, and Oscar Wilde, to name only a handful of notable readers, still permeate the room. Victorian author William Makepeace Thackeray succinctly expressed the architectural power of the place when he wrote, "In the great circle of the library Time is looking into Space." While Sydney's Reading Room became the soul of the British Library, Robert's grand courtyard was lost and forgotten.



Project: *The Queen Elizabeth II Great Court, British Museum, London*
Architect: Foster & Partners—
Spencer de Grey (partner-in-charge), Giles Robinson (project director)
Engineers: *Buro Happold—Stephen Brown (roof), Mike Cook (structural), Neil Billet (electrical, mechanical),*

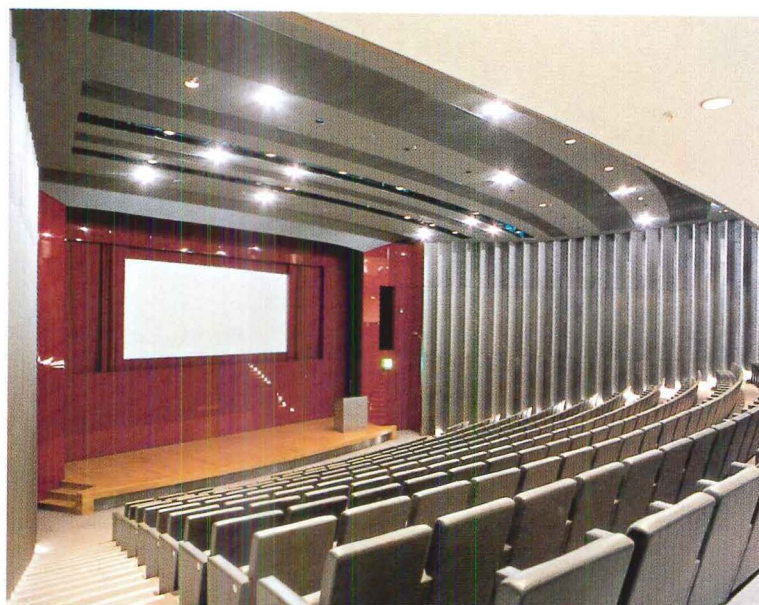
David Cowles (planning)
Roof steelwork and glazing: *Waagner-Biro*
Consultants: *St. Blaise and PAYE (stonework), ERCO and Claude Engle (lighting), H Smith (demolition), S.G.B. (scaffolding)*
Construction manager: *MACE Ltd.*

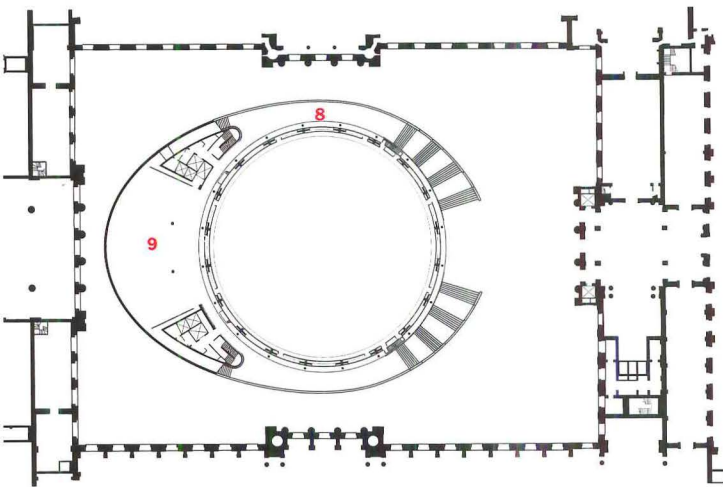
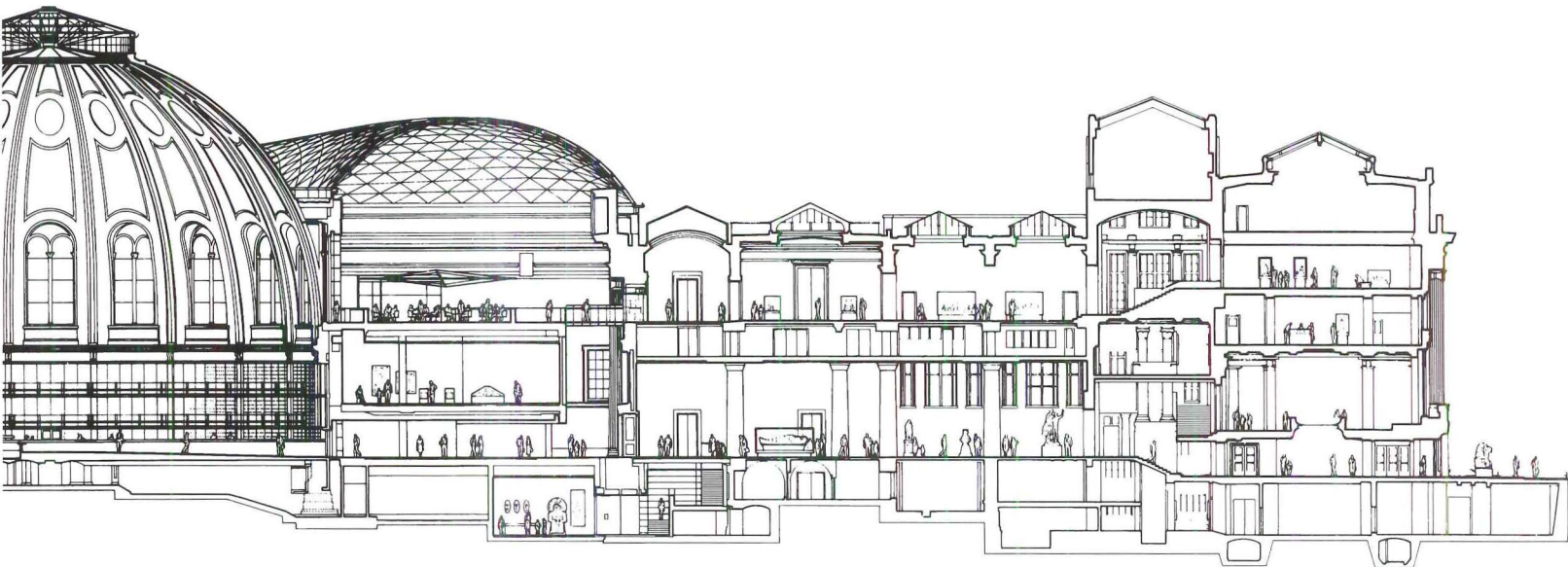




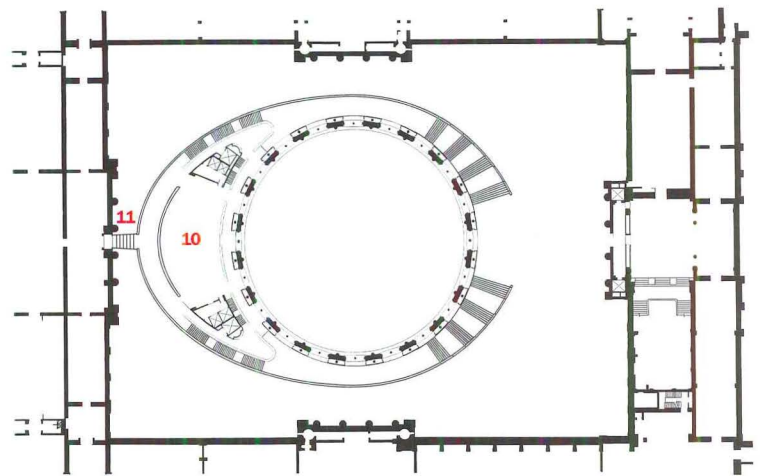
The section through the north-south axis of the museum (top) shows the progression (left to right) through the forecourt, Great Court, Reading Room, and the museum's north wing. The site plan (above) shows Robert Smirke's restored courtyard and the future restoration of the north wing, which is

part of Phase Two and will be completed by 2003. The auditorium (right) is part of the Clore Center for Education in the newly created lower level beneath the south end of the Great Court. The Terrace restaurant (far right) sits on the upper level of the ellipse.





SECOND FLOOR



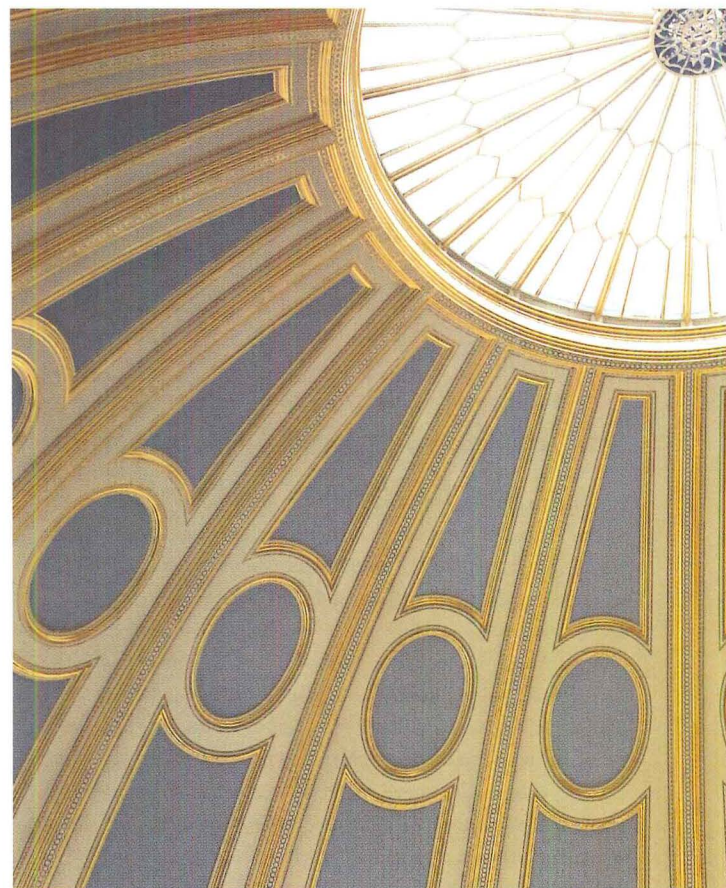
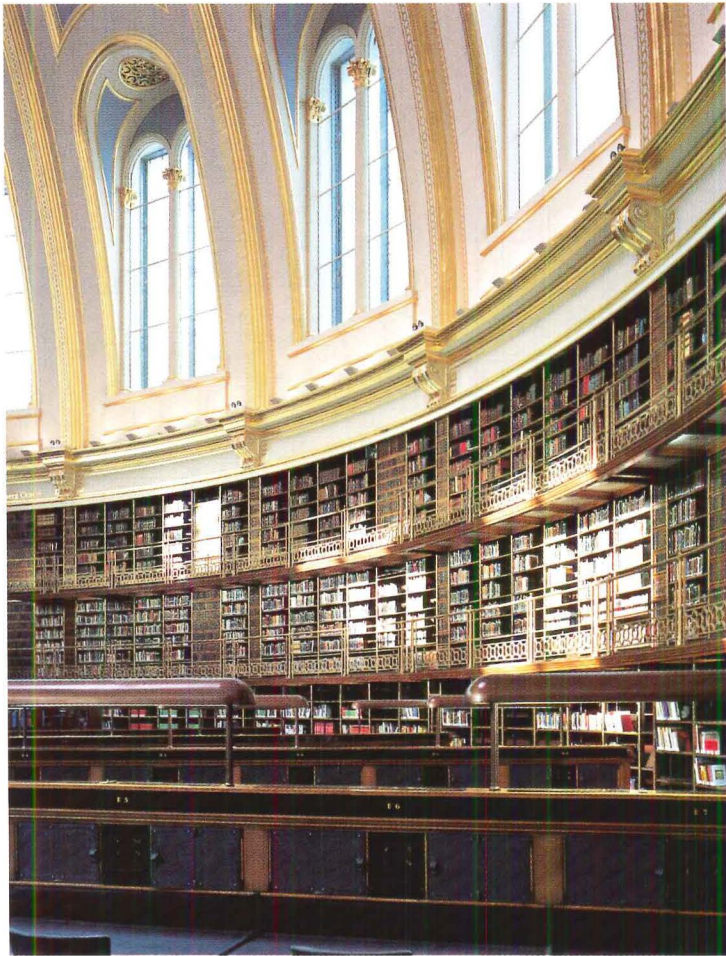
THIRD FLOOR

- | | | |
|---------------------|------------------|-----------------------------|
| 1. Museum forecourt | 5. North library | 9. Hotung gallery |
| 2. Entrance hall | 6. Court cafe | 10. Restaurant |
| 3. Great Court | 7. Museum shop | 11. Bridge to north library |
| 4. Reading Room | 8. Terrace | |



Restoration of Reading Room Dome

The original interior of the Reading Room's dome is a form of papier mâché called fibrous slab or patent wood, an invention registered in 1847 by C.F. Bielefeld. Once pressed and rolled, it takes on many of the characteristics of modern fiber-based board. Shrinkage of the papier mâché, movement of the wooden frame to which it is attached, and thermal expansion and contraction of the dome's cast-iron frame caused cracks and warping. Richard Ireland, a consultant for Hare & Humphreys restorers, developed a textile repair method using a fabric called Flexiweave, which is applied over the cracks and blended with filler. An unconventional, zero-tension Swiss-manufactured oil-based paint sits on top of the fabric and is not absorbed, allowing movement beneath.



The Reading Room anchors a scheme that is deceptively simple considering the project's complexity. The program is actually a series of separate, but interdependent, projects. Restoration of the Reading Room and three of the Ionic porticoes in the Great Court's quadrangle, as well as reproduction of the missing south portico (destroyed in 1875 during an expansion) and the forecourt on the south, was crucial to the success of the museum's major goal—the redevelopment of the courtyard as a glass-covered public space, shops, a restaurant and cafe, with a gallery for temporary exhibitions, and bridges to the north wing. Other new construction included the excavation under the courtyard for an education center with two auditoriums, another gallery, and support spaces.

Foster delicately infused his signature Modernism into the Great Court's quadrangle by absorbing the Reading Room within an elegant, stone-clad elliptical cylinder. While he respectfully matched the pale Spanish limestone of Smirke's Ionic porticoes, his unadorned elliptical sculpture emerges as the perfect Modernist counterpoint to his predecessor's stodgy Neoclassicism. He also downplayed the museum's concession to commerce and entertainment by tucking the commercial spaces discreetly within the ellipse. A pair of monumental stairs wrap the

AN ELLIPTICAL SCULPTURE EMERGES AS THE MODERNIST COUNTERPOINT TO A PREDECESSOR'S STODGY NEOCLASSICISM.

periphery of the cylinder leading to a gallery and restaurant on the upper levels. Because the destinations are not conspicuous, attention remains on the shifting perspectives of the courtyard as one ascends.

The glass-and-steel roof (see also *Building Science*, page 149), which floats above the two-acre courtyard, creates the largest covered courtyard in Europe. Foster's concept of a light, transparent canopy was engineered by Buro Happold, who displayed the same derring-do as Smirke did with his soaring cast-iron dome atop the Reading Room, and the breathtaking result is an 800-ton roof that appears to hover unsupported in the sky. Its undulating form defers to the original architecture as it billows up and over the quadrangle walls, keeping a respectful distance from the entablatures.

With the roof and restoration, planning and execution, Foster has created a masterpiece. He brings the past into the present without disturbing its ghosts or offending his predecessors. While he resurrected the original public courtyard, he reinvented it as a modern, animated, urban space. By prying the museum open at the core, he uses sunshine to dissolve the mausoleum-like atmosphere. And this is just the first phase. Phase Two will focus on the north wing, with the creation of new galleries, the restoration of historic interiors, the reinstatement of the ethnography collections, and the creation of a new study center. When this task is completed in 2003, Foster will have reestablished Smirke's north-south axis and provided a coherent pedestrian corridor from Great Russell Street, through the Great Court, to Montague Place. Rest in peace, Robert and Sydney Smirke. ■

Sources

Roof glass: BGT/Okalux

Windows: Pilkington

Stone cladding: Galicia Capri

Plaster: British Gypsum

Luminaires: ERCO (in foyer, shops, main and lower stairs, first-floor gallery, auditorium, Reading Room, restaurant, education area)

Great Court stone fixings/ties:

Unistrut Fixings

Glass balustrade and lower-stair handrail: Glazzards

WWW For more information on the people and products involved in this project, and a detailed description of the Reading Room restoration, go to Projects at www.architecturalrecord.com



A steel-and-glass bridge leads from the upper level of the ellipse to the galleries in the north wing, creating a new route through the museum. Specialists repaired cracks in the Reading Room dome (opposite, bottom) with a flexible fabric and restored the original 1857 color scheme. The stacks (opposite, top) now hold a public reference library.



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ARCHITECT: Callison Architecture, Inc.

OWNER/DEVELOPER: Space Needle Corporation

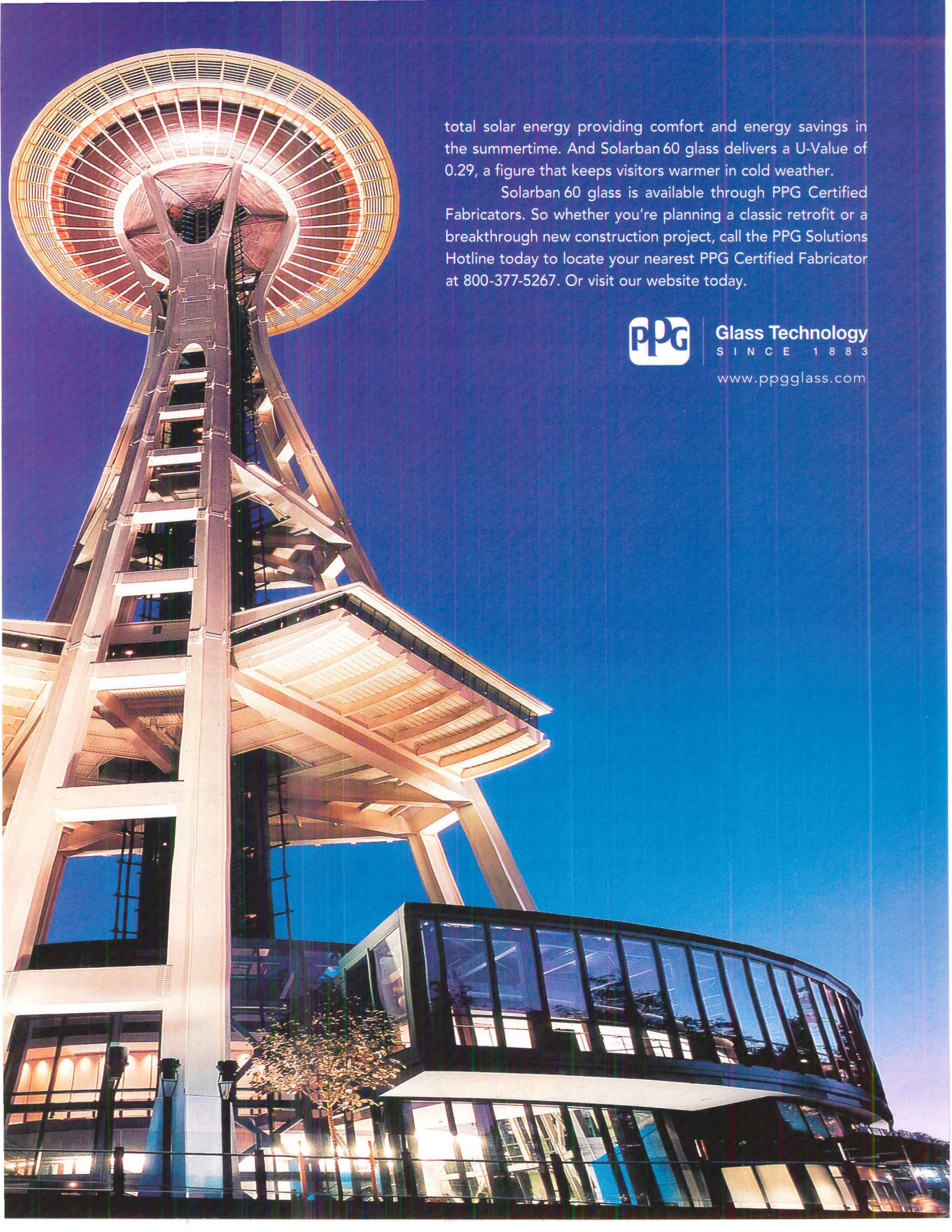
PRODUCT: Solarban® 60 Glass

GLASS FABRICATOR: Northwestern Industries, Inc.

GLAZING CONTRACTOR: All New Glass, and Evergreen House, Inc.

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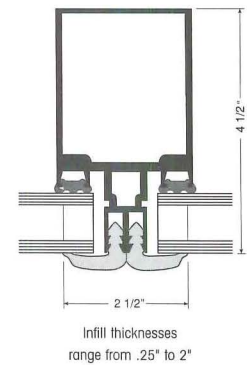
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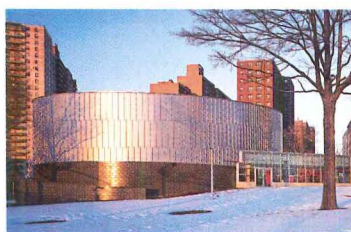


WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

CIRCLE 49 ON INQUIRY CARD

Form Follows Process

CITIZEN INVOLVEMENT IN THE DESIGN OF PUBLIC PROJECTS CAN BE FRUSTRATING, BUT MORE ARCHITECTS ARE USING THE PROCESS TO CREATE EXPRESSIVE AND RESPONSIVE ARCHITECTURE.



1.

Bronx, New York

The arresting geometries of a community center by Agrest and Gandelsonas contrast invitingly with the ranks of public-housing towers it serves.



2.

Brooklyn, New York

Hanrahan + Meyers removed the “housing-project” stigma from an intimidating gym as they wrought a new community forum.



3.

Lawrence, Kansas

A community health facility by Gould Evans Associates offers an architecturally welcoming face for patients seeking public-health services.

By Lisa Findley

Architects have long grumbled that design for public buildings is too often smothered by endless public meetings, community-consultation processes, design-review boards, and charrettes. Rather than possessing a clarity in concept and an expressive form, buildings can become architectural camels, cobbled together from elements put in the project to please various noisy constituencies. The prominence of process has been forged over the past 30 years with the rise of what Craig Hartman, FAIA, partner at Skidmore, Owings & Merrill’s San Francisco office, calls “hyper-democracy.” Living in what is arguably the most process-oriented city in America, he should know. “In order for any project, public or private, to get built in San Francisco, it must have public consensus.”

In hyper-democracy, every person’s voice is as valid as every other person’s—regardless of training, affiliation, or intention. While no one denies the legitimacy of citizen involvement, many architects see too few limits placed on lengthy and contentious approval processes. Civic activism is not vanishing any time soon, however. Architects may idealize the idea of sequestering themselves in their offices, forging an elegant architectural statement out of the circumstances of the project. “The process” won’t stand for it; the hyper-democratic public expects to be consulted. While architects are rarely trained in the diplomacy needed to deal with the nuances of the public’s numerous agendas, many are learning to make the public process a desirable fact of life.

Public involvement is integral to the strategy of Simon Martin-Vegue Winkelstein Moris (SMWM), of San Francisco, which participates in very large scale projects. “I look at managing public input as just another design problem,” says SMWM principal Karen Alschuler. The firm designed a public-engagement process playfully named the Planning Game, an exercise that occurs in a series of workshops intended to harness the energy and passion of the public. SMWM presents groups with issues related to the project (fine-tuned to the locale and to the community’s greatest concerns) and charges citizens to find a solution. Height limits had emerged as a key concern in the vast redevelopment of San Francisco’s Mission Bay district. So SMWM made game pieces out of colored foam coreboard. They supplied real data and parameters for the project, then asked workshop participants to arrange the pieces on the site plan themselves to study and see the consequences of various building-

Contributing editor Lisa Findley writes about architecture and teaches at the California College of Arts and Crafts.

NEW: For additional public projects go to Building Types Study at www.architecturalrecord.com. The monthly expanded Web BTS features project descriptions, photographs, drawings, statistics, and links to people and products.

height configurations. The game doesn't make citizens the designers, emphasizes SMWM senior associate Evan Rose, but they do learn about the consequences and trade-offs that design decisions entail. SMWM, too, learns a great deal from these exercises, according to Rose, and analyzes, distills, and applies this knowledge in its subsequent design work.

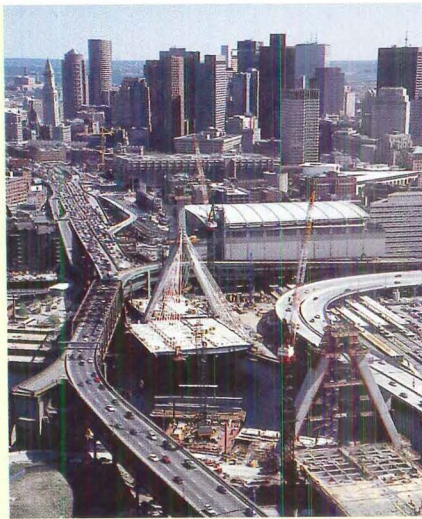
It is on the basis of the firm's success with large-scale infrastructure projects that SMWM was brought in on the vast and contentious Central Artery Project in Boston. This enormous \$14 billion undertaking is putting seven miles of freeway underground, thus liberating a huge swath of new open space in the center of the city. The costs and logistics of the "Big Dig" have been so all-consuming that the city is only now getting around to defining what this new space will be used for. According to Rose, one of the key challenges in preparing the Corridor Master Plan was helping well-organized and fiercely independent neighborhood groups see the artery as a regional resource of enormous potential rather than real estate to be parceled off in bits to aggrandize various group's desires. A version of the Planning Game helped local interests see their ideas within the larger political picture and prioritize the nature of public uses, from passive open spaces to active public plazas.

Architects are finding that part of their role in "the process" is to explicitly expose the public to the benefits of design. Architect Mark Robbins, director of design at the National Endowment for the Arts (NEA), sees the NEA as a bully pulpit, helping more communities recognize "that good design is a public good." But he also sees numerous examples of architects making the public process work for architecture.

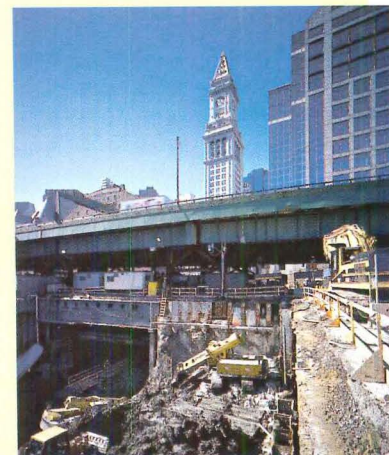
"It's easy to forget how little people understand about design's vocabulary and way of thinking," he says. "When we invite people to envision what a project can be, we can talk about how landscape, for example, is not just about azaleas or rhododendrons, but is about an attitude to infrastructure—lighting, bus stops, how streets are made. Educating the public can raise their aspirations to be as high as those of designers."

People also learn from seeing how nominally similar projects built elsewhere can exceed expectations. "Citizens realize," says Robbins, "that their project, if done well, could be one that others will follow." Steven Goldsmith, planning director of fast-growing Salt Lake City, is raising design awareness through an exhibition and conference tied to next year's Olympic Games. Called *The Physical Fitness of Cities*, it will present "best practices" worldwide. "People here will get very excited by what they'll see," he explains. "I will be able to tap into that memory later when we ask them to make choices about the future." A new NEA program is intended to further raise design consciousness by sponsoring 10 design competitions for public projects every year.

Committed clients are key to superior public design. Robbins admires Jane Werner, director of Pittsburgh's children's museum. In running a competition for an addition and renovation, "She turned site tours for prospective designers into community events, so they would have a sense of who they were designing for." The NEA also works with the Mayors' Institute for City Design (MICD), which involves public officials in workshops that demonstrate the benefits of design. The MICD tries to turn mayors into champions for design within their communities, a goal that Goldsmith wholeheartedly endorses: "Policy makers tend to be



Simon Martin-Vegue Winkelstein Moris is coordinating the input of numerous neighborhood groups to determine the future of open space created in Boston's city center by the vast Central Artery Project.



neophytes about design issues and yet they have to buy off on things that to them appear superfluous."

Altering the process from within

A fellowship at a U.S. senator's office may sound glamorous, but, according to Alex Washburn, "You're never seen and rarely heard." One day Senator Patrick Moynihan realized he had the only architect on the Senate's staff working for him. Washburn found himself charged with "doing everything in my power to get Penn Station built" [MARCH 2000, page 68]. One of an increasing number of architects who has done a stint in the public sector, he learned that maintaining a project's design integrity has to do not only with getting citizens involved, but with obtaining funding and resolving agency turf battles.

Tom Aidala, as the principal architect and urban designer of San Jose's Redevelopment Agency from 1982 to 1996, was able to show that a redesigned downtown and a series of award-winning public buildings and housing projects could drive a city's transformation.

The success of the General Services Administration's Design Excellence Program [FEBRUARY 2000, page 62] has spurred local governments to follow its lead. In Houston, a group of young architects who had actively pressured the city to improve the design of public facilities now finds itself working for the City Building Services Department, newly split off from a much larger public-works department. The group is rewriting guidelines for the hiring of architects for city projects. The department will now mediate between the city client agency, community groups, and private-practice architects. In addition, the group is overhauling the haphazard way that both project budgets and schedules are set with an eye to making them more realistic. As William Williams, a senior architect with the new department, observes, the most common ways for a city project to end up in political trouble is to exceed the budget or fall behind schedule.

More than one person has said that, in Seattle, they like the process better than the product. John Rahaim learned this firsthand when he moved from Pittsburgh not long ago to run two government entities charged with smoothing the public process: the Seattle Design Commission, a board composed primarily of design professionals and charged with design review, and CityDesign, a kind of government-run urban design firm [JANUARY 2000, page 196]. He sees CityDesign as more proactive, able to begin public involvement and raise key issues before design work begins. The idea is to avoid having the process ambushed by unidentified concerns or red-herring issues raised by project opponents at very late stages. The Design Commission has also become less reactive than such boards often are, rationalizing public input into city projects and making sure design integrity does not fall victim to politics surrounding a site or project.

The Design Commission recently mediated the dispute-ridden process that has slowed progress on the city's new \$66 million City Hall. This most public of public buildings has generated an immense amount of debate, even by Seattle standards. Marilyn Brockman, AIA, managing principal at Bassetti Architects, stopped counting the number of public

"EDUCATING THE PUBLIC CAN RAISE THEIR ASPIRATIONS," SAYS MARK ROBBINS, NEA'S DIRECTOR OF DESIGN.

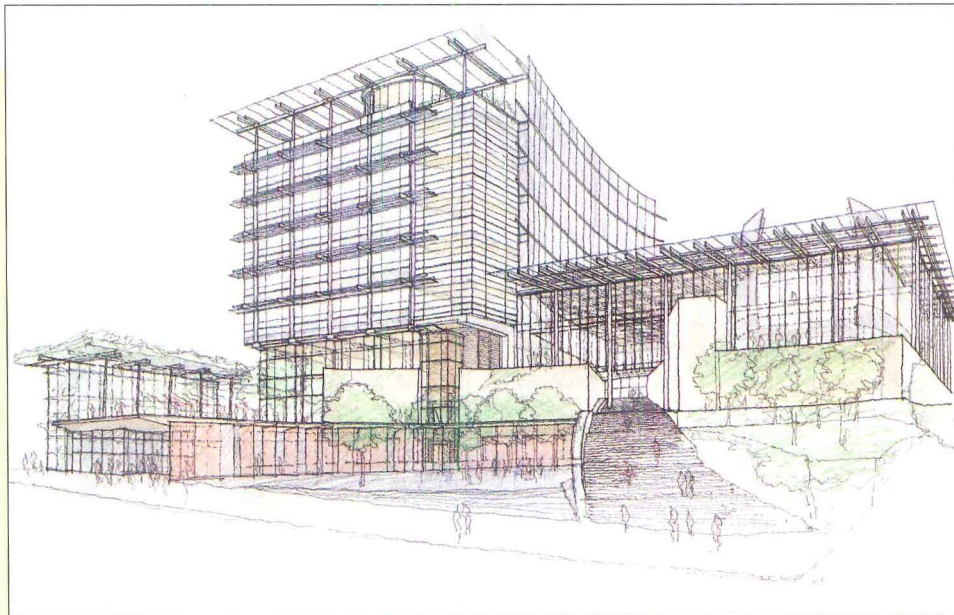
meetings "somewhere after 50." (The project is a joint-venture design of Bassetti and Bohlin Cywinski Jackson.) With the City Council, the commission urged design principal Peter Bohlin, FAIA, to take the schematic design back to the drawing board when a number of disputed areas remained unresolved. After 16 months and three major revisions, the result is a building that the design team, the Design Commission, and the City Council blessed with concept approval in mid-January.

Washburn also learned that architects can successfully balance the interests that inevitably accompany complex public works. "Sometimes you have to go back to the community and say why we're doing one thing when they had said they wanted something else." But he found that the architect's vision—in three dimensions—can often prove persuasive.

Is the public process worth the cost?

Do all the boards, facilitators, and dozens of public meetings pay off? Evan Rose, of SMWM, defends today's consultative approach. Not only does the architect receive useful information not found in client programming documents, but "unanticipated controversies can bog down projects," he explains. "Three months of intensive community process saves time and money in the long run."

A few key strategies go a long way in assuring architectural quality throughout a public project. A project lacking a realistic program,



It took 16 months and three major revisions to gain concept approval for Seattle's new City Hall, a joint-venture design of Bassetti Architects and Bohlin Cywinski Jackson.

budget, and schedule—including an honest assessment of resources needed for a constructive public process—is much more likely to run aground on the shoals of shattered expectations. Architects are often in a unique position because they understand what is essential to a quality project. "When you have a fundamental vision," says Washburn, "you know what's negotiable."

Clients often say that the architect's attitude is crucial to the success of the project. Architects who take seriously their responsibility to educate citizens win trust and respect. They recognize that the everyday argot of the architecture office can be incomprehensible to citizens. People gain trust in architects who help them understand what all those lines on plans and sections mean. Architects successful in the public process listen, show that they understand the concerns, and respond constructively without being defensive.

Even the most sensitive architects cannot win all the public battles. Sometimes the loudest or most influential people simply hijack the process. "We need to be better at drawing the line," says John Rahaim, "to say 'we hear what you are saying, but we have to agree to disagree.'"

"Architects should never underestimate their ability to affect the social fabric of a city," says Goldsmith. "Carefully orienting an entrance can enliven an entire neighborhood." The public process will always demand compromises on the part of architects, however. This is the nature of hyper-democracy. As Mark Robbins notes, experience shows "that engagement with social concerns and good design are not mutually exclusive." ■

Melrose Community Center

Bronx, New York

1

AGREST AND GANDELSONAS ENRICH A LANDSCAPE OF BRICK PUBLIC-HOUSING TOWERS WITH BOLD, GLEAMING FORMS.

By Suzanne Stephens

Architect: Agrest and Gandelsonas Architects and Wank Adams Slavin Associates (for A&G)—Diana Agrest, AIA, and Mario Gandelsonas, AIA, design principals; (for WASA)—George Gianakopoulos, AIA, partner-in-charge; Stan Fabiszak, Ed Bredow, AIA, project managers; John Crellin, project architect

Client: New York City Housing Authority, David Burney, director of design and capital improvement; Hugh Spence, Department of Community Operations

Consultants: Severud Associates (structural engineers), Wank Adams Slavin (MEP engineers), Balmori Associates (landscape), Design 2147 (code)

Size: 20,000 square feet

Cost: \$6.5 million

Completion date: February 2001

Sources

Structural system: Mark & Son Metal Products

Masonry: Trenwyth

Metal-and-glass curtain wall: Kawneer (curtain wall), Mantech (custom preformed metal panels), Englert (custom standing seam panels)

WWW

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

Program

Visibility, identity, and accessibility—these closely associated attributes shaped the design of a community center serving a lackluster group of uniformly high-rise, high-density, brick housing projects in the South Bronx. Sitting on a promontory-like corner site of 1.78 acres surrounded by Melrose, Morrisania, and Jackson Houses, the striking new center is conceived to serve the entire neighborhood. An average daily number of about 250 children and teenagers now can be accommodated for a variety of sports, music, and dance activities, as well as arts and crafts, photography, and computer workshops.

Solution

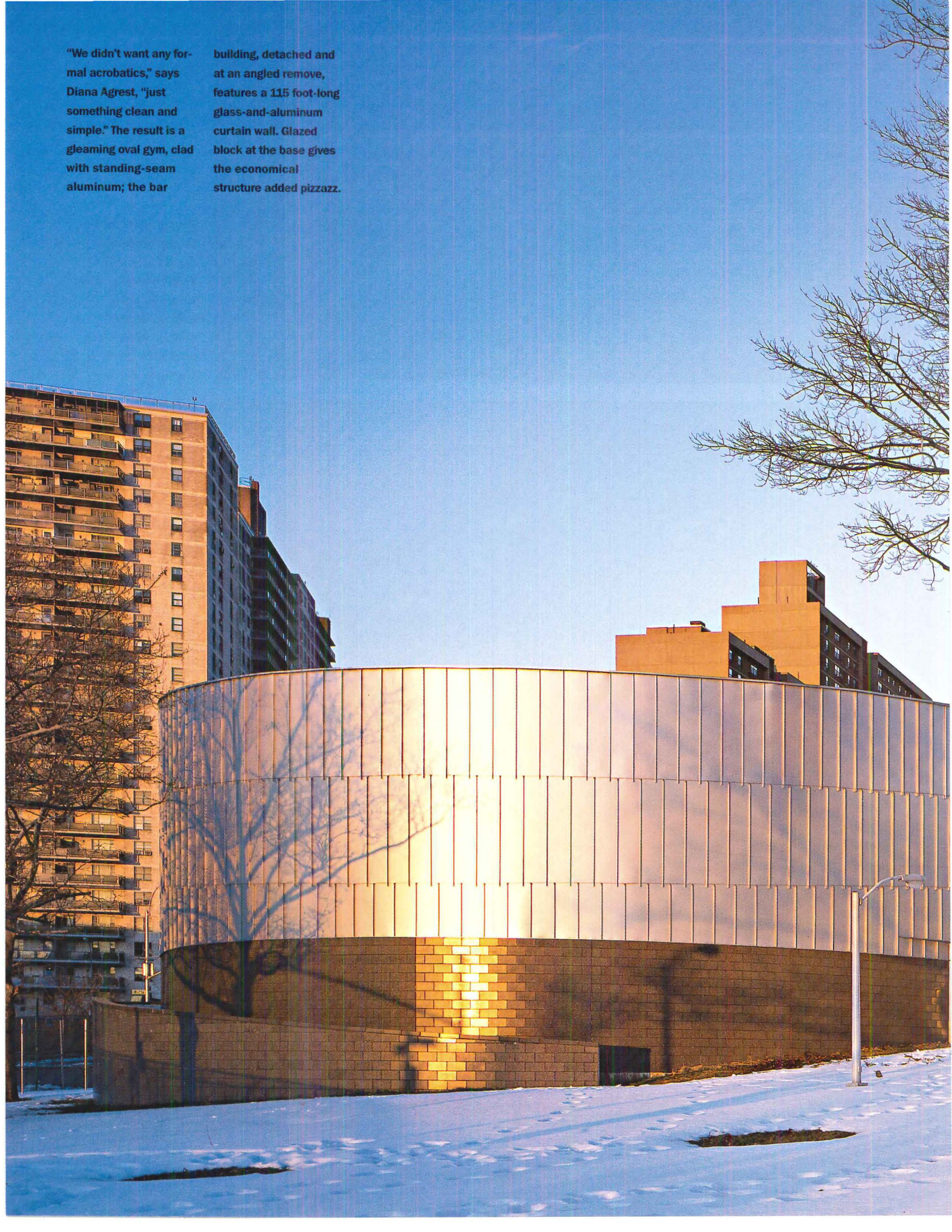
The architects, Diana Agrest, AIA, and Mario Gandelsonas, AIA (in a joint venture with Wank Adams Slavin), decided “big bold forms” were the answer. In both their design projects and theoretical writings, Agrest and Gandelsonas have explored how a building is “read.” They well knew, as Agrest puts it, that the center needed to “create an image of symbolic value that is easy to grasp.” “But we didn’t want to do a box,” she adds. The result is an oval and a bar. The gym is located in the solid elliptical element, while the meeting rooms, workshops, and offices are in the 168-foot-long bar-shaped form, sheathed along 115 feet of its front



PHOTOGRAPHY: © DAVID SUNDBERG/ESTO

"We didn't want any formal acrobatics," says Diana Agrest, "just something clean and simple." The result is a gleaming oval gym, clad with standing-seam aluminum; the bar

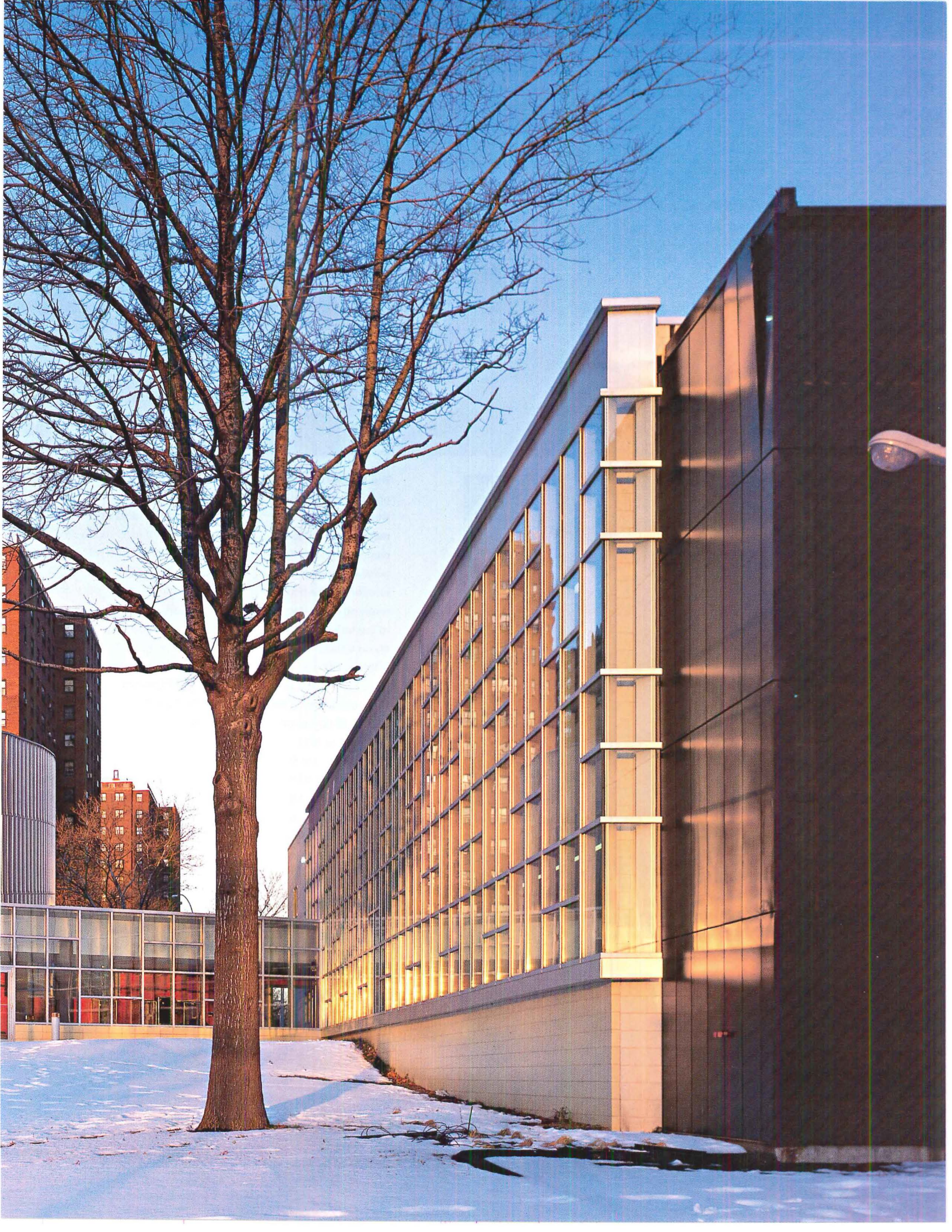
building, detached and at an angled remove, features a 115 foot-long glass-and-aluminum curtain wall. Glazed block at the base gives the economical structure added pizzazz.

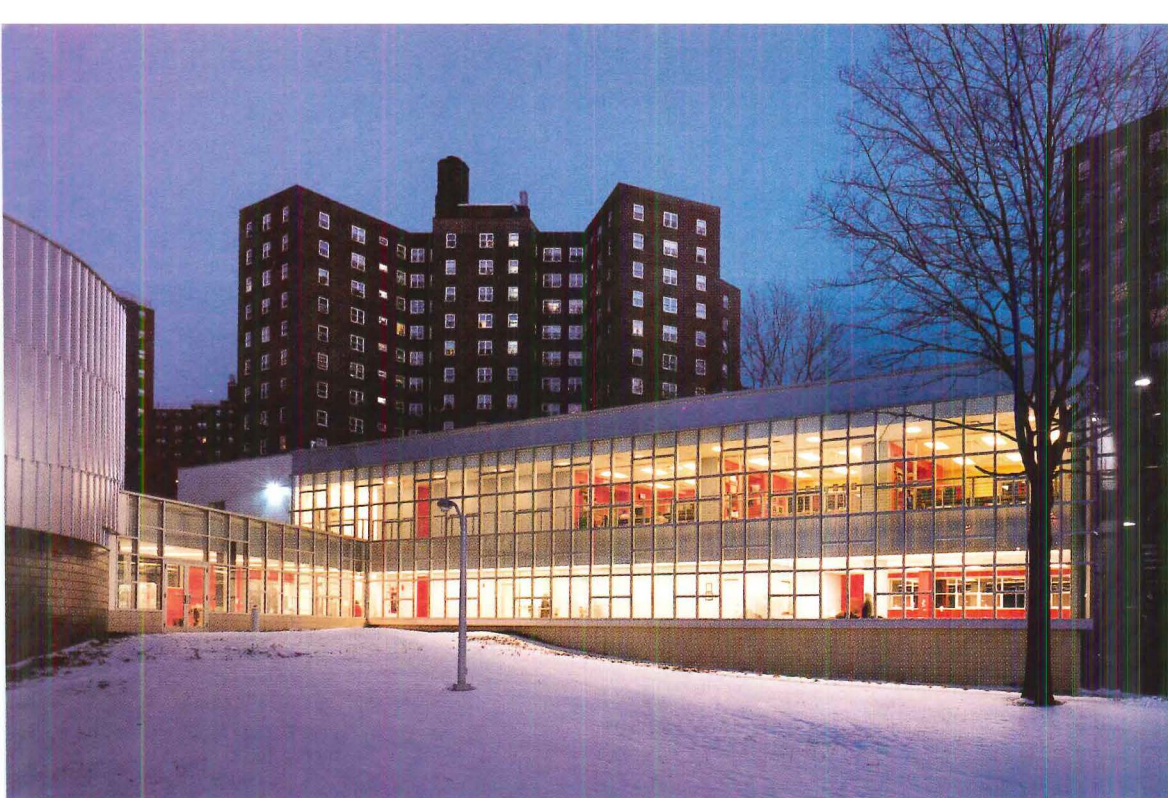




The Melrose Center (whose name may change after a neighborhood contest) serves Melrose, Morrisania, and Jackson Houses at a busy intersection in the South Bronx.







face with a glass-and-aluminum curtain wall.

“These large simple shapes hold the site,” Agrest notes, pointing out the placement of the elliptical form near the edge of the amorphous piece of property, and the bar’s alignment with a diagonal major street. “With the elliptical shape and the bar, we created an anchor that at the same time generates a sense of dynamism.”

Naturally, having so much glass in the two-level-high bank of community rooms allows plenty of visual access. But it does sound as if it would invite vandalism. David Burney, director of design and capital improvement for the sponsor, the New York City Housing Authority, says this isn’t necessarily so. He finds larger panes of glass are broken less frequently than smaller ones.

The Melrose Center program and design was developed with members of the local community, who did not want a fortresslike structure. “The people really seem to respond to the building,” says Mario Gandelsonas. “Already you see activity in there all the time.” The main entrance (left) to the center opens into a glass link between the bar building (above) and the gym. Inside the bar are offices and workshops for arts and computers, plus a multipurpose dining space.

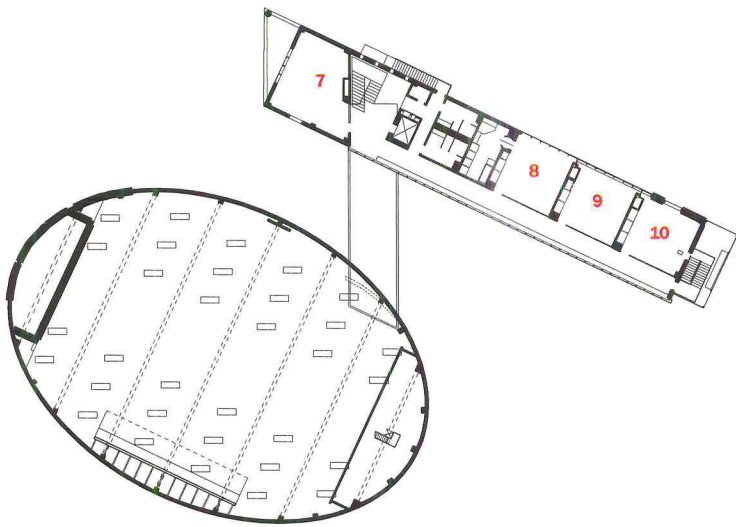
Structure and materials

The architects wrapped the gym’s steel-frame structure with standing-seam aluminum panels used for roofing, and concrete block. Inside, trusses are left exposed, and a mural is planned for the lower walls. Contrasting with the dynamically curved gym is the steel-frame and concrete block bar, dominated by a standard glass-and-aluminum curtain wall.

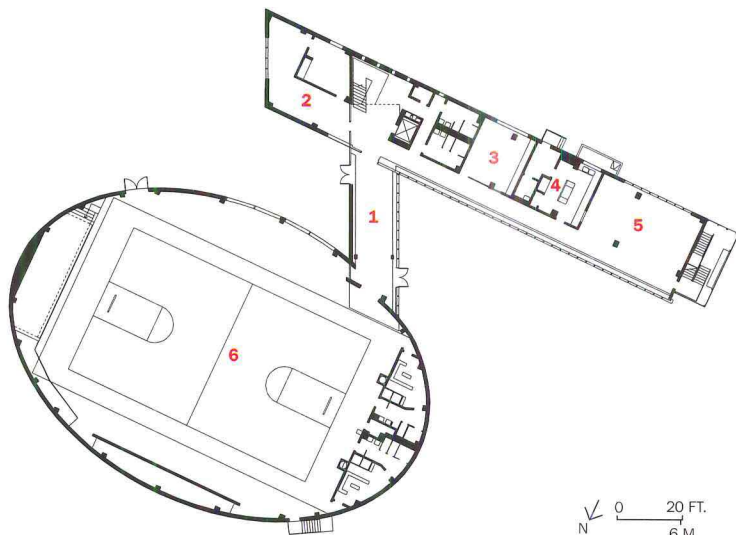
Commentary

The clarity of the forms, even though they are low-rise objects amid high-rise brick buildings, turns the center into an instant landmark. The use of gleaming aluminum and glass, along with colored glazed block and metal panels, jazzes up the place in an elegant manner. On top of that, the lucid separation of the program into distinct, simple forms, and the contrast of opaque and transparent materials effectively signal the different functions. Since the budget was tight, it is remarkable that the translation of design into built form has been achieved so successfully. Agrest, a hands-on architect, admits that the workmen may have been surprised by her persistence. “We had a good rapport. I wasn’t there to bother them—just to get things done.” ■





SECOND FLOOR



FIRST FLOOR

1. Entry
2. Administration
3. Library and computer lab
4. Kitchen
5. Dining and multipurpose room
6. Gym
7. Club room
8. Darkroom
9. Arts and crafts
10. Video studio

The exterior glass curtain wall, along with interior glass partitioning (above), ensures that light permeates the workshops, and provides a high degree of visual access for security. The slot of space between the outside wall and the balcony-like corridor enlarges the sense of space. The enclosed gym is topped by skylights (below).



Red Hook Center for the Arts Brooklyn, New York

2

HANRAHAN + MEYERS REMOVES THE "HOUSING PROJECT" STIGMA FROM AN INTIMIDATING GYM, TRANSFORMING IT INTO A NEW COMMUNITY CENTER.

By James S. Russell, AIA

Architect: Hanrahan + Meyers—Victoria Meyers, Tom Hanrahan, AIA, project designers; Sam Leung, Kevin Lee, Clare Lyster, Stefan de Bever, Jeeyoon Lim, project team

Client: New York City Housing Authority

Architect of record: Castro-Blanco Piscioneri Associates

Consultants: Silman Associates (structural engineering); Munoz Engineering (mechanical/electrical/plumbing); Micelli Kulik Williams (landscape architects)

Size: 22,000 square feet (existing); 6,000 square feet (new construction)

Cost: \$2.7 million

Completion date: 2000

Sources

Windows, entrance doors, skylights: Kawneer

Paint: Sherwin Williams

Lighting: Lightolier

Plumbing fixtures: Kohler

WWW

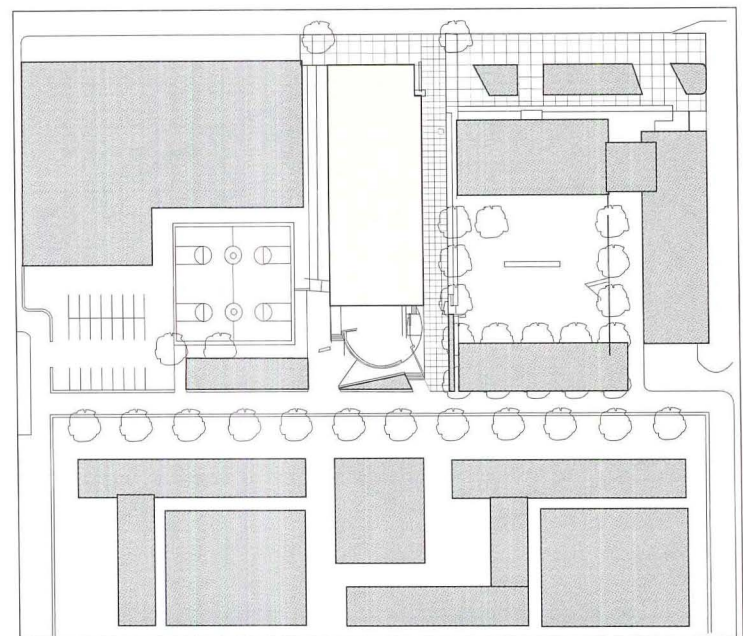
For additional community projects and more information on the people and products involved in this project, go to Building Types Study at www.architecturalrecord.com

Program

Civil War era factories, houses, and shipping facilities dot the Red Hook neighborhood in Brooklyn, but it's no sweetly restored enclave of cobblestones and Bishop's Crook streetlights. Instead, it is a long-neglected neighborhood, much of which is taken up by the massive Red Hook Houses, a 1939 public-housing project where 8,000 people live in more than 2,500 apartments.

Until recently, the grimness of the environment found little relief. At the edge of this 15-block tract, in the shadow of the Gowanus Expressway (a roaring, rusting, elevated insult erected in the 1940s), lies the project's recreation building. Once a foreboding red-brick lump, it has been transformed by Hanrahan + Meyers into a lively community gathering place. It is among the first of what the New York City Housing Authority hopes will be from 30 to 40 new community centers. (See page 130 for another new center.) "We have not been able to do any of these in 20 years," says David Burney, director of design for the Housing Authority. "They are extremely popular and long overdue. They offer a badly needed focus for a growing teen population." In one neighborhood Burney named, "your options are either to play in a gym or break into cars."

In early consultation with interested residents and commu-



nity leaders, it became clear to Victoria Meyers that making the facility open and inviting was a high priority. Since project youth can be looked on with suspicion by everyone from shopkeepers to school officials, "It is hard for me and my peers to imagine how intimidating institutions can seem to people," she explains. The severity of the existing structure, with a massive set of stairs rising half a level to an unwelcoming entrance, made matters worse. The upper level housed a gym, but the community wanted to move away from the perception that the only thing to occupy the largely black youth population was basketball. An alternative high school

that had used the lower level was relocated to allow new arts uses.

Design solution

The budget did not permit a tear-down or even a major remodeling, but the architects nevertheless approached the project ambitiously. They divided the building by conceptual prosceniums, planar elements defined by light (see analytical drawing on page 139). These architectural moments can be seen as "stages" for displays or performances, or merely as badly needed safe gathering places.

The limestone-clad entrance pavilion offers the clearest expression of the idea. It frames a scaled-up window wall, "present-



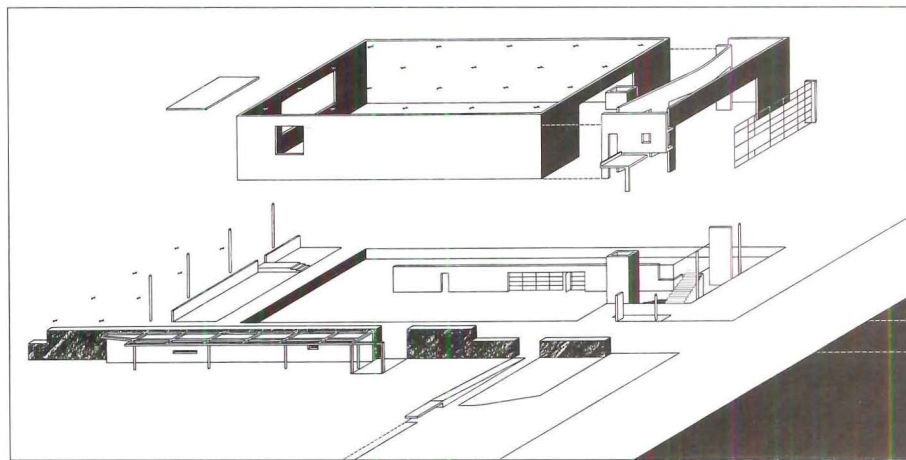
The Red Hook facility is intended to serve the enormous housing project that it fronts, as well as the surrounding neighborhood. Its limestone-clad entrance pavilion (north elevation left, east elevation below) offers a beckoning alternative to the window-barred daycare center next door.





Through large areas of glass, passersby can see a gallery (behind upper red partition, left) and people lingering at the entrance of the multipurpose space. Red paint under a skylight (opposite) dramatizes the way into the multipurpose space, which opens to the tree-shaded grounds (bottom).





Legend

- 1. Entrance pavilion
- 2. Office
- 3. Locker
- 4. Multipurpose
- 5. Indoor/outdoor stage
- 6. Outdoor seating
- 7. Walkway
- 8. Gallery

ing” to passersby the activity within. A terrazzo stair, suspended within the volume, activates the lobby space and allows daylight to penetrate the former dimness of the lower level. (It also houses an elevator, making the center accessible to the mobility-impaired for the first time.) A skylight mounted behind a curved partition creates an architectural membrane between old and new.

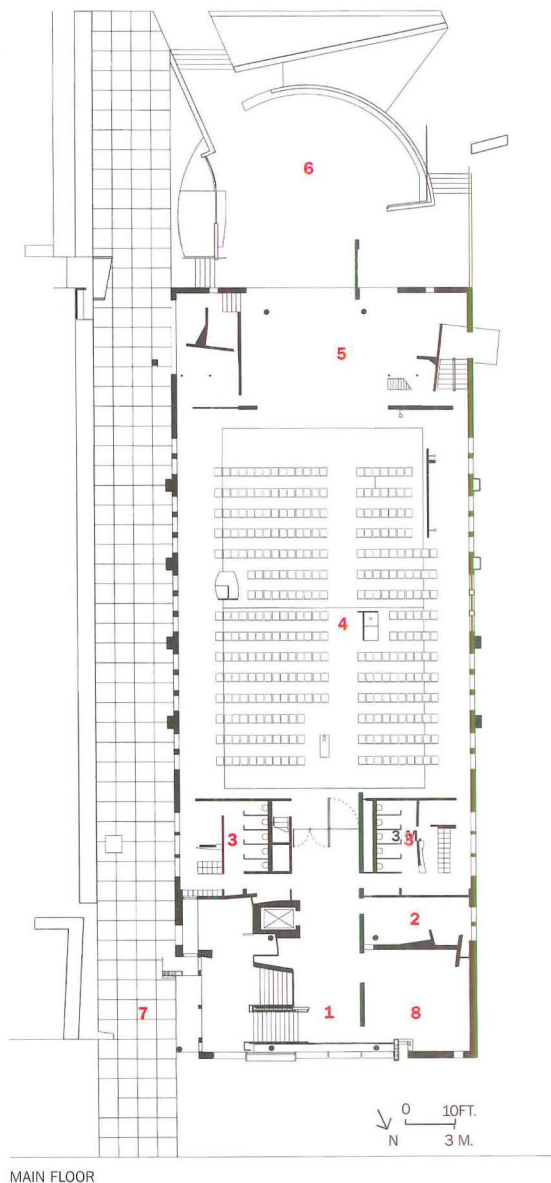
Within the renovated recreation space, the architects rerigged the stage, asserting its new importance by applying bright blue paint around it, and they created a monumental new opening in the rear. Outside the back of the building, a new seating area permits outdoor performances in good weather. For residents who had for decades faced the center’s blank back, the opening responds to a fervent wish.

Hanrahan + Meyers rebuilt the lower level to accommodate an arts-and-crafts area, a dining facility (many area children receive subsidized meals), a dance studio, and a library. A classroom will accommodate a new Housing Authority initiative to bring computers to youth whose families may not be able to afford them.

Although crime is dropping and the neighborhood is beginning to gentrify, such an open, appealing, and architecturally sophisticated structure might seem unduly idealistic. Its expression does serve important aims, according to the Housing Authority’s Burney. “When we do community centers, we want innovative design that gives them identity and draws people in. It’s an opportunity to break away from the relentless brick towers of public housing.”

Commentary

Credit the courage of the architects and the Housing Authority. The predominant image of city buildings has been barred windows and cornices of razor wire. However, such community-oriented projects will founder if not well maintained and well managed—not New York City’s strongest suit, traditionally. Even though the renovation was completed some months before press time, an as-yet skeletal program has invited vandals to prey on the building because it is so often empty. Instead of a beacon of hope, it could prove another symbol of good intentions gone awry. ■



Lawrence-Douglas County Community Health Facility

Lawrence, Kansas

3

GOULD EVANS ASSOCIATES OFFERS AN ARCHITECTURALLY WELCOMING FACE FOR PATIENTS SEEKING PUBLIC-HEALTH SERVICES.

By James S. Russell, AIA

Architect/interiors/landscape

architect: Gould Evans Associates—David C. Evans, AIA, principal-in-charge; Steven J. Clark, AIA, design principal; Steve W. Harrington, project designer; Steven J. Heilman, AIA, project manager

Client: City of Lawrence, Kansas

Consultants: Bob D. Campbell (structural engineer); Latimer Sommers & Associates (mechanical/electrical); Landplan Engineering (civil engineering); Yarnell Associates (lighting)

Size: 85,000 square feet

Cost: \$11.8 million

Sources

Brick: Endicott Clay Products

Cast stone: Architectural Art Stone

Exterior metalwork: A. Zahner

Roofing: Garland

Doors: Kawneer (entrances); VT Industries (wood); Elco (metal)

Ceiling system: Armstrong

Demountable partitions: Modernfold

Special surfaces: Duroplex, Polomyx

Resilient flooring: Mannington, Forbo, Eudora

WWW

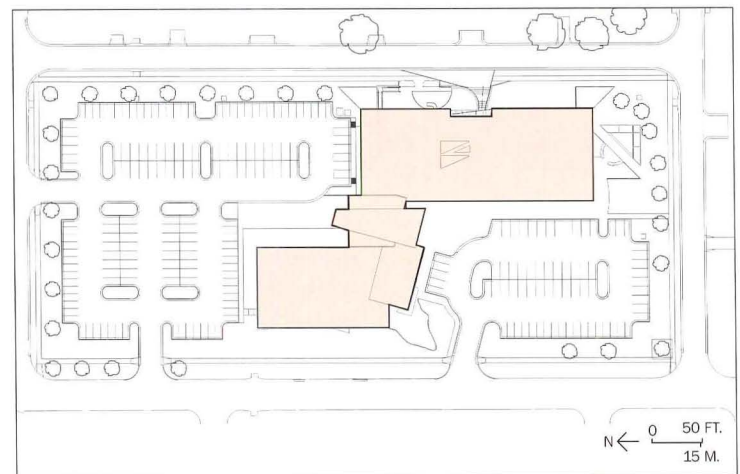
For additional community projects and more information on the people and products involved in this project, go to Building Types Study at www.architecturalrecord.com

Program

An architecturally rewarding experience may not be a top priority if depression holds you in its clammy grip or if you dread the results of an HIV test. And, comfort levels are hardly raised when you're faced with the fluorescent glare, battered dry-wall, and the plastic chairs scraping across vinyl tile found in many public-health facilities. Things are different at the Lawrence-Douglas County Community Health Facility in Lawrence, Kansas. Those seeking treatment stroll past a fountain into an airy lobby under a sheltering canopy.

The Douglas County facility is unusual in other ways as well. Not only does it present a welcoming civic face for services that many towns would rather not admit to needing, it also unites the services of four kinds of health providers. Housed within are the county health department and three quasi-public and nonprofit private agencies: the Bert Nash Community Mental Health Center, the Visiting Nurses Association, and Hospice Care of Douglas County. Flu immunizations and job training are offered, as are services for both frail elderly and troubled teens. At this community health facility, you can learn to cook, to cope with depression, or both.

It is perhaps more common for agencies with sometimes overlapping agendas to compete rather than cooperate. "We think we're pretty unique," says Marceil Lauppe, execu-



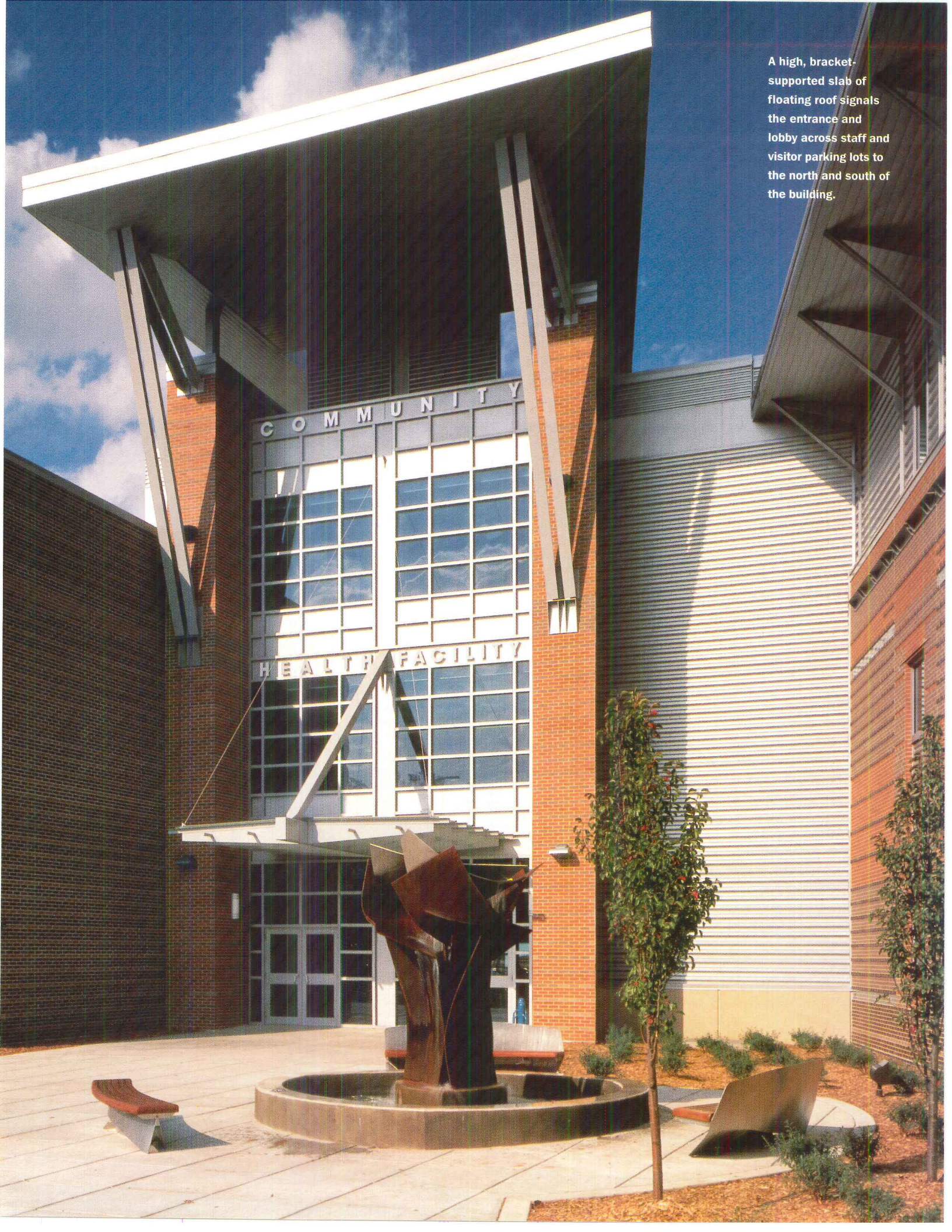
tive director of the Douglas County Visiting Nurses Association. "There's a great effort in the community to coordinate services, not to duplicate them." This history of cooperation precedes the agencies' building project, but it was not initially obvious that a new building was even needed. "We first went to the county commissioners about our parking problem," Lauppe recalls.

The subsequent discussion about cars overflowing onto neighboring residential streets led to a broader consideration of facilities' needs. "We were housed in an old building connected to the hospital," Lauppe explained. "We realized we had a space problem because Bert Nash had other rented or leased space and our agency was so crowded that we were going to have to lease space elsewhere. The discussion evolved to the consideration of a new building."

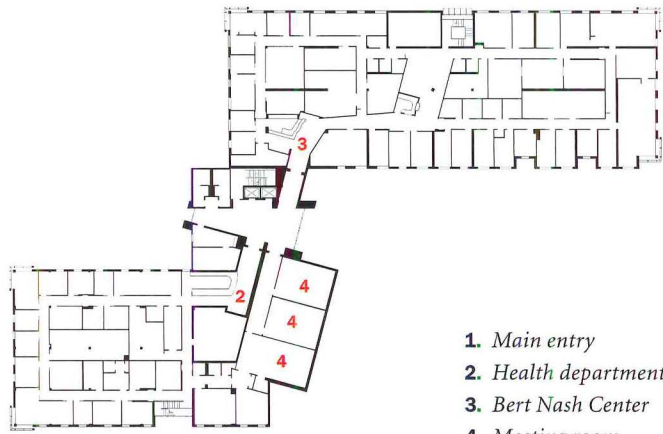
The county could only build the project if residents would approve a sales-tax increase to underwrite it. The proposal was packaged with a bond issue for a new jail and new community-recreation facilities. "We had to make the public aware of what the money would be used for," explains Kay Kent, director of the Douglas County Health Department. "We were fortunate that the public was willing to support the building."

Design solution

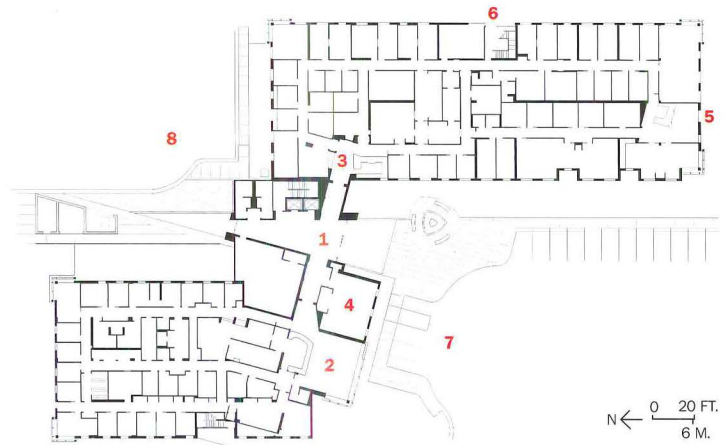
Lawrence-based Gould Evans Associates laid out the building to give it a singular civic presence while recognizing the individual identities of its client agencies. A racecourse plan in two parallel wings gives daylight access to much of the 85,000 square feet of offices, classrooms, clinics, exam rooms, and meeting spaces. The architects stacked the visiting nurses



A high, bracket-supported slab of floating roof signals the entrance and lobby across staff and visitor parking lots to the north and south of the building.

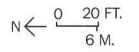


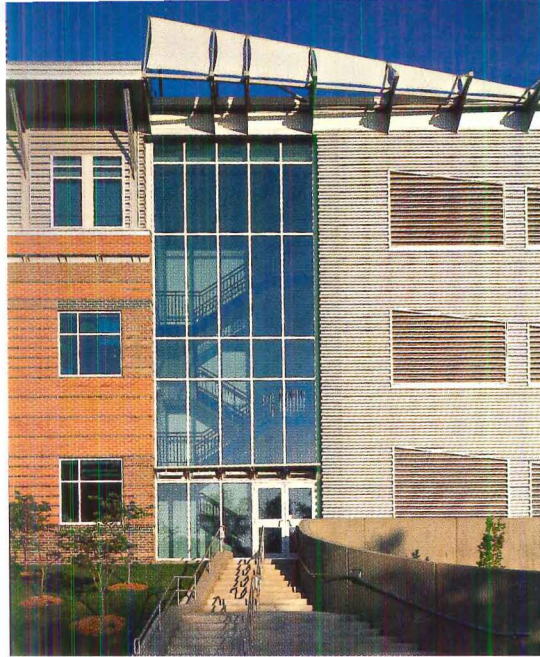
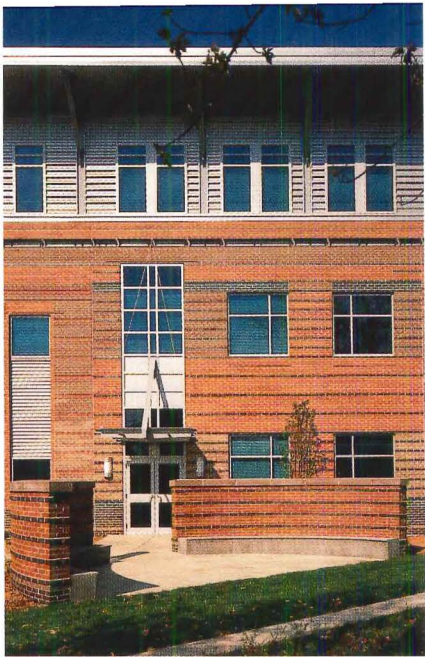
SECOND FLOOR



FIRST FLOOR

1. Main entry
2. Health department
3. Bert Nash Center
4. Meeting room
5. Adult entrance
6. Children's entrance
7. Visitor parking
8. Staff parking





New clients are drawn to the scaled-up main entrance (below), while regular users can enter through special entrances, one for adults (far left, with outdoor smoking area) and one for children (left, next to a small playground).





Among spaces shared by the health facility's tenants is a second-floor meeting room that can hold 225 people (left). Reception areas convey a sense of welcome through a creased ceiling, stained-plywood paneling, and desks with metal insets (below).



and hospice agencies, which have the least need for public access, over two levels devoted to the Bert Nash mental health center. The Health Department occupies a separate two-level wing to the west but is joined to the other agencies by a wedge-shaped lobby. A skewed, two-story block contains meeting-room suites shared by all the agencies.

On the higher wing, corrugated-metal cladding and brackets supporting a projected roof extension suggest the more domestic, home-based nature of the visiting-nurse and hospice services housed within, says Steve Clark, design principal at Gould Evans. The architects brought a more inviting texture to what could otherwise have seemed a collection of mute boxes through recesses in the walls of the higher wings and alternating bands of brick, metal, and glazing.

Since some mental health clients require separation or seek anonymity, a narrow canopy, suspended by cables and a sheet-metal strut, signals a separate entrance for adults returning for treatment or counseling. Before entering, smokers may pause at a semicircular masonry bench built to accommodate them. A children's entrance opens discreetly off the eastern side of the structure. Outside lies a small playground. "The agencies were predisposed to the need for privacy by someone coming in for counseling or an HIV test," says Clark. "They want people to feel comfortable about getting services

even if they can't pay for them."

The designers also developed functional efficiencies through the sharing of parking, rest rooms, meeting rooms, and central mechanical systems. Some advantages to uniting the agencies became obvious only after move-in, however. "We share a lot of clients with the visiting nurses," explains Kay Kent. "Yes, we can pick up the phone," she adds, "but sometimes it's important for care managers to talk face-to-face with care providers. Or a teen in our parenting or pregnancy program may need services from Bert Nash. It's so much less scary to them if one of our workers can just walk them over."

Commentary

The modest yet thoughtful efforts embodied in this community health facility are a rarity in spite of evidence that inviting facilities can overcome the fear induced by, say, a pregnancy test. Especially when it comes to mental health services, getting people to use those services can prove to be among the most critical steps.

The Douglas County project does not try to fade into the cityscape, nor does it apologize for its function. Its handsome exterior detailing invites public use and inspection. Although the architects deployed the usual serviceable combination of dropped ceilings, drywall, and carpet in the interiors, there are also appealing touches—skylights here, an attractively creased ceiling there, handsome, pendant-mounted downlights in the meeting room—all of which staff members appreciate.

One of the Bert Nash center's recent events was a public forum featuring Robert D. Putnam, author of *Bowling Alone: The Collapse and Revival of American Community* (Simon & Schuster). Putnam writes of the withering of institutions that once created solidarity in towns and cities alike. Douglas County has shown how to build ties that bind through bricks and mortar. ■

A Brilliant Shell Game at the British Museum

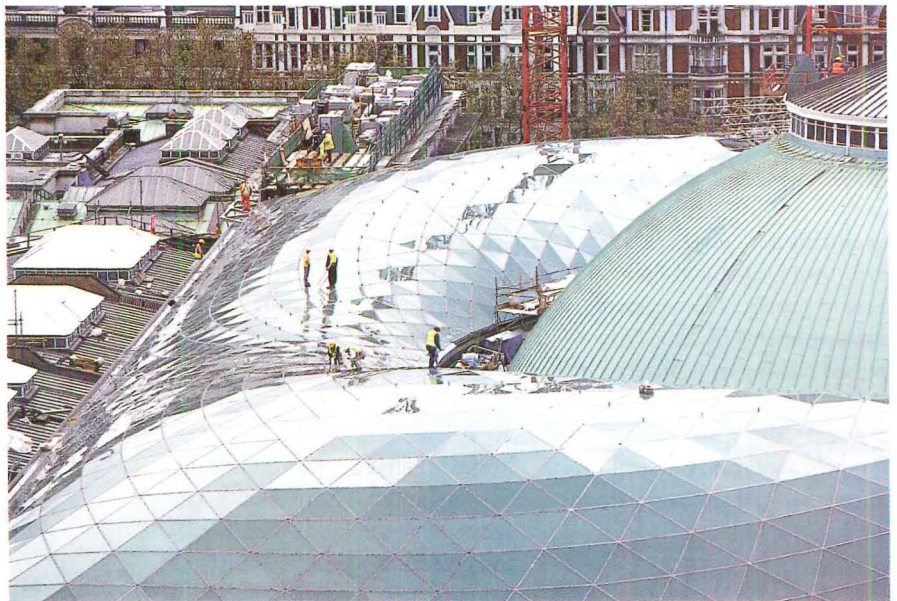
IN AN ENGINEERING TOUR DE FORCE, BURO HAPPOLD DRAPED A DELICATE CANOPY OVER FOSTER'S RESTORATION AND REDESIGN OF THE GREAT COURT, CREATING EUROPE'S LARGEST COVERED COURTYARD.

By Sara Hart

Sitting in the legendary Reading Room of the newly opened Queen Elizabeth II Great Court at the British Museum, Buro Happold engineer Stephen Brown demonstrates the structural forces at work on the massive glass-and-steel roof, which covers the two-acre courtyard. He takes a business card and bends it into a segmented arch. With his index finger he secures one end of the arch, and with the other index finger, he presses down on the apex. The unsecured end pushes outward as the arch deflects. The secured end resists the load. Such a simple demonstration, and yet it reveals the mechanics that governs what appears to be a dazzling magic trick.

Buro Happold worked with Foster & Partners on the winning competition entry to develop the Great Court (see page 114). Its role was then expanded from the roof to include all structural, fire, and building services, as well as engineering and planning supervision for the multilayered project. Brown led the engineering team for the Great Court restoration and the expansion below it for a new educational center.

Norman Foster envisioned a lightweight, transparent shell springing from the drum of the domed Reading Room and resting on the walls of the existing quadrangle. Designing a canopy to span between a circle and a rectangle over a 230-by-328-foot courtyard was a computational and geometric feat in itself. The project was made



In April 2000, workers installed glass panels on the undulating, spiraling steel grid. The roof spans the Great Court without disturbing Sydney Smirke's famed domed Reading Room.

more difficult by existing conditions and height restrictions. The famous circular Reading Room, designed by Sir Sydney Smirke, is 140 feet in diameter and rises 102 feet from the floor to the lantern of the dome. Built of cast and wrought iron, it was considered an adventurous design in the 1850s. A frame of 20 iron ribs was clad externally with a brick drum pierced by large arched windows between the ribs. According to Brown, "In overall structural terms, the Reading Room is a braced shell in which the iron framing and the brickwork provide mutual restraint and support." Endoscopic tests showed that the structure of the Reading Room was too brittle to endure any movement from lateral loads applied. As a matter of fact, Brown judged the tolerance to be no more than half an inch.

A heavy load

Demolition of the courtyard to create basement levels and new foundations required surgical precision in order to avoid any displacement of the fragile Reading Room. Tight site conditions made the use of standard piling rigs impossible. Instead, a jet grouting system was employed. Constant real-time monitoring of the vibrations allowed the contractor to make adjustments throughout the process. In the end, the final displacement was less than $\frac{1}{8}$ inch.

A similar problem regarding lateral loading occurred at the quadrangle facades, which enclose large open galleries with few load-bearing walls to brace the exterior walls. Therefore, these massive facades



CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 210 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Describe the structural support for the glass courtyard roof.
2. Explain the structural composition of the existing dome and gallery facades.
3. Describe the problems that can occur when supporting a roof on the existing perimeter facades.
4. Describe how the glass was designed to block out solar radiation.
5. Explain the structural composition of the roof.

WWW For this story and more continuing education, as well as links to sources, white papers, and products, go to www.architecturalrecord.com

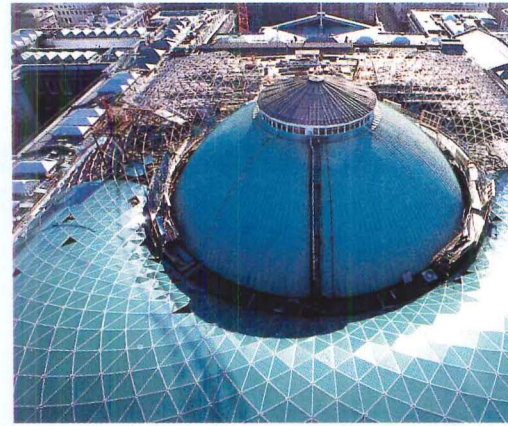


Sightlines of the famous Reading Room dome (above, left) were maintained after the Great Court canopy



was erected. During demolition, the exterior of the Reading Room (above, right) was revealed for the

first time in 150 years. Sydney Smirke's innovative use of cast iron is apparent in this 1855 photo (below, left).



essentially have no lateral support. They support only the vertical load of their own weight and the static load of the roof. Brown had to consider how to support the perimeter of the glass canopy on the walls without creating lateral loading. "Any lateral loads [from the roof] would have caused racking and collapse," he explains.

Creating the grid

Happold's solution is ingenious. The finished shell is a continuous torus, which many have described as a square doughnut cut horizontally. The



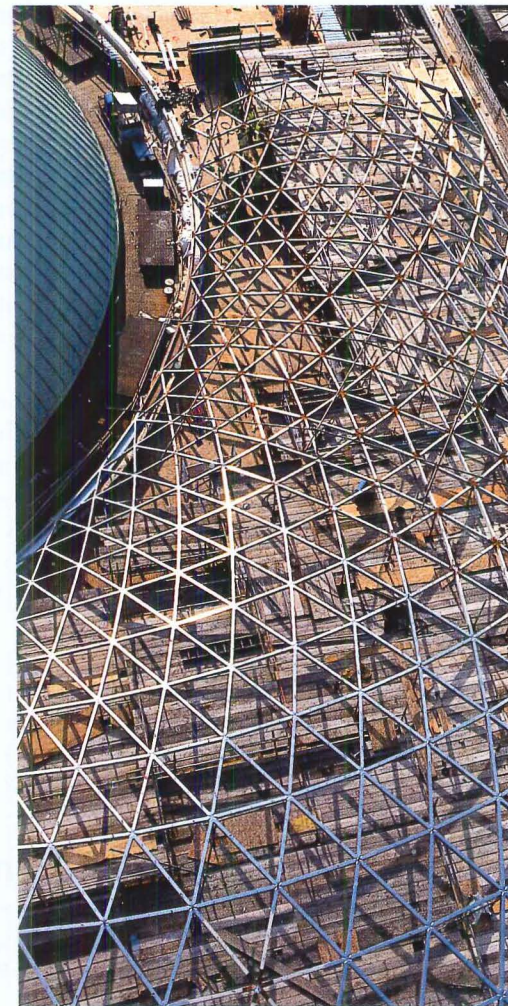
shape of the dome is due in part to height restrictions. Because the copper-clad dome is one of London's classic landmarks, the city required existing sightlines to be maintained. This limitation resulted in a toroidal shape instead of a more conventional arch.

The roof's shell structure spans in three directions from the four sides of the quadrangle on to a new seven-foot-wide reinforced concrete slab, identified as the snow gallery, topping the drum of the dome. The gallery is supported on sliding bearings so that it floats

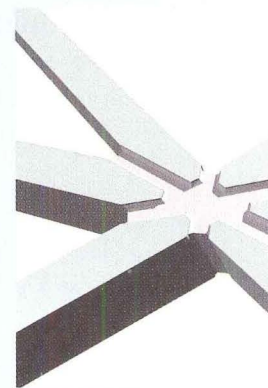
above the Reading Room and is supported by 20 new concrete-filled tubular steel columns, which circle the Reading Room and carry the roof load to the new foundation. Therefore, no additional load is applied to the Reading Room, and the columns are hidden behind the Spanish stone cladding of Foster's elliptical facade.

Happold used sliding bearings as well on the quadrangle facades. They allow the roof to spread laterally under load, perpendicular to the relevant facade, and independent of the facades. "This freedom means that for the roof to hold its form, the outer radial members near the perimeter quadrangle must work in bending and compression," he explains. "The structure is further stiffened with a tension cable across each corner."

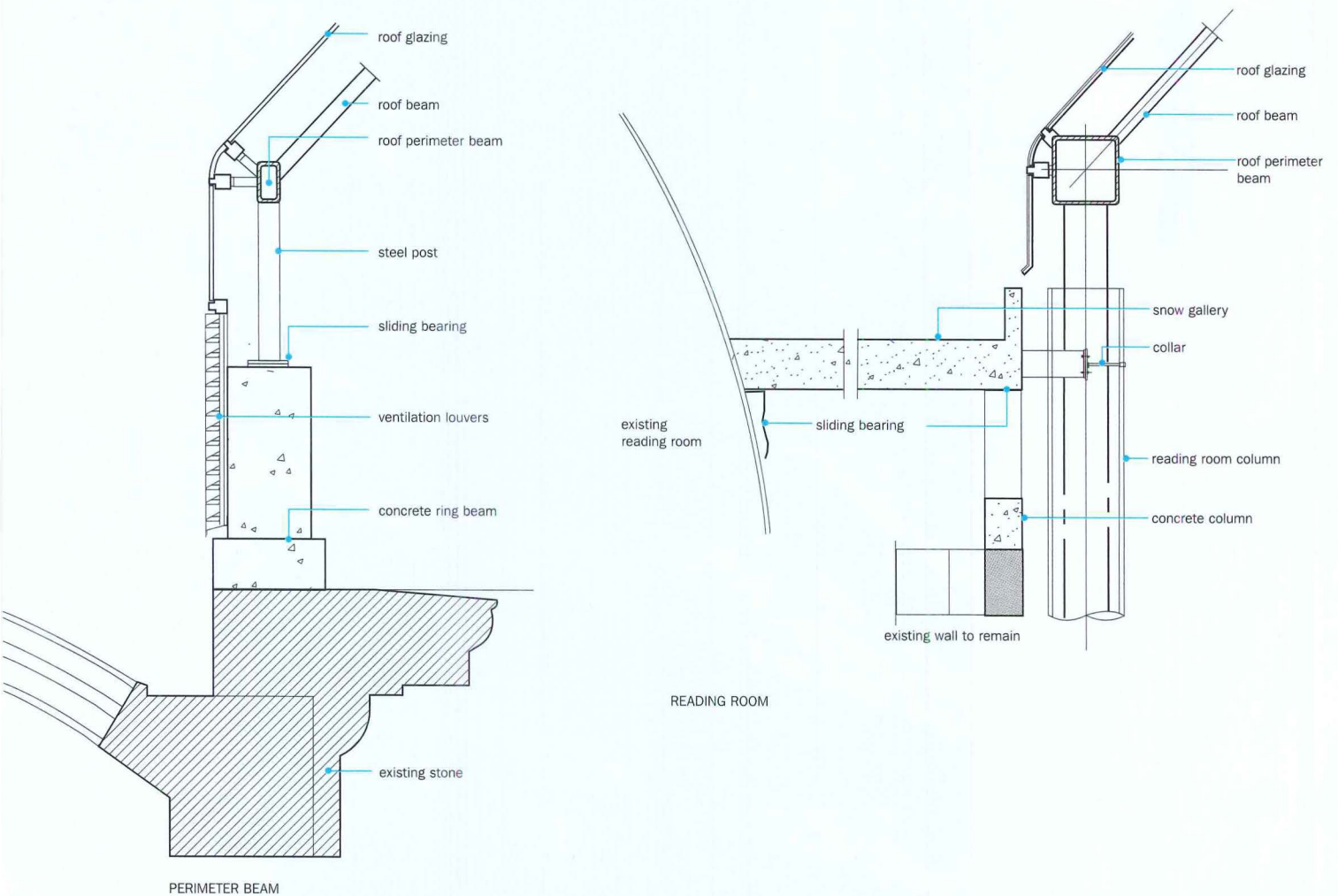
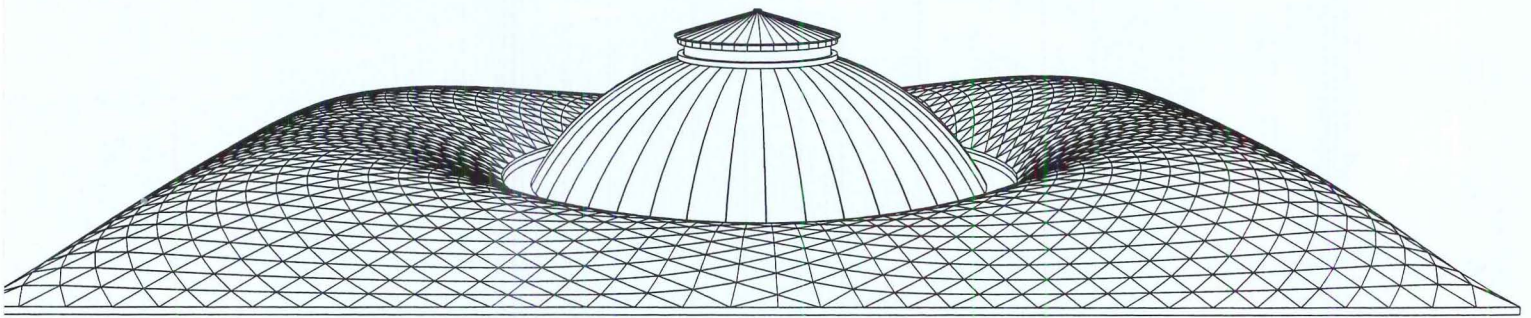
Cross bracing occurs behind each of the four porticoes working parallel to the relevant facade. "At the center of each side of the roof,



PHOTOGRAPHY: © WILLIAM LAKE PRICE/BRITISH MUSEUM (LEFT)



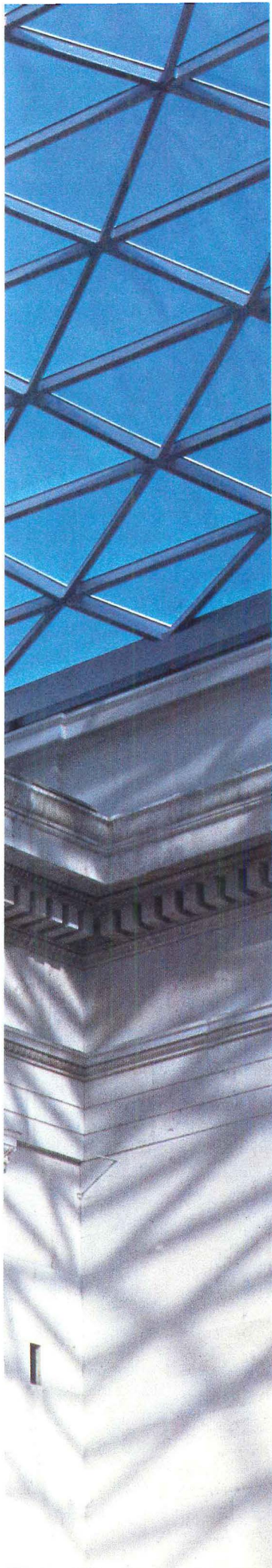
Typical node joining six steel sections



The roof is supported on 20 new columns placed around the exterior of the Reading Room and on sliding bearings on the quadrangle facades, which allow for natural movement and even

distribution of the load. Covering 65,000 square feet, the roof is constructed of 478 tons of steel and 315 tons of glass. Six thousand steel members were welded to 1,826 nodes to form a spiraling grid.





Foster clad his elliptical cylinder (left) with Spanish stone in a simple stacked bond. The four porticoes in the quadrangle were repaired and restored. Rebuilding the south portico took 2,000 tons of stone. The highest point of the roof (above) is 86 feet above the finished floor.

behind the porticoes, the lateral spreading movement of the roof is one-directional, normal to the line of the facade,” says Brown.

Happold initially calculated the geometry of the roof using standard static, or linear, computer programming. Such programming considers the structural integrity by examining the gravity effects alone. To study the deformation, a custom dynamic, or nonlinear, program was developed by Chris Williams, a consultant to Happold and a mathematician at the University of Bath. Using a program that described the overall shell mathematically, engineers could modify it and study the consequences of each change.

The roof’s structural grid is formed by radial, hollow steel sections (box beams), spanning between the Reading Room and the quadrangle, which are interconnected by two opposing spirals so that the

THE ROOF IS ENVIRONMENTALLY EFFICIENT, CONSIDERING ITS TRANSPARENCY AND ENORMOUS VOLUME.

roof works as a shell. The grid size was determined by the maximum glass size available. For the roof to hold its form, the steel members near the perimeter must work in bending and compression. To achieve this, the steel sections increase in depth from about three inches at the Reading Room to about seven inches at the corners of the quadrangle. The spiraling elements are connected by 1826 structural nodes, to which six elements are welded.

Accurate welding was essential to avoid any possibility of brittle failures. To further reduce the risks, Happold specified Grade D steel rather than a lower grade that might contain impurities. This high-grade steel is often used for marine and offshore applications, rather than construction. The Welding Institute, headquartered in Cambridge, conducted extensive tests and prepared structural welding specifications for the engineers.

The roof is environmentally efficient, considering its transparency and enormous volume. Each of the 3,312 double-glazed panels is a

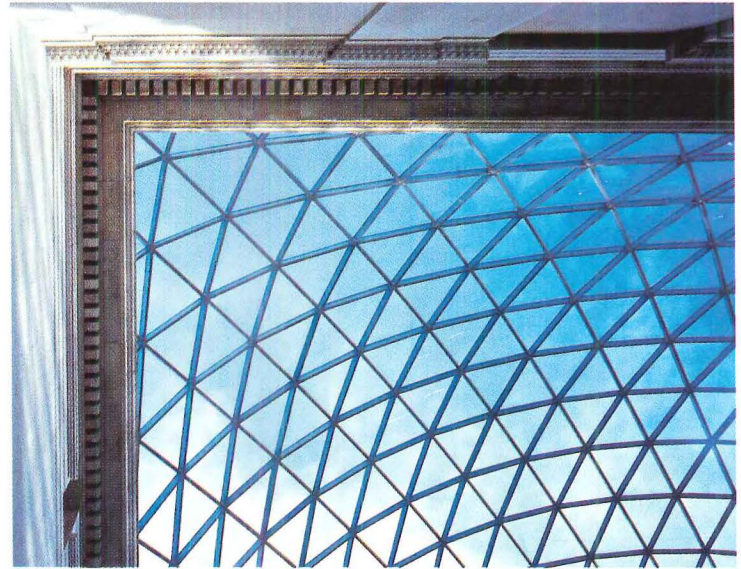
unique triangle. The top panel is tempered glass, while the bottom is laminated. The panels are lightly tinted and fritted with screen-printed dots over 50 percent of their surfaces. The eye still perceives a clear effect, even though the fritting blocks 75 percent of ultraviolet rays and reduces solar gain. Summer heat loads are managed by a custom perimeter ventilation system and augmented by natural and mechanical air circulation. Pipes under the French limestone floor of the courtyard deliver hot or cold air to the spaces. After the museum closes at night, fresh air is drawn in through mechanical plants below grade, and stale air is extracted through vents around the dome drum.

Workers assembled the roof from a weatherproof construction platform raised 67 feet in the air by birdcage scaffolding. Waagner-Biro of

AS PREDICTED, THE ROOF DROPPED SIX INCHES, SPREAD 3½ INCHES, AND SETTLED ONTO ITS SLIDING BEARINGS.

Vienna (which also provided the steelwork for Foster’s design of the Reichstag) fabricated the steel sections, which were then assembled into 152 “ladder” beams over a period of six months by B&K Fabrications in Derby, England. Since there was little room on the site for inventory, the beams were transported to the forecourt of the museum and hoisted by giant cranes onto temporary props on the platform and welded to the nodes. During this process, the weight of the sections was transferred from the platform to specific points in the concrete foundation. The exact location of the structural nodes was known, and the props could be adjusted during the welding process. The result is a system of connecting steel members that is accurate to half an inch.

The installation of the glazing followed the steel erection.



The glass-and-steel roof appears to float weightlessly over the Great Court. The grid is made of 3,312 unique glass triangles fritted to reduce solar gain.

When glazing was completed, the props were carefully dismantled. As predicted and designed, the roof dropped six inches, spread 3½ inches, and settled onto its sliding bearings. At once grand and delicate, the roof over the Great Court is as innovative today as Sydney Smirke’s daring 19th-century Reading Room was 150 years ago. ■

A detailed description of the Reading Room restoration and a list of credits can be found at www.architecturalrecord.com.



AIA / ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article “A Brilliant Shell Game at the British Museum” using the learning objectives provided.
- ◆ Complete the questions below, then check your answers [page 210].
- ◆ Fill out and submit the AIA/CES education reporting form [page 210] or file the form on ARCHITECTURAL RECORD’s Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. What is the theory behind the arched glass roof that Stephen Brown was demonstrating?

2. What were the challenges of resting a roof load on the existing Reading Room?

3. What were the problems of supporting a roof on the existing perimeter facades?

4. How was the glass designed to block out solar radiation?

5. What is the structural composition of the roof?

Troubled bridge over water: Arup & Partners takes the bounce out of the footsteps

By now, the entire world is aware that London's much lauded Millennium Bridge, spanning the River Thames from St. Paul's Cathedral to the Tate Modern at Bankside, was abruptly closed 72 hours after it opened last June and remains so. As more than 80,000 excited people paraded across the pedestrian bridge that opening weekend, it began to sway, wobble, and bounce at the south and center spans, making for unsteady footing. By the third day, authorities closed the bridge to investigate the cause of these unexpected lateral and potentially dangerous movements.

The perilous journey began in December 1996, when architects Foster & Partners, sculptor Sir Anthony Caro, and engineers Arup & Partners won an international competition to design the world's longest pedestrian suspension bridge. Their design objective was to create a "fine metal ribbon by day, and a blade of light by night." They achieved this effect using a lateral suspension system with no vertical supports. Four cables on either side of the 13-foot-wide deck carry the bridge. These elements are attached to the deck by arms which, due to the shape of the bridge, are either above or below the cables. In the river, two elliptical concrete piers with steel prefabricated brackets support the cables. Cables are then anchored by abutments on the banks.

The bridge closing caused quite a lot of bad publicity for both architect and engineer, amplified by the media hype swirling around its opening. To begin with, this is the first bridge to cross the Thames in central London since the Tower Bridge opened over a century ago. Second, its closing echoed problems that have plagued several Millennium Commission public



The world's longest pedestrian suspension bridge, which closed shortly after opening last June, will reopen this fall.

works projects, from the much-maligned and unpopular Millennium Dome to the London Eye ferris wheel, which failed to open on time due to mechanical problems (since corrected).

In reality, the perceived crisis, while expensive to resolve, is not an engineering blunder. This London bridge is not falling down.

In its "Briefing Document on Investigations and Proposed Modifications," released to the public on September 8, Arup summarized the assumptions behind the original design. The report cites video footage on opening day, which revealed that "individuals tended to start walking in step when conditions got extremely crowded. This synchronizes the lateral forces from individual pedestrians and causes the bridge to sway in sympathy."

"Soldiers break step" is a command associated with footbridges since time immemorial. Synchronized marching across a suspended platform causes dynamic loading, which, in turn, causes oscillation. If this is a funda-

mental condition, then why didn't the engineers anticipate the problem and design for it? They did, or rather they designed to the codes, which required that only vertical vibrations be considered. Not only did they comply, but they even increased the applied loading considerations by an additional 33 percent. What they didn't anticipate, however, was that the natural lateral modes of the vibration would be similar to the sideways rhythm of footsteps.

To find a solution, Arup engineers investigated "crowd loading" in several laboratory tests and in field trials at the bridge, using pedestrians and creating an artificially induced sway. From these tests three possible solutions emerged: stiffening with heaving bracing and cords under the deck, damping to reduce the dynamic resonance of footsteps, and limiting the number of people on the bridge. The stiffening option was deemed too expensive. Limiting traffic was considered a last resort and public-relations nightmare,

which left dampening as the most reasonable approach.

Two types of dampening have been selected: viscous dampers, which work like car shock absorbers, and tuned-mass dampers, which use a large mass suspended beneath the bridge from stiff springs. Because the bridge is intended as an elegant landmark, appearance remains important. The viscous dampers will be the least visible, most likely attached under the deck at the piers. The tuned-mass dampers will be arranged at regular intervals between the underside of the deck and the top of the transverse arms and will be visible but discreet.

Tests of prototype solutions conducted in December have been approved by authorities. Funding has just been worked out, although details concerning liability have not been disclosed. The \$7.5 million correction project will begin in April, and the bridge will reopen in the fall. Then, all will be forgiven and forgotten, and London will have a landmark for the next century. *Sara Hart*

YOU DON'T HAVE TO BE FAMOUS TO CREATE A MASTERPIECE

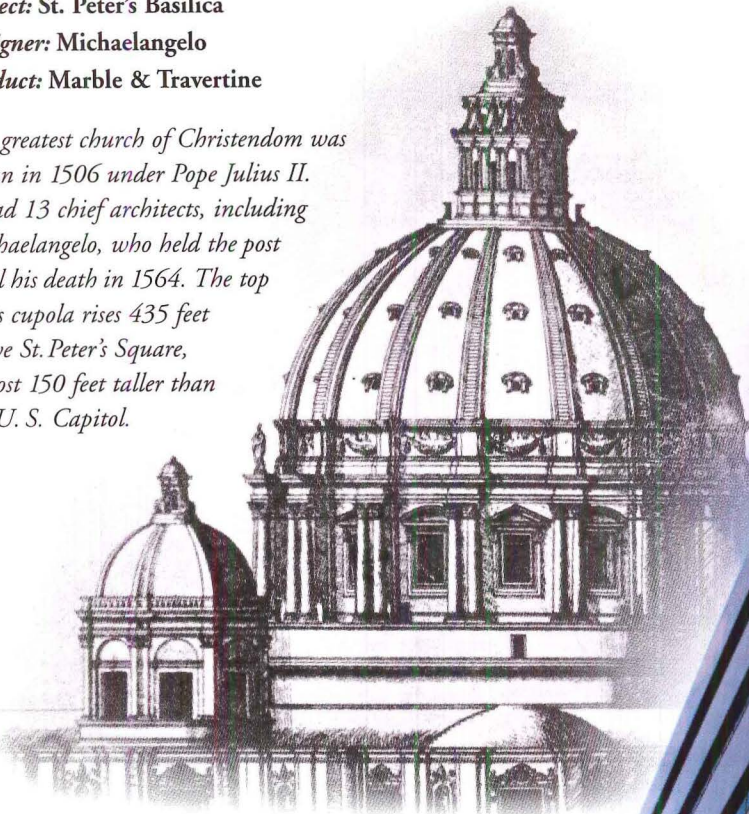
16th CENTURY STONE

Project: St. Peter's Basilica

Designer: Michaelangelo

Product: Marble & Travertine

The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.



21ST CENTURY STONE

Project: Capital Commons

Architect: Smith, Hinchman & Gryllis Associates, Inc.

Product: ALPOLIC® Red Granite

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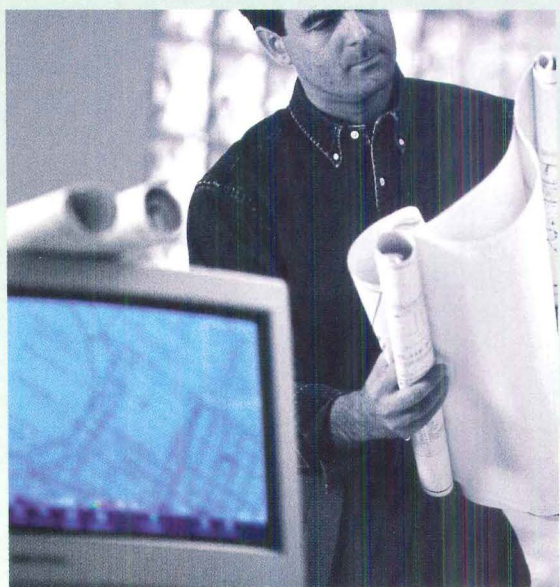
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CIRCLE 56 ON INQUIRY CARD



THE DIGITAL PRACTICE

Stop thinking of technology as **anathema**. Used the right way, it's **a means to an end**.



Let me be so bold as to guess why you read the digital practice section four times a year (and even its introduction. Wow. You're a diehard). It's not because you love computers. It's not because you fantasize about the latest release of AutoCAD. It's not because you blow your disposable income on doodle-pad software for your Palm Pilot. You read this section because you love to design. And you hope that what you learn in these pages will help you negotiate

the confusing array of gadgetry that, like it or not, is part and parcel of the modern workplace. Above all, you look to this section to discover the tools and products that will let you manage the business of architecture expediently, so you can get back to practicing the art of architecture, that thing you love to do: design.

This month, the feature article about image libraries presents digital options for the age-old problem of keeping track of photographs of completed projects. Anyone who has ever shuffled frantically through trays of slides in search of the right image for a proposal or brochure will appreciate the time and effort saved by storing and organizing images electronically. Our Digital Architect column turns to the topic of design collaboration and explains some Web-based tools that offer features most amenable for architects and their collaborators who work together during the design phase. I believe that both of these pieces, along with the latest news and software reviews, offer the kinds of information that will help you spend less time managing and more time designing your projects.

We do our homework when we choose which stories to cover, but I encourage you to help keep us relevant. If there's a topic you think needs attention in this space, we want to know. If there's a techno tool your office can't do without, or one that turned out to be a dud, we'd like to know that too. It's spring-training time, and a baseball analogy works here: Think of us as sign stealers, like the beleaguered 1951 New York Giants. We follow technology so you don't have to, so we can tell you when the fastball's coming high and tight. Your job is to hit the fastballs out of the park. That's what we want to help you do. Play ball. *Deborah Snoonian, P.E.*

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CIRCLE 59 ON INQUIRY CARD

Digital Briefs

A digital design firm offers high-end visualization services to architects • Interactive communication technology pays off during design

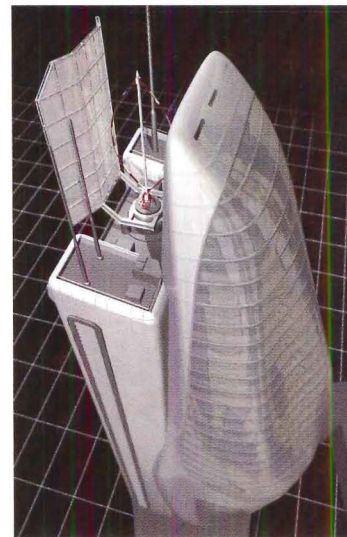
Virtual designers want to change the face of architecture

The worlds of digital and architectural design can make uneasy bedfellows, but one digital design firm founded by architects seeks to bridge the divide. In January, k+d.lab of New York introduced k+d.vis, a division that provides high-end architectural visualizations, including renderings, animated movies, and virtual environments. A second new division, k+d.post, offers post-production services, such as editing and sound design, making the company an end-to-end production house.

In its two-year history, k+d.lab has undertaken an ambitious mix of projects for both public and private clients. Working with Arquitectonica, they produced a multimedia video showing concepts for interior space, materials, and lighting for CYBERPORT, an information technology park to be built in Hong Kong. They were also hired by the U.S. Department of Energy to design visualizations for proposed energy facilities in California's Mojave Desert and New York's Roosevelt Island and Battery Park City.

High-end visualization has been met so far with cautious enthusiasm tempered by skepticism. The *AIA Firm Survey 2000/2002* indicated that more than one-third of firms use 3-D modeling and rendering software during design, but anecdotal evidence suggests few firms develop full-blown visualizations for their projects. Many firms balk at showing clients a polished-looking design early in the process, says Jerry Laiserin, technology consultant and *RECORD* columnist, because they fear discouraging client input and don't want to lock themselves into preconceived ideas. And budget constraints often preclude such efforts, which are sometimes perceived as add-on without being value-added.

Joseph Kosinski and Dean Di Simone, founders of k+d.lab, want to dispel these perceptions. "We think visualization will be used more and more in marketing architectural services. Firms will need it to sell clients on their ideas," they say. In their view, architects of the future will give



A proposed Battery Park City skyscraper, designed by k+d.lab.

clients virtual-reality project tours to make changes such as resizing skylights and moving walls; this will shorten design development and lead to the exploration of more design concepts and different forms.

Maybe and maybe not. As visualization continues to become more sophisticated and cost-competitive, its merits and drawbacks will remain a topic of debate for years to come. *Deborah Snoonian, P.E.*



The Shafter House, a digital dwelling conceived for a virtual movie set.

Firm combines communication technologies and gets winning results

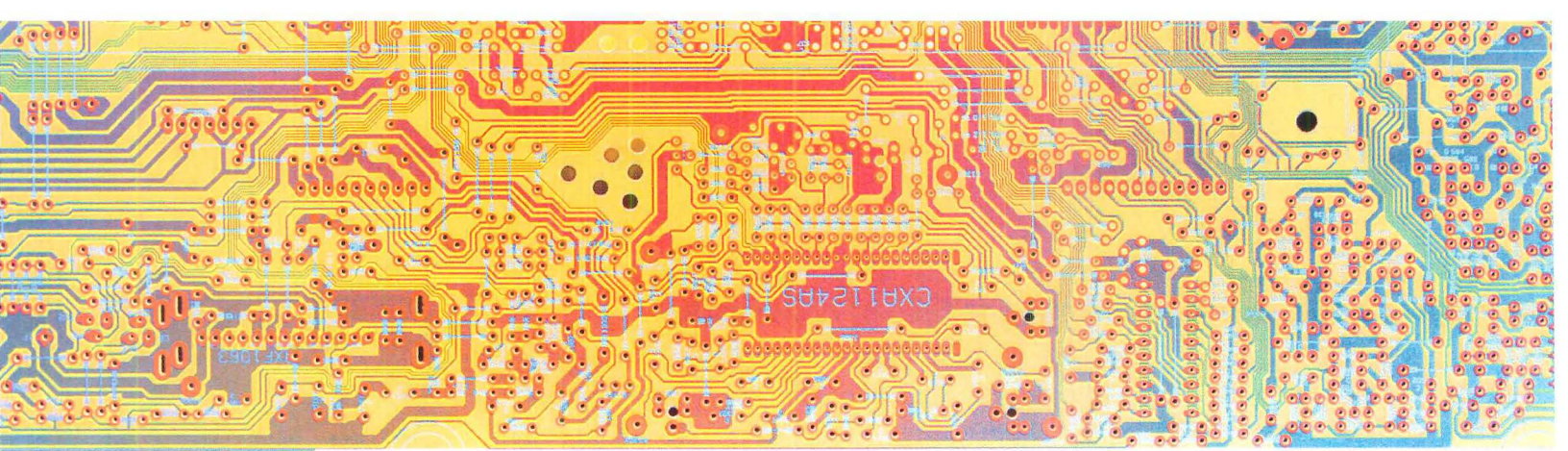
To date, the cost and technical complexity of communication tools such as video-conferencing and online meeting software have kept them out of architects' hands. Only 5 percent of firms have video-conferencing capability, according to *AIA's Firm Survey 2000/2002*, and a similarly low percentage of firms have Internet connections fast enough to conduct meetings online. But decreasing hardware and software prices, along with the potential for cutting project costs by using these tools, may give firms an incentive to invest.

Case in point: Hnedak Bobo

Group (HBG) of Memphis won an excellence award from the Professional Services Management Association (PMSA) in December 2000 for its innovative use of interactive communication technology. HBG and client Gaylord Entertainment, located 200 miles away in Nashville, used technology to curb travel costs when designing the \$300 million Opryland Hotel and Convention Center in Orlando. Each company invested in a SMART Board (www.steljes.co.uk)—an electronic whiteboard on which design drawings and other documents

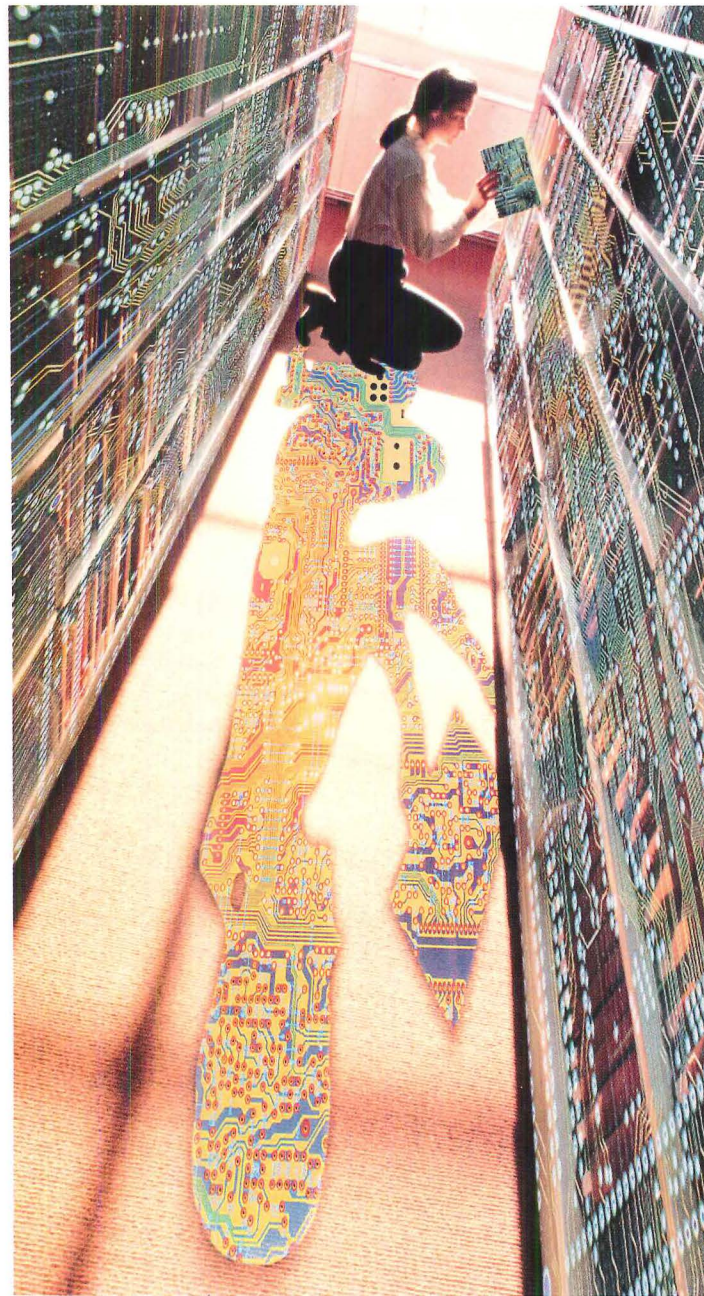
can be viewed—along with video-conferencing hardware, Microsoft's NetMeeting software, and a DSL Internet connection to increase the data transmission speed between the two offices. Using these tools, the project team held several virtual meetings during which both architect and client marked up design drawings, made notations, and altered project documents in real time—as if the meeting were taking place in person. The team reached consensus on major decisions much more quickly, and the firm saved over \$150,000 in travel costs during the four-year project.

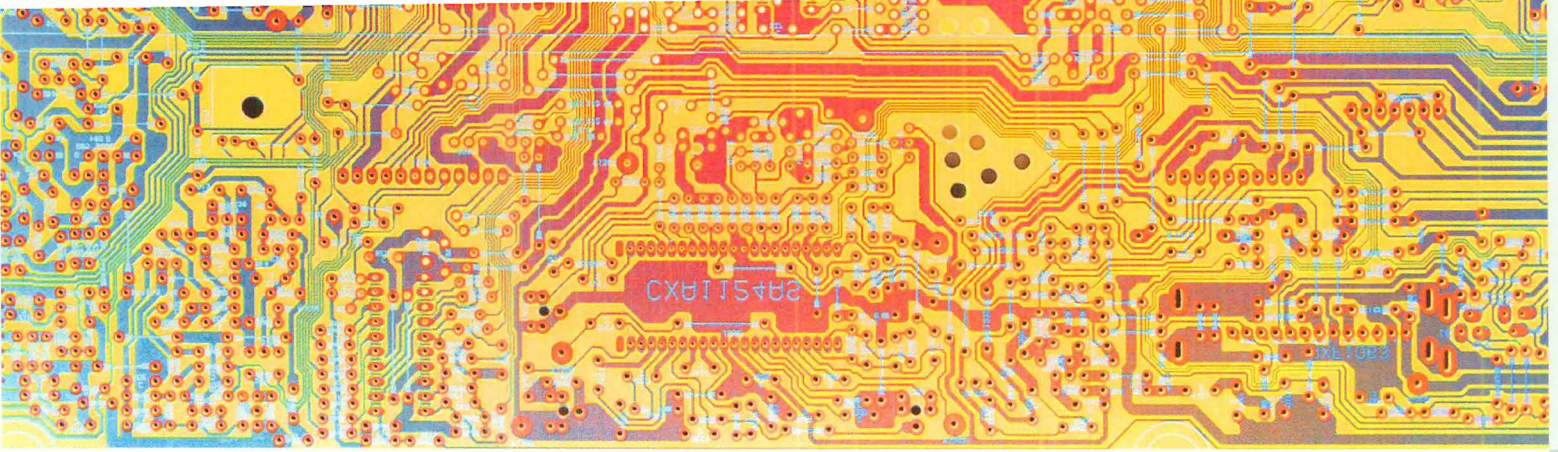
Investing in a technology solution required close collaboration: team members were trained to use the tools by technology staff from both companies, and HBG even set up an assistance hotline for the project. Firm leaders believe their investment will net them more work in the future. "HBG can tap into a larger client base now that our designers can interface with clients anywhere in the country," said HBG principal and co-founder Greg Hnedak. Case in point, once more: Gaylord retained HBG again to design a second Opryland Hotel near Dallas. *DS*



How to Manage Your Images (Literally)

Photographs of past projects are marketing tools you should protect like other assets. For some firms, digital image libraries are the solution.





By Deborah Snoonian, P.E.

Pictures may be worth a thousand words, but to architectural firms, which use high-quality color photographs to show off their best work, they're also worth thousands of dollars. Just look at a firm's overhead costs and you'll see a line item for photographers' fees, an expense that ensures each project is documented—literally—in just the right light. Whether printed in marketing brochures, presented in PowerPoint slide shows, or highlighted on Web sites, images of projects can make or break a firm's effort to define its style and win new business.

This begs an important question: How should firms preserve and manage images of past projects so they can be used for marketing efforts? For years, libraries of images—slides, negatives, and large-format transparencies—existed solely in hard copy. Lately, though, the digital library has become *de rigueur*, and for good reason: organizing images electronically can dramatically streamline efforts and trim costs for printing and electronic publishing.

Digital image libraries can be assembled and managed in various ways. No matter how large or small the collection of images, there's no silver-bullet solution that works equally well for all firms. But there are several options to consider, and a few rules to follow.

First do your digitizing

Firms that aren't storing images digitally right now probably ought to be. "There are several advantages to maintaining an electronic image library," says Jerry Laiserin, FAIA, a strategic consultant to architects on technology issues (and columnist for RECORD). He notes three main benefits: accessibility (anyone in a firm can search for and use images), flexibility (images can be printed on demand rather than in large quantities), and portability (images can be used for any purpose in both print and electronic media). To assemble a library, firms must invest in high-resolution color scanning of slides, negatives, and transparencies, and they must provide computer storage for the resulting files. "The

cost of these tasks has decreased by 90 percent or more in just the last five years," Laiserin notes. "This makes digital image libraries more affordable for midsize and small firms."

Images should be scanned at resolutions and saved in file formats compatible with their end uses. For instance, for four-color offset printing—the standard printing method for brochures and other high-quality print media—images should be scanned at a high resolution (at least 300 dots per inch, or dpi) and, generally speaking, should be saved in TIFF format, which provides enough color and contrast information for files to print clearly. The higher the resolution of the scanned image, the larger the resulting file, so firms wishing to minimize the amount of computer storage needed for their libraries should be careful to do high-resolution scans of only those images they know will be used in high-quality printing. Images to be used in electronic media—on Web sites, for example—can be scanned at lower resolutions (as low as 72 dpi) and are generally saved in JPEG or GIF format, two file types universally recognized by Web browsers such as Microsoft's Internet Explorer and Netscape's Navigator. Lower-resolution files are not as large as their high-resolution counterparts, and as a result, they require less storage space and take less time to load on a Web site.

Where to keep it all

Though an image library can be stored easily and inexpensively on disk media such as CDs or on a stand-alone workstation, sorting through disks becomes unwieldy as a library grows in size, and saving images on a single computer allows only one person at a time to browse the library. To address these problems, firms can store images on a local file server or wide-area network. "We save all our promotional material, including digitized photographs, on a separate portion of our server dedicated to marketing," says Jennifer Greene, an associate with R.M. Kliment & Frances Halsband Architects, a 30-person design firm in New York. Her colleague Melora Heavey adds, "We group images together in folders labeled by project num-



ber; that way, we're able to find pictures we need from each project for our Web site, brochures, and other marketing materials." A simple system such as this works well for single-office firms that have a person or department responsible for keeping track of image files and other marketing material.

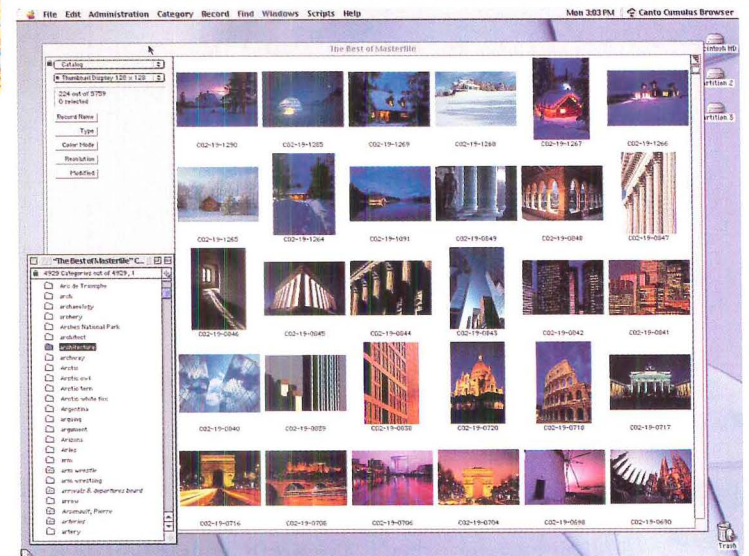
Even when image files are accessible to multiple users and sorted by a category that firm members agree on, large collections can still be cumbersome to navigate. This is especially true when users need to find images from multiple projects whose details they know little about. For instance, if a marketer wants to create a brochure showcasing office buildings over 10,000 square feet in the southwestern U.S., she would first need to determine which projects share those traits and would then have to sort through several files, which might be stored in different folders or drives on a server, to find the appropriate images. This problem is compounded for large firms with projects spread across multiple office locations, where

STORING IMAGES OF PAST PROJECTS IN DIGITAL FORM STREAMLINES MARKETING EFFORTS AND CUTS PRINTING COSTS.

communication is inherently more difficult. AEC firms are not the only companies facing this sort of challenge, and both off-the-shelf software and online image-management services can ease the burden of creating libraries of images that can be searched and retrieved easily.

In-house asset management

Originally developed for industries that manage large portfolios of multimedia files—such as stock photography agencies and production companies—media asset management (MAM) software is catching on among architectural firms that have begun to digitize their libraries. MAM software creates a database and visual index of electronic images by “pointing” to their storage locations—whether on disk media, hard drives, or file servers—and creating thumbnails. Users can search the index using both built-in fields (such as file name, file type, size, and date created) and custom fields containing attributes, or metadata, they enter for each image (e.g., project type, size, geographic location). Files are added to a MAM database via a simple drag-and-drop procedure, and images in the database can be dragged and dropped directly into Web



Media asset management software creates thumbnails of digitized images and lets you search the image database using built-in and custom keywords.

pages, desktop-published brochures, or other documents.

MAM software isn't merely a tool for storing and organizing image files. Most packages allow users to create electronic catalogs or slide shows of related images, which can be saved on CD-ROMs or E-mailed to potential clients who can view them on their own time, even if they don't have MAM software on their computers. MAM databases are also capable of storing and indexing audio and video files and, increasingly, compound documents such as Web pages, individual PowerPoint slides, and portable document files (PDFs), which contain text, graphics, and sound.

There are hundreds of companies offering MAM software, but Cumulus by Canto Software, Portfolio by Extensis Products Group, and ImageAXS by ScanSoft are three better-known packages among AEC firms. “There's no clear-cut standard-setter among MAM companies,” says Lou Casabianca, executive director of the Media Asset Management Association, a trade group based in San Francisco—though he concedes that the functionality and ease of use offered by Canto's Cumulus may help it pull away from its competitors.

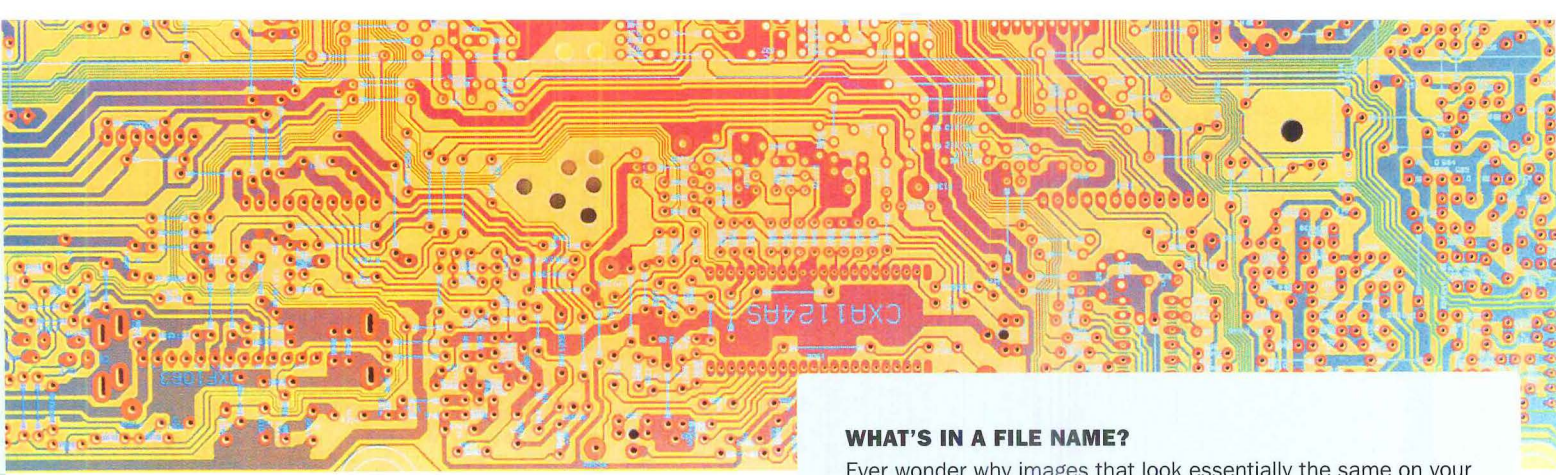
Firms using MAM software are quick to note its benefits. “We started using Cumulus two years ago and it's really simplified our marketing efforts,” says James Brogan, AIA, director of information technology at Hardy Holzman Pfeiffer Associates, a 140-person firm based in New York. “We tag each image using several attributes, such as project type, location, size, and name. We also give images a grade of one to five based on how well they express the intention or details of a project, so we can easily find the best images within our entire portfolio.” Because MAM software allows users to customize the search and retrieval parameters, it's not difficult to



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envision other ways to classify images that make it much easier (read: quicker and cheaper) for marketers to create campaigns targeted to specific clients or types of projects. The level of effort involved in initially assigning custom attributes to each image in the library quickly pays off in time saved retrieving them from your portfolio.

Costs for MAM software start at about \$100 for single-workstation packages and can total in the thousands of dollars for systems suitable for use on multiserver wide-area networks. Firms wanting to invest in these systems need to have the resources to host the software, as well as sufficient storage capacity for image files and, when applicable, the Internet bandwidth necessary to share files across multiple locations. Single-workstation MAM packages are fairly straightforward to install and use, but packages for large work groups and multiple locations, like any other software application, take more time, resources, and skill to install and implement. "It was a concerted effort on my part to research the software available and implement the solution," admits Brogan. "I had support from the senior management of the firm, but not all firms will have the time and resources necessary for this sort of undertaking."

Online image management

Maintaining an image library online through an application service provider (ASP) is an option for firms that don't want to invest in MAM software or computer storage for hosting their images in-house. ASPs are

DIGITIZED IMAGES CAN BE STORED AND ORGANIZED EITHER IN-HOUSE OR ONLINE USING MEDIA MANAGEMENT SOFTWARE.

companies that provide software solutions and file storage for their clients online, rather than on the clients' own file servers. Extranet service providers are an example of commonly used ASPs among AEC firms.

Most ASPs for MAM, such as Pictopia and .windh, have features similar to those offered by in-house MAM software. The year-old Pictopia, based in California, also offers print-on-demand services for digital images. Connecticut-based Cosential, which offers a suite of applications for management of firm business (see this month's Digital Architect column) provides image management as a module within its

WHAT'S IN A FILE NAME?

Ever wonder why images that look essentially the same on your computer screen sometimes have different file extensions (such as JPEG and GIF)? Those file extensions indicate the image format in which a file was saved. Many image formats are proprietary, meaning that only software made by a particular company can read or write that format. AutoCAD DWG files are proprietary, for instance, along with images created in desktop publishing software such as CorelDraw and Aldus' Pagemaker. Most image formats were developed before it became common to send digital images via the Internet or use them on Web sites. Many images for printing and electronic publishing purposes are saved in TIFF, GIF, or JPEG format; for the curious, a comprehensive list of image file types can be found online at whatis.techtarget.com/Flat_Files/Whats_File_Format_A/.

marketing management system. "Our MAM system isn't merely a repository for images—it repurposes them for various uses," says Dan Cornish, Cosential's president. "When image files are uploaded, the system creates a thumbnail and automatically generates several image sizes and resolutions needed for Web sites, project summary sheets, contact sheets, and proposals." As in other MAM software, images saved in Cosential's system can be tagged with project information, such as boilerplate text descriptions, and custom search terms, such as location, size, and project type. The difference is that this information can be used within other modules in Cosential's marketing management system. Cosential's lightbox feature is analogous to features in MAM software that allow users to create slide shows of related images. But there is one notable difference: The slide shows can be viewed by visiting a firm-specific Web site which is automatically E-mailed to prospective clients. When prospective clients visit the Web site, Cosential's system automatically notifies the architectural firm by E-mail, making it easy for the firm to follow up with further marketing efforts. Other features of Cosential include a Napster-like tool for sharing memory-intensive images, such as large TIFF files, needed for four-color offset printing, and a Java-based tool for marking up images.

Fees for image and library hosting are typically paid to ASPs on a monthly basis; the cost depends on the size of a firm's digital library as well as its desired features. Monthly fees, which include use of the online MAM software and storage of image files, can start as low as \$50 and can go as high as several hundred dollars for large portfolios of images. Firms interested in using an ASP to manage their image libraries need to compare the costs of paying monthly fees indefinitely versus the payback



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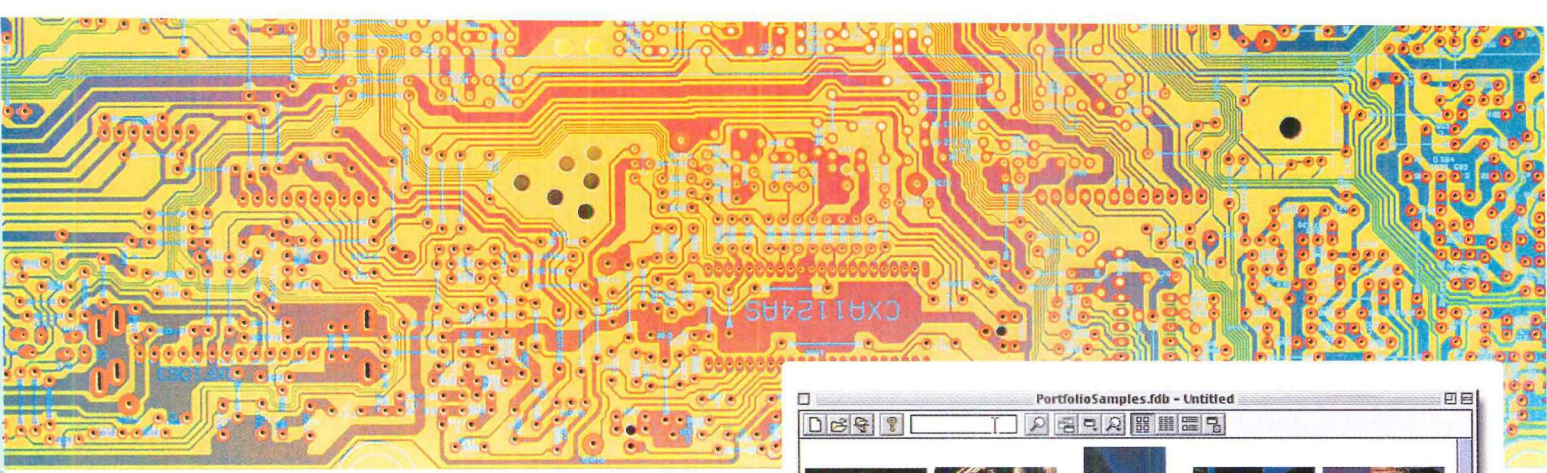


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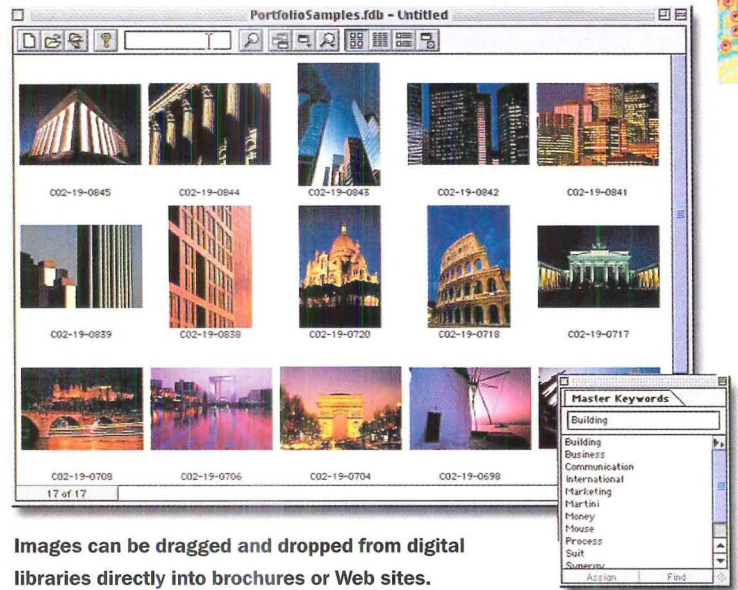
period for investing in file storage, MAM software, and the hardware infrastructure and level of effort needed to maintain an in-house library.

The universal precautions

Naturally, digitizing your project photographs doesn't mean you should do away entirely with the old media. "Firms should preserve original slides, negatives, and transparencies after they've been scanned," warns Laiserin. "They may need to be rescanned in the future, not only to safeguard against potential data loss, but also because the sharpness and fidelity of scanning and printing technology are constantly improving." To keep the library from growing to an unmanageable size, principals should work with others in their firms to select and scan only those images that best represent a project. Some firms, such as Cooper, Robertson & Partners in New York, scan images for marketing purposes but refrain from scanning reference slides that architects use only for study when they're developing ideas for ongoing projects. "It would be too expensive to scan our entire stock of images. We try to be strategic

THE DO-IT-YOURSELF DIGITAL LIBRARY

Firms that already host a large number of digital images may find it easier to create their own library systems rather than using off-the-shelf software or ASPs for image management. The Hillier Group (THG), a firm based in Princeton, N.J., began digitizing its stock of images in the mid-1990s, when high-quality scanning technology first became affordable. The firm now stores its scanned images on an in-house database and is in the process of developing a custom library and indexing system for its portfolio. "MAM software simply didn't exist when we started maintaining our image library," says Guy Geier, a principal of THG who practices in New York. "It would be too expensive and time-consuming to move all our images onto one of these new systems." Though custom-built libraries may become a feature at large firms, few midsize and small firms have the in-house resources to develop their own solutions. *D.S.*



Images can be dragged and dropped from digital libraries directly into brochures or Web sites.

about what we scan and what we save only in slide format," says Karen Cooper, a principal with the firm.

Although the idea of outsourcing an image library to an ASP is an attractive option for firms that don't want to store and manage images themselves, some firms are uncomfortable with relinquishing ownership of image files. "Frankly, having all my images stored outside the company makes me nervous," says Cooper. "We rely on having those photographs available to us at all times, and it would be devastating to lose them. What would happen if a company that was maintaining my image library had a huge computer failure or went out of business?"

These are not unreasonable concerns. Any ASP unwilling to discuss backup and protection measures in case of equipment malfunction or system failure should be regarded with caution. Cosential has anticipated this concern and allows its clients flexibility in how files are managed. "Sometimes firms feel more comfortable having the server on which their images are hosted physically located in their own offices," says Cornish. "We offer that option, so they don't feel too far removed from their data."

Above all, when you consider creating a digital image library, remember why you're doing it—to simplify marketing and publishing so that your firm's talents are highlighted to the largest possible number of prospective clients. If these efforts net you new business, your investment paid off, because it allows you to spend less time managing your marketing and more time doing what you love—designing new projects. ■

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Digital Architect

Technology for design collaboration

By Jerry Laiserin, FAIA

With the Internet and e-business tidal waves receding—at least temporarily—sensible folk can now sort through the flotsam and jetsam to identify Web-enabled solutions that actually match real-world problems. For architects, this means deciphering the jargon of exchanges, extranets, portals, and application service providers (ASPs). Many Internet tools touted to designers were in fact driven by the needs of other players in the AEC industry, such as engineers and contractors. With hindsight, we can spot services less beneficial to architects and observe how Web outfits are fine-tuning their wares to serve our need for design collaboration. A few vendors even tailor their Web offerings to suit the specific shape of design practice. The following overview of the dot-com landscape is intended as a rough guide for architects struggling to separate the merely cool from the actually useful.

Exchanges

One cool Web business model that nonetheless has little to offer architects is the “exchange” or marketplace. Construction exchanges provide virtual markets for contractors and for buyers and sellers of materials, with the goal of

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

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simplifying the bidding and procurement paper trail. This helps construction managers, trade subcontractors, and material suppliers; however, the majority of architects don't participate in procuring materials and don't benefit directly from using exchanges, even if the time or cost of such transactions were reduced to zero.

Extranets

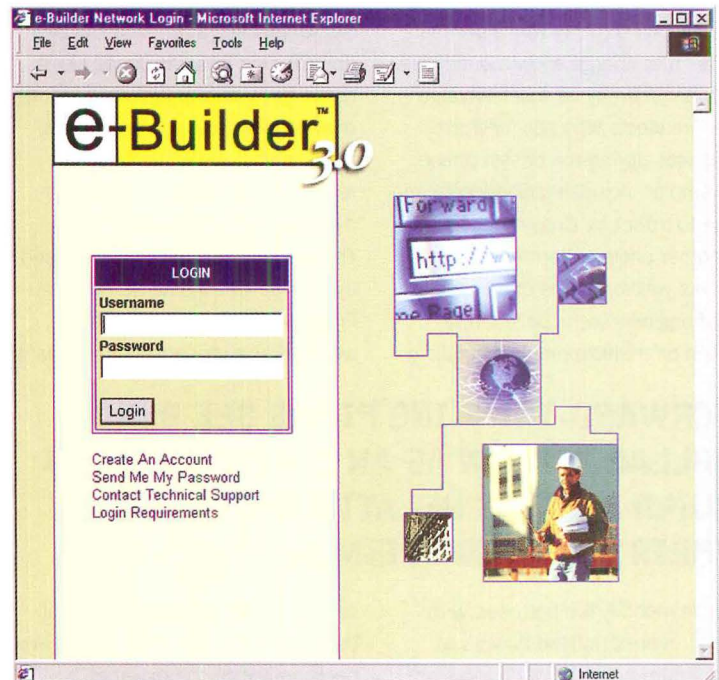
Another Web model promoted to architects is the extranet, also known as a project-specific Web site or project collaboration network [“Digital Architect,” SEPTEMBER 1999, page 53]. A typical extranet combines an online document repository used by project team members and a message clearinghouse for items such as requests for information (RFIs). While potentially useful during all project phases, most extranet services focus almost exclusively on construction administration (CA). For contractors and owners, the potential benefits in time savings and risk avoidance are enormous: A new sports stadium set to open at the beginning of the next season, for instance, has precious little wiggle room in the construction schedule. However, because the construction phase accounts for a small portion of architects' fees, the benefit to architects from using such extranets is not obvious. In fact, most construction-phase extranet services that were promoted to architects over the last five years have folded, merged, or shifted markets.

Portals

The huge success of consumer portals—one-stop Web sites for

all of a user's online information and transaction needs—such as Yahoo! and AOL—led many start-up companies to apply that model to business services by combining extranet collaboration, exchange services, and industry information under one virtual roof. Citadon, a

ProjectPoint, its online collaboration service. Firms such as Wimberly Allison Tong & Goo of Newport Beach, Calif., find this tool handy for early-stage “projects that aren't yet really projects,” says chief information officer Larry Rocha. Like Citadon, Buzzsaw offers its



Architects obtain a good value from collaboration networks that charge monthly fees per user, and allow users access to multiple projects.

comprehensive exemplar of the breed, resulted from mergers among a handful of competing extranet and exchange vendors [DECEMBER 2000, page 165]. While Citadon's services are geared toward its customer and investor base of large builders and heavy construction companies, Buzzsaw.com, a spin-off of leading CAD vendor Autodesk, has grabbed the attention of many architects with a free entry-level version of

users many ancillary services, but most architects find that ProjectPoint is all they need.

The way things work

It seems inevitable that projects will be managed increasingly on the Internet because owners and contractors, who stand to profit most from Web-based services, will demand and choose such services—whether through a portal, an extranet, or a project exchange.

Digital Architect

As long as another entity is paying, architects have little to lose by using such services, although some precautions should be taken when sharing project information online ["Digital Architect," NOVEMBER 2000, page 179]. To the extent that firms influence the selection of Web services, or when they seek software or services to facilitate design-phase collaboration, architects can benefit from an understanding of the most worthwhile features of these systems.

Sites like Buzzsaw offer free entry-level collaboration services, but extra-cost features for large jobs and multiple projects can add up quickly to hefty monthly fees. Sites that charge a low monthly fee per project may be a better value for architects who pay for these services during the design phase. Examples include PlanDesk.com and the Extranet by DesignArchitecture. Another pricing alternative that works well for teams of architects and engineers who collaborate often on multiple projects entails a

other entities that don't develop or change design drawings, especially during the CA phase when contract documents are relatively fixed. However, for architects and engineers collaborating during the design phase, this model requires users to constantly save in-progress CAD drawings and associated reference files to the extranet, and to ensure that others viewing or marking up drawings are using the most current versions. Some services such as e-Builder and Citadon mitigate these shortcomings by automating the posting of reference files with each drawing. Even so, many architects remain uncomfortable about the ownership of files hosted online. This issue is specifically addressed by the file arrangements of both ProjectVillage and Constructware, which allow every project participant,

FORWARD-THINKING FIRMS SEE DESIGN COLLABORATION AS AN OPPORTUNITY TO BUILD LASTING RELATIONSHIPS WITH THEIR EXISTING CLIENTS.

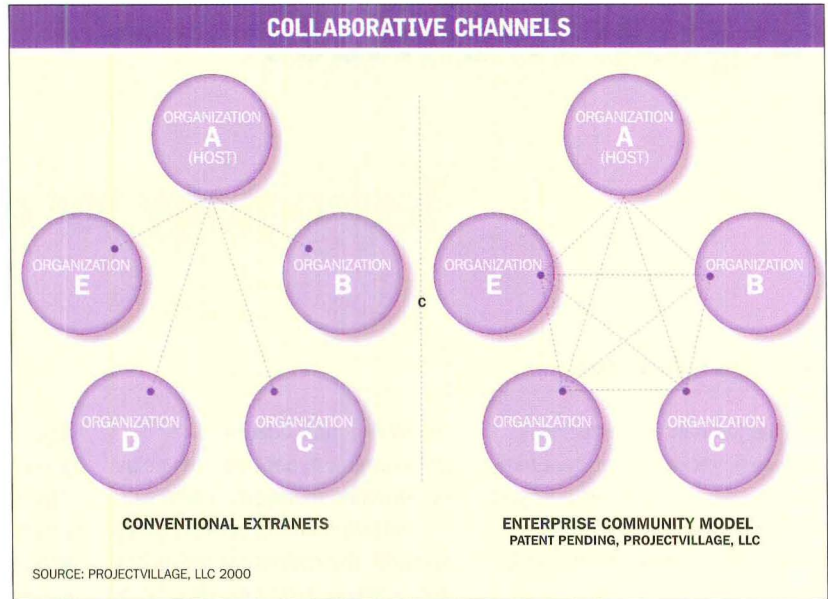
single monthly fee per user, with each user permitted access to the entire portfolio of projects on which the team is working.

Constructware (formerly Emerging Solutions AdvantageNet) pioneered this fee structure, which has since been adopted by e-Builder and ProjectVillage.

Architects also need to consider the technology used for sharing documents on collaboration sites. Most extranet services use a "post-and-host" model, in which team members upload files to a central Web host from which others can view, mark up, or download (copy) the files. This system works well for contractors and

or peer, to retain secure control of their own files even after they have been posted to the extranet.

Something to ASP-ire to On average, 70 percent of new design work for a given firm comes from its existing clients, so the most technologically astute firms are starting to see design collaboration as an integral part of building relationships with those clients. Instead of treating project work and marketing as separate activities—each using its own technology systems and software—some vendors offer solutions that rely on one integrated set of client data. Such



Because design collaboration depends on sharing documents in progress, "community" or peer-to-peer systems work better for architects than conventional extranets.

companies are known as application service providers, or ASPs. The emerging business model involves outsourcing some or all of a firm's software applications, databases, and other technology needs to an external service, the ASP. These companies typically offer clients sophisticated data searching, retrieval, and output features, which means a firm can analyze and use its own information more quickly, accurately, and cost-effectively than if they were to build such systems internally.

One early entrant into the ASP arena is VisionPlanner.com ["Digital Product Reviews," DECEMBER 2000, page 179], which provides outsourced management of project initiation and closeout. All key project data—client, building type, location, size, cost, and so on—is captured in a database at closeout. These data can then be searched (often called data mining) for various purposes. For instance, when a new proposal arises, the firm can mine its data to find comparable past projects to include in proposals, historical costs to use for fee projections, and even the composition of prior project teams to help select personnel for future projects. By closing the information loop between past and future projects, VisionPlanner helps architects apply lessons learned in

order to work smarter.

A more ambitious approach is being developed by Cosential, an ASP that builds on technology started by DesignArchitecture. Initially, DesignArchitecture hosted architects' Web sites, then added a marketing module to allow firms to develop project-specific proposals on the Web. When customers requested extranet hosting services, DesignArchitecture founder Dan Cornish established Cosential as a separate ASP enabling architects to link project work and marketing efforts into comprehensive client relationships. "Anyone who can use a Web browser can create a new project and set up the project team on the Cosential extranet," says James Bauer, technology consultant at Fletcher-Thompson, a 116-person A/E firm with headquarters in Bridgeport, Conn. In the same browser interface, Fletcher-Thompson principals also can create or update proposals for new projects, or even create online "lightbox" presentations with images from prior projects.

As Cosential and other ASPs yet to come further integrate these services, architects will be able to bring design collaboration full circle, resulting in completed projects that flow automatically and seamlessly into the start-up of new ones. ■

Digital Product Reviews

Ceiling design made easy; 3D CAD grows up

By Jerry Laiserin, FAIA

Off to see the wizard

USG—*Design Wizard*

Early in the era of mass production, standardization advocate Henry Ford marketed his Model T in “any color, so long as it was black.” In today’s age of mass customization, manufacturers use information technology to vary production processes, thereby offering customers myriad choices for colors, shapes, and styles. Architects used to struggle to enliven once-uniform products, such as suspended ceiling systems; now the challenge is to understand, specify, and visualize complex configurations of products among a multitude of mix-and-match profiles, textures, and grids—even 3-D curves.

To ease the process of designing with semi-custom components, USG Corporation developed Design Wizard software, which works as a plug-in to AutoCAD r14, 2000, and 2000i and is available free of charge on USG’s Web site. Relying on Autodesk’s ObjectARX functions, the Design Wizard allows designers to create a wealth of options for ceiling layouts. Users can develop, manipulate, and render 3-D object representations of any ceiling layout; automatically generate 2-D reflected ceiling plans; insert the resulting 3-D and 2-D blocks into

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other AutoCAD drawings or libraries; and even generate and export specifications for ceiling systems from data attributes linked to ceiling objects. The Wizard, which runs as a menu item on the standard AutoCAD toolbar, includes all catalog information on USG’s CADRE, COMPÄSSO, CURVATURA, and RENDITIONS product lines. Catalog updates and additional product lines are available by E-mail.

Many companies, especially manufacturers of windows and plumbing fixtures, have attempted to develop CAD-compatible product catalogs, but none has achieved the technical sophistication and ease of use of USG’s Design Wizard. Even architects who don’t need to specify fancy ceilings should give it a try, just to experience firsthand the future of intelligent building-component design software.

System requirements: Any AutoCAD-capable PC and Windows version, AutoCAD r14 or later, Internet connection, and Web browser.

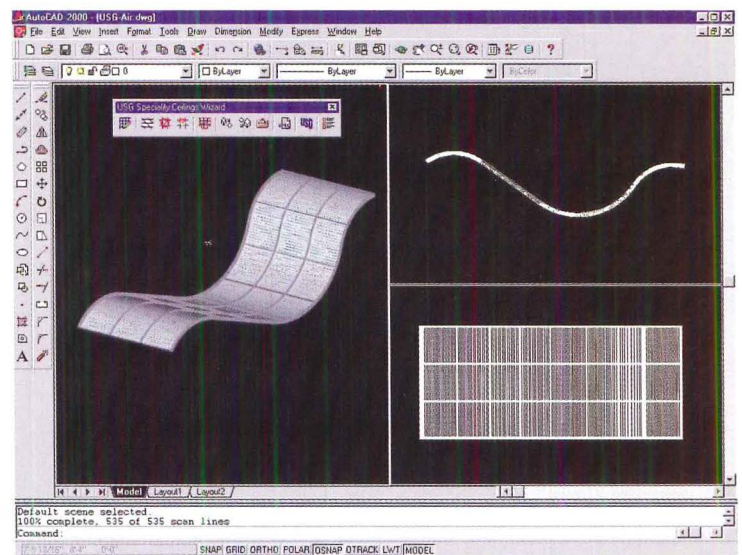
USG Corporation
125 South Franklin St.
Chicago, IL 60606
800/USG-4YOU; www.usg.com

Third time’s the charm
Autodesk—*Architectural Desktop release 3*

Early architectural CAD programs generated 3-D models from intelligent representations of building components. The problem was, they required huge mainframe computers and cost at least \$100,000 (in 1975 dollars). In the mid-1980s, the software was rendered extinct by

PC-based drafting programs that sacrificed 3-D and smart objects for desktop convenience and low cost. For example, CAD drafting software represents a door in plan with four lines and an arc, whereas object-oriented CAD software has software bundles, called objects, that “know”

glaring deficiencies in areas such as stairs, curtain walls, and multi-story buildings. With release 3, ADT has fixed these shortcomings and added new capabilities, such as multiple linked views that update automatically when project changes are made. Autodesk pio-



Design Wizard works with AutoCAD to help you specify complex ceilings.

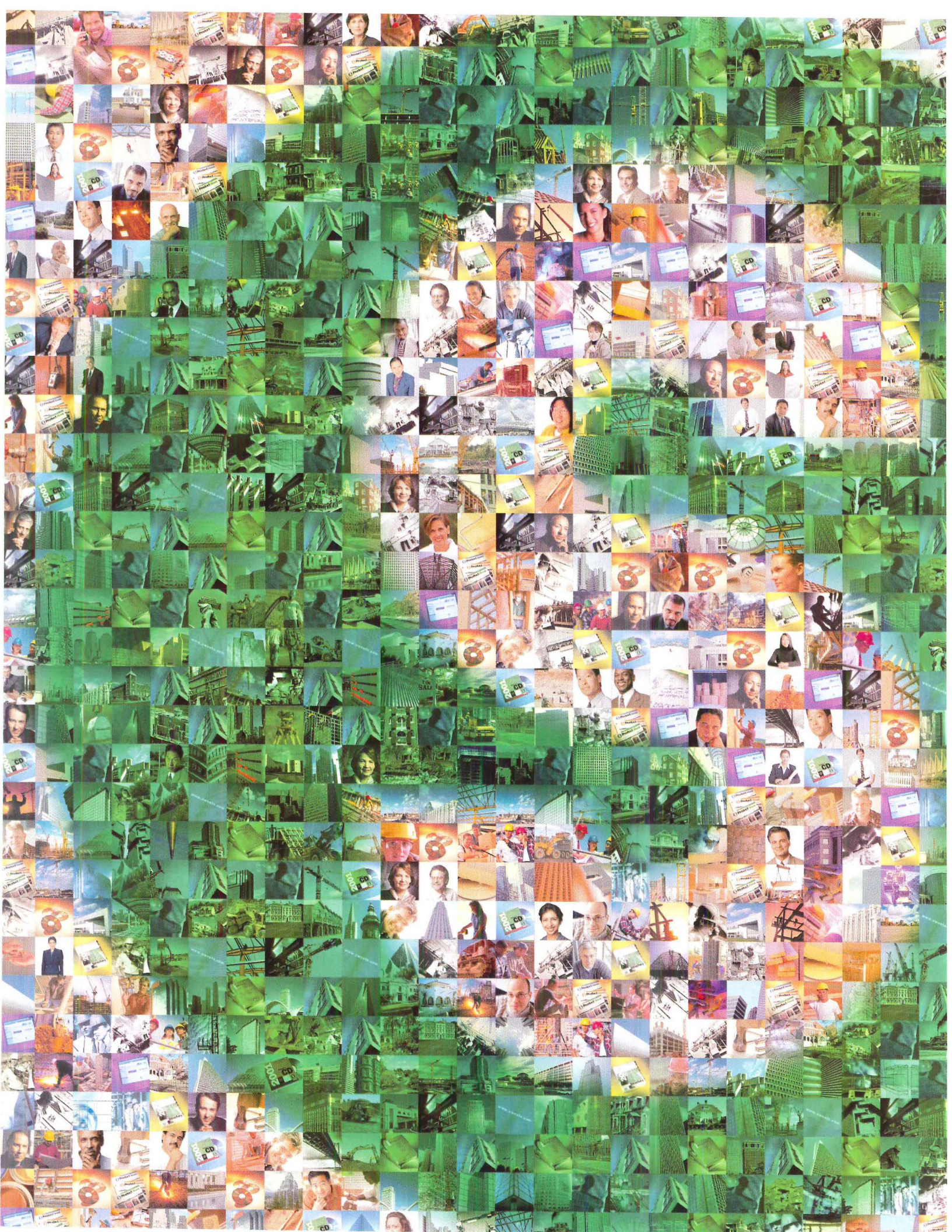
a door has thickness, handedness, swing, and so on. The objects also know a door should look different in plan, elevation, and perspective. Today, a third wave of CAD products is emerging, one that uses the power of today’s PCs to support intelligent 3-D design in an affordable format. Autodesk has staked a claim on leadership in this realm with Architectural Desktop (ADT), an architecturally intelligent 3-D design package that incorporates familiar AutoCAD drawing functions.

Release 1 of ADT offered little more than rebranding of the technology Autodesk obtained in acquiring third-party add-on developer Softdesk. ADT 2 included many powerful new features but still had

needed the connection of architectural CAD to the Internet, and ADT 3 includes the industry-leading Web functionality of AutoCAD 2000i. Overall, Architectural Desktop 3 is a serious contender for CAD superiority.

System requirements: Pentium 233 or better, 128MB RAM, Windows 95 or better, 1024x768 video display, 200MB free hard-disk space (64MB swap space), mouse, CD-ROM, Internet connection.

Autodesk
111 McInnis Parkway
San Rafael, CA 94903
415/507-5000
www.autodesk.com



The search for new materials is never over at George Beylerian's resource center

By Rita F. Catinella

Nothing is more exciting than when an architect or designer applies a material in a way it has never been done before. Despite the obvious risks, there are still those willing to explore materials that can push creativity in design to new levels. RECORD recently sat down with George Beylerian, president of the Material Connexion resource center in New York, to discuss the current state of material innovation. Founded in 1997, the center houses over 1,200 materials sorted into eight categories: polymers, glass, ceramics, carbon-based materials, cement-based materials, metals, natural materials, and natural-material derivatives. Every four to six weeks a rotating panel of well-known architects and designers carefully jury new materials to decide if they should be added to the collection. For more info visit www.materialconnexion.com.

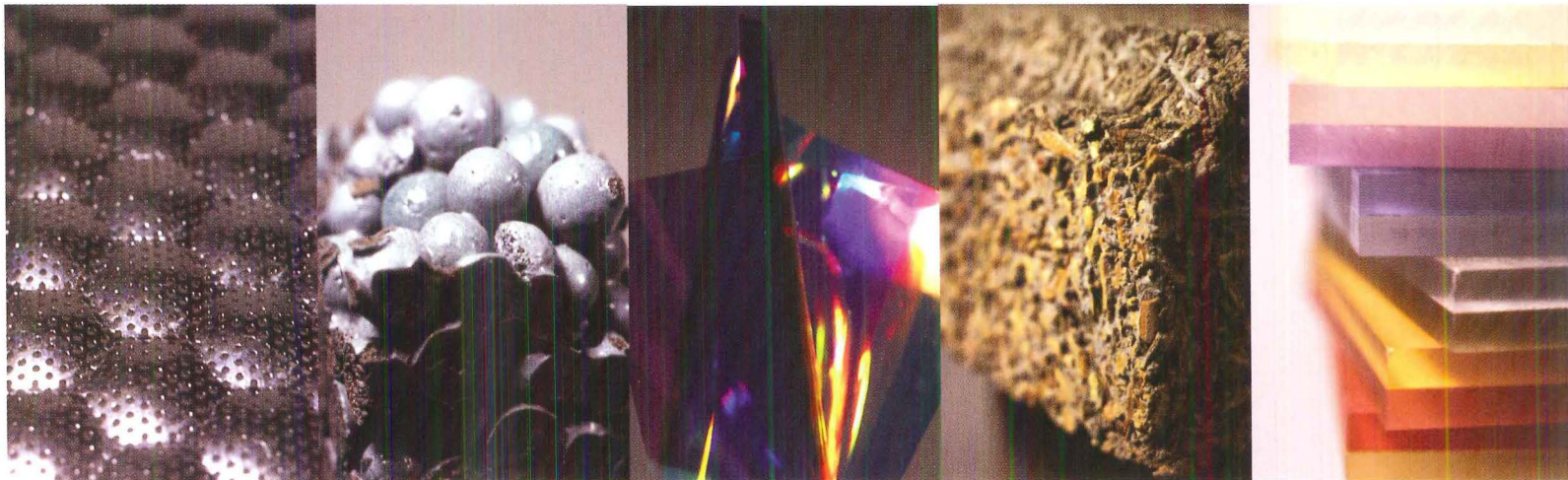
Q: What risks are there for materials pioneers? This is the area that has much more at risk from the point of view of users, specifiers, and contractors, because everything is tied into

ors, or clothing. Frank Gehry experiences and attempts, and there is always a heavy price to pay. But he also gets the glory, which is good. The titanium use [for the Guggenheim Museum, Bilbao] was

clearly an aggressive category because he's pushing his limits. I feel a skin on a building is like any work of art: It has to express some sort of aesthetic. At the same time, a major part of it has to be about pragmatism, so you don't have to worry about the stains and the cleaning. It's a formula. Very often in a passive situation, the end result is that price wins over anything else, so that's why we continue to have dull buildings. *What methods are architects using to find new materials and techniques?* I think they develop their own personal aesthetic through their learning years. We call those people material architects. They are a bunch of architects, or interior

Once in a while they will be exposed to something that spurs them to become innovative and take a new approach. Architects are very creative people, except they've never been given enough toys to play with. *With such small samples available, how do they visualize that into a larger space?* There are two parts, the aesthetic and the technological requirements. The aesthetic, they are pros at. You can take any image and magnify it to any size you want, so it's not very hard to envision a red glass building. Then sometimes with major architectural projects like the Getty or even the Frank Gehry projects, they create large-scale models so you can see real sections.

PRODUCTS FEATURE



From left to right: DMS-structural honeycomb structured sheet material (Germany); Porocom recycled powder coating, sintered fly ash, clay, and glass granules (Netherlands); 3M Radiant color film (USA); Faswall wallform from recycled wood and cement (USA); Lightblocks coated acrylic/polycarbonate sheets (USA).

unions, or standards, or longevity, or maintenance, and you become less creative when you have to cross those bridges; the spontaneity of becoming experimental is gone. *Who do you see as the true innovators in the use of materials?* If you look around the world it's easy to spot the people who are experimental and excited by a material, whether it's for architecture, interi-

fortuitous and happened to be very timely; on the other hand, it happened because of Frank Gehry's insistence, perseverance, creativity, and energy. Even the titanium association is three years behind in trying to figure out a way to use titanium in a more public way. And you see the risk he took; they claim it's rusting, if that's even possible. The category with Frank Gehry is

designers, or even fine artists that are materially very attached, concerned, and interested. But most of them don't have the time and experience to get exposure to much innovation. My feeling is that you've got to have the time. I don't know if the top designers at Gensler or SOM have the time to research, although there are people in their libraries who do.

Green materials have gotten a lot of hype, but how often are they really specified? I think one huge area of what we are talking about has to do with environmental issues, about lightness, about using fewer materials, about using things that can be disassembled. I was horrified to see this building [he gestures out the window to the construction site at the former

New York Coliseum at Columbus Circle] when they broke it down, to see these incredibly beautiful granite slabs being forked up and broken into zillions of pieces. They didn't even go to be reground to be an aggregate of granite or recomposed kind of tile. We obviously have an interest in seeing that materials are used properly and appropriately, and with a clear conscience, not just for effect. It's just easier to keep

weighed equally at all times. My general sense is that people are not really ready to pay more for ecology. And it has to be evaluated on an individual basis. There is no law at the moment, and if an option is given, very often, the option is not exercised.

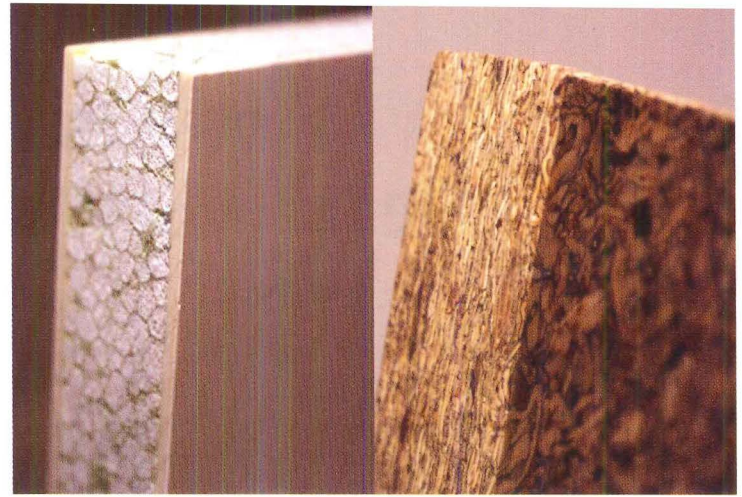
Does material drive design or the other way around? Design comes first, but we feel materials should come first and drive design. If there were enough interesting

“WE HAVE AN INTEREST IN SEEING THAT MATERIALS ARE USED PROPERLY AND APPROPRIATELY AND WITH A CLEAR CONSCIENCE, NOT JUST FOR EFFECT.”

using the same thing over because there isn't enough time for creativity, not enough time for reassurances or warnings. It's easier to do it and don't give a damn what happens when the material becomes endangered. There are some people who are clearly in charge of the aesthetic,

materials, they would be driving design. I don't want to say that the titanium drove Frank to do the Bilbao, because they had a lot of other choices, but the aesthetics made it possible. Some of these architects are beyond architects—they are really artists.

Do you believe that there has been a

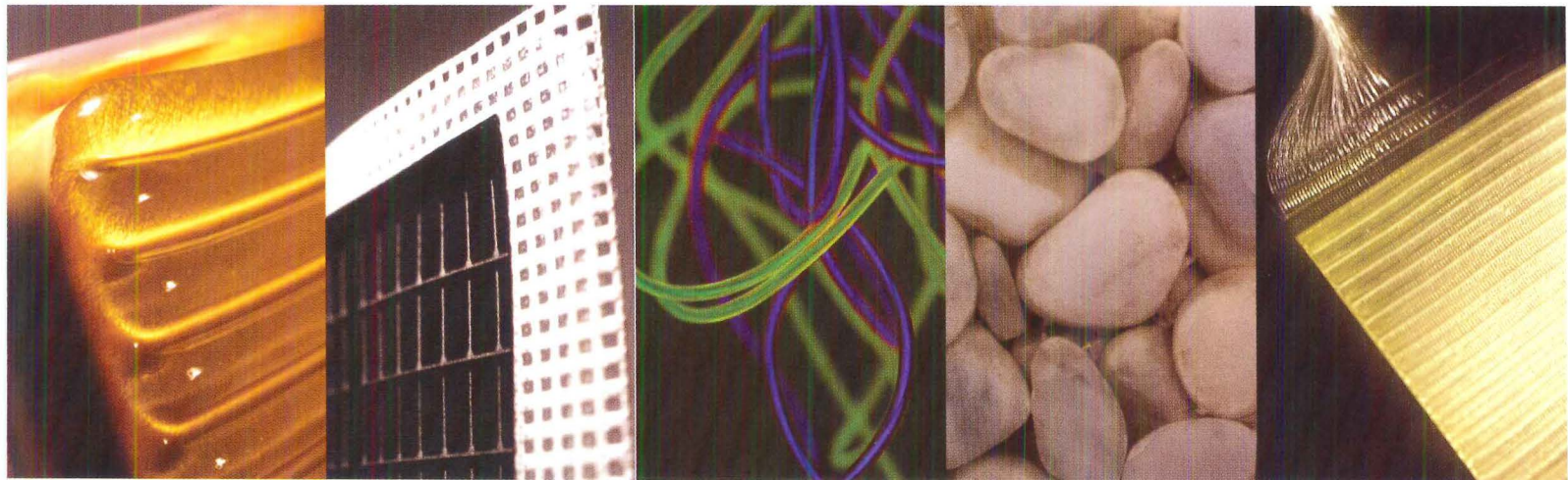


Airex foam, left (Switzerland); Biofiber wheat and soy composite, right (USA).

vent a material, make it better, make it more interesting and a lot of that depends on the companies that produce the materials. It has to do with their own sophistication and marketing strategy. And the success of many a material today, especially those that are revivals, has to do more with their marketing strategies than with the materials themselves.

Is it the younger designer who is experimenting more? No, I wouldn't say so. [Laughing] You are insult-

business, but on the weekend they are helping Jane and Dick design their house and they become very aggressive. *What has been a favorite product of the Material Connexion jury?* We had a Best of Show a couple of months ago, which took old paint that has dried up on your garage shelves and recycles it into fresh paint and that's wonderful. Whether you pay more for it or less for it isn't really the concern right now. It's the concept of thoughtfulness



(From left to right) TechnoGel polyurethane gel (Italy); Iowa photovoltaic thin film modules (USA); FlexWire electroluminescent wire (USA); Riverstone aggregate of marble pebbles and a proprietary transparent or pigmented polymer (Italy); Lumitex fiber-optic woven panels (USA).

strategic, and environmental conditions, and there are a few such architects who are in the news because of that.

My experience has been that the green situation isn't in an advanced position. There is always a price problem. Price is never going to go away. I don't think the impeccable quality and appropriateness of materials are always

resurgence of interest in materials—especially in surface treatments? Definitely. We have one that's coming back from Europe, the use of linoleum, even to cover furniture. It's an incredible opportunity. It's a classic, whether it's the composition, the color, the smell, the nuances. I'm confident that we don't have to reinvent the wheel all the time; we can rein-

ing me now. In fact, I feel it has nothing to do with age. Some of the most fantastic, creative people continue to be creative at whatever age. It's within the person. Sometimes they are creative and limited by unfortunate restrictions of who they work for. Sometimes they are victims of circumstance. Sometimes they have a job on the side, so they are restricted in their

and innovation. And sometimes, I have to admit it, the jury is impressed by the professional way a material is presented. If you are showing me a tile like this [holds up a tile made of recycled glass], details such as the way it is labeled make an impact, and say a lot about the company—if they can handle that properly, they can handle other things properly. ■

New Products

Glass and glazing advances are helping architects create ceilings that have cleaner looks with less obvious structure holding the glass (see the story below and the British Museum technology story on page 149). In addition, textured glass is available in an increasing number of patterns that diffuse light and provide well-lit privacy. *Rita F. Catinella*

A special interlayer helps create a more secure, open ceiling for Meier's courthouse

The glass ceiling in the Special Proceedings Courtroom of the Sandra Day O'Connor U.S. Courthouse in Phoenix (featured on page 92) was designed by James Carpenter Design Associates of New York City. The firm was brought on by Richard Meier's office to integrate artwork into the ceiling—Meier's original design had sprinklers, lights, and a loudspeaker system that made it heavy and solid-looking.

"They were keen on people being able to see the sky, so our task was to make the ceiling as light as possible," says Luke Lowings, an architect with James Carpenter.

To achieve a lighter feeling, a central "lens" area of the ceiling acts as a diffuser for artificial lighting that was moved to the top of the drum of the room, while the clear perimeter provides views of the sky through the interlayer, so there is a discreet mechanical connection if the glass is ever broken. 800/831-3061. Dlubak Corp., Blairsville, Pa. **CIRCLE 200** 800/486-4738. Petro Plastics, Garwood, N.J. **CIRCLE 201**

water, the glass structure is suspended from the top of the drum by cables. To integrate the sprinklers fully, the firm worked with TriPyramid Structures of Westford, Mass., and Aero Automatic Sprinkler of Phoenix, so one-inch-diameter sprinkler pipe could be used in some cases as support instead of cables. In addition to invisible sprinklers, the firm integrated the speakers into the walls of the room.

To prevent any of the 400 pieces of glass (fabricated by Dlubak Corp.) from falling out, a series of standard tests was performed. As an added safety feature, Lowings and his team used a hurricane glazing product from Petro Plastics with a particularly heavy interlayer that was extended beyond the edges of the connecting pieces of glass. The designers then bolted through the interlayer, so there is a discreet mechanical connection if the glass is ever broken.

800/831-3061. Dlubak Corp., Blairsville, Pa. **CIRCLE 200** 800/486-4738. Petro Plastics, Garwood, N.J. **CIRCLE 201**



View from above the lens ceiling during construction (above). A visitor's view of the ceiling (below). Sprinkler pipe and cables were invisibly integrated (right).



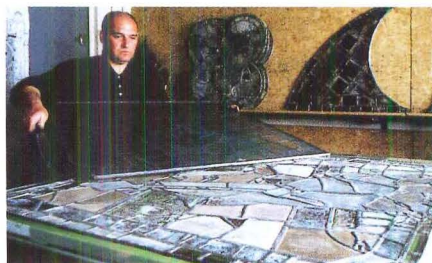
French use a thermoformed secondary glazing to protect historic stained glass

A protection system for stained-glass windows is not simple to devise because it must serve multiple purposes. The windows need protection

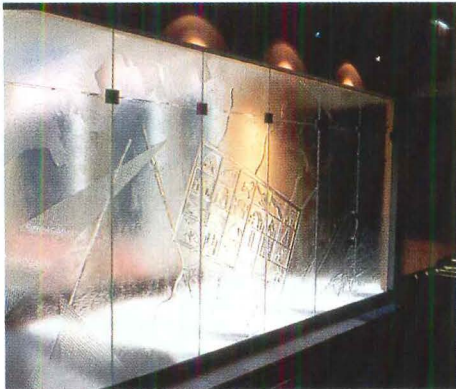
from vandalism, pollution, mechanical shocks, and ultraviolet light, just to name a few dangers. Double glazing, positioned a few centimeters

away from the window, can protect the glass from all of these elements. However, first-generation protective glazing (simple glass or clear leaded glass), placed parallel to the exterior of the stained-glass windows, raises appearance problems and produces reflections that do not appeal to architects responsible for historic monuments. As a result,

the Research Laboratory for Historic Monuments at Champs-sur-Marne in France decided to find a new type of protective glazing. French craftsman Hervé Debuitus' thermoformed protective glazing (shown) reproduces the external appearance of the original stained-glass window through its relief and coloration, and it eliminates the problem of reflections caused by double glazing. 312/222-1237. French Technology Press Office Inc., Chicago. **CIRCLE 202**



New Products



▲ Textured insulation

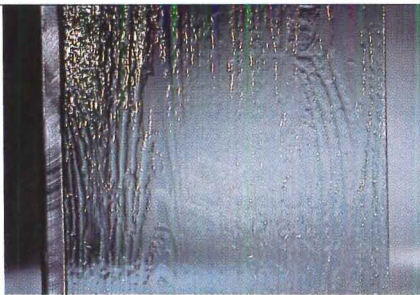
By heating glass beyond 1400 degrees Fahrenheit, glass artists are able to use the force of gravity to slump the glass

into molds of their creation. Applications include shower doors, table and bar tops, entryways, partition walls, full walls, and sculptures. Textured glass can also be used in insulating glass, since glass thickness can be as thin as $\frac{1}{8}$ inch and still be tempered. Textured glass is available in a variety of colors and can be sandblasted after texturing

for enhanced effect. The kiln-formed glass wall here is one of the fabrications from Solar Seal. 508/238-0112. Solar Seal Co., South Easton, Mass. **CIRCLE 203**

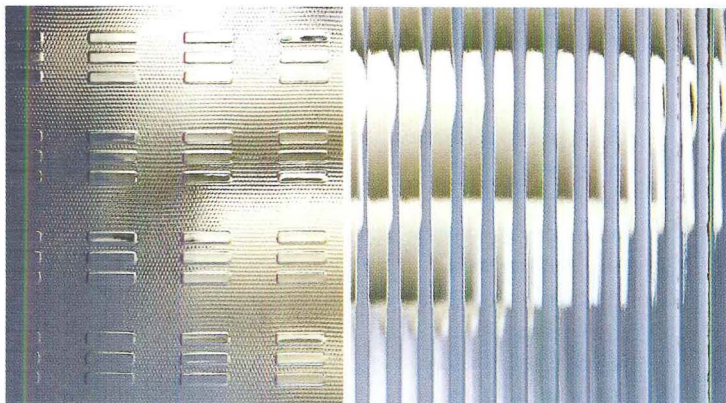
► From art to logos

Meltdown Glass Art & Design has launched a new line of standard, designer, and premium textured glass patterns. In addition to these textures, Meltdown also offers custom-designed textures, hand-molded for each client. Applications include art screens, room dividers, window inserts, side panel windows, and furniture. Corporate logos and custom designs can also be embossed in glass. 800/845-6221. Meltdown Glass Art & Design LLC, Chandler, Ariz. **CIRCLE 205**



▼ Worthy of a king

Royal Glass is a precision-rolled glass available in four patterns. Available exclusively through Bendheim, Royal Glass can be tempered, laminated, mirrored, or bent and is suitable for insulated units. Applications include floor-to-ceiling partitions, ceilings, shelving, building facades, shower doors, or furniture. Trio (below, left) features lozenge shapes set in crisp relief against a finely scribed background, while Pyramid's chiseled pattern (below, right) prismatically bends light in its deep V-cut surfaces. 212/226-6370. Bendheim, New York City. **CIRCLE 207**

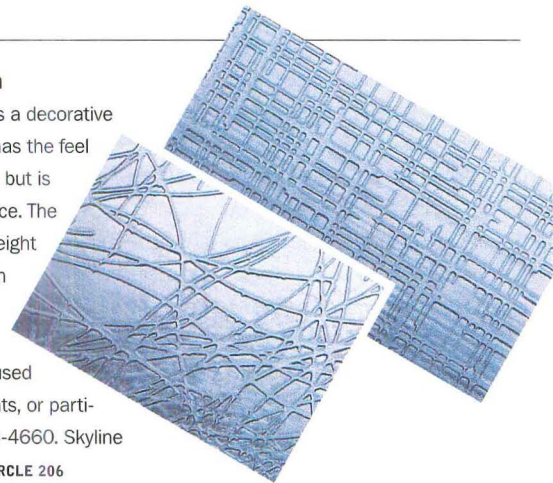


◀ Wine glass

Designed by Gordon Huether+Partners, the J Wine Tasting room installation is comprised of offset sheets of custom-patinated steel, stacked glass-on-edge, crystalline rock cullet, and sparkling fiber-optic lighting. The glass artist's firm also designed the bar in conjunction with the backdrop for the client, a Healdsburg, Calif., vineyard. 707/255-5954. Gordon Huether+Partners, Napa, Calif. **CIRCLE 204**

► Close to kiln

ARCHIglas/texture is a decorative textural glass that has the feel of kiln-formed glass but is less costly to produce. The collection includes eight standard patterns in tempered, laminated, or plate glass that may be used in doorlites, sidelights, or partition walls. 888/278-4660. Skyline Design, Chicago. **CIRCLE 206**

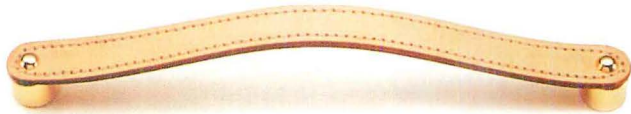


▲ Worth the wait

The insulating glass units for the Amtrak Auto Train facility in Lorton, Va., are made of PPG's Azurlite aquamarine glass and Solarban 60 low-emissivity solar control glass. According to construction administration manager James Akkawi of the architectural firm Jacobs Facilities, the units met the design and performance criteria by providing not only a clear view outside, but high amounts of natural light to the interior of the station, and solar-heat-gain control during hot summer and cold winter months. 412/434-3131. PPG Industries, Pittsburgh. **CIRCLE 208**

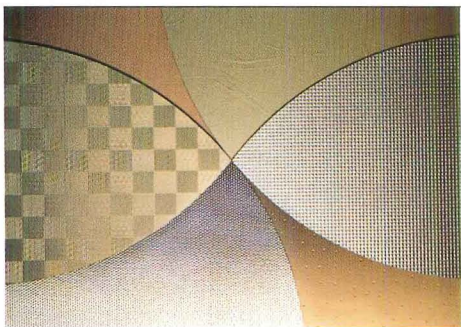


Product Briefs



▲ A better grip

New cabinet hardware from architect and Domus Academy founder Andrea Branzi juxtaposes polished brass hardware and elegantly stitched natural leather. Three styles are available: an oval cabinet knob and a long, slender handle with or without leather. The hardware comes in optional satin nickel or satin nickel and clear finishes. Valli & Valli also offers the Forges line of round cabinet hardware, which combines a woven or stitched leather grip with a brass base. 877/326-2565. Valli & Valli Inc., New York City. **CIRCLE 209**



geometric configurations of Screens and Puzzle. Each pattern is available in one or more of four base colorways, and in a selection of surface finishes including mirror, satin, matte, and brushed. A special technique creates embossed reliefs with different surface

▲ More than skin deep

Nevamar introduces Metallage, a new line of 26 metal laminates featuring seven patterns, such as Disc (a freehand swirl), the meshlike Rhythm, and the

textures. Items are offered in 4-by-10-foot panels in a nominal thickness of .039 inches. 800/638-4380. International Paper, Decorative Products Division, Odenton, Md. **CIRCLE 211**

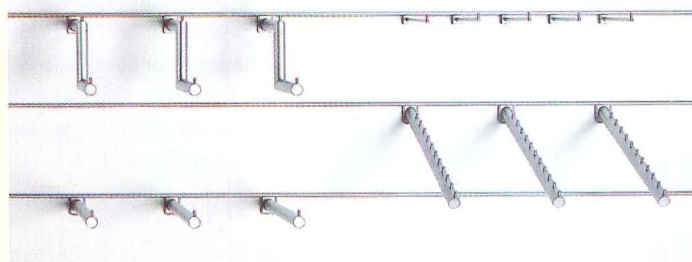
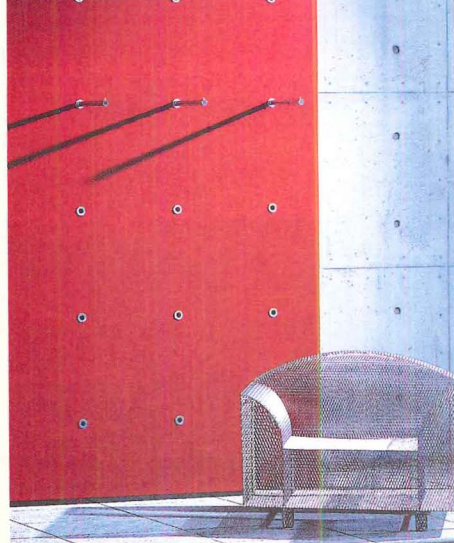


▲ Bi-coastal buffet

Designed by one brother on the West Coast and handcrafted by another in the East, the Antoine Proulx collection of tables and case goods is truly an American statement. The dresser/buffet shown here features oak-stained wenge with mottled brown steel legs. This piece is one of a dozen new tables, dressers, and beds available in a choice of 12 different wood species, including flat-cut mahogany, zebra wood, figured mahogany, and figured anigre. 800/457-0756. Antoine Proulx, San Francisco. **CIRCLE 212**

Product of the Month Visplay Mono/Stripes

Marlite has signed a contract with Visplay, a Vitrasshop company, to be the exclusive North American distributor for the company's merchandising system components. The two systems that will kick off the collection are Mono and Stripes. The Mono "puck system" (right) realizes a clean look through round or rectangular sockets in a variety of sizes. The sockets can be mounted at any height in wood, ¾-inch MDF, or glass panels. Stripes (below) uses slender stripes or lines to create a horizontal look. The system is available in round and square profiles and can be surface-mounted on or recessed in wooden panels, and surface-mounted on glass. 330/343-6621. Marlite, Dover, Ohio. **CIRCLE 210**



▼ Complex curved solution

Curatex is a new technology for developing complex surfaces in architecture, interiors, and design. Developed in collaboration with b consultants and dlm architectural designers, Curvatex emerged from the need to create complicated, curved surfaces for an exhibition display. "Currently, costs are reasonable and we can offer the product for use today," says Tom Barker, director of b consultants. "But we are also exploring ways of partnering with industry to create bigger cost savings and offer the system for huge projects, such as airport canopies." The method can create large-scale, complex, weatherproof, stable curved surfaces without the need for formwork or framing structures. Curvatex can also be used to make the formwork itself for cast concrete. 44/020/7689.5660. b consultants, London. **CIRCLE 213**

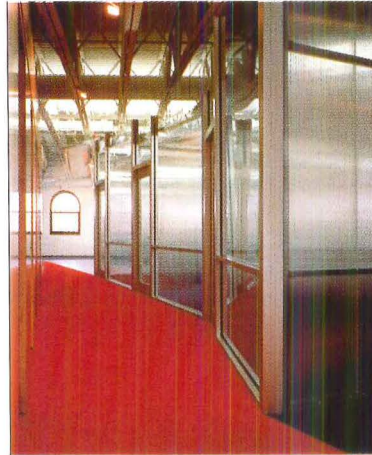


Product Briefs



◀ Don't call it a comeback

Walker Zanger introduces a revival of the Newport Collection, which was originally introduced in 1995. The revived line features seven new colors, two new architectural moldings, and several new decorative accents, including playful geometrics and whimsical seaside-inspired motifs. The seven new colors, including cherry bomb (red), popsicle (bold purple), milkweed (retro green), driftwood (sandy tan), magnolia (stark, glossy white), and black, add further dimension to Newport's updated style. 800/540-0235. Walker & Zanger Ltd., Sylmar, Calif. **CIRCLE 214**

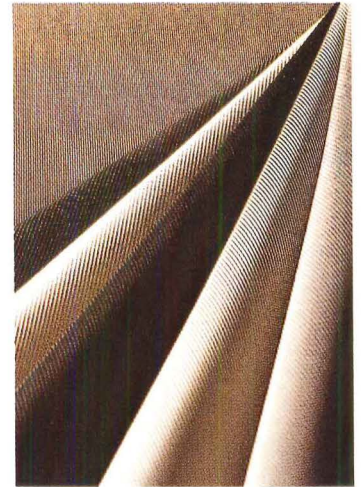


▲ Pass the envelope

Michael Everts, AIA, and Heather Wasilowski, of Valerio Dewalt Train Associates, won a Solutia DOC Award for the use of Durkan Commercial's Edgewater and Petit Point carpet styles in the corporate headquarters of OurHouse.com in Evanston, Ill. The DOC competition honors achievement in projects using carpet made with Solutia Ultron VIP nylon fiber. 314/674-1000. Solutia Inc., St. Louis. **CIRCLE 215**

▼ Light treatment

Phifer introduces several new window-treatment fabrics, including the SheerWeave Style 2390, 2360, and 3000 fabric lines. Woven of fine PVC-coated fiberglass yarn, SheerWeave allows only soft, diffused light to enter through the window. A new lightweight fabric produces a small diameter roll for a neat retracted shade. 800/633-5955. Phifer Wire Products Inc., Tuscaloosa, Ala. **CIRCLE 216**



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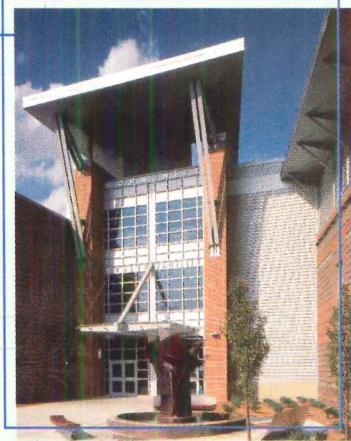
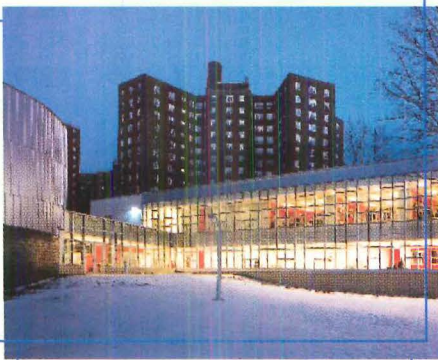
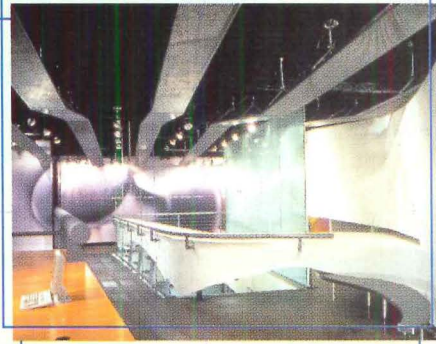
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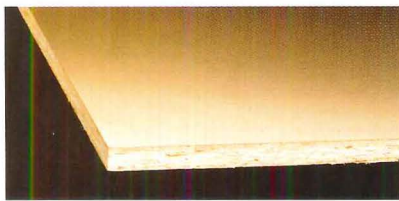
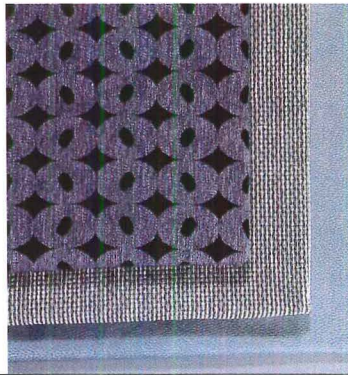
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Product Briefs

► Custom inspiration

The Rockwell Group collection of fabrics emerged from several custom projects that DesignTex completed for the Rockwell Group. The fabrics are inspired by everything from a 20th-century wrought-iron grille (Flip Flop), Rockwell's own son (Sammy Baby), and the quality of light filtered through the canopies of trees (Jump n' Jive). 212/886-8136. DesignTex, New York City. **CIRCLE 217**



▲ Smooth operator

LP developed the Super Smooth S² Technology process to manufacture a

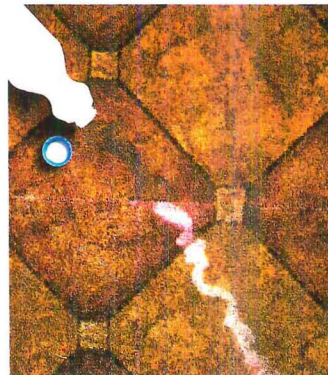
special engineered wood substrate with an extraordinarily smooth surface. To create the surface, sustainable trees are processed into consistently sized wood panels that are treated with a strengthening high-grade exterior binder and

a special smoothing top layer. 800/462-1238. Louisiana-Pacific Corporation, Huntersville, N.C. **CIRCLE 219**

► Rock star turned design maven

Diana Holmlund left her native Sweden 11 years ago and arrived in the U.S. as the lead singer of a Swedish rock band.

Eventually, her lifelong interest in design resurfaced, and by 1997 she formed Lampa, a showroom of Scandinavian design. With its recent expansion as Lampa + Möbler, the showroom will supply furniture and accessories as well. Shown here is a sofa bed by designer James Irvine, which is manufactured by Klara CBI. 323/852-1542. Lampa + Möbler, Los Angeles. **CIRCLE 218**



◀ Bleach-resistant pattern

Chloraguard is an advance-generation dye treatment that protects patterned carpet in installations such as senior living facilities, where bleach-based cleaning agents are used. Treated carpets reportedly exhibit no evidence of color change when solutions of household bleach no greater than 10 percent are used. 212/752-2520. Durkan Patterned Carpet Inc., New York City. **CIRCLE 220**

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Product Briefs



▲ Somewhere to crash

The furniture designed by Le Corbusier is one segment of the Cassina I Maestri collection, which includes pieces by Mackintosh, Asplund, and Wright. Designed in 1974, the LC5 is considered one of the classic pieces from Le Corbusier's collection. The back cushions of this piece can be rotated onto the rear framework to increase the width of the sofa seat and create a single bed. This model was built for Le Corbusier's studio in Paris so that he could work late into the night and have a place to sleep without leaving his studio.

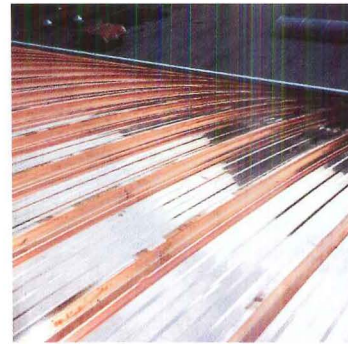
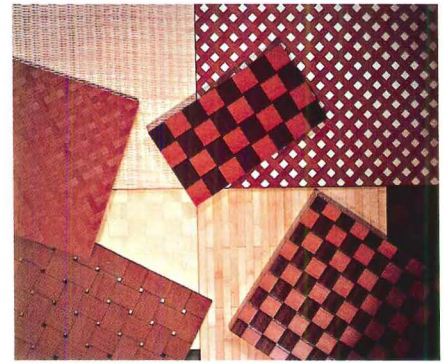
800/770-3568. Cassina, New York City. **CIRCLE 221**

► French tailored wood veneer

A line of woven and carved wooden panels has been introduced by Marotte, a French company specializing in high-quality veneered panels.

Architects and designers can choose from more than 120 different types of wood and can create customized designs. The woven panels are created by

interweaving strips of wood veneer (either common species or exotic), and the carved panels are three-dimensional woodcarvings crafted to achieve any number of effects. 312/222-1235. French Technology Press Office Inc., Chicago. **CIRCLE 222**



◀ Copper top

When David Lynch & Associates wanted to make a curved copper roof a reality for Fulton Bank in Lancaster, Pa., they specified the Garland R-Mer Span curved, structural standing-seam system. Incorporating a single copper panel design also helped reduce the possibility of leaks. 800/762-8225. The Garland Company, Inc., Cleveland. **CIRCLE 223**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

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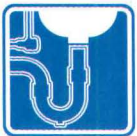
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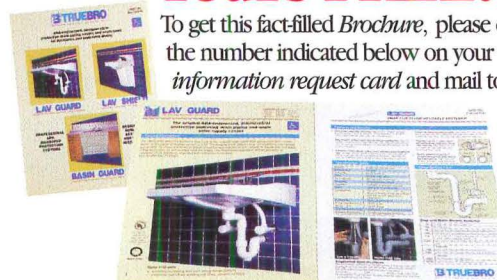
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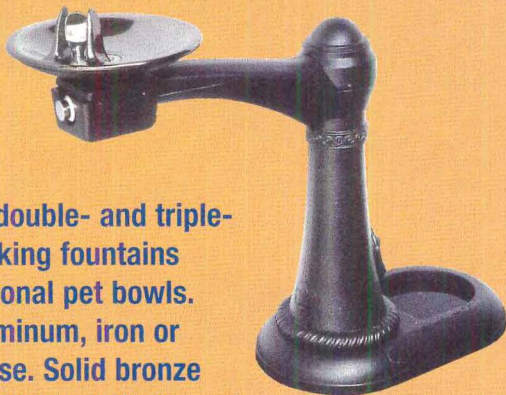
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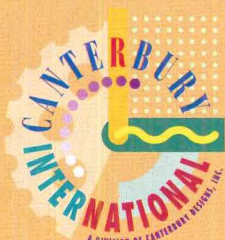
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Product Literature

Ceiling product gallery

The 2001 Product Gallery catalog from Chicago Metallic features ceiling suspension systems, metal ceilings, and specialty products including perimeter suspension trim, drywall grid, and Eurostone ceiling panels. 800/323-7164. Chicago Metallic, Chicago. **CIRCLE 224**

Healthcare casework

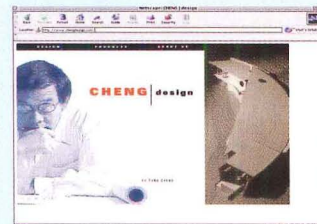
The Casework Symbol Library is a new software tool for integrating casework into healthcare environment design. The Casework Symbol Library works in conjunction with AutoCAD software releases 14 through 2000i by enabling users to "drag and drop" Midmark's assortment of casework offerings from pull-down menus into computer-aided drawings. 800/MIDMARK. Midmark Corporation, Versailles, Ohio. **CIRCLE 225**

Door study course

The Door and Hardware Institute has developed a CD-ROM-delivered self-study course that provides a complete, interactive introduction to architectural doors, frames, and hardware, and industry codes and standards. 703/222-2010. Door and Hardware Institute, Chantilly, Va. **CIRCLE 226**

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www.chengdesign.com



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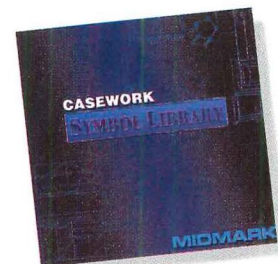
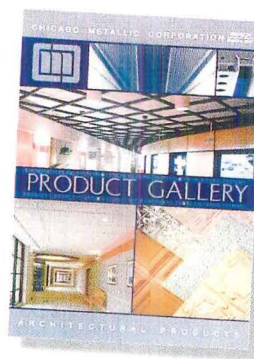
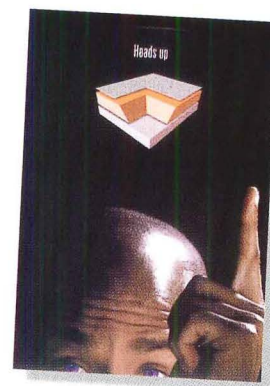
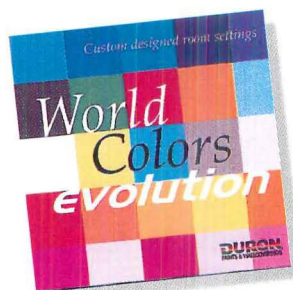
Online industrial lighting guide
www.lithonia.com/IndustrialLighting

Colorful CD

The new CD-ROM from Duron Paints & Wallcoverings illustrates the company's 2001 color palettes. 301/937-4600. Duron Paints & Wallcoverings, Beltsville, Md. **CIRCLE 227**

Spray foam brochure

BASF has published a new roofing brochure that provides industry specifiers with an overview of spray polyurethane foam technology. 734/324-6292. BASF Corporation, Wyandotte, Mich. **CIRCLE 228**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

Product Literature

Tougher fountains

The *School Access* brochure from Haws offers a line of vandal-resistant drinking fountains created for schools.

775/359-4712. Haws Corporation, Sparks, Nev. **CIRCLE 229**

Landscape furnishings

The new catalog from McKinnon and Harris features the company's original designs of garden furniture in wrought aluminum. 804/358-2385. McKinnon and Harris Inc., Richmond. **CIRCLE 230**

Sealing systems

New product lines featured in Zero's new catalog for the coming year include expandable thermal break door saddles with either oak or aluminum inserts, and high-performance continuous hinges. 800/635-5335. Zero International Inc., Bronx, N.Y. **CIRCLE 231**

Expanded ballast catalog

A revised ballast catalog is available in print or on CD-ROM. The product lines included in the *Ballast Navigator* catalog are electromagnetic, electronic, dimming, compact fluorescent, high-intensity discharge, and sign. 800/BALLAST. Magnetek, Nashville. **CIRCLE 232**

Emergency lighting PDF

Highlites, a manufacturer of high-performance emergency lighting equipment, offers a new interactive PDF full-version catalog CD-ROM. 203/575-2044. Highlites Inc., Waterbury, Conn. **CIRCLE 233**

Efficiency education

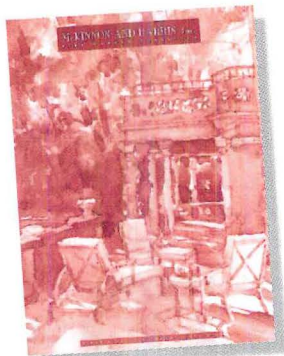
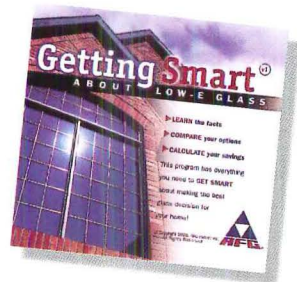
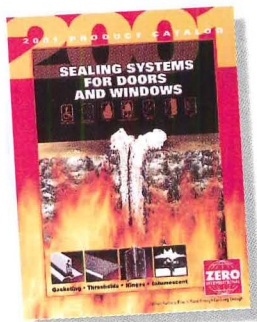
Getting Smart about Low-E Glass is a new CD from AFG Industries intended to help architects educate consumers about the benefits of energy-efficient glass. 800/251-0441. AFG Industries, Kingsport, Tenn. **CIRCLE 234**

Temporary bracing

A new brochure from the Wood Truss Council of America, *Brace the Temporary Bracing for Safety*, describes how to temporarily brace metal-plate-connected wood trusses in the field. The product's emphasis is on worksite safety. 608/274-4849. Wood Truss Council of America, Madison, Wis. **CIRCLE 235**

Big-box luminaire

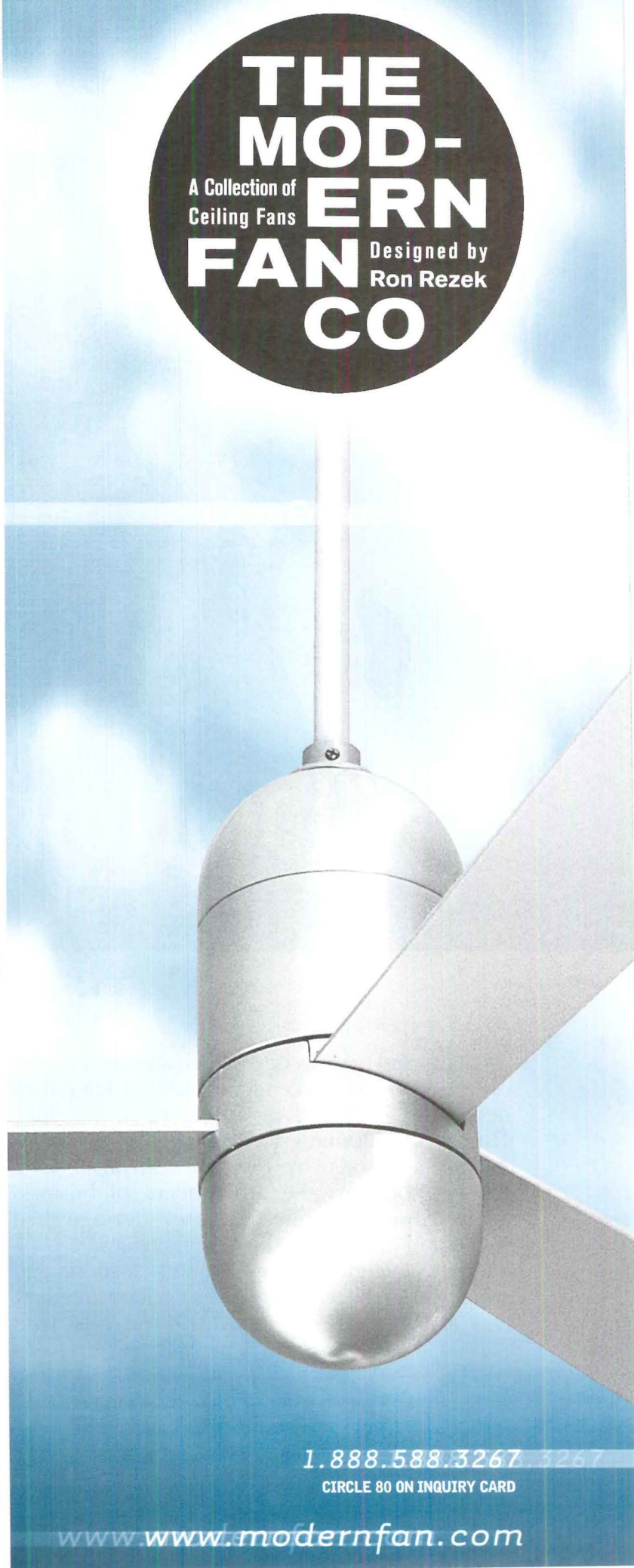
Holophane offers a compact disc describing the new Retailer luminaire for "big-box" applications. 614/345-9631. Holophane Corporation, Newark, Ohio. **CIRCLE 236**



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budgets ranging from under \$1 million to \$25 million plus. Award recipients are featured in both *Business Week* and *Architectural Record*, read by more than six million of the most influential people in business and design.

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BusinessWeek

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Dates & Events

Calendar

Immaterial/Ultramaterial

Cambridge, Mass.

March 5–April 7

Explores the ways in which revolutionary new materials can transform contemporary architecture. Allows visitors to see and interact with alternative materials and fabrication processes. At Harvard University Graduate School of Design. Contact 617/496-1234.

StudioSUMO: Explorations

New York City

March 15–April 15

Exhibits the constructed and theoretical work of the design collaborative of Sunil Bald and Yolande Daniels. Gallery opening accompanied by Sunil Bald lecture on March 15. At Parsons School of Design. Contact 212/229-8955.

The Architecture of Reassurance: Designing Disney's Theme Parks

Washington, D.C.

March 17–August 5

Explores the evolution of Disney theme parks Fantasyland, Frontierland, Adventureland, Tomorrowland. Also examines EPCOT's simulated worlds, as well as the "real-world" architecture of Disney shops, restaurants, and hotels. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

Aluminum by Design: Jewelry to Jets

New York City

March 20–July 15

Explores how aluminum has inspired innovation in design. Includes works by such visionaries as René Lalique, Jean Prouvé, Ludwig Mies van der Rohe, Russell Wright, Charles and Ray Eames, and Gio Ponti. At the Cooper-Hewitt National Design Museum. Contact 212/849-8400 or see www.si.edu/hdm.

Poetics of Movement: The Architecture of Santiago Calatrava

Dallas

March 25–August 5

Displays almost the entire collection of Calatrava's models, as well as small-size sculptures entitled *The Aegean Pieces*. It is the

inaugural exhibition at the Meadows Museum at Southern Methodist University. Contact 214/768-3785 or cboleman@mail.smu.edu.

Architecture and Water

New York City

March 28–September

Focuses on five international building projects that integrate architecture, landscape, and infrastructure to fully engage today's waterfront. Includes work of Foreign Office Architects, Diller and Scofidio, MVRDV, Steven Holl and Michael van Valkenburgh, and Alsop and Stormer. At the Van Alen Institute. Contact 212/924-7000.

Frank Lloyd Wright and the Art of Japan: The Architect's Other Passion

New York City

March 28–July 15

Explores the influence of Japanese design on the famous American architect. At the Japan Society. Contact 212/832-1155.

Flights of Fantasy

Lincoln, Mass.

April 7–May 28

Presents a computerized installation that is reminiscent of an outdoor park in which visitors share media messages with the environment and with other visitors. At the DeCordova Museum and Sculpture Park. For more information, contact 781/259-3628 or see www.decordova.org.

Territories: Contemporary European Landscape Design

Cambridge, Mass.

April 20–May 24

Presents a broad overview of current themes, trends, strategies, and completed works of landscape architects in contemporary Europe. Conference on same topic held April 20–21. At Harvard University Graduate School of Design. Contact 617/495-4784 or see www.gsd.harvard.edu.



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Dates & Events

Rooms with a View: Landscape and Wallpaper New York City

April 24–October 14

Provides a tour through 300 years of wallpaper and explores the fascination with landscape themes that resulted in rooms decorated with “views.” At the Cooper-Hewitt National Design Museum. Contact 212/849-8400.

Conferences and Symposia

Fourth Annual Candela Lecture

New York City

March 13

Named in honor of the engineer and architect Felix Candela, the lecture is given this year by Professor Mamoru Kawaguchi of Japan, a pioneer of space-frame,

inflatable, and deployable structures around the world. MoMA. Contact 212/708-9683 or go to www.seaony.org

Smart Growth Washington, D.C.

March 19

Joel Garreau, author of *Edge City*, will discuss the technological revolution downtown and on the suburban fringe. Topics will include the ways in which computer networks are rapidly changing life and work in both urban and suburban communities. National Building Museum. Contact 202/272-2448.

Chicago Housing Authority Housing Symposium

Chicago

March 20

Features a series of speakers, including a keynote address by

Mark Robbins, director of the NEA. At the University of Illinois at Chicago School of Architecture. See www.thecha.org/competition.

John Joseph Earley: Expanding the Art and Science of Concrete Washington, D.C.

March 31–April 1

Fourth biennial symposium on the historic development of metropolitan Washington, D.C. This lecture examines the life and work of John Joseph Earley, who developed a “polychrome” process of concrete-slab construction and ornamentation. At the University of Maryland, School of Architecture. Contact Jere Gibber, 703/768-6987 or see www.art-nouveau.org/latrobe.

New New York 2 New York City

Through March 14

Highlights significant recent architecture commissioned for cultural, and other, facilities in New York

City. At the Architectural League of New York. Contact 212/753-1722 or visit the Web site at www.archleague.org.

Suite Fantastique Columbus, Ohio

Through April 15

This design arts suite fills all five galleries of the Wexner Center and includes opening credits from movies, radical architectural drawings, Postmodern furniture, and a giant beast that visitors can walk through. Contact Karen Simonian, 614/292-9923 or simonian.4@osu.edu.

Wood: An American Tradition Washington, D.C.

Through April 22

Explores traditional wood-building techniques, as well as issues of forest stewardship, sustainability, and the potential of wood as a resource in the future. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

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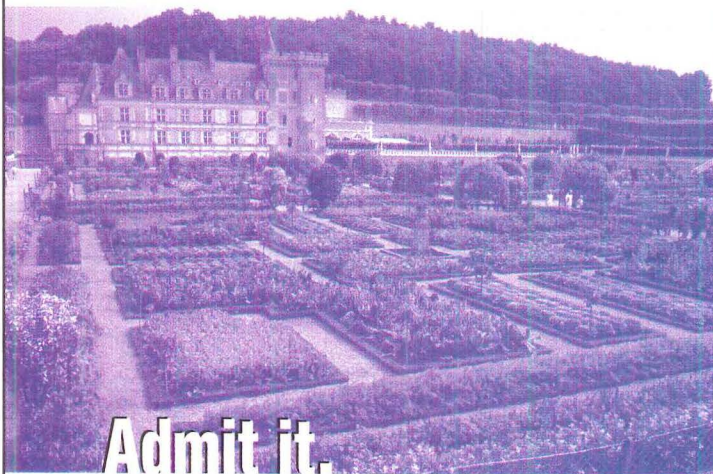
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Dates & Events

The Monterey Design Conference

Pacific Grove, Calif.

April 6-8

Attendance is worth up to 20 AIA Learning Units. At the Asilomar Conference Center. Contact 916/448-9082 or see www.aiacc.org/conferences.

Design Futures Council Meeting: "Anticipate and Capitalize on New Opportunities in the A/E International Marketplace" Chicago

April 24

Explores International Market Analysis, tactics for success, financing, and legal and risk-management issues. At the CNA Plaza. Contact Beth Seitz, 770/209-3771.

Symposium on Asia-Pacific Architecture Honolulu

April 5-April 7

The fourth international symposium is entitled "Sensible Design and Smart Practice," and the theme is "Technology, Innovation, and Entrepreneurial Design Practice: New Paradigms for a Changing Global Economy." At the University of Hawaii of Architecture. For more information contact 808/956-7084, E-mail archsypm@hawaii.edu.

2001 Investment Opportunities in China Chicago

April 25

Firms from the AEC industry interested in developing multinational contacts in China will have the opportunity to network with multinational speakers and attendees. Hosted by CNA and V.O. Schinnerer & Co. CNA Conference Center, CNA Plaza. For more information, contact 703/266-1319.

Symposium on Architecture and Nature

New York City

May 1

Diana Agrest, of the Cooper Union, will deliver the keynote address, focusing on the work of Frank Lloyd Wright and more recent architects who the reinterpret nature through built form. The panel of respondents includes Stan Allen, Kenneth Frampton, and Robert Irwin. At the New School. See www.newschool.edu.

Competitions

Boston Society of Architects/AIA Design Awards Programs

Deadlines begin March 12

Awards are available for design work in various categories, including healthcare facilities, sustainable design, unbuilt architecture, and urban design. Contact 617/951-1433x2221 or bsa@architects.org.

Ceramics Tiles of Italy Design Competition

Deadline: April 10

Awards are available for tile design by architects and interior designers involved in commercial or residential work. Contact 212/980-1500 or see www.italytile.com.

Sixth International Design Prize Switzerland

Deadline: April 30

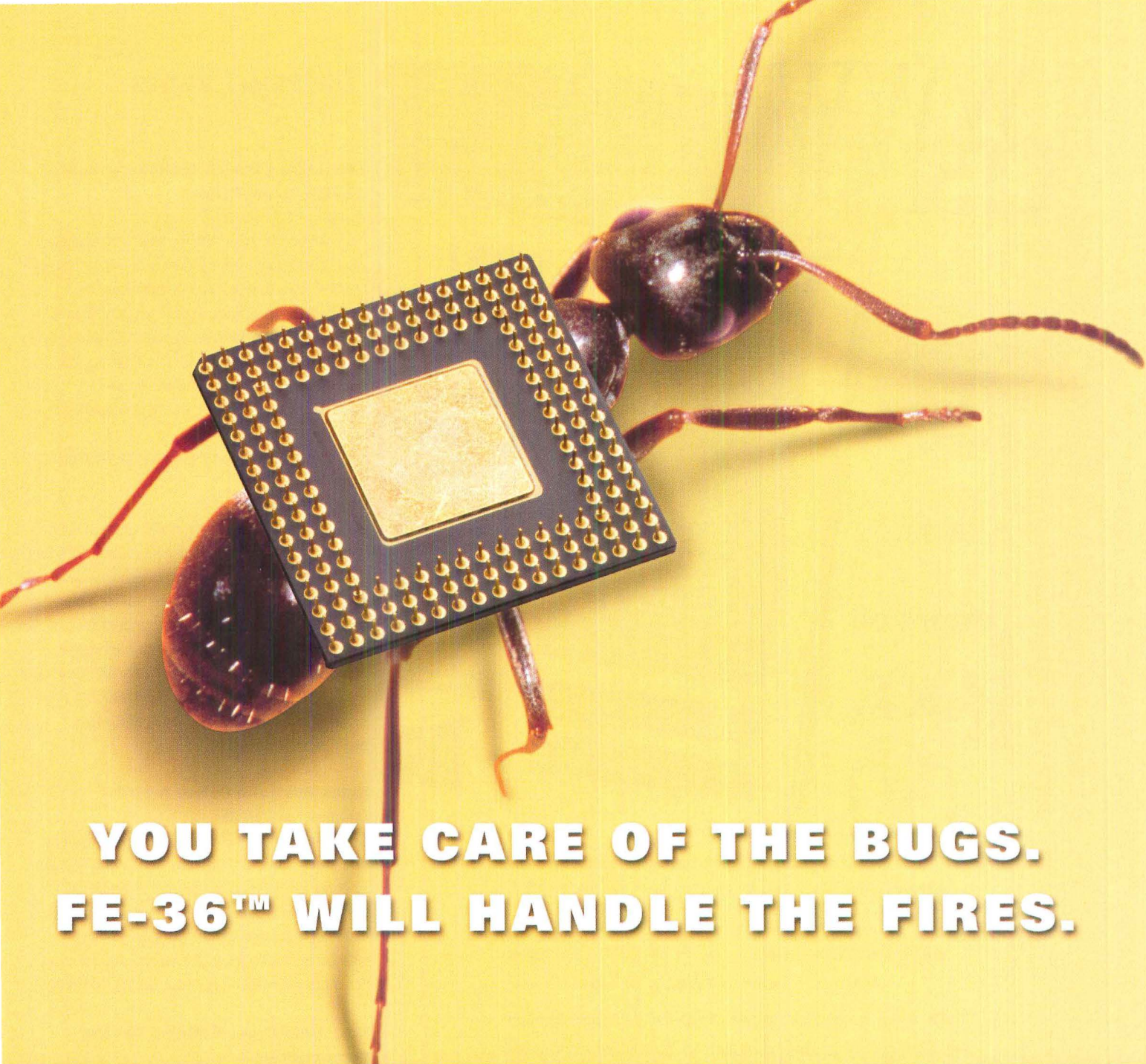
Eligible candidates include private and public designers from Switzerland and abroad. Contact Barbara.Kohler@pr-access.ch.

National Preservation Honor Awards

Nomination Deadline: May 1

Eligible candidates will have completed an outstanding preservation project in the past three years. Contact Susanna French at 202/588-6125.

E-mail your submissions to ingrid_whitehead@mcgraw-hill.com.



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CIRCLE 87 ON INQUIRY CARD

Dates & Events

Flemington Jewish Community Center Design Competition

Deadline: March 15

Competition to select an architect to design a new Jewish Community Center of approximately 23,000 square feet, on a 4.5 acre site in Flemington, N.J. This is a one-stage, national design competition open to licensed architects in the U.S. Registration fee is \$75. First prize is \$10,000. For more information go to www.flemingtonjewishcenter.org/competition/

Boston Society of Architects Design Awards

Deadline: various

Four programs available for all architects who wish to submit projects in New England. The four programs include healthcare (March 12 deadline), urban design (April 9 deadline), sustainable design (April 30 deadline), and unbuilt architecture (July 16 deadline). Complete submission guidelines may be obtained at www.architects.org (click on "News and Events," then "Honors and Awards") or call 617/951-0845, or E-mail bsa@architects.org.

Dulux Australia Colour Awards

Deadline: March 15

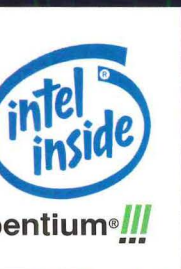
Dulux has invited architects, interior designers, and students of architecture and interior design to enter its 2001 colour awards. Categories for the award include commercial exterior, commercial interior, residential exterior, residential interior, public spaces, and temporary structures. For more information go to www.dulux.com.au.

Northeast Green Building Design Competition

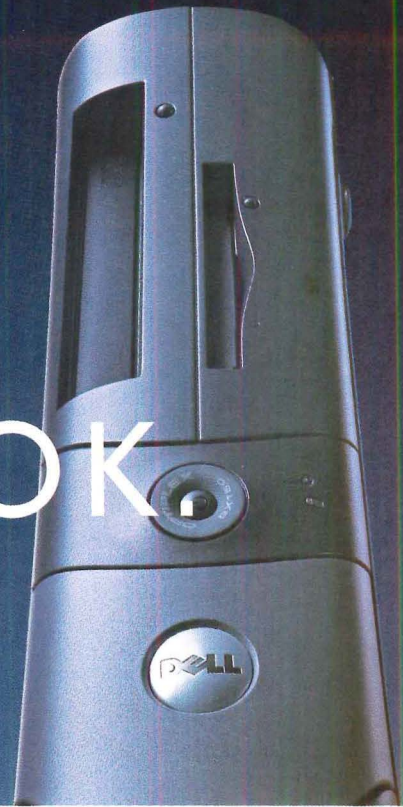
Deadline: March 15

A competition for the most environmentally friendly buildings in the Northeast U.S., sponsored by the Massachusetts Renewable Energy Trust and organized by the Northeast Sustainable Energy Association (NESEA). Entries (with the exception of the student project category) must be new buildings or renovations completed after January 1, 1997 in the northeastern U.S. For entry information go to www.nesea.org.

E-mail your submissions to ingrid_whitehead@mcgraw-hill.com two months prior to the event or deadline.



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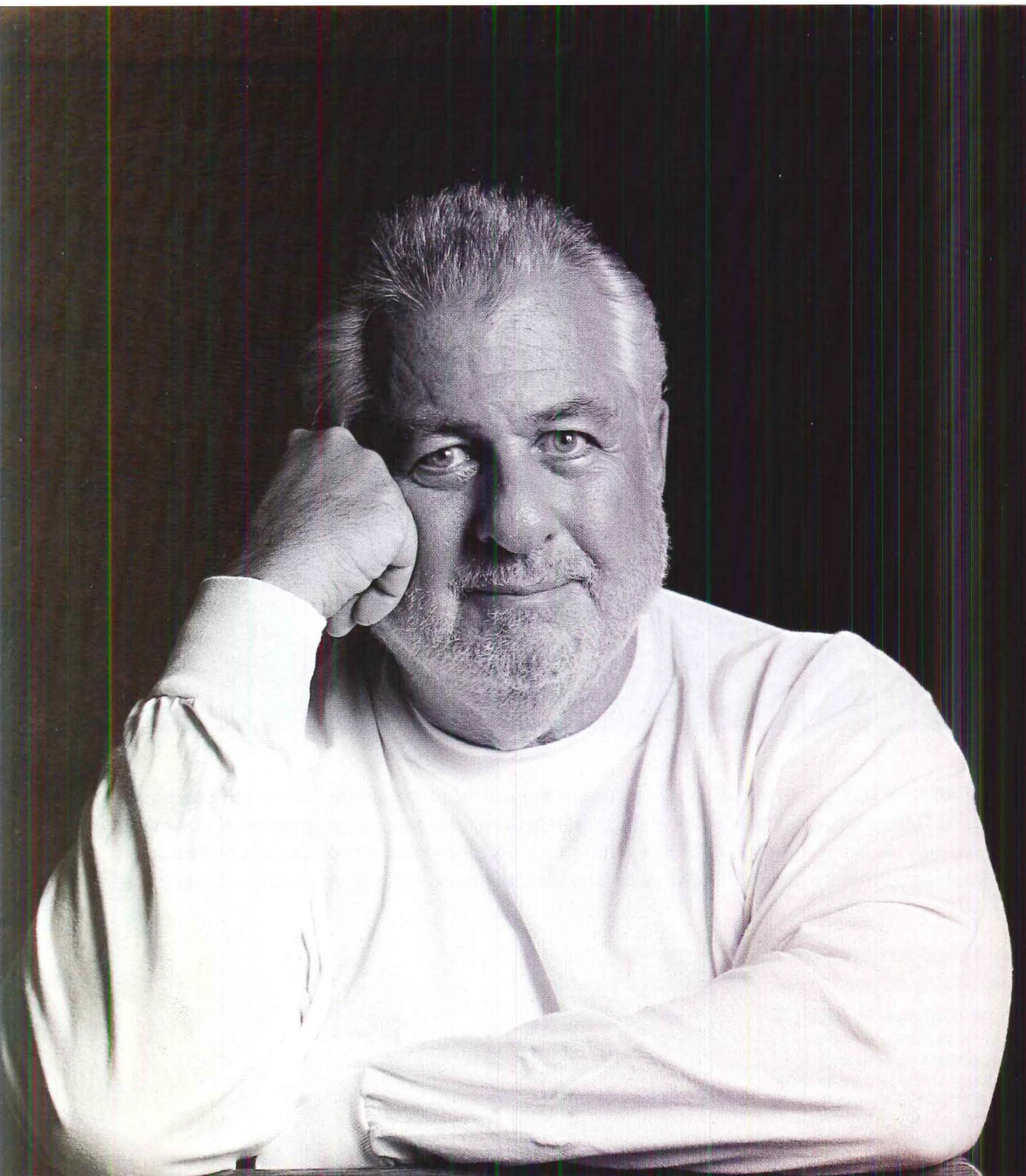
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Richard Saul Wurman: Designing outside the lines

Interviewed by Harris M. Steinberg, AIA

Trained in architecture under Louis I. Kahn at the University of Pennsylvania in the 1950s, Richard Saul Wurman, FAIA, has evolved his career arc at a dizzying pace. Architect, author, graphic designer, educator, publisher, entrepreneur, creative director—Wurman defies categorization. Fueled by what he describes as “unbridled curiosity and a penchant for failure,” Wurman appears to pull ripe topics out of thin air and spin them into new and engrossing material and media. In touch with the Zeitgeist, he has created seminal publications such as the groundbreaking Access Press and the best-selling Information Anxiety; he now produces the TED Conferences on Technology Education and Design. His is the story of the world’s first (self-proclaimed) information architect.

Q: *Do you identify yourself as an architect?* Absolutely. Louis Kahn told me that he served the god of architecture, and that whatever he did, he did it as an architect. If somebody asks me what I am, I say one of two things. One is that I run a party in Monterey every year. The other is that I am an architect.

Do you count yourself as an emissary of the profession? Are you supportive of the profession? No to both questions. Nor would architects want me to be. I had an architectural office for 13 years, and it’s my training as an architect—in the spirit of Louis Kahn—that allows me to do what I do every day.

Tell us a little about the TED Conferences. The conference goes on in February. Over 900 people come. Frank Gehry never misses a conference. I turn away 1,000 people each year. There is

no announcement of it, no mailing, no PR. No press passes and no comps. I don’t announce the speakers until it’s sold out, and then I don’t announce them for six months. I do nothing to attract people, so the only attraction is word of mouth. It’s also very expensive. So it’s an extraordinary meeting and I work to try to design in real time how people talk to each other and discover patterns in science, in technology,

in entertainment and design, in medicine, in the performance of entertainment, in animals. Most of the speakers this year are over 70 years of age or under 30 years of age. My oldest speaker is 96, and my youngest is 9. *You call yourself an information architect.* I invented the term in 1975, when I was national chairman of the AIA convention in Philadelphia. It was called “The Architecture of Information.” Now, I would say that somewhere between 20 and 100,000 people in the U.S. have “information architect” on their business cards. ■

Photograph by Reven TC Wurman

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