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Another Pair of Eyes

Editorial

By Robert Ivy, FAIA

Aggression is a particle, desire is a wave." Thus Herbert Muschamp, the architecture critic for The New York Times, characterizes countervailing forces in the universal ether, metaphors that once again plunge us into this critic's seductive worldview. Week after week, architects and the cognoscenti read the Times' architectural criticism—caught up in its language, prejudices, quirks, variable points of view, sometimes brilliant fireworks across the cultural spectrum—responding to a voice that reverberates from coast to coast.

Although the role of architecture critic at the Times may seem inevitable, the position is a recent one. Ada Louise Huxtable introduced regular architectural criticism to the pages of the paper in 1963, winning respect both for the publication and for urban planning and architecture, while earning a Pulitzer Prize—an honor also garnered by her replacement, Paul Goldberger. Forty years later, the approaching anniversary of Huxtable's contribution prompts us to examine what the paper has accomplished for the field.

The Times' coverage and reach are unique. While other major newspapers, such as The Boston Globe and the Chicago Tribune, include architectural criticism of worldwide projects in their pages, most stories concern interventions within their own metro regions. The New York Times, however, equally quoted in San Francisco as in Westchester County, assumes an exalted position of influence, aided by staff writers regularly covering architecture in a cacophonous, lively brew of articles: Stories about buildings and cities appear in real estate, urban planning, residential, and cultural beats. We all have our favorites. Yet, uniquely among the other cultural disciplines, architectural criticism sings solo.

Therein lies the rub. Critics are meant to judge and to

create adherents and enemies: Journalistic ethics protects them. The paper should elicit a national dialogue. Instead, speaking ex cathedra from the newspaper of record, the current, lone officeholder wields tremendous authority, if not real power, since no one refutes him. Critical stories by other writers rarely surface anywhere in print, prompting rumors of veto power and mythical hegemony. The Times critic is, however, but one person in a vast field, and the stakes are too high for the Mother of the Arts to be limited to a singular perspective. Two eyes cannot suffice.

Unfortunately, the newspaper has missed too much, failing to offer analysis or meaningful coverage of worthwhile projects that deserve our collective attention. Following September 11, which prompted award-winning coverage, many of the newspaper's resources and its chief critic's time were engaged in reporting the developments in Lower Manhattan and in cooking up plans to stimulate debate (placing the critic in a problematic role for future analysis); yet other building continued apace, leaving swaths of worthwhile architecture uncovered.

Giving him his due, Muschamp succeeds at his job by consistently engaging us at the highest level. Following in the footsteps of the late Pauline Kael, if not with her rigor, this devotee of pop culture blends intellectual conceits with earthy figures like Anita Eckberg into an unanticipated, flaming cocktail we're all thirsty for. Who among other contemporary architecture writers would combine psychoanalytic theory with aesthetics? What other writer at a commercial newspaper would dare to assert that "philosophy has abandoned Socrates for Nietzsche," then describe the leap that architects are taking toward a more intuitive architecture? We walk the streets, heady with the intellectual fumes.

Editorial

Yet, despite Muschamp's occasional brilliance and his shaking up of the establishment's complacency, he remains human and finite. His subjective critical approach, peppered with the personal pronoun "I," reveals much of his own personality and idiosyncrasies along with his ideas. Long ago we became aware of a shortlist of favorites, architects who fall within his canon of small firms worthy of mention and praise, whom he has described as "among those at the forefront of intersubjective architecture." A tongue-in-cheek parody circulating on the Internet and mentioned in the Los Angeles Times on November 10 convincingly captures his personal style and obsessive list-making.

While we may quibble over the idiosyncrasies, the newspaper's omissions have been significant. In New York City, the paper avoided serious discussion of the new vertical campus at Baruch College, for example, an ambitious urban intervention by Kohn Pedersen Fox worthy of thoughtful critique. A host of other projects deserved scrutiny. The list ranges from 4 Times Square by Fox and Fowle and Davis Brody Bond's South Court of the New York Public Library to the new international terminal at JFK airport by Skidmore, Owings & Merrill. Perhaps all four were omitted because their architects came from larger "corporate" firms, a designation that routinely draws Muschamp's fire. But also excluded was a proliferation of smaller work by talented, favored firms, such as the Melrose Community Center by Agrest and Gandelonas and the Ferry Terminal at Pier 11, Wall Street, by Smith-Miller Hawkinson.

The paper lacked coverage outside the city. For an ambitious national newspaper, where was its commentary on the addition to the Milwaukee Art Museum by Santiago Calatrava, the Cathedral of our Lady of the Angels by José Rafael Moneo in Los Angeles, work by Steven Holl or Daniel Libeskind, or Tadao Ando's Pulitzer Museum in St. Louis? All made important cultural contributions.

"I wasn't able to cover most of those works," he explained in print. "The unfolding of events in the politics of New York architecture was a story I couldn't overlook." Certainly not, but why should the paper remain aloof to issues beyond those produced by a tightly focused cast of characters?

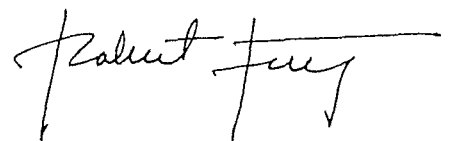
Wouldn't the city, its people, and all architecture benefit from enumeration and deconstruction of our successes as well as our imperfectly realized ambitions?

Moreover, we never know when to look for the column. Erratic scheduling, which follows no discernable pattern, undercuts a regular readership, producing silent weeks in which architecture simply goes missing. When it does surface, the content appears to be minimally edited, a situation that encourages rambling digressions that often veer far from a thesis. The inevitable response of some readers is to relegate the column, and therefore the field, to the merely capricious. Architecture deserves more attention.

The answer to this dilemma lies in adding a critic to the masthead. For years, more than one individual routinely has covered other cultural beats: art, dance, movies, and music benefit from multiple points of view. Analogously, another talent could write in parallel with Muschamp, counterbalancing aggression with desire, particles with waves—someone to cover the subject when he cannot or isn't interested, one who will reach outside Muschamp's territory and complete a column when he does not. The time is right; the subject of design, on everyone's lips, deserves the commitment.

Symbol, witness, shelter, portal to consciousness, to paraphrase the critic. Who else can help us winnow through the chaff to find the meanings inherent in new projects? We are fortunate to have an architecture critic at The New York Times as insightful and engaging as Herbert Muschamp. However, rather than his single gaze, architectural criticism in this national newspaper should more resemble the multi-dimensional view of the Hindu goddess Kali, a three-eyed deity simultaneously wielding the heads of her victims and the blessings of continual rebirth in her multiple hands.

The critic outlined the issues well himself: "Actually, all phases of the building art—including zoning, economics, politics, context, history, aesthetics, and ideology—fall within the traditional scope of critical interpretation." He said it, we need it: Now, great Gray Lady, give us one more pair of eyes.



T I M E L E S S

E G E N D A R Y

HOW DO YOU DEFINE A CLASSIC?

A U T H E N T I C

E N D U R I

Letters

When will they learn?

August's article, "What's in a Name?" [Features, page 84], on the controversy in architectural education, says that "Schools have less-defined curricula, and schools are able to create programs tailored to the needs and interests of their students.... After [school], the path to becoming an architect is reasonably standardized." Yet, ask students and interns (which RECORD's article and survey pointedly did not do) which is the more confusing, and they will resoundingly say "internship."

IDP is "reasonably standardized" in the way that we're discovering that corporate accounting rules are "reasonably standardized." Sure, there are rules and a structure on paper, but they don't correspond very well to the realities and demands of practice in the 21st century. So many interns and senior professionals alike routinely "bend" those rules, lie outright, or more often simply don't engage the program (as noted in "Overwhelmed by requirements, interns cheat on reports to NCARB," Record News, July 1999, page 55). This is not an argument for eliminating the rules that we do have, but for having the courage to acknowledge the big white elephant in the room and to do something about it.

Few successful practitioners could practice today as they did in 1979. Yet the basic structure of IDP hasn't changed markedly since it was conceived in that same year. We interminably discuss education, in part because there is a clear structure within which to discuss. All the collateral organizations (including students) are represented in formal policy discussions and are, in fact, represented on each accreditation team that reviews and assesses every professional degree program in the U.S. and Canada. In addition, every three years there is a major

(validation) conference to discuss the goals and methods of architectural education. NAAB is a model of collaboration, and though we all have our personal criticism of education, we also have a seat at the table.

The IDP program, however, stands in stark contrast. It is NCARB's program, and they are rightfully protective of it. The result, however, is that practitioners, students, interns, and educators are not represented in policy-making decisions about IDP, and there has never been a true national discussion about either the goals or the methods of the IDP. Unlike education standards, IDP is imposed uniformly across an array of firms—large and small, traditional and experimental—with no accreditation procedures or methods. Even the AIA's Continuing Education providers have standards and procedures they have to meet in order to offer those programs.

Internship (and the profession as a whole) would benefit greatly from the sort of thoughtful, specific, inclusive, and contentious debate that occurs most every day at schools across the country.

—Raymond Dehn, Assoc. AIA
Elness Swenson Graham
Architects
1996–97 AIA's National President

Staying in school

Record's guide to architectural education on architecturalrecord.com is an incredible feat. It's essentially the ACSA Guide to Architecture Schools, except up-to-date, online, and free. This is precisely the kind of resource that the national membership organizations have been talking about for years in response to the ongoing debate about school rankings. What an incredible resource.

—John Cary Jr., Assoc. AIA
Cofounder, ArchVoices
Ph.D. student, UC Berkeley

The old school and the new

The photo of Princeton's "Collegiate Gothic" Blair Hall immediately caught my attention [Critique, October 2002, page 79]. In the 1960s, I decided Princeton must be a very nice place to study architecture because I had seen photos of its beautiful campus. Although I knew Princeton was a top liberal arts school, I had no idea where its School of Architecture ranked nationally. Photos of the Princeton "brand" of wonderful Gothic architecture attracted me the most. I was not disappointed.

I disagree with the author's characterization of Princeton in the 1960s as a place so socially stratified that only wealthy students could live in the beautiful Gothic dorms. In my junior and senior years, I lived over the beautiful arch of Holder Tower. My recollection of how we ended up there is that everyone entered the "room draw," and you picked out your rooms based on which names were drawn first. Wealth had nothing to do with who lived where.

Room rates didn't vary widely, regardless of where on campus you lived. Half the students received financial aid, and that percentage is likely higher now. Many loved life in Gothic-style dorms, despite the obvious lack of creature comforts (like bathrooms on the same floor as your room).

Although I now work for a university that has received international media recognition for its modern architecture and innovative landscaping, I still love historic architectural styles. I am glad that Princeton is now building a "modern Gothic" dorm. Collegiate "branding" works for me!

—Michael Burrill, AIA
Via e-mail

School is not yet out!

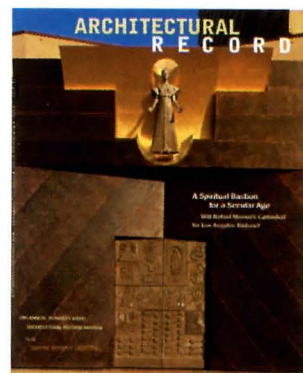
Robert Campbell's piece in the October issue of RECORD [Critique, page 79] was of particular interest to

me. Campus Eclecticism is something we can't miss. Campbell is right on target in saying there is a smidgen of elitism in our college architecture.

I believe that architectural style is of importance in creating a group of buildings. Campbell has said before that in creating a group of buildings whose ambience conveys a message, a collective style (persona) should be carefully considered.

Nevertheless, when a young tour guide in Harvard Yard pointed out to me that H.H. Richardson's beautiful building was out of place, it shocked me. I would agree with him, but would opt for removing all the other buildings, if necessary, and would keep Richardson's.

—Frank H. Cram, AIA, NCARB
Boston



The Cathedral of Our Lady of the Angels, photographed by Julius Shulman with David Glomb.

Corrections

In the November issue, the photographs of the Los Angeles cathedral, taken by Julius Shulman, should have also credited David Glomb, who collaborated with Shulman. In the October Business Week/Architectural Record Awards coverage, photos of the Abercrombie & Fitch headquarters should have been credited to Brad Feinknopf.

Please send your letters via e-mail to rivy@mcgraw-hill.com.

Forecasts call for construction industry's expansion to end in 2003

The construction industry hopes to settle for stability in 2003 as the growth of recent years may be elusive. That was the message from construction industry and economic analysts at the 64th annual Outlook Executive Conference sponsored by McGraw-Hill Construction (publisher of ARCHITECTURAL RECORD), held in late October in Washington, D.C. Speakers included Kermit Baker, Hon. AIA, the chief economist for the American Institute of Architects; Bob Murray, vice president of economic affairs for McGraw-Hill Construction; and David Wyss, chief economist with Standard & Poor's.

Construction in the United States has expanded in each of the past several years, and this year will see a projected 1 percent increase from 2001, with \$498.9 million in total construction. However, the expansion will end in

2003 with a forecasted total of \$495.1 million in construction contracts, down 1 percent from 2002, according to Dodge, a division of McGraw-Hill Construction.

Public works projects, for example, had an average annual growth rate of 6.5 percent over the past four years but are forecast for a 3 percent decline in 2003 due to financial constraints at both the federal and state level. Institutional building activity increased an average 8.3 percent over the past four years but is likely to have only a 1 percent increase in 2003. During the same four-year period, as interest rates decreased, the single-family housing market had an average annual increase of nearly 8 percent but is predicted to see no increase next year.

The forecasts could be off, of course, and 2003 could potentially

be worse than predicted, depending on possible military action in Iraq or if the economy does not begin to expand. Murray noted, though, that the construction industry is more

stable now than it had been in the 1970s and 1980s, and the predicted loss of momentum is mild compared to the early 1990s.
John E. Czarnecki, Assoc. AIA

The U.S. Sequence of Expansion					
BILLIONS OF DOLLARS AND PERCENT CHANGE FROM PREVIOUS YEAR					
	1999	2000	2001	2002	2003
TOTAL CONSTRUCTION	448.3 +11%	474.3 +6%	496.2 +5%	498.9 +1%	495.1 -1%
SINGLE-FAMILY HOUSING	164.3 +8%	176.9 +8%	186.8 +6%	204.0 +9%	203.3 -0-
PUBLIC WORKS	74.2 +9%	78.0 +5%	83.9 +7%	88.2 +5%	85.5 -3%
ELECTRIC UTILITIES	9.4 +180%	13.5 +43%	23.7 +75%	14.5 -39%	11.0 -24%
INCOME PROPERTIES	108.4 +7%	113.0 +4%	103.0 -9%	92.5 -10%	94.2 +2%
INSTITUTIONAL BUILDINGS	80.6 +18%	84.0 +4%	90.7 +8%	93.8 +3%	94.7 +1%
MANUFACTURING BUILDINGS	11.4 -6%	8.9 -22%	8.2 -8%	6.0 -26%	6.4 +6%

Source: McGraw-Hill Construction



The RISD Center will have studios on the top three glass-enclosed floors.

Moneo designs RISD Center as beacon for the Providence school

The Rhode Island School of Design (RISD) unveiled plans in October for the RISD Center, a 60,000-square-foot multipurpose facility designed by Rafael Moneo.

The six-story building will include a 225-seat auditorium, café, and classroom and studio spaces. It will also serve as the new North Main Street entrance to the adja-

cent RISD Museum, which now faces Benefit Street, uphill from the project site. A lobby escalator will take visitors to a third-story special exhibitions gallery, which connects via glass bridge to the Radecke Building, the main facility of the four-building museum. Student galleries will be located on the second level of the RISD Center, and the

museum's department of prints, drawings, and photographs will be housed on the fourth floor. Ground breaking on the \$30 million project is expected in fall 2004.

Because the RISD Center expands and reconfigures the museum, Moneo calls the design "so contextual that it helps to restructure the entire block, giving

a sense to this conglomerate of buildings, something like a keystone." The museum will undergo \$16 million in additional renovations to improve circulation.

Moneo explains that he intended the new building's facade to "produce a rather consistent urban episode." The three lower stories will be clad in brick, and the massing of each floor echoes the scale of the many neo-Georgian structures on North Main Street.

The upper three stories of studio spaces, wrapped in scalloped glass laminate, will glow lanternlike at night as a "new projection of RISD," as Roger Mandle, president of RISD, put it. *David Sokol*

OFF THE RECORD

Ending months of speculation, the Art Gallery of Ontario announced that **Frank Gehry, FAIA**, will design its \$116 million expansion. It is Gehry's first project in his native Toronto. Construction will likely begin in 2005, with completion in 2007.

The husband-and-wife team of **Robert Venturi, FAIA, and Denise Scott Brown, RIBA**, were honored as recipients of The Vincent Scully Prize in a December 8 ceremony at the National Building Museum.

Cornell University has selected **Barkow Leibinger Architects** of Berlin for a new building for its department of architecture. Other firms under consideration were **Tod Williams Billie Tsien and Associates, Thom Mayne of Morphosis, Smith-Miller + Hawkinson Architects, and Allied Works Architecture**. The university had selected **Steven Holl** for the project in April 2001, but that relationship was dissolved this summer.

Japanese architect **Arata Isozaki** has been selected to design a 15,000-seat indoor hockey arena for the 2006 Winter Olympics in Turin, Italy. Construction is scheduled to begin in the first half of next year and be completed by February 2005. The arena is expected to cost \$40 million.

Foster and Partners, with Arup, has won a competition for a railway station in Florence for Italy's new high-speed rail network. Other firms under consideration for the project were **Arata Isozaki, Santiago Calatrava, Foreign Office Architects, Zaha Hadid Architects, the German practice von Gerkan Marg und Partner, and Italian-based Gruppo Toscana**.

Curt Green, FAIA, cofounder of Minneapolis-based Hammel Green and Abrahamson, died at age 77. Working with **Hardy Holzman Pfeiffer Associates**, Green was the local architect on Orchestra Hall in Minneapolis.

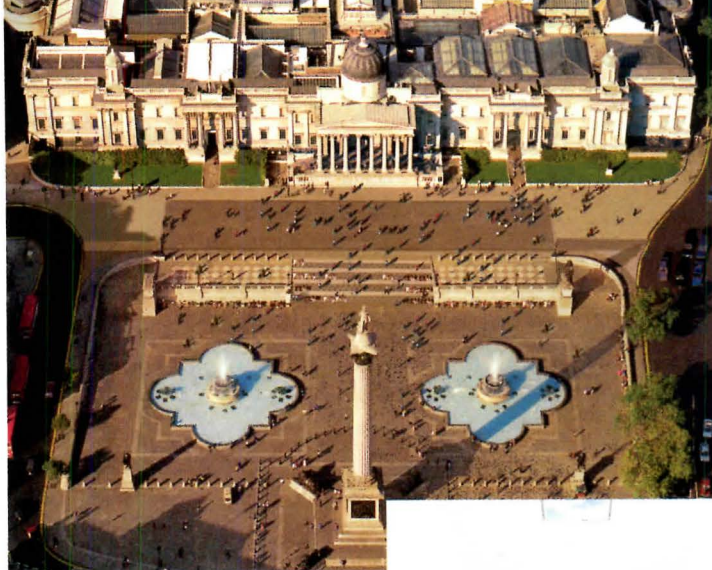
New entrance for U.K.'s National Gallery

London's National Gallery, under its new director Charles Saumarez Smith, has unveiled plans for a radical facelift to handle its four million annual visitors. London's Dixon.Jones, the practice behind the renovation of the Royal Opera House, has designed a master plan for the expansion of the Neoclassical landmark.

Phase one is the East Wing Project, a \$35 million scheme that will create a new entrance from Trafalgar Square, increased gallery space, and improved public areas on the ground floor at the east end of the building toward the church of St. Martin-in-the-Fields.

The East Wing Project coincides with Lord Norman Foster's scheme for the pedestrianization of the north side of Trafalgar Square (see image at top), completed last September, which includes a new set of steps by Lord Foster.

The new East Wing entrance will be on the gallery's ground floor, which currently houses administration and storage facilities. The entrance will lead visitors into a new skylight-topped atrium (right)



The gallery will have a new entrance off Trafalgar Square (above), leading to a new atrium (right).

created within a previously hidden courtyard at the heart of the building. A café and shop, designed by London design consultant Din Associates, will be on either side of the atrium. Stairs and elevators will lead visitors to the Central Hall, a substantial new exhibition space.

Dixon.Jones' master plan covers an unspecified number of future phases, including the mirror image West Wing Project and the redevelopment of the lower floor at the back of the building, where two courtyards that are now hidden could be exposed.

The gallery currently has funds only for the East Wing Project,



thanks largely to a \$16.5 million donation from the Getty Foundation in honor of Sir Paul Getty.

The last major addition to the National Gallery was the Sainsbury Wing, just off Trafalgar Square, designed by Venturi, Scott Brown & Associates and completed in 1991.

Construction of the East Wing will begin in late spring 2003, with completion set for the beginning of 2005. *Adam Mornement*



Cloepfil, Allied Works selected for New York museum

The Museum of Contemporary Art and Design (formerly the American Craft Museum) has selected Portland, Oregon-based Allied Works Architecture, led by Brad Cloepfil (left), to renovate Two Columbus Circle (right) for the museum's new home in New York City. The building was designed by Edward Durell Stone in the early 1960s and has been vacant since 1998.

Allied Works Architecture was one of four firms on a short list (see story, this issue, page 72) for the \$25 million project with Smith-Miller + Hawkinson Architects, Zaha Hadid, and Toshiko Mori. The museum had culled those four from a list of 11, including William Bruder Architect, Kennedy Violich Architects, Koning Eizenberg Architecture, Lake/Flato Architects, Peter Marino & Associates Architects, Office dA, and Wendy Evans Joseph. "We were really looking for firms that were emerging, in the same way that the museum is about emerging artists," said Laurie Beckelman, director of its new building program.

New Yorkers wonder if Cloepfil will propose puncturing the blank facade facing Columbus Circle with windows. Cloepfil is trying to gauge reaction before developing a schematic design. "I want to talk to a lot of people in New York," he said, "about what they think about that building and what it means to the city." *J.E.C.*



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I AM PART #19

SPECIAL REPORT

Plans move rapidly on temporary commuter train station at WTC site; more firms in mix

With work on a replacement PATH commuter train station already under way, the reconstruction of the World Trade Center (WTC) site has commenced in earnest. Yet the overall urban design process is moving behind the pace projected

Jill Lerner, AIA, a principal at Kohn Pedersen Fox and former cochair of the New York New Visions memorials committee; Mark Ginsberg AIA, of Curtis + Ginsberg and a cochair of the executive committee of New York New Visions; Robert Davidson,

FAIA, chief architect of the Port Authority of New York & New Jersey; Hugh Eastwood, a planner for the Lower Manhattan Development Corporation (LMDC); and Steven Peterson, AIA, of Peterson/Littenberg Architecture and Urban Design, a consultant to the LMDC.

to retain businesses in the area, Davidson and the Port Authority have focused on restoring PATH service as quickly as possible by rebuilding the tracks as they were, utilizing portions of the WTC's concourse that remain intact, and creating a temporary station (shown here) atop the existing foundations of the previous one. As part of a \$544 million upgrade to the PATH system (which includes renovations of the once-flooded tunnels below the Hudson and track improvements at Exchange Place in New Jersey), the new WTC temporary facilities will be capped by a canopy of metal trusses and tension cables that will face Church Street. Construction of the temporary station will be complete in December 2003.

Davidson also unveiled initial studies for permanent improvements to the site's infrastructure (but the Port Authority was unwilling to release images for publication at press time) to include a new and much larger hub to replace the temporary facility. Rising several stories above ground, this glass structure will provide direct visual connections from Church Street to the PATH platforms four levels below. The hub will link eastward to the MTA's proposed transit center at Broadway and Fulton streets via a new pedestrian concourse running beneath Dey Street. The concourse will also extend westward across the WTC site to the World Financial Center's Winter Garden. From here, commuters will be able to connect to a ferry terminal located on a floating barge in the Hudson River. The ferry terminal is expected to be complete in mid-2004.

In contrast to the speed of rebuilding the PATH station, the LMDC has backed away from its original timetable that predicted designation of a final land-use plan this year. The agency's revised process calls for seven master-planning proposals from the six new design teams that were selected in October [RECORD, November 2002, page 28] and from Peterson's firm—to be released by mid-December.

To date, the pressing germ of revitalization has been transportation—as Davidson put it, conceiving plans “from the bottom of the site up.” According to Lerner, that has been a necessary course to take: “Everybody recognizes this is the right priority, even if it impacts future options, so long as it does so as flexibly as possible.” With the need

only a few months ago. Leaders involved with the revitalization of Lower Manhattan discussed this oscillation between urgency and delay during a panel at the 18th annual Build Boston convention on November 12.

The event was moderated by Ric Bell, FAIA, executive director of AIA New York, and panelists were



The photomontage (above) depicts the temporary PATH station that will be complete in a year, including an entrance canopy (top) on Church Street.

Waiting for Ground Zero

ARCHITECTURAL RECORD will present a panel discussion—*Waiting for Ground Zero*—about the latest round of proposals for the World Trade Center site commissioned by the Lower Manhattan Development Corporation and the Port Authority of New York & New Jersey. Panelists will include participants in the design study, as well as commentators on the process. The event will be on Tuesday, January 7, at 6:30 P.M., in the McGraw-Hill Auditorium, 1221 Avenue of the Americas, New York City. For more information about the event, including speakers and reservations, visit www.archrecord.com.

In mid-November, three New York-based architecture firms were hired as consultants to perform specific studies for the LMDC for \$50,000 each: Weiss/Manfredi, Robert A.M. Stern Architects, and Smith-Miller + Hawkinson. The selection of Stern's firm raised immediate questions among New York architects of a possible conflict of interest because Stern is the dean of Yale's School of Architecture and Alex Garvin, the LMDC's vice president of planning, design, and development, is an adjunct professor in that school.

Peterson/Littenberg, which has been an in-house consultant to the LMDC since spring, had its contract extended for three years. Beyer Blinder Belle continues its work for the LMDC, and Ehrenkrantz, Eckstut & Kuhn Architects are urban design advisers to the Port Authority. Mark Pasnik with J.E.C.

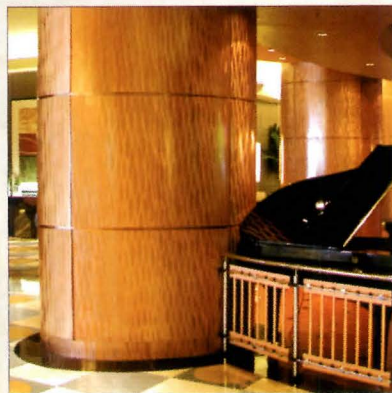
www For continuous updates on the planning of Lower Manhattan, visit our special section at architecturalrecord.com

**I AM
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#19

Allsteel



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Record News

Moynihan beams as Polshek unveils Newseum design for D.C.

At a late-October unveiling of the design that will complete build-out of a 40-year-old plan for Pennsylvania Avenue from the Capitol to the Treasury, Daniel Patrick Moynihan, the plan's granddaddy, was all smiles. The former senator from New York said Polshek Partnership's design for a museum about the First Amendment will fulfill the dream that "this vast, unformed, cluttered expanse," as President Kennedy described the avenue in the early 1960s, would become "lively, friendly, inviting, as well as dignified."

Located across from the National Gallery and next to the Canadian Embassy, the 531,000-square-foot, \$400 million Newseum complex will bridge monumental Washington and downtown to the north, said James Stewart Polshek, FAIA. His firm's design includes 145,000 square feet of condominiums facing C Street; 84,000 square feet of office and conference space for the Newseum's sponsor, Freedom Forum; and, at street level, 30,000 square feet of retail that will create a "gateway" corner at Sixth Street, as Polshek calls it. The museum portion will occupy 215,000 square feet of space and will likely open in 2006.

"Transparency equals democracy," said Polshek, who has made that concept the



The Newseum will be highly transparent (above), with a 90-foot-tall central atrium.

metaphor for the museum. A 4,500-square-foot window in the Pennsylvania Avenue

facade will give passersby views of galleries, a central atrium, and a 30-by-50-foot media screen projecting breaking news. The facade will feature a 65-foot-high plaque engraved with the first 45 words of the First Amendment.

The architects configured the building as three layers that grow in height as they recede from the avenue. The layer closest to the avenue will contain a café and terrace. The middle layer will house the 90-foot-high atrium surrounded by exhibition galleries. In the highest layer there will be exhibits that don't need daylight, including a newsroom and a demonstration broadcast studio. *Andrea Oppenheimer Dean*

Foundation starts \$125 million affordable housing campaign

The Enterprise Foundation of Columbia, Maryland, a nonprofit organization, is launching a nationwide \$125 million, five-year fund-raising campaign with a plan to renovate as many as 70,000 homes in poor communities across the country. Enterprise has already raised \$70 million toward that goal. A parallel campaign aims to establish an endowment for the organization.

The Enterprise Foundation was founded in 1982 by James Rouse and his wife, Patty. Rouse, who died in 1996, achieved fame for his work in planning Columbia, as well as the revitalization of Boston's Fanueil Hall; Baltimore's Harbor Place; and New York City's South Street Seaport. The foundation addresses urban revitalization by funding affordable housing development. The current campaign would be Enterprise's most ambitious—previous drives had goals of \$25 and \$75 million. "I think Jim Rouse would be pleased," said Bart Harvey, Enterprise chair and C.E.O., "though I never knew him to be pleased about anything for long. He was always moving on to the next project."

The biggest donors so far in this campaign are the Federal National Mortgage Association—known as Fannie Mae—and the philanthropists Lewis and Dorothy Cullman. The actor Edward Norton, a grandson of Rouse, serves on Enterprise's board. The New York premiere of Norton's movie *Red Dragon* also served as a fund-raiser for the organization, bringing in \$100,000. "Both he and Salma Hayek have been great," Harvey said. "And they've been contributors." *Kevin Lerner*



tasteful

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Entire California coast documented and on the Internet

Although a convertible and lots of free time may still be the best way of viewing the mythic California coastline, there is now an easier, quicker way. Ken Adelman, an enterprising former computer executive, has spent the past six months flying above the entire California coastline taking over 10,000 high-quality digital photographs that document the state of the shore today. Concurrently, he has set up a Web site, www.californiacoastline.org, to display the images to anyone who is interested.

A Caltech graduate, Adelman, 39, founded two computer companies that he sold in the 1990s to Cisco and Nokia. Once retired, Adelman began looking for ways to pursue his interest in environmental causes. Some project work for the Sierra Club convinced him that surveying the entire California coast would not only be possible, but in the best public interest. "People won't conserve what they don't love," says Adelman.

For a typical shoot, Adelman removes the doors from his Robinson R-44 helicopter and, with his wife, Gabrielle, at the controls, flies at about 500 feet altitude just offshore. Cruising at a leisurely 40 mph, Adelman leans out the door and takes a photo every three seconds with a Nikon D1x digital camera. Cables link the camera to the aircraft's global positioning system and to an Apple PowerBook laptop, which records each image along with exact latitude and longitude.

With the project 90 percent complete (Adelman is awaiting permission to photograph in restricted airspace around Vandenberg Air Force base), awareness is growing fast. Already, conser-



Environmentalists used the top image to argue that a developer had put boulders on a public beach without a permit. Other aerial shots: Los Angeles Airport (middle) and Rancho Palos Verdes (above).

vation groups have used some of the images (including the one at the top of this page) to force developers to remove illegal dumping.

Adelman is donating commercial rights to the photos to environmental groups and plans to update the images of imperiled areas every two years. *David Maurer*

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News Briefs



The Tampa Museum will have a cantilever trellis.

Viñoly redesigns Tampa museum Rafael Viñoly has altered his design for the new Tampa Museum of Art in response to community pressure. The building's 100-foot "urban canopy" will be replaced by a cantilever-style trellis attached to the roof of the museum.

After unveiling the design in June [RECORD, August 2002, page 28], critics cited that the original canopy, which would have required support columns placed in the median of adjacent Ashley Drive, posed a traffic hazard and would deter pedestrian activity. The new canopy wraps around the back of the building, shading galleries and outdoor terraces.

Viñoly is also reworking interior plans in order to add a glazed, double-sided lobby to the museum's ground floor. Construction of the \$52 million project is expected to begin next year, with completion scheduled for 2004.

Charles Mount, acclaimed restaurant designer, dies at 60 Known for his use of theatrical effects in designing more than 300 restaurants, New York restaurant designer Charles Mount died of a heart attack on November 8. Mount worked for furniture designer George Nelson before opening his own firm in the early 1970s. He designed a 17,500-square-foot triplex McDonald's that opened this year in New York City's Times Square.

Architects win elections AIA-member architects won elections in four states on November 5. Charles Clary (R), FAIA, and Eric Johnson (R), FAIA, were reelected to the Florida Senate and the Georgia Senate, respectively. Ohio AIA president Chris Widener (R), FAIA, also reclaimed his seat in the Ohio House of

Representatives. Joe Sam Queen (D), AIA, won a newcomer bid to the North Carolina Senate. Robert Smith (R), AIA, president-elect of Maryland AIA, lost the election for a seat in the Maryland House of Delegates.

Polshek commissioned for new museum of American Jewish history

The National Museum of American Jewish History has announced that it will construct a new, \$100 million, 80,000-square-foot facility (below) in Philadelphia. Designed by Polshek Partnership Architects, New York, the five-story glass-and-stone structure will be located on Independence Mall East, replacing much of the museum's existing two-story, 13,000-square-foot brick building on the site. The project features a signature 100-foot stone tower topped by a glass-encased, 8-foot-high "eternal flame." The new venue will house permanent and temporary exhibition



Jewish museum by Polshek.

spaces, plus an auditorium and a resource center. Scheduled to break ground in late 2004, the museum will open in 2006.

Tony Illia

Welsh Assembly reaches settlement with Rogers

Richard Rogers Partnership (RRP) will receive an outstanding payment of \$739,000 for its work on the new headquarters of the Welsh Assembly [RECORD, September 2001, page 33]. The decision follows an adjudication by Sir John Bourn, the auditor general for Wales, who also found that the assembly is entitled to retain RRP's design. The assembly will select one of two short-listed contractors in January to bid for the right to construct the building. RRP won a competition to design the Welsh Assembly in 1998 but was dismissed in July 2001 after the design was complete. The relationship deteriorated as project costs rose from \$21.8 to \$43 million. The assembly hopes to have a new building by the end of 2005. A.M.



The Welsh Assembly headquarters, designed by Rogers.

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Alphaton® terracotta clay tile facade,
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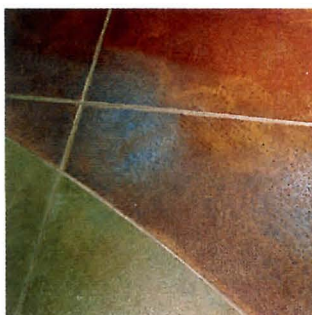


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News Briefs

Sagaponac prices announced Prices have been announced for the first of nearly 40 homes that are planned by developer Coco Brown for a site in Sagaponac on Long Island, New York. As RECORD has reported [October 2002, page 49; April 2001, page 27], construction has begun on the first homes, including the home designed by the late Samuel Mockbee, which has a \$4.5 million price tag. Other homes under way are by Gisue and Mojgan Hariri (\$2.8 million), Marwan Al-Sayad (\$2.25 million), Stephen Kanner (\$2.2 million), Lindy Roy (\$2.2 million), Shigeru Ban Architects and Dean Maltz Architect (\$2.15 million), Richard Gluckman (\$1.9 million), Annabelle Selldorf (\$1.85 million), Henry N. Cobb (\$1.65 million), and Stan Allen (\$1.575 million). *J.E.C.*

Athens stadium may not be completed in time for 2004 Olympics After construction delays at the main stadium for the 2004 Olympic Games prompted rumors of the project's cancellation, senior members of the International Olympic Committee have stated that the project will be completed in time for the event. The stadium (below), designed by Spanish architect Santiago Calatrava and located in Athens, was originally scheduled for completion several months before the start of the games, on August 13, 2004.

Even if opened in time for the Olympics, however, published reports suggest that delays will preclude the completion of the 80,000-seat stadium's roof. The roof is designed as a sun-screen, in which strands of translucent glass would be threaded between the beams of two 300-meter steel arches. Calatrava has called the stadium project his "Olympic dream."

Day-tripping at Calatrava's Milwaukee museum The pedestrian bridge linking the Milwaukee Art Museum (MAM) [RECORD, March

2002, page 92] to the city's downtown has not been very pedestrian-friendly. Two elderly women tripped on the raised granite plinth underneath the cable stays, broke their hips, and filed insurance claims against the museum. The museum has not disclosed the amount of the claims, and the insurance company has required the museum to install a temporary wooden railing (below). Milwaukee architecture firm Kahler Slater, the architect of record for the project, is

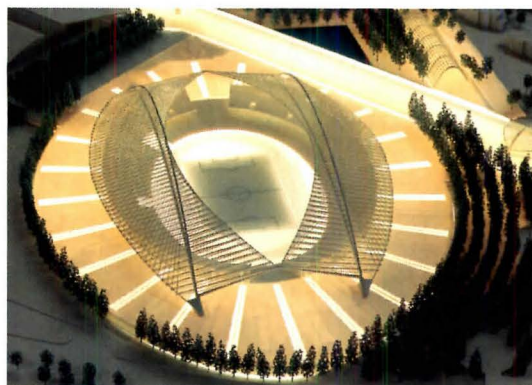


A temporary railing at the Milwaukee Art Museum.

working with the museum and Calatrava to come up with a permanent railing that will be "minimally invasive," according to Lou Stippich, AIA, who was the project manager for MAM. Preliminary plans call for a simple, single-rail handrail under the cables, at a cost of approximately \$25,000 to \$50,000, Stippich said. *J.E.C.*

CABE to champion urban green space in England The Commission for Architecture and the Built Environment (CABE), the executive unit of the British Parliament that champions high-quality architecture, will establish a new branch to promote excellence in urban design. The task force, called CABE SPACE, will focus its efforts on improving green spaces in towns and city neighborhoods through skills training and community involvement. The organization will also pursue its goals through England's Housing Market Renewal program. CABE SPACE will soon launch a national campaign to raise public awareness of the need to improve urban public space.

CABE SPACE's launch was announced at October's Urban Summit in Birmingham, England, and it comes on the heels of CABE's "Streets of Shame" campaign, which highlighted the public's interest in creating roads. *News Briefs* by David Sokol, unless otherwise noted.



Athens stadium design includes a translucent sun-screen.

Dates & Events

New & Upcoming Exhibitions

Critical Mass: An Exhibition of Architecture, Art, and Design **Detroit**

November 9–December 20, 2002

At the cultural center of Detroit lies [Flak], a movement of architects and other creative types whose work addresses political, social, and aesthetic issues. The show exhibits a range of architectural work that presents Detroit as a city with a deep and relevant cultural community. At the Museum of New Art. To learn more, call 248/489-6440 or visit www.detroitmona.org.

Edward Tufte: Escaping Flatland **Los Angeles**

November 8, 2002–February 13, 2003

Tufte's work is involved with graphic representations of abstract ideas, 3D forms, and statistics. This exhibition highlights the artist's visual techniques on the "flatland" of the 2-dimensional page, with prints from his forthcoming book. At the A+D Architecture and Design Museum. Call 323/871-2877 or visit www.aplusd.org.

Architecture + Water **San Francisco**

November 16, 2002–March 23, 2003

On the grand tour for 18 months, this exhibition has made its way to the Pacific. The theme is architectural design that exploits, uses, admires, or, in the case of Diller + Scofidio, is water. With drawings, models, and animations of work by D + S, Foreign Office Architects, MVRDV, Steven Holl, and Alsop Architects. At the San Francisco Museum of Modern Art. Call 415/357-4000 or visit www.sfmoma.org.

Ways of Producing: Italian Creativity and Design

Santa Monica, California

December 3–21, 2002

This exhibition features the work of Italian firms such as Boffi, B&B Italia, Kartell, Artemide, Bisazza, and Rubelli, created by world-renowned designers including Philippe Starck, Ross Lovegrove, Gae Aulenti, and others. At the Track 16 Gallery, Santa Monica. For information, contact the Italian Trade Commission in New York at 212/848-0332 or e-mail newyork@newyork.ice.it.

Big & Green: Toward Sustainable Architecture in the 21st Century **Washington, D.C.**

January 17–June 22, 2003

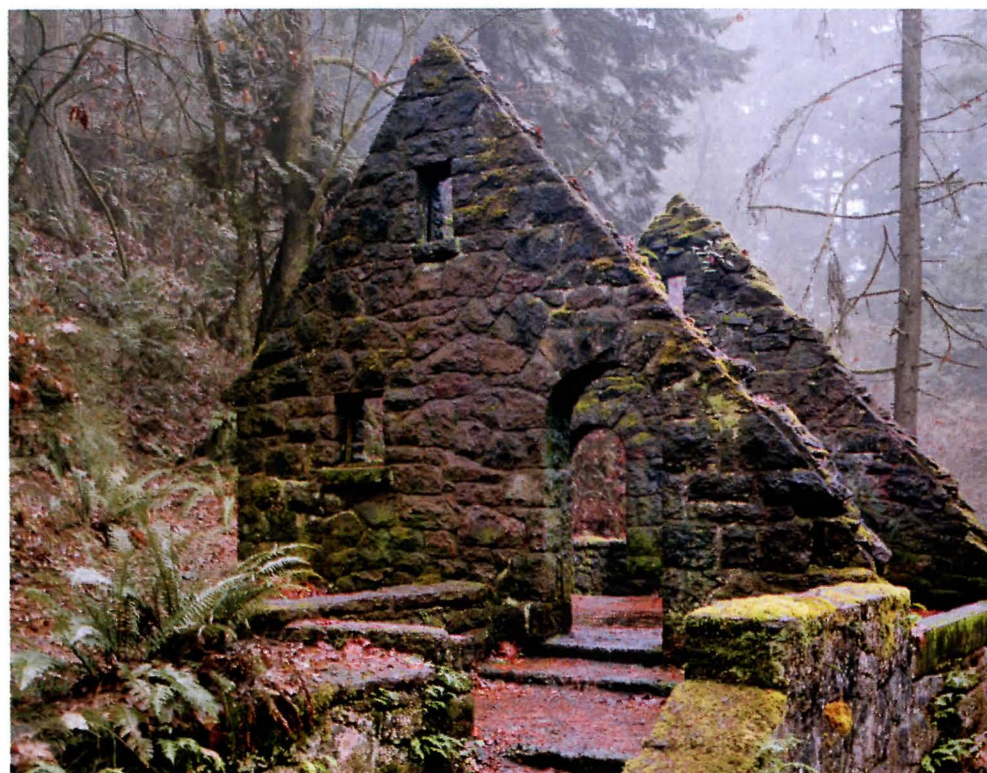
Through in-depth profiles of approximately 50 contemporary green projects worldwide, along with a broad examination of global ecological and economic forces, the exhibition will demonstrate the transformative powers of sustainable

design. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Ongoing Exhibitions

Herzog & de Meuron: **Archaeology of the Mind** **Montreal, Canada**

October 23, 2002–April 6, 2003



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Dates & Events

"Since architecture itself cannot be exhibited, we are forever compelled to find substitutes for it," said Jacques Herzog regarding this exhibition (which he and Pierre de Meuron curated in collaboration with Philip Ursprung). The substitutes on display are plentiful and plenty strange—any object that has served as a source of information for the architects. At the Canadian Centre for Architecture. Call 514/939-7000 or visit www.cca.qc.ca for more information.

New New York 3: Multiples: Small Civic Works New York City

October 26, 2002–January 2, 2003

This is the third in a series of exhibitions on significant new buildings, interiors, and landscapes in New York City. The projects in this exhibition—elementary school libraries, community centers, ferry piers—all demonstrate the power of inventive design to elevate the activities of daily life. At the Architectural League of New York. Call 212/753-1722 or visit www.archleague.org.

Tadao Ando: Architect Williamstown, Massachusetts

September 28, 2002–April 27, 2003

Featuring an installation designed by the architect himself, with models, drawings, prints, and videos. Since Ando has been chosen as the architect for the Art Institute's expansion and campus enhancement, the show is for trustees and architects alike. At the Clark Art Institute. For information, call 413/458-2303 or visit www.clarkart.edu.

Do It Yourself: Home Improvement in 20th-Century America Washington, D.C.

October 19, 2002–August 10, 2003

This show is an examination of modern American housing and its products, with cultural insinuations regarding gender roles and leisure time in the domestic sphere. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org for more information.

New Hotels for Global Nomads New York City

October 29, 2002–March 2, 2003

With a title that sounds like a Koolhaas co-optation, this exhibition about hotels describes them as symbols of contemporary leisure. With a focus on opulent, Vegas-style hotels with gimmicks, attractions, and new domestic technologies, the show places these heavily designed spaces in

historical context (decadent hotel design actually dates back to 1829, in Boston). At the Cooper-Hewitt National Design Museum; call 212/849-8400.

Krier/Eisenman: Two Ideologies New Haven

November 4, 2002–February 7, 2003

The debate between the opposing architectural philosophies of Krier and Eisenman is the subject of this exhibition. Work by Krier, who focuses on considerations of context, site, and function to inform his designs, will be displayed across from Eisenman's, who regards abstract form as the architect's singular consideration. At the Yale School of Architecture. Contact 203/432-2288 or visit www.architecture.yale.edu.

David Adler, Architect: The Elements of Style Chicago

December 6, 2002–May 18, 2003

This will be the first major retrospective of the architect David Adler's work, featuring approximately 100 pieces, including plans, drawings, photos, models and decorative arts. Also included will be major documents from the Art Institute's permanent collection and photos newly realized by the renowned Chicago architectural photography firm of Hedrich-Blessing. At the Art Institute of Chicago. Call 312/443-3600 or visit www.artic.edu.

Conferences, Symposia, Lectures

Dallas Architecture Forum Lecture Series Dallas

November 21, 2002–February 13, 2003

The Dallas Architecture Forum features its seventh season of lectures by some of the most important designers in the world. Included in the series will be talks by Enrique Norten, Rick Joy, and Terence Riley. For information, call 214/740-0644 or visit www.dallasarchitectureforum.org.

Competitions & Awards

The Rudy Bruner Award for Urban Excellence

Call for entries deadline: December 16, 2002
The award is given to real places (built architecture only) that make a positive contribution to their urban environment. There are no distinct categories, but the award is limited to the continental U.S. Visit www.brunerfoundation.org.

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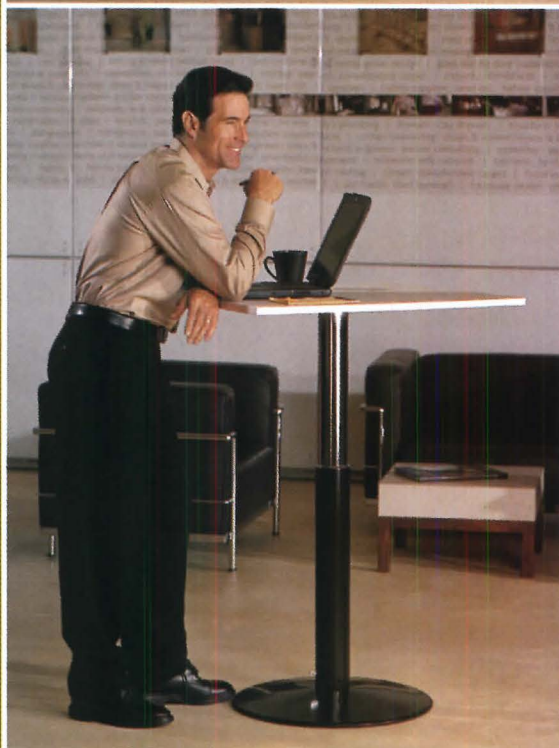
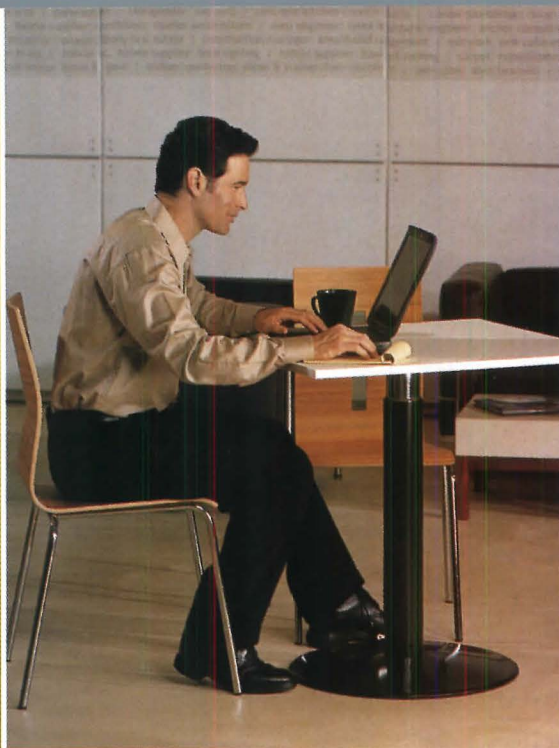
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Dates & Events

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Discount deadline: December 17, 2002

Final deadline: January 17, 2003

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Excellence in Gypsum Board Design & Construction Awards

Deadline: December 31, 2002

Innovations in standard building materials is one of the marks of a good designer. The Gypsum Association—a 72-year-old organization—will hand out \$3,000 in prizes and plaques for residential and nonresidential design categories. Entries are accepted as project teams for three professional categories: builder or general contractor, architect or designer, and dry-wall contractor. Deadline for entries is December 31, 2002—and the first 40 qualified entries get a \$250 bonus. Contact the Gypsum Association at www.gypsum.org.

9th Annual AIA London/U.K. Chapter Excellence in Design Awards

Deadline for submissions: January 22, 2003

The American Institute of Architects, London/U.K. Chapter seeks entries from British-based architects, as well as from architects throughout the world, for built projects in the U.K. In parallel, the chapter seeks entries for the Student Travel Awards, which honor work from students currently enrolled in U.K. universities. For information, either visit www.aiauk.org or send e-mail to designawards@aiauk.org.

Please send all event and competition information two months in advance to ingrid_whitehead@mcgraw-hill.com.

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FOR THE EMERGING ARCHITECT

This month, archrecord2 takes a break from its usual schedule of presenting Design portfolios from a single firm, in deference to the annual Design Vanguard presentation. Instead, we present a portfolio of single projects from four different architects from all over the country. Plus, in Work, you'll find a discussion with two of the Design Vanguard firms about how they present their work to clients. And as always, you'll find Live and Talk on our Web site.

DESIGN

A portfolio of unbuilt projects

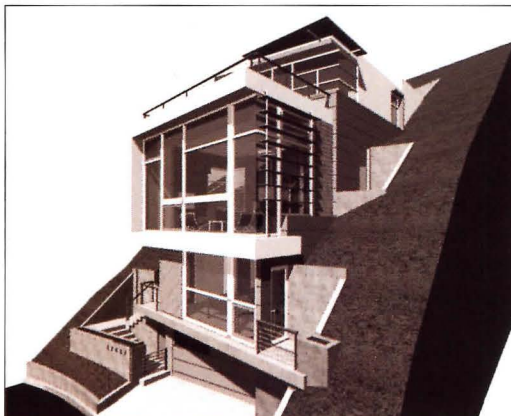
The Evergreen Chapel was designed for a real site in Forest Grove, Oregon, and for a real client. There was a real program, too, though the program didn't come from the client. It was a fantasy project for the real world, and part of the marketing plan for a small firm called architecture w, which has offices in Portland, Oregon, and Nagoya, Japan. "The chapel is part of what we call our 'Office Strategy One,'" said Brian White, one of the firm's two principals (Michel Weenick is the other). "We know the types of buildings we want to pursue, and we knew of this congregation, so we just picked a site and guesstimated a program." The resulting chapel is a simple white box oriented to capture the filtered light of the forest and a view of a cross, set in a clearing. The intended congregation, as it turned out, could not afford the building, but now architecture w has a model that the firm can use to sell itself to other congregations.

Gail Peter Borden also began work on his Rubber-banded House for a real client who didn't necessarily want the work done. Borden knew of a vacant lot owned by a developer who planned to build a speculative house on the land. "I wanted to try to design something while the land was still a clean slate," Borden said. The project also dovetailed with Borden's research work, which focuses on the nature of the suburban landscape. The developer chose to build a standard suburban house on the lot instead of Borden's design, which features interlocking horizontal and vertical "courtyards" and interior walls made from rubber bands. The house did, however, win the architecture category of the 100% Rubber competition, sponsored by Dalsouple Rubber.

Pacific Palisades Residence, by paastudio, was designed for a more practical purpose: It will be both the home and office of its designers, the husband-and-wife team of Ivo and Teo Venkov. Their contemporary design for the house had trouble passing the Coastal Commission's review board. "The predominant

Pacific Palisades Residence, Los Angeles, 2003

paastudio. The architects, a husband and wife team, are building this home and studio for themselves atop 35 concrete piles.



Rubber-banded House, Raleigh, 2001

Borden Partnership. This house experiments with the separation of

public and private, but it also plays with the practical matter of materials. Interior walls are made from common office rubber bands.



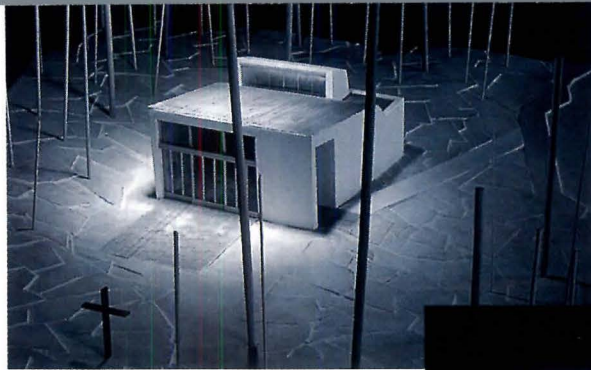
Gerritsen House, Waitaria Bay, New Zealand, 2004

Studio Atkinson. The client sees himself as a cultural ambassador for New Zealand. He asked that the house help establish a modern design identity for his country.

(continued from previous page) cheesy Spanish-Mediterranean style has made a permanent imprint on the commission's minds," said Ivo Venkov. The foundation, with 35 concrete piers, will cost more than the house.

Structural design also takes up a good deal of Stephen Atkinson's time (and that of his structural engineer, Bogidar Yanev), when he is working on the Gerritsen House, a design for a hillside house in New Zealand. Atkinson, who recently moved to New York from the South, won the commission for this house because the client had seen one of his previous designs. The client wanted Atkinson to reinterpret New Zealand's culture through architecture, but Atkinson had little context to work with. His solution was an architectural sculpture that, he said, would give "the suggestion of a vanished culture but be devoid of any purpose, like a ruin."

"All of my friends make fun of my so-called 'pretend clients,'" Brian White of architecture w said. But they don't make fun of his designs, and the same goes for the other architects featured in this portfolio. Kevin Lerner Go to architecturalrecord.com/archrecord2 for more images of the four projects shown here, or to learn how to submit your own.



Evergreen Chapel, Forest Grove, Ore., 2001
architecture w. The architects aimed to harness light filtered through trees as a way of creating a sacred place in the forest.



WORK

Getting the word out

Jordan Williams, a principal of the Atlanta architecture firm Plexus r+d (see page 108) says that his firm has reached a stage in its life cycle where consultants send the firm press releases. Regardless of their utility, most of these press releases wind up in a trash can.

Plexus kept this lesson in mind when its members began discussing their own portfolio.

"Without spending too much money, we wanted to design something that people would feel really guilty throwing away," Williams says.

The firm's eventual solution is as much an expression of the team's design philosophy as a keepsake. The laser-cut, frosted Plexiglas panels that form the case "hint at what's inside, without giving away too much," Williams says.

The panels also allow for flexibility in the portfolio, without



having to replace the whole package. As the firm's portfolio grows and changes, new print-outs (which the firm produces in-house) can be sandwiched in.

The whole kit is bound with a bright yellow, cross-shaped medical rubber band that was intended to tie off I.V. bags. Plexus has sent out "several hundred" of the kits to potential clients and has had enough of the Plexiglas pieces made to manufacture 1,500, at \$18-\$20 each.

propeller z, an Austrian firm (see page 88), printed a similar number of its own unique portfolio, a deck of playing cards featuring several of the firm's projects. The cards list the project's completion year, budget, construction time, and other facts, which can be used to play a game.

"We introduced the game at the Archilab conference in Orléans, France,



where we also set up a green felt-lined playing table," says Kriso Leinfellner, a principal in the firm. "Visitors were actually playing."

propeller z has not won any direct commissions as a result of the cards, but they "are getting more and more job applications from students and graduates, especially from Germany," Leinfellner says.

Plexus hasn't seen any new work as a result of its portfolio, either, but Williams hopes that it will have a more intangible effect: "Maybe a potential client will see our work somewhere and think, 'Hmm, I remember getting something from those guys.'" Kevin Lerner

For more stories on emerging architects, visit architecturalrecord.com/archrecord2.

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Picking fights in architecture: First, you have to know what you're rebellious against

Critique

By Robert Campbell, FAIA

If there's a living architect whose thoughts I find myself most often in agreement with, it's the Spanish Pritzker Prize winner Rafael Moneo. Moneo, whose new cathedral in Los Angeles recently opened to broad acclaim, writes about "the importance of a shared language that might go some way to overcoming the wild individualism of today."

Wild individualism is what we've got, with novel gestures, novel shapes, and shocks arriving—in both art and architecture—as fast as pop hits. The problem is how you invest such ideas with meaning. How do you make them seem not to be merely arbitrary?

Innovation is fun, but when everybody is innovating, then nobody is innovating, because they're all doing the same thing.

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

The only real innovator at that point is the guy who isn't innovating. When the great art historian E.H. Gombrich died a few months ago, his obituary quoted him as saying: "If anybody needs a champion today, it is the artist who shuns rebellious gestures."

Rebellious gestures ... When I was a student at Harvard's Graduate School of Design, my class invited Paul Rudolph, then the dean at Yale, up for dinner. As we all sat around on the floor in someone's apartment, he argued that a school of architecture should have a definite philosophy of design and should teach it without compromise. "Otherwise," he said, "you'll have nothing to rebel against."

Rudolph was making an important point. A rebellious gesture is meaningful only against some background of expectation, some background of accepted conventions. It's that background we

lack at the moment. Whenever I open an art magazine, the same cliché jumps at me. The artist, I'm always, always told, "challenges our preconceptions." The problem is that my only remaining preconception about art is that my preconceptions are going to be challenged. How can meaningful work be created in such a vacuum?

Inventing Modernism

These thoughts are prompted by a recent visit to Vienna and Britain. Vienna, of course, was a world capital of architecture at the turn of the last century, when the great Otto Wagner and his pupils at the Academy of Art—Joseph Olbrich, Adolf Loos, and others—were helping invent what turned out to be Modernism.

Heavily bombed during World War II, their works are now in terrific shape, thanks to publicly funded conservation. I visited houses by

Loos and Josef Hoffmann, and the astonishing Steinhof Church by Wagner. The Secession Gallery, nearly obliterated in the war (its Gustav Klimt murals are in fragments), is fully restored and mounting avant-garde shows.

Also in perfect shape is the Postal Savings Bank by Wagner, a masterpiece of world architecture, still in daily use. So is the great socialist Karl Marx Hof housing by Karl Ehn. So is Loos's incredible American Bar, which, when I was there, was filled to the gills with Dutch architecture students.

A mishmash of flashy ideas

The new stuff, though, isn't always so great. A friend had sent me his Ten Greatest Hits list of Vienna architecture, and one of his items read: "The bar upstairs in the dreadful Hollein building has a fabulous view of the cathedral." Hans Hollein, of course, is the Austrian



Wagner's Postal Savings Bank (left) is a masterpiece that fits into its urban context, while Hollein's Haas Haus (right) just screams for attention.

Critique

Pritzker winner. His building, called Haas Haus, is a pile of mostly shops and restaurants and is indeed dreadful. It's an incomprehensible mishmash of flashy ideas, and it looks like something you'd find on the reject pile in a Christmas-tree-ornament factory.

What they fought against

Compared with this, the work of the turn-of-the-century guys looks even better, and it makes you reflect. Architects then were struggling to break free from what the Viennese call the Imperial Style, the style of the slowly dying Austro-Hungarian Empire, an often pompous and overdecorated late-Victorian architecture (although it has its masterpieces, too, such as the Opera by Gottfried Semper).

The younger architects didn't know it, but they were able to work with great conviction because they knew what they were fighting for and against. Although they often disagreed, they felt themselves to be a generation. Their work was transitional, and that's what made it good. It was its relation to the past and the future that gave it significance. At its best, it retained some of the richness, the urbanity, and the familiar visual language of the

ture exhibits a tension between memory and invention, that the richest work is done. The glass-roofed Postal Savings Bank is a classic example. Its white laundered look, like that of the Steinhof, speaks of the health-conscious moderns, after the epidemics of the 19th century. Its exterior, studded with bolts, speaks of its construction as cladding over a frame. Its interiors are filled with detail that speaks of the new industrial age. Yet in its massing, and in such details as its vaulted banking hall or its rusticated first-floor exterior, it maintains contact with an understood language. By contrast, Hollein's "dreadful" building is all invention. Its language lacks both rootedness and significance.

Setting firm limits

I'm probably larding this essay with too many quotes, but here are two more. They're both saying the same thing. From Eric Ericson, the psychoanalyst and biographer: "Play

INNOVATION IS FUN, BUT WHEN EVERYBODY IS INNOVATING, THEN NOBODY IS INNOVATING, BECAUSE THEY'RE ALL DOING THE SAME THING.

older architecture—that background of expectation, that common language—while at the same time moving toward a cleaner and simpler kind of design, intended to be more honestly expressive of the way buildings were actually used and constructed in modern times. The architecture became not a mere novelty but a chapter in a coherent narrative.

Maybe it's in periods like that, periods of transition, when architec-

needs firm limits, then free movement within these limits. Without firm limits, there is no play." And Robert Frost, the poet, said that for him, writing free verse would be "like playing tennis without a net." How would he know when he'd made a good poetic shot? Without a net—and a court and a book of rules—you can't play a game. You can only bang out meaningless gestures—what Moneo calls "wild individualism."

After Vienna, I traveled to Britain. Two buildings stand across a canal from one another in Manchester. One is the new Imperial War Museum North, by Daniel Libeskind. The other is the Lowry Center, by Michael Wilford. Libeskind does what artists often do: He invents his own net and book of rules. He starts with the

deliberately primitive style. The Lowry Center is a vast art and performance center in which, if you look hard, you can find some Lowry paintings and a film of the artist talking. As for the building, it makes Hollein's Haas Haus look like a paragon of restraint. The Lowry Center is a truly mad vast explosion of shapes that have no



Wagner's rebellion against the often pompous Victorian architecture that came before him inspired his Postal Savings Bank, which has stood the test of time and is still in daily use.

idea that war is destructive of the globe we live on, and he begins his design by cutting up a sphere and arranging its segments—or three of them, anyway—into a sort of architectural still life. Before I saw the building, I'd asked Libeskind whether anyone would perceive the metaphor, and he said that didn't matter. But when I got there, I saw a series of didactic drawings at the entrance, which explained the process of cutting up the sphere and what it was supposed to mean. When you don't share a common language, you have to translate for the public. Still, as arbitrary as it is, there's at least a purely formal logic to Libeskind's design, which is something you can't say for the Lowry Center.

A mad explosion

I've long been a fan of the painter L.S. Lowry, a classically trained artist who painted the industrial landscapes of Manchester in a

significance. Parts of it look like the court of justice at Chandigarh rendered in shiny metal. Other parts look like missile silos. There is no apparent order to the interior. Nothing relates to any known language of form. Nothing responds to, or shapes, its context. Nor does anything suggest the presence of Lowry, a 20th-century man who never owned a telephone or a car.

The Lowry Center is the perfect illustration of the problem I'm trying to define. Its architecture communicates nothing but rootless confusion.

It's buildings like the Lowry that turn too many people into architectural reactionaries. They may enjoy visiting it, but they certainly don't want it in the neighborhood. They come to believe that architects live in a dream world, that we have esoteric tastes shared by nobody else. If we want to get clients to spend more money on good architecture, it's helpful if they and we agree on what good architecture is. ■

Planning How Your Firm Tackles Its Next Job Is the Key to Staying Profitable and Competitive

Practice Matters

By Satish Rao

During the recent construction boom, almost every project seemed urgent. Fast-tracking and design-build ruled, and it looked like there was no end of the work in sight. Our clients were flush with cash and willing to pay a premium to get work done quickly.

When things were good, many architects didn't feel they had time for work plans for new projects. They stopped making the critical up-front assessments of the steps needed to figure how much it would cost the firm to do a project, to make schedules, and to properly allocate resources. Times have changed. Firms are competing for fewer jobs, and profit margins have slimmed considerably. Now we need to get back into the habit of doing comprehensive strategic, financial, and logistical planning at the beginning of each job. Why? Because such planning ultimately determines how well a firm competes, and how profitable it is.

But preproject planning does much more than make firms more competitive. It helps to establish benchmarks and time lines, reinforces fiscal discipline, and in today's litigious environment, aids firms in anticipating risks and problems before they occur. Clients, particularly those who are inexperienced, favor highly organized firms and usually welcome the rigor the work plan introduces.

Some firms use the planning

process to help them to decide whether it is feasible to pursue a particular job. If the firm elects to go after the work and is awarded a contract, the plan can be useful in helping the architect estimate the bottom price for doing a job before contract negotiations begin. The price can be updated if project scope and other specifics change.

What a work plan covers

At a minimum, the work plan comprises a task list, schedule, staffing plan, and a budget, including an estimate of cost and profit.

Once one begins comparing different components of the work plan, it is easy to see their interdependence. No one part of the plan can be fully developed without being cross-checked against the others. For example, the scope of work guides the development of the task list to a great extent. The task list is used to determine the schedule and staffing plan. The budget for design and for producing contract documents and estimating costs and profit will be based on these tasks.

Creating a work plan may sound like a daunting task; however, your office's past project records should be a rich source of task, scheduling, and internal budget information. If you find that your records are incomplete or difficult to adapt for use in making projections, now may be the time to refine your firm's database.

Task list and scheduling

The task list is a detailed description of everything that must be done to

accomplish a job, starting with the project's goals and the overall scope of work. When doing this planning, one should be on the alert for tasks that were not fully described in the contract or RFP. A "cartoon set"—thumbnail sketches of the drawing set—can also be helpful in the planning process.

The project schedule can be derived from the task list. Pay special attention to critical review dates set by the client and others that may cause delays or force staff to work overtime. Identify due dates for information and note when your client must make certain critical decisions. Decide when your consultants should get their base drawings and other information. Show dates for in-house reviews, and schedule time for revisions to drawings. It is advisable to include at least a 25 percent contingency for time delays; this can be reduced during later stages of work.

For complex projects, either critical path method (CPM) or program evaluation and review technique (PERT) charts may be used to show task priorities and interdependencies, and to establish task order, but these are difficult to set up. Simple bar schedules may be just as effective if they are enhanced to show links between tasks.

Prepare a staff plan

Once you've created a job schedule, it can be used to develop a staff plan. This is the time to assemble the project team. A check of the schedule will help determine the project's staffing

requirements for each stage of the work. Resist the temptation to plan staffing one phase at a time. A look ahead through the life of the entire project may reveal that the firm will face a staff shortage, weeks or months before it happens—soon enough to avoid it.

Be careful to avoid wishful thinking when you're trying to estimate how many staff members will be needed to do the work. Consult your team while determining realistic hours for each task. Common mistakes include underestimating the time that will be absorbed by client reviews, and time spent getting the building permitted and reviewing submittals; forgetting to include the time that principals will have to spend on contractual issues and for quality control. If these are not included in the budget, they will have to be absorbed as overhead, and these costs can be significant.

Time is money

Broadly speaking, there are two ways of estimating hours and fees. The "top down" method employs rules of thumb such as the percentage of construction cost, or numbers of hours per drawing. The method is quick, but it provides only a preliminary estimate of costs because it fails to allow for each project's unique circumstances.

The "bottom up" method provides a more reliable estimate, because it uses the project's task list, staffing plan, and schedule as a basis for the time required to do the work. This is where maintaining a

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

Practice Matters

detailed database of your firm's past projects can really pay off. It should be sorted by project type and include size and scope, construction cost, fees, the number of drawings that were required, and hours spent. Consult this database while estimating hours for each new project. You can be almost

A WELL-ESTABLISHED PROJECT-PLANNING CULTURE HELPS FIRMS ADAPT AND STAY COMPETITIVE IN THESE TOUGH TIMES.

certain that the number of hours calculated will exceed even the most optimistic estimates you may otherwise have made.

It is also essential that the person estimating job costs know and understand what the firm's "multiplier" is and how to use it. In general, a multiplier is a factor used in cost estimating to account for overhead expenses such as build-

ing rent or mortgages, the cost of equipment, consumables, and benefits and taxes. *The Architect's Handbook of Professional Practice*, by Joseph A. Demkin, AIA (John Wiley & Sons, 2001), has more information on multipliers. For our purposes, it is enough to say that underestimating these costs can

put a firm out of business.

A good cost plan is one that anticipates and compensates for the unexpected. Don't assume a bottom-up estimate is not required if the fee is already negotiated or if the client has imposed a fee based on a percentage of construction cost. A more comprehensive estimate should always be done in order to double-check whether

fees are sufficient, and to develop a strategy for addressing shortfalls if necessary.

The importance of monitoring

Much of the effort of creating a preliminary schedule and budget will be wasted if both are not tracked over the course of the job, not to mention that project records needed for creating work plans in the future will be incomplete. For those reports to be useful, they need to be detailed. Time-keeping codes must be set up to match your intended billing breakdown, and time sheets must be completed accurately.

While simple jobs can be monitored monthly, that's too long for big projects and for firms with large revenues. A practice with a staff of 50, for example, can earn \$5 million annually, or more than \$200,000 every two weeks. And since firms operate on low margins, a few bad weeks can mean the difference between profit and loss for the whole year. *The Architect's Handbook of*

Professional Practice offers good examples of project performance reports. These should be created biweekly so problems can be remedied as they emerge. If adjustments to the contract or billing need to be made, they can be picked up on the next monthly invoice.

A participatory process

Because an experienced staff member can pick up nuances in planning that might not be obvious to a person looking at a spreadsheet full of the last decade's job records, project planning should be a participatory process. Large firms running multiple projects should hold "master planning" meetings so people and resources can be allocated when and where they are most needed.

With many practices downsizing, principals are finding that their staffs need to be more productive than ever. A well-established project-planning culture helps firms adapt and stay profitable in these tough, competitive times. ■

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A new book by a famous author sets off a heated debate

Commentary

By Christopher Alexander

In the May 2002 issue of *RECORD* [page 93], William Saunders wrote an essay on Christopher Alexander's new book, *The Nature of Order, Book One: The Phenomenon of Life*, and his 1977 classic, *A Pattern Language: Towns, Buildings, Construction*. The following essay is an edited version of Alexander's response. Readers can access the full version at architecturalrecord.com/InTheCause/

It is unusual for a book reviewer to avoid talking about the contents of the book he is reviewing. Mr. Saunders's review suggests, to my mind, that he felt *The Phenomenon of Life* contains material so damaging to the present way of thinking about architecture that it had to be destroyed, rather than reasoned through, so as to prevent architects from reading it at all.

If, indeed, that is the case, then this attempt to hide the faults of the present profession of architecture through bluster is of interest, because it suggests how isolated the profession is from recent developments in the sciences. My book presents a proposal, ideas, and scientific evidence which, if taken together, could have enormous implications for the practice of architecture, and will, once taken seriously, inevitably change the nature of architecture in society.

The Phenomenon of Life describes an entirely new, scientific

Christopher Alexander received the AIA medal for research in 1970 and was elected to the American Academy of Arts and Sciences in 1996.

criterion of architectural value. It is based on 27 years of carefully recorded observation. The basic proposal made in the book is that degree of life is an objective and observable characteristic of buildings and other artifacts; that it depends on the presence or absence of an identifiable structure, which may be called living structure; and that it is the presence or absence of this that distinguishes valuable buildings from less valuable, good architecture from bad.

And this is real science, not phony social science, not work that only apes the forms of scientific investigation with manner, wording, and presentation. This is real science, in which empirical questions are being investigated, and, in spite of their inherent difficulty, the investigations are beginning to show sharable, empirical results, which might, within a decade or two, begin to have profound effect on our society. And it is work that has massive implications for all the most basic questions of architectural design and planning.

I have written this book to help set architecture on a firm foundation, and because of my conviction that these questions lie, inescapably, at the core of the work architects do every day. It is presented with arguments regarding the scientific difficulty of dealing with this topic. It is presented with hundreds of examples. It is presented with a background mathematical theory, which has been applied to architectural examples from buildings through history.

It is written in simple language, with careful evolution of ideas, from foundations and first principles

to concrete results, experimental technique, comparison with other methods used in architecture.

Saunders puts forward no facts to refute my theory, although my book contains hundreds of pages of examples, facts, and observations, and its topic is germane to the interests of every architect. After all, if there is indeed a scientific criterion that might be used to distinguish living structure from nonliving structure, and it is well enough formulated so it could be applied to architecture, this would be momentous for the architectural profession—and for society in general—since it would potentially show the beginnings of a way forward from our present difficulty of building good environments. So why did Saunders not describe what the book really contains?

Did he avoid frank discussion of what the book contains perhaps because an awful truth is visible in *The Phenomenon of Life*, namely that the criteria for living structure, if applied to current stylish architectural productions of our era, will in very many cases arrive at negative evaluations? Such a view, for the first time throwing objective doubt on the high priesthood of architecture, would be consistent with opinions held by many ordinary people who do not like the image-fed high architecture presently supported. The possibility exists, therefore, that if this book were to be taken seriously, either by architects or by society at large, then the bubble of late-20th-century architecture, and its effort to scam the public, might suddenly be on the verge of being pricked.

It must be said fairly, that Saunders does speak for that post-modern, disemboweled majority of the architectural profession, who have given up knowledge that there is truth about anything in architecture, in favor of the notion that there are merely attitudes, opinions, and disguises, and that each person's disguise or point of view is equally valuable. This unhealthy position, inevitable under the impetus of Cartesian thought, is what dug the grave for architecture during the past 50 years. Yet those who espouse it are wrapped in the necessity of this belief because it is necessary to bolster and rescue the absurdity of their position. So any line of thought that actually suggests that feeling and quality are objective must be anathema—because to admit the objectivity of these matters would lay bare the poverty of most architects' conceptions and expose the whole profession and its activities, in the 20th century, as a hollow sham.

The slighting references to "bad science" that appear in Saunders's article only betray a rather undergraduate notion of what science is, and how it is done.

The Phenomenon of Life defines criteria for life in buildings and offers replicable tests for deciding how much living structure exists in different buildings. Of course, the appearance of a real test of value in architecture may give the sweats to the profession. But if architects are worth their salt and fear the concept, they can disprove the argument rather than fail to see the point. This is an invitation to adult debate. ■

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SSS SIEDLE

Exploring Japan: Construction culture, Edo-era prints, and today's dream house

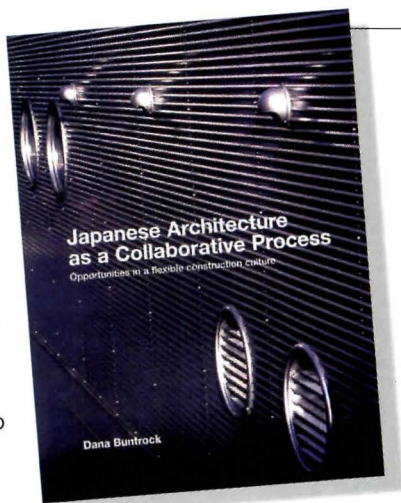
Books

By Naomi R. Pollock, AIA

Japanese Architecture as a Collaborative Process: Opportunities in a Flexible Construction Culture, by Dana Buntrock. New York: Spon Press, 2002, 224 pages, \$53.

Japan produces many of the world's finest buildings. Innovatively designed and exquisitely crafted, they embody both Western ideals and Eastern sensibilities. One key to understanding why they come out so well lies in understanding how they are made. In her book, Dana Buntrock unravels this ball of yarn. Her basic premise is that construction in Japan is a team effort among architects, engineers, contractors, and subcontractors. Instead of being restrained by liability issues and costly change orders, the entire design and construction team pools its resources to make the best building possible. Unlike their U.S. counterparts, many Japanese architects do not produce highly detailed construction drawings; they rely on contractor know-how and work out many aspects of the building in their own on-site offices as the project takes form. This team approach, coupled with freedom to revise and modify even well into the construction phase (as long as budget and schedule are met), frequently sparks new ideas and yields high-quality, well-detailed buildings that respond to actual conditions.

Naomi R. Pollock, AIA, is ARCHITECTURAL RECORD's Tokyo-based correspondent and a contributor to the book *Japan 2000*.



While Buntrock's book covers a lot of ground—it has entire chapters devoted to legal issues and architectural education—one of its greatest strengths and most distinctive features is its inclusion of personal anecdotes. Sprinkled throughout the book are Buntrock's war stories and firsthand accounts that illustrate her ideas and illuminate individual designers' personalities and proclivities. One of the best is a description of architect Kazuyo Sejima choosing finish materials for her Gifu Media Workshop. A master at integrating unusual materials, Sejima sent an assistant to the hardware section of a large store near her office. Shortly thereafter, she showed up on-site with a shopping bag containing oriented strand board, vinyl, wood flooring, and Astroturf. Together with her staff and contractors, Sejima reviewed her options and devised a new way to detail the chosen materials.

One way the book could have been enriched was for it to have

included more of the client's voice. Historically, Japanese clients have been deferential to their architects. But this is changing. Private clients are becoming increasingly design-savvy, and even public-works projects are occasionally spearheaded by visionary bureaucrats. As a result, sometimes the client plays a role in the collaborative building process.

As much a discussion of management techniques as architectural processes, the collaborative working model described in this book cannot be imitated outside Japan. But it can be a source of inspiration to those involved in the construction process.

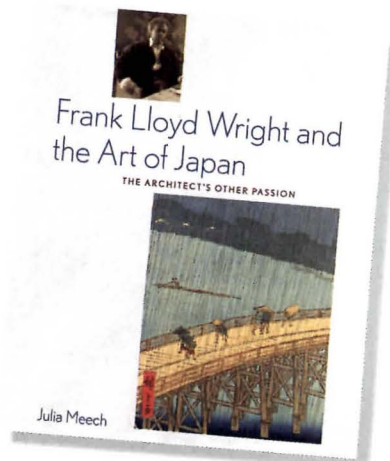
Frank Lloyd Wright and the Art of Japan: The Architect's Other Passion, by Julia Meech. New York: Harry N. Abrams and the Japan Society, 2001, 304 pages, \$60.

Frank Lloyd Wright's love affair with the Japanese print is widely known and well documented. But, according to art historian Julia Meech, Wright's infatuation went way beyond an appreciation of beauty and composition. Over the course of decades, he not only amassed a sizable collection—he had 6,000 Japanese color wood-block prints when he died—but helped others become collectors. Wright sold many hundreds of prints to wealthy connoisseurs of Asian art in the Midwest and on the East Coast. At times his dealings in the print world so consumed him

that they practically eclipsed his attention to his architectural work. It is the architect's parallel career as a print dealer that is the focus of Meech's book.

Organized chronologically, the book begins with the early days of Japonisme, when Japanese art began to captivate Western audiences in the second half of the 19th century, and ends with Wright's death and the subsequent demise of his art collection. Although Wright collected Asian art throughout his professional life, his most concentrated period of acquisition took place during the five trips he made to Japan for the Imperial Hotel commission. During his stays in Tokyo he pursued prints during every free moment and then some. Of those heady days, his son John said, "Dad was buying so many works of Oriental art that vendors poured in every day.... It kept him jumping from his stool at the drafting board to examine these antiques as they were presented to him."

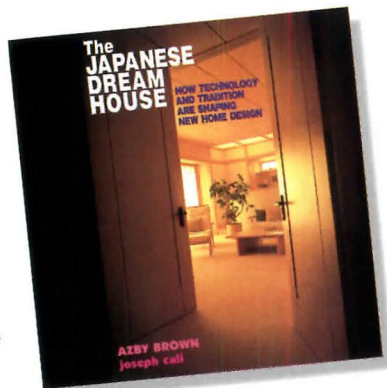
One of this book's greatest



Books

strengths is that it highlights Wright's role as a persuasive and passionate salesman while including a detail-rich account of the context in which he operated. The book is loaded with anecdotes about clients, dealers, and events that took place on both sides of the Pacific. And these episodes are beautifully illustrated with a mixture of period photographs of Wright's buildings adorned with Asian art; color plates of prints from collections cited; and portraits of clients, dealers, and other players in Wright's art world.

For Wright, prints were both an obsession and a form of currency to pay off debts or reward his apprentices. Over the course of his career, Wright's prints collection fluctuated in size but always remained dear to his heart, often stowed in a stone vault near his drafting table. Because much of his personal collection was



sold off after his death, only bits and pieces of it remain intact. However, some of the many prints that he handled went on to become cornerstones of important museum collections in the United States. And now, thanks to Meech's exhaustive research and meticulous piecing together of events, a superb record of Wright's print dealings also survives.

The Japanese Dream House: How Technology and Tradition

Are Shaping New Home Design, by Azby Brown and Joseph Cali. Tokyo: Kodansha, 2001, 132 pages, \$95.

According to Azby Brown, the Japanese dream house is neither an Andoesque concrete box nor a tatami-floored traditional dwelling. Instead, it is the prefabricated, system-built residence that the vast majority of Japanese house owners call home. While the system-built house may not have the visual impact or conceptual strength of an architect-designed home, some versions of it put a premium on comfort and durability.

Brown begins by tracing the historical, social, and technological developments that led to the system-built house's current market domination. After a clear explanation of traditional house types, he discusses the increasing Western influence on the Japanese house. He also provides an easily digestible synopsis of Japanese history that draws attention to such pivotal

events as the opening of Japan to foreign trade in 1854, at the end of the Edo period, and the subsequent wave of Westernization.

After World War II, a second influx of Western goods, such as washing machines and refrigerators, was accompanied by a social shift away from the extended to the nuclear family. But, Brown argues, although the appearance of the Japanese house has changed, deeply ingrained traditional use patterns—such as the removal of street shoes at the front door—have been incorporated into today's system-built house.

Brown's portrait of system-built houses includes such ecological contributions as the use of recycled materials and technological innovations, including off-site component manufacturing methods. He talks about how the houses are built and by whom. These homes may not be everyone's dream come true, but their popularity and the reasons behind it warrant attention. ■

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Arne turns the big one-double-oh, and Danes celebrate his legacy. How does the megashow hold up?

Exhibitions

By Nicholas Adams

Arne Jacobsen: Absolute Modern. Curated by Kjeld Kjeldsen. At the Louisiana Museum, Humlebaek, Denmark, through January 12, 2003; at the Deichtorhallen, Hamburg, Germany, May 25–August 31, 2003.

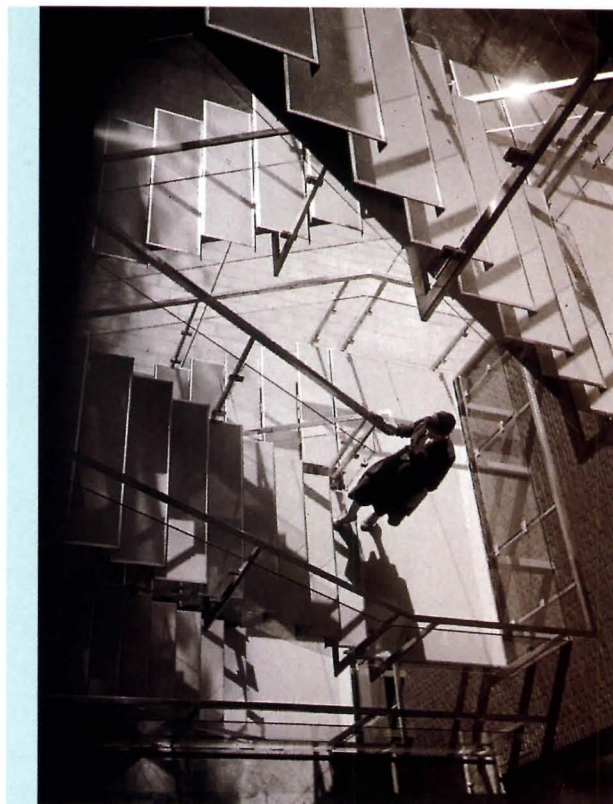
“Arne Jacobsen has practically reached postage-stamp status here in Denmark,” says Carsten Thau, professor at the School of Architecture of the Royal Danish Academy of Fine Arts and coauthor of the definitive book on Jacobsen. Attendance figures at *Arne Jacobsen: Absolutely Modern*, the sprawling centennial exhibition on his work and career at the Louisiana Museum in Humlebaek, just north of Copenhagen, suggest that he is right. (An exhibition at Scandinavia House, 58 Park Avenue at 38th Street, entitled *Arne Jacobsen: A Centenary Exhibition*, curated by Christopher Mount, closed last month.)

The Danes love Jacobsen. And why not? Everyone knows the Ant, the narrow-waisted little black chair that can be found in almost every public space in the country. Worldwide, it has been estimated, there are more Ants than Danes. Those who don't have the Cylinda series hollowware or the AJ cutlery have probably given them to someone for a wedding present. Louisiana has even permanently redecorated its restaurant with

Nicholas Adams teaches architectural history at Vassar College and writes frequently on contemporary architecture in Scandinavia.

Jacobsen furniture and light fixtures and during the run of the exhibition will serve Jacobsen's favorite layer cake and caviar. When I managed a visit, coinciding with the Danish mid-October school holiday, it was not silent black-uniformed architects who controlled the galleries, but nervous grandparents, parents, and their children. Arne Jacobsen, who died in 1971, is on the heritage list along with the Royal Palace in Copenhagen and “Hamlet's Castle” in Elsinore.

The show, curated by Kjeld Kjeldsen, is the most comprehensive ever assembled on Jacobsen. Organized chronologically, it presents all the major buildings with models, photographs, drawings, and original advertising material. There are extensive displays of Jacobsen's travel sketches and watercolors as well as his photography and travel films. The exhibition highlights four projects: the Bellevue area in Klampenborg (1931–38), Munkegård School in Søborg (1948–57), the SAS Royal Hotel in Copenhagen (1955–60), and St. Catherine's College, Oxford, England (1959–64). But it includes more than 250 projects, and the curator has not been stingy, especially with the National Bank Building, the town halls (Aarhus, Rødovre, Søllerød), housing projects (notably Søholm), and Jacobsen's gardens and textile designs. Chairs, light fixtures, tableware, faucets, and coffee services, needless to say, also get prominent attention. Never before has it been possible to appreciate Jacobsen's vast output. And if that were not



The exhibition presents the full range of Jacobsen's work, from the Ant chair (right) to a staircase at Glostrup City Hall (above) and the SAS Royal Hotel (below).



Exhibitions

enough, three firms—Dominique Perrault, Gigon and Guyer, and SANAA-Sejima/Nishizawa—have designed installations that comment on Jacobsen's work.

Yet, as Kenneth Frampton writes in the exhibition catalog, Jacobsen has never received proper recognition. The furniture and lamps are well known, of course, but the buildings have fallen between the cracks. The exhibition argues that Jacobsen's strength was his mastery of total design, the kind of strict aestheticism that gave Modernism a bad name in the 1980s. In the four highlighted buildings, combined with anecdotes from his colleagues, the exhibition shows how Jacobsen's disciplined attention to detail brought the elements of design together. His own study photographs taken of his buildings under different lighting conditions show how intensively he worked. Former colleagues, describing his press for perfection, vividly recall his drive. Low salaries, long hours, and tough criticism: "It's ugly"—or, if you were lucky, "It's not that ugly." It was all subsidized by clients (and staff) who learned what it meant to have an architect whose visionary talent was subsumed into

The rooms and the display neither support the images nor establish a visual counterweight. The show presents Jacobsen as the master of the refined detail: a wall gently washed by light at the SAS Royal, the hanging stairs at Rødovre Town Hall, or the shivering metallic waterfall staircase at Aarhus. Perhaps that is enough to encourage visits to Jacobsen's own buildings, the overwhelming majority of which are within half an hour's drive of Louisiana. But it doesn't concentrate the visitor on the essence of Jacobsen.

Hard questions are side-stepped, too. What to do, for instance, about Jacobsen's noted observation that while one may learn from history, one can steal from one's contemporaries. It is impossible to imagine Aarhus Town Hall without Asplund's Law Court extension in Gothenburg, the Hamburg Electrical Office Building without Hentrich and Petschnigg's



Three architectural firms designed installations that serve as visual commentaries on Jacobsen's work. These included pieces by Dominique Perrault (above) and Sejima and Nishizawa of SANAA (right).



THE EXHIBITION ARGUES THAT JACOBSEN'S STRENGTH WAS HIS MASTERY OF TOTAL DESIGN.

creating a *gesamtkunstwerk*, a process that Jacobsen himself found thoroughly exhausting.

Here the exhibition stumbles slightly in its need to satisfy a general audience. Jacobsen's notion of perfection is shown, but the process that produced it—the designs rejected, the paths not taken—are left out. Perhaps those matters are too technical, but the resulting narrative is superficial, with too many shiny hard surfaces. Moreover, the design of the exhibition, with its languorous chronological pace and its occasionally tight-packed corners, is the antithesis of a Jacobsen design.

Phoenix Building in Dusseldorf, Rødovre Town Hall without Saarinen's General Motors Technical Center in Warren, Michigan, the Sports Hall in Landskrona without Mies van der Rohe's Chicago Convention Hall, the SAS Royal without Gordon Bunshaft's Lever House, or the Ant chair without the Eameses. These are much more than inspirational sources. Jacobsen's reliance on his contemporaries exposes the mix-and-match methods by which this collage citizen developed his parti. If his buildings were overlooked in an era of optimistic originality in the 1950s and 1960s and disdained in

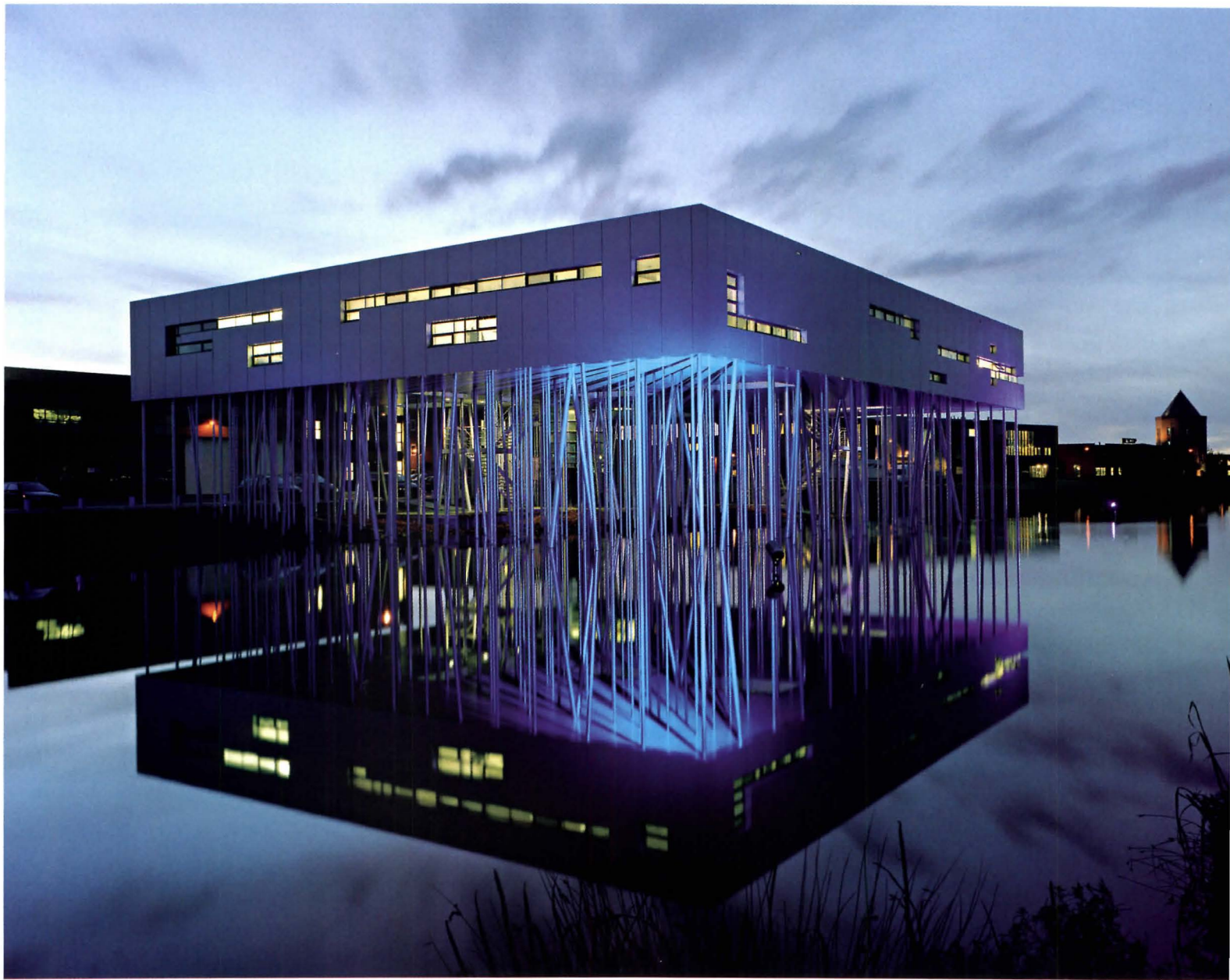
the Postmodernist 1980s, how interesting that they have come back into favor in an era of Modernist revival. In truth, the exhibition's subtitle, *Absolutely Modern*, misrepresents Jacobsen's modernity as a certainty, a position that was already in doubt in the mid-1930s.

The public can't stay away. But how have architects responded? Of the three firms commissioned to visually comment on Jacobsen, only SANAA—Sejima/Nishizawa penetrated the special ambivalence of Jacobsen's aesthetic control. The firm designed an empty transparent bowl that fills one gallery. It is exquisitely manufactured, clear and bright. Only some long air bubbles slightly deform the surface, creating a watery effect. Does it describe the ambivalent nature of enclosure? We stand outside, looking in and through the bowl, as much prisoners of our fascination as if we were actually inside. It is a proper meditation. On the evidence provided by SANAA, Jacobsen's legacy is still being written.

For Danish architects, matters

are different. Discussions on the dullness of the current Danish scene circle back to the influence of Jacobsen. But, "the truth is that corporate Minimalism is pretty boring all over Europe," comments Martin Keiding, an editor at *Arkitektur Dk*. "It comes about through a superficial understanding of people like Jacobsen." At Dissing+Weitling, Jacobsen's successor firm, Teit Weylandt, one of the principals, talks of Jacobsen's extraordinary eye and discipline. For those who lived it, the experience with Jacobsen was not about an aesthetic but about learning a method. If so, it is a method few practice so well. One of the best is Jan Søndergaard, whose headquarters for Bang & Olufsen and Pihl & Søn both crinkle with the memory of Jacobsen's high Modernism, though they lack that special cosiness, which the Danes call *hygge*, that Jacobsen's work now has. Action architecture, blob architecture, Koolhaas, and the Dutch attract Danish students today, says Keiding. "But when they get out into practice, they often return to Jacobsen." ■

Snapshot



By Christina Rogers

It is as visually compelling as it is paradoxical. A 1,000-square-meter box balanced on a silver forest of slender aluminum columns. It could not be a more astounding argument for the strength and lightness of aluminum as a building material. At least, that is exactly what the architect, Micha de Haas, intended when designing the Aluminum Centre's new home in Houten, just outside of Utrecht, the Netherlands.

Peeking over the Dutch landscape, the new building stands as both a sculpture and the headquarters for Holland's aluminum industry. All of its components—columns, stairs, window frames, and even the gravel—are made from aluminum and incorporated into the structure in a startling synthesis of expression and necessity. As much a showcase as an invitation to explore the latest uses of this lightweight material, the Aluminum Centre contains materials mostly donated by regional aluminum manufacturers. The construction is an innovation in its own right, with bracing techniques and structural joinery that leave engineers scratching their heads in wonder.

A recyclable, reusable forest of aluminum



Aluminum is 100 percent recyclable with no loss of quality. Except for the concrete foundation, the Aluminum Centre could be completely dismantled and parts reused.

Creating a landmark out of such a modest site was no easy feat, but Haas took his cue from the cultivated rectangular plots of thin poplars whose tops merge to create a canopy of foliage over the Dutch countryside. Slowly, this idea evolved into a first model: A matchbox on pushpins, an idea that developed into the underlying structural principle for the building. The completed volume now rests on a shelf composed of 368 columns of different sizes, with a column's diameter corresponding to the length of the span. In developing the design, Haas sought the shortest possible span—the opposite notion of free-columned space.

Yet, unlike a matchbox on pushpins, wind becomes a factor in a building of this size. Some of the columns are bent to provide X-bracelike cross bracing, or, as Haas says, "They're bent as if by the wind, as they are in the forest." At the same time, the 4,000-cubic-meter volume is significantly lighter than it seems. Herein lies the pith of the argument: Either a volume of this size has to be extremely light or the columns themselves have to be amazingly strong. Or both.

"I wanted to present the question of how something can be as light as a soda can, yet can support such a volume," say Haas. "The project was not only about exhibiting the strength of the material but also about stretching the imagination." ■



Taking a leap of faith

By John E. Czarnecki, Assoc. AIA

New York architect Lindy Roy had never had a project, other than a temporary installation, built before this year. That did not deter Vitra, the furniture manufacturer based in Basel, Switzerland, from selecting Roy's firm, ROY, to design the company's New York showroom, which opened last month in Manhattan's Meatpacking District. In giving the young firm its first commission to be realized, Vitra took a risk with the uncertainty of new, untested design ideas and capabilities. Vitra relishes that.

Constantly seeking to define "new" in the culture of design, Vitra is a proponent of the design vanguard. But why would the company, which has only a handful of showrooms in the United States, select ROY for its New York home? For Vitra to tap a new talent is not unusual, but for a small, young firm to get a high-profile commission as its first built project is. Every architect has to get that first project somehow, and Lindy Roy was lucky, in some ways, to have attracted the right attention in New York with a compelling portfolio of conceptual designs.

"When I looked at Lindy's dossier, I was completely taken," Rolf Fehlbaum, the C.E.O. of Vitra, told RECORD. "It's important to look for a new voice—a new promise."

Not all clients, though, are as experienced in selecting designers as Vitra, and not many young architects have the same access to connections in the New York design world as Roy has had. Why would a client—any client—take a leap of faith to go with a young architect for a project? As RECORD presents its third annual Design Vanguard in this issue, we posed that question to young firms that had been featured in previous Design Vanguard issues or in *archrecord2*, as well as to one of each of their clients with work in progress at press time. How did the client come to select the architect for a given project, and what was the learning curve, for both architect and client, as the job proceeded?

In New York, Roy completed the Vitra showroom after having only one other realized project—a summer 2001 installation at P.S.1 Contemporary Art Center in Long Island City, New York [RECORD, *archrecord2*, August 2001, page 51]. In Chicago, Studio Gang/O'Donnell [RECORD, *Design Vanguard*, December 2001, page 82] has designed its first community center, with both child and adult day care, for the Chinese American Service League. La Dallman Architects of Milwaukee

[RECORD, *archrecord2*, April 2001, page 55] had completed a few smaller projects before being chosen by a local developer—a recent Ukrainian immigrant—to design a 30-story condominium tower in that city. And in San Francisco, a German couple with multiple homes in Europe and the United States hired Kuth/Ranieri Architects [RECORD, *Design Vanguard*, December 2000, page 106] for a second time to execute a major reconstruction of a residence. These four cases offer a diverse selection of client and project type, but all of the clients share one thing in common: They chose younger firms with developing practices when they could have gone with larger, more experienced companies.

A case for the new

Institutional clients, in particular, are increasingly looking to smaller, younger architecture firms because of the unique, fresh approach and attention that they can bring to a project. Brad Cloepfil, 46—whose Portland, Oregon-based, 15-person firm, Allied Works Architecture, was named last month to design the new home for the Museum of Contemporary Arts and Design in New York City (see story in this issue, page 24)—has noted the trend. "A lot of the next generation of architects are getting opportunities that, say 30 years ago, I'm not sure a small 10-to-15-person firm would have gotten," says Cloepfil, who received his first major East Coast commission with this winning competition and was also recently selected for the Seattle Art Museum expansion.

The Museum of Contemporary Arts and Design (formerly the American Craft Museum) intentionally focused on smaller, younger, or emerging firms in its selection of an architect for the renovation of Edward Durell Stone's Two Columbus Circle for its new home. It did not invite larger firms with more museum experience to apply. Competition finalists included Smith-Miller + Hawkinson Architects, Zaha Hadid, and Toshiko Mori.

Holly Hotchner, the director of the museum, explained: "The museum has always advocated for emerging artists—that's what we do. And since we are also very much in the world of design, it seemed appropriate to look for a person to design our building—which we think will be the greatest object in our collection—who would be in the same spirit as the artists we show. We want this project to be the cornerstone of [Cloepfil's] career."

Cloepfil described his relationship with the museum thus far as “an exciting fit. Institutions that hire emerging architects are really looking at ideas rather than objects. In this and other recent commissions that I’ve gotten, clients are more interested in a way of thinking and investigating and a way of exploring ideas, rather than just getting a product.”

Making a name in New York

For Roy, 39, the opening of the Vitra showroom (renderings, below) was, in a way, her debut as a New York architect on a par with the most innovative thinkers in the profession. A pair of New York innovators and mentors—Elizabeth Diller and Ricardo Scofidio—helped her along the way. Andrew Goetz, Vitra’s New York–based director of development, said Vitra had initially considered a wide range of top design talent for the New York showroom, including Greg Lynn, SHoP, Herzog & de Meuron, Rem Koolhaas, Annabelle Selldorf, as well as Diller + Scofidio. Vitra had seriously considered Diller + Scofidio after the husband-and-wife pair had designed the company’s showroom installation for Neocon in Chicago, but they were too busy after winning recent competitions.

Diller + Scofidio offered a list of architects that they thought would be appropriate for the high-profile job, and Roy’s name was on the list. After reviewing portfolios, Fehlbaum selected Roy.

“In looking at Lindy’s portfolio, we definitely thought she had the makings of somebody special,” Goetz said. “It would be very easy to pick Rem Koolhaas at this time, but we wanted to invest in a younger talent that we believed in. It reinforces the concept that risks are important to take and are worth taking.”

“WE DEFINITELY WANTED TO INVEST IN A YOUNGER TALENT THAT WE BELIEVED IN.”

— Andrew Goetz, of Vitra

Investing in new talent is something that Vitra has done for decades. Vitra handed Frank Gehry his first European commission, the Vitra Design Museum in Weil am Rhein, Germany, in 1987, and selected Zaha Hadid for her first built project—the Vitra Fire Station, completed in 1993. “Zaha was, at the time, more of a promise than a proven reality,”

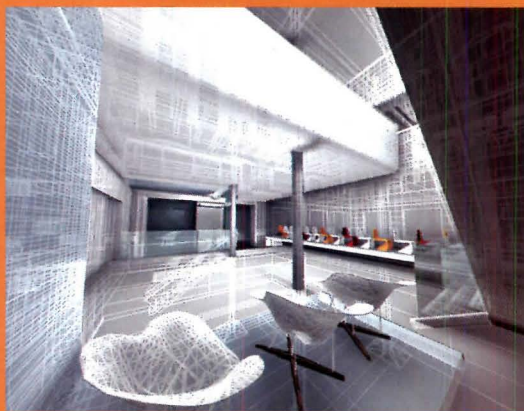


For the Vitra New York showroom (renderings, right), Lindy Roy (above) employed a palette of materials including steel, wood, and industrial rubber that reinterpret the semi-industrial character of the surrounding Meatpacking District. Vitra chairs are placed on raised platforms for easy viewing at eye-level, and wall sections are sheathed with backlit polycarbonate panels.

“It’s very much a part of the Vitra ideal to work with younger architects and be looking toward the future.”

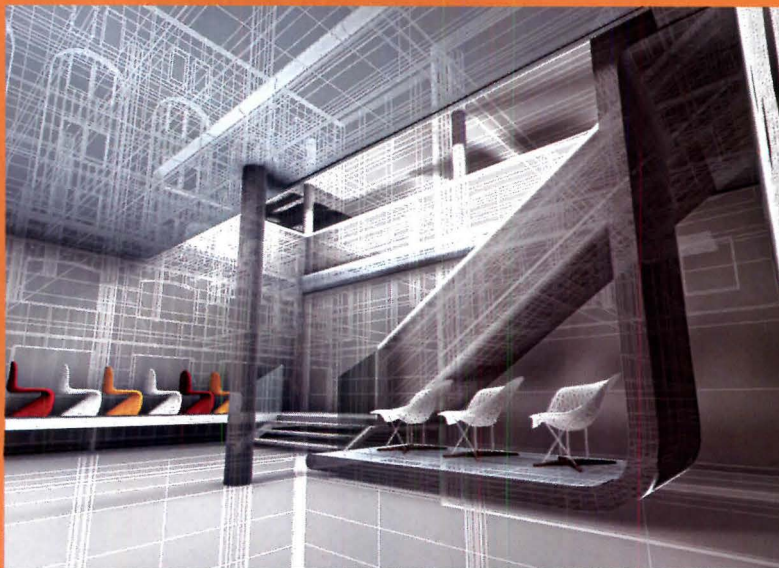
— LINDY ROY

ARCHITECT: ROY PROJECT: Vitra showroom, New York City



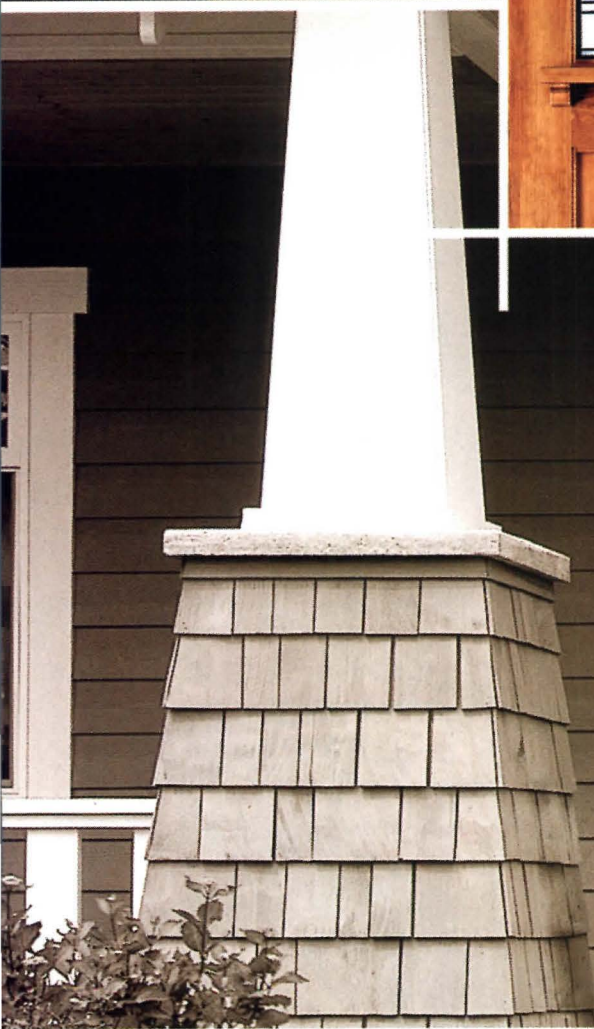
“When I looked at Lindy’s dossier, I was completely taken. It’s important to look for a new voice—a new promise.”

— ROLF FEHLBAUM, C.E.O. OF VITRA (PICTURED BELOW)



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Fehlbaum said. "We take a lot of effort to find the right people, and then we work with them to instrument what we need to do."

Wong said CASL was not convinced that the larger firms would give them the attention and time needed, even if they had experience with community centers or day care. "One of the things that we were concerned about is whether the principal making the presentation would really be managing the project. But with Studio Gang/O'Donnell, we were sure that Jeannie [Gang] and Kathleen [O'Donnell] would be working on it, and that gave me more confidence."

"Energy was important," Gang said. "We won the job after numerous interviews, and we showed that we really wanted the job. They wanted a firm that would be able to go the full nine yards and not just turn out a repeat solution, because this is a unique program."

"Studio Gang/O'Donnell is more creative, slightly out of the ordinary, and we wanted a building that stands out," Wong said. "There are enough buildings that look like each other in Chicago's Chinatown."

Husband-and-wife firm selected for 30-story tower

Further up the Lake Michigan shore, the City of Milwaukee initiated a request for proposals for developer-architect teams in 2000 for a down-

36,000-square-foot facility will accommodate 14 different programs for the Chinese community in the downtown area.

town residential development on a site with fantastic views of the lake. Peter Park, the director of planning for the City of Milwaukee, said, "What we were really asking for was a whole team, a competent team that could design a building commensurate with the site. We called for a building that would be a real signal to the city overall, and to the market, of what the potential for urban housing in Milwaukee can be."

Milwaukee developer Boris Gokhman, who emigrated from the Ukraine in 1990, asked La Dallman Architects—the husband-and-wife practice of Grace La and James Dallman—to team with him for this competition even though they had only recently started their firm with much smaller projects. Gokhman, who had built a number of residential developments in the city in the past decade, chose La Dallman because "they're not a mass-production firm. This is kind of a unique project, and I saw them both as creative and very much design-oriented."

La Dallman, in conjunction with TDI Associates and Solomon Cordwell Buenz & Associates, won the competition with Gokhman, and have designed a 30-story, 59-unit condominium tower for the site. More than half of the units have sold, and construction may begin this month.

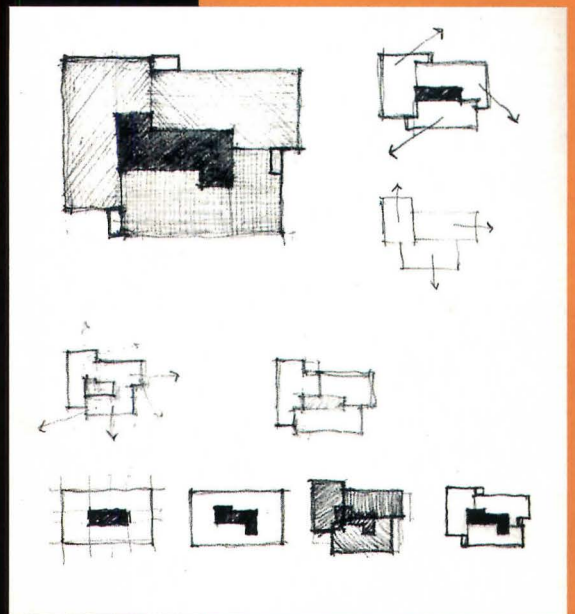
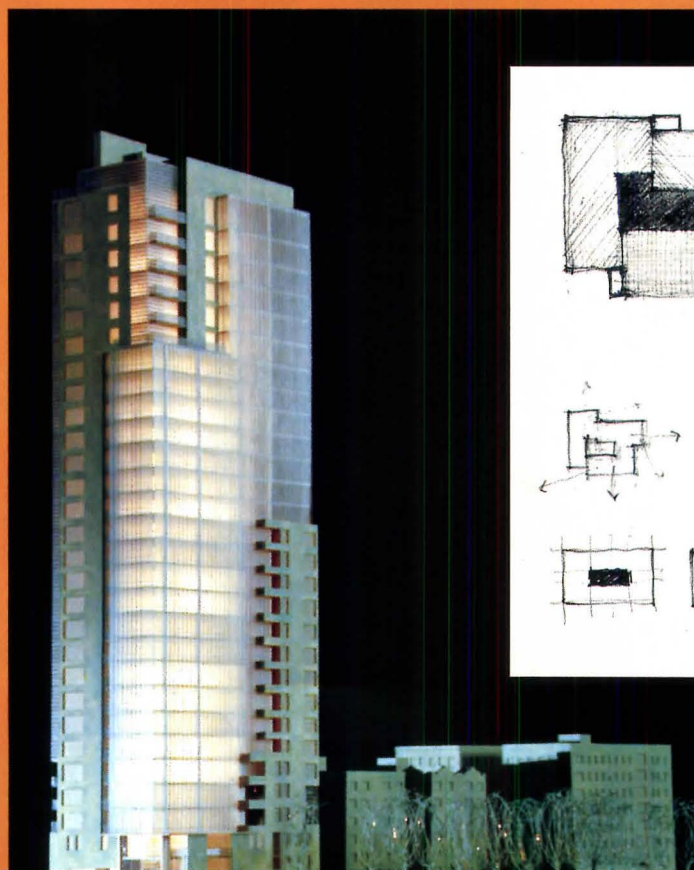


ARCHITECT: La Dallman Architects

PROJECT: Kilbourn Tower, Milwaukee

James Dallman and Grace La (above) have designed a 59-unit condominium tower in Milwaukee with a plan (sketches, right) that allows for multiple views of Lake Michigan and downtown. Dallman said, "We strategized about creating a particular core shape and floor plan with a kind of spirally shape. That was attractive to Boris, because he realized it was advantageous to sell units, and it created an interesting massing."

"A building of this quality requires a certain amount of time, and I think Boris's sense of



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What was the major hurdle for the six-person La Dallman office and Gokhman to overcome on the \$45 million project? An understanding of timing in order to design and detail a 30-story tower. "For me it was a learning process of how to be detail-oriented. Grace and James brought a new level of detail," said Gokhman. "It's been a good balance."

"A building of this quality requires a certain amount of time, and I think Boris's sense of design time frame is shorter than ours," La said. "But he has been very receptive, and that was surprising, because we talked with other housing developers that did not bring the same energy."

Like taking Architecture 101

With two projects on a much smaller scale, the husband-and-wife team of Byron Kuth and Elizabeth Ranieri, of San Francisco, have been fortunate to have had design-savvy repeat clients—Adriane Iann and Christian Stolz, a married couple who have several homes abroad, including a castle in their native Germany. The couple hired Kuth/Ranieri Architects in the late 1990s to design a Nob Hill residence (bottom right) after seeing

an exhibition of the firm's design work at the San Francisco Museum of Modern Art. "I think they wanted to find an American voice," Kuth said. "And Adriane said, 'What I want is something that I never would have thought of in a million years.'"

Once their new home was built, Iann and Stolz purchased a small cottage directly across the street and called on the seven-person Kuth/Ranieri firm again. This time, the architects will completely gut an existing structure and create a guest house and gallery featuring a new double-height space and a large skylight puncturing the original roof. Construction will be complete in a year. "It has been a little bit like taking Architecture 101," said Iann, "because [Byron and Elizabeth] were very patient in explaining the theoretical background."

It comes down to patience, effort, and passion

Patience, it seems, is a virtue when a client takes the plunge with a young firm, as well as passion about the project. "We not only feel that we were taking a risk," Iann said. "But they were taking a risk as well, because they put all their heart in it. If you put your heart in it, it's more of a risk." ■

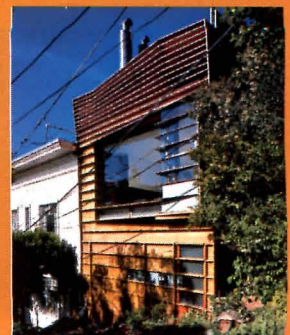
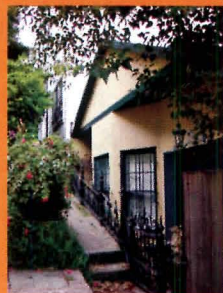


Elizabeth Ranieri and Byron Kuth (above) designed a modern home in San Francisco (bottom right) for Adriane Iann and Christian Stolz and have now been hired by the same couple to do a gut renovation of a cottage (photo, right, and renderings) across the street for a guest house and gallery. A double-height space will be created, and a mesh screen will divide spaces.

"I think they wanted to find an American voice. And Adriane said, 'What I want is something that I never would have thought of in a million years.'"

— BYRON KUTH

ARCHITECT: Kuth/Ranieri Architects
PROJECT: Iann/Stolz Cottage, San Francisco



"It has been a little bit like taking Architecture 101, because (Byron and Elizabeth) were very patient in explaining the theoretical background." — ADRIANE IANN, CLIENT

Ten Degrees of Modernism

WITH NO TRUE PATH DETERMINED FOR THE PROFESSION, WHAT'S A YOUNG ARCHITECT TO DO TODAY?

By Joseph Giovannini

Since the early 1980s, architecture has taken some hard hits. No sooner did Postmodernism discredit Modernism than Deconstructivism felled Postmodernism—and in a way that intentionally destabilized the foundations of architecture as a discipline. Some architects took refuge in the comforts of neo-Modernism and its derivative, Minimalism, a conservative, safe position where architects could hang out for a while, biding aesthetic time. In 1997, the Guggenheim in Bilbao set its unprecedented example. The museum structure as an epiphenomenal event single-handedly changed the climate in which designs are conceived and built, expanding expectations of what a building might be and do beyond rote program. Architecture could not only define an institution but change the entire image of a city and alter a regional economy. Architecture could deliver geopolitical clout.

Then the computer itself threw everything into crisis, especially when animation programs infused design with curvilinear, biomorphic designs foreign to conventional construction: In a complete reversal of the Modernist paradigm, skin superseded structure. Furthermore, the computer challenged the notion of the architect as author in chief—now there could be two brains at work simultaneously on the same design.

Hardly any theoretical structure, paradigm, or model that might form a consistent basis of practice for young architects has been left standing. The successive waves of dislocating change opposed rather than reinforced one another, preventing a linear, evolutionary growth building on itself. It was Hegelian thesis and antithesis but without the synthesis. Polarizing sets of opposites were difficult to reconcile—representational versus abstract, simple versus complex, mechanical versus electronic.

The architectural landscape in which the emerging generation works now resembles Monument Valley, with various disconnected promontories of thought littered across the plains of practice. There is now no widely shared, coherent vision. Young architects today face the bittersweet position of enjoying great freedom without the benefit of consistent guidance. Released from the straight-and-narrow of any true path, they have to choose and invent their own. These are tentative times—of reassessment, recuperation, rumination, and rebirth—in which architects

Joseph Giovannini is a New York City architect and the architecture critic for New York magazine.



Design Vanguard 2002:

1. propeller z
2. Peter Tolkin & Associates
3. Tezuka Architects
4. René van Zuuk
5. Plexus r+d
6. JKMM Architects
7. 3SIX0
8. Sahel Al-Hiyari
9. David Adjaye Associates
10. Predock_Frane Architects



are absorbing and digesting waves of change.

But finding unoccupied territory is ever more difficult after seminal figures like Frank Gehry, Thom Mayne, Zaha Hadid, Peter Eisenman, and Coop Himmelb(l)au broke and claimed so much ground in their highly exploratory practices. As New York architect Thomas Lesser has said, “There was nothing left to deconstruct.” (Lesser himself went into banality—that is, he transposed notions of suburban culture to urban locations, creating frissons of strange anomie.)

Even the computer, which plunged the field into a crisis of instrumentality and vision, soon constituted newly claimed territory for those who got in on the ground floor. Emerging architects today have been left with little room of their own.

For much of the 20th century, the split between traditionalism

and Modernism constituted architecture's cold war. With the discrediting of Postmodernism, like the fall of the Iron Curtain, now only one side is left, and variations and outgrowths of Modernism are the only game. Distinctions are finer, between those practices tending to complexity rather than simplicity or those favoring the static over dynamic. The conservative position is no longer Postmodernist or traditional, but a reiteration of reductivist Modernism.

For the third successive year, ARCHITECTURAL RECORD sent out feelers to locate emerging talents whose work might illuminate the coming state of the art. Practicing at a time when there is no clear philosophical imperative, this group of young architects seems to operate in a field of ideological uncertainty, unrestricted, for example, by the logic of industrial production or any philosophical persuasion or professional methodology.

Although there are a few heroic statements among the following projects, a sense of reticence prevails. There are no manifestos; some even verge on antistatement. None really wants to compete with Bilbao as a cultural spectacle, although the understatement of several implicitly engages the issue of monumentalism by positing modesty as a critique.

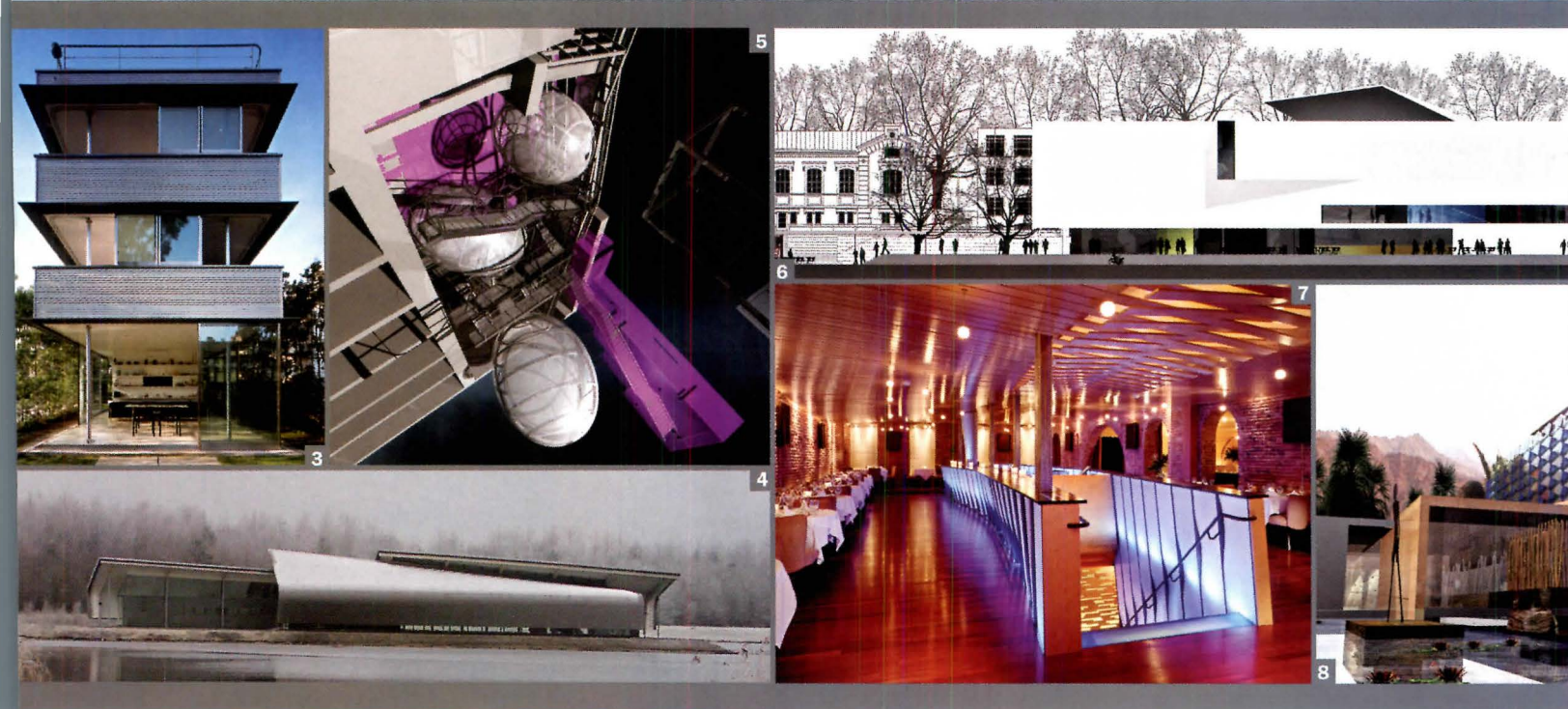
The aesthetic traction for most of the practices stems from stylistic rather than missionary Modernism; abstraction is an aesthetic norm and lingua franca rather than a system of beliefs intended to make converts. In

based in abstraction, as it is with Japanese architectural traditions.

The Rhode Island firm 3SIX0 develops another classic strain of Modernism in projects that plumb the formal and expressive potential of materials. In its 33 restaurant, the bar and stairwell are sided with a suite of pale blue, backlit fiberglass panels, each slightly different from the next, in a ratcheted geometric profile generated by computer. The architects angle the wood ceiling strips out of the plane to break open the ceiling to indirect lighting, hidden in recesses that give the ceiling depth. The luminous environment contrasts with the thick brick walls of the existing building.

None of the architects, whether in Pasadena, Jordan, or Providence, is making a revolutionary statement, but speaking variants of a known idiom. Prominent figures like Gehry claim so much territory that the better part of originality is to steer clear of their aesthetic patents even if it means staying within the confines of a known Modernist sensibility. Invention within Modernist convention is better than a derivative signature.

All the major directions that erupted over the last generation echo in the following projects, along with certain traces of early Modernist precedents, like Surrealism, that never consummated themselves in architecture. A kind of hybrid vigor results in the work of architects who cross-pollinate different strains on their way to their own inventions. The disparate influences are not homogenized into safely contained packets.



a graphics studio in Pasadena, California, for example, architect Peter Tolkin is not discovering a new form of beauty in this Mondrianesque interior, with its coloristic planes arranged in contrapuntal compositions. He is applying a known form of Modernism. The aesthetic is a fallback beauty, tantamount to second nature for a contemporary architect.

The aesthetic may be a received one, but it is not exhausted and not necessarily easy. Jordanian architect Sahel Al-Hiyari, trained at Harvard's Graduate School of Design, almost reenacts the discovery of Modernism as an act of abstraction by inventing geometrically intricate, three-dimensional sunscreens that fall in the tradition of both Islamic geometry and Miesian purity. The refinement of concept and execution is dazzling, and the work in general—clean, geometric, refined—makes the point that Modernism is as compatible with Islamic architecture, itself

Most, though not all, of the architects favor open rather than closed forms, and no structure is more open than the Beijing Zhongguanchun Life Science complex, by Plexis r+d. The sprawling, self-mutating project has an architectonic porosity that allows the buildings to interact with the landscape and public spaces in a continuum that fuzzes strict inside-outside boundaries. The project recalls the extreme complexity explored by such architects as Thom Mayne, who emphasizes the separation, articulation, and segmentation of the parts. In the Beijing project, the differentiation of the parts allows the free expression of the specific and unique: The general rule does not override the exception. This is an architecture of diversity, and an appropriate model for a country that does not want to be swallowed into the voracious maw of globalization.

Plexis r+d designs by the juxtaposition of differentiated parts.

Predock_Frane Architects of Los Angeles designs by a related Modernist technique that comes out of collage layering. In its Rinzai Zen Buddhist Retreat, an 8,000-square-foot complex whose hovering planes make it look bigger than it is, the architects separate and layer planes and volumes, creating breathing environmental reveals that draw light and wind into and through the building. This is a building of great visual power, even though it avoids any sense of weight: Metallic surfaces etherealize masses.

The typological logic and stylistic tropes of Postmodernism have vanished from the screen, but Postmodernism's salubrious emphasis on context, as opposed to Modernism's inclination to the tabula rasa, remains strong in several projects. The Finnish firm JKMM Architects created one of the more heroic projects, the Center for Architecture, Building Technology and Design (ARMI), which it positions at the water gateway to Helsinki with great poise. Wrapped in a taut cutout plane, the building hovers above the ground and water. On its outdoor plaza and within the building, the architects work with a double geometry, creating a dynamic sequence of forms and spaces whose parallax shifts engage the visitor's eye up through the building. Fragments of the plan erupt from the roof, playing against the large geometric gesture. The building is a strong visual cornerstone that starts the city. It holds its place in a harbor where the sea, sky, and vessels dwarf most structures.

buildings. Occupants are not simply consumers passively using space, but operators invited to significantly reshape it. As in traditional Japanese buildings with shoji screens, the environments are participatory, and the spaces transformative.

The architects sometimes push the simplicity to such an extreme that they enter a strange territory beyond elegance. In one suburban house, they fix ladders up to escape hatches in the ceiling so occupants can climb onto the roof, which they use as a beach or yard; the architects leave the roof looking like a roof, without transforming it into a terrace or deck. In

THE COMMON CORE IS A DIVERSE MODERNISM NO LONGER TETHERED TO A SINGLE INTERPRETATION OR SOLAR FIGURE.

another house, the architects push symmetries so resolutely that they achieve an ineffable oddness. There is in the Japanese character a gene for obsessiveness and a love of the strange: The architects sometimes edge their buildings into a delightful Duchampian absurdity bordering on the surreal.

Dutch architect René van Zuuk enlists the computer to make his buildings strange. He usually determines the appropriate structural system and then sics the computer on it, deforming it. The designs push the limits of deformation to a point just short of unbuildability. He eschews any form of Modernist beauty in favor of the deviant. The computer leaves its fingerprints, but not as conspicuously as projects of recent years. The computer is being absorbed as a tool rather than featured as a design messiah.

In Pasadena, Peter Tolkin also cultivates deformation—in a church built with a Lamella structure. Using wood framing similar to the diamond-shaped members of the original shell, the architect creates small, self-supporting, alcovelike chapels with distorted geometries that contrast with the idealized regularity of the Quonset-shaped building (formerly a theater). As the architect states, he makes the static ecstatic. The computer may have helped, but Tolkin is not making a high-tech statement about electronic intelligence. The aesthetic, in fact, is rather low-tech. In an artist's studio built behind a Craftsman bungalow and garage, the architect erected a small structure out of wood framing and plywood infill, in what seems an effort at undesign or antistyle. The chief virtue is the voluminous interior and a lack of design pretension that charge the structure with a sense of the raw and immediate.

What emerges in the work of several architects is attitude—a quirky, slightly devilish disposition that provokes feelings beyond the material facts of the building. Attitude in the form of a Pop sensibility, descended from Archigram, is very much in evidence in Meteorit, an exhibition complex in Essen Germany designed by the Viennese firm propeller z. A large and glorious gizmo, the building celebrates the machine paradigm with ducts, trusses, and a long tubular fuselage housing administrative offices. The architects painted it all garish blue, with flashes of lipstick red. They land a tart blue machine in a green garden.

If the 10 architects here represent a cross section of the field at this point in time, the center no longer holds. Without a magnetic core, these young practices have been released to their own orbits. There may be tangential relationships, but there are few dominating centrism around which to gravitate. The common substratum may be Modernism, but a very diverse Modernism no longer tethered to a single interpretation or solar figure. Architecture no longer enjoys a grand narrative but many smaller ones.

As architects absorb the shock waves of the last generation, they are broadening the range of architectural practice with expanding and perhaps irreversible diversity. They aren't likely to fit back into any box. ■



JKMM's position in the Modernist spectrum is a pole opposite that of several architects with a Minimalist sensibility and a strong impulse toward the sanctity of the right angle. The power of London architect David Adjaye's buildings is in the single-mindedness of volumes and planes completely stripped of any detail—he even organizes some of his smaller buildings so that windows and doors disappear from facades, the windows dislocated to the roof and the doors to the side. The facades of these Donald Judd-like objects become mute planes that give the buildings an aura of mystery. Interiors are pristine white boxes that become receptacles of light.

Japanese architects Takaharu and Yui Tezuka design with the same reductive purity, but with an emphasis on the environment. The two architects create not just shells, but interactive environments that users can substantially change: Roofs and walls slide back to open the



propeller z in Vienna, merges architecture with industrial, graphic, and set design

By Sarah Amelar

Architect: propeller z

Location: Vienna, Austria

Year founded: 1995

Design staff: 8

Principals: Kriso Leinfellner, Philipp Tschofen, kabru, Carmen Wiederin, Korkut Akkalay

Education: Leinfellner: Gerrit Rietveld Academie, Amsterdam, industrial design, 1995–96; Academy of Applied Arts, Vienna, industrial design diploma, 1996; Graz University of Technology, Austria, architecture, 1988–89; Tschofen: University of Michigan, architecture, 1992; Vienna University of Technology, architecture diploma, 1998; Vienna University of Economics and Business Administration, 1986–88; kabru: Kyoto City University of Art, Japan, design, 1996–98; Royal College of Art, London, 1995; Vienna University of Technology, architecture diploma, 2002; University of Linz, Austria, and Graz University of Technology, physics, 1986–88; Wiederin: Academy of Applied Arts, Vienna, architecture and interior design diploma, 1990; Akkalay: Academy of Fine Arts, Istanbul, architecture, diploma, 1990

Work history: None of the propeller z partners had significant professional design experience before forming the firm.

Key completed projects: Basis Wien, Vienna, 1997; SGL House, Vienna, 2002; Hutchison 3 offices at Gasometer C, Vienna, 2002; DBL House, Vienna, 2002; GIL fashion area 1 and 2, Vienna, 2000; Meteorit, Essen, Germany, 1998

Key current projects: Datacenter office, Vienna, 2003; Haus M, Vienna, 2003; Knight Rider funicular to ancient castle, Riegersburg, Austria (on hold); furniture designs for Wittmann, 2003

The Vienna-based firm of propeller z derives its curious name from *command-z*, the computer keystrokes that undo what has just been done. But for this eight-person practice, the concept of backtracking or unraveling represents a remarkably constructive attitude, rather than a self-defeating or nihilistic one.

“When we started out,” says Philipp Tschofen, a propeller z principal, “we were still learning how to work with computers and used *command-z* a lot.” Tschofen and his coworkers nicknamed the *command* key for its resemblance to a propeller, and eventually “came to see ‘propeller-z’ as a positive symbol for our approach to design,” he explains. “We begin each new project by going with the flow, but then we always intentionally stop the process, review what we’ve done, and start all over again.” The goal is to find an optimal solution and systematically distill its essence.

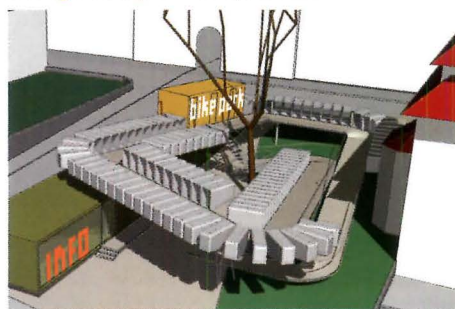
Since its founding in 1994, the firm has grown from two to five partners and has applied its z philosophy to projects ranging from a small museum and designs for temporary exhibitions to single-family houses, retail shops, professional offices, furniture, and an array of well-received, but unrealized, competition schemes.

Collectively, the partners—Korkut Akkalay, kabru, Kriso Leinfellner, Carmen Wiederin, and Tschofen—received education in Turkey, England, the U.S., and Japan, as well as Austria. And, as the interdisciplinary character of their work reveals, the group’s training extends beyond architecture into the fields of fine arts, and graphic, furniture, exhibition, set, and industrial design. In *Meteorit* (1998), for example—an exhibition complex in Essen, Germany—the firm conceived not only the curvy, aluminum, hull-like building that hovers above underground exhibition spaces, but the furnishings and interior fittings, as well.

Explorations of altered perception, including varied ways of seeing, occur frequently in the firm’s work. At *Meteorit*, a sequence of media installations heightens the experience of descending a network of ramps, bridges, and stairs into the complex’s lower reaches. For GIL fashion area 1 (2000), a Vienna shop, transparency and voyeurism play key roles. In the *i:spy* installation (2000), surveillance cameras, monitors, and peep-holes are the main ingredients. *Future Music Blender* (2000) involved propeller z’s collaboration with the M.I.T. Media Lab on an environment for exploring sound. And in the *Stealing Eyeballs* exhibition (2000), the firm probed interactions between real and electronically mediated space.

Very much in the real world, however, propeller z is wary of projects that look exciting in computer renderings and models but deteriorate into dull buildings when ultimately realized. “We strongly believe that design must prove itself in real-life, constructed forms,” Tschofen emphasizes. He and his partners are particularly intrigued by prefab objects. They aspire to create kits of parts that clients can clip together without any tools, screws, or special skills—just with a very clear set of assembly instructions. The firm has already achieved this end with a stairway in a single-family dwelling, but the ultimate goal is to produce a do-it-yourself clip-together kit for a whole house. ■

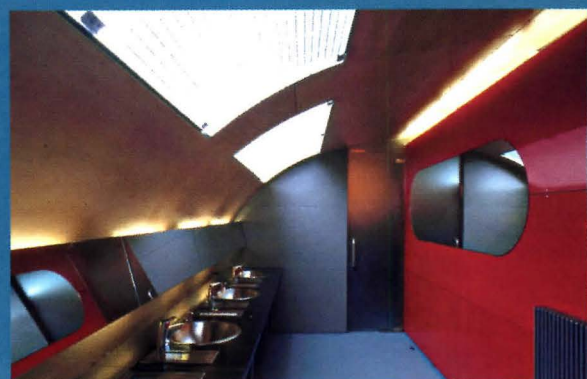
A competition entry for a bicycle storage facility in Krems, Austria.

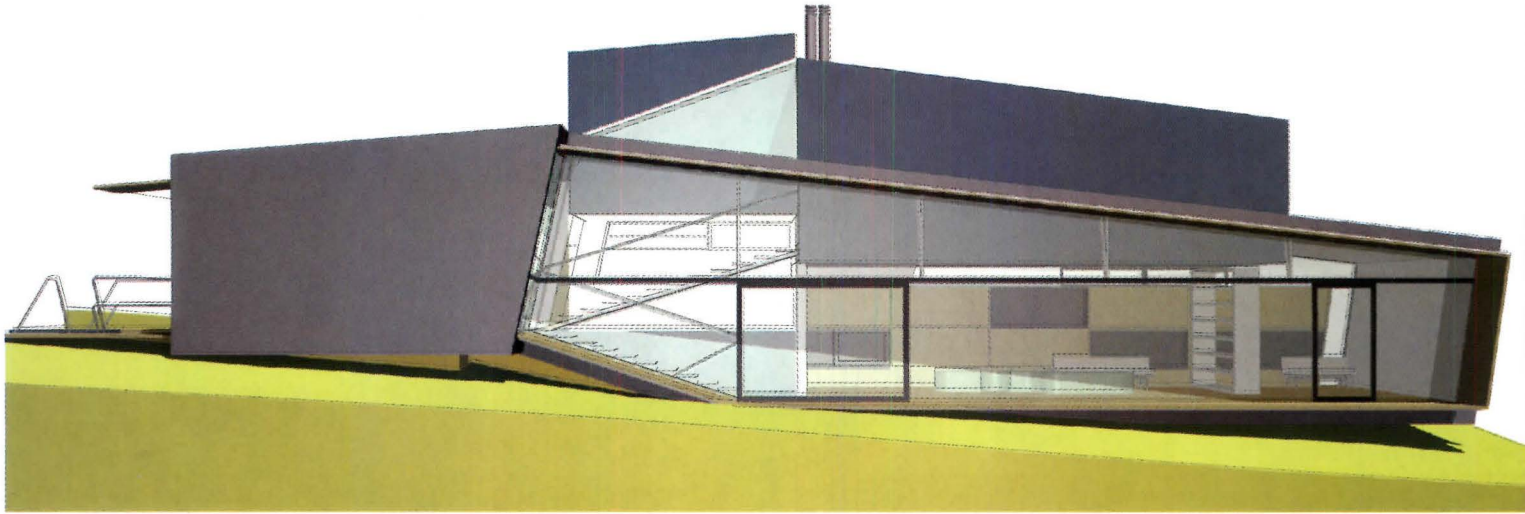




Meteorit,
Essen, Germany

This exhibition-and-entertainment complex deftly integrates three distinct components: (1) an apparently hovering, curved aluminum hull that houses a café, rest rooms, and staff facilities; (2) subterranean exhibition spaces, approached by a network of stairs and ramps; and (3) a sloped glass roof, extending from hull to ground, that covers the entrance hall, coat check, and shops.





SGL Residence,
Vienna, Austria

Formally, this single-family house explores ideas about transparency and visually light construction with thin, folded planes and elegantly revealed sectional relationships. Varying qualities of luminosity play against vertical surfaces of smooth wood or glass and horizontal planes of stone or wood.



GIL fashion area 1,
Vienna, Austria

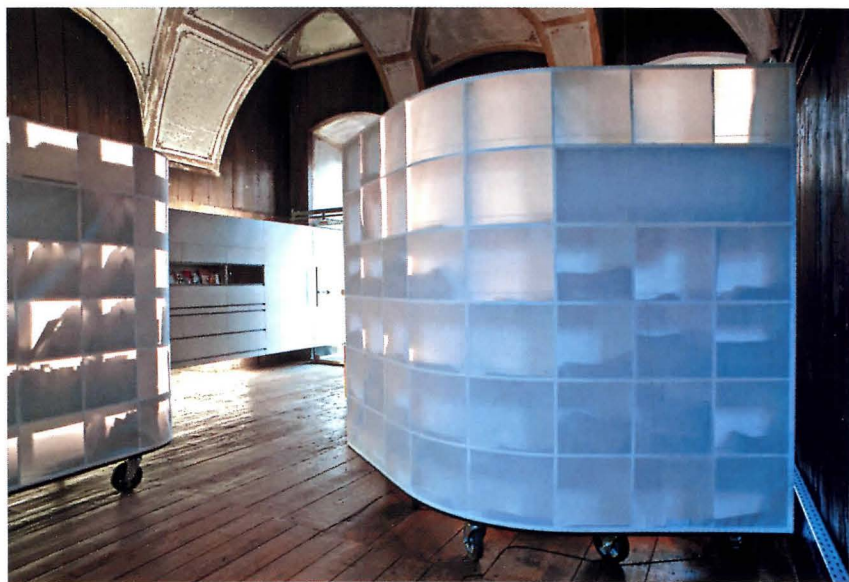


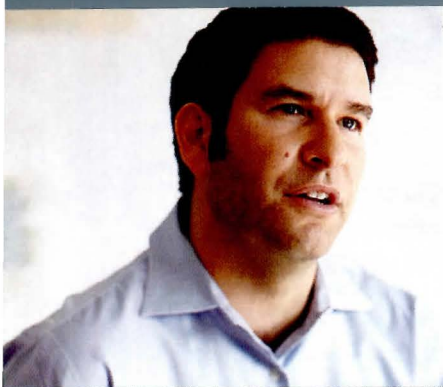
The design for this shop (this page and opposite, bottom) consciously exploits fashion-world obsessions with "seeing and being seen." The glazed facade dissolves thresholds between store and sidewalk. Parallel to the flow of pedestrian and vehicular traffic, a catwalk, underlit with fluorescent bulbs, and a long stair set against glowing lime-green walls, draw attention to ascending and descending shoppers. propeller z designed the furnishings and fittings.



Basis Wien,
Vienna, Austria

For an art archive in Vienna's Museumsquartier, propeller z achieved a balanced dialogue between an 18th-century building and a modern intervention. Providing flexible space for workstations, lectures, and other events, the new elements have a luminous, floating quality—with, for example, translucent shelving units raised on castors—that keeps them distinct from the existing vaults and exterior masonry.





Peter Tolkin synthesizes outside influences into his own brand of Modernism

By Suzanne Stephens

Architect: Tolkin & Associates
Architecture

Location: Pasadena, California

Date founded: 1999

Design staff: 10

Principal: Peter Tolkin

Education: University of Santa Cruz, B.A., 1984; California Institute of the Arts, M.F.A., 1987; Columbia University, M.Arch., 1991

Work history: Sturm + Wolf Architekten, 1991–92; Bräm & Tolkin Architekten, 1993–95; Tolkin + Byram & Associates, 1997–98

Key completed projects:

Promenade live-work lofts, Long Beach, Calif., 1994; “Athena’s Crib” (freestanding porch), Los Angeles, 1994; Flag Shop, Whittier, Calif., 1997; Parker Photography Studio, Pasadena, 1999; Saladang Song Restaurant, Pasadena, 2000; Maison 140 boutique hotel remodeling, Beverly Hills, Calif., 2000; Sherman Residence, Encino, Calif., 2001; Quadlab graphic design studio, South Pasadena, 2001; Mainplace Merced commercial block, Merced, Calif., 2001; Pasadena Christian Center, Pasadena, 2001

Key current projects: Aluminum furniture prototypes; Private residence, Mt. Shasta, Calif.; Congregation Shaarei Torah, Arcadia, Calif.; M-Lofts, Merced; Metlox mixed-use commercial block and town square, Manhattan Beach, Calif.

Other projects: Co-author with Mabel O. Wilson of “Catfish and Coltrane,” an essay on African-American artist and blues flutist John Outterbridge, published in *Architecture of the Everyday* (1997)

Web site:

www.tolkinarchitecture.com

Peter Tolkin—whose father, Samuel M. Tolkin, is an architect—tried to escape the inevitable. “Everybody in my family is in the building business, including my mother, who is a developer, along with my brother,” Tolkin explains. A Leica camera, a gift from his father to seven-year-old Peter, spurred his desire to be a photographer, even to the point of getting an M.F.A. in photography at Cal Arts. Then, at some point, genetic propensities took over and architecture beckoned. In 1988, Tolkin entered Columbia University’s Graduate School of Architecture, Planning and Preservation.

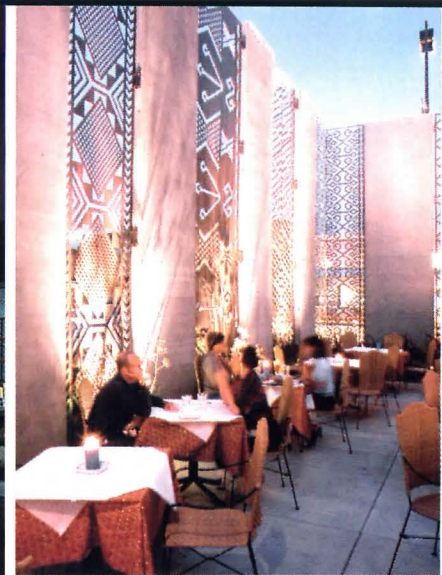
Tolkin’s family originally came from Manhattan, so going east for architecture school was natural for him. Bernard Tschumi had taken over as dean by then, and his Modernist orientation to a three-dimensional art form that emphasizes materials and techniques appealed to the prospective student. Nevertheless, Tolkin argues that photography deepened his awareness of the relationship between society, urbanism, and landscape, and he retains a commitment to working in this area.

Although Tolkin first opened an office in Zurich, Switzerland, with Christine Bräm, another Columbia student in his class, he soon decided to head back west, to settle in Pasadena. By chance, the young architect rented an office next to a Thai restaurant, in a commercial area south of the historical part of town. When the owner, Dang Vattanatham, decided to open a second restaurant, Saladang Song, next to the original one, she bought out Tolkin’s building. He had to move, but Vattanatham hired him and John Byram, AIA, to design her new space.

The restaurant illustrates both Tolkin’s interest in construction technique and his belief that “a building’s experiential meaning is enriched when it engages a larger context.” The long, rectangular restaurant is constructed of vertically cantilevered concrete slabs, poured on-site. Alternating with the slabs are laser-cut steel screens, painted with metallic automobile paint and featuring patterns abstracted from Thai textiles. “We didn’t want to literally borrow the motifs,” says Tolkin, “but we wanted to give the client something that would relate to her culture.”

One day a pastor for the Pasadena Christian Center, a Pentecostal church, ate at Saladang Song and liked its design. Her church had bought a movie theater built after World War II, with a barrel-vaulted lamella structure for the roof. She asked Tolkin to convert it into a religious facility, to be used for children’s worship and education, which he did by inserting two lamellalike wood structures under the roof. “They’re not as pure as the lamella, but they allow more internal variation and could be done with the computer,” says Tolkin, who worked with structural engineer Karl Blette on the scheme.

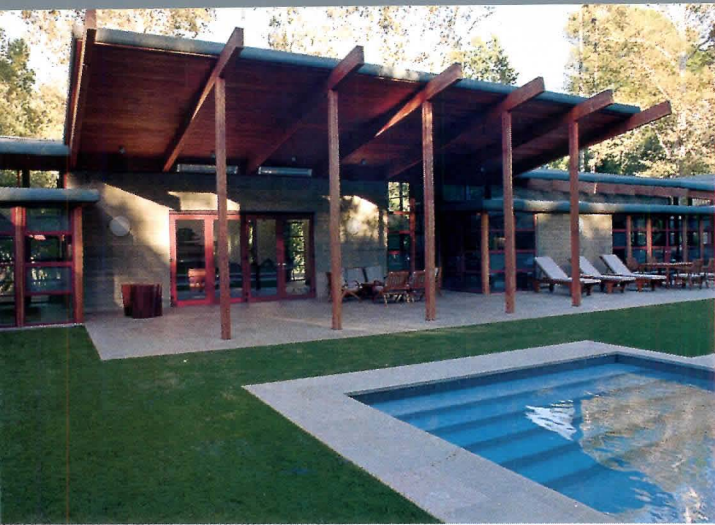
Tolkin’s body of work reflects a similar fascination with construction and culture. It includes a photography studio, made of plywood panels; the renovation of a brick retail structure; the design for aluminum furniture prototypes; and, currently, a house in northern California. As Tolkin sums up, “The critical aspect of the work comes through adapting and synthesizing outside influences, instead of having a predetermined formal idea in mind.” His turn to architecture seems to have been propitious. And now he is even working with his father *on some projects*. ■



Saladang Song
Restaurant,
Pasadena, California

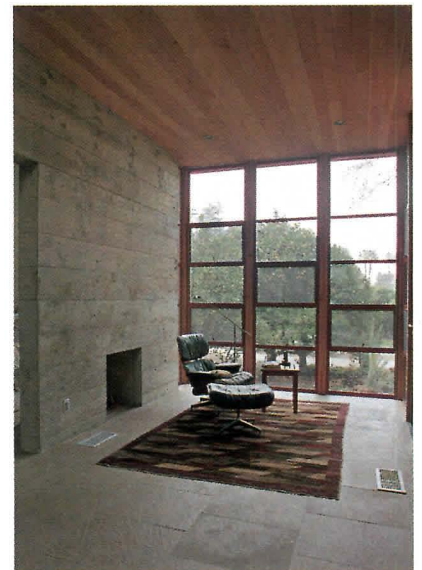
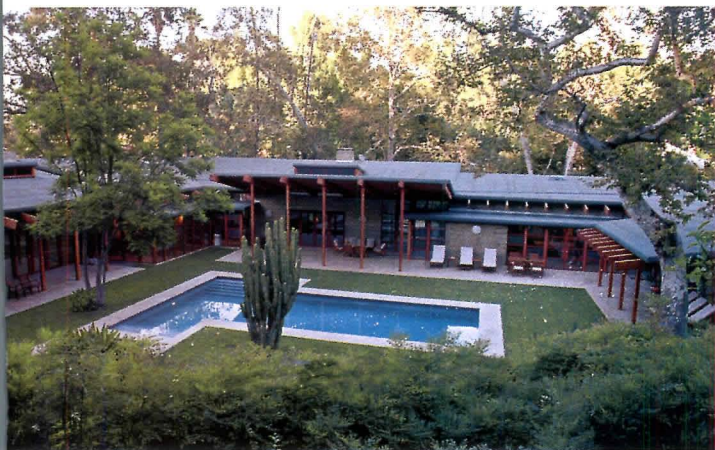
In 2000, Peter Tolkin designed a Thai restaurant in a mixed-use neighborhood, in partnership with John Byram, AIA. The rectangular, 4800-square-foot structure is composed of poured-in-place, vertically cantilevered concrete slabs. Alternating with the slabs are laser-cut steel screens, based on patterns from Thai textiles. Within this enclosure, 1,100 square feet is reserved for dining in a courtyard, while the interior dining room is 1,700 square feet.





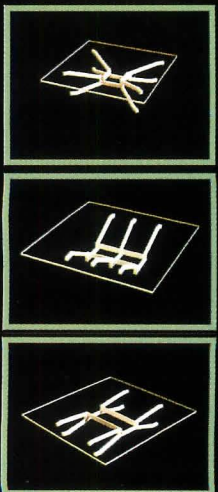
Sherman Residence, Encino, California

In designing this project with John Byram for a hillside site in the San Fernando Valley near L.A., Tolkin created a U-shaped, 4,500-square-foot house wrapping around a swimming pool. The main house is a series of poured-in-place, board-formed concrete volumes that in turn are connected by glass to open the views out to the landscape. Douglas fir is used for framing elements and ceiling surfaces.



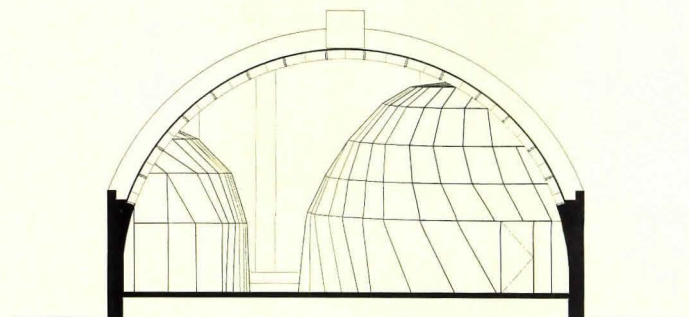
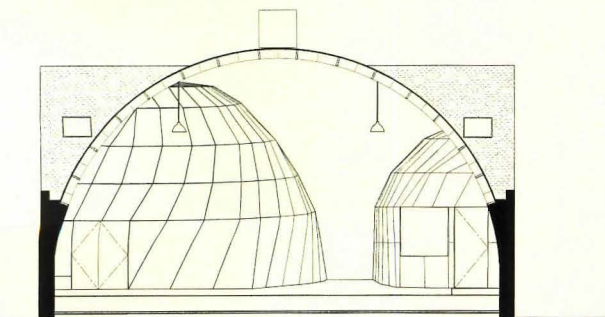
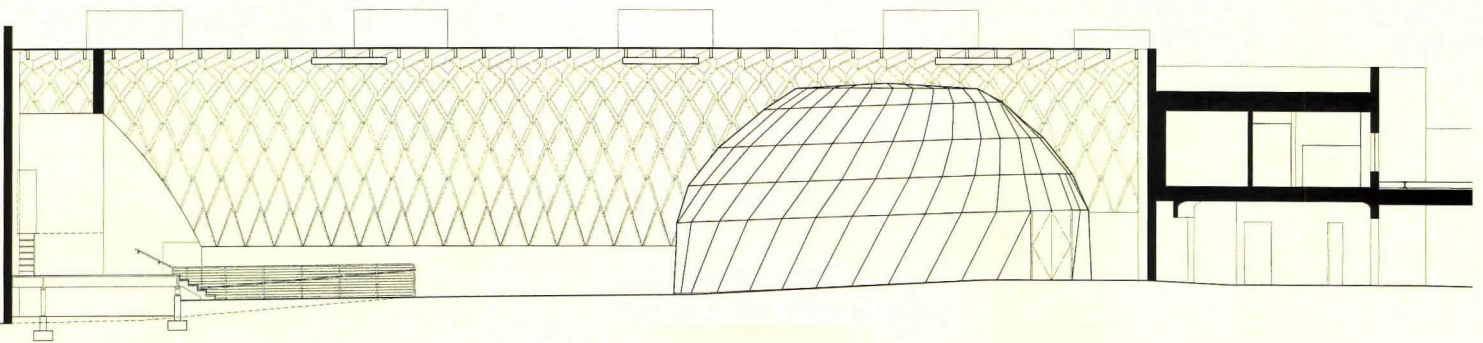
Aluminum Furniture Prototypes

Tolkin is currently working on aluminum tables that could be produced for the general public. Parts are cut with a water jet guided by computer-generated design files. Computerized cutting allows the architect to introduce variety within a serial uniformity. The dining table (left), for a private client, makes use of a rigid skeleton of sculpted leg pieces, tied by cross bars, which can be disassembled easily using common tools.



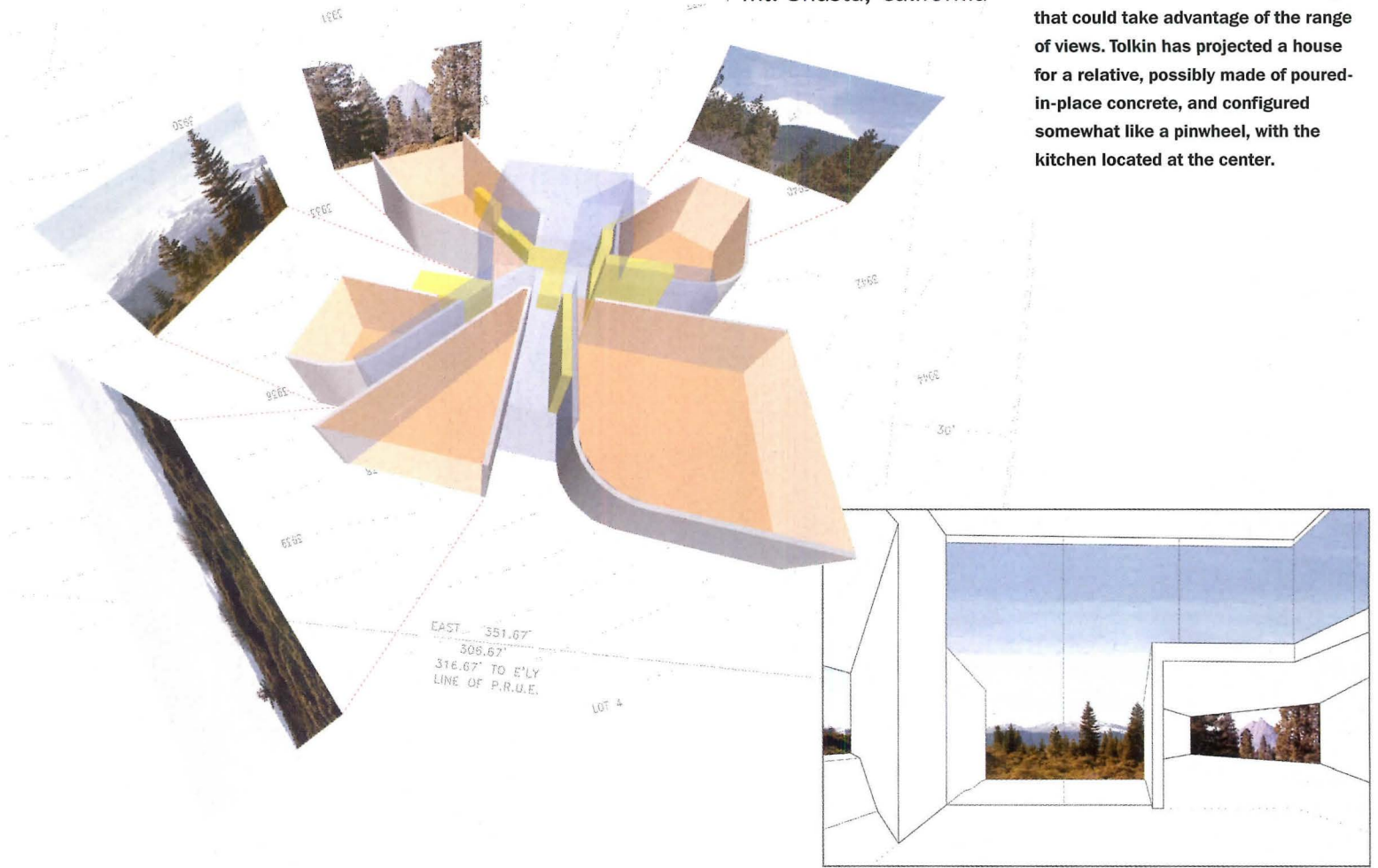
Pasadena Christian Center, Pasadena

For a Pentecostal church, Tolkin renovated a WW II movie theater covered by a barrel-vaulted roof. The roof's structure is a lamella wood frame, made of intersecting skewed arches that are formed from short members, or lamellas, fastened together in an interlocking diamond pattern. In the 7,500-square-foot building, Tolkin inserted two additional structures, variations of the lamella, for children's worship and education.



Private Residence,
Mt. Shasta, California

A house on a dramatically craggy site in northern California warranted a design that could take advantage of the range of views. Tolkin has projected a house for a relative, possibly made of poured-in-place concrete, and configured somewhat like a pinwheel, with the kitchen located at the center.



Quadlab Graphic
Design Studio,
South Pasadena,
California

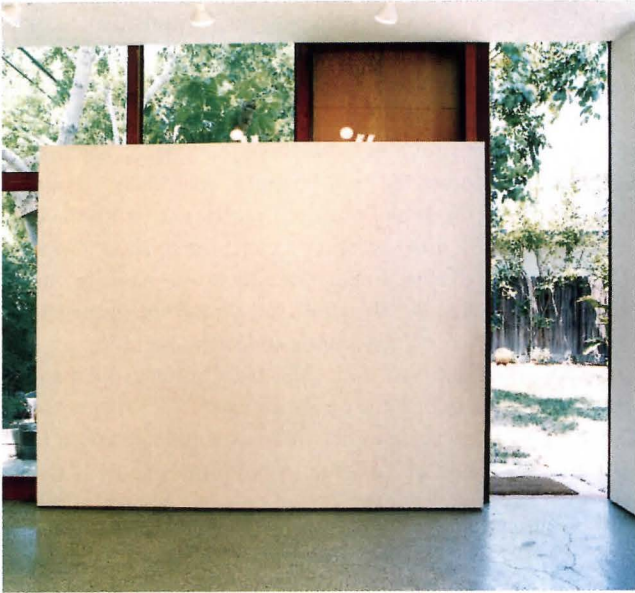
The 1,225-square-foot interior renovation of a historic brick storefront building inspired Tolkin to insert two differently scaled "boxes" within the existing shell: one a workstation for four people, the other a reception and conference area. The saturated colors were chosen to intensify the difference between the new construction and the brick enclosure.





Parker Photography Studio,
Pasadena, California

As the primary designer in partnership with John Byram, Tolkin created a small, 420-square-foot building of redwood posts and plywood shear panels, which bears a similarity to a shipping crate. The plywood panels articulate the wall, and the exposed screws provide an ornamental expression that Tolkin sees as appropriate to the backyard of a 1920s Craftsman bungalow for an artist.





Tezuka Architects marries East with West while blurring the border between inside and out

By Naomi R. Pollock, AIA

Architect: Tezuka Architects

Location: Tokyo

Date founded: 1994

Design staff: 14

Partners: Takaharu and Yui Tezuka

Education: Takaharu: University of Pennsylvania, M.Arch., 1990; Musashi Institute of Technology, B.Arch., 1987;

Yui: The Bartlett School of Architecture, University College of London, 1992–93; Musashi Institute of Technology, B.Arch., 1992

Work history: Takaharu: Richard Rogers Partnership, 1990–94

Key completed projects: Thin Wall House, Tokyo, 2002; Hounancho Condominium, Tokyo, 2002; Thin Roof Sukiya, Kanagawa, Japan, 2002; Anthill House, Tokyo, 2002; House to Catch the Sky II, Tokyo, 2002; Step House, Shizuoka, Japan, 2001; North Face Store, Fukuoka, Japan, 2001; House to Catch the Sky, Kanagawa, 2001; Wall-less House, Tokyo, 2001; Balcony House, Kanagawa, 2001; Butterfly House, Kanagawa, 2001; Light Gauge steel Studio, Tokyo, 2001; Roof House, Kanagawa, 2001; Megaphone House, Kanagawa, 2000; Machiya House, Tokyo, 2000; Kawagoe Music Apartment, Saitama, Japan, 2000; Light Gauge Steel Building, Tokyo, 1999; Light Gauge Steel House, Kanagawa, 1999; Wood Deck House, Kanagawa, 1999; Soejima Hospital, Saga, Kyushu, Japan, 1996

Key current projects: Canopy House, Tokyo, late 2002; Saw Roof House, Tokyo, late 2002; Matsunoyama Natural Science Museum, Nigata, Japan, 2003; House in Kanagawa, 2003; House in Wako, Saitama, Japan, 2003; House in Setagaya, Tokyo, 2003; House in Meguro, Tokyo, 2003; Soejima Clinic, Fukuoka, 2003; Hiroshima Factory, 2003

What troubled economy? With some 20 projects on the boards—ranging from single-family houses and office buildings to a factory and a museum—the Tokyo-based couple Takaharu and Yui Tezuka are not exactly feeling the pinch. “As clients find our projects in the magazines,” chuckles Taka, “we keep getting more work.”

Taka and Yui, both in their thirties, make quite a splash—he wears only blue shirts, she red, and their Citroën is bright yellow. But what garners all the attention—winning them prizes and drawing accolades within Japan and beyond—is their innovative way of connecting architecture with the environment. Blending East with West, their approach combines traditional Japanese qualities—especially a tendency to blur borders between inside and out—with influences from the conceptually rich architecture they saw while living and working overseas. Because the Tezukas perceive design training as a weak point in Japanese architectural education, they both felt a need to complete their graduate studies abroad, he in Philadelphia and she in London.

Their first chance to test their skills back home came with the 43,900-square-foot Soejima Hospital on Kyushu island. Usually Japanese newlyweds receive cash or modest gifts, but this couple returned from their 1992 wedding reception with a commission from a relative to design the hospital. Their building eliminates typical Japanese hospital windows rising from waist-level sills, in favor of floor-to-ceiling glass with louvers. “If patients see only the sky, they may think ‘that’s where I am headed,’” says Yui. “But if they see the town, they won’t want to give up.”

Roof House (2001), by contrast, tends to direct views skyward. Inspired by clients who lunched daily on the roof of their previous home, the architects capped the new house with a gently sloped, open-air dining area, kitchen, and shower. The rooftop nearly doubles the habitable space. Skylights and ladders link the lofty terrace to the rooms below.

At least as unconventional, the Tezukas’ competition-winning scheme for Matsunoyama Science Museum in Niigata Prefecture rejects the idea of an introverted museum, instead channeling sight lines outward from the building. Because the structure will stand “in the middle of nature,” says Taka, “its views out will have much greater impact than objects in a case.” A snakelike, 427-foot-long tube of Cor-ten steel, the building will offer lookout points where it bends and will culminate in a 112-foot-high tower. Thick-skinned and seamlessly jointed, the museum will be built like a submarine to withstand the site’s annual 18-foot-deep snowfalls.

Though headed for large-scale work, the Tezukas remain fond of designing houses. “How people live is a basic idea of architecture,” says Yui. With the recent completion of a two-family house for themselves, their new baby, and Taka’s parents, the couple will now have a great opportunity to experience their own architecture firsthand. ■

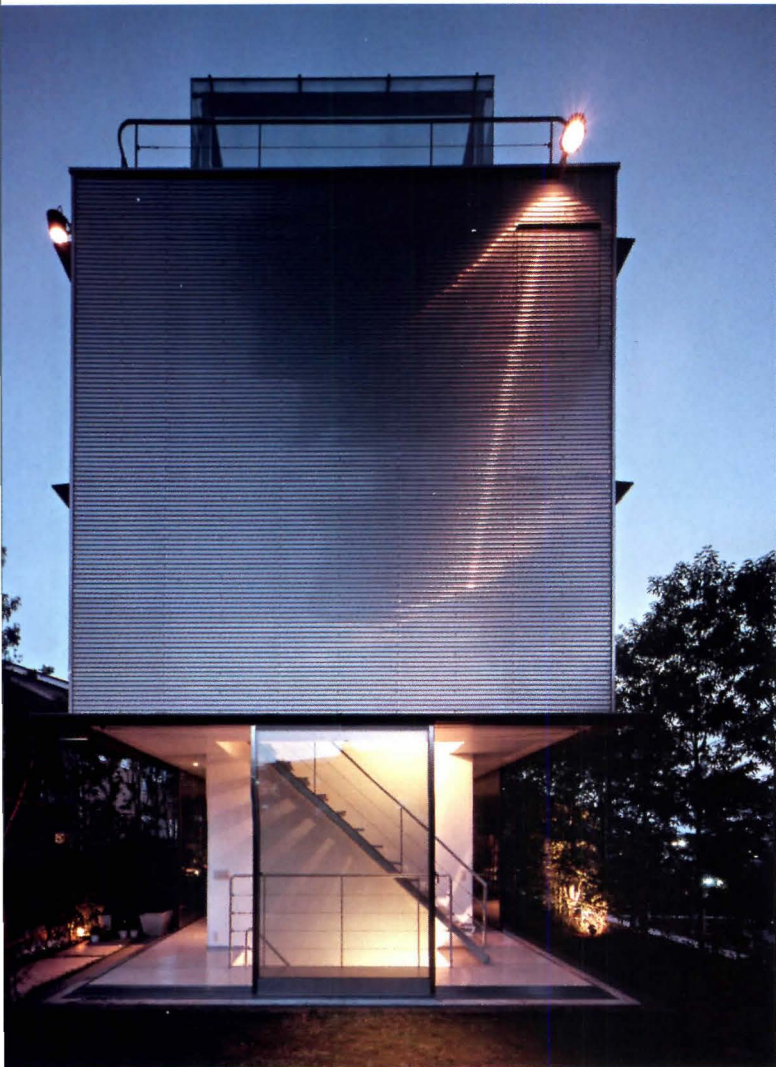
**Anthill House
Tokyo**





Wall-less House,
Tokyo

Akin to a countryside villa, the Wall-less House occupies barely 20 percent of its wooded site. A lightweight, load-bearing steel frame permits axial loads to rest on only a central utility core and two thin columns. This configuration permits the living space to open up to the outdoors on all four sides. The floors appear to float amid the surrounding greenery, which adds a layer of privacy.



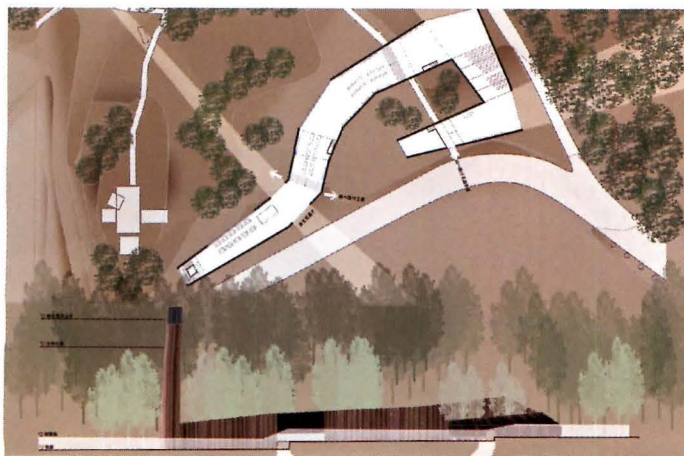
Soejima Hospital, Saga
Prefecture, Kyushu,
Japan

To provide patients with a comfortable environment and contact with the natural setting, the Tezukas maximized southfacing windows on this long, narrow site. They thus opened patient rooms to a serene landscape to the south while blocking off noise from the north. A louvered balcony system allows for mediation of daylight and shade, natural ventilation, and readily accessible outdoor space.



Matsunoyama Natural
Science Museum,
Nigata Prefecture,
Japan

The museum will have a 427-foot-long serpentine form, clad in Cor-ten steel, with a submarinelike construction designed to withstand the region's extreme snowfalls. Optimizing views to the landscape, the snaking structure will have 10-ton acrylic panels at its bends, offering multiple lookout points. The building will culminate in a 112-foot-high tower, illuminated by an internal sensor capable of transforming energy absorbed from the atmosphere into light—a fitting display for a museum of science.





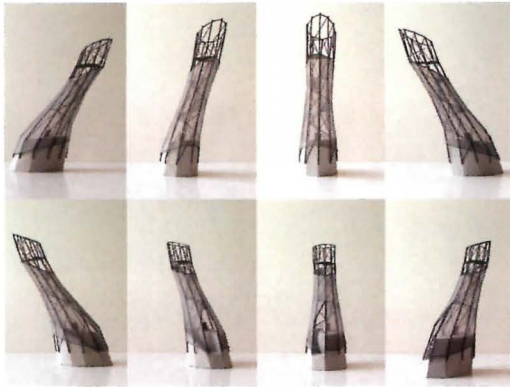
Roof House,
Kanagawa, Japan

Inspiration for this house came from the clients, who regularly lunched on the roof of their previous house, despite its steep pitch. The Tezukas topped this new building with a 10:1 slope, which echoes the original topography of the ground below and can readily accommodate rooftop dining, cooking, and showering. Eight skylights equipped with ladders connect each enclosed ground-floor room with the roof terrace above it.

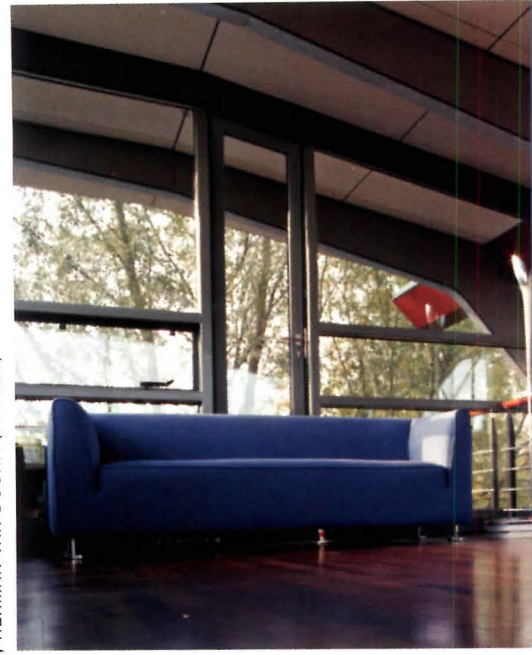




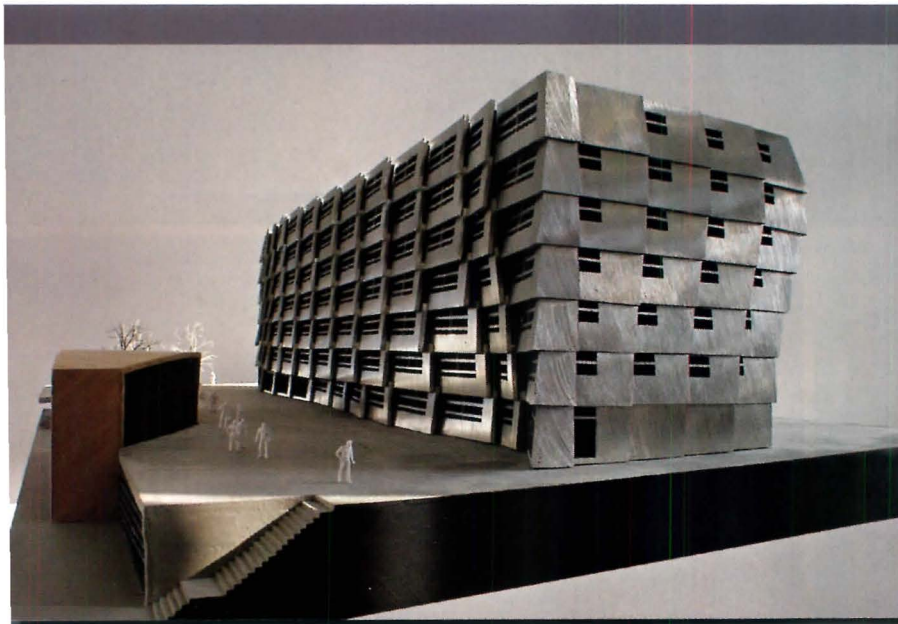
Bridge Keeper's House,
Middelburg,
the Netherlands



Because it will be used only five days a year, Van Zuuk designed this house (clockwise, left center to right center) so it can also serve as a light sculpture. As he tries to do with all his projects, the architect investigated various structures, grids, and building systems, then deformed them to create the animated form of this project.



PHOTOGRAPHY: © RENE VAN ZUUK (BRIDGE KEEPER'S HOUSE, BLOCK 16); HERMAN VAN DOORN (PSYCHE)





Villa Psyche,
Almere,
the Netherlands

The first project that Van Zuuk completed, Villa Psyche won a competition that challenged architects to design houses for themselves and build them. A two-story entry hall occupies half of the house and serves as the key organizing element for the design. A living room on the upper level has a sleek, shiplike feel and takes advantage of 360-degree views of the surrounding landscape. The project helped jumpstart Van Zuuk's solo career.



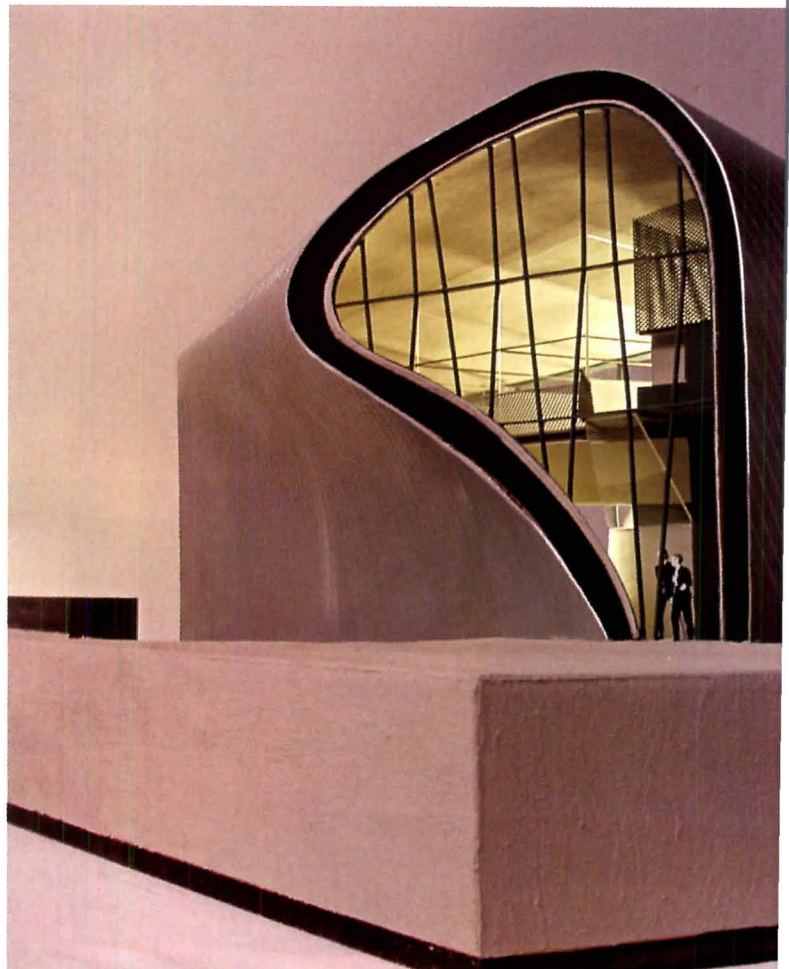
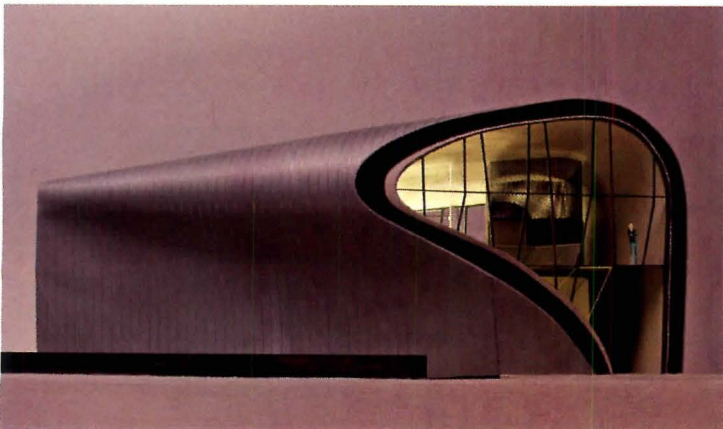
Block 16,
Almere,
the Netherlands

Set within a city center master planned by Rem Koolhaas, this project (left and opposite, bottom) will include 42 apartments and an 18,000-square-foot fitness center. The design employs a concrete-casting system, normally used in tunnel construction, in which N-shaped molds form walls and a floor at the same time. The project is under construction and scheduled to be completed in 2003.



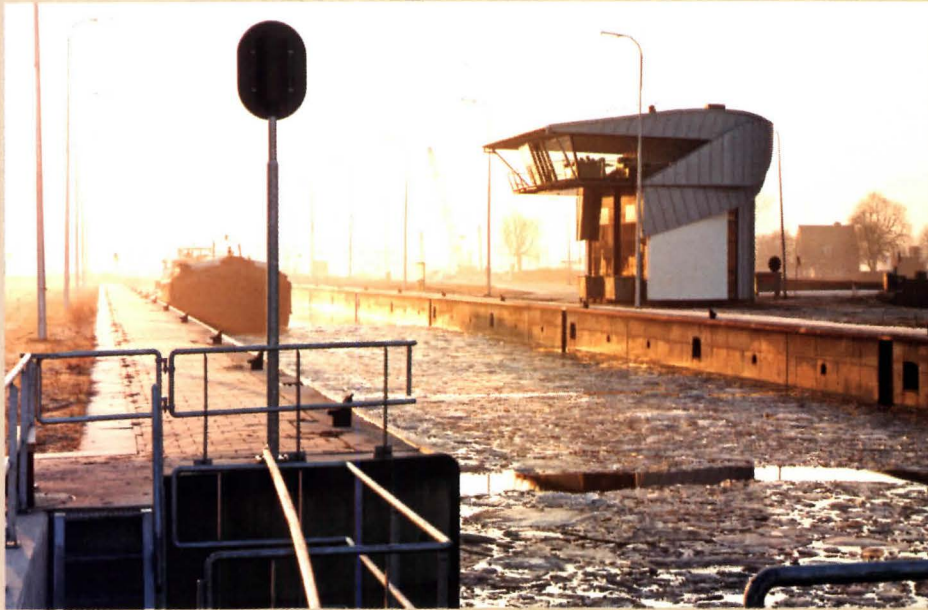
**ARCAM,
Amsterdam**

Located on Amsterdam's waterfront between Renzo Piano's NEMO science center and the Netherlands Maritime Museum, this project will provide exhibition and office space for the Amsterdam Center of Architecture. The building, which is under construction and set to open in the spring of 2003, features a zinc-coated aluminum skin that's tautly wrapped around a steel frame.



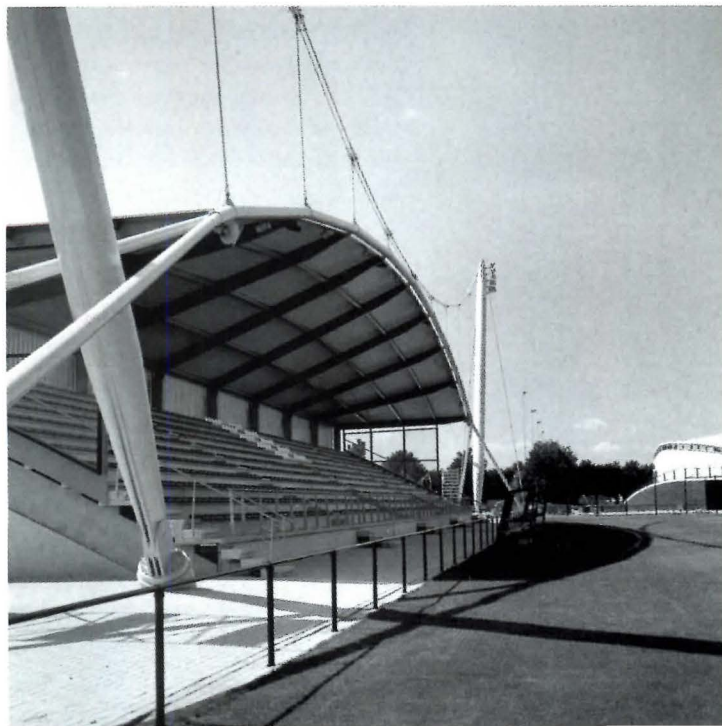
Lock House,
Groningen,
the Netherlands

A service house for workers overseeing six bridges and a lock in the Van Starckenborg canal, this building is a good example of Van Zuuk's strategy of "intelligent distortion," in which he bends and twists simple forms into richer, more animated architectural expressions. Designed in 1995, the building opened the following year.



Ajax Grandstands,
Amsterdam

One of three projects that Van Zuuk has designed for Ajax, the popular soccer team, this grandstand features a roof suspended from cables hung from a tall, angled mast. The mast gives the project a presence from a distance that a traditional grandstand would not have. The architect has also designed a clubhouse and office space for the team.



PHOTOGRAPHY: © ARTHUR BLONK (LOCK HOUSE); HERMAN VAN DOORN (LOCK HOUSE AND GRANDSTAND)



Plexus r+d fuses imagination and intellectual rigor with worldly, practical optimism

By Sara Hart

Architect: Plexus r+d

Location: Atlanta

Partners: Jordan Williams (right), Erik Lewitt

Design staff: 7

Education: Williams: Princeton University, 1992; University of Florida, 1988;

Lewitt: Princeton University, 1992; University of Florida, 1989

Work history: Williams: JSA, 1998–2000; Cooper Carry, 1996–98;

Lewitt: JSA, 1999–2000; Farrington Design Group, 1996–99

Key completed projects: La Villa office building (with JSA), Jacksonville, Fla., 2002; Southern Polytechnic State University Gateway, Marieta, Ga., 2001; Husk Jennings Advertising (with JSA), Jacksonville, 2001; Barcelona Residence, Jacksonville, 2001; Franklins Printing (with Farrington Design Group), Atlanta, 2000

Current projects: Beijing Zhongguanchun Life Science Park (with JSA), Beijing, People's Republic of China (2004); Scitrek Technology Museum, Atlanta, 2003; Midtown West master plan, Atlanta, 2004; Kawczak Residence, Atlanta, 2003; Massey Residence, Atlanta, 2003

Web site:

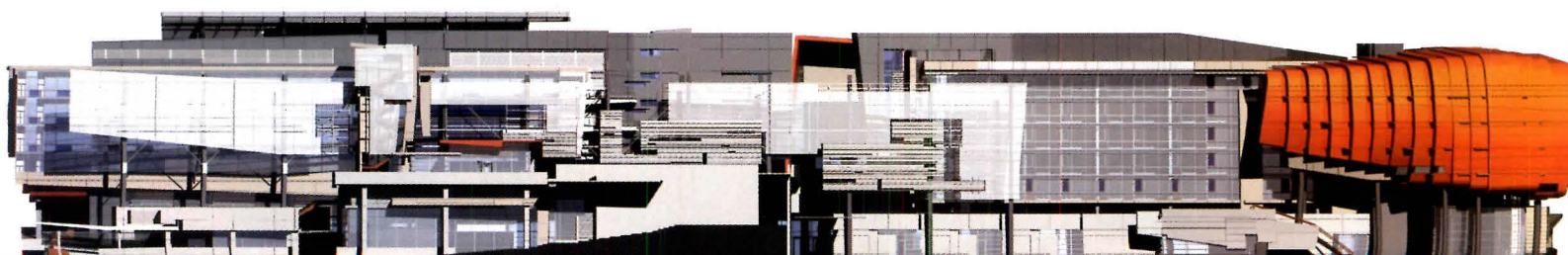
www.plexus-architecture.com

A plexus is a structure formed by a collaborative network of branches that strain to create complex connections and experiences. A plexus then is the perfect conceptual metaphor for an architecture firm that endorses complexity, designs by digression, and is propelled by a genuine optimism. Partners Jordan Williams and Erik Lewitt see their mission as one “to explore the manifold relationships between culture and design through the mediums of architecture, interiors, graphics, and event staging. We are interested in exploring strategies for resisting the increasing cultural irrelevance of architecture.” The r+d following Plexus is their alter ego and represents their commitment to both learning and teaching.

The partners have collaborated on competitions since 1994, while interning at mainstream firms. “We deliberately avoided the star architects,” insists Williams, reasoning that they could develop their own ideas right out of the academic shoot in environments not dominated by a master and a stable of disciples. Since formalizing their partnership in 1999, Williams and Lewitt have captured some high-concept projects, which have allowed them to cultivate a rigorous and seemingly labor-intensive design system—or plexus—composed of three intersecting strategies. First, content research takes them on a treasure hunt for images and materials that will inform the project. Next, a methodology emerges, unique to each project, in which meaning is limned from the content, presumably prompting an editing and honing process. Finally, they impose a serious belief system on this controlled anarchy, which insists that the purpose of architecture is to enrich lives, to be culturally productive, and to challenge the buildings’ inhabitants.

Williams and Lewitt want their projects built, so this belief system also mandates a sense of accountability and attention to detail, and they seem to embrace tight budgets. “We use detailed computer and physical models to provide contractors a thorough representation of the project,” explains Williams. “These tools allow the projects to be bid without guesswork on the contractor’s part.”

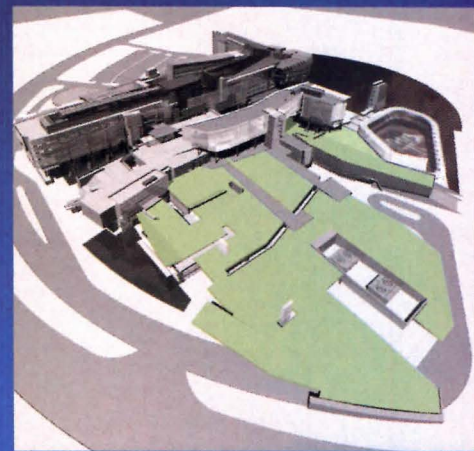
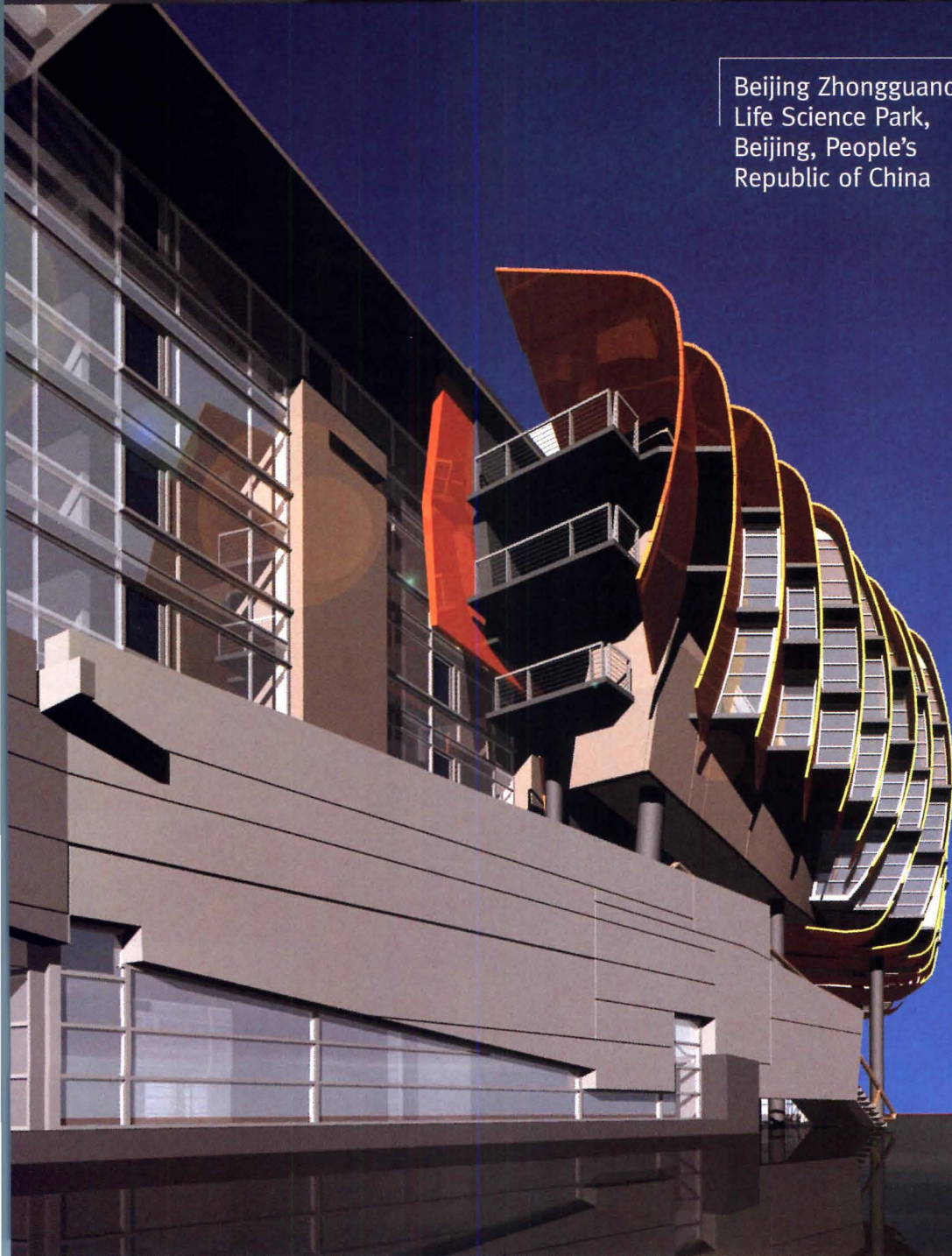
Already they’ve achieved a worldly, practical optimism, rather than embracing the unrealistic idealism that characterizes most young firms. Plexus r+d maintains quite the balancing act between “imagination and diligence, intuition and rigor.” One can only hope that they represent a new generation of fearless professionals who can make architecture relevant again. ■

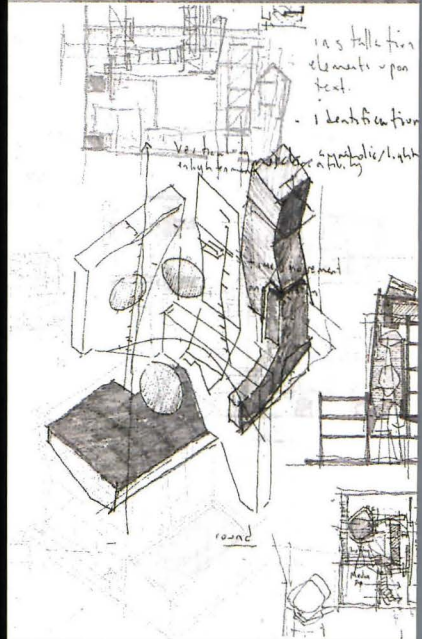
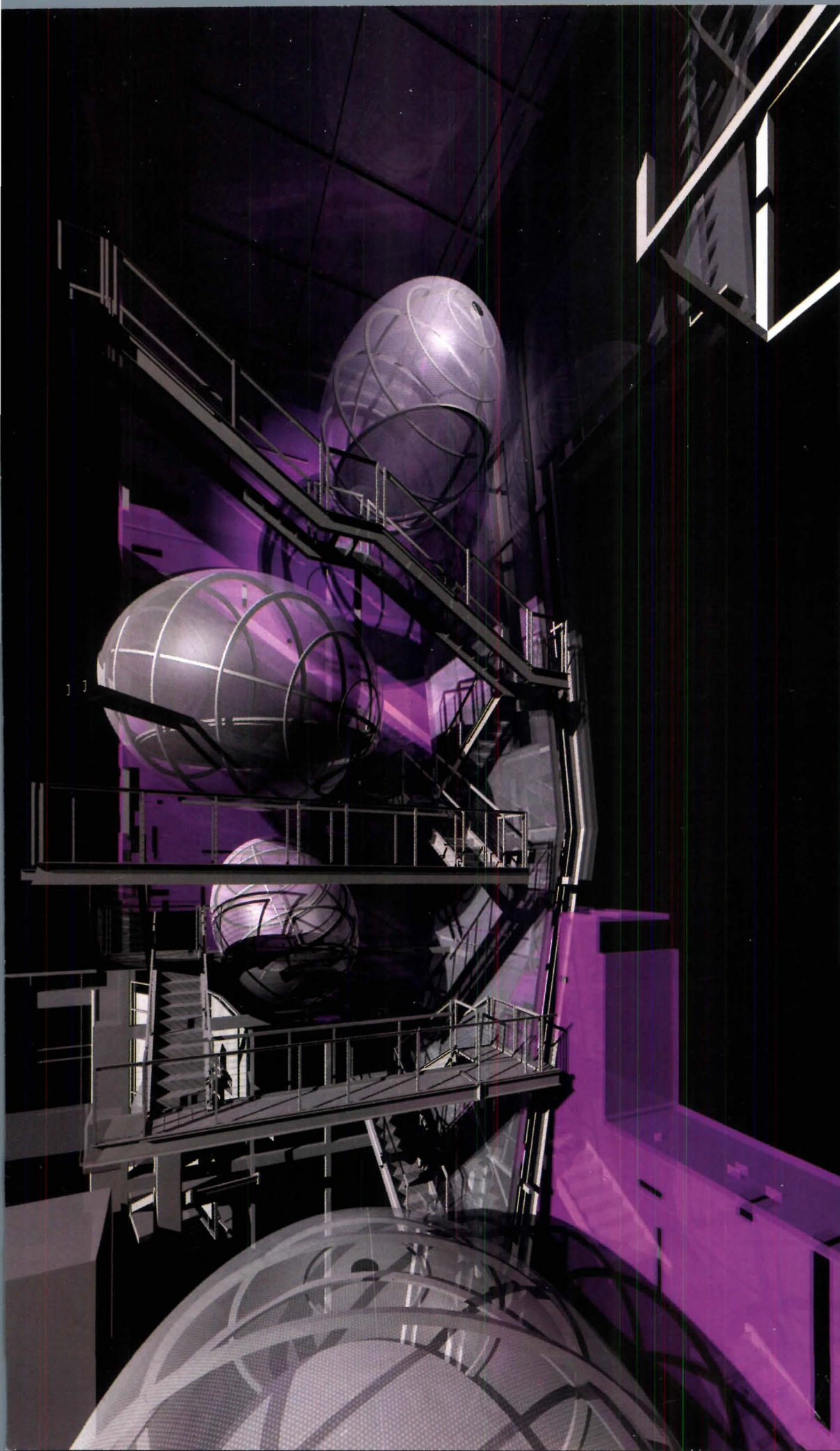




Beijing Zhongguanchun
Life Science Park,
Beijing, People's
Republic of China

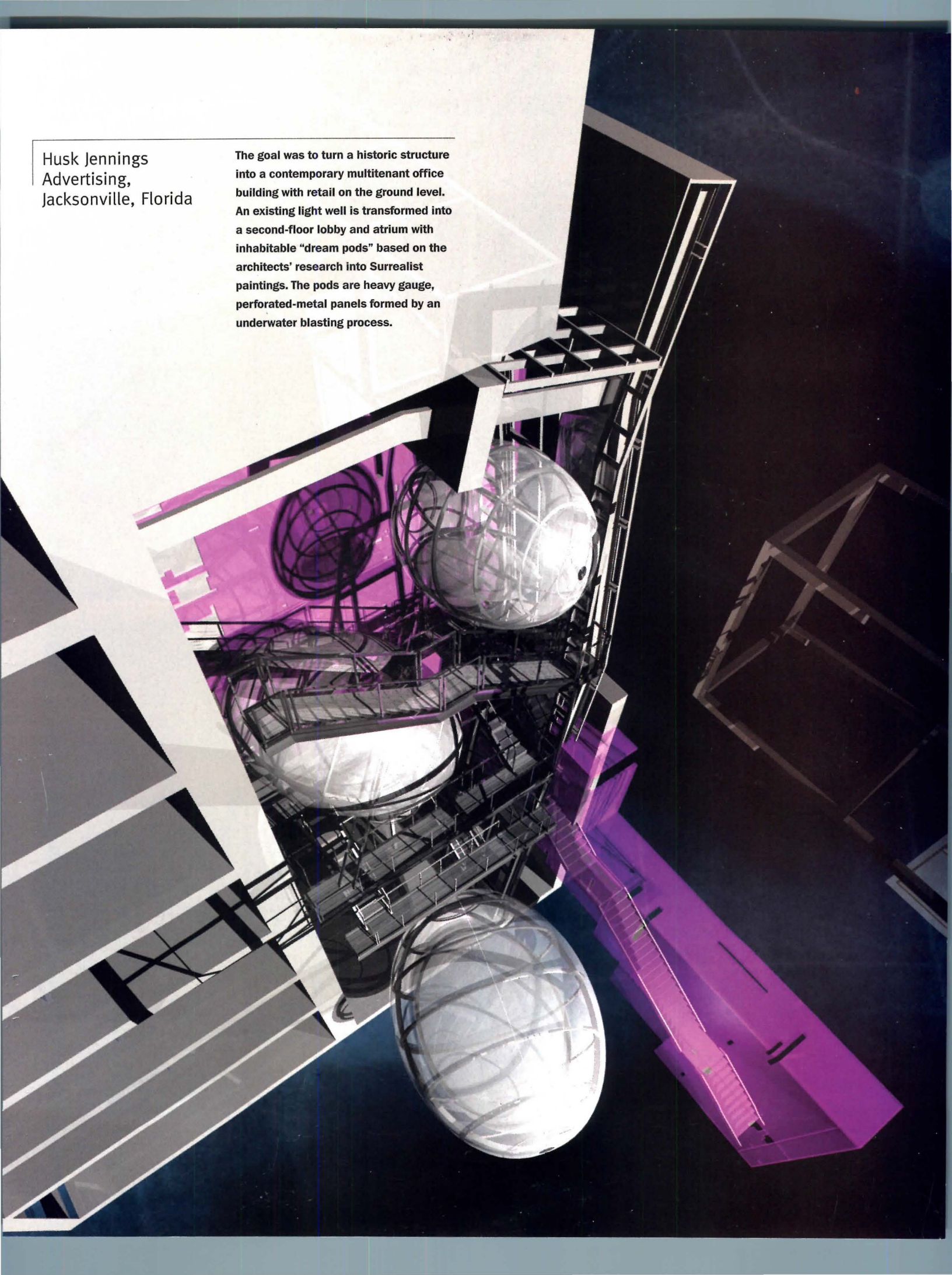
The firm won a competition to design the Conference and Exhibition Center for a new 6 million-square-foot suburban park, showcasing life-science industries in China. By pursuing digressive connective devices instead of a single hierarchical ordering system, the architects created an urban fabric with diverse links to an elaborate exterior of plazas and gardens.





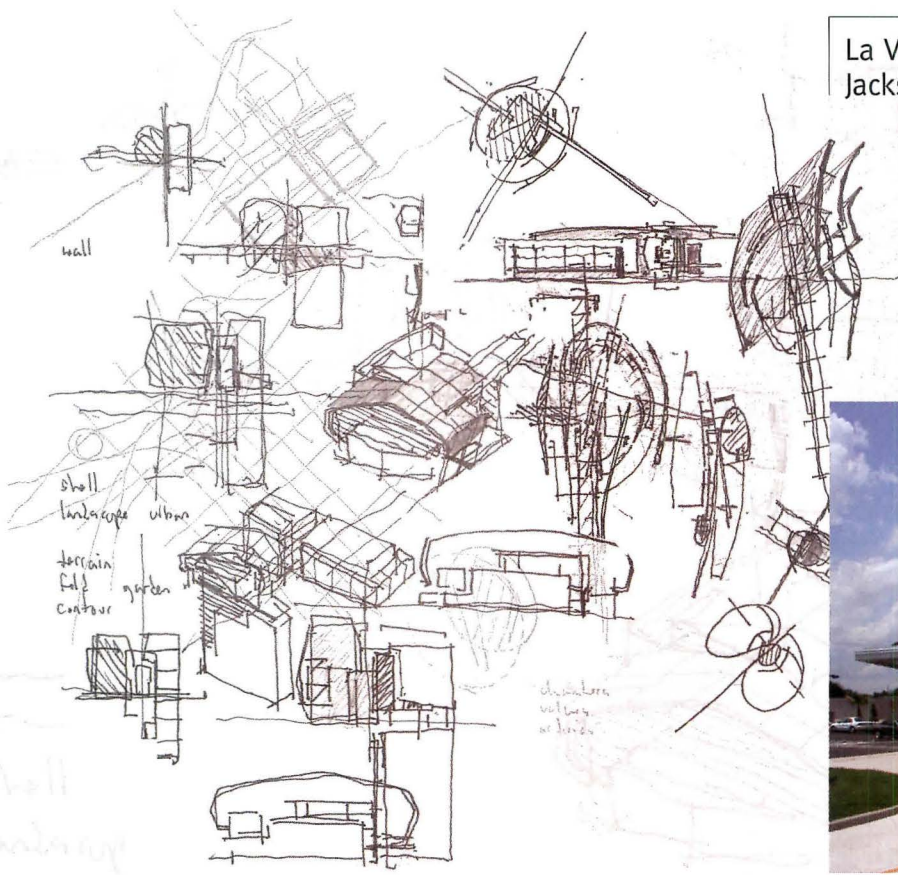
Husk Jennings
Advertising,
Jacksonville, Florida

The goal was to turn a historic structure into a contemporary multitenant office building with retail on the ground level. An existing light well is transformed into a second-floor lobby and atrium with inhabitable "dream pods" based on the architects' research into Surrealist paintings. The pods are heavy gauge, perforated-metal panels formed by an underwater blasting process.



La Villa,
Jacksonville, Florida

This doctors-office complex is a perfect example of the architects' ability to reconcile beauty and budget. Their inventive use of stock materials produced a building that cost only \$50 per square foot. Rather than spreading the design dollars evenly across the project, they prioritized and then established a few defining design moments, while simplifying other parts of the building.





Busan Observation Tower,
Busan, Korea

Busan sponsored a competition to revitalize its park district with an icon symbolic of its investment in technology and education. Besides an observation deck on top, Plexus r+d projected 20 pods off the tower neck, each one with a seat, a joystick, and a "heads up" display borrowed from aviation technology. The observer aims the display at an area below and retrieves information from a database.



Franklins Printing,
Atlanta

The architects proposed that the building's form and materials reflect the company's interest in cutting-edge technology and the mechanics of the printing process. Material selection—

aluminum glazing, natural concrete, corrugated aluminum panels, metal studs and steel grate—celebrates the potential beauty inherent in industrial and utilitarian products.



ARMI Center,
Helsinki, Finland

This project will bring together offices for Finland's national organizations in the fields of architecture, building technology, and design, while also providing exhibition space, a restaurant, shops, and an auditorium. Set at the edge of downtown on the harbor, the building presents a timeless, stone-clad facade to the water and a more open elevation and public plaza facing the city.





JKMM Architects engages context and craft to create sculptural designs

By Clifford A. Pearson

Architect: JKMM Architects

Location: Helsinki, Finland

Date founded: 1997

Design staff: 9

Partners: (left to right) Samuli Miettinen, Juha Mäki-Jyllilä, Teemu Kurkela, Asmo Jaaksi

Education: Miettinen: Tampere University of Technology, 1995; Mäki-Jyllilä: Tampere University of Technology, 1995;

Kurkela: Columbia College, 1990; Helsinki University of Technology, 1997;

Jaaksi: Tampere University of Technology, 1997

Work history: Miettinen: Paavilainen Architects, 1990–97; Lahdelma Mahlamäki Architects, 1997–99; Mäki-Jyllilä: 8 studio, 1988–92; Lahdelma Mahlamäki Architects, 1992–99;

Kurkela: Jokela Kareoja Architects, 1990–92; Kurkela Studio, 1994; Söderlund Architects, 1997–99; Jaaksi: Gullichsen Kairamo Vormala Architects, 1990–99

Key completed projects: Houses Killi and Nalli, Raisio, Finland, 1997; Joensuu University Extension, Aurora I, Joensuu, Finland (2002); Leipuri Day Care Center, Helsinki (2002)

Key current projects: Viikki Center, Helsinki, 2004; Meri-Matti School, Espoo, Finland, 2005; Joensuu University Extension, Aurora II, Joensuu, 2006; Turku Central Library, Turku, Finland, 2006; ARMI Center, Helsinki, 2006

Web site: www.jkmm.fi

Winning design competitions and creating great buildings are two different things, admits Teemu Kurkela, the “K” of JKMM Architects in Helsinki. Having racked up an impressive record of high-profile competition victories in Finland, Kurkela and his three partners now aim to prove they can deliver high-quality architecture. “The finished building is what counts,” he says. While he and his partners talk much about architecture as sculpture, they also state, “Architects must be craftsmen. Buildings should not only withstand time but get more beautiful with age.”

JKMM got going in 1997 when Kurkela, Asmo Jaaksi, Juha Mäki-Jyllilä, and Samuli Miettinen won a competition to design a new central library in Turku. “In large competitions, you need to come up with a strong, simple concept that immediately makes sense,” advises Kurkela. “Sometimes you’re faced with conflicting demands in the program, so you need to figure out which are the really important elements.”

Before landing the Turku library commission, the four architects had crossed paths periodically at various firms in Helsinki, and three of them had gone to the same architecture school in Tampere. “It’s a small circle of architects in Finland,” says Kurkela. As a result, “there’s a basic grammar of architecture that’s shared” in Finland, he explains. While such a situation can create harmony in the built environment, it can also be stifling. “We try to break away from it,” states Kurkela, “by being more sculptural than other architects and by using contrasts in textures.”

After winning three invited competitions in 2000 (for a day-care center in a suburb of Helsinki, a new town center in Viikki, and a set of university buildings in eastern Finland), JKMM hit the jackpot again in 2001, taking first prize in one of the country’s most talked-about competitions—for a new information center for architecture, building technology, and design on a prime site right on Helsinki’s harbor.

Asked about Aalto’s legacy in Finland, Kurkela says his generation is the first to have had no personal contact with the master, so no one is consciously rebelling against or carrying on the ways of the old man. “But Aalto is in the water here, he’s all around us.” His ongoing influence can be seen in JKMM’s concern for making buildings that grow from their contexts and come alive when people enter them. The firm’s partners, though, make an effort to broaden their horizons, taking a trip each year to look at architecture. Two years ago, they went to Portugal to see Siza’s work, and last year they traveled to Switzerland to check out wooden structures (both old and new). When some of JKMM’s larger commissions are completed in the next few years, the firm may find itself in a different position: hosting young architects who want to see its work. ■



Joensuu University, Joensuu, Finland

JKMM designed two sets of additions to a campus in eastern Finland begun in the 1970s. The first phase, Aurora I, was completed this past August, while the second phase will be done by 2006. The project adapts the existing redbrick architecture by featuring glass-block pavilions with courtyards in between. Aurora I includes offices, lecture rooms, a restaurant, and a student union sauna.



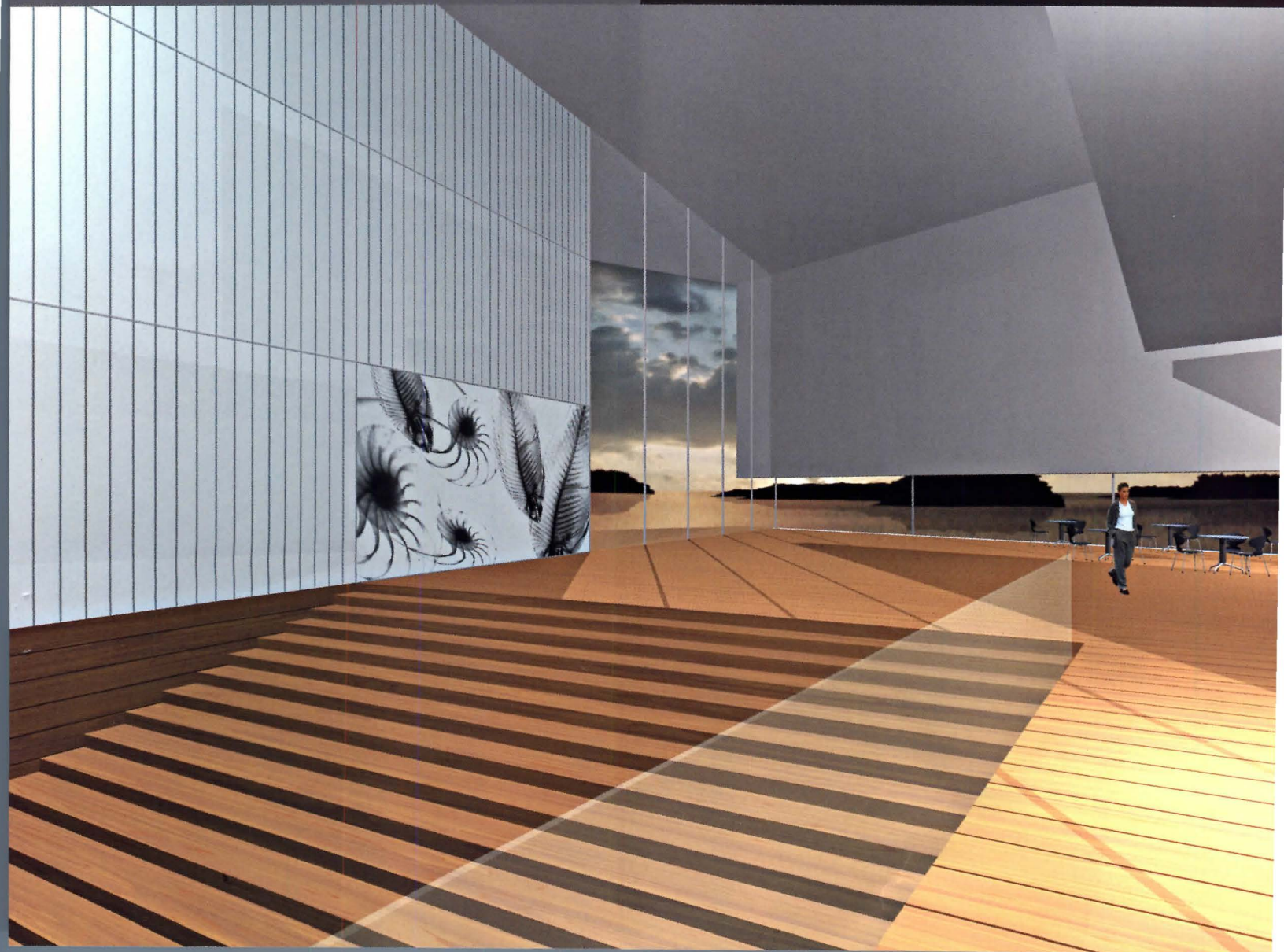
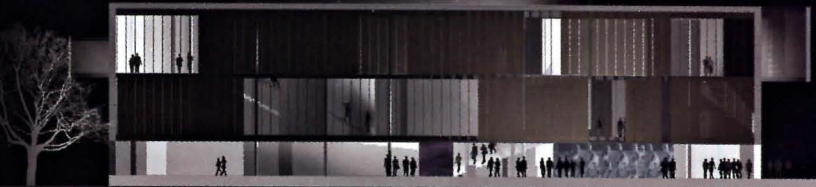
PHOTOGRAPHY: © ARNO DE LA CHAPPELLE





ARMI Center,
Helsinki, Finland

This project will bring together offices for Finland's national organizations in the fields of architecture, building technology, and design, while also providing exhibition space, a restaurant, shops, and an auditorium. Set at the edge of downtown on the harbor, the building presents a timeless, stone-clad facade to the water and a more open elevation and public plaza facing the city.





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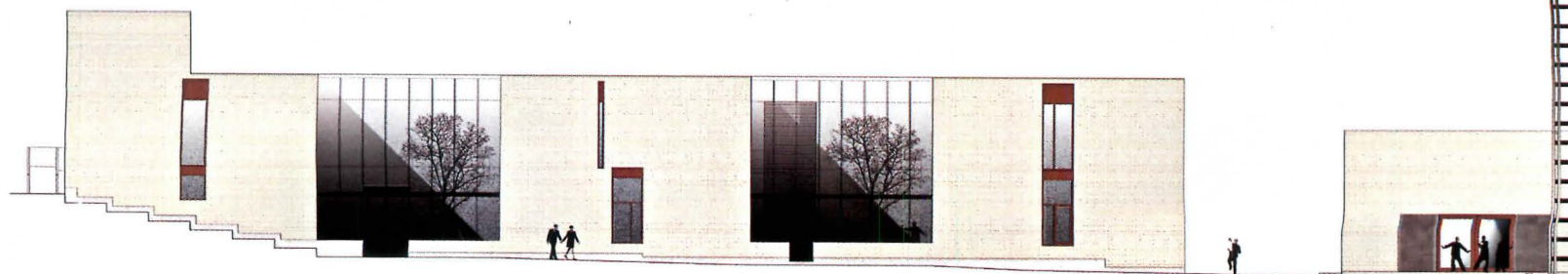


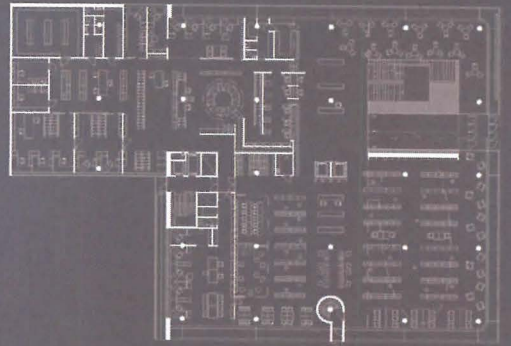
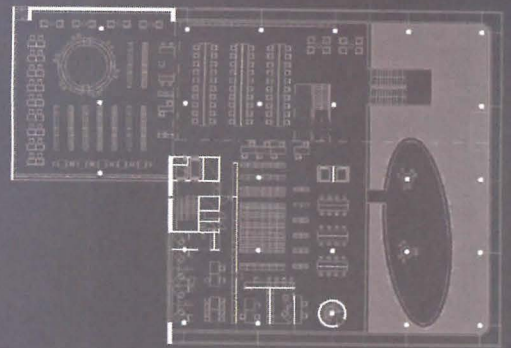
PHOTOGRAPHY: © ARNO DE LA CHAPELLE



**Leipuri Daycare Center,
Helsinki, Finland**

A curving entrance facade and projecting elements such as a window, colorful chimney, and a noselike ramp give this building a sculptural quality that seems both reassuringly solid and playful at the same time. The architects gave different personalities to the major facades, using plaster on one side and wood on another. The project was set to be completed by the end of 2002.





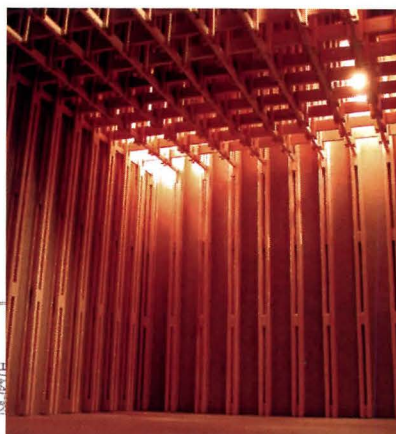
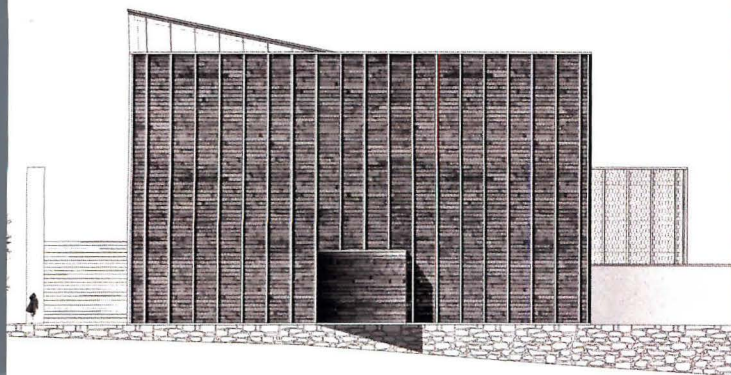
**Turku Central Library,
Turku, Finland**

Set in Finland's second-largest city, with a 19th-century library across the street and a medieval cathedral across the river, this glass-walled project will offer generous views from every floor. Library departments will be located on platforms stacked on top of each other and pulled back from the glass envelope. Each platform will function as a self-sufficient unit with its own stacks and staff.



**Viikki Center,
Helsinki, Finland**

A new town center for an ecologically designed suburb of Helsinki, this project features a series of public and commercial buildings, including a health center, a youth center, a center for the elderly, and stores. The focal point of the complex is a wood-frame church, clad with gray shingles (left). The buildings are arranged in a linear plan with courtyards set between.





3SIX0 takes a brainy, multidisciplinary approach to the realm of design

By William Weathersby, Jr.

Architect: 3SIX0

Location: Providence

Date founded: 1995

Number of design staff: 5

Partners: Chris Bardt (right),
Kyna Leski

Education: Bardt: Harvard Graduate School of Design, M.Arch., 1988; Rhode Island School of Design, B.Arch., B.F.A., 1983; Leski: Harvard Graduate School of Design, M.Arch., 1988; Cooper Union, B.Arch., 1985

Work History: Bardt: Kohn Pedersen Fox, 1985–86; Polshek and Partners, 1983–85; Leski: Eisenman/Robertson, 1985–86; Skidmore, Owings & Merrill, 1984–85

Key completed projects: 33 restaurant and lounge, Boston, 2002; Greco House, Charlestown, R.I., 1997; H2O Furniture commission, Bangkok, Thailand, 1997; Sun Box, Providence, 1995

Key current projects: Goldberg Residence, Martha's Vineyard, Mass., 2003; Lumiere Salon, Providence, 2003; Private Residence, Wakefield, R.I., 2004; Shepherd of the Valley Church, Hope, R.I., 2004

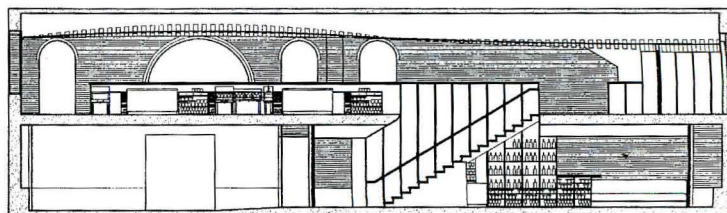
At first glance, the name 3SIX0 might seem a bit cryptic. But after further examination, the moniker works well on several levels. Straightforwardly, *three-six-oh* are the last three digits of the studio's phone number, all the prompting you need to distinguish the company in the local telecommunications exchange of Providence, Rhode Island. On a metaphorical and, indeed, philosophical level, *three-six-oh* more closely represents 360 degrees, the range of design diversity within the reach of this well-rounded architecture and design firm. Founded by partners Chris Bardt and Kyna Leski, who both teach architecture at the Rhode Island School of Design (RISD), 3SIX0 pursues work in academic research, as well as the real-world realms of environmental, commercial, residential, and furniture design.

Bardt and Leski met as students at Harvard's Graduate School of Design. Together they have evolved a compatible design approach that grows out of their development as college teachers, mentors, and administrators, they say. They have had a hand in shaping the architecture program at RISD since arriving there in the late 1980s. Bardt has taught studio, drawing, history, and thesis courses, and for several years coordinated first-year curriculum. Leski, meanwhile, has focused on forming the first-semester core design pedagogy, and for four years ran a course over the winter term in Matera, Italy.

"My work and teaching are dedicated to a search for and through physicality, its deep, mysterious thickness" Bardt says. "What I value the most about working with the physical is the capacity to inspire and take us into the place of architecture wherein lies that paradoxical dense space, structured by thought itself." With studies in sociology and pure and applied science in addition to his architecture training, Bardt has pursued research on early Modern architectural works lost behind the Iron Curtain, and a study of the sun and its trajectories.

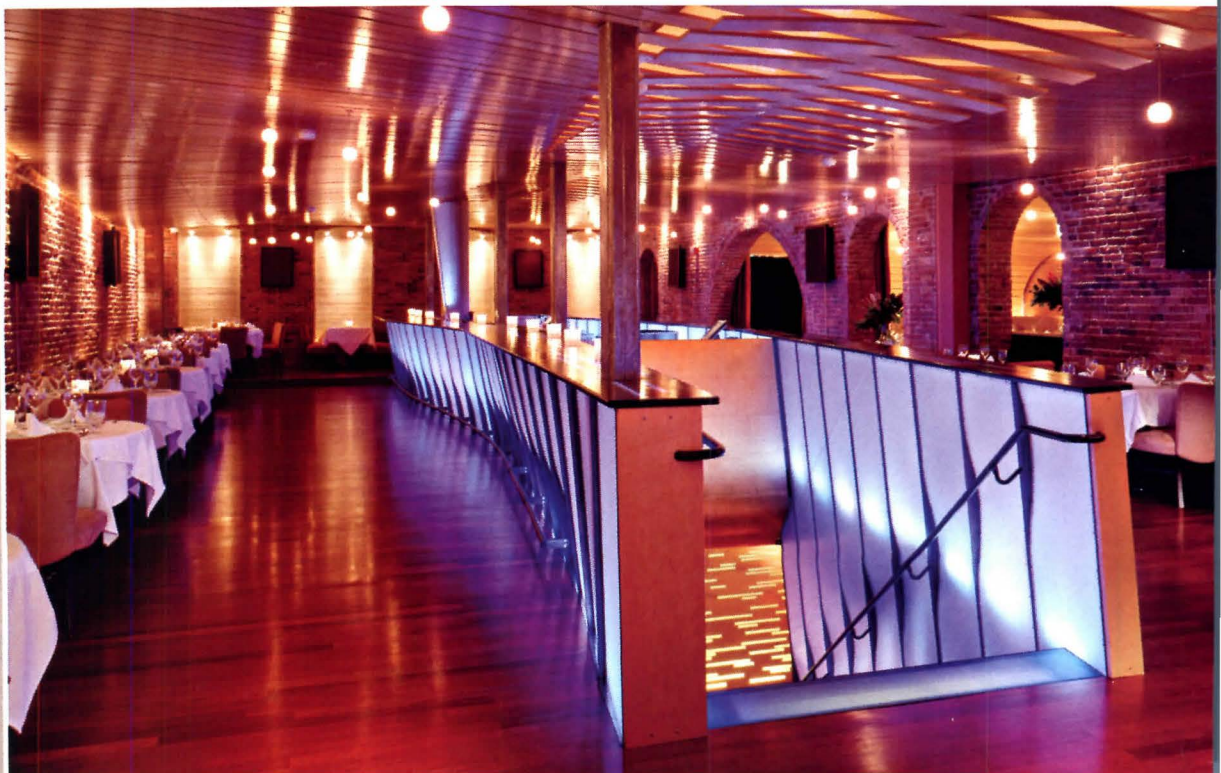
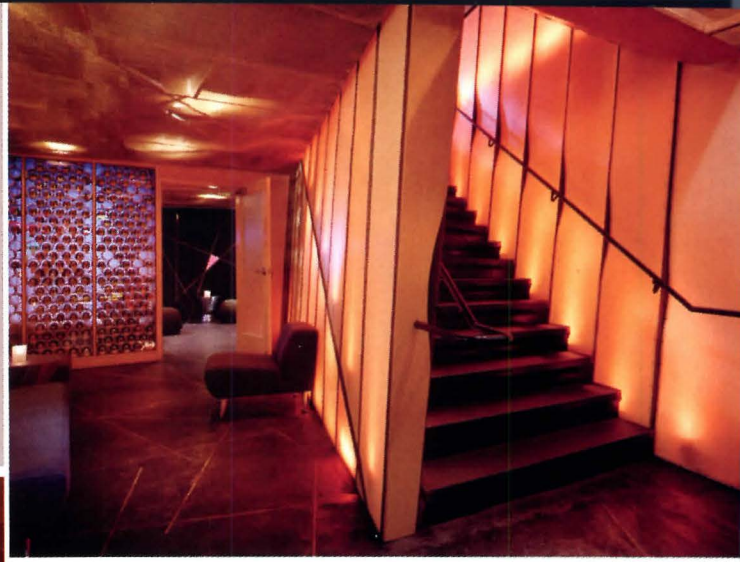
"The same values and practices that I uphold in teaching have been seamlessly incorporated into my ongoing work and practice," Leski says. The daughter of architect and painter Tadeusz Leski, she claims indebtedness to many former teachers—and academic role models—among them Bernard Tschumi, Tod Williams, Ric Scofidio, Elizabeth Diller, Stephen Jay Gould, and John Hejduk. Working in many media and on projects of varied scales, Leski was one of 13 international designers invited to turn a wooden bowl for Drefox in Vienna, won a recent grant for a glass and steel bench, and has received residential design honors in Japan. With Bardt, Leski is collaborating on houses, as well as an art and healing center for dancers anchored on the spectacular coastal cliffs of Martha's Vineyard. Questions? Dial 3SIX0. ■

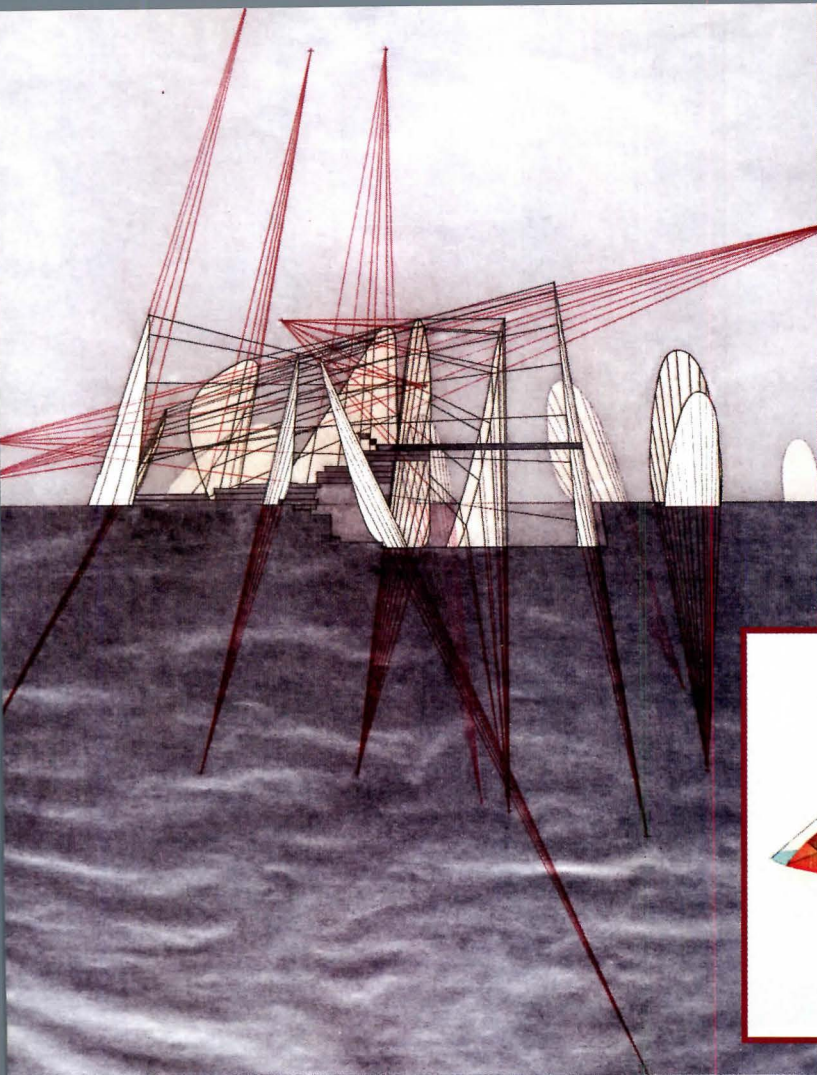
Sectional view of 33 restaurant.



33,
Boston

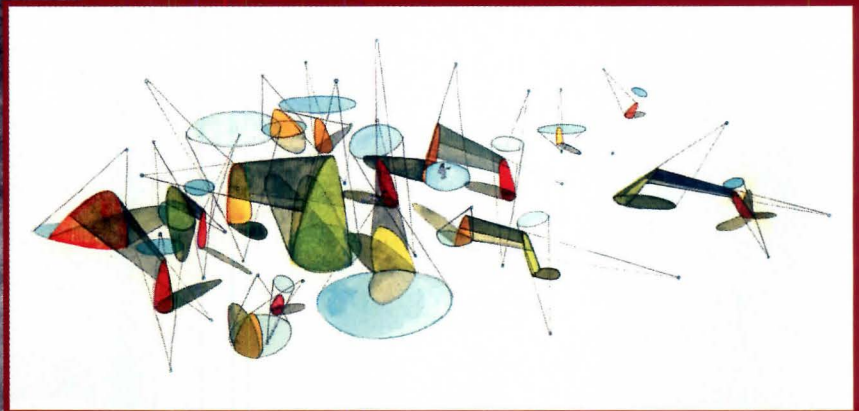
A restaurant and lounge named for its number on Stanhope Street, 33 is an exploration of geometry and light. A central stair connects the ground-floor dining room to the lounge, bathrooms, and kitchen on the lower level. The undulating stair walls continue through the space in both plan and section, becoming the walls of the bars on both levels. LED-lit walls appear sculptural.





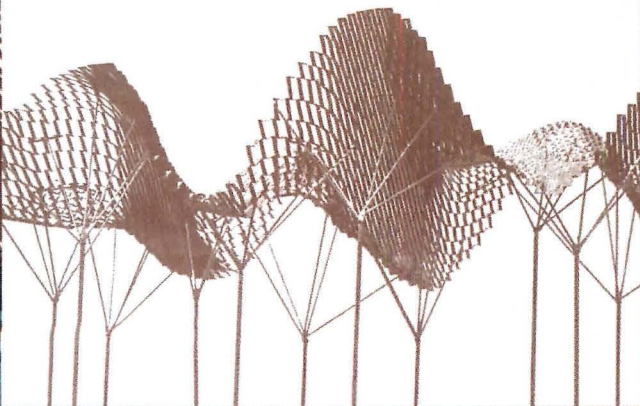
Dream House

The design of this project began with a study of the relational geometry of a moving point (a person) to fixed elements (walls, floors, and ceilings). The architects shaped the three-dimensional forms of the house by tracing projections of light taken at critical points along the path through the project.



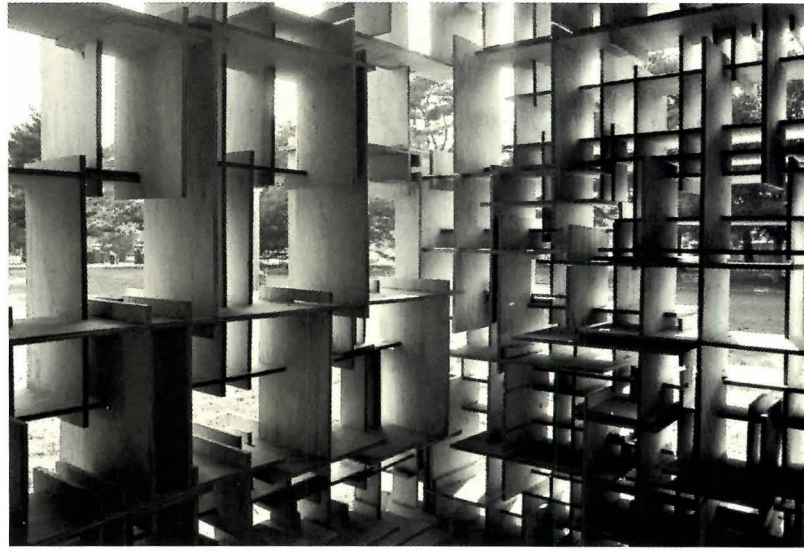
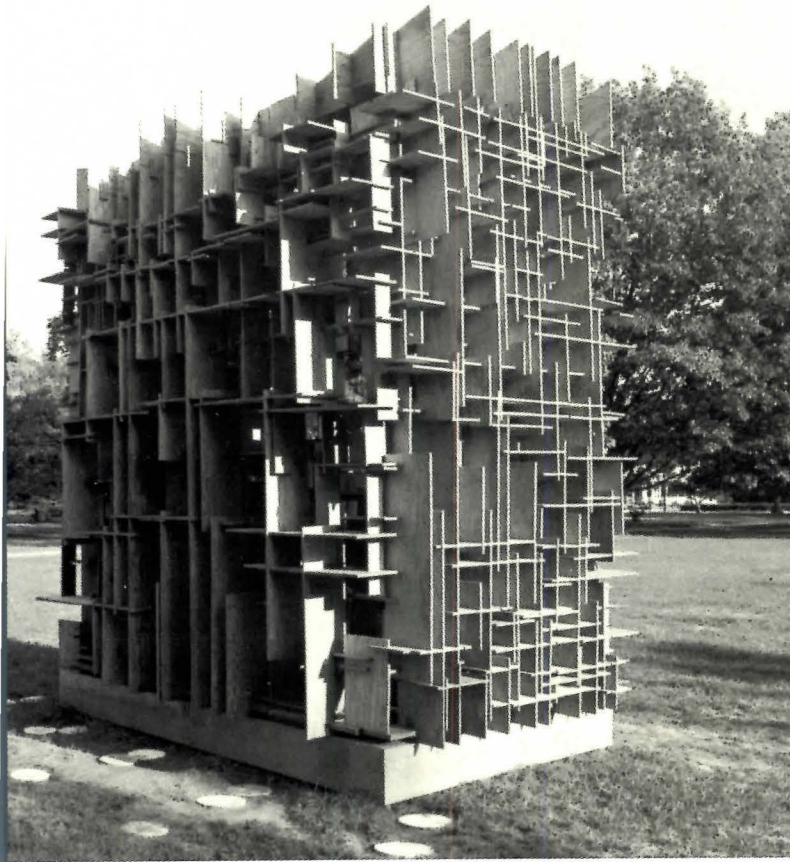
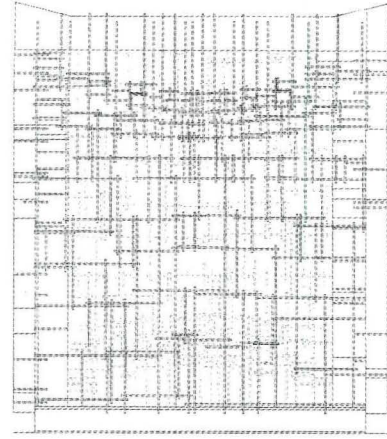
Sun Shelter

A design for a Manhattan sun shelter won third prize in a competition sponsored by the New York chapter of the AIA and the Van Alen Institute. The site is an 800-by-100-foot-wide recreational pier on the West Side. The structure features a roof of plate-steel modules variably bent and expanded depending on the degree of shading required. Each day, the shelter eclipses the sun at noon.



Sun Box,
Providence

Part of Bardt's three-year study of the sun and its trajectories, the Sun Box was expanded to civic scale after he received a grant from the Rhode Island Council on the Arts. A kind of inverse sun dial, the structure casts spots of light instead of shadow. Plaques marking time and day allow visitors to experience the passage of light along the facades in addition to the interior.



H2O Furniture,
Bangkok, Thailand

Commissioned by a family in Thailand, the furniture pieces were "conceived to be inhabitants of this tanklike house," Leski says, "as if they lived in different aquatic states." Bangkok is a city of extreme water conditions, she explains, a city of canals with a water table close to the ground's surface. The house is like a tank that reflects the environment; a canal with a glass floor runs along one side. The palette of finishes was inspired by the landscape.





Sahel Al-Hiyari sculpts space with strong geometry and modulated light

By Kevin Lerner

Architect: Sahel Al-Hiyari

Location: Amman, Jordan

Date founded: 1997

Design staff: 2

Partners: Sahel Al-Hiyari

Education: University of Venice, Doctorate of Research in Architectural Composition, 1995; Harvard GSD, M.Arch., 1990; Rhode Island School of Design, B.F.A. and B.Arch., 1988

Work history: Jaffar Tukan and Partners, 1996–97; Dar El Handasah, Shair and Partners, 1990–91; Machado Silvetti Associates, 1986

Key completed projects: Psychologist's Clinic, Amman, 2001; Jordanian Pavilion for Expo 2000, Hanover, Germany (with Akram Abuhamdan, Nadia Dajani, and Bisher Zreikat), 2000; Bilbeisi Residence, Shuneh, Jordan, 1998

Key current projects: Tsi Spa, Amman (unbuilt), 2001; Coral Beach Hotel, Aqaba, Jordan (competition), 2003; Dahabi Residence, interior design, 2003; Nilaya furniture showroom, 2003; Dabuq House, 2003

Al-Hiyari worked with a team of architects to design the Jordanian Pavilion for Expo 2000.



Very rarely do Pritzker Prize winners call younger architects and offer to take the them under their wing. But Álvaro Siza, the Portuguese Pritzker laureate, chose to work for a year with Sahel Al-Hiyari, who runs his five-year-old office out of Amman, Jordan. Siza and Al-Hiyari are participating in the Rolex Mentor and Protégé Arts Initiative, which pairs emerging artists with seasoned veterans for a year of tutelage. A nominating panel that includes Frank Gehry, as well as novelists, theater directors, and ballerinas, among others, chose Siza as this year's mentor in the visual arts category. Siza, in turn, chose Al-Hiyari to be his protégé from a group of three finalists.

Al-Hiyari grew up in Jordan unsure of whether to study painting or architecture, and eventually attended the Rhode Island School of Design, which allowed him to do both. He continued his education at the Harvard Graduate School of Design and at the University of Venice, Italy. After working for architects in the United States, Italy, Jordan, and Egypt, he opened his own office in Amman in 1997. "Until a month ago," Al-Hiyari said, "there was no design staff working with me, nor did I have any office support. I did everything by myself."

Al-Hiyari sees context and materials as central to his work, and one unorthodox material stands out particularly: "To me, light is a building material as critical as any other," he said. "It is the medium through which spaces and forms are revealed. Under different lighting conditions, the same tangible structures assume very different characters."

The control of light plays a large role in many of Al-Hiyari's designs. Sliding panels, translucent glass, and brise-soleils feature prominently in the work, but for Al-Hiyari, these are practical choices as much as aesthetic ones. "In Jordan, light is abundant, and often excessive for comfort," he said. "Traditional architecture of the region has therefore always concerned itself greatly with modulating light, if for no other reason than to make buildings livable and comfortable. The lessons of these traditions are still valid today." Al-Hiyari keeps both tradition and technology in mind. In one project, the Tsi Spa, he said, "I sought to create a building-within-a-building, integrating the historic model of desert castles with the modern idea of the brise-soleil."

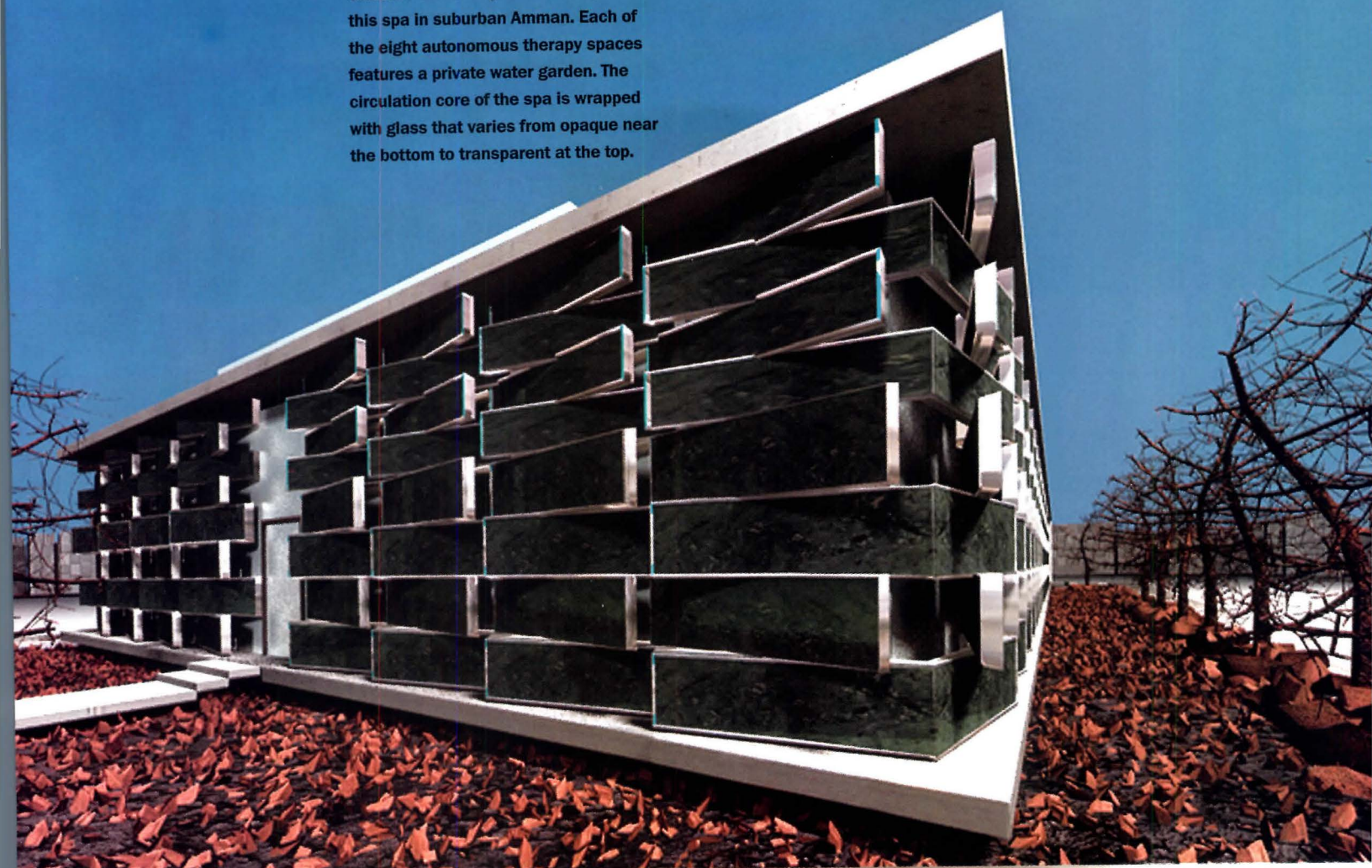
As a Western-trained architect in the Middle East, Al-Hiyari does not see a conflict between the two traditions of design. "Architecture everywhere responds to the nature of the site, the culture, and the needs of the people who will live and work in it," he said. "Good solutions found in various parts of the world are often reflections of these needs—some local, some universal."

Al-Hiyari is honored to have the opportunity to return to the West to work with Siza, whom he sees as "a master of sculpting space with light." Al-Hiyari has had the opportunity to visit several of Siza's works with him, and Siza has offered comments on some of Al-Hiyari's current projects. "His feedback on my works has been very thought provoking and constructive," Al-Hiyari said. "It is carried out with a clarity and simplicity that only a person with a great mind is capable of." ■



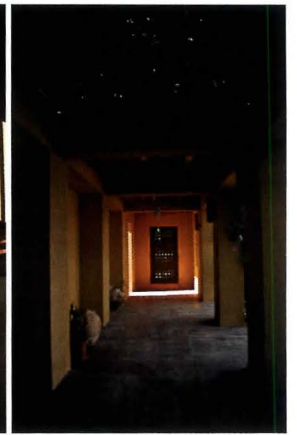
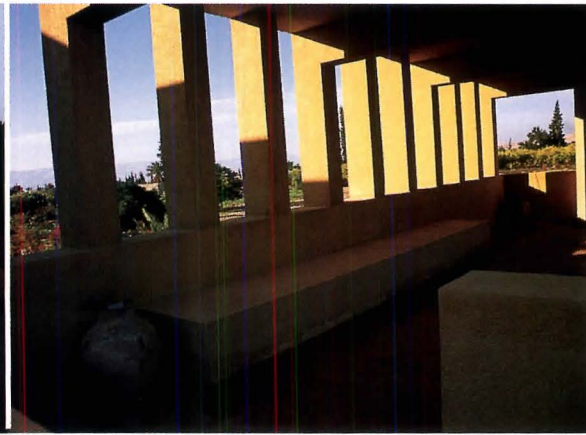
Tsi Spa,
Amman, Jordan

Interlocking green marble panels filter the glare of the sun into a softer, diffused light, which is intended to enhance the therapeutic atmosphere of this spa in suburban Amman. Each of the eight autonomous therapy spaces features a private water garden. The circulation core of the spa is wrapped with glass that varies from opaque near the bottom to transparent at the top.



Bilbeisi Residence,
Shuneh, Jordan

This house sits in the Jordan River valley, which is a popular site for winter retreats. The house is derived from the traditional *hakoora*, a residential type with a prominent courtyard or garden, though the massing and plan are atypical. Interior and exterior spaces fuse into one continuous structure. The upper floor's outdoor living room shares a roofline with the rest of the house.



Coral Beach Hotel,
Aqaba, Jordan

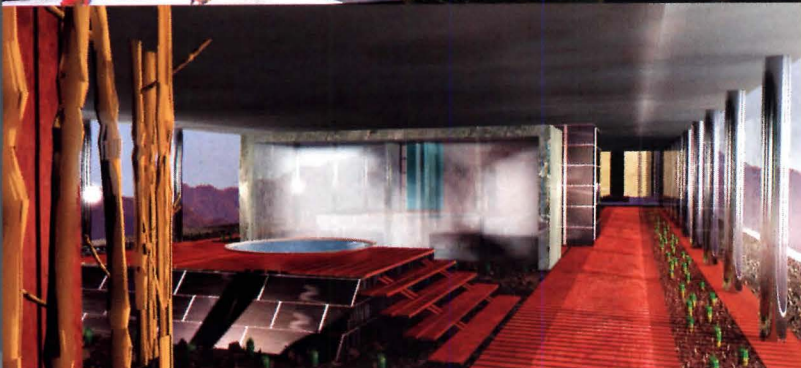
The main facade of this sprawling resort is clad in glass and punctuated by polycarbonate panels. Every guest room faces the Gulf of Aqaba. Guests can individually control the opacity of glass panels for both privacy and views. Six floating chalets were sited so as to hide views of an industrial port. The complex also contains two restaurants, a bar, a casino, and a ballroom.

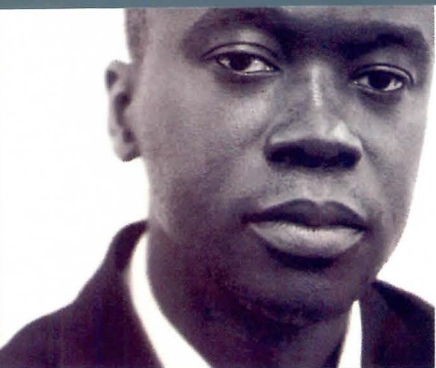




**Psychologist's Clinic,
Amman, Jordan**

An internal "skin" of sliding panels permits the client, a clinical psychologist, to adjust the atmosphere of the space, allowing for lighting conditions that suit the comfort of each patient. The project renovated a 1950s house within a strict budget. Al-Hiyari designed kitchen and bathroom fixtures, which were then carved out of local stone, for significantly less than the cost of imported fixtures.





David Adjaye's designs serve as bridges between art and architecture

By James S. Russell, AIA

Architect: Adjaye Associates
Location: North London
Date founded: 2000
Design staff: 28
Principal: David Adjaye
Education: Southbank University, Bachelors of Art, architecture, 1990, 1997; Royal College of Art, Masters of Art, architecture, 1993
Work history: Chassay Architects, 1988–90; David Chipperfield Architects, 1991; Eduardo Souto de Moura Architects, 1991; Adjaye & Russell, 1994–2000
Key completed projects: Studio/home for Chris Ofili, London, 1999; Extension to house, St. John's Wood, 1998; Siefert Penthouse, London, 2001; Elektra House, London, 2001; Studio/gallery/home for Tim Noble and Sue Webster, London, 2002; SHADA Pavilion, London, 2000 (with artist Henna Nadeem)
Key current projects: Idea Store libraries, London; Mediatech (new-media school), Boston; renovated shop spaces for Selfridges department store, London; community center, Shadwell, U.K.

To be dubbed an architect to the stars at age 36 is almost as rare in Great Britain as it is in America. But David Adjaye has earned this status the hard way. He has drawn clients such as actor Ewan McGregor, fashion photographer Juergen Teller, and artist Chris Ofili not with cozy, decorating-magazine-friendly design, but with a stripped-clean yet conceptually rich architecture.

Adjaye's recipe for success includes making the most of good timing and synthesizing a rich body of life experiences. Born in North Africa to Ghanaian parents who were diplomats, he spent much of his youth in Cairo, Yemen, and Beirut. In London, the Royal College of Art's small architecture program appealed to him because he could also partake in the college's lively art school. There he met Ofili and others who formed a "bad boy" vanguard that has transformed the British art scene. (Ofili is the artist, as critic Rowan Moore describes him, "who won the Turner Prize with paintings made of elephant dung.")

"Architects resolve issues in architectural terms alone and this terrifies artists," explains Adjaye. "Artists see their work as done in real life and about it. They 'speak' several languages." Adjaye describes his work as "building a bridge between art and architecture," with a conceptually driven practice dedicated to stripping away artifice.

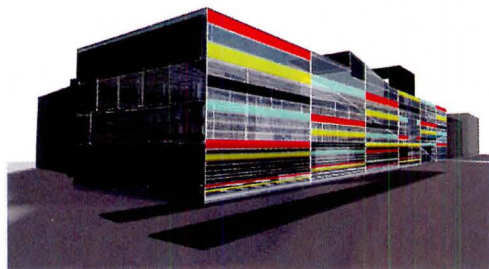
One of the early projects that brought Adjaye and his partner William Russell early fame (they split two years ago) was the conversion of the ground floor of an anonymous dun-brick East London town house into an austere white-box living space for Ofili. Adjaye also added a metal-framed glass cube dining area that pops out on the garden side of the residence, surmounting a glass-block-roofed painting studio.

Adjaye's conceptions look immaculate, but they stir together a number of sensibilities and preoccupations. There's a primordial power to the long, low, concrete-framed volume that pushes out of the garden side of a house in St. John's Wood, for example. The design challenges the comfortable Victorian domesticity of its landmark "host." Adjaye shapes perception to make the reflection of a tree in glass extraordinary or to heighten the significance of a carefully considered garden stair—a legacy of time spent studying traditional painting and architecture in Japan.

The project that brought Adjaye's practice the greatest attention is a low-budget, live-work space for two artists and their family (opposite). Within a two-story volume, he suspended upper-level sleeping spaces, freeing the open, beautifully lit ground floor to be a studio, a living space, or a gallery. The house's few gestures take on a complexity, he says, that reflects the altered domestic realities of our day.

Adjaye recently received commissions for larger commercial and civic work—projects where the stark power of his early work will be challenged by more complex programs. "Commercial pressures are so severe that it becomes even more important to understand what you are building and why," he says. "You can easily become just a stylist." Is he ready? "I think I'll be happiest working in the civic realm." ■

Mediatech is a new-media school slated for Boston.





Elektra House,
East London

The resin-coated plywood facade (above) of this house/studio/gallery for two artists is Adjaye's most controversial gesture. Instead of windows, a shaft of top-light illuminates the front of the ground floor (below left). On the garden side, a high glass wall brings daylight into the upper-floor bedrooms as well as augmenting illumination provided by a glass room (below right).



Idea Store,
London

A prototype, the Idea Store reinvents the public library. The alternation of color and transparency makes the structure appealing while advertising the addition of educational programs to traditional library functions. The exterior displays information and includes retail on the ground floor. Inside, an atrium escalator hall unifies the structure. The first two of six "stores" will open in 2004.



Siefert Penthouse,
London

Arguably the most monumental of the firm's projects, the Siefert Penthouse has high-ceilinged spaces punctured by deep light monitors (left) and finished monolithically with slabs of wood, stone, and glass. Just as a pantograph extends a fabric roof over the balcony (below), nearly the entire window wall folds away, sensuously opening the apartment to park breezes.





**Dirty House,
East London**

In rebuilding this warehouse for two artists, Tim Noble and Sue Webster, Adjaye Associates created a 20-foot-high ground floor (bottom left) to house the owners' large-scale works. The thick enclosure of the lower floors opens to a pavilionlike upper living level (below). The design, says Adjaye, reconciles the institutional scale of a museum with the intimate scale of a house.





Predock_Frane Architects uses immersion to drive its design methodology

By Charles Linn, FAIA

Architect: Predock_Frane Architects

Location: Los Angeles

Date founded: 1999

Design staff: 5

Partners: John Frane (left), Hadrian Predock

Education: Predock: Harvard GSD, M.Arch, 1993; University of New Mexico, B.A., 1989; Frane: University of Texas at Austin, B.Arch., 1993

Work history: Predock: Antoine Predock Architect, 1986–90; Eisenman Architects, 1992; Arquitectonica, 1993–94; Mehrdad Yazdani, 1995–97; Frane: Frank O. Gehry and Associates, 1990–91; Mehrdad Yazdani, 1993–99

Key completed projects: Montecito Residence, Montecito, Calif., 2000; Boelsen Residence, Santa Monica, Calif., 1999; Predock_Frane Studios, Santa Monica, 2001; Center of Gravity Foundation Hall for the Bodhi Mandala Zen Center, Jemez Springs, N. Mex., 2002; Greve Residence, Venice Beach, Calif., 2002

Key current projects: Central California History Museum, Fresno, Calif.; Rinzaï Zen Buddhist Retreat, Desert Hot Springs, Calif.; Frisch Residence, Santa Monica Mountains, Calif.; West Residence, Bel Aire, Calif.; Klingenguchi Residence, San Francisco; Atalanta Retreat, Crestone, Colo.; The White Oaks Project, White Oaks, N. Mex.

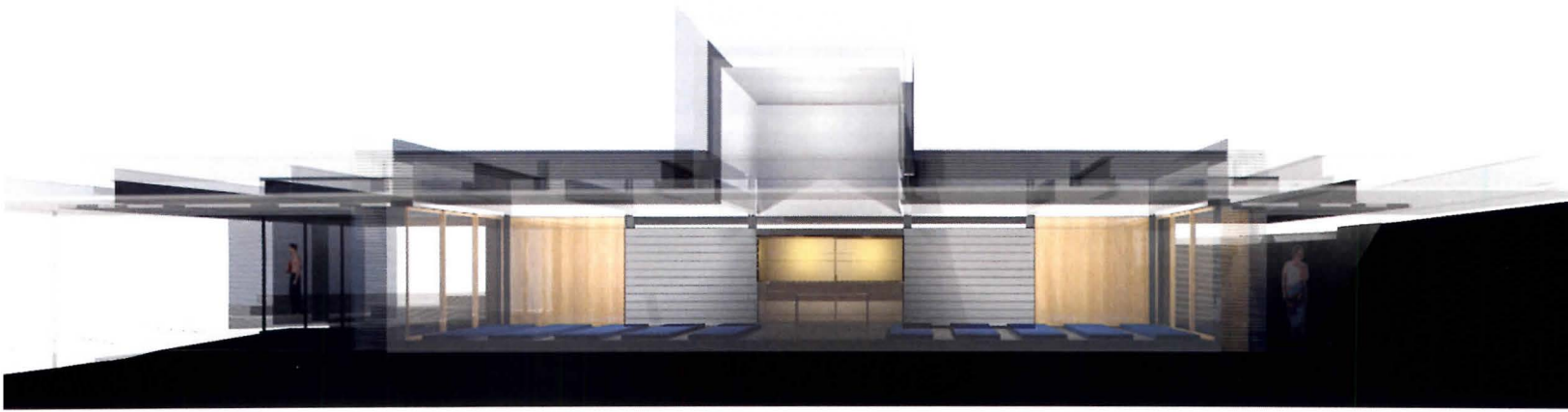
Web site: www.predockfrane.com

One of the things that brought Hadrian Predock and John Frane together, besides the fact that they were working as senior designers in the same office, was their complementary ideas about the use of space and materials. “There is a similarity about the kind of search we make,” says Predock, “even though at times we are working toward the same end in different ways. I tend to be more rooted in the conceptual and philosophical.” Frane agrees, saying, “Hadrian’s design process is much more rational than mine. Mine tends to be more intuitive, like, ‘well, this just feels like the way it should be done.’” When combined, their different approaches produce a very positive sort of give-and-take.

Several years ago, Predock and Frane began moonlighting on small-scale projects and working together on competitions. “The projects were not entirely pro bono,” says Frane, “but close.” The pair realized that their best shot at getting a large enough project so they could launch a practice would probably come through a competition, so they took this work very seriously. “We’re interested in doing buildings,” says Predock. “We are not interested in doing competitions that don’t lead to construction.” Frane concurs. “I don’t want to do competitions as intellectual exercises that don’t have a manifestation.” The partnership’s big break came when they won a competition for the Central California History Museum in Fresno, which will begin construction in 2004. “That got us on our feet and forced us to start working on enough projects to sustain a small office.”

“Immersion” is a key part in the partners’ design process. “We are fascinated with the world that surrounds and informs our buildings’ sites,” says Predock. For the museum, as well as most projects, they started out driving through the region around the site, taking photographs, picking up rock, soil, and plant material samples, learning the nuances of climate and culture. “We develop analogues to a project’s context. From that we can distill the ideas that have evolved in a particular place, to inform our architecture,” says Frane. “Working through many iterations helps us design to a specific place. Much of the contextualism we see is very superficial, and we work at avoiding that.” Predock adds that they want to deemphasize the design of buildings as objects. “Instead, we look upon buildings as ‘instruments,’ orienting them toward being experiential, phenomenological things. What is important to us is the way a building can affect people in their relationship to the world. This is how a building can become ‘instrumental.’”

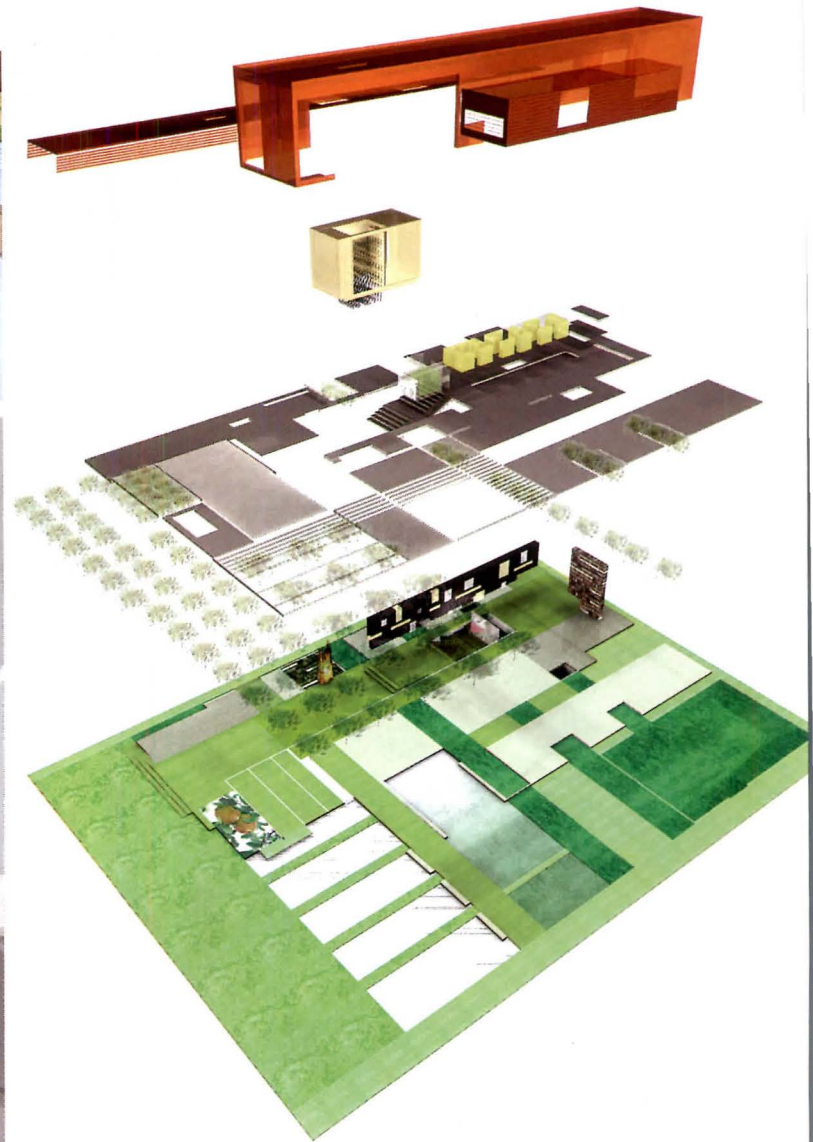
Sooner or later almost every discussion of the work of Predock_Frane gets around to Hadrian’s father, architect Antoine Predock. Hadrian says, “The most direct influence that my dad has had on what we do is that initial immersion into the culture of a place at the beginning of a design. But very different things happen when we translate that information into architecture. Clearly, a person has to have confidence about their work and what they’re doing on their own, or they’re going to be miserable. We’re doing our own work, and we have our own momentum going. But John and I are looking forward to collaborating with my father in the future.” ■



Rinzai Zen Buddhist
Retreat,
Desert Hot Springs,
California

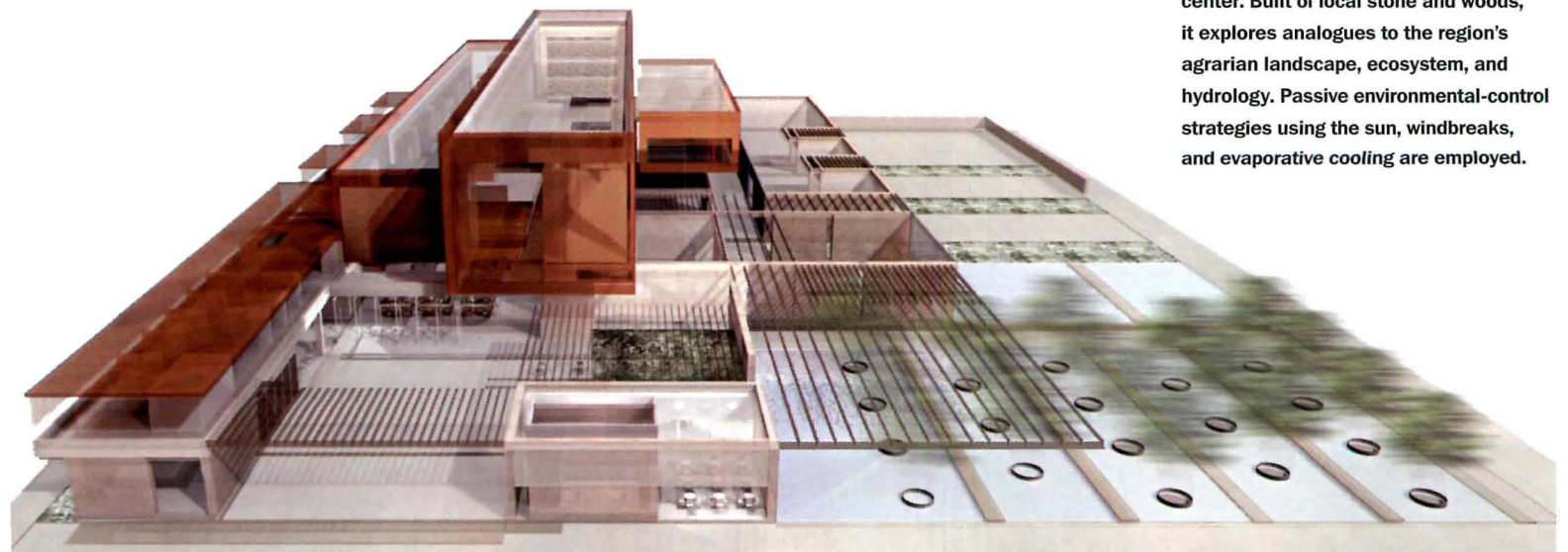
Retreat buildings are structured around the daily ritual of Zen practice as well as being shaped by the views, topography, the sun's paths, and prevailing winds that occur on the Mojave Desert site. One-hundred-forty-degree water trapped by the San Andreas Fault fills a pool for winter and nighttime ritual baths. The perforated metal skin is analogous to that of the local barrel cactus.





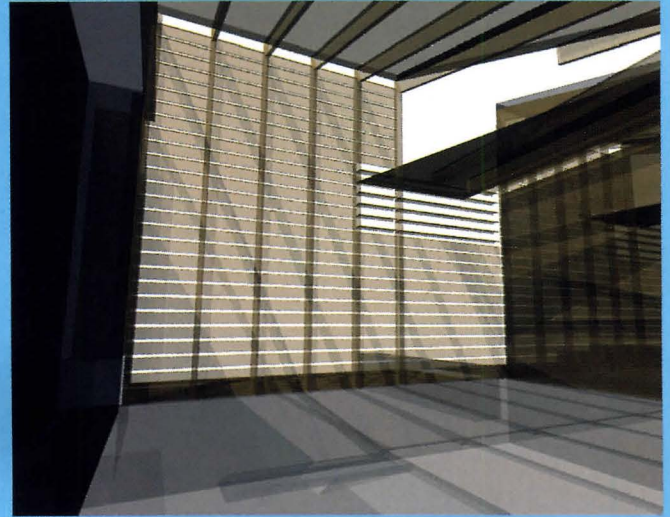
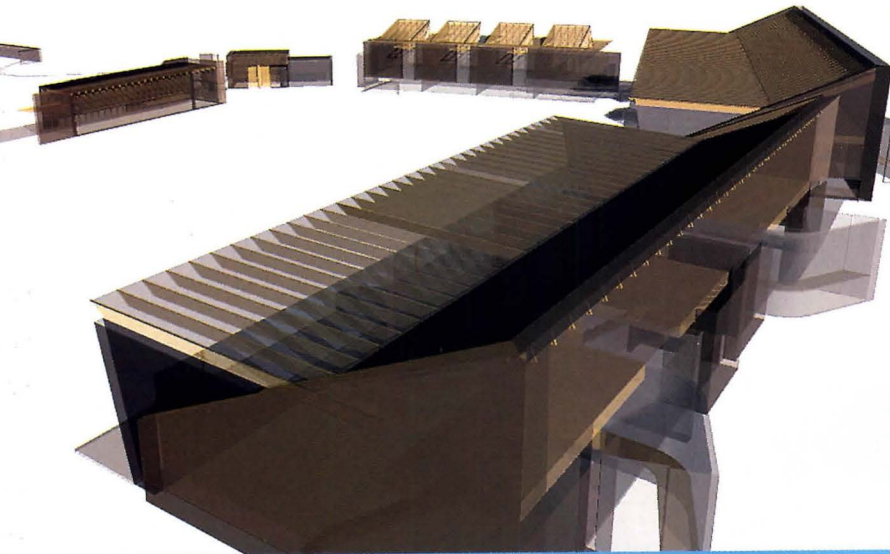
Central California
History Museum,
Fresno, California

The museum is to become the centerpiece of downtown Fresno's new cultural district, functioning as a museum, library, and research and community center. Built of local stone and woods, it explores analogues to the region's agrarian landscape, ecosystem, and hydrology. Passive environmental-control strategies using the sun, windbreaks, and evaporative cooling are employed.



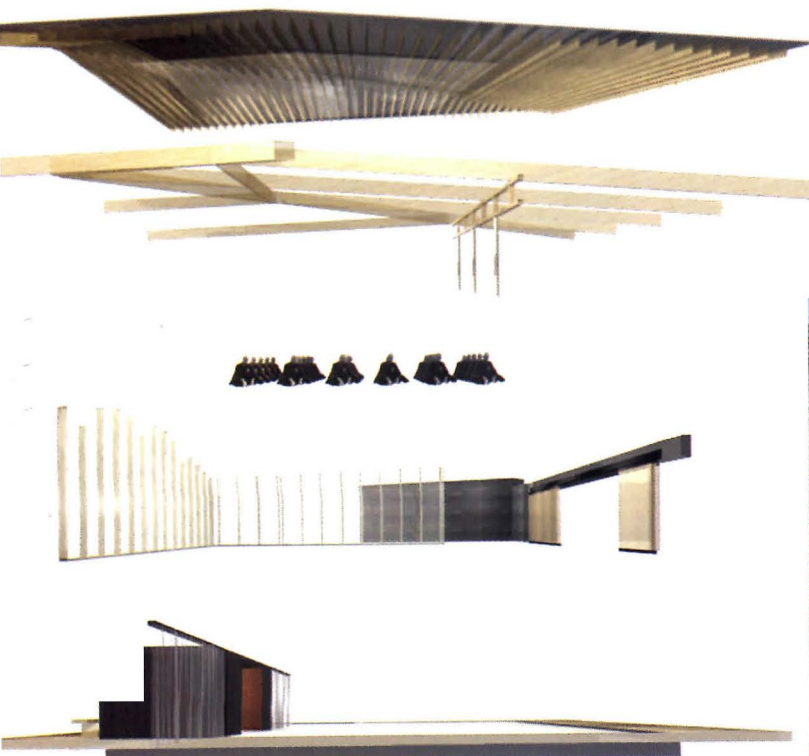
White Oaks Project,
White Oaks,
New Mexico

This artists-in-residence compound will give emerging artists housing for up to a year as they complete major projects and help renew White Oaks, a ghost town. The buildings are being constructed of steel and wood-frame members, glass, and rammed earth. They have been sited to create shelter from the harsh climate and to capture water, sun, and magnificent vistas.



Center of Gravity
Foundation Hall, Jemez
Springs, New Mexico

The Center of Gravity Foundation Hall serves as the primary teaching and meditation hall for an existing Zen Buddhist compound. A folded metal roof plane hovers over two adjacent boxes, one of rammed earth, the other of polycarbonate over a laminated lumber. The east wall of the building comprises a series of sliding panels that open onto a garden and views of the mountains.



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DESIGN STUDIOS

Architects Love Funk

FOUR URBAN SETTINGS OFFER THE PERFECT ROUGH BEGINNINGS FOR INTERVENTION AND CREATIVE BRUSH STROKES.

By Jane F. Kolleeny

1.

Seattle

Suyama Peterson Deguchi hatched a tripartite scheme that included street-level retail, a courtyard gallery, and 2,000-square-feet of offices.

2.

Minneapolis

RSP Architects inhabits a former brew house with turrets, widow's walk with weather vane, bull's-eye dormer windows, and dramatic arches.

3.

Terrassa, Spain

Oliva - Remolà Architecture Studio built their office on two narrow lots facing two nondescript streets, wedged between buildings on either side.

4.

Minneapolis

Hammel, Green and Abrahamson found a biscuit factory's poured-in-place concrete structure to be the perfect work environment.

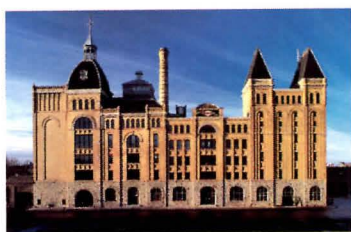
Who is more qualified to design an architecture office than architects? As the foremost creative members of the building design team, architects work collaboratively, requiring spaces that resemble brainstorming incubators. Many firms organize by studio, where affiliation changes frequently, so staff must be able to move easily in a space that is flexible. Areas set aside for team gathering are common, as are places for plotters and other high-tech equipment—and, of course, the requisite model-making quarters are messy, as work is forever under way.

Many architectural offices reside in urban areas that border city centers with multiple work opportunities. Also, sunny loftlike spaces to spread out in are common and affordable on the city's edge. The four buildings featured here are located in partially derelict areas ripe for renewal. All offices share in abundant natural light, a necessary ingredient to the visually based design process.

The offices of both Hammel, Green and Abrahamson (HGA) and of RSP involve adaptive reuse of large, former industrial, stand-alone buildings along the Mississippi River in Minneapolis. Both are National Historic Landmarks. What remains from their previous use contributes wonderful color and character to the transformed spaces. HGA removed six of seven ovens from the former biscuit factory where it located its office, creating a dramatic 40-foot volume of space around the remaining oven on the upper floors of the building, where historic artifacts are stored. In a cavernous atrium of open space, beer vats once stood in the vintage brew house where RSP established its studios. In this dramatic space, smack in the middle of the building, the architects chose to locate a reception area and glass-enclosed elevators.

Like most architectural firms, Suyama Peterson Deguchi and Oliva - Remolà are modest in size. The Oliva - Remolà Studio, squeezed tall on a tight urban lot among nondescript apartment buildings, is an ingenious new design. Presenting a bold presence on the street, like a miniature skyscraper, it dramatically contrasts with its neighbors. The office of Suyama Peterson Deguchi, which reuses a former livery stable in a gritty neighborhood of hip happenings and decayed remnants, hides coyly behind funky doors. Once inside, its retail and gallery-style spaces offer surprises before finally giving way to the firm's work areas, nestled at the back.

All four projects are cleverly integrated into their existing industrial neighborhoods or buildings, as the case may be, each seductive in its relation to history, showing that architects know how to do funk right. ■



www For additional Design Studio projects, and more information on the people and products involved in the following projects, go to Building Type Study at architecturalrecord.com.

Suyama Peterson Deguchi Seattle, Washington

1

MORE CLOSELY RESEMBLING A GALLERY, THESE OFFICES HELP THE ARCHITECTS CONVEY A REFRESHING ARTISTIC SENTIMENT.

By Sheri Olson

Architect: *Suyama Peterson Deguchi; George Suyama, FAIA, partner in charge; Jay Deguchi, project architect; Ric Peterson AIA, Jeff King, Kim Lavacot, project team*
Owner: *George and Kim Suyama*
Consultants: *Swenson Say Fagét (structural)*

Size: *12,283 square feet*

Cost: *\$500,000*

Sources

Metal/glass curtain wall: *Kawneer*

Aluminum windows: *Milgard Windows*

Glazing: *Cardinal Low-e2*

Skylights: *Crystalite*

Sliding doors: *Northstar Woodworks*

Cabinetwork and custom woodwork: *TRSW*

Fiberglass panels: *American Acrylic*

Metalwork furnishings: *Gulassa; Drew Middlebrooks; Kevin Quinn*

Workdays at Suyama Peterson Deguchi might include a visit from a group of out-of-state university students or a couple of globe-trotting art aficionados dropping by to check out the latest installation in the gallery. Tourists mix with clients who get a full-blown introduction to the firm's emphasis on elemental materials and pared-down designs. "The new office helped us to clarify our design direction and has allowed us to push our ideas with clients in a way that our old space couldn't," says George Suyama, FAIA.

Program

The program is a result of a surfeit of space—12,283 square feet for an eight-person office (now 19), which concentrates on high-end residential projects. When the search began for new space, the goal was not more room, but a more urban—and urbane—location than its old residential neighborhood. Suyama spotted a late 1800s livery-stable-turned-automobile-service-garage in Belltown, a gritty downtown neighborhood where hip nightclubs rub shoulders with old maritime flophouses. He was struck by the vast—albeit dark and filthy—barrel-vaulted space.

A scheme emerged from the city's requirement for storefront

Sheri Olson, AIA, is RECORD's Seattle-based contributing editor and architecture columnist for the Seattle Post-Intelligencer.



space along the street and the office's need for only 2,000 square feet at the back. An open area in the center of the building would house an exhibition space. Word got out about the huge space, and local galleries began inquiring about renting it to show large pieces of art.

Solution

The first clues signaling new life behind the anonymous gray facade are the deep metal frames surrounding Minimalist glass storefronts and a metal garage door. A steel channel bolted onto the facade is part of an extensive seismic retrofit and sets the tone for the confrontational relationship between the new and the

old, the raw and the refined inside. "We didn't want to do a restoration, we wanted to do an intervention," says Suyama.

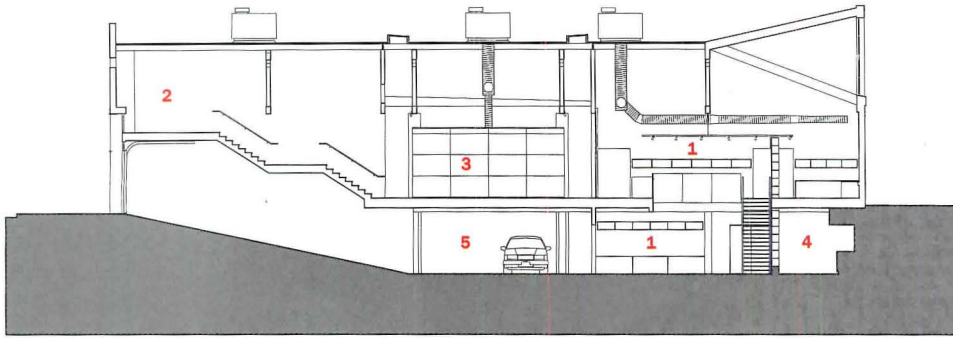
One of biggest undertakings was lowering the floor several feet along the front of the building to match the sidewalk, for a more accessible retail space. What was once the second floor now functions as the first floor, thanks to city fathers who regraded this section of Seattle at the turn of the last century, burying a whole level of the city underground. The past is left exposed in the mottled old walls where the below-grade windows are patched with new concrete. "We loved the building's patina but didn't want to be nostalgic about it," says Suyama.

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



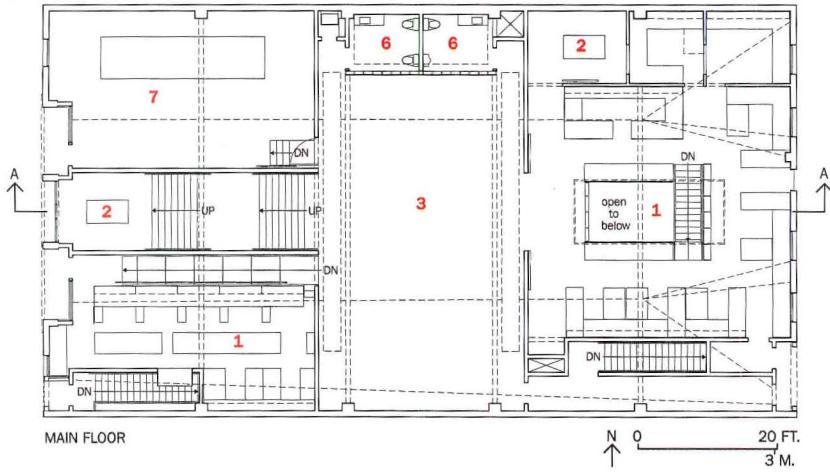
The first clues of new life behind the anonymous gray facade are the deep metal frames surrounding Minimalist glass storefronts and a metal garage door (top left and opposite). From the front door, a steel ramp leads up to the gallery space at the center of the building (left and below).





SECTION A-A

- 1. Office
- 2. Conference
- 3. Gallery
- 4. Kitchen
- 5. Garage
- 6. Bathroom
- 7. Retail



MAIN FLOOR



From the front door, a steel ramp leads up to the 20-foot-tall gallery space at the center of the building, separated from the retail and office areas by white walls that bisect the building and provide needed shear walls. The gallery retains the worn wood-plank floor, with its exposed old-growth wood trusses and decking overhead intact. Narrow skylights parallel to the front and back walls cut into the roof to bring light deep inside. A luminous screen of translucent fiberglass panels on a wood-stud frame conceals the rest rooms along the north wall.

At the front of the building is a small second-floor conference area. A grand staircase sweeps up from the gallery to this private aerie. A floor-level window provides an unexpected glimpse of street life below, and the movement of the sun is mapped on the bare white walls as it spills through a steel oculus cut into the front facade.

Large plates of hot-rolled steel differentiate the office floor from the gallery. Usually open, two huge plywood doors can roll shut like barn doors to close off offices from the gallery. A new roof monitor that angles up toward a large window high on the back wall of the building serves as the focal point of the office area. Below, an 18-by-8-foot opening with a rolled-steel stair reaches down to a large wood shop in the basement where designers can mock-up entire building components.

Commentary

Due to the unique design of the office, Suyama Peterson Deguchi enjoys a public presence unusual for architects. The success of the art shows led to the organization of the nonprofit Suyama Space in 1998, and a manager was hired to curate the installation-oriented gallery. More recently, the firm started a showroom in the retail space that allows the firm to experiment with furnishings and materials beyond specific projects while keeping a number of local artisans busy. Offering openness and light, the gallery is a calm interlude between the bustling showroom and office, as well as the city. "Its like passing through a decompression zone on the way to the office," says Suyama. "It never fails to lift me up." ■



The gallery retains the worn wood-plank floor, with its exposed old-growth wood trusses and decking overhead intact (opposite). A view from the office space at the back of the building looking toward the front (above). Narrow skylights parallel to the front wall cut into the roof to bring light deep inside (below).



Offices of RSP Architects Minneapolis, Minnesota

2

DERELICT FOR DECADES, THE HISTORIC 19TH-CENTURY GRAIN BELT BREW HOUSE IS METICULOUSLY TRANSFORMED INTO SPACIOUS 21ST-CENTURY OFFICES.

By Camille LeFevre

Architect: RSP Architects—David C. Norback, AIA, principal in charge; Bryan Gatzlaff, AIA, project manager; Dustin Bennis, Mark Forsberg, AIA, Pat Hilleman, Terry Ingle, Robert Jepsen, AIA, Thom Lasley, Kathleen Linderkamp, Derek McCallum, John Merten, Jim Noreen, AIA, John Panian, AIA, Paul Whitenack, AIA, project team

Owner and general contractor: Ryan Companies US

Consultants: Meyer Borgman & Johnson (structural); Rolf Jensen Associate and the Mountain Star Group (fire protection); LightSpaces (lighting); Melchert Walkky (civil); Hess Roise (project historian); Liesch Associates (environmental)

Size: 96,000 square feet

Cost: \$17.2 million

Sources

Windows: Glass Masters

Metal fabrications (including stair): Metro Manufacturing

Millwork: Ives Design

HVAC: Master Mechanical

Plumbing: Southside Plumbing

Electrical: Elliott Contracting

Elevators: Thyssen Krupp

Flooring: Acoustical Floors; Twin

City Tile & Marble; Acoustics

Associates; ReSource Minnesota;

W.L. Hall

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

The Grain Belt Brew House, located on the Mississippi riverfront in northeast Minneapolis, has long been a city landmark. Designed in 1891 by Frederick Wolff and William Lehle, the 96,000-square-foot structure comprises four connected buildings ranging in style from neo-Romanesque, Late Gothic, and Early Renaissance to neo-Baroque and Second Empire. With its turrets, widow's walk with weather vane, bull's-eye dormer windows, and dramatic arches, the brew house conveys a powerful Old World presence in this working-class neighborhood.

On Christmas day 1975, the last batch of Grain Belt beer left the brewery. The building's contents were sold or scrapped and the edifice sat vacant for decades. Though its place was secured on the National Register of Historic Places, the building's constraints were formidable. Whoever took on the brew house would have to clean up asbestos, toxic mold, and petroleum-distillate products, and contend with structural problems, uneven floor plates between the units, and multistory holes where brewing vats once stood.

Program

In 1998, RSP Architects decided to consolidate its three offices and

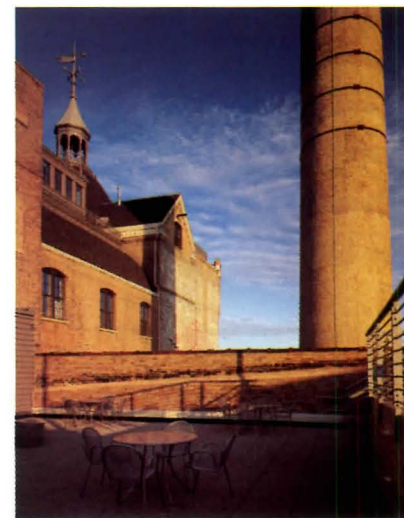
Editor of Architecture Minnesota, Camille LeFevre writes frequently about architecture and design.



looked into the Grain Belt Brew House. "We wanted a stimulating environment to work in, a place with a big wow factor to help us enjoy our workday," says David Norback, AIA, president of RSP.

Support from the city and a committed developer, along with the expertise of architects, engineers, contractors, and assorted specialty consultants, allowed for preservation of the six-story building's distinctive architectural features as it was converted into design offices.

Renovation began in 2000. So did the surprises. Workers found deteriorated structural steel and toxic mold beneath wall surfaces. One tower floor was replaced; four wells under the site were capped; the structural integrity of the 200-foot-high smokestack was strengthened. Nonetheless, the interior's "spatial hierarchy, the light, the nooks, crannies, and volumes were perfect for us," Norback says. "We liked the visual identity we could carve out of this place."



Solution

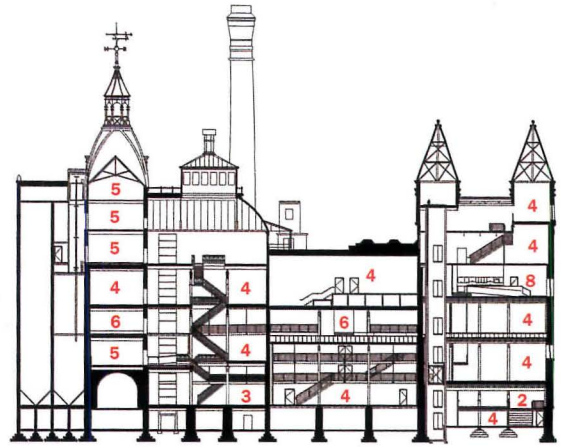
The cavernous atrium that housed brewing vats now serves as the reception area. A glass elevator runs through the enormous holes where the vats stood and anchors a new system of north-south catwalks that connect major sections of the brew house. An existing four-story ornamental-iron staircase (repaired, then renovated to meet code and painted



With its historicist turrets, widow's walk with weather vane, bull's-eye dormer windows, and dramatic arches, the Grain Belt Brew House has an Old World presence (opposite). A four-story ornamental-iron staircase ascends to the library, topped by a skylight (this page).



RSP added a mezzanine between the 1st and 2nd levels which expands the total area available and gives staff access to light.



SECTION A-A

1. Main entry
2. Employee entry
3. Lobby
4. Studios
5. Conference rooms



THIRD FLOOR

6. Private offices
7. Kitchen
8. Employee break room
9. Decks



FIRST FLOOR



GROUND FLOOR

0 50 FT.
15 M.

white) winds up to the firm's library, topped by a skylight. Stacked in a former grain elevator beneath the cupola are six floors of offices and conference rooms.

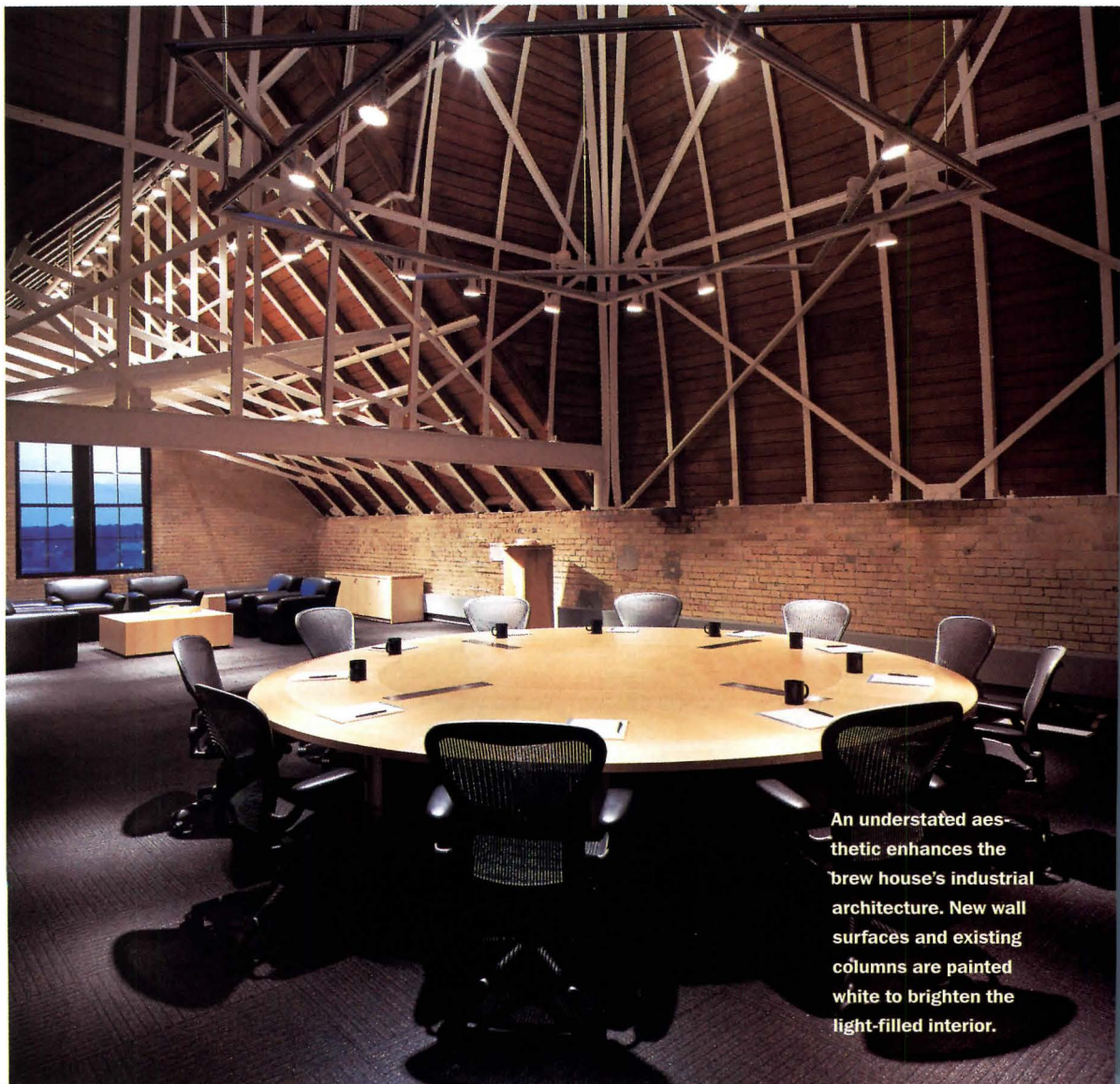
In what were once warehouse areas, floors sloped for drainage are now covered with a level raised-floor system that houses the firm's electrical and voice/data cabling. Between the first and second levels RSP added a mezzanine, which expands the total area available for workstations, creates spaces for private offices and conference rooms along inner walls, and gives all staff access to light.

On the building's north facade, preservation authorities approved cutting 72 new openings and installing new windows in locations designated by the original architects. On secondary facades, new windows feature an installation pattern sympathetic to the established fenestration. To accommodate the building's existing 13-foot-on-center column spacing (which restricted even distribution of standard 8-by-8-foot workstations) and maximize usable square footage, RSP grouped individual workstations around shared group work areas.

Commentary

RSP maintained an understated aesthetic that enhances the brew house's industrial architecture. Floor coverings vary from slate tile in the entry and lobby to natural wood and carpet in the work areas. New wall surfaces and existing columns, painted white, further brighten the light-filled interior and draw the eye to such historic details as original golden Chaska-brick walls still flecked with bits of plaster and keystones marked with original contractor notations. For Norback, the end result is "a serendipitous, delightful set of spaces, even if there are bumps and tweaks we're still trying to massage out."

In adaptively reusing this landmark building, RSP created a singular office space revealing the firm's vigor, inventiveness, and commitment to the community. Nearby, a mixed-use development, theater, and library are currently under way, revitalizing the neighborhood. ■



An understated aesthetic enhances the brew house's industrial architecture. New wall surfaces and existing columns are painted white to brighten the light-filled interior.

Oliva-Remolà Studio

Terrassa, Spain

3

SQUEEZED BETWEEN NONDESCRIPT INDUSTRIAL BUILDINGS, THIS LITTLE JEWEL STANDS TALL.

By David Cohn

Architect: *Oliva - Remolà Architecture Studio—Maria Rosa Remolà Ferrer, Amadeu Oliva Uriel, principals; Lluís Valldaura Claret, team*

Owner: *Amadeu Oliva Uriel and Maria Rosa Remolà Ferrer.*

Consultants: *Gestió d'enderrocs immobles (demolition); Excavaciones Varo Hnos (excavation); Ferrallados Asís (structural); Fontaneria Terrassa (plumbing); Armengol Serveis Elèctrics (electricity); EBYP (elevator); Reinfred (HVAC)*

General contractor: *Novapolis*

Size: *3,444 square feet*

Cost: *\$215,000*

Sources

Furnishings: *Amadeu Oliva Uriel*

Metal chairs: *Oscar Tusquets*

Lighting: *Amadeu Oliva Uriel*

Plumbing: *Voilà faucets*

Hardware: *Cerrajería Natalio*

Windows: *Anco*

Wood floor: *Cobra Instalaciones y Servicios*

Concrete floor: *Lotum Regeneración Industrial*

Wood doors and paneling: *Vicmor*

Upswinging doors: *Puertas Metalicas Alfi*

Chairs: *Casas*

Paint: *Serena*

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

Terrassa, Spain, seems an unlikely place for two architects to hang their shingle. One of the grim 19th-century industrial cities that ring Barcelona, its narrow streets are packed with poorly constructed row houses, without light, air, or ornamental pretense, that once stood cheek-by-jowl with textile mills and their belching chimneys. Today, the factories are closed, and the outer limits of the city are filling out with nondescript apartment buildings. It took a certain amount of vision on the part of architects Amadeu Oliva and his wife, Rosa María Remolà, both Terrassa natives, to see the potential of the constricted site that they bought in the heart of town to build their office. Oliva, 45, and Remolà, 42, work with a staff of three, mainly on private house designs in Terrassa's suburbs; they are currently designing and developing a small mixed-use project in the town center.

Context

Two back-to-back lots facing two streets provided the site for the studio. Scarcely 13 feet wide and more than 72 feet deep, the lots were wedged between continuous buildings on either side and had a slope of 25 feet from end to end. The site's situation—overlooking a precipitous

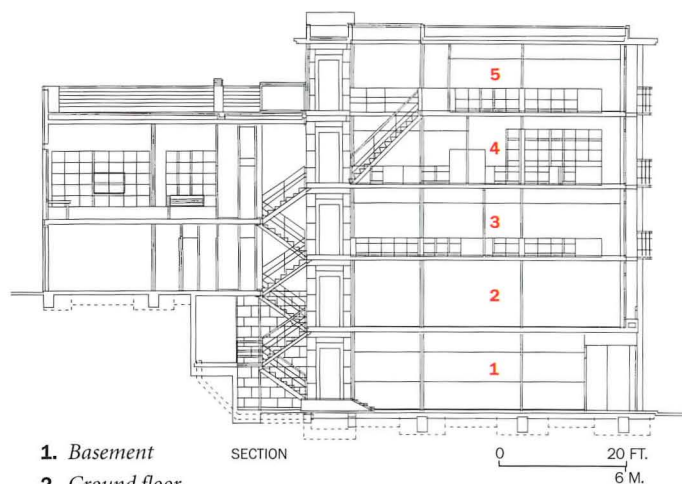
David Cohn is RECORD's Madrid-based correspondent and author of Young Spanish Architects (Birkhauser, 2000).



PHOTOGRAPHY: © DUCCIO MALAGAMBA

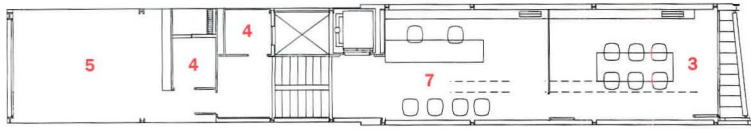
ravine known as the Torrent del Vallparadís (Valley of Paradise Torrent), a former gully recently transformed into an attractive urban park that cuts a deep gash through the city—made up for these limitations, however. Remolà and Oliva also realized that by building slightly higher than the existing two-story urban fabric, which is largely protected from growth by local zoning, they could enjoy spectacular views of the verdant mountains that ring the city.

It took vision on the part of the architects to see the potential of the constricted site that they bought in the heart of town to build their office (above and opposite, bottom). Oliva's penthouse studio has a rooftop terrace (opposite, top).

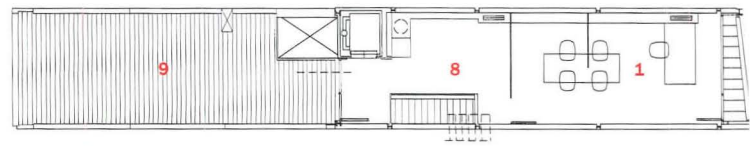


1. Basement
2. Ground floor
3. Second floor
4. Third floor
5. Fourth floor

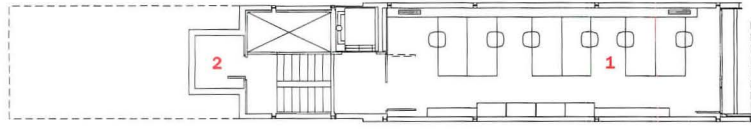




SECOND FLOOR



FOURTH FLOOR



GROUND FLOOR



THIRD FLOOR



- 1. Studios
- 2. Support space
- 3. Conference room
- 4. Bathrooms
- 5. Garage
- 6. Private offices
- 7. Administration
- 8. Lounge
- 9. Roof

To bring light into the deep center of the building, the architects grouped stairs, an elevator, and bathrooms around a central light shaft that penetrates to the lowest floor.



Despite its direct and understated form, the office (right) offers a dramatic contrast to the surrounding buildings, with their total lack of aesthetic pretense.

Solution

To address the problem of bringing light into the deep center of the building, the architects grouped stairs, an elevator, and bathrooms around a central light shaft that penetrates to the lowest floor. In section, they staggered the floors in a split-level fashion around the stairs, a highly efficient arrangement permitted by the slope. This arrangement of space creates a fluid sense of luminous openness on the upper floors, where the daily activity of the office takes place.

On the exterior, the difference in elevation and context of the two extremes of the site result in two facades with very distinct personalities. The upper, western facade overlooks one of Terrassa's narrow streets. Here the architects were required by zoning laws to maintain the existing two-story street wall. On the lower, eastern end overlooking the Vallparadís Torrent, zoning permitted the building to reach five stories. Remolà and Oliva located the main entry on this lower facade. An entry-level gallery is succeeded by a second-floor conference room, a reception and secretarial floor, an office floor including Remolà's glass-walled private office, and Oliva's penthouse studio. The opposite, western facade has a small garage for motorcycles on the ground floor (situated half a level below the reception-area floor), a high-ceilinged atelier for computer drafting above, and a rooftop terrace for the penthouse.

The glazed, steel-framed facades are literal expressions of the structure, also exposed on the interior, which consists of a simple skeleton of steel columns and exposed, epoxy-finished concrete floors, connected by open-tread

steel stairs. Wiring and plumbing are accessible behind removable panels in the built-in cabinetry of the office areas and the bathroom walls. All of these surfaces, including the walls of the elevator shaft, are finished in a lacquered wood veneer. For the exterior steel framing and balconies, Oliva and Remolà specified a custom color that they find softer in tone than absolute black. The exposed ends of the party walls are finished in precast-concrete elements, composed of infill masonry, a layer of insulation, and a finish of thin cementitious waterproofing panels.

Commentary

The tall glass facade of the studio is a striking presence on the skyline of the Vallparadís Torrent, like a miniature skyscraper. Despite its direct and understated form, it offers a dramatic contrast to the surrounding buildings, with their total lack of aesthetic pretense. The industrialists who made their fortunes here at the end of the 19th century reserved their architectural patronage for the villas they built in the hills north of the city, or for their apartments and town houses in Barcelona. Barcelona's famous design culture, which in those same years produced the Moderniste architecture of Antoni Gaudí, Lluís Domènech i Montaner, Josep Maria Jujol, and others, was made possible by this industrial wealth. Today, Remolà and Oliva, like other young architects who have established their practices in modest communities throughout Spain, are pioneers in introducing the legacy of this culture to a wider public. With their transparent, luminous studio, they have brought back to Terrassa one of the more delicate fruits of its industrial past. ■



Offices for Hammel, Green and Abrahamson Minneapolis, Minnesota

4

THE HISTORIC LOOSE-WILES BISCUIT FACTORY REMAINS INTACT IN THIS MINIMAL INTERVENTION.

By Camille LeFevre

Architect: Hammel, Green and Abrahamson; Bake Baker, AIA, partner in charge; E. Tim Carl, AIA, design partner; Loren Ahles, FAIA, design partner; Bob Lungren, AIA, partner/project architect; Ronda Miles, Mary Shaffer, AIA, Markian Yereniuk, Ted Lee, project team

Owner: 701 Investments

Consultants: The Talaske Group (acoustical); Miller Dunwiddie (historical); Lerch Bates (elevator)

General contractor: Diversified Construction

Size: 147,000 square feet

Cost: \$10 million

Completion date: 2001

Sources

Interior finishes: Artifex Millwork; Principal Fixture and Millwork

Paints and stains: Benjamin Moore; Sherwin Williams

Office furniture systems: Teknion; Artifex Millwork; Haworth

Chairs: Cape "Bilbao"; Herman Miller; Haworth

Resilient flooring: Lonseal; Azrock; Johnsonite

Glazing: Cardinal Glass

Wood doors: Mohawk

Steel windows: Twin City Steel/KMH Erectors

Aluminum windows: St. Cloud

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

In 1912, the Loose-Wiles Biscuit Company opened in a seven-story, patterned-brick building designed by Edwin H. Hewitt in Minneapolis's warehouse district on the Mississippi. The building's west and north sides feature limestone lug sills and a horizontal band of limestone with Prairie Style ornamentation between the sixth and seventh stories. Inside, the bakery's modern machinery included seven two-story ovens located on the seventh floor "above the fly zone, and away from the dust that blows into the windows nearer the streets," as noted in the *Minneapolis Tribune*, November 2, 1912.

In early 2000, Hammel, Green and Abrahamson (HGA), with more than 400 on staff, chose the building as the opportune place in which to consolidate its three offices and moved into the renovated, 140,000-square-foot structure in August 2001. "We needed to get everybody under one roof and have room to grow," says Bake Baker, AIA, partner in charge of the project.

Program

Listed on the National Register of Historic Places, the building's replacement exterior windows were historically accurate replicas, to

Editor of Architecture Minnesota, Camille LeFevre writes frequently about architecture and design.



preserve the structure's ornamental facade. Inside, the building was "fairly beat-up," adds Baker. "Bats and pigeons were living in the upper levels. Forklifts had been driven all over the wood floors." But the building's poured-in-place concrete structure was sound, and the raw warehouse space along with the wood floors, small floor plates, and abundant natural light provided "the perfect work environment for us," Baker says. "The character of the building matches HGA's culture: straightforward, open, nothing fussy or hidden."

Solution

HGA retained the column-free, nonhistoric addition for the firm's commons and service area. Former loading-dock doors are now floor-to-ceiling windows in the dining area; the library is located on a new intermediate floor. The front entrance leads from reception up concrete stairs covered in reclaimed timbers, past two square glass conference rooms and into the original building. Windows along Washington Avenue display architectural models and allow passersby to see the space.

HGA gutted the historic build-

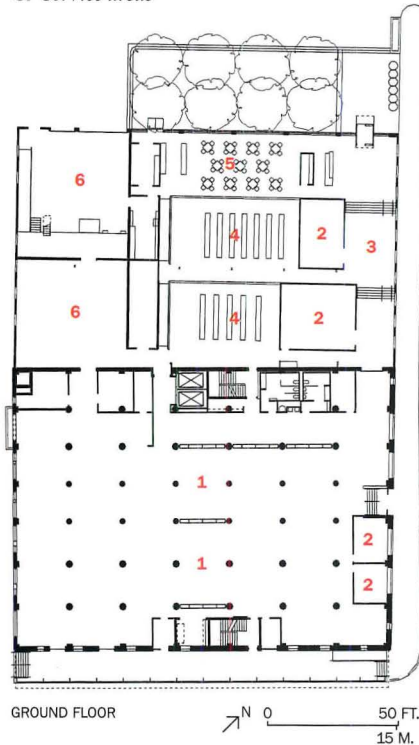


The seven-story, 1910 brick building is located in Minneapolis's warehouse district (opposite). A dramatic open space fills the sixth and seventh stories (this page).



The front entrance leads from reception up stairs covered in reclaimed timbers into the original building (above). New open stairways with black-painted steel railings connect the second and third, and fourth and fifth, floors (below).

1. Studios
2. Conference rooms
3. Gallery
4. Library
5. Common areas
6. Service areas



ing, kept the boilers, cleaned the brick, sandblasted the concrete ceilings and columns before painting them white, and refinished the wood floors. They converted the freight elevator on the south side into copy rooms, demarcated by the elevator's original metal sliding doors.

Core necessities like mechanicals, conference rooms, elevators, and rest rooms reside on the east side of each floor. Each level is divided into two zones that accommodate two to five project teams. Studios incorporate standard metal-framing systems, allowing teams to reconfigure shelves and display boards according to their needs.

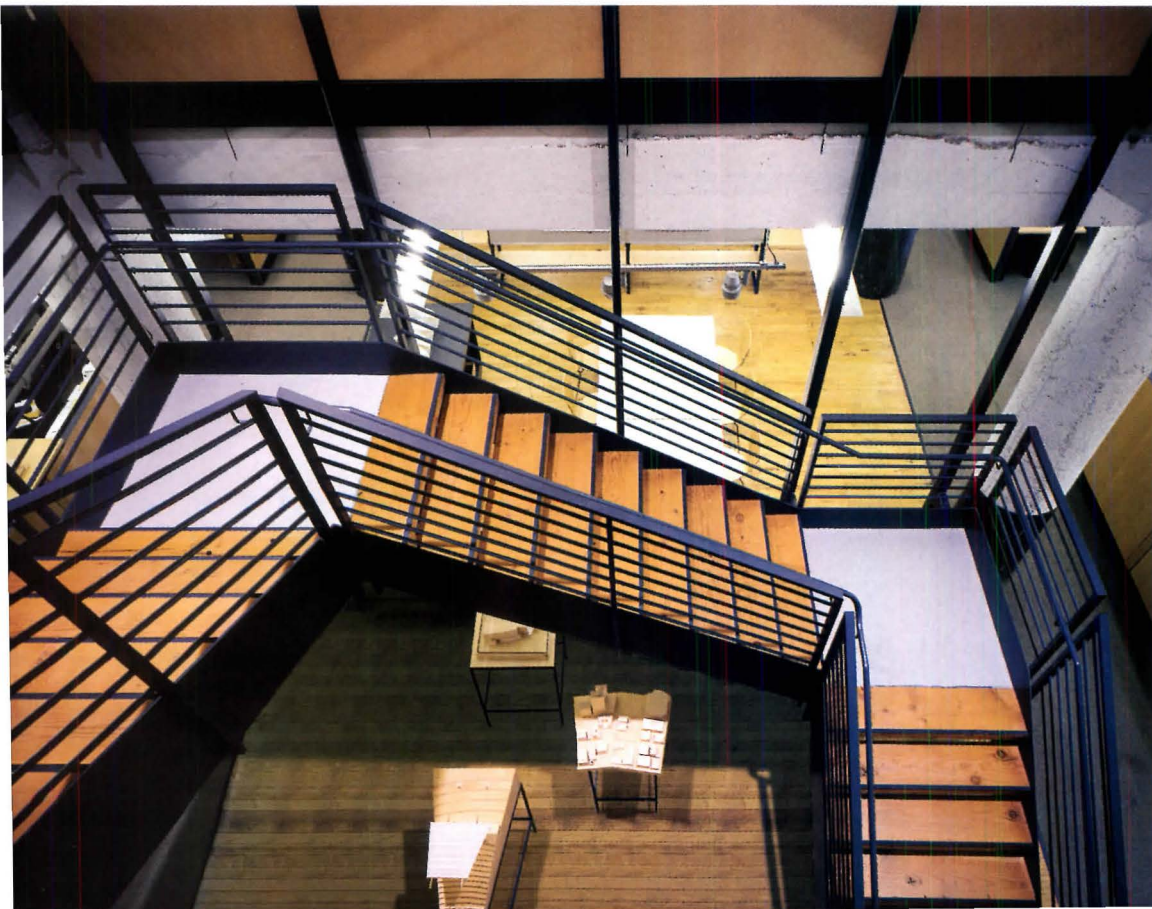
In order to group workstations within the existing space—structural columns are 3 feet wide on the first level and narrow to 1 foot 8 inches by the seventh level—the architects modified a standard Teknion workstation. Cabinetry hangs from the spine, which houses power and data cables of the demountable system.

New open stairways with black-painted steel railings connect the second and third, and the fourth and fifth, floors. The drama of open space, however, occurs on the sixth and seventh stories, the latter of which is ringed with clerestory windows. Here, HGA removed six of the ovens, leaving 40-foot-high openings on either side of the remaining oven. The oven, of tan and glazed-white brick, is currently used for storing biscuit-company artifacts.

Commentary

With its 3-foot-thick brick walls and circular form, the oven has the imposing stature of a ruin in the midst of the architectural studio. Proposed future uses for the structure vary from a billiards room to an informal meeting space. At the very least, the oven represents HGA's hands-off approach to renovating the biscuit factory.

"You are not going to see tour-de-force design here," explains Tim Carl, AIA, design partner. "Our approach was about touching the building lightly, to bring back to life a historic structure. In the process, we found some cool marriages between our functional needs and existing qualities in the building." ■



There Is No North Arrow in Outer Space

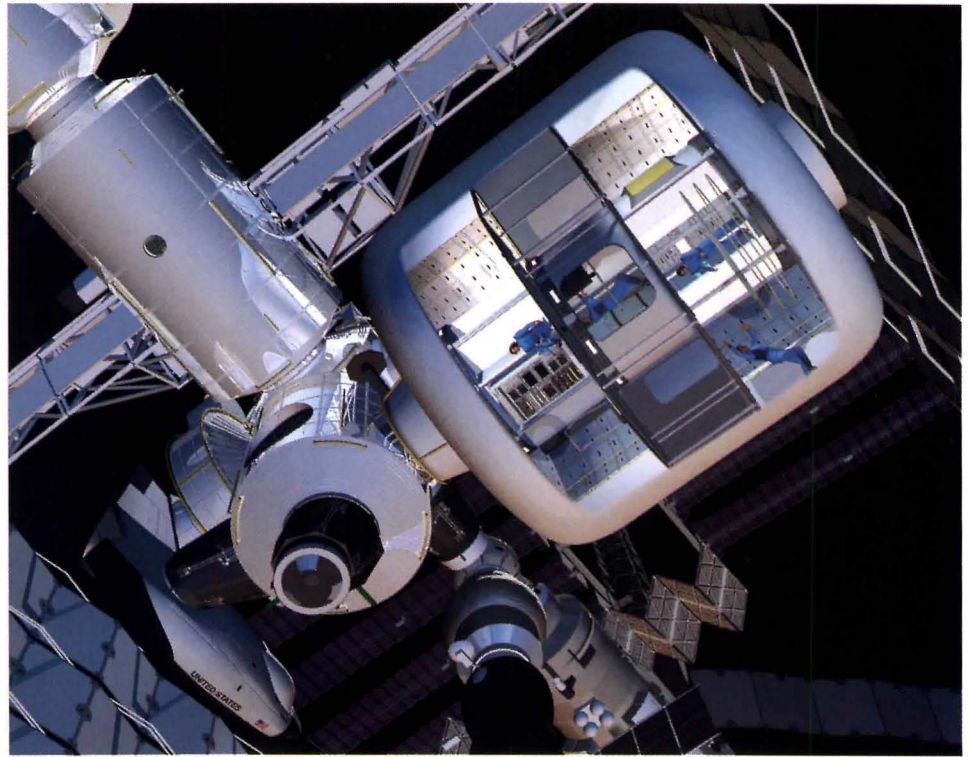
SPACE ARCHITECTURE IS ALREADY A BONA FIDE SPECIALTY WITHIN THE PROFESSION. ITS LESSONS WILL INFILTRATE THE MAINSTREAM, CHANGING THE WAY WE DESIGN, BUILD, AND ... THINK

By Sara Hart

Take away gravity, atmosphere, orientation, natural light, sound, and context, then add dangerous radiation, abrasive planetary dust, and orbital debris, and design and construction of habitable environments of any kind becomes baffling and disorienting. To be fair, living on the third rock from the sun requires that we obey the laws of physics, which govern, without exception, all the possibilities of sustaining life on Earth. Granted, since the Industrial Revolution technological advances have given us the mixed blessing of defying some of these laws. But it was the launch of Sputnik in 1957, and the fierce international competition it sparked, that inspired us to imagine living beyond the “surly bonds” of Earth and to apply our considerable ingenuity and will to make it inevitable.

Progress has been astonishing in just a few decades, as evidenced this October at the World Space Congress 2002 (WSC) in Houston. The WSC convenes only once every 10 years, but it is vast, with 20,000 participants from scores of nations. Hosted by the American Institute of Aeronautics and Astronautics (AIAA), one purpose of the nine-day Congress this year was to bring together scientists with engineers and architects to initiate collaboration for future Earth-based and interplanetary exploration.

The concept of an interdisciplinary approach to extraterrestrial design and construction prompted the AIAA Technical Subcommittee on



Proposed TransHab Module as it would be attached to the orbiting International Space Station (ISS).

Aerospace Architecture to organize the First Symposium on Space Architecture, a three-day event that preceded the WSC. Forty-seven architects, designers, and academics delivered dozens of papers covering a dizzying array of topics from the emerging aerospace curriculum for architecture students to the design of orbiting space hotels.

The symposium concluded with an all-day workshop in which participants, including students, conceived a philosophical foundation for the nascent field of space design and construction. Their product, dubbed “The Millennium Charter,” is a manifesto for space architecture. The workshop organizer, Constance Adams, space architect and human factors engineer at Lockheed Martin Space Operations, says that the group chose as its model the 1928 *Congrès Internationaux d’Architecture Moderne* (CIAM), at which an international group of architects gathered to deflect criticism by certifying a bond between modern architecture—specifically the International Style—and a world in transition.

While conceding that space architecture is a rarefied specialty within the profession, the work under way at this moment should prompt earthbound architects to think outside the ozone in several areas.

Sustainability. In space, obsolete structures will be disassembled and their components reused. On Earth, buildings are typically demolished and dispatched to landfills.

Cost. In space, the lighter and more portable the load, the more economical the launch and deployment. On Earth, lighter is more eco-

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 159 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Describe how research and innovations for outer space are currently being used in architecture.
2. Explain how sustainability and life cycle will be different for structures in outer space.
3. Identify types of construction suitable for structures in outer space.

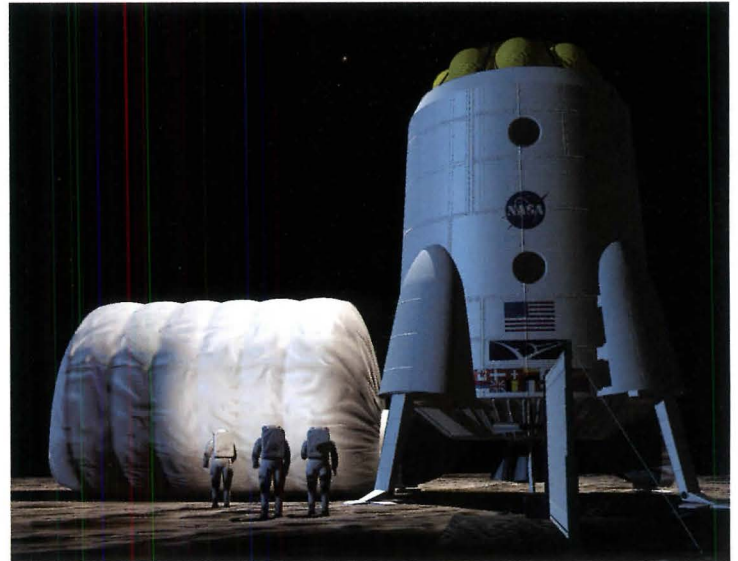
www For this story and more continuing education, as well as links to sources, white papers, and products, go to architecturalrecord.com.



TransHab Module
NASA architects and engineers designed a hybrid structure with a hard central core and an inflatable exterior shell (left). The archi-

ture is optimized for flexibility (bottom left). Level 1 contains a galley/wardroom and soft stowage. Level 2 houses the crew's quarters and water

tanks. Level 3 is for health care and soft stowage. Inflatable structures have been proposed for surface habitation on Mars and the moon (below).



nomical, but portability, whether in the form of manufactured components or prefabricated systems, remains a fledgling industry.

Life safety. In space, life safety literally means survival. Egress to the outside to escape fire or smoke is not an option. On Earth, life safety translates, in most building codes, to acceptable risk determined by a rating system for materials and assemblages.

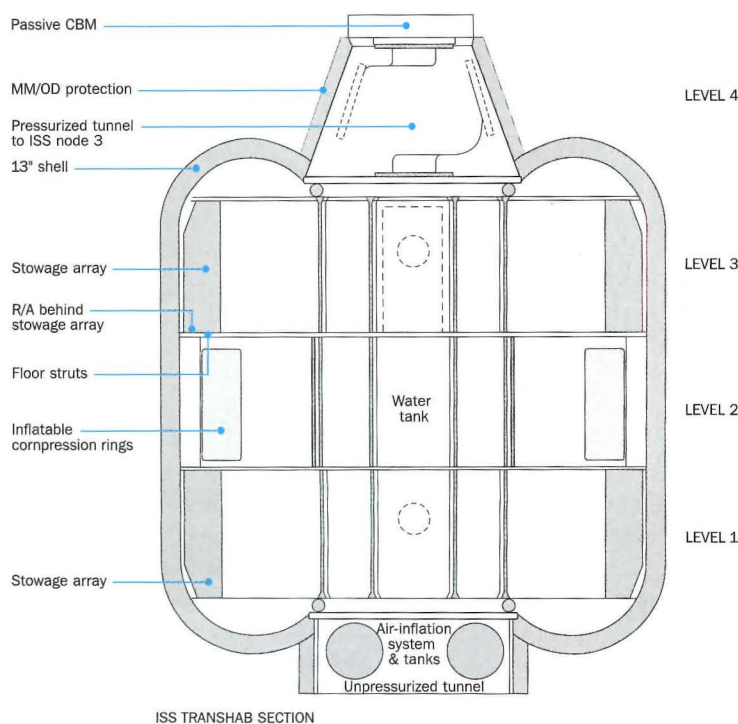
Life cycle. In space, because even routine maintenance can be logistically problematic, life-cycle issues are a major part of the design process. On Earth, besides attention to surface finishes and access to equipment, postoccupancy mitigation, as required, is the norm.

The Lego model: kit-of-parts theory

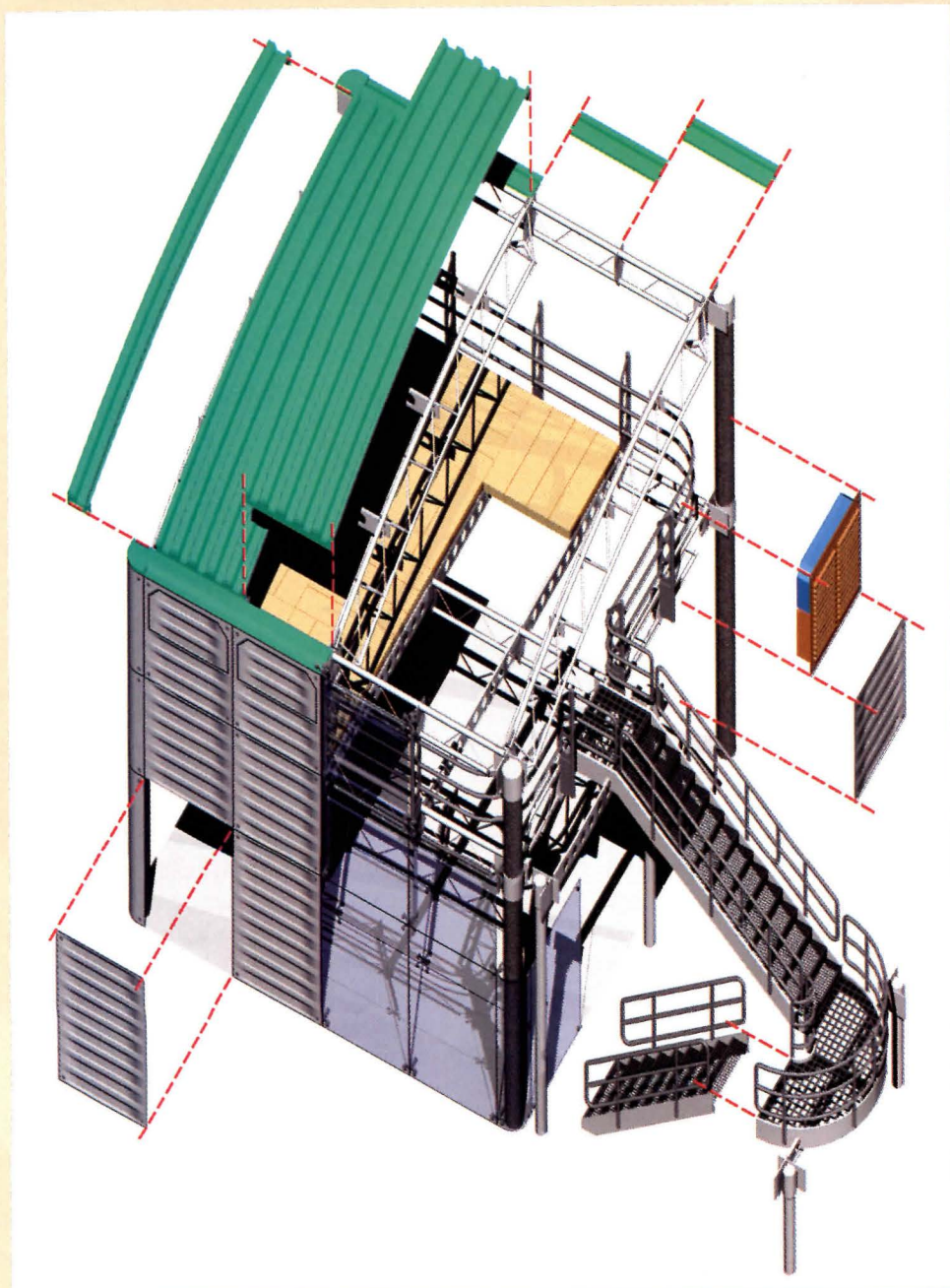
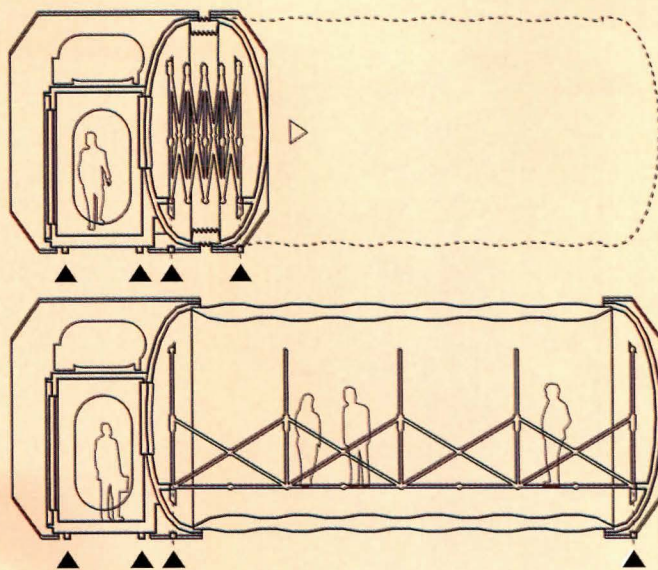
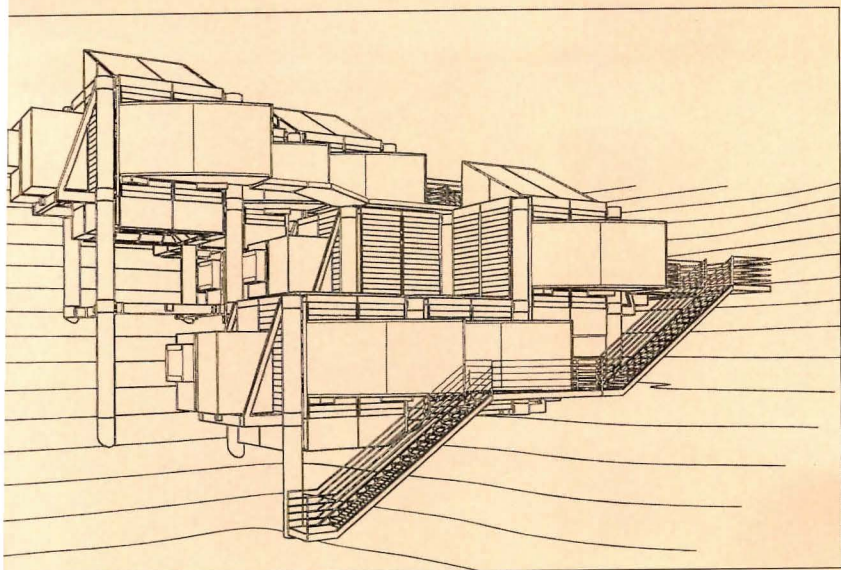
Think of an Erector Set or Lego creation as a scale model of the real thing, and you'll begin to understand the kit-of-parts theory of automated space construction. Architect Scott Howe has been developing this theory for 10 years, beginning at Kajima Corporation in Tokyo, then at the University of Oregon, and, most recently, at the University of Hong Kong. His goal is flexibility and efficiency of construction in orbital space and on planetary surfaces. Others are investigating modular construction, but Howe's research goes further to create a "kinematic architecture that includes mechanisms to construct itself or to change the configuration of the structure over its lifetime."

Nearly all buildings on Earth are erected in what Howe calls "final line" construction. Raw materials and tools are gathered on the site, and scores of laborers process the materials in a time-consuming and costly manner. This is not practical in outer space or even in extremely harsh Earth environments, such as polar regions and offshore or underwater sites.

Kit-of-parts construction is the next generation of prefabrication. Currently, most factory-made components are permanently joined on-site, which makes disassembly and reuse difficult or impossible. Howe's components have the capacity for disassembly and reuse indefinitely, and thus avoid the material degradation that is the inevitable result of recycling.



ISS TRANSHAB SECTION

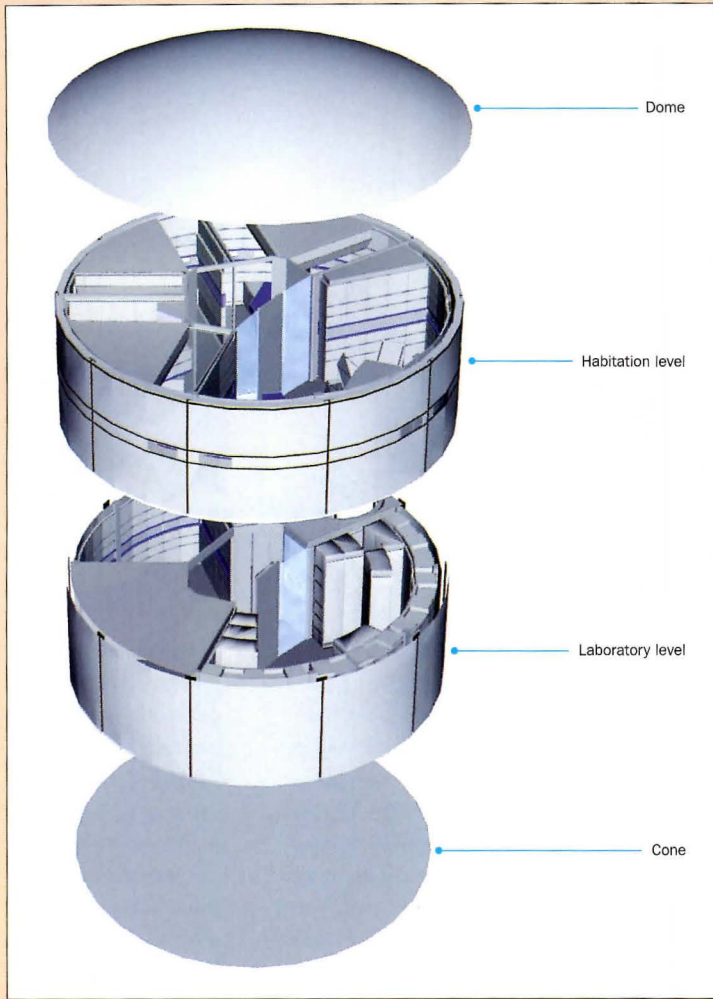


Kit-of-Parts Theory

Construction in an automated building system takes place at the assembly level, rather than the traditional raw-materials level (bottom).

Assemblies are conceived according to increment, size, or shape grammar. In 1994, a universal kit-of-parts system was proposed to solve the Mormon Church's building shortage

worldwide (above left). Power and communication lines are integrated into the joints, and assembly can be done by hand or with simple tools. The Mars Parametric Module (above) can be deployed by pulling apart two hard-shell end domes until the interior box truss snaps into place. All circulation, power, and data connections are located in the connector node.



The Munich Model
Students at the University of Munich designed a Mars Mission Habitation Module using computer

simulations, scale models, and full-scale mock-ups of sections. Light studies of crew quarters show an array of configurations. The

bed and tables are foldable for spatial flexibility. An aluminum model (right) shows connected FLOW tables inside the module.



The architect creates a parts library, which includes every major building assembly. The assemblies are conceived systematically by size or shape grammar in easily manufactured components. Standard connections are carefully designed to allow for the maximum number of configurations. This approach produces object-oriented building techniques, which Howe categorizes as four construction systems: joint-based, panel-based, module-based, and deployable.

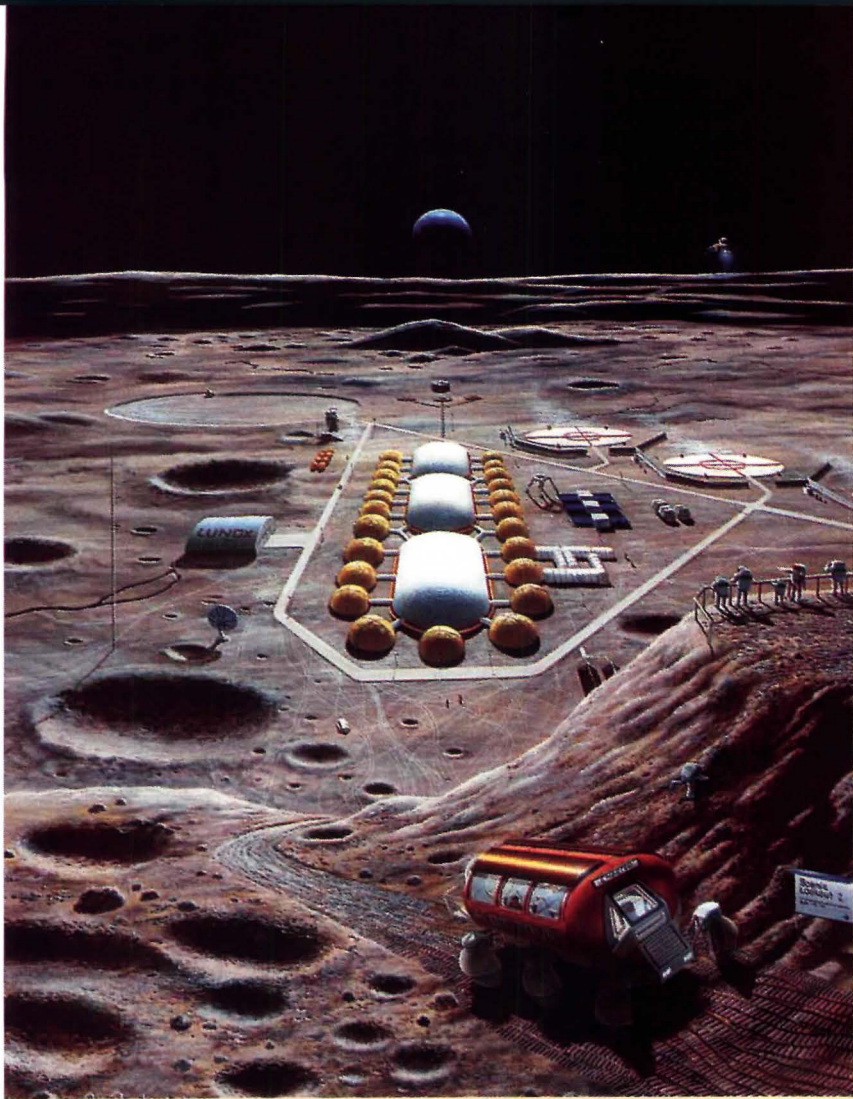
Joint-based emphasizes design of connections in order to speed erection time. High-end panel-based systems are one-piece wall or floor assemblies that have specially designed fasteners along the edges to make connections fast and easy. Since the panels act as both structure and cladding, gaskets and weatherproofing devices are built-in. Whereas weatherproofing is a priority in Earth-based design and construction, in space, its performance is critical to survival. Howe singles out Norman Foster's 1983 Renault Distribution Center as a brilliant example of a joint-based/panel-based hybrid. Designed for future expansion, the warehouse is made of linear members designed to optimize tension and compression forces. Panel-based cladding is set away from the structure with simple, single-point mounting hardware.

Perhaps the category *familiar to most* is the deployable system.

This system consists of folding trusses, swing-open modules, and inflatable structures. Their advantage lies in the fact that they are compact, lightweight, and can be collapsed or expanded as program needs change. The Transit Habitat Module (TransHab), designed by NASA for the International Space Station (ISS), is an excellent example of a deployable structure.

Whereas research will eventually deliver the total construction automation that Howe and his colleagues are developing, current construction methods rely on incremental improvements in which new automation tools and techniques are applied to traditional construction methods. According to Howe, there are three main areas in which automated construction systems have been fully implemented, although they do not yet represent a major change in the construction industry.

The first group consists of function-specific robots that are used on manned construction sites where repetition, labor, or safety concerns justify their use. The second group includes a stationary on-site factory that delivers prefabricated building components to a robotic system, which assembles one floor at a time. The floors are jacked up into place, beginning with the top floor and moving down. In the third category, a building's structural core is built conventionally to the height of a few



Architecture Tomorrow

Based on lessons learned from the Apollo Lunar Module, designers have been developing groundbreaking pressurized vessels for the Moon and Mars, including prefabricated inflatable

structures (above) and large planetary bases (left) assembled or constructed in-situ. Smart structures will detect, analyze, and repair any structural failures. Design solutions will include new lightweight and high-strength materials.

stories. A platform the size of the designed floor plate is constructed on top of the core. Here, a factory is established that first assembles the entire ground floor and then jacks itself up from the core to complete the next level, and so on. Automated lifts within the core deliver prefabricated components to the platform factory. When the building is topped out, the factory is disassembled and removed.

In the meantime, with automation gaining ground, the earth-bound architect who has mastered the principles of statics in order to design a building that will stand up will soon need to have a basic knowledge of kinematic principles in order to design to the complex behavior of robotics, placement and performance of sensors and actuators, and their integration into building components. Finally, Howe highly recommends that any architect who is serious about design with a robust, flexible kit of parts, should study the Lego system, especially the Mindstorms and Technic series with robotic capabilities.

The kit-of-parts theory was instrumental in the design and deployment of the ISS. Kriss Kennedy is a space architect at NASA's Johnson Space Center in Houston. He was architect and systems engineering and integration lead for the design of TransHab, which was originally conceived to be a vehicle to transport people to and from Mars, but most recently was

developed as a habitation module for the ISS, which has been in orbit, 220 nautical miles above Earth, with rotating crews since 2000.

The design team sought an alternative to traditional aluminum-shell architecture and developed TransHab as a hybrid structure—an inflatable fabric shell with a hard central structural core. (NASA has experimented with tensile fabric structures since the 1960s and has successfully tested several fabric structures. But when the textile industry came up with durable products such as Kevlar, Vectran, and Polybenzoxazole [POB], NASA's investigations intensified.)

According to Kennedy, "The spacecraft represents breakthroughs in the design of flexible, high-load, composite structures in the development of an optimized, independent pressure shell (using breakthroughs in inflatable and shielding technologies), and in the application of both systems in a single, reconfigurable habitat." In essence, the result has all the packaging efficiencies of an inflatable structure with the advantages of a hard, load-bearing core, or, in other words, a reversal of the common exoskeleton structure to a more flexible endoskeleton one.

The hard core is designed for ultimate flexibility. It bears the shear loading at launch. According to Kennedy, once in orbit, the core can be reduced to a tensile stabilizer by removing the internal trusswork

and using the truss components as interior framing and outfitting elements. The truss is made of modular, graphite-composite shelf units with universal attachments so the entire system can be reconfigured for different functions.

The inflatable shell is a spectacular innovation. Created out of about two dozen layers, it is folded and compressed around the core at launch and inflated and deployed in orbit. The layers fall into four types. The innermost layer is made of Nomex, a fireproof material that also acts as a scuff and scratch barrier. Air is contained by three pressure bladders made of Combitherm, a material used in the food-packing industry. A structural restraint layer of woven Kevlar maintains the module's shape. Successive layers of Nextel (commonly used as insulation under car hoods) and open cell foam make up an orbital debris shield. Space debris and small meteorites shatter when they hit the shield, losing energy as they penetrate the layers. Finally, an external thermal-protection blanket insulates the module from temperatures that can range from 250 degrees Fahrenheit in the sun to minus 200 degrees in the shade.

Kennedy learned that the key to the successful application of unproven technologies rests squarely on what is often called the "spiral approach" to engineering. Great technical and managerial benefits come to those who "build a little and then test, evaluate, and learn. Incorporate what you learn as the design matures." With successful hypervelocity-impact testing and other shell development tests, TransHab proved to meet or exceed all the requirements for application in space. Although the U.S. Congress cancelled the project, lessons learned from TransHab are invaluable, especially the innovative endoskeletal technology, which will have many applications on Earth.

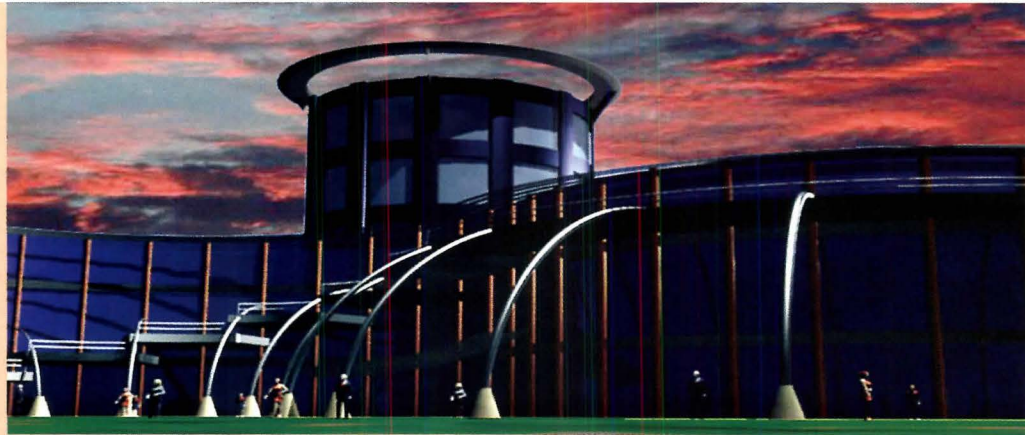
Education: learning by doing

As shown by the complexity of the research projects viewed here, it's obvious that tomorrow's space architect will be a specialist with extensive interdisciplinary knowledge and skills, an inevitability not lost on the symposium participants. As Constance Adams, workshop leader, stressed in her preamble to the Millennium Charter, space architecture expands the role of terrestrial architects. "Design for space requires specialized knowledge of orbital mechanics, propulsion, weightlessness, hard vacuum, and the psychology of hermetic environments," she says, as well as tertiary understanding of medicine, law, and transportation design, to name a few. Because those who teach are often space architects themselves—the "learning by doing" approach so crucial in both commercial and federally sponsored space research—students are indoctrinated with the "hands-on" methodology of learning.

The Sasakawa International Center for Space Architecture (SICSA) is a research, design, and teaching component with the University of Houston's Gerald D. Hines College of Architecture. Besides offering programs to advance space technologies, SICSA pursues planning and design for difficult and extreme environments on Earth. Students benefit from proximity to the Johnson Space Center, local aerospace companies, research institutions, and other commercial technology companies in the area.

Professor Larry Bell, director of SICSA, describes the center's mission as twofold. The lessons from the classroom concentrate on Earth challenges: energy conservation, materials science, construction systems, and human performance in extreme environments. Upper-level undergraduates pursue Earth-based projects that pose special technical and

Texas Spaceport
The Sasakawa International Center for Space Architecture (SICSA) at the University of Houston is providing design support for a commercial spaceport in Texas. Schematics show several proposed facilities, including operations



and control (above), security (below), and servicing (right). The spaceport will support

the operation of advanced reusable launch vehicles for commercial exploration.



environmental challenges and emphasize practical, yet innovative, solutions. Graduate students can specialize in space architecture within the master of architecture program. SICSA maintains a Closed Environment Laboratory, the size of a habitable space station. Students study relationships between physical design features and the abilities of inhabitants to adapt and perform on Antarctic bases, offshore and underwater habitats, and housing for people displaced by natural or man-made disasters.

The second initiative is commercial. SICSA is providing master planning and design support to support the Texas Aerospace Commission to promote the development of a commercial spaceport in Texas. The theory is that advances in propulsion systems and reusable launch vehicles will reduce the costs of space exploration. Conceptualization of a broad, integrated infrastructure of facilities is under way.

One need not live in the shadow of NASA to study space architecture. In 1998, two programs in space architecture were created at the Institute for Architecture and Product Development at the University of Technology Munich. The first, led by British architect Richard Horden, studied the microgravity (weightlessness) environment by making proposals for the ISS Habitation Module, which ended in building and testing prototypes for microgravity furniture. The other studied a surface habitat for the NASA Mars Reference Mission. Professor Andreas Vogler described these programs as the initial step toward developing a curriculum for space architecture within the standard architecture curriculum. "Modern architecture and product development mean problem solving not only in complex technical systems but also in complex working environments," explains Vogler. "Dealing with complex systems on both the technical and logistic side is inherent to the profession."

In short, "The Munich Model," as described by Vogler, concentrates on systems thinking to produce technical feasibility and achieves this through a "learning by doing" approach, which, in turn, requires access to resources outside the university, from government agencies and private industry.

The goal of the ISS Habitation Module was "to design technically viable proposals for all living functions on the ISS," explains Vogler. Through videoconferencing with NASA, students learned about how astronauts move in microgravity and handle objects. And with the help of the Munich aerospace company Kayser-Threde, students built models at 1:6 scale using a puppet to simulate ingress, egress, and reach.

After three months of design, the students traveled to the Johnson Space Center in Houston and presented their proposals. Impressed, NASA officials offered to test their designs on the KC-135 (a turbojet transport that flies parabolic arcs to produce weightless periods of 20 to 25 seconds), provided the students could build a prototype of their Flexible On-Orbit Workstation (FLOW) with integrated seat restraint and space shower—in four months. As the students found out, learning by doing is a long leap from investigations with computers or scale models. They raised money, lured local aerospace experts into service, and made the prototypes that they successfully tested on the KC-135.

If the intellectual rigor exhibited at the Houston symposium is any indication, the space architect will be this century's version of the Renaissance's artist-cum-scientist. There is much to be imagined, discovered, and invented. The work shown here represents a small percentage of the effort going on all over the world. More will be revealed on the ARCHITECTURAL RECORD Web site. ■



**AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION**

INSTRUCTIONS

- ◆ Read the article "There Is No North Arrow in Outer Space" using the learning objectives provided.
- ◆ Complete the questions below, then fill in your answers (page 240).
- ◆ Fill out and submit the AIA/CES education reporting form (page 240) or download the form at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. Which is not currently used in "final line" construction?
 - a. raw materials are gathered on the site
 - b. laborers process materials in a time-consuming manner
 - c. components are permanently joined on-site
 - d. components have the capacity for reuse indefinitely
2. Which is not part of the kit-of-parts theory of automated space construction?
 - a. efficiency of construction
 - b. components are permanently joined on-site
 - c. components are prefabricated
 - d. connections are designed for many configurations
3. Joint-based construction emphasizes which of the following?
 - a. flexible joints
 - b. connections designed for maximum configurations
 - c. connections designed to speed erection time
 - d. weatherproofed joints
4. The advantages of deployable systems include all except which?
 - a. they are compact
 - b. they are lightweight
 - c. they can change as the program requires
 - d. they are reusable
5. Where are function-specific robots used?
 - a. where there is little oxygen
 - b. where repetition is needed
 - c. where people cannot go
 - d. where the weather is extreme
6. A stationary on-site factory does which?
 - a. delivers building components to laborers
 - b. delivers prefabricated components to a robotic system
 - c. assembles floors from the ground floor up
 - d. builds a structural core
7. The hybrid structure of TransHab uses which type of structure?
 - a. endoskeleton structure
 - b. exoskeleton structure
 - c. inflatable structure
 - d. aluminum-shell structure
8. Which is an advantage of the hard core of TransHab?
 - a. it becomes inflated after launch
 - b. it helps to steer the load at launch
 - c. the core can be reconfigured after launch
 - d. it aids in centrifugal rotation after launch
9. TransHab's shell consists of all except which in its layers?
 - a. Nomex
 - b. air
 - c. Kevlar
 - d. hydrogen
10. Which describes the difference between sustainability on Earth and sustainability in outer space?
 - a. on Earth, lighter is more economical
 - b. in space, life safety literally means survival
 - c. on Earth, postoccupancy mitigation is normal
 - d. on Earth, buildings are typically demolished and discarded in landfills



WHERE WE STAND

AIA Third Quarter Financial Results

To AIA members,

As we approach the end of 2002, we look forward to achieving the Board's financial goal of \$3.5 million in net assets a full year in advance of our three-year target. Here are the highlights of the financial results for the third quarter of this year.

Total Net Income Stronger Than Forecast

Total revenue through September is under plan by \$506,000 as a result of lower than expected income from meetings. However, total expenses for the first nine months of 2002 are under plan as well, by \$779,000, due to a reduction in overall meeting expenses and lower than expected health care claims. The result is that total net income for the first three quarters of 2002 stands at \$6.8 million, 5.1 percent ahead of budget goal.

Approaching A Turning Point

Continued fiscal diligence will pay off in greater value to our 70,000 members in 2003. Our national component staff, enabled by recent administrative realignment, will be prepared for greater focus on members' needs and goals. More management energy will be available to work on the strategic tasks of making the national component a better partner to state and local

components and representing the profession to the industry and marketplace. As we approach the end of this third consecutive year of fiscal stability and asset growth, I want to thank you for your patience and as always, I welcome your comments.

Sincerely,

Norman L. Koonce, FAIA

Executive Vice President/Chief Executive Officer

AIA Financial Results September 2002 (\$000's)

	YTD September Budget	YTD September Actual
Revenue	\$33,285	\$32,779
Operating Expense	(26,710)	(25,931)
Operating Net Income	6,575	6,848
Non-Operating Income	154	142
Unrestricted Net Income	6,729	6,990
Restricted Expense	(205)	(136)
Total Net Income	\$6,524	\$6,854



THE AMERICAN INSTITUTE OF ARCHITECTS



Courtesy of Armstrong World Industries, Inc., Lancaster, Pa.



Courtesy of Mannington Commercial, Calloun, Ga.



Courtesy of York Wallcoverings, York, Pa.

Courtesy of York Wallcoverings, York, Pa.

THE VINYL INSTITUTE PRESENTS

VINYL BY DESIGN: Creating Interior Spaces That Stand the Test of Time

Increasingly, CEOs and company leaders are recognizing the importance of good building design as a strategic element in their businesses – something designers and architects have long appreciated. The creation of a well-designed, successful interior space is dependent upon the use of appropriate materials, with a full understanding of how those materials will perform once put into service.

AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series

Use the learning objectives below to focus your study as you read **VINYL BY DESIGN: Creating Interior Spaces That Stand the Test of Time**. To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 165, then follow the reporting instructions on page 240 or go to the Continuing Education section on www.architecturalrecord.com and follow the reporting instructions.

Learning Objectives

- Understand the performance attributes of vinyl interior products and standards applicable to ensure performance
- Manage design liability by correctly specifying vinyl flooring and wallcoverings
- See how the history and invention of new materials led to the use of vinyl flooring and wallcoverings today.

Vinyl, used as an interior material, combines aspects of traditional materials with advanced technologies and ongoing innovation that give it versatility, durability and beauty in many applications. As with products of any material, client satisfaction with the selection of vinyl products requires knowledge of the characteristics that can deliver particular

performance attributes, but also proper specification and a commitment to ensuring that qualified installers deliver the workmanship on which that performance depends.

This continuing education section examines two applications in which vinyl can be an appropriate design solution for interior spaces – flooring and wallcovering. Discussion of each vinyl application offers guidance on design and specification that can help to ensure the product performs as expected while protecting design intent and reducing exposure to design liability.

VINYL FLOORING

Vinyl flooring is in a category frequently referred to as “resilient” because it characteristically “bounces back” from the weight of objects that compress its surface. While vinyl flooring is available for residential applications, this article primarily addresses the two basic types of commercial flooring: sheet vinyl flooring and tile, either solid vinyl or vinyl composition tile (VCT).

Every flooring formulation is different and most are proprietary. In general, vinyl flooring is made of vinyl resin and additives, including plasticizers, used to soften the vinyl and provide flexibility; stabilizers, which minimize degradation and discoloration from heat and light; pigments; and fillers such as limestone and clay.

Performance Characteristics

A floor’s durability is rated against a number of standards related to traffic wear. These standards measure such criteria as resistance to abrasion, gouging, punctures, cuts and impacts; how dynamic and static loads affect the life of the

floor; how color is affected by heat and light exposure; and resistance to chemical exposure.

Because each type of vinyl flooring has its own performance characteristics and benefits, demands of the location will dictate which type to specify. Sheet flooring is widely regarded as the easiest to clean and, because its seams can be heat-welded, is appropriate in areas that must be kept sterile. [See ASTM F1516-94, "Standard Practice for Sealing Seams of Resilient Flooring Products by the Heat Weld Method (when Recommended)"].

Specialized types of vinyl flooring also can solve specific design problems – such as slip-resistance in a ramped corridor, or static dissipation where sensitive electronic equipment is in use. Check with the manufacturer to address performance demands for locations where the floor will be subjected to heavy rolling loads, such as wheeled carts, gurneys or dollies, or where heavy stationary objects such as furniture and equipment will remain on the floor in a fixed position for a long time. Manufacturers can provide standard test results measuring the load limit to which their products can be subjected for an extended period of time with no permanent indentation after the load is removed.

Substrate Preparation

Vinyl flooring can be installed over many different surfaces, including concrete, wood, terrazzo and, in some cases, existing vinyl floors. The quality and preparation of the substrate are critical to a successful installation. The substrate must provide a smooth surface and all finishes, waxes and surface contamination must be removed to ensure that the new floor adheres properly. In some cases, a specific substrate such as concrete is necessary to provide a suitable surface.

Flooring failures in many instances are caused by moisture emitted from the substrate. If moisture migration is not dealt with, it can result in deterioration of the flooring adhesive; bumps, ridges or bubbles under the flooring; color changes; peaking, curling or warping of flooring; and mineral salt build-up. Check with the flooring manufacturer to determine which moisture test should be specified before installation, based on the substrate. For installation on a concrete subfloor, the calcium chloride moisture test (ASTM F1869-98 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride") is recommended.

Moisture Control

Even if new concrete is allowed to cure and dry to the point where flooring can properly be installed, the absence or improper installation of a vapor retarder under the floor slab can lead to expensive failures later. Research into moisture-related flooring failures has shown a high correlation between the severity of the failure and the absence of a vapor retarder. A vapor retarder controls condensation and limits the migration of water vapor through the floor. Careful placement and sealing of vapor retarder materials is essential to ensure effective moisture control. Special care must be taken not to perforate the membrane, as this will limit its effectiveness and can result in failure at the time of installation.

Adhesion

In general, vinyl flooring should be installed at a room temperature of not less than 65 F (18.3 C) and no greater than 85 F (29.4 C). This temperature should be maintained for at least 48 hours previous to installation, during installation and 48 hours after installation or until the flooring has become thoroughly bonded to the subfloor. Vinyl tiles should be brought to room temperature prior to installation. In cold weather conditions, flooring should be stored in a warm room for at least 48 hours before installation.

In addition, the room should be well ventilated.

After installation of both tile and sheet, rolling loads and heavy foot traffic should be avoided until the adhesive sets hard, approximately 48 hours. Plywood or hardboard panels should be used when moving furniture, appliances or equipment onto a recently installed vinyl floor. Rests, glides or casters are recommended for permanent use under heavy furniture and equipment.

Slip Resistance

Specifying the appropriate floor surface can play a significant role in preventing slips and falls, which can result in severe injuries, workers' compensation claims, lost productivity and lawsuits.

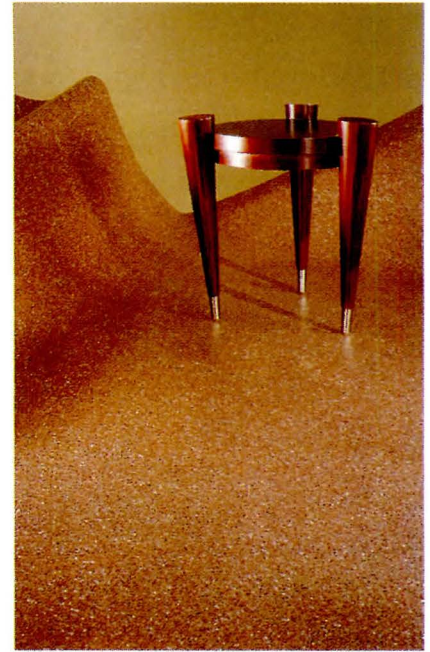
The slip resistance of a floor's surface is measured by its Static Coefficient of Friction (SCOF); i.e., the higher the SCOF, the less slippery the surface. However, floors with a very high SCOF may cause tripping. Friction is the resisting force between two surfaces rubbing against each other, and the coefficient of friction is the ratio of the limiting friction to the normal reaction between the sliding surfaces. The coefficient of friction is constant for a given pair of surfaces. Too little friction can cause a person to lose "grip," become off-balance and fall.

The Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities, recommends a SCOF of not less than 0.6 for level surfaces and 0.8 for ramped surfaces. These are advisory, not mandatory, recommendations and do not specify a test methodology. (Source: Section 09651 – "Resilient Floor Tile," and Section 09652 – "Sheet Vinyl Floor Coverings," Evaluation Sheets, supporting documents for AIA's MASTERSPEC®, published by ARCOM.) In part, this is because of disagreement about the repeatability or reproducibility of test results, which has led to questions about the significance of SCOF test results, particularly under wet conditions.

Manufacturers recommend flooring with enhanced slip resistance for areas such as ramps, shower and locker rooms, as well as areas with high humidity. These products are available in both sheet and tile, with abrasives in the material or a raised profile. While flooring with a raised profile is appropriate in high traffic areas where enhanced slip resistance is needed, it is potentially more difficult to clean than smooth surfaces and not ideal for areas requiring infection control. Check with the manufacturer for the product best suited to the specific demands.

Maintenance to Prevent Slips and Falls

Building owners should be made aware that vinyl flooring, like other types of smooth floors, can become slippery when wet. Thus it is important to maintain vinyl floors in a clean and dry condition. After washing, vinyl floors should be allowed to dry thoroughly and any wet areas from spills, foreign substances or tracked-in moisture should be wiped up immediately.



Vinyl sheet flooring products such as Mannington Assurance provide a wear surface that helps prevent slips and falls. (Photo courtesy of Mannington Commercial, Calhoun, Ga.)

In addition, it is important that the owner protect the floor from certain foreign materials that, when spilled, can make the flooring more slippery. Specifiers can address some of these concerns by providing detailed recommendations for appropriate maintenance in the Owner's and Maintenance Manual. For example, furniture polishes containing silicone can cause slippery conditions when they come in contact with a vinyl floor, so it is important to protect the floor if these products are used. Mop treatments with petroleum solvents or silicone compounds should be avoided as they, too, can cause slippery conditions. Check with the manufacturer for more details for specific vinyl flooring products.

Stain/Chemical Resistance

All commercial resilient floors require continuing maintenance. Before specifying the flooring material, consider what types of substances might come in contact with the floor.

Vinyl is generally resistant to alkalis, acids, alcohols, oils, greases and aliphatic hydrocarbons. It can be softened by ketones, esters, and chlorinated and aromatic hydrocarbons. Some rubber materials, such as rug backings and car tires, can cause staining. Manufacturers can provide test results for a variety of chemicals and reagents on individual product lines. In general, be sure the building owner is well-informed about floor use and maintenance issues.

WALLCOVERING

Contract – or commercial – wallcoverings are produced specifically for use in hospitality and healthcare, schools and institutional settings, apartment and office buildings, and retail establishments. Federal guidelines (see Technical Assistance sidebar) have been established for flammability, tear strength, abrasion resistance, washability, scrubability and stain resistance. While the decorative surface draws the most attention, the total composition of the substrate, including the backing, determines how well the wallcovering will perform in such critical areas as strength, durability and cleanability.

Categories

Most contract wallcoverings on the market today are fabric-backed vinyl wallcoverings, which have a woven fabric or a non-woven synthetic substrate laminated to a solid vinyl decorative surface.

Fabric-backed vinyls are available in three weights, as described in federal specifications (FS CCC-W-408D, Wallcovering Vinyl-Coated) and in standards established by the Chemical Fabrics and Film Association, Inc. (CFFA), Specification 101D:

- **Type I, Light Duty:** For areas subject to minimal scuffing and abrasion, such as above chair rails in hotel guest rooms and office buildings.
- **Type II, Medium Duty:** For areas where traffic and scuffing are major issues, such as foyers, lounges, corridors and classrooms.
- **Type III, Heavy Duty:** Primarily used as lower wall protection for areas exposed to heavy traffic by movable equipment or rough abrasion, such as hospital corridors, storage and utility rooms, food service areas and elevator lobbies.

For added protection, complete wall systems are recommended, including chair rails, bumper guards, crash rails, rigid wall panel protection and corner guards.

Surface Preparation

The Wallcoverings Association estimates that more than 90 percent of wallcovering failures are due to poor surface preparation. With proper preparation, contract wallcovering can be successfully installed on nearly any



Wall protection systems such as Koroseal® Traffic Patterns protect walls in areas exposed to heavy traffic, where marring and scuffing are a problem. (Photo courtesy of RJF International Corporation)

type of wall surface, including drywall, plaster, paint, masonry, paneling, and walls where old wallcovering has been removed.

The wall surface must be clean, dry and structurally sound. Any irregularities should be repaired and stains removed that might bleed through. Loose paint also must be removed and glossy or semi-gloss paint sanded to a dull finish. In addition, the wall must be dry and any source of moisture that may promote mold or mildew growth must be eliminated. To ensure that the adhesives will adhere properly, most surfaces require a primer/sealer – usually a water-based acrylic product specifically designed as a primer for wallcovering.

Adhesion

Selection of the appropriate adhesive for a commercial installation will depend on the weight and backing of the wallcovering and the surface to which it will be applied. Some of the most popular are premixed vinyl adhesives, either clear or clay-based. Specialty adhesives are needed when vinyl is applied over vinyl, such as when a border is pasted over wallcovering.

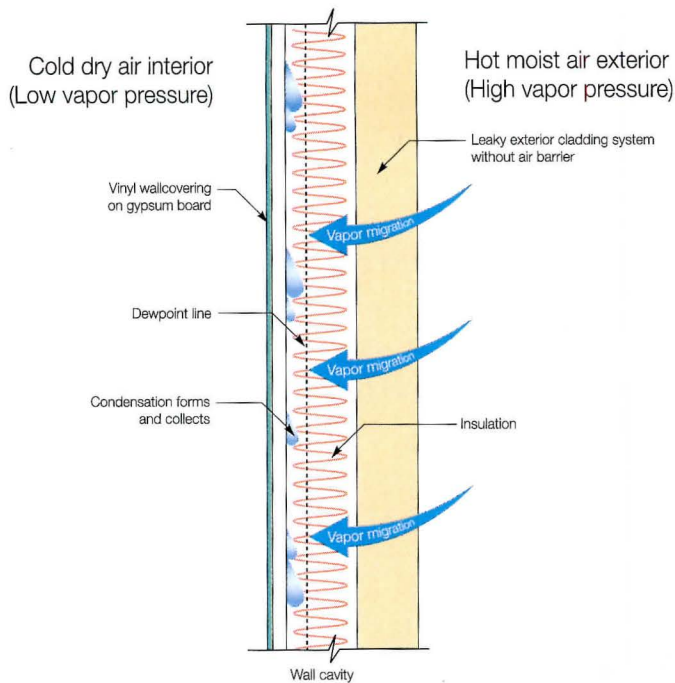
Indoor Air Quality

In recent years, one of the most significant issues for interior product specification has been the quality of the indoor air. Because vinyl wallcoverings are so easy to clean, they make it easy to remove sources of known allergens, thereby improving indoor air quality.

Like many interior products, vinyl wallcoverings may have an initial odor when newly installed. This odor results from adhesives, printing inks and additives that give the vinyl its particular performance attributes.

Often, complaints from building occupants about irritation and odor are associated with volatile organic compounds (VOCs). These compounds can originate from many sources, including cleaning solutions and interior materials. To reduce exposure to VOCs, check with the manufacturer for low-emitting and low-odor products.

Good ventilation is also critical for good indoor air quality. Ventilating with up to 100 percent outside air can reduce the initial period of emissions. Information on “airing out” times published in the product literature should always be observed. Tests by independent laboratories have shown that, with adequate ventilation, the initial odor in vinyl wallcoverings will dissipate much faster than the odors of most paints.



Condensation behind vinyl wallcovering in hot humid climates is caused by design details and construction which leak moist air and water. Design and specify tight construction and use an air barrier where appropriate. Consider the use of perforated vinyls. The objective is to keep warm, moist air from reaching the back side of the cold wallcovering, avoiding condensation and possible mold and mildew growth.

Mold and Mildew

Mold and mildew are forms of fungus that can grow anywhere the conditions are right – i.e., spores, moisture, warmth and a food source must all be present. Where vinyl wallcovering is used, care should be taken to prevent condensation from occurring inside exterior walls.

If a vapor retarder is not present, condensation can occur within the wall whenever warm moist air contacts a surface or temperature zone cooler than the dew point of the air – as might be expected on the cold surface of wallboard in an air-conditioned building in a hot, humid climate. Because mold, mildew and other common types of fungus thrive in damp, dark, poorly ventilated places, they can grow behind any wallcovering – including vinyl, a non-porous material. In effect, moisture is trapped inside the wall cavity, where spores can feed on the paper-faced gypsum board or even the wallcovering adhesive. It is important to note that the problem is caused by moisture, not the vinyl wallcovering.

One way manufacturers of vinyl wallcoverings have addressed moisture-inherent areas is with “microvented” products that allow moisture trapped behind a covered surface to escape into the room. (Many vinyl wallcoverings can be microvented after manufacture, but extra time must be allowed for this additional process.) Mildew-resistant adhesives also help protect against the growth of mold and mildew. In all cases, the cause of the moisture must be identified and remediated or removed.

Specifiers who are concerned about the use of vinyl on exterior walls where condensation may be an issue should contact the wallcovering manufacturer.

Fire Performance

To provide building occupants with time to escape in case of a fire, building codes and other regulations set standards for combustibility and surface burning characteristics of building materials. Several independent third-party testing laboratories classify vinyl wallcoverings based on flame spread and

smoke developed in fire testing. These fire performance classifications are based on ASTM E84, “Standard Test Method for Surface Burning Characteristics of Building Materials,” using the Steiner tunnel test methodology, or NFPA 286, “Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Wall and Ceiling Interior Finish,” using the corner burn test.

Most vinyl wallcoverings meet “Class A” standards – the highest standard – meaning they can safely be specified throughout the building’s interior, including in corridors and areas near exits. (Standards set by CFFA W-101-D describe Class A as having a flame spread index of 0-25 inclusive and smoke development of 0-50 inclusive. Class B has a flame spread index of 26-75 inclusive and smoke development of 0-100 inclusive, based on the ASTM E84 test method.) Materials that meet the requirements of NFPA 101®-Life Safety Code®, Section 10.2.3.5.3, when tested under NFPA 286, are exempt.

Flexible vinyl building products are produced from an inherently fire-resistant polymer and many include additives to further improve their fire performance. In general, vinyl wallcovering is slow to catch fire, its flame spread is slow and it ceases to burn after the flame source is removed.

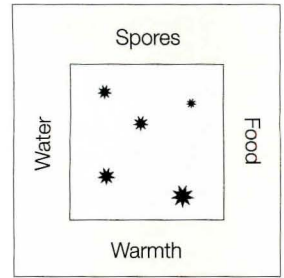
The growing presence of synthetic materials – including vinyl wallcoverings – has sometimes incorrectly been blamed for creating a more lethal fire environment. In actuality, the U.S. fire death rate has steadily decreased since the time when most construction and decorative products were made of “natural” materials. The dramatic decrease in fire deaths over the last several decades is attributable to improved fire codes, better fire suppression systems and the increased use of fire-resistant materials like vinyl. The combustion by-products of vinyl are no more hazardous than those of other commonly used building materials.

However, applying new vinyl wallcovering over existing vinyl wallcovering diminishes overall fire performance by increasing the fuel load in the event of a fire. Manufacturers recommend removal of existing wallcoverings prior to installing new ones in order to meet fire performance standards. In addition, this helps ensure an overall successful installation with proper adhesion and no translation of old materials through the new.

SUMMARY

Managing design liability, avoiding risk and providing successful buildings are founded upon a conscious awareness of many important details. A key component of a designer’s professionalism is understanding potential problems before they occur and proactively specifying the solutions to them.

Familiarity with the inherent characteristics of any building material, along with the performance capabilities of specifiable products made with that material, aids in this process. Documenting the selection of a product in the project specifications should take this understanding into account. Knowing the important role of proper product installation – and, where necessary, calling upon the expertise of product manufacturers – should not be underestimated. Each part of the process has a major impact on whether the interior spaces delivered to a building owner provide lasting gratification, value, user satisfaction and recognition of the design professional’s strategic importance to the project’s overall success. ■



All four elements are necessary for mold and mildew to proliferate. (Courtesy of CFFA)

TECHNICAL ASSISTANCE

Technical assistance on vinyl flooring and wallcovering is available from the following resources:

All Interior Applications

- The **Vinyl Institute's** electronic binder on all vinyl building products, including flooring and wallcovering – **Vinyl By Design™**: An Information Resource for Building Design Professionals – is at www.vinylbydesign.com. Product manufacturers are included.
- For the full text of individual **ASTM** standards, go to the **ASTM Store** at www.astm.org.
- For **NFPA International's** Life Safety Code Handbook and NFPA 286, visit www.nfpa.org.

Flooring

For information about vinyl flooring, visit the **Resilient Floor Covering Institute** at www.rfci.com. A listing of manufacturers is available, with links to their sites and more information about product specifications.

Wallcovering

A guide to contract wallcoverings, including links to manufacturers and distributors, is available from the **Wallcoverings Association** at www.wallcoverings.org/contract/index.html

Specifications and guidelines, including federal guidelines, are available in the **Chemical Fabrics and Film Association's** "Research Center" at www.chemicalfabricsandfilm.com.

Click for Additional Information

As part of this CES learning activity, you are required to read additional material. To access the material online, go to www.architecturalrecord.com/CONTEDUC/ConteducC.asp. To obtain a faxed copy, contact Terry Murphy at (410) 461-7285 or vbdmurphy@aol.com.

Learning Objectives

- Understand the performance attributes of vinyl interior products and standards applicable to ensure performance
- Manage design liability by correctly specifying vinyl flooring and wallcoverings
- See how the history and invention of new materials led to the use of vinyl flooring and wallcoverings today.

Instructions

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 240. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—architecturalrecord.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

Questions

Q: 1. Stabilizers in vinyl flooring:

- A: a. Provide flexibility.
b. Soften the vinyl.
c. Minimize degradation.

Q: 2. Vinyl sheet flooring with heat-welded seams is appropriate for areas:

- A: a. That must be kept sterile.
b. That require consistent coloring.
c. With heavy stationary objects.

Q: 3. Flooring failures in many instances are caused by:

- A: a. Ridges or bubbles under the flooring.
b. Wax and surface contamination.
c. Moisture emitted from the substrate.

Q: 4. Vinyl flooring should be installed at room temperature.

- A: a. True
b. False

Q: 5. The lower the Static Coefficient of Friction (SCOF), the less slippery the surface.

- A: a. True
b. False

Q: 6. Which element determines how well vinyl wallcovering will perform in strength, durability, and cleanability?

- A: a. Surface
b. Substrate

Q: 7. With adequate ventilation, the initial odor in vinyl wallcoverings will dissipate much faster than the odors of most paints.

- A: a. True
b. False

Q: 8. Conditions that result in mold and mildew growth include spores, moisture, warmth and:

- A: a. A food source.
b. Volatile organic compounds (VOCs).
c. Silicone-based cleaners.

Q: 9. "Microvented" products:

- A: a. Are mildew-resistant adhesives added after installation.
b. Protect the paper-faced gypsum board behind the wallcovering.
c. Allow moisture behind a covered surface to escape.

Q: 10. Flexible vinyl building products such as wallcovering are produced from an inherently fire-resistant polymer.

- A: a. True
b. False



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- Striations available
- Factory-swedged end laps
- UL 2218 Class 4 impact resistance
- ASTM E283/1680 tested
- ASTM E331/1646 tested

Digital Practice

IN THIS SECTION: A digital recreation of an architectural treasure; Gehry dons a new hat: technology developer [page 167] • A Web site that bridges cultural divides [page 168] • Architects who design in clicks, not bricks [page 170] • Digital Architect: large-format scanner options [page 177] • New products from Autodesk, Nemetschek, and others [page 180] —*Deborah Snoonian, P.E.*

BYTES

The AIA's Committee on the Environment (COTE) has posted to their Web site a *Guide to Green RFPs*, which contains the full text of RFPs for clients who are requesting green design services. Visit them at www.aia.org/pia/cote.

An online clearinghouse of design and human behavior research, *InformDesign*, will launch this month. The site contains *practitioner-oriented summaries of research* published in more than 200 source journals. It was developed jointly by the American Society of Interior Designers and the University of Minnesota. Visit www.informedesign.com.

In Midtown Manhattan, *Bryant Park* now offers visitors *free wireless Internet access*. Laptops, cell phones, and handheld organizers equipped with "WiFi" devices can surf the Web from anywhere in the park. *NYCwireless*, a local nonprofit group, installed the system with help from the Bryant Park Restoration Corporation. A *full list of locations* in the New York metro area with free wireless access is available at www.nycwireless.net.

Lawrence Berkeley National Laboratory has introduced *ProForm*, free software that assesses the environmental and financial impact of energy-efficiency projects. The spreadsheet-based software calculates a project's expected financial indicators and the avoided emissions of carbon dioxide and air pollutants.

A new Web site, www.d4cost.net, lets visitors browse the National Historic Building Cost Database free of charge to *develop conceptual cost estimates*.

Famed German settlement is rebuilt digitally

Fifty-eight years after being destroyed, one of the more significant architectural masterpieces in the German City of Stuttgart was resurrected last summer—in 3D digital format.

Weissenhofsiedlung, an innovative and controversial housing development in Stuttgart, was built in 1927 by 17 architects from five countries, including Modern masters such as Le Corbusier, Ludwig Mies van der Rohe, and Walter Gropius. Originally serving as a model for city dwellers, 10 of the original 21 houses were destroyed by bombs during World War II. Over time, the

other buildings became private residences and were modified, torn down, and, in most cases, given gable ends.

"This is the first time that these Modern architects of the Bauhaus movement got together and built their own styles in one area," says Martin Trux, the architect involved in the virtual reconstruction. "It is hard today to imagine the entire area as it once stood. Many buildings are gone, and others have been rebuilt differently."

To celebrate the 75th anniversary of Weissenhofsiedlung, the City of Stuttgart partnered with IBM to bring the entire village to life. Using CATIA design software, Stuttgart is allowing 21st-century city dwellers to virtually stroll through Weissenhofsiedlung exactly as it originally stood back in 1927. Trux and his team used the original building plans, along with photographs and the existing structures, to reconstruct the settlement digitally. The effort took 160 hours.

Viewers can not only experience the expanse of the village, but they can also examine original plans, photos, and drawings from the settlement, as well as peek into



House No. 33 by Hans Scharound.



House by architect Josef Frank.

some of the rooms, with their balconies, terraces, wall bars, and large bathrooms. It also takes the visitor inside the Le Corbusier House, demonstrating its Modern design and airy feel. Trux says the virtual tourist experiences the early-20th-century Weissenhofsiedlung as a pioneering step toward an entirely new form of living—demonstrating simple geometric forms, new materials, and abundant light and air.

The current exhibition, *Weissenhof Digital* (part of the *Werkbund* exhibition *Die Wohnung 1927*) will eventually be part of a permanent display in the Le Corbusier House in Weissenhofsiedlung, which the City of Stuttgart recently bought. The Le Corbusier House will serve as an architectural documentation center of Modernism, and will be open to the public in 2004. *Victoria Rivkin*

Latest Gehry creation isn't a new building, it's a new company

With Frank O. Gehry's reputation as one of the world's premier architects cemented, his firm, Gehry Partners, has broken new ground with the establishment of a company, Gehry Technologies, that aims to improve the way digital tools are designed and used in the AEC industry. James Glymph, the technology guru who

has worked alongside Gehry for more than a decade, will serve as C.E.O. of the new venture. Dennis Shelden, currently director of computing for Gehry Partners, will become its chief technical officer.

Before the end of 2002, the company expects to sign agreements with partner technology

companies, chief among them the IBM-owned Dassault Systems, makers of the CATIA software the firm has used to design iconic buildings like the Guggenheim Bilbao [RECORD, October 1997, page 74] and Seattle's Experience Music Project [RECORD, August 2000, page 126]. The hope is that the company

Digital Practice

will eventually be self-sustaining through a combination of contracts, licensing fees, and grants.

Following a different model

Both Glymph and Shelden envision Gehry Technologies as a hybrid breed of company, at once software developer, consulting firm, and think tank.

As a software developer, Gehry Technologies will work directly with AEC clients such as architecture firms, fabricators, and contractors to create specialized interfaces and additional capabilities for CATIA and other software. These improvements will either be sold back directly to the companies paying for the service, or licensed for a fee for widespread use. "This is the software-development model followed

by the automotive, aerospace, and manufacturing industries," explains Glymph. "There's a lot in [those] models that can be applied in the construction industry, and over time, we've developed some very clear ideas on what types of software interfaces and capabilities would be needed by our peers and partners in this business."

In its second role, Gehry Technologies will also offer strategic consulting and training to practitioners, students, and educators. Glymph envisions this practice encompassing everything from teaching architects how to use 3D design software like CATIA to training managers on how to structure projects that use digital building models to avoid technical and administrative pitfalls to educating firms about contractual and legal

issues that may crop up. "If you can't deal with the administrative and legal and contractual issues that are raised when working in this manner, the technology won't get you anywhere," he says. Classroom space for training will be available in a building adjacent to new offices under construction for Gehry Partners in Marina del Rey, California.

Glymph and Shelden also hope to tap foundations and other grant-givers to finance basic research and experimental projects in design computing. The hope is that the company will eventually be self-sustaining through a mix of contracts, licensing fees, and grants.

Why start a technology-based venture in a post-dot-com, economically unstable era? Glymph says the timing is more apt now than it was in the heady 1990s. "Over the past five years, we've become increasingly aware that what we've been doing [at Gehry

Partners] is about to be feasible on a much broader range of project types and budgets and concerns because of cheaper, faster computers," he says. The latest version of CATIA, for instance, works on a PC rather than Unix, so the average AEC office now has the computing power to use it.

If it succeeds, Gehry Technologies will only add to the architect's legacy. "We asked ourselves, can we have a positive influence instead of just doing projects our way?" says Glymph. "We think we can. We want to actively participate in what we believe will be a very important decade for the construction industry."

Or maybe they just want some company—literally. "What Frank does with his designs forces us to be pioneers in using digital building models and sharing data," Glymph says. We've been pretty lonely pioneers." *Deborah Snoonian, P.E.*

Web site for Islamic architecture forms a new global community and bridges cultural divides

In September, the Aga Khan Program for Islamic Architecture celebrated the official launch of a major new Web site, ArchNet (www.archnet.org), which houses the largest online collection of architectural resources devoted to the design and culture of Islamic societies.

The Program for Islamic Architecture, established in 1977 and administered jointly by Harvard and MIT, created ArchNet to fulfill the needs of students, educators, and professionals in the Islamic world, who often lack access to architectural publications and

research. "I believe that ArchNet demonstrates the enormous potential of the global information system for supporting communication and collaboration among architectural and planning students, faculty, scholars, and practitioners throughout the world," said His Highness the Aga Khan.

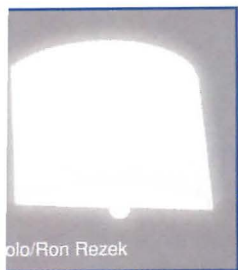
The central feature of ArchNet is a vast (and growing) digital library of more than 600,000 images, drawings, videos, and publications. Materials are classified by type, location, and time period so that users can search the database using these criteria. The library was drawn from the collections of the participating institutions, which initially include Harvard, MIT, and schools in Egypt, India, Jordan, Lebanon, Malaysia, Pakistan, and Turkey. More participating schools are expected to sign on and contribute their materials to the Web site in the coming months.

Already, more than 6,000 people from 110 countries have registered to use ArchNet, which is free for all members. In addition to the digital library

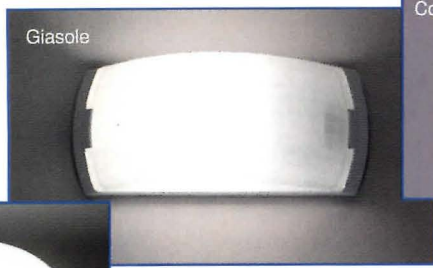


(the Halawa House in Agamy, Egypt, pictured at left, is in the archives), ArchNet has an online calendar for events related to architecture and planning; syllabi and lecture material for courses in architecture; discussion forums; job listings; and news items. Members can initiate discussion topics and post news and events. Groups working online can form virtual workspaces within ArchNet to share project information among themselves and with other interested parties. Both real-time and asynchronous online collaboration is possible.

The MIT School of Architecture and Planning spent three years programming and refining the site, working collaboratively with His Highness the Aga Khan, who sought to "find ways in which the profound humanistic tradition of Islam could inform the concept and construction of buildings and public spaces." The result is the sort of online utopia envisioned by the Internet's early pioneers: a widely available, inexpensive resource that enables the free, candid, and constant exchange of ideas and information among people scattered throughout the world. "ArchNet seeks to honor the rich legacy of [Islamic] cultures," said William J. Mitchell, dean of MIT's School of Architecture and Planning. "This is an important project and one that has the ability to have wide-reaching reverberations for the built environment across much of the developing world." The site also illustrates the democratic spirit of MIT's OpenCourseWare initiative, in which the school intends to publish all its course material online free of charge. *D.S.*



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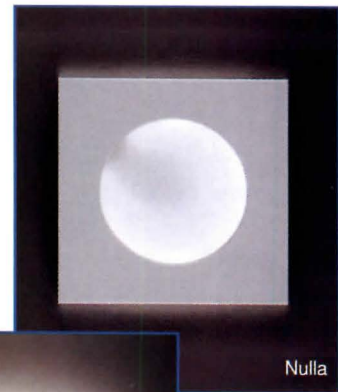
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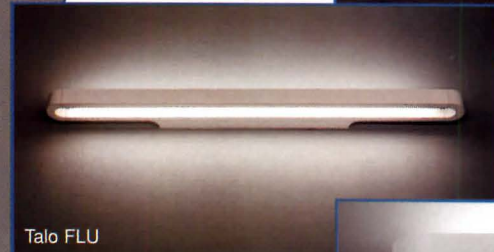
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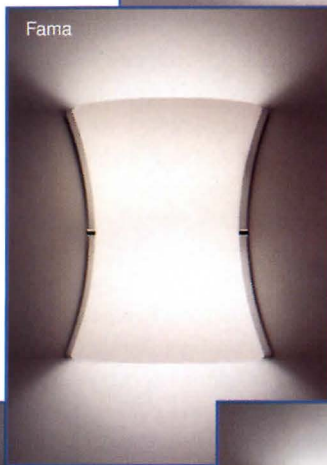
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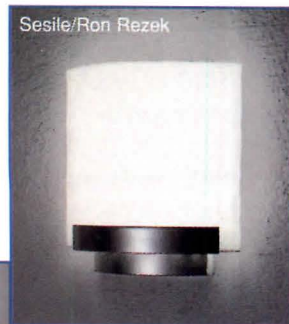
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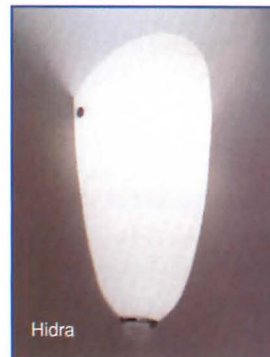
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Building with clicks, not bricks

ARCHITECTS WHO PRACTICE IN VIRTUAL SPACE SAY THEY ENJOY ALL THE PLEASURES OF DESIGN WITH NONE OF THE HEADACHES OF CONSTRUCTION

By **Sam Lubell**

Sean Ahlquist, a 30-year-old, San Francisco-based architect, has designed a civic gathering space that's daring and original, bursting with light, detail, and color. The twisted, warped structure of glass, steel, and stone tests the limits of architectural possibility. Its contours challenge established notions of space arrangement. It's even won him acclaim in a national design competition.

Ahlquist's building is not real. And it will never be built. But who cares? He certainly doesn't.

He's one of a new generation of architects brought up on powerful, ubiquitous computing technology who design and build in virtual space. The digital age has given younger architects like Ahlquist, who would likely be relegated to menial tasks like drawing details in a traditional architectural practice, the chance to experiment boldly and disseminate their ideas and designs to a large audience via the Internet, exhibitions, and print and online publications.

And while some practitioners hold virtual architects in contempt for their lack of practicality, most recognize that computing technologies are inevitably shaping both the practice of architectural design and the form of buildings themselves.

With renderings, architects can direct the show

Many software-savvy architects help other designers present their work digitally in renderings and animations. For the past several years, well-heeled firms have commissioned 3D animators to design virtual walk-throughs and videos of their projects for promotion, presentation, and other purposes. New York City visualization firm IOMedia has created intricate movie presentations for Polshek Partnership's Clinton Library in Arkansas and Gehry Partners' Guggenheim Las Vegas *Art of the Motorcycle* exhibition to help raise funds and generate publicity for these works. The Boston firm Neoscape

Sam Lubell is a freelance writer living in New York City. His work has appeared in ARCHITECTURAL RECORD, The New York Times, New York magazine, and Bergen County, N.J.'s The Record. He studied architectural history at Brown University.

helped the New York 2012 Committee give colorful, 3D previews of its event sites to the United States and International Olympic committees. Many architects, like Friedrich St. Florian, who commissioned Providence, R.I., firm Advanced Media Design to create digital renderings of his World War II Memorial in Washington, D.C., appreciate the ability of computer models to give clear visual indications of how projects are advancing.

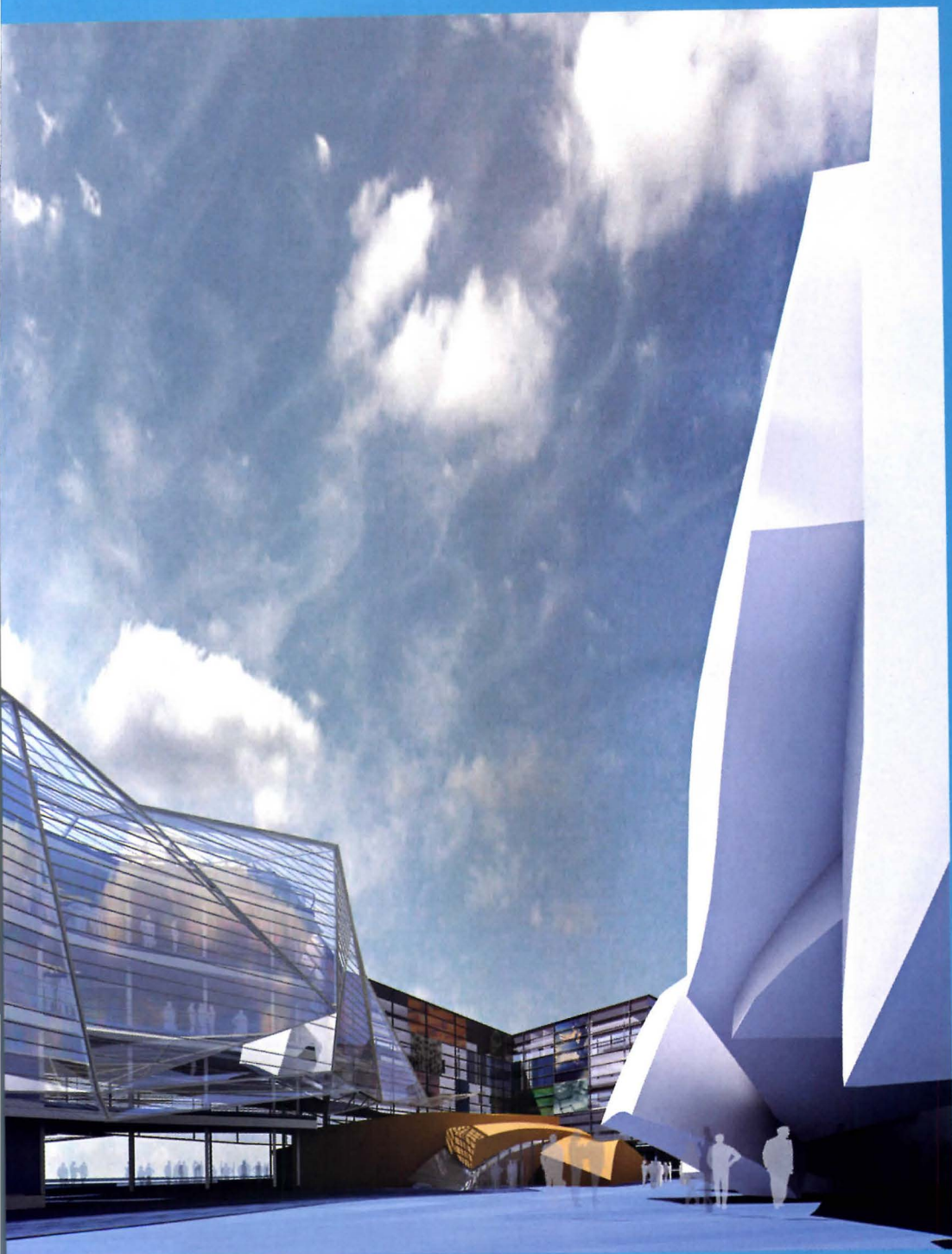
Digital renderers trained in architecture recognize their work is often limited by the visions of the architects they work with. Yet many of them say they don't miss the tedium and constraints of their old profession. "I found out architecture was all about wall sections and roof details, not schematic designs," says Adam Kruvand of Studio 2A, a digital design firm based in Kansas City and New York, which recently completed 3D renderings for the new Soldier's Field in Chicago. Kruvand had worked previously for Hellmuth, Obata + Kassabaum's HOK Sport.

His creative outlets, he says, include collaborating with firms to put together the 3D conception of a project: choosing colors, lighting, textures, and camera views for renderings. "I gravitated to 3D stuff because that's where I could actually use my art and design skills to affect the way things looked," he says.

Peter Korian, president of IOMedia, sees the digital renderer as an extension of a firm's skills and a vital way to promote projects. "Every architecture firm should have 30 additional people who do what we do," he says. Calling his contemporaries "technologists" instead of architects, he says that using 3D technology to make creative, emotional presentations of a project is every bit as creative—and satisfying—as designing a building in bricks and mortar. "If Frank Lloyd Wright or Le Corbusier were around today, they'd be doing what we're doing," he says.

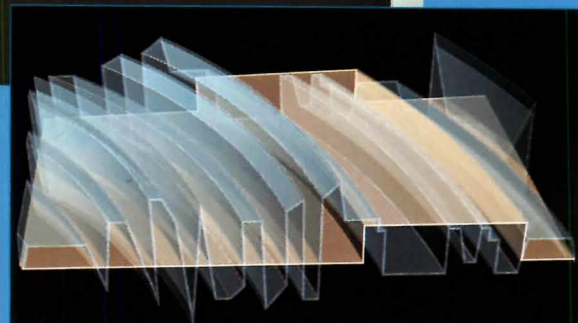
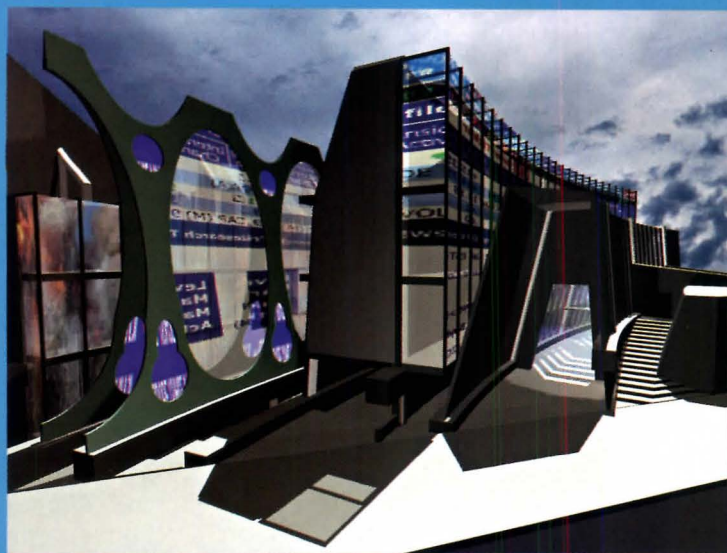
Tackling their own designs

While renderers and animators proliferate, other architects design entirely computerized constructions of their own that stretch the architectural imagination and even inspire (gasp!) real structures. "I think students coming out of school realize not everything we do has to be [in] physical



Winning entry for ACADIA design competition, 2001 (left); Private residence, currently in design (bottom)
Architects Sean Ahlquist and Ryan Spruston fashioned a flexible, virtual gathering space in Berlin. Designing this entry was a proving ground for Ahlquist, who is using some of the ideas from that project in a home he is designing for an avid climber who lives on the California coast.





Entry for ACADIA design competition, 2001

As an example of how technology shapes form, designers Sean McCormack and Andrew Karlson looked at the wave pattern generated by that most annoying of digital-age

sounds—the screech of a modem as it connects to the Internet—and transformed it into a virtual structure of glass and steel. Its zigzaggy shape conveys a zealous (if off-kilter) energy, much like the noise that inspired it.

[space],” says Peter Anders, one of the organizers of the 2001 Association of Computer Aided Design in Architecture (ACADIA) design competition, which Ahlquist entered with his design partner, Ryan Spruston.

The ACADIA competition challenged contestants to build a virtual civic gathering space in Berlin called “Inforum.” Ideas were posted and judged on the Web. Ahlquist and Spruston’s building, which Ahlquist describes as “a wrapper that captures exterior space and carries it inside,” has winding, unevenly shaped rooms and hallways that are intentionally difficult to earmark for usage. “This is a building that’s amorphous. Different uses can develop over time,” Ahlquist says. Thanks to the designers’ skillful use of lighting and their attention to material detail, viewers are treated to stunningly realistic perspectives of the virtual glass, metal, and stone edifice, and the mesmerizing sky behind it.

Ahlquist designed his entry on his desktop PC using Autodesk Viz 4 (a 3D modeling program that adds architectural tools to traditional 3D graphics programs, like 3D Studio Max), and RHINO, a form-modeling program used frequently by mechanical engineers, which tackles engineering and fabrication. The folds in the building’s glass and metal, Ahlquist explains, could not be rendered in 2D drawings or CAD files. “There’s no way I could sketch this out for the client, let alone me, to understand,” he says.

Sean McCormack and Andrew Karlson, young architects from Environs Development and Earth Tech, in Chicago, designed their expan-

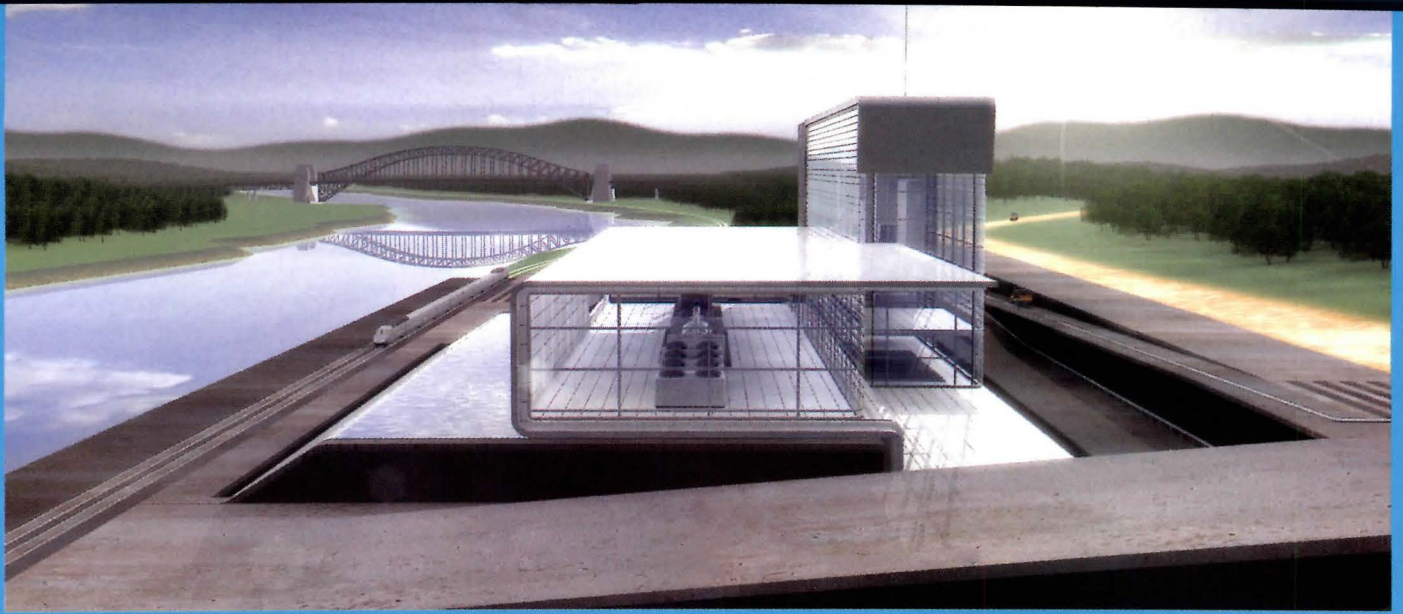
sive model for the 2001 ACADIA competition by converting the sound waves of a squealing modem connecting to the Internet into CAD files. The result is a rounded, multilayered, glass-and-steel superstructure.

Some architects have even started their own firms that take on technology-focused projects that would be unusual for a traditional practice to handle. Dean Di Simone and Joseph Kosinski, who met while earning master’s degrees in architecture at Columbia University, are founding partners of KDLAB, a New York digital design studio. “In a typical architectural practice, you have to put in a handful of years under a

“WE’RE ABLE TO SPEND A MUCH LARGER PORTION OF OUR TIME DESIGNING RATHER THAN ADMINISTERING PROJECTS.”

licensed architect and end up spending 10 percent of your time designing. In our practice, we’re able to spend a much larger portion of our time designing rather than administering our projects,” says Di Simone.

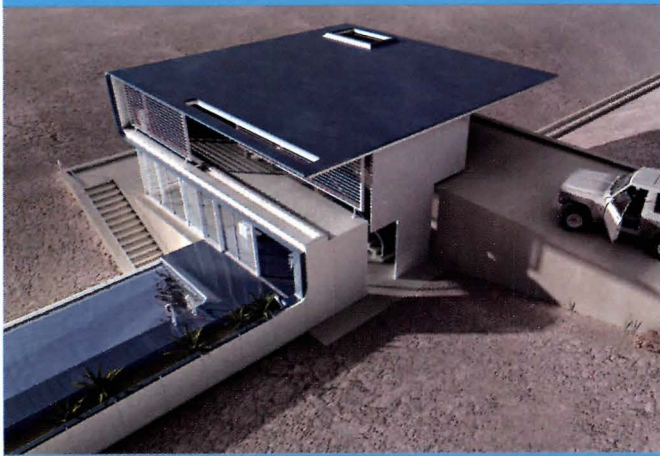
The projects include designing virtual power plants to promote the Department of Energy’s “Vision 21” project, which will create environmentally friendly power-generation structures. The digital projects, made with 3ds max 5 and Mental Ray (3D animation and rendering software used by digital effects houses such as Industrial Light and Magic), are designed for the year 2020. The project gave the designers leeway to



“Vision 21” power plants, 2000 (top and bottom); Desert H2Ouse, 2000 (left)

Digital design firm KDLAB got free reign to imagine what clean-energy-producing substations would look like in the year 2020.

Their photorealistic film featuring a virtual residence in the desert has been shown on the animation-festival circuit for the past two years.



create structures that tested limits, overthrew conventions of plant design, and challenged their imagination. “The parameters for these projects differ drastically from most client work, although the design challenges are similar in many ways. The Department of Energy gave us an enormous amount of design freedom. It’s kind of a dream project,” says Di Simone.

KDLAB’s sleek designs challenge power plants’ intimidating, grimy image. There are no smokestacks, for instance, because the plants will utilize new combustion processes that convert fossil fuels to power in a cleaner, more efficient manner than in the past. KDLAB has also dedicated much of the footprints of each power plant to greenspace. One design in their repertoire is a 65-story, bioclimatic skyscraper in the middle of Lower Manhattan that has a memorable, aerodynamic form more reminiscent of a sports car than a structure where electricity is generated. “We wanted it to be something that would shatter people’s conception of what a power plant should look like and where it could be located,” says Kosinski. In addition to a bank of fuel cells and a gas turbine in the basement, the building also has photovoltaic cells integrated into its facade and a wind turbine on its roof to generate additional electricity.

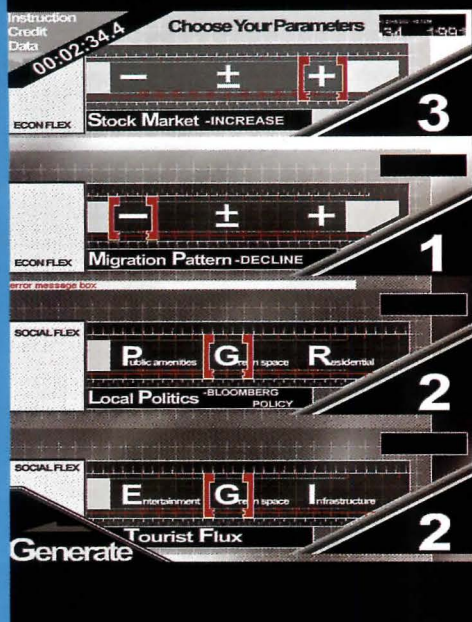
Another KDLAB construction, the Desert H2Ouse, is an environmentally friendly residence that reuses water collected from an on-site aquifer. It’s featured in a two-minute animated film that has been traveling to animation festivals around the world, taking second place at the 2001 WebCuts Internet film festival in Berlin. The fusion of film and

architecture is something that interests KDLAB, whether researching the re-creation of light phenomena in the computer or the digital simulation of a handheld camera. When introducing Desert H2Ouse into the design category of the 2001 RESFEST Film Festival, organizers coined a new term in its description—Cinema Architectura.

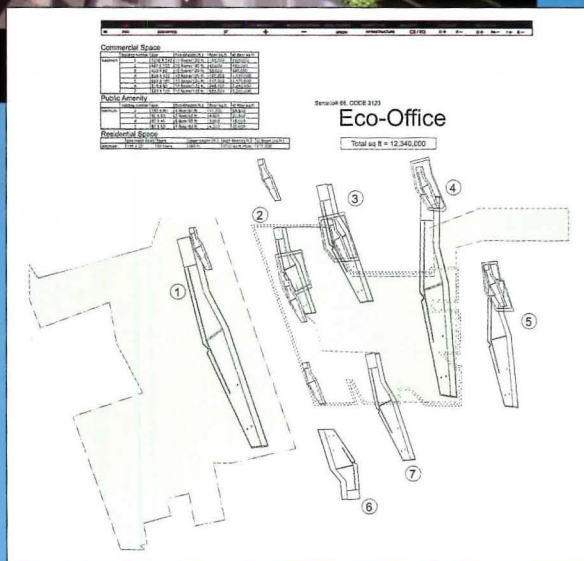
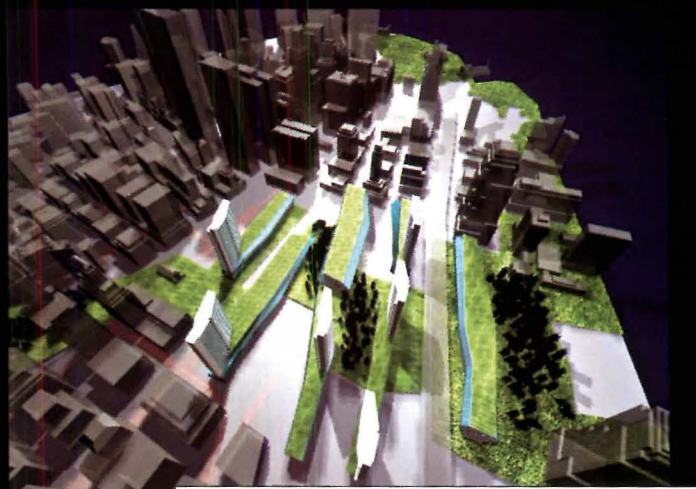
Another digital architect, Winka Dubbleddam, head of New York City firm Archi-Tectonics, created a 3D exhibition called *From HardWare to SoftForm* with the help of MIT’s Media Lab. The exhibition shows the central space of a house the firm built, morphed, twisted, and reconstituted in virtual space. Another conceptual project, *Flex City*, offers a plan to redevelop Lower Manhattan. It changes in real time on-screen as users plug in various social criteria. Buildings expand and contract, and green-spaces shrink or enlarge, as the user decides what the value of the stock market is and who will be in political office in the next few years.

Dubbleddam describes this piece, and all her architecture, as “intelligent” because of its flexibility and adaptability, common themes in virtual architecture. “I thought it was more important to show people what’s possible and explore what defines a city,” she says. The computer, she says, lets people do research and set criteria for themselves.

Virtual architects also work on nonbuilding projects such as Web sites and digital exhibitions. Asymptote, a New York firm, designed an interactive landscape for the Guggenheim’s online Virtual Museum. Taking the deformed structures of Frank Gehry’s Guggenheim Bilbao



ECO - OFFICE

**Flex City, 2002**

Winka Dubbleddam's firm, Archi-Tectonics, responded to the gaping void in Lower Manhattan by creating a hypothetical planning and design scheme that adapts to a user's predictions about the future. Change the

state of the economy and the prevailing political party, and the site plan and structures change right along with them. Shown here is a mixed-use plan involving an eco-office complex along with housing and greenspace.

even further, the Web site's central visual motif, a loose spiral reminiscent of the Guggenheim Museum in New York, deconstructs and morphs itself according to the choices of the user, who "flies" through the site to explore its various sections, such as exhibition information or the museum itself.

Architects, says Lise Anne Couture, one of Asymptote's founders, are highly qualified to design in the virtual world as well as the physical one. "We are experts in spatiality and well trained to be able to deal with complexity," she says. Peter Anders, author of the book *Envisioning Cyberspace: Designing 3D Electronic Spaces* (McGraw-Hill Professional, 1998), points out that the design of 3D online worlds like "Collaboratories," where users interact with each other in a visually active virtual-reality space, will keep architects busy for years to come.

If it's only digital, can it be architecture?

Ever since the explosive rise of virtual forms of building in the mid-1990s, critics have posited that digital tools divert architects from important issues of craftsmanship and constructability. Dennis Shelden, director of computing at Gehry Partners, appreciates that younger architects are literate in complex computer programs, but also notes that, lacking the physical and economic constraints of real buildings, virtual architects neglect important elements that are vital to the architectural process. "You have students who don't take a building construction class. They know how to design, but they don't know how a wall goes together," he says. "In

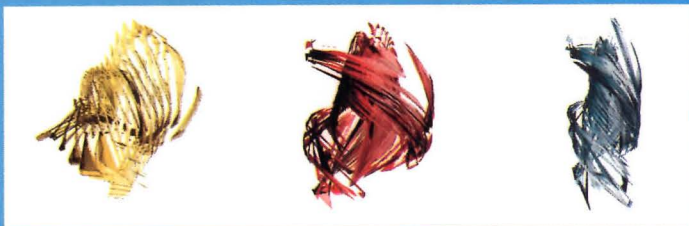
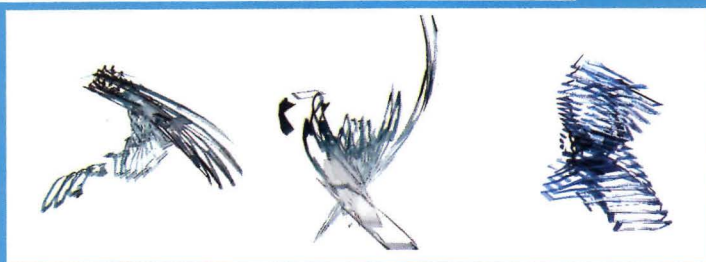
a purely virtual world, there's no dialogue about the issue of craft and how things are made. A big piece of the richness is missing."

Asymptote's Couture recognizes the seduction of virtual design to ignore the concerns of budgets, materials, schedules, and program but still believes that responsible virtual architects avoid obsession with aesthetic issues. She adds that virtual architecture faces its own, equally relevant design challenges. "Why it has to be bricks and money as opposed to time and pixels, who's to say?" she comments. "I think architects have always

"IF FRANK LLOYD WRIGHT OR LE CORBUSIER WERE AROUND TODAY, THEY'D BE DOING WHAT WE'RE DOING."

worked in virtual reality. You're always talking about potential, and it's never completely realized actually." The real world, she says, is full of edifices that should not be considered architecture. "People are so willing to question whether a 3D space conceived for the Internet is architecture. Nobody would hesitate to call the most mediocre building in our fabric architecture. I think architecture should be something that frames our experience, that makes it meaningful, that can inspire."

Many virtual architects also argue that their ideas and structures constantly inform built works. Ahlquist's virtual building for ACADIA has helped him develop subsequent projects, he says. *Its changing forms and*



From HardWare to SoftForm, 2001

Archi-Tectonics developed this interactive installation with MIT's Media Lab. It investigates a virtual object, called "Armature," inspired by the interior shape of a residential project. Above, the Armature is interpreted visually as an experience of light and sound. At left, a taxonomy of variations on the Armature as it is transformed by virtual "operations" such as push, twist, and pull.

unorthodox angles served as a practice run for the design of an unusual new house in California called Seadrift. The house, built for a climbing enthusiast, has an exterior that acts as a climbing wall, and it has so many twists and turns it can make you dizzy. Like his ACADIA entry, the house's geometry is too intricate to be resolved in two dimensions. "It helped to be able to build and understand these shapes and odd angles and connections [virtually]," he says.

Ahlquist scoffs at the idea that his digital work isn't real. "Just because it's not resolving issues of being built, I don't think that rules it out from being architecture. What we do is not about creating a buildable object, but finding different ways to express architectural ideas," he says.

Asymptote's online, virtual New York Stock Exchange trading floor, designed in 1998 to help the Exchange manage and visualize its flow of information, informed the recent remodeling of their physical operations center. The center's design echoes "the liquid quality and weightlessness of the virtual realm," says Couture, and is even painted in the same blue tones as the Web site. The firm's skill at utilizing 3D computer forms is also evident in its seaside HydraPier pavilion near Amsterdam. The building's form was based on a simulation of an airplane wing being deformed by water flowing over it. "The curves and complex geometries are a result of the computer design phase," says Couture.

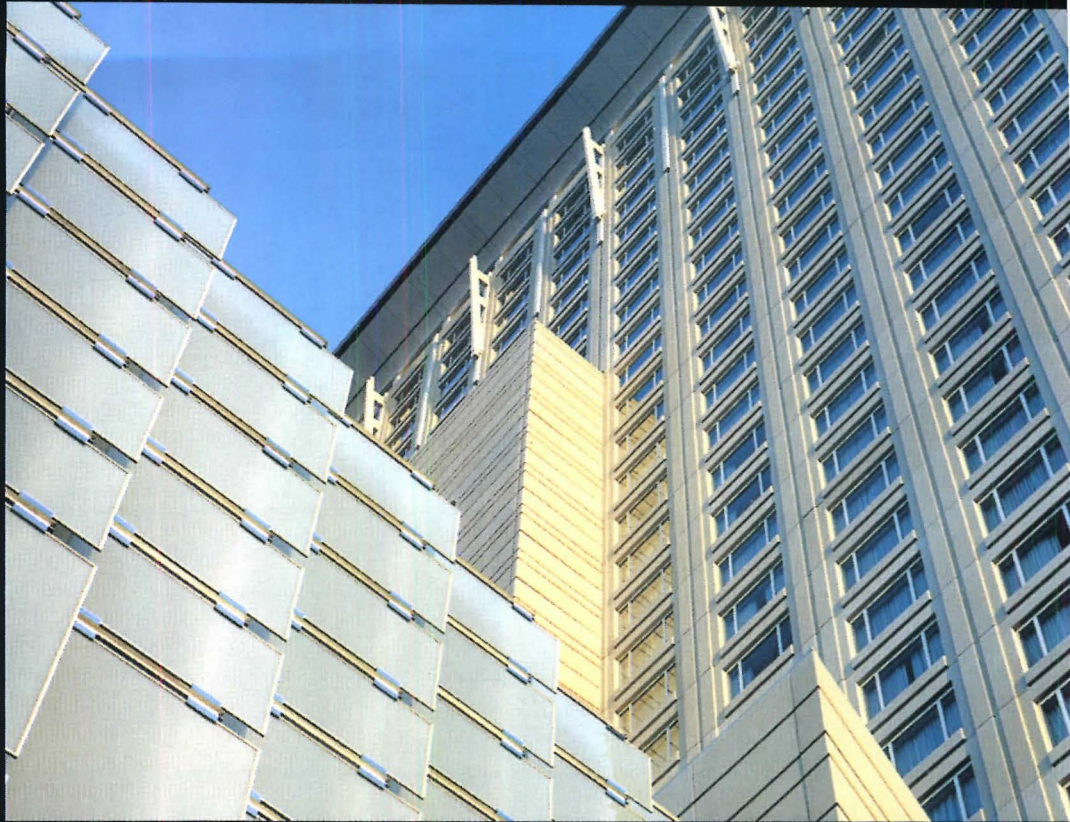
The impact of virtual architecture on physical architecture is also embodied in bricks-and-mortar buildings that incorporate cyber

elements. ACADIA's Anders refers to these structures as "cybrids," combining technology and physicality, and allowing once-hypothesized ideas to become real. "You've got your brick, mortar, and concrete, and then you've got technological materials that are able to change an environment. It's one more notch on your tool belt," says Eric Clough, founder of 212 Box, a design firm in New York City's trendy Tribeca neighborhood. The company is creating the ***BOX, a cubed living space made almost entirely of glass embedded with LCD screens that

"NOWADAYS, BUILDING IN DIGITAL SPACE AND ANIMATING IT IS THE ONLY WAY YOU CAN DIRECT YOUR DREAMS."

project television or advertisements. The firm is planning to make it the focal point of a feature-length animated movie, in collaboration with KDLAB. "I think nowadays building in digital space and animating it is the only way you can direct your dreams," says Clough.

Perhaps more than anything, virtual architects dislike being sidelined by the frustrations of traditional practice—clients unwilling to take design risks, limited budgets, construction schedules delayed by lawsuits or bad weather. Virtual architecture, constantly mutable, allows architects to break physical, technical, even professional boundaries. They provide, as Couture says, "infinite possibilities for change." ■



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Mapping large-format scanner selection

By Michael Bordenaro

When Mark Kiker, director of core technologies for the AEC firm DMJM+N in Los Angeles, walks up to one of his firm's large-format scanners, he has a complex series of choices. Scan to print? Scan to file? File in a personal folder or on a networked hard drive? What graphic format to scan in—TIF, JPG, PDF, or another? Increase or decrease image size? Reverse image to make legacy blueprints more legible? Correct for distortion? Scan in color or grayscale?

Luckily, many contemporary scanners have intuitive interfaces that simplify these choices and make the selections easy to execute. But deciding which scanner to buy in the first place is not so simple.

The large-format scanner market has both consolidated and expanded in the past 14 months. Significant feature sets have been introduced, and manufacturers have their sights on making large-format scans more conducive for sharing on the Web. The resulting profusion of scanner choices is hard to keep up with, even for technology gurus.

Getting a handle on the selection options means keeping up with manufacturers. Some of the most popular manufacturers of large-format scanners include Xerox Engineering Systems (XES), Contex

Michael Bordenaro is based in Chicago and writes frequently about architecture and technology.

www For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at architecturalrecord.com.

Scanning Technology (the result of a recent merger between Contex Holding A/S and Vidar Systems Corporation), Océ, ACTION Imaging Solutions, and the Japan-based Kyocera Mita. GTCO CalComp, known for its digitizing technology, added a line of large-format scanners in late 2001 and has expanded its offerings in the past few months.

AEC firms have determined that large-format scanning alone is not a high priority, so manufacturers have responded by creating multi-function machines that scan, plot, and copy documents, and by providing combinable components to meet specific needs. For example, many architecture firms have an independent large-scale scanner linked to a separate large-scale plotter for CAD drawings, connected through a dedicated computer with software for processing, networking, and storage of files that are scanned and saved electronically.

At DMJM+N, Kiker has a monochrome XES multi-function unit and recently added a single-function device from Contex. But he hasn't stopped investigating other choices. "XES has a new large-format color scanner that I would seriously look at because of its upgraded feature sets," Kiker said. His large firm is in need of several devices, and his constant scouting illustrates the profusion of options available.

How do they work?

The digital imaging devices used by scanners are, by and large, charged-couple devices

(CCDs), the same technology used in digital cameras. Most large-format scanners use multiple CCDs to scan across the width of a document; the machine then uses internal software to combine and align, or "stitch," the multiple images together. Two years ago, XES introduced units with complimentary metal-oxide silicone (CMOS) imaging technology, used to create images for silicon-chip manufacturing. This technology allowed XES to create large-format devices with a single optical device for scanning, according to Marc Neiss, XES's director of technical document solutions. But, depending on the length of the document being scanned, using software to align images may be necessary no matter which type of device is used.

Sorting through options

One obvious choice that faces architects is whether to purchase a

monochrome or a color scanner. Depending on the options selected, it's entirely possible to obtain a color scanner for less than a black-and-white model, says John Vitale, the owner of Palisades Research in Pacific Palisades, California, an IT firm that has provided software, hardware, scanning, and archiving services for almost 20 years. One feature that Vitale recommends is a minimum 300 dpi true color optical resolution for high-quality results. Océ's spokesperson, Francis Faye, indicates that scans at 400 dpi have become the AEC industry standard, but that higher-quality units are available when precise rendering of aerial photography and other finely detailed information is needed in the final product.

Another feature that figures into productivity and cost is the speed of scanning. While it's mechanically feasible to pull drawings through machines at almost



XES's XEScan Solution allows scan-to-file, digital archiving, and job accounting. Upgrades allow scan-to-e-mail, monochrome editing, and other features.

Digital Architect

any rate, the speed is limited by the ability of a scanner's software to process the resulting images. Machines that scan documents faster are more expensive. Context offers units with speeds starting at 0.5 inches per second (ips) and up to 3 ips. XES currently offers scan speeds up to 4 ips on some units and plans to make 7.4 ips units available in the first quarter of 2003, says Neiss.

The standard width for large-scale scanners in the AEC industry is 36 inches, although other sizes are available (the graphic production industry, for instance, often uses units with a 50-inch scan width). The thickness of the media scanned is also important when choosing a device. Océ, XES, Context, and other manufacturers offer units that can accept material up to 0.6 inches thick. DMJMHN's Kiker says, "Our Context unit handles various thicknesses of media, including 0.5-inch foam-core presentation boards that we scan for our records."

A mechanical feature that Kiker appreciates is the "two-sided drive" that was a differentiating point for scanners made by Vidar (now Context). Most large-scale scanners have powered rollers on the bottom side of the media and free-moving

rollers on top. Vidar became known for powering both sets of rollers; the consistent feed achieved from this improvement protects the original document and provides a steadier image for scanning, according to Palisades Research's Vitale. (The feature was still available on machines made by the newly merged Context, but industry insiders have heard unconfirmed rumors that Context may phase out production of these units.)

Jorge Septién, chief information officer for Gruzen Samton Architects, in New York City, says protecting the media being scanned from roller damage or unexpected snags is especially important for older, fragile documents. "We have created a clear plastic sleeve that we slip older drawings into before scanning them on our Océ units," Septién says. Océ's Faye notes that in cases where a document's safety is a high priority, some architects have created sleeves with firm cardboard backings and clear plastic covers.

Software's at the heart

The interfaces that control how a user operates a scanner were once frustratingly complex. Septién notes that ease of use has improved

greatly in recent years with the advent of LCD touch-screen displays for changing options like scale, dots per inch, and color selection. "Basically, it is like a copy machine," he says. "Our new [Océ] unit is very easy to use. There is no guesswork." Scanning documents to electronic formats usually requires more familiarity with the interface software, says Septién. "Saving to a particular file format is not a 'one button' operation," he says.

In addition to the software that simplifies



Océ's TDS600 multifunction unit works well for high-volume situations. The company's Scan-to-Archive software also helps firms digitize their print sets.

the user interface, Océ's Faye says, "All large-format scanners come with at least a basic level of scan-management software." For example, VB-Clean scan-management software from Paradigm Imaging Group helps to deskew, despeckle, crop, and perform other "cleaning" tasks on scanned documents. It can also be used to repair faint and broken characters. The company's VB-Index automatically captures and displays title block information for easy referencing of large quantities of drawings. Drawing information can then be stored in a Microsoft Access database for future reference.

Tools for managing scanning tasks are also available in many CAD software packages, such as AutoCAD and Microstation.

Money matters, future trends

Large-format scanners are among the most expensive pieces of equipment used by a firm. While quality stand-alone, large-format scanners can be found in the \$8,000 range, multifunction devices and the combination of components used by AEC firms can cost as much as \$35,000 or more. XES's Neiss says, "Depending on scan speed and color options, the XEScan Solution can range from \$13,000 to \$29,000." He adds, "The company's DS line of monochrome multifunction devices that are oriented for copy performance can range from

\$25,000 to \$28,000, depending on hardware and software features included."

If wide-format printing is a priority and scanning is only a secondary need, Kyocera Mita has a series of 600 dpi printers with scanner add-on capability. The company offers a high-end, stand-alone, large-format copier that can be upgraded to include scanning and printing capabilities at a cost between \$30,000 and \$60,000. The company also has two 600 dpi printers that range from \$17,500 to \$24,000 that be equipped with an optional scanner for less than \$12,000.

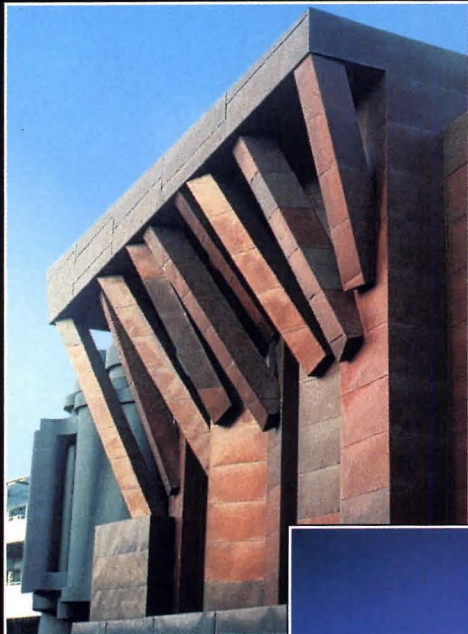
Many reprographics houses offer leasing agreements for scanners that can be cost-competitive with purchasing them outright. The cost of such services varies widely depending on the type of device and the volume of scanning done.

Faye sees developments in large-scale scanners focusing on color enhancement and sharing data on the Web. "We are seeing the advancement of color as a key component in scanning, although the resulting electronic files are huge. Sharing massive files is an issue we're addressing in a number of ways," he says. Neiss says XES is developing a proprietary algorithm that will compress the large files that result from increased color, higher variations of grayscales, and the use of embedded 3D images. ■



Kyocera Mita's KM-4850w can scan, print, and copy. It is small enough to fit in tight spaces.

Designing with copper?



Omnicom Group, Venice, Calif.
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ArchInvoice is a tool for creating invoices and managing projects for firms that bill clients on an hourly basis by project phase. Information such as client name, billing address, and total project value is entered, and phase codes are assigned to each activity performed on a project (e.g., design development, construction documentation). Employees enter hours worked on each phase into a preformatted Microsoft Excel template; e-time sheets are then converted to invoices for a predetermined billing period.

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This infrared-equipped ballpoint pen saves what you scribble. Write on a specially printed digital notebook or Post-It note, place your pen in the USB-equipped cradle (like synchronizing a handheld organizer), and your pen strokes are transferred to your computer. The software included works with Lotus Notes and Microsoft Outlook, so you can share your ideas with others easily. Handwritten documents are saved as PEN files, which can be exported to formats such as JPEG, Microsoft Word, and others.

Revit 5.0

Autodesk
800/538-6401 or 415/507-4600
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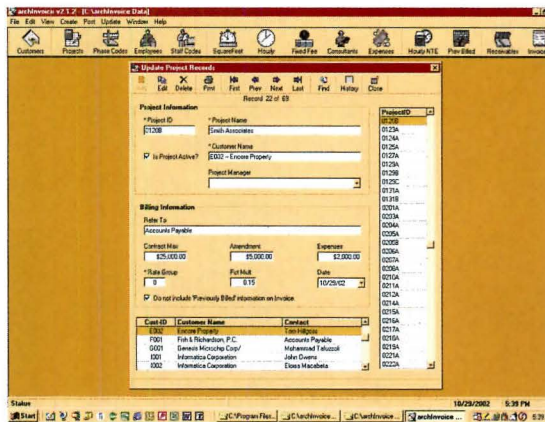
Revit 5.0 is the first major new upgrade of the 3D building-modeling

program since it was acquired by Autodesk earlier this year. The company now calls it their "strategic authoring application for the building industry." Improvements in this version include the ability to link multiple building models for campus-style projects; faster opening and saving of files; accurate modeling of detailed assemblies and walls with properties that vary vertically; better automation of construction documentation, such as plans and elevations; easier methods to print entire drawing sets; and ability to create walk-through animations of projects.

Vision

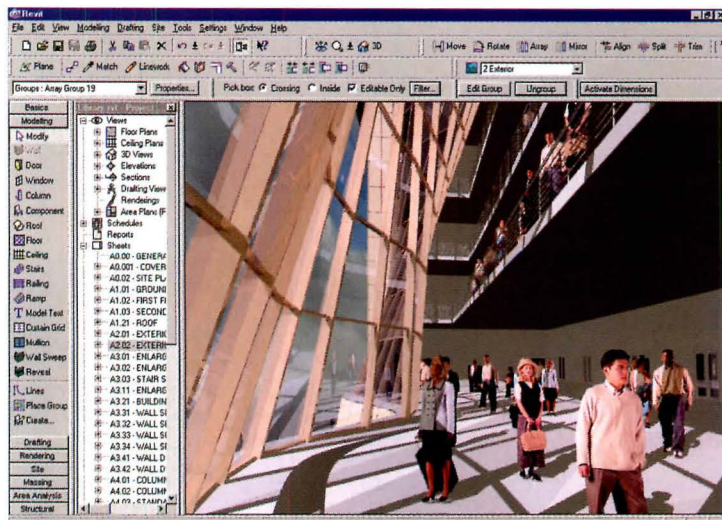
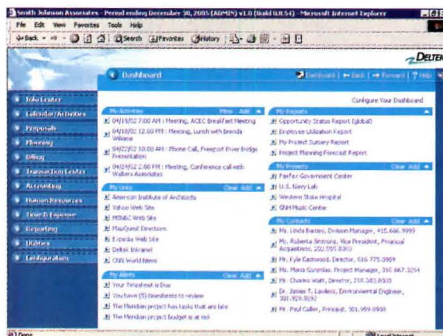
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Building on Deltek's extensive experience in creating tools for management and accounting, Vision is an integrated solution for managing the entire life cycle of AEC projects, with modules for client relationship management, proposal tracking, resource and project scheduling and planning, time and expense management, accounting, and billing. The Vision "dashboard" is the application's portal that displays essential project data and management tools, with links to project team members, schedules, and other critical information. The modules can be purchased and used separately, or deployed together for a one-stop solution. A computer needs only a Web browser to use Vision—no additional software installation is necessary.



ArchInvoice helps design firms bill their clients.

The desktop for Deltek's Vision.

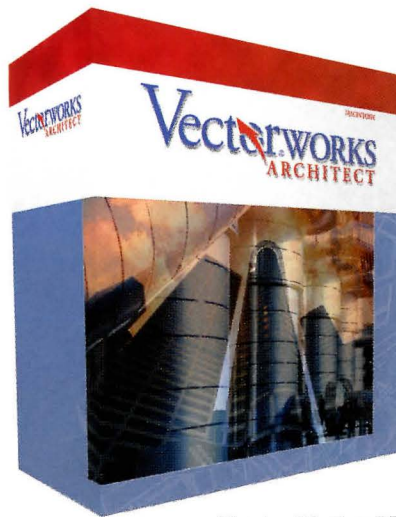
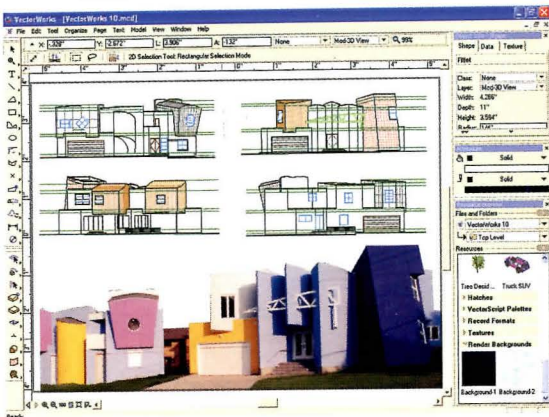


The new version of Autodesk's Revit allows 3D animations.



Logitech's io Digital Pen.

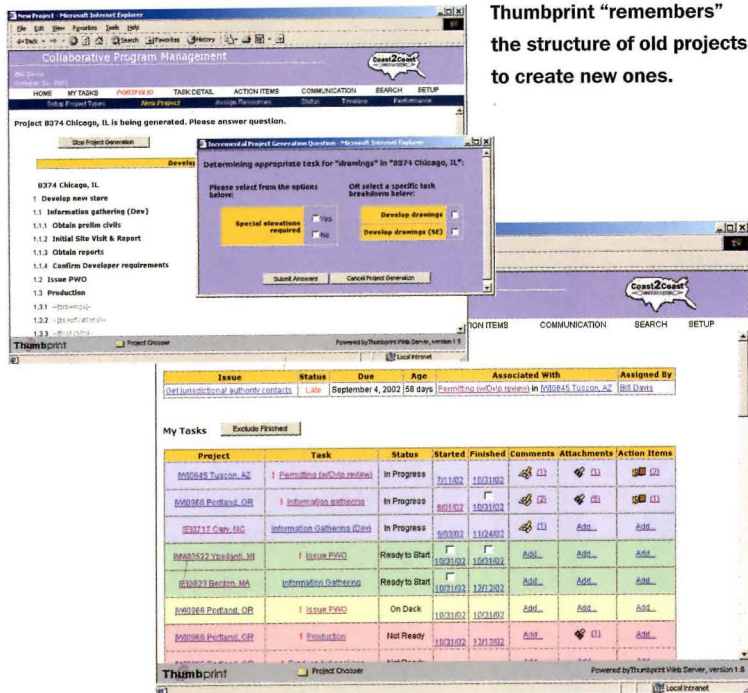
VectorWorks ARCHITECT 10 has a suite of changes.



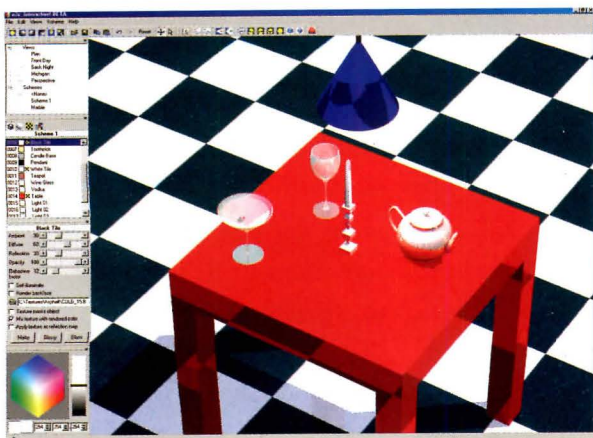
VectorWorks ARCHITECT 10

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410/290-5114
www.nemetschek.net

Thumbprint "remembers" the structure of old projects to create new ones.



3D files are viewed faster on the Internet as o2c objects.



duplication and streamline tasks. Managers respond to interviewlike questions when setting up new projects; based on their responses, the Web-based software automatically builds adaptable project plans, schedules, lists of team members, and other information necessary to complete the work. Real-time status tracking across suites of projects is possible, and users can search projects for things like deliverable status or people with specific skills or time available. Users can create customized reports based on the information they enter into the system. An automated e-mail archive helps keep track of communication and decision making. The primary interface is a simple one-page desktop from which a user can access all project information.

o2c Interactive!

DataCAD
800/394-2231 or 860/677-4004
www.datacad.com

The presentation tool called o2c_Interactive! makes sharing 3D information on the Internet faster and easier. The product name is an acronym for "Objects to See," the compressed 3D file format in which images are saved. Designers can edit materials and textures used in the 3D objects they create (such as a room's interior) and publish the results as an HTML file for online viewing. The o2c files can be sent as e-mail attachments or embedded in other documents, such as PowerPoint and Word files. DataCAD versions 9.06 and later can export 3D models directly to o2c. ■

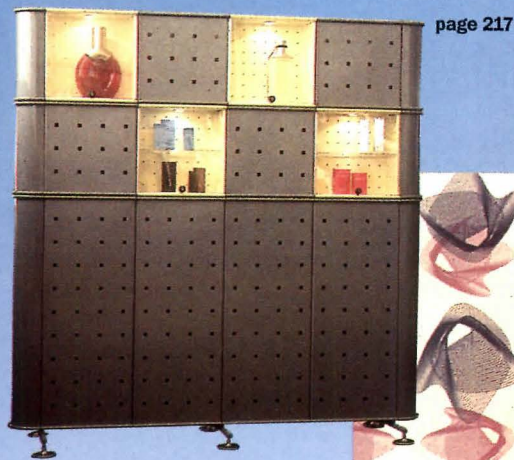
Thumbprint

Cynergy Technology
918/877-6000
www.cynergytechnology.com

Thumbprint is a project-management tool that captures and remembers patterns in projects (e.g., lists of team members, schedules, client information) that can be leveraged in future work to avoid

For more information on technology for architects, including vendor lists and links, go to Digital Architect at architecturalrecord.com.

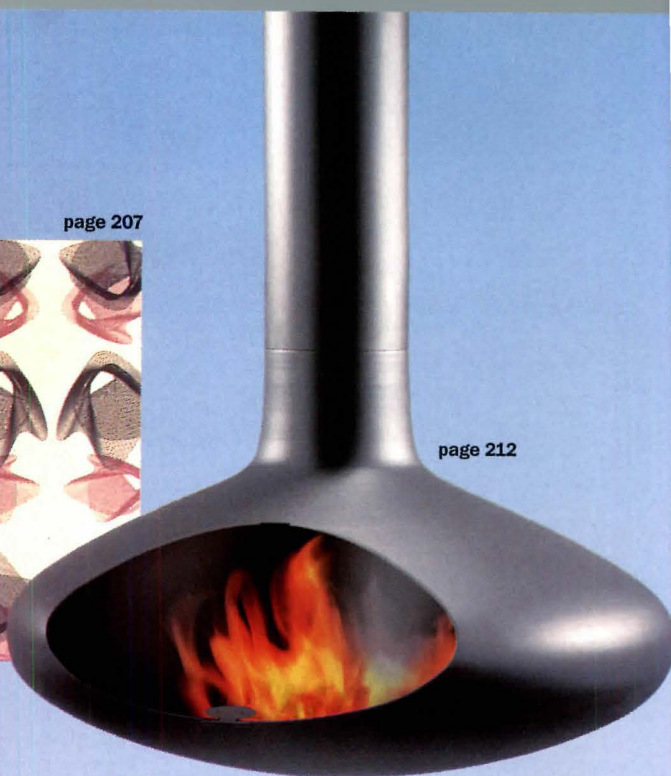
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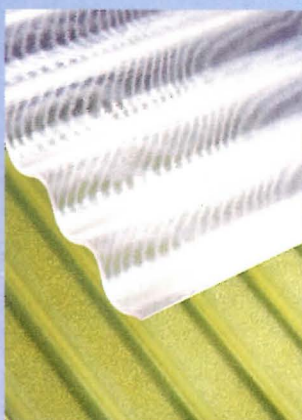
page 217



page 207

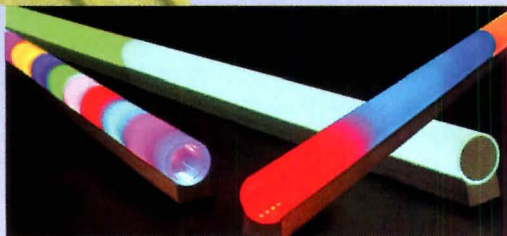


page 212

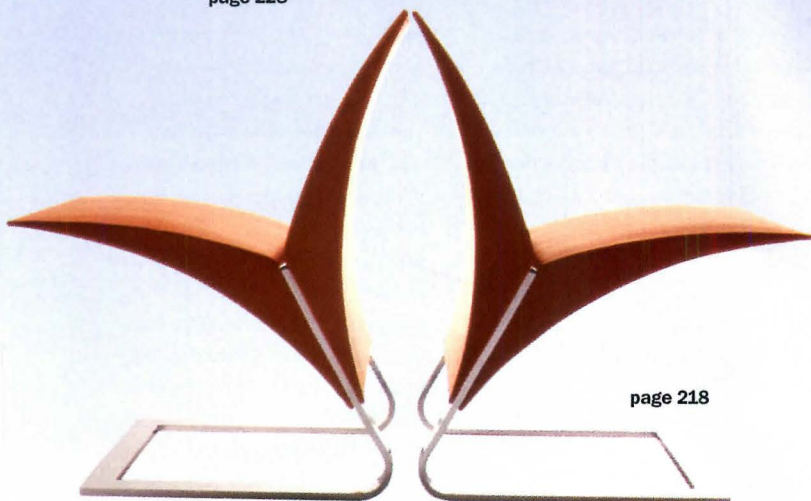


page 195

Product Reports



page 228



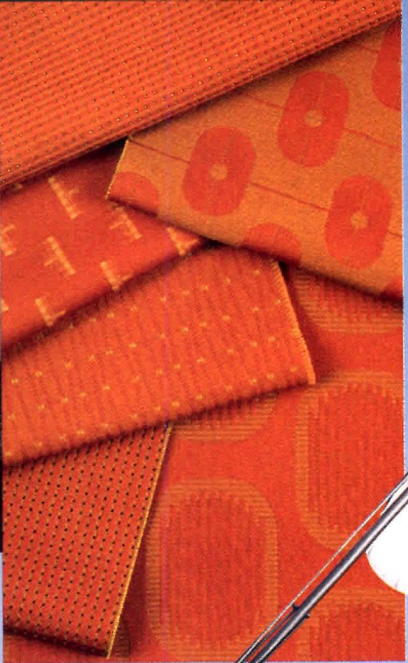
page 218

RECORD's Annual Product of the Year Poll

Don't forget to visit our Web site during the month of December to once again vote for your favorite product of the year from a group selected by our editors. The winning product will appear on the Web site in January. Go to www.architecturalrecord.com.

While it's our goal each December to present the most innovative, well-designed new products to our readers, there isn't a scientific method to our selections. Our process is simple: We gather the product submissions, present them to a jury of design professionals, and publish their favorites from that group. The jury makes no endorsement of the products included, and there is no guarantee that every noteworthy product introduced into the marketplace this year was submitted by the manufacturer to be reviewed. As always, it is the process of actually specifying a product and seeing it perform in the real world that is the true test of its worth. We offer these products as merely a place to start on your own journey to find the right solution for your project.

Although the Finishes, Lighting, Doors & Windows, and Furnishings categories had the greatest amount of submissions, that doesn't always affect the outcome. The Equipment category, for example, had a modest number of submissions but was one of the favorites of the jury, with three full pages of new offerings ranging from sexy bath cabinetry and display equipment to intelligent, interactive audiovisual products. It's also interesting to note that if too many good products in a certain category are submitted in the same year (say, four different types of low-e glass), the jury may hesitate to select one to include in our Reports without further research.



2002



This year, two of the products that stood out for our jury (and our editors) reflected issues of particular concern for the U.S. at the moment—national security and water conservation. A product like RPI's Blastec explosion-resistant waste receptacle struck a chord with the jury for its potential to help architects design safer public spaces, while Duravit's waterless urinal can save roughly 14,400 gallons of water a day in a 40-story office building (based on 75 men per floor using 1.6 gallons of water three times a day)—a good idea in a year when most of the nation has been plagued by drought. Our jury was naturally drawn to these products because they help architects solve their clients' problems in a well-designed way. Shouldn't that be the goal of every product manufacturer?

Thanks to our jury and to all the building-product manufacturers who submitted this year. If you wish to share comments or suggestions regarding your product experiences this year or next, please let us know. Your feedback is invaluable. —Rita F. Catinella

Product Reports 2002 Jury

Jerri Smith, AIA (seated), is a senior associate principle at Kohn Pedersen Fox Associates, in New York City. Most recently she worked on the new headquarters building for Gannett/USA Today in McLean, Virginia (completed in 2001), and William H. Gates Hall, the Law School at the University of Washington, in Seattle (under construction).

Lewis J. Goetz, AIA, IIDA (standing, far right), founder, president, and chief executive of Group Goetz Architects, in Washington, D.C., was recently elected to head the International Interior Design Association (IIDA). Goetz has won numerous local and national design awards and has worked for clients such as Mobil, Marriott International, the Smithsonian Institution, the AFL-CIO, Lucent Technologies, and the Kennedy Center.

Karen Singh, IIDA (standing, left of center), is an interior designer with Janson Design Group, in New York City. At the firm, Singh is responsible for the overall design on her projects, along with space planning, management of budgets, and coordination of projects with the various contractors. She is president of the New York chapter of the Resource Director's Association.

Richard Renfro, IES, IALD, LC (standing, right of center), is principal of Renfro Design Group, an architectural lighting design practice in New York City. Renfro's firm works extensively on museums, educational facilities, restoration projects, performing arts centers, and commercial buildings. Recently completed projects include Tod Williams Billie Tsien's Museum of American Folk Art and the restoration of Saint Thomas Church, both in New York City.

Michael Giardina, AIA (standing, far left), is vice president/senior designer at The Stubbins Associates, in Cambridge, Massachusetts. In addition to his corporate and commercial experience, Giardina has been involved for a number of years in Middle East projects, ranging from large, complex teaching labs to high-end speculative office developments.

Editors Deborah Snoonian, P.E., Sara Hart, William Weathersby, Jr., and Jane Kolleeny also helped in the judging.



JURY PHOTOGRAPHY: © SETH COHEN, EXCEPT WHERE NOTED

184 Editors Picks	212 Specialties
187 General Data	215 Equipment
191 Sitework, Concrete & Masonry	218 Furnishings
195 Metals, Wood & Plastics	223 Special Construction & Conveying Systems
199 Thermal & Moisture	225 Mechanical
201 Doors & Windows	228 Electrical
207 Finishes	



Editors' Picks

A baker's dozen of outstanding new products that captured our attention this year



Solarban 80 solar control low-e glass, PPG Industries. Doors & Windows, page 203.



Formaldehyde-free fiberglass, Johns Manville. Thermal & Moisture Protection, page 199.

Geometrix metal ceiling panels (shown) and Topo 3D panel system, USG Interiors. Finishes, page 207.



ED 220 steam-and-convection combination oven, Gaggenau. Equipment, page 215.



Blastec explosion-resistant waste receptacle, RPI. Sitework, page 192.



Aimed at the health-care market, Milliken's Soul carpet line is inspired by nature. [See RECORD, October 2002, page 261.]

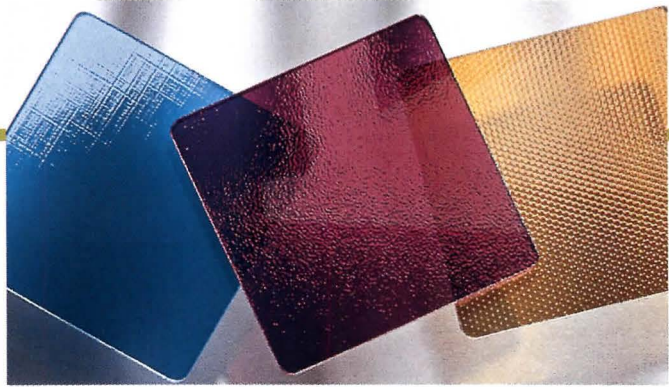


Dream, Wave, and Shield Italian-designed security doors, Torterolo & Re. Doors & Windows, page 201.

Out of the many new products our editors encountered during the year, a few were singled out. The reasons vary—it could be because they were both “green” and clever at the same time, such as Duravit’s McDry waterless urinal. Or they may have been money-saving appliances that weren’t available residentially before, such as Whirlpool’s Personal Valet clothes-revitalizing system. In most cases, however, they were products that offered simple design solutions while still looking attractive.—Rita F. Catinella



ECO3000 escalator, KONE.
Conveying Systems, page 223.



Three textured metallic interlayers can be combined with Solutia’s range of Vanceva laminated glass colors. [RECORD, August 2002, page 224.]



Allsteel’s #19 chair is easy to use, with only 18 primary components. [June 2002, page 221.]



Personal Valet clothes-care system, Whirlpool Corporation.
Equipment, page 216.



Residential refrigerator with commercial-look glass door, Sub-Zero. Equipment, page 217.

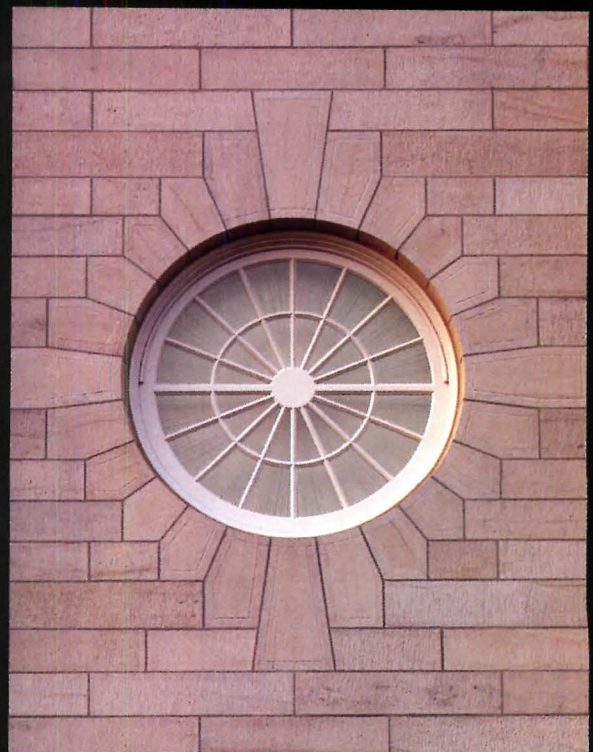


McDry waterless urinal, Duravit USA.
Mechanical, page 226.

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General Data

Computer software • Computer systems • Design office equipment & materials • Electronic literature • Web-based tools • Handheld tools

Printing passport

HP Remote Printing for AEC is a Web-based service for sending large-format print jobs to HP printers located anywhere in the world. No more sending large e-mails or overnight packages. 800/236-0757. HP, Palo Alto, Calif. **CIRCLE 200**

Squiggle technology

To lose that hard-edged look, Squiggle 5 lets architects quickly and easily create presentations of CAD drawings that look hand-drawn. New features include better handling of DWG and DXF drawings and greater support for HPGL and HPGL/2 plot files. Select individual colors, line weights, or Squiggle styles based on pen width or drawing layer. 925/249-0101. SignatureCAD, Pleasanton, Calif. **CIRCLE 201**

Electronic whiteboard device

Attach the mimio Xi device to any whiteboard, connect to your PC, and everything that is written and drawn is electronically recorded. Together with a projector, the mimio Xi also turns any whiteboard into an interactive touch screen, allowing users to control their desktop applications directly from the whiteboard. 877/MY-MIMIO. Virtual Ink, Boston. **CIRCLE 202**

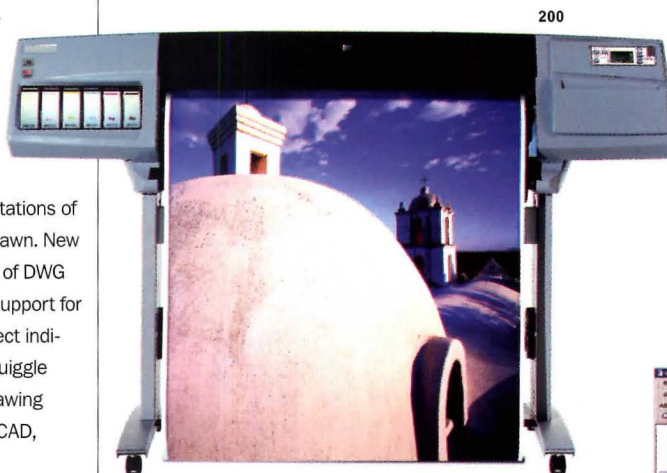
Online product library

BlueBolt is an online design resource that includes a library of 50,000 products and 53 leading brands, search and selection tools, color-true product images and specs, and online sample ordering connected directly to the manufacturer. 800/845-2511. BlueBolt Networks, Durham, N.C. **CIRCLE 203**

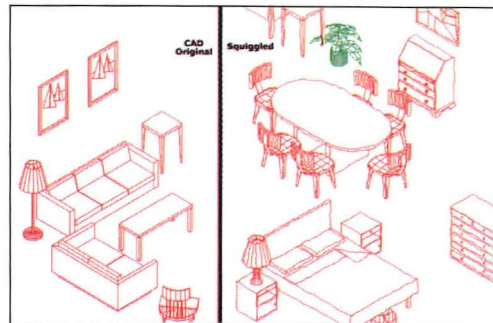
Traditional methods, digitally

Autodesk Architectural Studio recreates the architect's traditional studio in digital form by providing intuitive tools like pencils, markers, and trace paper that allow designers to sketch or model design concepts on a pen tablet or computer as they would by hand. 800/538-6401. Autodesk, San Rafael, Calif. **CIRCLE 204**

This year's design tools range from the very handy, like AutoLayer/AutoLib, to the groundbreaking, like Architectural Studio and Plan2Model. —DEBORAH SNOONIAN, P.E.



200



201



202



203



204

General Data

Management systems

AutoLib (shown) is a detail- and symbol-management utility for AutoCAD files. Features include a keyword search and thumbnail or enlarged viewing capabilities. Administrative settings control library creation and editing to ensure that only approved files make their way to drawing sheets. AutoLayer is a layer-management utility that ensures consistent layers in drawing files. Company or AIA/NCS standard layer names, color, line type, and line weight can be preestablished and individually or group inserted. 949/278-8473. ArchMedia, Irvine, Calif. **CIRCLE 205**

Handheld video player

TealMovie is a handheld multimedia system that can turn virtually any PalmOS handheld into a high-quality video and animation player. TealMovie supports smooth playback up to 60 frames per second (on supporting hardware), high-quality full-screen TrueColor or grayscale imagery, high resolution support, WAV file playback, and synchronized sound playback capability. 415/482-8325. TealPoint Software, San Rafael, Calif. **CIRCLE 206**

Color connection system

The Pantone system Architecture+Interiors allows designers to connect different categories within the industry, including carpets, fabrics, paint, flooring, fiber, furniture, and laminates. The system consists of 1,757 colors in cotton, paper, and digital formats, with a 203-color supplement of mostly whites and neutrals. 888/PANTONE. Pantone, Carlstadt, N.J. **CIRCLE 207**

Copper info CD

The *Copper in Architecture* CD-ROM contains technical discussions, sample projects, details, and specifications on the application of architectural copper products. Details are AutoCAD-compatible for easy importing, or printable as PDF documents. 888/427-2411. Copper Development, New York City. **CIRCLE 208**

2D to 3D models

Plan2Model provides architects the option to turn 2D floor plans into 3D ArchiCAD models quickly and effectively. With this ArchiCAD 7.0 add-on, lines, arcs, and circles in 2D drawings are converted to objects in an ArchiCAD model automatically and/or semiautomatically. 415/703-9777. Graphisoft U.S., San Francisco. **CIRCLE 209**

Computer software • Computer systems • Design office equipment & materials • Electronic literature • Web-based tools • Handheld systems

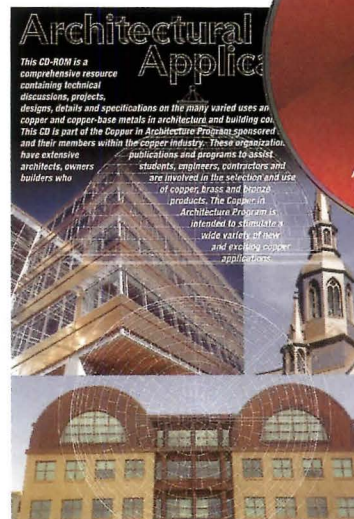
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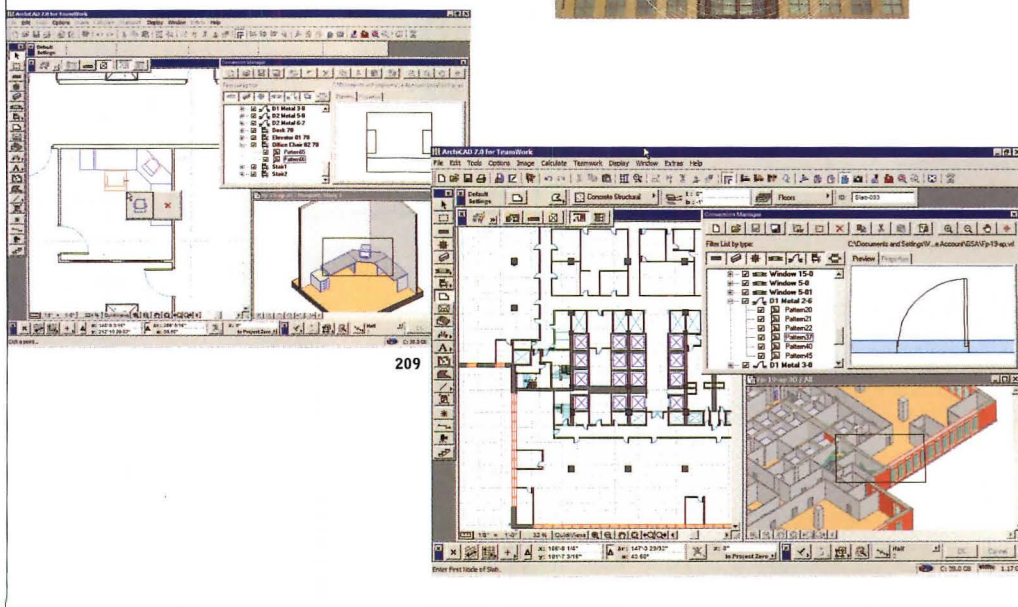
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207



208



209

Sitework, Concrete & Masonry

Unit pavers • Form liners • Concrete materials • Site furnishings • Architectural precast concrete • Stone • Limestone • Masonry units

Decorative concrete

Ann Sacks offers three new limestone and concrete products for interior and exterior spaces. Saint Germain (far left) is an oversize limestone tile that recreates the look of traditional European stone cutting; Plaza (center) can handle various weather conditions; and Spool (far right) is a formed concrete lav for a rustic bathroom. 800/278-8453. Ann Sacks, Portland. **CIRCLE 210**

Pour it yourself

For the convenience of do-it-yourself concrete casting, Buddy Rhode's mix is made for home improvement enthusiasts and is suitable for kitchen countertops, bathroom vanities, and floors. The mix is made of 30 percent recycled materials and white cement, and it comes in six colors. 877/706-5303. Buddy Rhodes Studio, San Francisco. **CIRCLE 211**

"Stone" wall

Stone-Crete marries natural aesthetics with concrete structural capacities. A cast-in-place wall system that duplicates the look of natural stone in concrete, Stone-Crete has the structural capacity for retaining foundation walls, bridges, and dams. Unlike natural stone construction, it requires little or no maintenance and is available in eight deep relief patterns and a variety of colors.

800/752-4626. Increte Systems, Odessa, Fla. **CIRCLE 212**

Matching outdoor elements

For seating and space definition, the Chase Park collection is suitable for sidewalks, large plazas, and courtyards. The individual seats within the large bench frame personalize the bench for intimate settings. Both the bench and waste receptacle are rendered in cast aluminum with rugged steel frames for durability. 800/521-2546. Landscape Forms, Kalamazoo, Mich. **CIRCLE 213**

The Blastec explosion-resistant waste receptacle was an eye-opener about the kinds of issues that need to be addressed in the design world these days. —JERRI K. SMITH, AIA



210



211



212



213

Sitework, Concrete & Masonry

Unit pavers • Form liners • Concrete materials • Site furnishings • Architectural precast concrete • Stone • Limestone • Masonry units

Versatile public seating

The Leda Bench comes backed or backless, curved or straight, with or without armrests, and in an array of metal-finish colors. 800/451-0410. Forms+Surfaces, Carpinteria, Calif. **CIRCLE 214**

Protective terra-cotta

Eliminating sealants and caulking, the Alphonon terra-cotta rainscreen system provides thermal and moisture insulation, is made with 100 percent recycled materials, and resists extreme weather conditions. 516/656-0019. Shildan USA, Glen Cove, N.Y. **CIRCLE 215**

Clay pavers

For exterior pedestrian and light vehicular applications, Clay Street pavers feature a variety of sizes, edge options, and body colors. 800/5-BORAL-5. Boral Bricks, Roswell, Ga. **CIRCLE 216**

Safe cans

Blastec, an explosion-resistant waste receptacle, consists of an inner liner, an outer shell, and a core made of a shock-attenuating material. 989/635-7465. RPI, Marlette, Mich. **CIRCLE 217**



214



215



216



217

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Metals, Wood & Plastics

Metal materials • Railings & handrails • Expansion joint cover assemblies • Lumber • Wood treatments • Laminated & processed sheets • Laminates • Plastic fabrications

Mighty metals

These matte-textured high-performance sheet metals offer uniformity and flatness for fabrication into architectural panels. In both stainless-steel and titanium low-gloss finishes, the rolled-in textures aren't coated and will not deteriorate in harsh environments like seashores and urban areas. 866/360-5100. Contrarian Metal Resources, Cranberry, Pa. **CIRCLE 218**

Laminate chic

Millerighe's textured, design-driven high-pressure laminates come in 17 eye-catching hues. Colors to choose from include vibrant oranges, greens, and yellows, hot pink, and silver. 800/228-2238. Abet Laminati, Englewood, N.J.

CIRCLE 219

Resilient resin

Varia is a high-performance and translucent resin that has 40 times the impact strength of glass; will not shatter, crack, or discolor; and can be contoured to any form. It can capture a variety of textures, from handmade papers to metal screens and woven mesh. 800/726-0126.

3Form, Salt Lake City. **CIRCLE 220**

Hardwood plywood/veneer

This line offers certified hardwood plywood and veneered particleboard (inset, center right), as well as Europly (below center), a premium plywood panel featuring a domestic hardwood face and a multilayered core composed of 60 percent imported Polish birch and 40 percent alder. 800/547-4261. Columbia Forest Products, Portland, Ore.

CIRCLE 221

Kit of parts railing

No on-site welding, grinding, or extra finish work is required in the Silhouette Railing System. It works directly with project CAD files for parts fabrication, and assemblage is easy with adhesives and fasteners. 800/451-0410.

Forms+Surfaces, Carpinteria, Calif.

CIRCLE 222

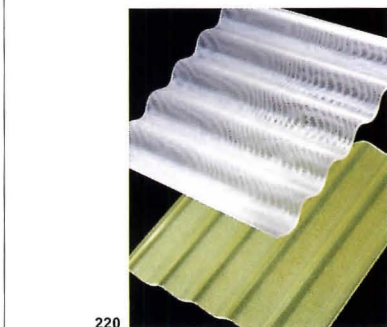
I was particularly impressed with the variety of new materials presented to the jury. It offers us, as designers, numerous options for our design solutions. —LEWIS J. GOETZ, AIA, IIDA



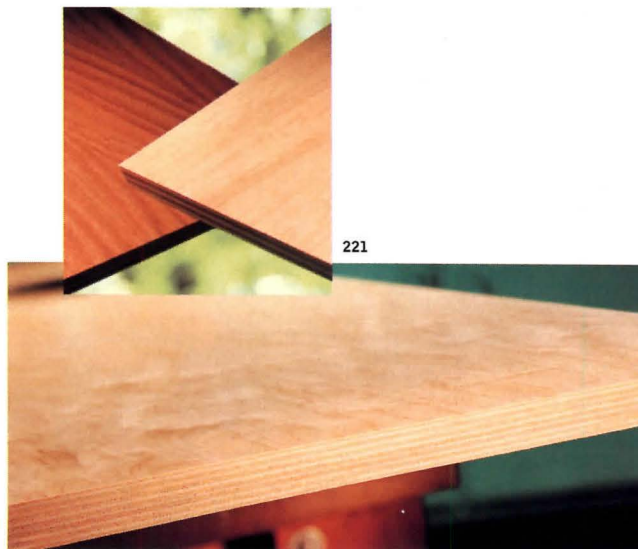
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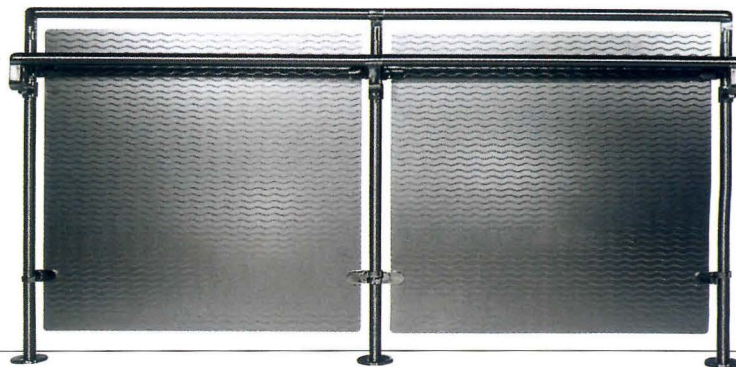
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221



222

Metals, Wood & Plastics

Railings & handrails • Expansion joint cover assemblies • Lumber • Wood treatments • Laminates • Plastic fabrications

Processed wood

CaLignum (top) is produced by a special process (below) that improves the density, hardness, tensile and impact strength, and compression and bending capacities of all species of wood. It offers an alternative to rain-forest wood and increases the areas of application of most species of wood. 203/227-9140. Lign Multiwood AB, Westport, Conn.

CIRCLE 223

Steel rails

The Munich's design includes seamless handrails and a baluster with three oval tubes. Infill panel options include glass, and horizontal or vertical tubes in polished satin- or titanium-plated finishes. 630/860-2990. P&P Artec Stainless Steel Handrail, Wood Dale, Ill. CIRCLE 224

Transferring car weight

The aluminum KB Series joint cover is engineered specifically for use in parking structures and dynamic loading situations. With a patented turnbar load-transference system, the joint cover prevents damage and won't interfere with pedestrians. 888/621-3344. C/S Group, Muncy, Pa. CIRCLE 225

Pest defense

Now available in the U.S., Wolmanized Natural Select wood is pressure-treated with a copper azole solution composed of recycled copper and an organic fungicide for long-term resistance against termites and fungal decay. 770/801-6600. Arch Wood Protection, Smyrna, Ga. CIRCLE 226

Forest-friendly bamboo

Bamboo veneer and panels have options for flat or vertical grain, and natural and caramelized finishes. Bamboo complies with specifications of green design through its environmentally friendly harvest techniques and lamination adhesives. 800/929-6333. TimberGrass Fine Bamboo Flooring & Panels, Bainbridge Island, Wash. CIRCLE 227

Aussie wood

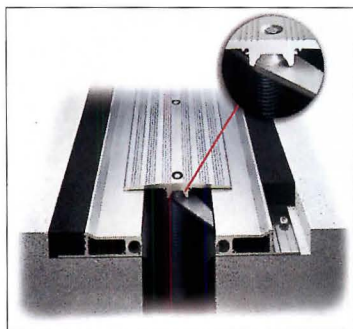
Boral Timber introduces 10 species, with colors ranging from deep red to pale pink to yellow. The species include: Alpine ash, Australian beech, Australian cypress, Heritage oak, jarrah, karri, Rose River gum, Spotted gum, Sydney blue oak, and Tasmanian oak. 800/BORAL-60. Boral Timber, Novato, Calif. CIRCLE 228



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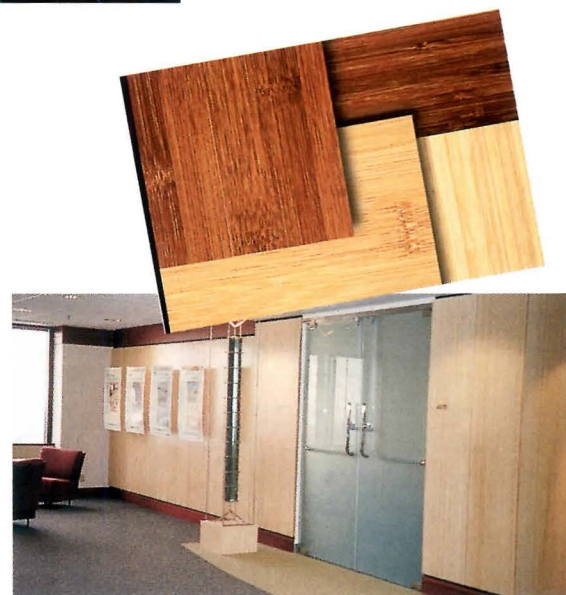
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225



226



227



228



Thermal & Moisture

Waterproofing & dampproofing • Thermal protection • Building insulation • Roof & wall panels • Roof accessories

Formaldehyde-free fiberglass

Johns Manville will now manufacture a line of entirely formaldehyde-free fiberglass building insulation for residential and commercial use. The insulation features a binder composed of an acrylic resin rather than a phenol-formaldehyde binder. 800/654-3103. Johns Manville, Denver. **CIRCLE 229**

Integration options

A full line of Construction Specialties' fixed, drainable, and storm-resistant integrated louvers are designed to be integrated seamlessly into the Centria Dimension Series' joinery, sealing systems, and sight lines. 800/759-7474. Centria, Moon Township, Pa. **CIRCLE 230**

Zinc composite material

Reynobond ZCM is composed of two 22-gauge sheets of Rheinzink Titanium Zinc alloy permanently bonded to a fire-resistant core. 770/840-6456. Alcoa Cladding Systems, Norcross, Ga. **CIRCLE 231**

Aluminum plate panels

The Una-Fab Series 4000 Aluminum Plate Panel System is a true back-ventilated, pressure-equalized rainscreen system with sealant-free open joints. 800/426-7737. Copper Sales, Anokam, Minn. **CIRCLE 232**

Strong as an ...

OXTerminator is an oriented strand board with guaranteed protection against termites and fungal rot as well as demonstrated superior resistance to surface mold growth. OXTerminator employs a proprietary copper complex treatment that coats wood flakes prior to panel formation. 800/750-3850. Potlatch, Spokane, Wash. **CIRCLE 233**

Wind-activated vent

The X-5 ridge vent features the Active Weather Foil, a specially designed, wind-activated, weather-impenetrable valve that is permanently attached to the bottom layer of the system. 800/837-8368. Cor-A-Vent, Mishawaka, Ind. **CIRCLE 234**

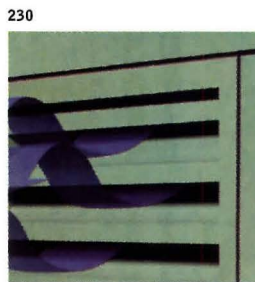
It's terrific to see sustainability featured in so many new products. —JERRI K. SMITH, AIA



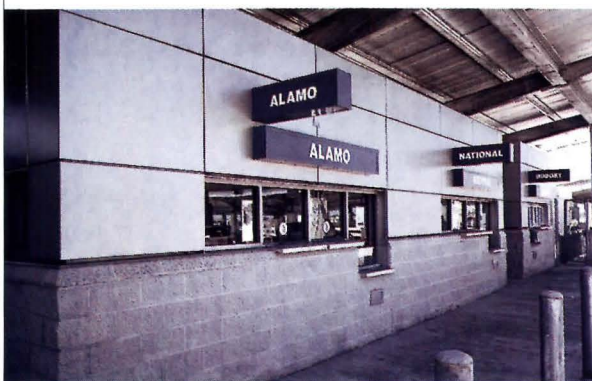
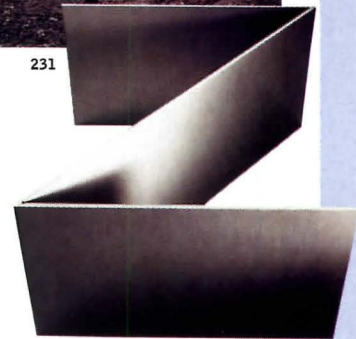
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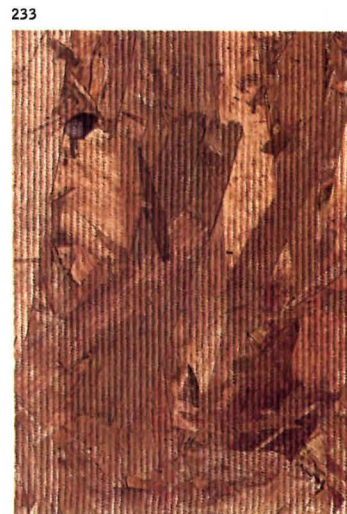
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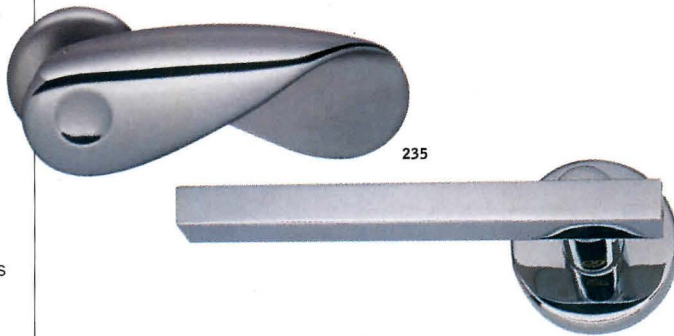


Doors & Windows

Metal/wood doors & frames • Security/sliding/automatic entrance doors • Fire-rated door assemblies • Windows • Skylight structures • Hardware • Glass/glazing

Haute hardware

Door levers by Ron Arad (above) and John Pawson (below) offer varying geometric forms in the same finishes. Arad's designs are fluid and sinuous, while Pawson's lever features a combination of circles and straight edges. 877/326-2565. Valli & Valli, New York City. **CIRCLE 235**

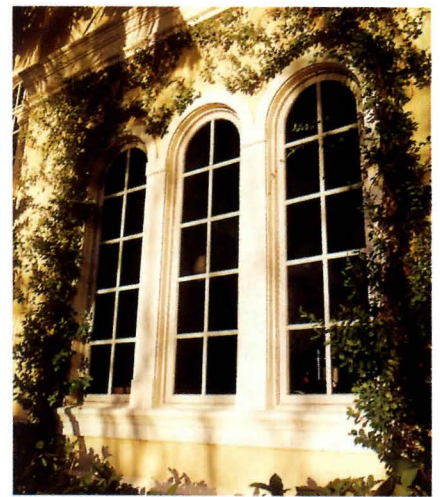


The John Pawson door lever by Valli & Valli has a good, classic modern design that is easy to integrate with other interior finishes. —MICHAEL GIARDINA, AIA



Multi-option windows

KML by Andersen architectural windows and doors offers options not readily available from most manufacturers. These include wood finishes, impact resistance for severe weather, custom shapes and sizes, and commercial-grade windows and doors. 800/426-4261. Andersen, Bayport, Minn. **CIRCLE 236**



236

Smart door

This ESA sliding automatic door system uses a microprocessor for ultimate control: It self-monitors all door functions and adjusts itself automatically. The track eliminates operational noise and stops vibration resonance from being transferred onto building structures. Finish options include clear and anodized dark bronze. 877/DORMA-11. Dorma Automatics, Rearnstown, Pa. **CIRCLE 237**



237

Crumpled-paper texture

The Arrigado texture is an abstraction of folded paper that can be developed as a clear, frosted, matte, or colored-glass sheet in any Pantone color. It is available in tempered, laminated, or annealed glass, as well as thermal formed plastic. 888/505-GLASS. Joel Berman Glass Studios, Vancouver. **CIRCLE 238**



238

Racy security doors

Three new steel-clad security doors designed by car producer Pininfarina include Wave (right), Dream (center), and Shield (left). The Shield model features double-thickness galvanized sheet metal with high-security cylinder locks. 39 019 516901. Torterolo & Re, Cossèria, Italy. **CIRCLE 239**



239

Doors & Windows

Metal/wood doors & frames • Security/sliding/automatic entrance doors • Windows • Skylight structures • Hardware • Glass/glazing

Sliding, rolling, and shielding

Pella's three new door and window products include the Architect Series Sliding Door (top), whose sliding panel has a tighter seal; the Rolscreen Patio Door (below), which allows 18 percent more light than standard screens; and Hurricane Shield Windows (center), which offer 100 times the rigidity and five times the tear resistance of common impact-resistant laminated glass. 888/84-PELLA. Pella, Pella, Iowa.

CIRCLE 240

Missile tested

Storm Front high-impact-resistant framing and entrance systems can withstand the impact of high winds and wind-borne debris. The systems meet Miami-Dade County protocol and have been large-missile-impact and cycled tested. 800/627-6440. United States Aluminum, Waxahachie, Tex.

Security at the wave of a wand

The Dialock locking system features an advanced transponder technology for applications that include fitness centers, banking, offices, and health care. With software tools, up to 30,000 keys and 10,000 openings can be managed. 888/437-7477. Hafele, Archdale, N.C.

CIRCLE 241

Continuous color

FractalGlass is created by laminating an interlayer of continuous tone color imagery between two sheets of glass. The glass, impervious to the elements, can be used indoors or out in dimensions that can span a building facade. 800/275-7272. Cesar Color, Phoenix.

CIRCLE 243

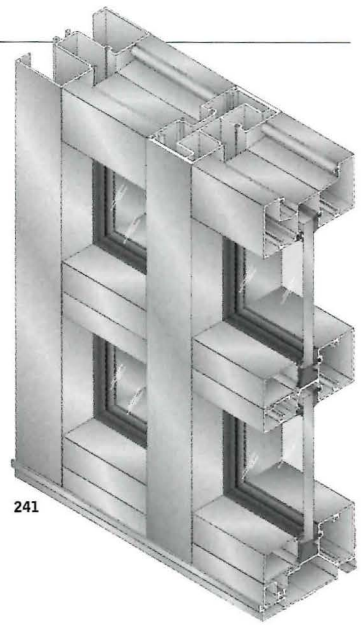
Large-span acrylic sheets

Reynolds Polymer Technology can use its single-pour casting method to manufacture crystal-clear acrylic in almost any shape, size, and color for an array of architectural projects. 800/433-9293. Reynolds Polymer Technology, Grand Junction, Colo.

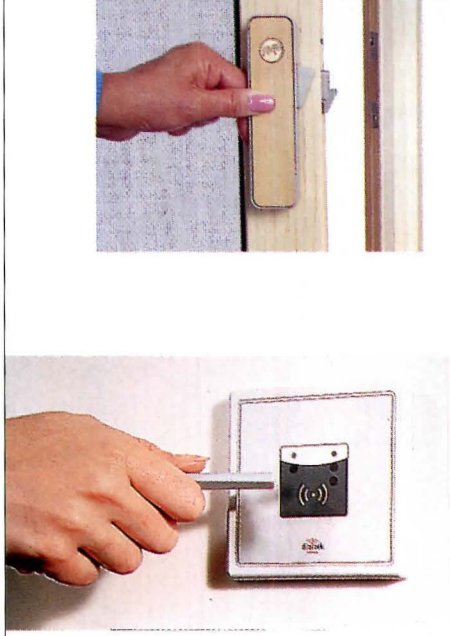
CIRCLE 244



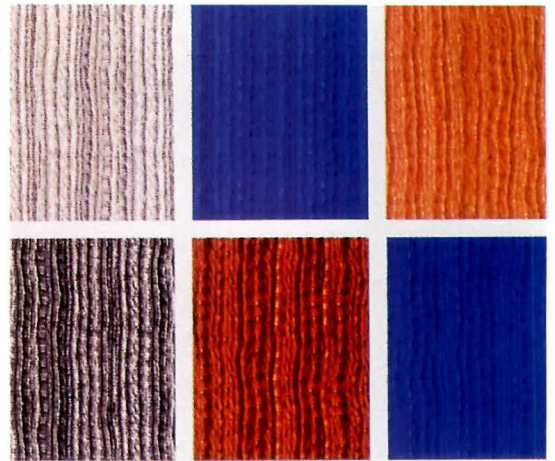
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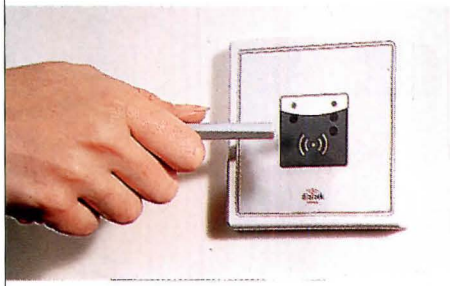
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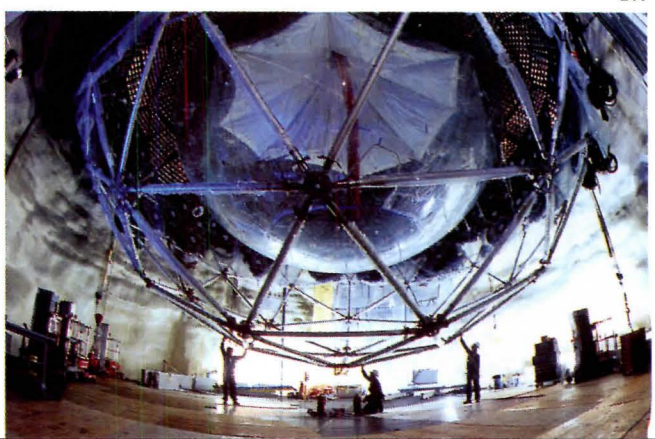
242



243



242



244

Doors & Windows

Metal/wood doors & frames • Security/sliding/automatic entrance doors • Windows • Skylight structures • Hardware • Glass/glazing

Antireflective glass

Shown here at the Eiffel Tower Restaurant at the Paris Hotel in Las Vegas, Schott's Amiran antireflective glass is available with a low-e coating for improved solar performance. 914/378-3839. Schott Corporation, Technical Glass Division, Yonkers, N.Y. **CIRCLE 245**

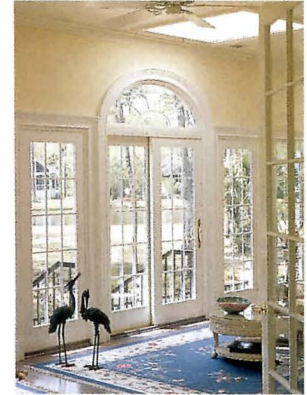


245

Tough and traditional

Marvin has added new features and options to its Sliding French door, including extra-wide 4¾" stiles and a tall 8¾" bottom rail to achieve a traditional look and profile. 888/537-8266. Marvin Windows and Doors, Warroad, Minn.

CIRCLE 246



246

Tested terrace door

Thermally broken throughout, Kawneer's 2000T Terrace Door is fully tested, including for large- and small-missile-impact resistance. 877/767-9107. Kawneer, Norcross, Ga. **CIRCLE 247**



247

Flexible curtain wall

A new curtain-wall system from Extech/Exterior Technologies accepts both glass and cellular polycarbonate glazings. 800/500-8083. Extech/Exterior Technologies, Pittsburgh. **CIRCLE 248**



248

Fire-rated wood doors

Eggers fire-rated wood doors feature concealed and surface vertical rods with no metal meeting edges. The doors also offer up to 90-minute fire ratings and standard swing or double egress. 920/722-6444. Eggers Industries, Neenah, Wis. **CIRCLE 249**



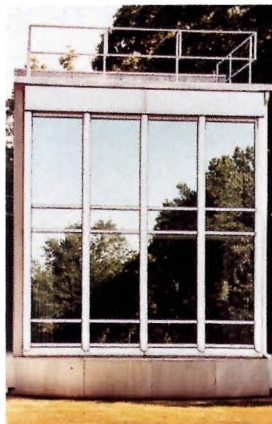
249

Cool glass

PPG claims that Solarban 80 coated clear glass in a 1" insulating unit has the best balance of high visible light transmittance (47 percent) and a low solar-heat-gain coefficient (0.23) in architectural glazing today. 800/377-5267. PPG Industries, Pittsburgh.

CIRCLE 250

250



Blind vision

The Vison Control hermetically sealed glass unit controls energy and light transfer and is custom-made to suit the architect's glazing needs. Vision Control's self-reversing blinds eliminate risk of mechanism breakage, while its 2" air-space provides acoustical performances. 800/668-1580. Unicef Architectural, Longueuil, Quebec. **CIRCLE 251**



251

Doors & Windows

Metal/wood doors & frames • Security/sliding/automatic entrance doors • Windows • Skylight structures • Hardware • Glass/glazing

Stainless-steel/bronze pulls

Designed by furniture designer Don Chadwick, the Circuit Collection of door pulls, cabinet pulls, and coat hooks is cast in solid stainless steel or bronze. 800/451-0410. Forms+Surfaces, Carpinetria, Calif. **CIRCLE 252**

Fire-rated hardwood framing

Technical Glass Products has added fire-rated hardwood framing and doors to their Fireframes line, providing an alternative to traditional hollow metal steel frames. The frames are available in a wide variety of wood species and come in complete packages for easy installation. 800/451-9857. Technical Glass Products, Kirkland, Wash. **CIRCLE 253**

Intelligent daylighting system

ControlLite is a glazing panel with built-in intelligent light controllers that reduce solar heat gain during peak sunlight hours and hot summer months while providing maximum light when most needed. 800/759-6985. CPI International, Lake Forest, Ill. **CIRCLE 254**



252



253



254

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Finishes

Ceiling suspension • Ceramic/metal tile • Special ceiling surfaces • Resilient flooring • Wall coverings • Carpet tile • Sheet carpet

Bentley's Industry is not overpowering or aggressive, but it makes a statement that is both fun and sophisticated.

—KAREN D. SINGH, IIDA



Rolling ceilings

The Topo 3D system (left) consists of preformed translucent and opaque Lexan infill panels installed into a curved suspension system. The infill panels are designed in four panel modules to create the appearance of gently rolling curves. The 2' x 2' Geometrix metal ceiling panels (right) are available in four profiles: flat, wedge shaped, and wedge shaped with either inside or outside corners. 800/874-4968. USG Interiors, Chicago.

CIRCLE 255

Digital nature

Karim Rashid designed these commercial wallcoverings as an exploration of patterns that occur in nature. The designs mimic plant, animal, landscape, and human structures in abstract 2D forms and were generated with digital design tools. 800/347-0550. Wolf-Gordon, Long Island City, N.Y. CIRCLE 256

Mostly metal

Steel and brass pieces are molded into an eclectic mix of shapes, sizes, and finishes in Metallismo's metal tile collection. The tiles blend a variety of interior fashion motifs, with monochromatic and industrial design themes. Each metal piece is rubber-backed to prevent conductivity, and mosaics are mesh-mounted for easy installation. Metallismo is appropriate for both commercial and residential applications. 877/611-0199. Walker Zanger, Sun Valley, Calif.

CIRCLE 257

Colorful collection

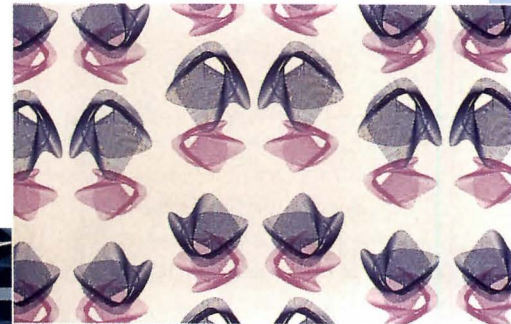
Paola Lenti's variety of new fabric colors and patterns can be coordinated with the firm's collection of carpets, felts, tapestries, and seating. Completely handmade of New Zealand wool, the area carpet range is available in various designs and 160 shades. All the creations in the printed felt collection can be customized according to taste and requirements. 888/545-5073. Counterpoint Design Resource, El Paso, Tex. CIRCLE 258



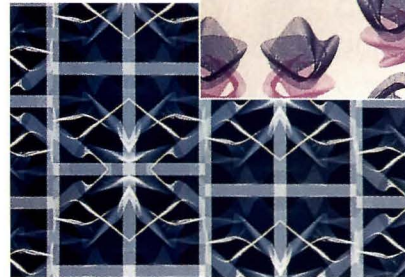
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257



256



258

Finishes

Ceiling suspension • Ceramic/metal tile • Special ceiling surfaces • Resilient flooring • Wall coverings • Carpet tile • Sheet carpet

Get floored

Floored is a 4" geometric pattern with bold linear stripes of color and texture that is appropriate for corporate, retail, and hospitality spaces. 800/859-9558. Invision Carpet Systems, Dalton, Ga.

CIRCLE 259

Vinyl style

The newest incarnation of the Plynl collection from Chilewich includes three patterns—dots, dashes, and squares—in five muted metallics. Originally developed last year with architect Joe Sultan, Plynl features a woven vinyl textile bonded to cushioned polyurethane that provides durability and an array of textures and new patterns. 212/679-9204. Chilewich, New York City. **CIRCLE 260**

Put some cork on it

Kroma and Basix are two new cork flooring collections from To Market. Kroma is a series of 12 engineered colorations that create a subtle metallic and pearlized visual effect. Basix features a natural flat texture washed with muted color by a color-stain technique. 877/843-8184. To Market, Los Angeles. **CIRCLE 261**

Comfortable ceramics

The warm-colored Habitat porcelain tile series from Diago imitates the texture of fabrics, allowing for wall finishes with the look of fine linens but with the ease of maintenance of ceramic. 800/351-0038. Hastings Tile & Il Bagno Collection, Freeport, N.Y. **CIRCLE 262**

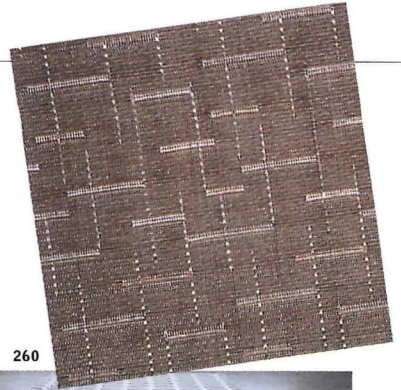
Modern mosaics

Alloy is a stainless-steel mosaic that offers a contemporary spin on the classic mosaic wall. In mirrored or brushed finishes, these tiles are available in a variety of sizes and provide a glittery dramatic backdrop to any room. 800/278-8453. Ann Sacks, Portland, Ore. **CIRCLE 263**

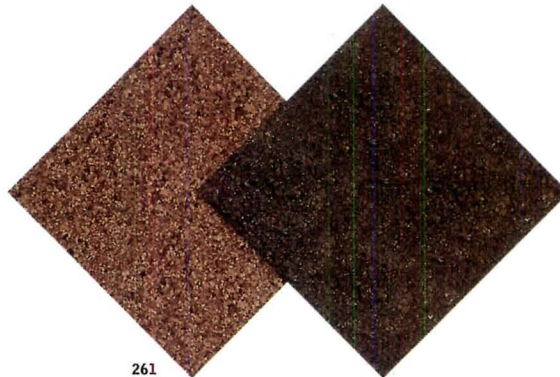
Saran wrap

Saran is dimensionally textured with true color, patterns, and grain characteristics to match real wood. Saran is a Class 1 product and can be used for interior and exterior applications. It is applied to Ceilings Plus preengineered accessible ceiling and wall panels and can be perforated for acoustical noise reduction. 800/822-3411. Ceilings Plus, Los Angeles. **CIRCLE 264**

259



260



261



262



263

264



Tile of Spain

The Mark of Excellence

Throughout history, artists like Spain's Joan Miró have added new dimensions to their unique works with the creative use of ceramic tile. Like Miró, the tile manufacturers of Spain are regarded as masters of their craft. For centuries, they have combined a history of craftsmanship and quality with forward-thinking technologies.

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Miró's tile mural, Mur du Soleil (1957), at the UNESCO Building in Paris, France.



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Finishes

Ceiling suspension • Ceramic/metal tile • Special ceiling surfaces • Resilient flooring • Wall coverings • Carpet tile • Sheet carpet

Forget furniture

Salto is a handwoven rug composed of individual loops made from 100 percent wool. Corale (shown) is a rug whose name derives from the unique look of its tufted fibers, also 100 percent wool. 505/266-5245. Ideas for Living, Albuquerque. **CIRCLE 265**



265

Decorative underlayer

The Levelrock Proflow is a high-strength gypsum underlayment and is the first that can be used as a decorative finished floor in heavy-use commercial applications. 800/487-4431. Industrial Products Division, USG Corporation, Chicago.

CIRCLE 266

Mutina ambience

Mutina ceramics are available in a variety of softly colored tiles and shapes ranging from sleek rectangles to chunkier squares. These Italian-manufactured tiles are for both commercial and residential uses. 212/980-1500. Italian Trade Commission, New York City.

CIRCLE 267

Molto mosaics

Ceramica di Treviso offers five mosaic styles including Nature, Crystal, Vetrofuso (cast glass), Mediterraneo, and Textures (shown). The mosaics measure approximately 1" x 1" and 2" x 2" and are affixed to a grid in a multitude of colors and decorations. 212/980-1500. Italian Trade Commission, New York City. **CIRCLE 268**



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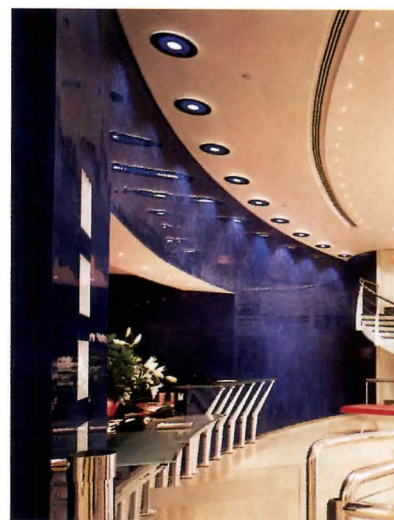


268

Linear loops

Available in 13 colors ranging from soft naturals to full jewel tones, Dhurrie features a clearly defined linear design incorporating a range of cut-loop textures. 770/877-6000. Bolyu Contract, Adairsville, Ga. **CIRCLE 269**

269



270

Posh plaster

Armourcoat Polished Plasters are trowel-applied decorative finishes in more than 256 colors that give the appearance of a seamless stone surface. 800/886-3626. Armourcoat Surface Finishes, North Providence, R.I. **CIRCLE 270**

Carpeting for purists

The broadloom installation for Industry (shown) appears as a distinct plane defined by color, without distractions of texture or pattern. 800/423-4709. Bentley Prince Street, City of Industry, Calif. **CIRCLE 271**



271

Wausau Tile



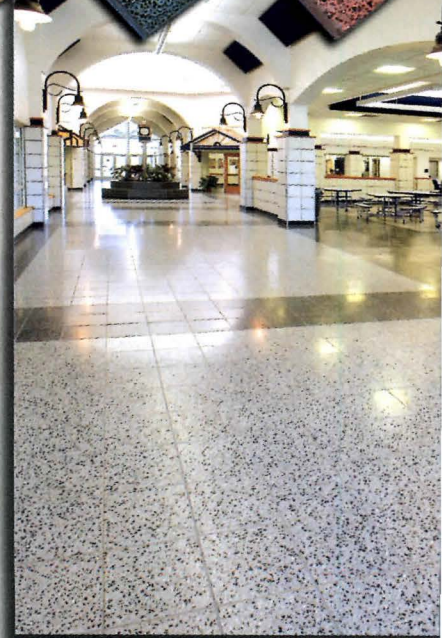
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Tactful tackboard

PINnacle, an upgraded tackboard that needs no additional finishing, is appropriate for architects' offices, schools, museums, and all public buildings. 800/257-9491. Homasote Company, West Trenton, N.J. **CIRCLE 272**

Floating fire

The Fireorb fireplace, designed by Chicago architect Doug Garofalo, AIA, is made of steel spun into a CAD-governed form and is engineered to be hung easily from any ceiling. The 16" x 10" opening rotates a full 360 degrees on a ball-bearing system, and the piece can hang from any ceiling with a flue up to 40' in length. Fireorb is tested and approved to UL standards for the U.S. and Canada. 847/454-9198. Fireorb, Prospect Heights, Ill. **CIRCLE 273**

The awning of a new age

Using a variety of metals, nontraditional fastening techniques, and blends of fabrics, Architectural Fabric Structures creates contemporary awnings, canopies, shade structures, and sculptures. 415/289-0457. Architectural Fabric Structures, Sausalito, Calif. **CIRCLE 274**

Keep students awake

The Wharton lectern features electronic height adjustments and a panel to manipulate room lighting, audio, and video. The user can access the Internet and LAN directly from the lectern, control cameras located in the room, and store "user preferences." The lectern is suited for college and university markets, corporate auditoriums, large training rooms, and conference facilities. 800/424-2432. KI, Green Bay, Wis. **CIRCLE 275**

Movable walls

Smed's new LifeSpace movable office fronts feature no visible panel-to-panel connections by incorporating slim, single, vertical frames in aluminum or wood. 800/661-9163. Smed International, Calgary, Canada. **CIRCLE 276**

The Wharton lectern incorporates most of the necessary functions and is easily incorporated into most contemporary installations. —MICHAEL GIARDINA, AIA



272



274



273



275

276



Piano designed pieces

The Lacciolo Collection of bath accessories by Renzo Piano features a teardrop shape and chrome and knurled-chrome finishes. 877/326-2565. Valli & Valli, New York City.

CIRCLE 327

Steel-reinforced access floor

The TecCrete XL access floor system has an advanced concrete mix that creates a 20 percent lighter floor. 888/977-1099. InterfaceAR, Grand Rapids, Mich. CIRCLE 328

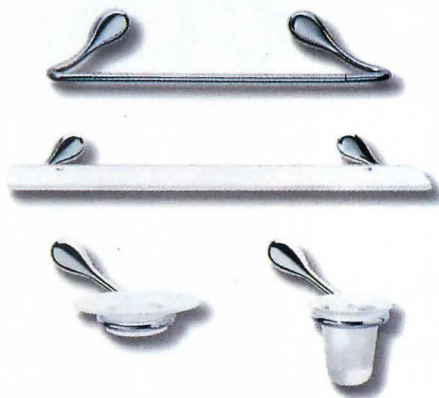
Sun shade

The 1600 SunShade integrates with inside or outside-glazed curtain-wall systems, shades interiors, and conserves energy with a 30" projection. 877/767-9107.

Kawneer, Norcross, Ga. CIRCLE 329

Fire monitor system

The SafeLINC communications link enables building managers and owners to use the Web to monitor fire-alarm systems off-site. 800/746-7539. SimplexGrinnell, Westminster, Mass. CIRCLE 330



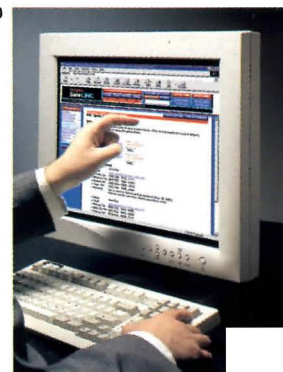
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Sub-Zero's glass door feature is a welcome addition that provides a refined, commercial look without the bulk typical of a commercial refrigerator. —MICHAEL GIARDINA, AIA



Cabinetry triad

Designed by Philippe Starck in plastic—a new material to Duravit—Jelly Cube (left) features a “slot-in” assembly that requires no tools. One-, two-, or three-door vanity units are offered from Duravit's In the Mood collection designed by Sieger Design (center). Also designed by Sieger, Multibox (right) is a two-door mirror cabinet in an aluminum finish with integrated side-lighting strips. 888/DURAVIT. Duravit USA, Duluth, Ga.

CIRCLE 277

Lofty aspirations

For Loft is a new kitchen and bath collection by Kallista. Designed by Michael Smith to blend into contemporary environments, including industrial, loftlike apartments and homes, the centerpiece of the collection is a full-size kitchen island with adjustable poles reaching all the way to the ceiling. A smooth Carrara marble countertop surrounds an oversize, undercounter-mounted fireclay kitchen sink. 920/457-4441.

Kohler, Kohler, Wis. CIRCLE 278

Culinary communications

The iCEBOX, a Web-enabled kitchen entertainment center, provides access to information, communication, and entertainment by combining cable TV, Internet and e-mail, DVD/audio CD player, and home video monitoring in one package. The FlipScreen iCEBOX fits conveniently under a standard kitchen cabinet and is broadband-enabled. 877/463-7637.

iCEBOX, Seattle. CIRCLE 279

Spa cuisine at home

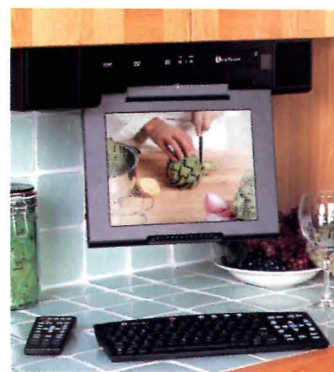
The ED 220 is a steam-and-convection combination oven that combines the dry heat of a convection oven with nonpressurized steam in precisely calibrated proportions. The steam generator produces four different degrees of humidity in the oven, with a mist button providing an extra burst of steam at critical moments. 800/828-9165. Gaggenau, Huntington Beach, Calif. CIRCLE 280



277



278



279



280

Equipment

Central vacuum-cleaning systems • Merchandising/display equipment • Audio/visual equipment • Residential appliances • Kitchen/bath cabinets

Dry cleaning replacement

The Personal Valet clothes vitalizing system effectively removes wrinkles and cleans away odors in virtually all types of fabrics in about 30 minutes. It is designed to fit easily into laundry rooms, bedrooms, or standard-size closets.

800/253-3977. Whirlpool Corporation, Benton Harbor, Mich. **CIRCLE 281**

Wash it in the sink

Briva, the industry's first in-sink dishwasher, is capable of cleaning small loads up to three times faster than standard full-size dishwashers. Briva, sized to fit a 42" or 48" cabinet, is a double sink with one side of the sink housing the dishwasher. 800/253-3977. KitchenAid, Benton Harbor, Mich. **CIRCLE 282**

Gourmet clean up

The Chef's washer for gourmet cookware features adjustable nylon-coated racks that are spaced for flexible loading of different size cookware. The deep lower rack accommodates items up to 15" high, and extra wheels provide stability for large, heavy loads. 800/626-2000. GE Appliances, Louisville. **CIRCLE 283**

A visible difference

The Visible display case has applications for retail, residential, and gallery spaces. The showcase is made of 6 millimeter clear or frosted tempered glass, and the frame is silver lacquered steel, with adjustable feet in the standing model. A horizontal and vertical wall-hung version is also available. The interior shelves can be inclined for special presentations, and the showcases can be custom designed. 415/543-5466. Limn, San Francisco. **CIRCLE 284**

Spend time in the kitchen

Developed on a horizontal plane with decisive lines, the TIME kitchen system features raised base units, a stainless-steel hood, and a work top that houses cooking utensils. 877/SNAIDERO. Snaidero USA, Torrance, Calif. **CIRCLE 285**

Central vac system

To create lightweight, powerful cleaning, better air quality, and less noise, the Beam Central Vacuum's power unit is typically located in the basement and connected to inlets throughout the home via vacuum tubing. 800/947-2326. Beam Industries, Webster City, Iowa.

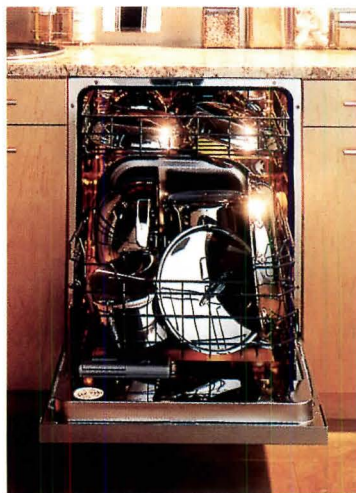
CIRCLE 286



281



282



283



284



285



286

A peek inside the fridge

Sub-Zero introduces a new refrigerator for residential use that features a commercial-look glass door. Electronic controls offer accurate temperature adjustment, and the glass door offers a variety of interior lighting options, ranging from a soft glow (door shut) to full illumination (door open). 800/532-7820.

Sub-Zero, Madison, Wis. **CIRCLE 287**

Barely there

Visplay Area features a range of sockets and components, including adjustable uprights, and merchandising accessories systems that can be easily mounted to wood or glass and configured to create displays for a wide variety of retail offerings. 330/343-6621. Marlite, Dover, Ohio. **CIRCLE 288**

Display modules

New options for the Zero System include an integral showcase module that allows for cost-effective display cases created within the Zero system. 401/724-4470.

Zero, Lincoln, R.I. **CIRCLE 289**

Featherlight doors

Valcucine's balanced lift-up door is fitted with a counterweight for easy opening and features a light aluminum structure to which various materials, such as sail fabrics, titanium fiber fabrics, or aerogel fabrics can be applied. 212/253-5969.

Valcucine, New York City. **CIRCLE 290**

Country kitchens

La Cornue's new line of cabinetry is designed to match the porcelain enamels and metal trims of its stove collection. The line is available in a range of colors and finishes, including copper, nickel, stainless steel, chrome, satin or polished brass, and features hand-selected materials, including steel plate and walnut and oak woods. 800/892-4040. Purcell Murray, Brisbane, Calif. **CIRCLE 291**

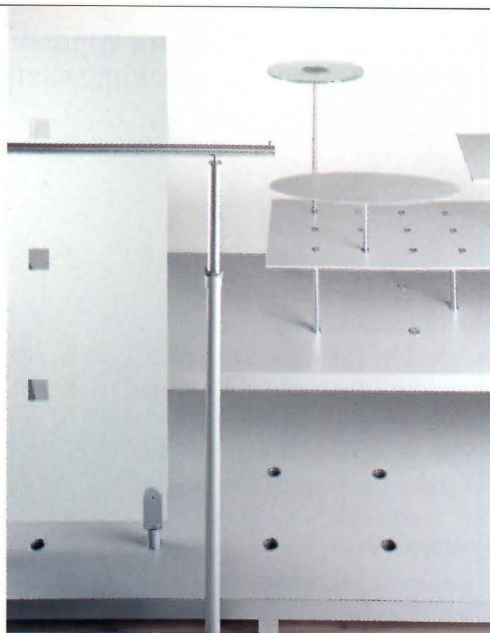
Smartly designed

The Smart Symposium IC-150 and IM-150 interactive lectern integration modules (above) are ideal for conference centers, auditoriums, and lecture halls. The Smart Camfire DCi whiteboard camera captures high-resolution images of a dry-erase whiteboard. 888/42-SMART. Smart Technologies, Calgary, Canada.

CIRCLE 292



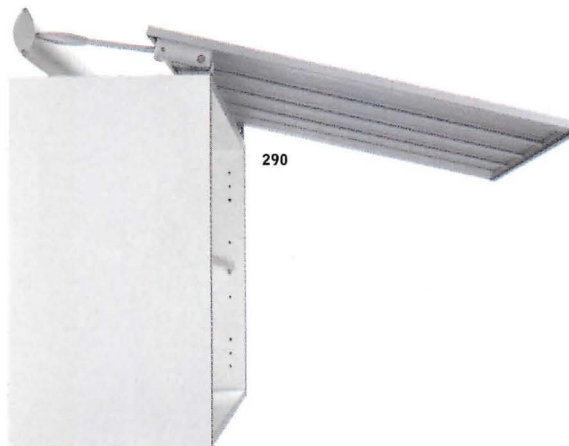
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288



289



290



291



292

Furnishings

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Textile abstractions

Maharam has expanded its *Textiles of the 20th Century Series* with the introduction of the Names (center) and three stripe patterns (right), all originally designed by Alexander Girard. A third textile offering from Maharam is Content (left), an environmentally responsible fabric with materials and manufacturing processes that reduce content toxicity, emissions, and resource consumption. All three textiles are for seating, walls, and window coverings and are available in a variety of colors. 800/645-3943. Maharam, New York City. **CIRCLE 293**

Formal seating

Poltrona Frau's strikingly different seating encompasses the curves of Ravello (far right) and the rectilinear forms of Talus (bottom right). Ravello was inspired by the flower of the same name and designed by Ricardo Antonio for an auditorium by Brazilian architect Oscar Niemeyer. Talus, the tamer of the two, comes in three versions—two love seats and an armchair. It is composed of aluminum legs and leather fabric; each version has small dimensions and compact seats. 212/777-7592. Poltrona Frau, New York City. **CIRCLE 294**

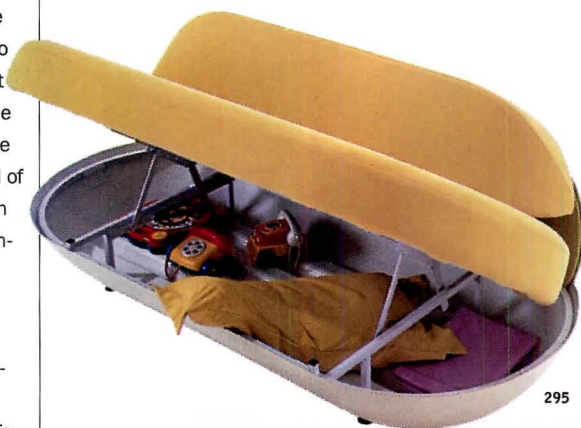
Sofa storage

Bonaldo offers an array of creative furnishings with multiple functions and eccentric forms. The Giubbe Rosse sofa (above), designed by Denis Santachiara, is a hollow shell that hinges to double its function as seating with storage. It is offered with an elasticized fabric cover in a variety of colors that can create privacy in an instant. Other highlights include the Bonaldo Miami table (below), which doubles the table's surface area in planes of red, black, or white. 415/925-2701. Leif Petersen, Inc. International Furniture, Larkspur, Calif. **CIRCLE 295**

Colorbox is a clever sorting idea. It makes sense of color by putting it into a logical format that is easy to use. —KAREN D. SINGH, IIDA



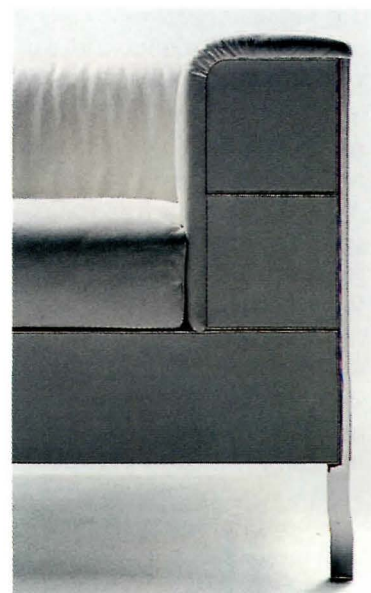
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295



294



Flame-fearing fabric

Designtex's Lola flame-retardant fabric (left) complies with all industrial flame codes worldwide. It is made with non-toxic dyes and can be used as upholstery and as a wall finishing. Lola's pattern is inspired by the bold color of African Fante flags and is available in six colorways. Also from Designtex is Colorbox (below), a handy tool kit of color fabric samples that mimics a painter's color samples. 212/886-8140. Designtex, New York City. **CIRCLE 296**



296

Beam-balanced bench

Floatingframe is a beam-mounted seat designed for airports and other public spaces. The beam, leg, and seat frame are made of polished aluminum, and the seats attach to the beam at three points. 800/390-3909. Alias USA, Huntington Station, N.Y. **CIRCLE 297**



297

Sweeping shell shape

The Lipse chair features a plywood shell that is accentuated by the grain direction of different woods as they sweep along the shells and meet the aluminum connector. 336/889-2009. Davis Furniture Industries, High Point, N.C. **CIRCLE 298**



298

Cracker-thin seats

Alma's frame is in bright brushed aluminum, while the seat and backrest can be upholstered in a variety of materials, such as leather or plastic. The aluminum legs can be varnished to match the seat and backrest. 800/872-1697. B&B Italia, New York City. **CIRCLE 299**



299

Street smart

Street's frame is made from a polished, anodized aluminum tube, and the chair is ergonomic, stackable, and recyclable. The aluminum surfaces of the seat and back lie on injected polymer supports. 34 93 775 5651. Amat-3 International, Barcelona, Spain. **CIRCLE 300**



300

Montis moment

The Ypsilon table (above) has a top that is folded over with a filling in a different color, and it comes in three lengths. The Malou (bottom) is a new formula for large upholstered sofas that comes in four lengths: 5 seater, 4 seater, 3 seater, and 1½ seater. 888/8-MONTIS. Montis America, Carrboro, N.C. **CIRCLE 301**



301

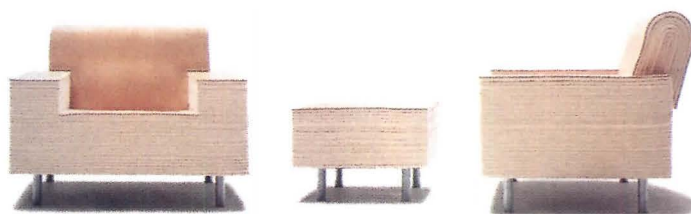


Furnishings

Fabrics/fabric treatments • Window treatments • Restaurant/outdoor/office/residential furniture • Multiple seating • Fixed audience seating

Felt better

The Felt chair consists of an internal steel structure, felt infilling, and leather upholstery. The chair is constructed entirely of all natural materials, with naturally dyed leather. An ottoman is also available. 800/724-5665. Keilhauer, Toronto. **CIRCLE 302**



302

Peaceful dreams

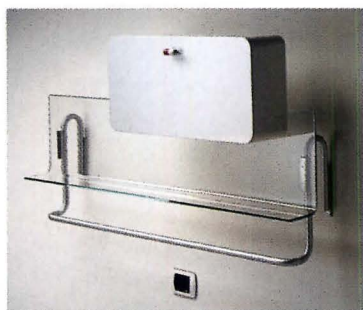
The Ando bed, designed by Italian architect Paolo Piva for Poliform, delivers Zen-like simplicity through a simple frame headboard for the floating bed and attached end tables. The complete bedroom set is available in bleached oak or wenge, as well as the entire Poliform lacquer palette. 888/POLIFORM. Poliform USA, West Hollywood, Calif. **CIRCLE 303**

303

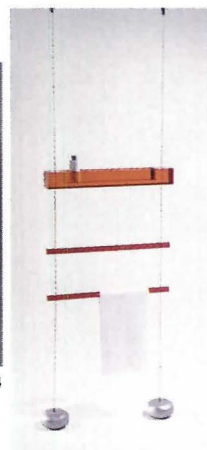


Bathing beauties

Dornbracht continues its Interiors Collection this year with a Rodolfo Dordoni-designed wall-shelf system. Light Drop, designed by Jean-Marie Massaud, is a multitiered towel rail with a mirror. 800/774-1181. Dornbracht USA, Duluth, Ga. **CIRCLE 304**



304



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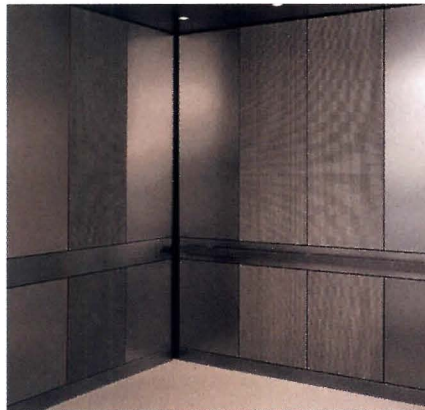
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The Kone escalator provides a valuable alternative solution for compact locations using new chainless technology. It is both efficient and ecological. —LEWIS J. GOETZ, AIA, IIDA



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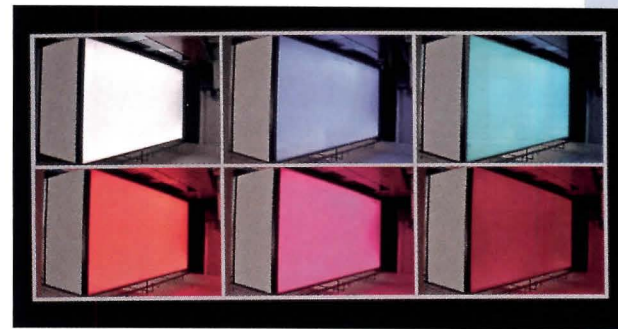
CabForms Series 3000 is a complete elevator interior package, delivered prefabricated and ready to install, that features an interlocking grid system. 800/451-0410. Forms+Surfaces, Carpinteria, Calif. **CIRCLE 305**



305

Wall of light

The ChromaTransfusion system enables designers to create walls of pure, colored light that can be programmed to change slowly from one color to the next. The process involves the bonding of a proprietary interlayer material between two layers of safety glass. 800/275-7272. Cesar Color, Phoenix. **CIRCLE 306**



306

Save space, oil, and energy

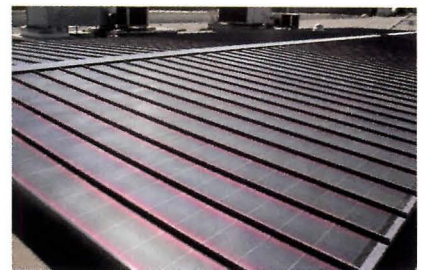
The KONE ECO3000 escalator offers a smaller footprint, a wide selection of finishes, and the 96 percent efficient KONE ECO3000 Drive System. A compact, chainless drive eliminates the need of standard escalators to lubricate the drive chain, and the optional KONE EcoStart conserves energy by adjusting voltage and current up to 120 times per second in response to escalator workload. 800/956-KONE. KONE, Moline, Ill. **CIRCLE 307**



307

California skies

San Francisco International Airport has installed a 20-kilowatt array of building-integrated PV roofing panels to provide a portion of the power needed at one of the airport's support buildings. The system uses "peel and stick" Uni-Solar PV laminates bonded to metal roofing pans and installed in modular units. 800/843-3892. Bekaert ECD Solar Systems, Troy, Mich. **CIRCLE 308**



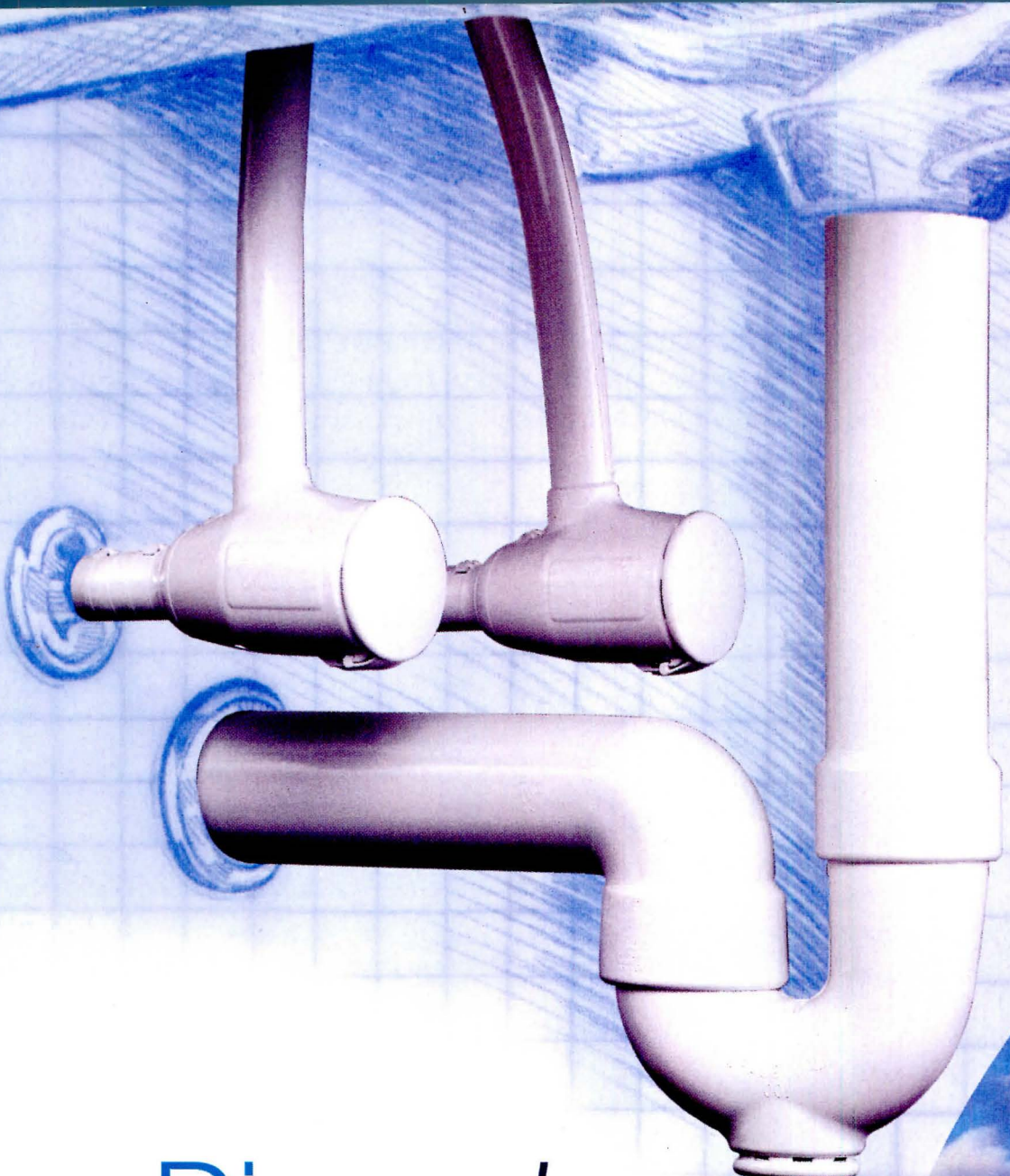
308

Mobile facilities

Kohler Mobile Plumbing Systems plans to offer luxurious bathroom suites, commercial bathroom/showering trailers, industrial bathroom/showering trailers, and decontamination units. 800/4-KOHLER. Kohler, Kohler, Wis. **CIRCLE 309**



309



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Electrical

Interior/exterior/roadway luminaires • Solar-powered lighting • Stair & walkway lighting • Wireless automation systems



Stria uses a standard low-voltage lamp system in a well-designed extrusion that allows a clean integration of the fixture into an architectural product. —RICHARD RENFRO, IES, IALD, LC

Light energy

Syltoplus (center) conceals miniature T5 fluorescent lamps inside a 1 3/4" diameter extruded aluminum cylinder. The cylinder twists to adjust the light source up to 180 degrees. The candlelike design of Free (left) integrates easily into many styles, and the circular design of Centra (far right) features a dual optical system centered around an aluminum reflecting disk. 720/963-8055. Energie, Lakewood, Colo. **CIRCLE 318**

Snappy extrusions

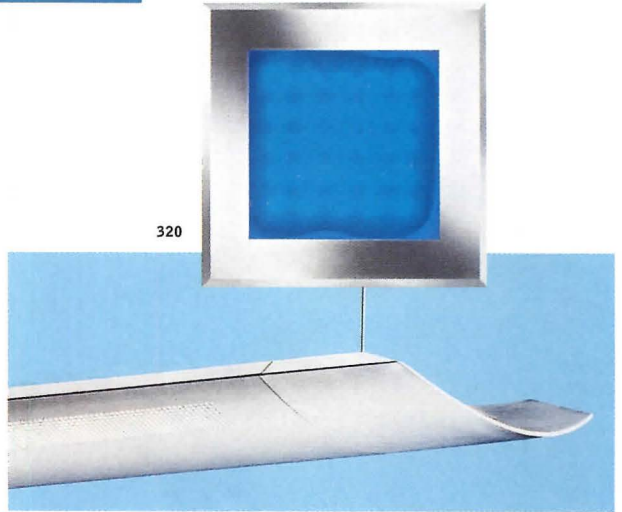
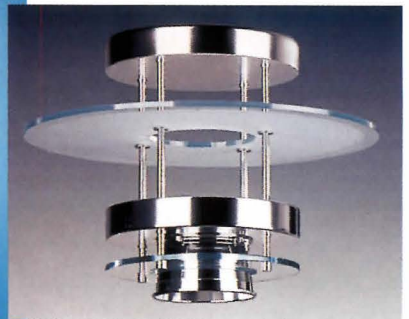
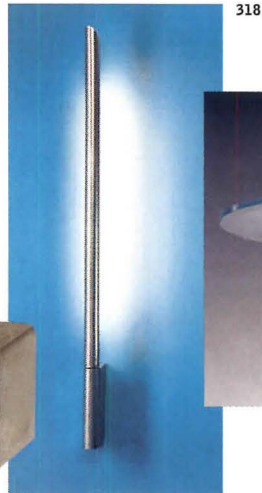
The Stria lighting module is composed of two nesting aluminum extrusions. The outer extrusion is designed to form a self-trimming offset lighting cove and will readily accept up to 5/8" thick gypsum wallboard. The inner extrusion encloses a Lucifer Series 2000 Light Strip and is covered by a specially extruded polycarbonate diffusion lens. 210/227-7329. Lucifer Lighting, San Antonio. **CIRCLE 319**

LEDs and luminaires

LEDOS (above right) incorporates miniscule, low-voltage LED technology to produce highly saturated color in red, green, yellow, blue, or white. The Ethos indirect luminaire (below) features a curved end cap and an optional side-lit perforation detail that adds a subtle direct component. New versions of the luminaire include the single-lamp T5 HO; three lamp profiles; or a larger version for T8 lamps. 800/932-0633. Zumtobel Staff Lighting, Highland, N.Y. **CIRCLE 320**

Dreaming in color

Color Stream looks like a fluorescent tube, but it changes color, generates patterns, and moves the patterns along the tube. The effect is created by a linear array of LEDs housed in a weatherproof tube suitable for interior and exterior applications. When multiple tubes are linked together, preprogrammed or custom effects cascade down the daisy-chained units. 512/834-2624. Bright Lighting, Austin. **CIRCLE 321**



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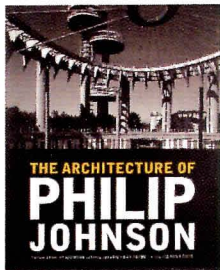
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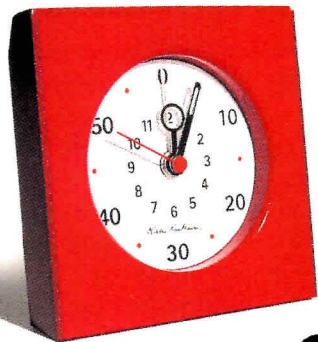
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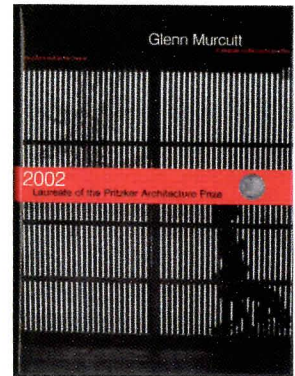
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Marcel Wanders: Don't label him as just another Dutch designer

Interviewed by Josephine Minutillo

Within the span of a few years, Marcel Wanders has made the transition from brazen, young upstart, with his novel designs for the Dutch avant-garde label Droog, to become a leading figure in contemporary design, all the while creating innovative, often quirky objects. Most recently, he's taken on new roles as art director for two other Dutch furniture lines, Moooi and Lensvelt, and as interior designer for the new Mandarin Duck flagship store in London. Wanders literally "breathes life" into the fashionable Italian label's store with a series of patchwork walls and lifelike mannequins that gently inhale and exhale.

Q: *Your designs range from furniture and lighting to jewelry and accessories—how do you face each new design challenge? What I find so inspiring about my profession is the opportunity to work on a wide variety of projects. At the moment, I am working on a collection for a new brand of baby accessories, including a stroller and car seat; a collection of hand-painted ceramic plates; residential towers in Mexico; lighting for Flos and Swarovski; a large crystal chandelier for the Dutch "White House"—the prime minister's residence—and a lot more.*

You often get categorized as being part of a new Dutch movement in design. Is that an accurate or fair assessment? I do not consider myself a Dutch designer. I am who I am, and, of course, what surrounds me influences me,

but we live in a large world. When I was a child, I listened to the stories of Grimm, music of Vivaldi, went on vacation in Bordeaux, followed football in the U.K. When I was older, I started reading Ken Wilber and Nietzsche, came across Tony Robbins and Deepak Chopra, learned lessons from the Dalai Lama. I am the poetry of my past days, a careful assembly of all these encounters.

What is your main goal or approach when you design something?

I am here to create an environment of love, to live with passion, and to make my most exciting dreams come true. I like to make things light and with a sense of humor, but never a joke.

Though your designs are often whimsical or tongue-in-cheek, it is obvious you take design very seriously. Are your designs a reflection of your personality? If I open the door of my living room, I am in my studio. There is only one Marcel Wanders: He is a designer, father, lover, writer, poet, troublemaker, friend. I can only be that all at once. Every man has the right to make a masterpiece of his life, and it is our right to try to contribute to this masterpiece. I try with my designs to make a connection to real life and to contribute to the lives of people. I know that I take design as seriously as my life, but even there—there is no reason to take even life too seriously.

Photograph by Dick Duyres of Wanders with his Big Shadow lamp for Cappellini

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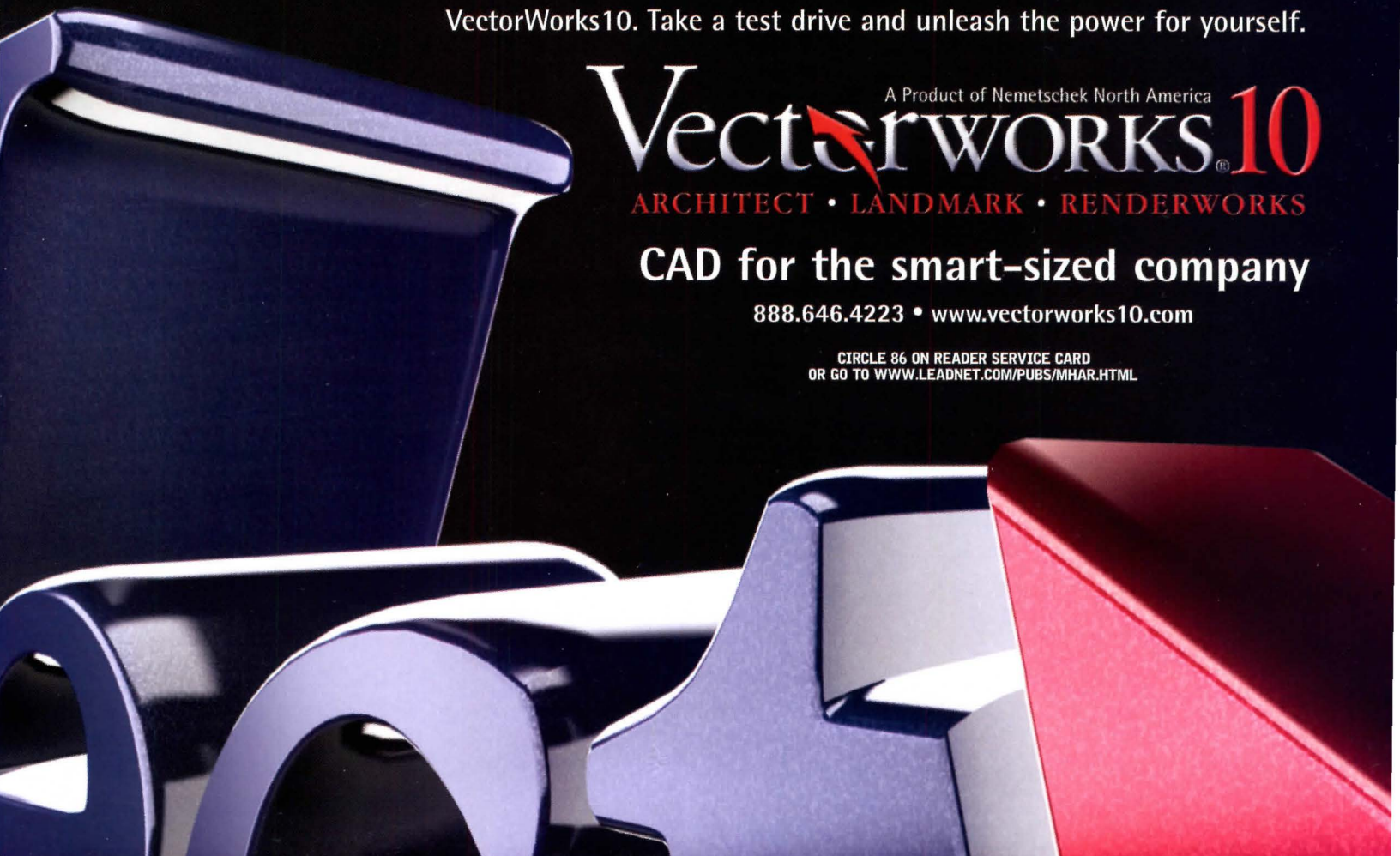
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