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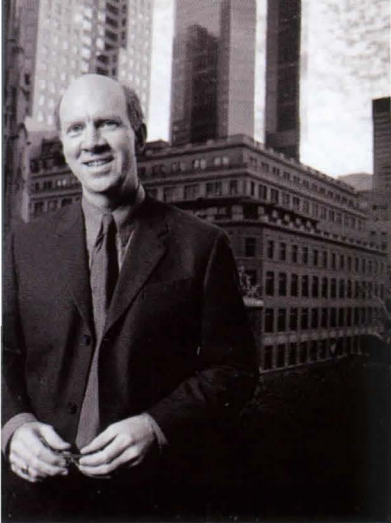
Michael Graves is Right on Target



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

1. Suspended Ceiling
2. Grid-hiding Visual

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Dateline Manila: a city of extremes

Editorial

By Robert A. Ivy, FAIA

Standing high on the ramparts of the restored 16th-century historic district, above the slip where Spanish galleons had pulled in from Manila Bay laden for Acapulco, the contemporary megalopolis of 10 million people spreads with cloying lushness. Two eras merge on the horizon: neocolonial Manila, a densely packed warren of low-scale government offices, universities, and housing; and spiking the periphery, clustered high-rises—20 towers to the northwest, 30 further east. Off in the distance, above the smoggy air, the blue mountains rumble with thunder.

In the crenelations of the high stone walls, a young homeless man stirs from a nap with his dog, and stares across at something moving. Suddenly, across the boulevard, a figure runs across the grass. Then 20 runners, followed by a hundred, a combination of students and workers and protesters rushing a police barricade. The young man sighs and shrugs: demonstrations occur almost daily.

This vast archipelago still struggles with democracy in the aftermath of Marcos' iron fisted regime. Imelda's shoes are symptomatic of deep social and economic disparities in a country where approximately 10 percent of the population controls the wealth and 90 percent struggle to get by. Large-scale development resides in the hands of a few families that control the bulk of urban land; government, at best, seems ineffectual. The rift between the haves and have-nots affects all aspects of daily life, as armed guards sport guns casually draped across their shoulders. In Manila, this is the year of living dangerously.

Deprived of significant urban open spaces and seeking relief from the heat, crowds throng the streets, with their "sari-sari" stores, (small mom and pop convenience shops), and "wet" markets for fish and meats. Just steps away from Calvin Klein, ramshackle houses spill out along a river. Two- and three-story corrugated metal buildings in the barrios provide minimal shelter and little protection from stifling summer heat. Affordable housing and public transportation are a rarity where bureaucratic corruption taints the air like overripe fruit.

Yet segments of Manila have enjoyed boom years. International investment has been drawn to this friendly, English-speaking country with historic ties to the U.S. Despite the recent Asian economic doldrums, construction has resumed after years of stalling and some local architects are busy, though not necessarily on Philippine projects. Meanwhile, in the Philippine offices of the Smith Group, a 30-person team produces architectural and engineering drawings by day for their Washington, D.C., counterparts across the globe, a working example of 24-hour production and 21st-century communications. Manila works hard.

Cut to Makati, a new urban node five miles away, at the foot of the largest cluster of high-rises. Workers on break from the Asia Development Bank in pressed white shirts pour from the American designed contemporary structure into the streets, walking fast, screaming into cell phones, munching on fast food. Billboards by Citibank and Sony emblazon signature buildings by such architectural firms as HOK, SOM, and Arquitectonica that line streets indistinguishable from Dallas or Miami, even as Philippine architects call for the development of Philippine architecture. Traffic is gridlocked, as cars thread into intersections at will. Looking down on this maelstrom from the million dollar condominiums, Makati seems as shiny as Gucci.

The message from Makati and Manila is as overwhelming and diverse as the teeming city: This is 21st century Asia, where poverty coexists with wealth, where reality confounds expectations. If global development links us to the Pacific Rim in the coming century, then it behooves us to know our neighbors, even those 9,000 miles away. The Philippines' potential for economic growth and for confrontation is linked to our own by ties of history and commerce deeper than CNN. The global century has arrived.





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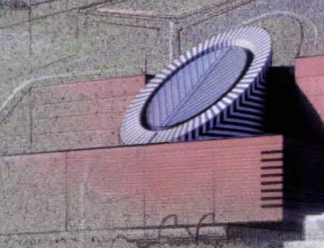
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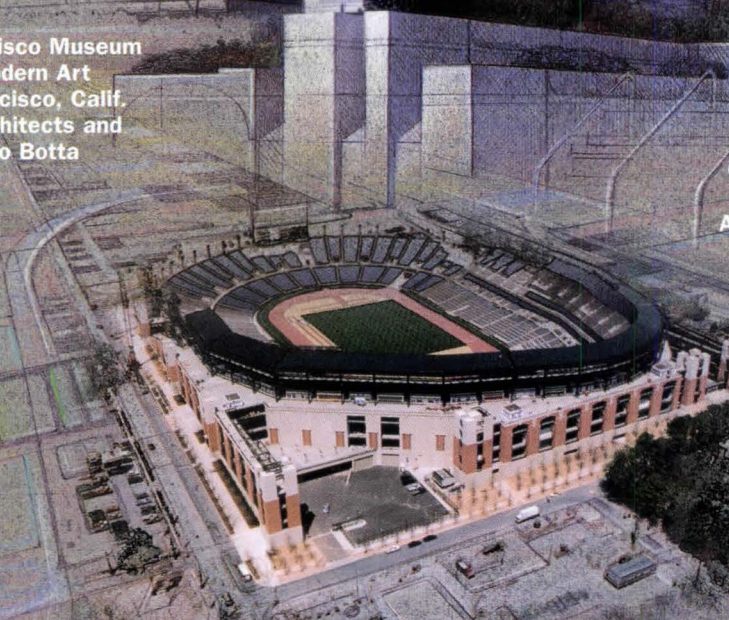
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Letters

Bilbao effect

I agree with the idea [Building Types Study 781, January, page 113] that all societies need small museums offering intimacy and accessibility—even for the disabled. One could quarrel over whether the city of Bilbao would be better off in the long term with a less-extravagant museum structure. But those who know Bilbao will accept Frank Gehry's substitution for the relics of its industrial port—questioning perhaps only the museum's cost. The future will determine whether such a building can create cultural activities to benefit the townspeople in the Basque country.

—Adam Milczynski Kaas
Pamplona, Spain

Millennium shock

For the December RECORD article "Millennium Part Two: Futures to Come" [page 85] the magazine picked a group of "young, innovative" Americans to do what amounts to a fifth-year studio fantasy project. Maybe everyone involved had a little fun. But what this article really did was highlight the careers of a few academicians and keep them in the limelight (or propel them into it) with a national outlet for their work. The reality is that you assembled a group of architects you wish to promote—for whatever reason—who are in turn promoting themselves. Maybe with this push from you, paid in *part by us*, they will succeed.

—Richard E. Vincek, R.A.
Ridgewood, N.J.

The inspiration for much of the "Architecture of the Millennium" has been around for millions of years: the common garden slug.
—William Furbush, AIA
Houston, Tex.

Urban squall

Did anyone else find irony in the RECORD article on re-urbanization efforts in Silicon Valley? [February 2000, page 45] It seems that the region known for America's most advanced technology is also an icon for modern society's ills.

Silicon Valley is one of many U.S. regions that have suffered since World War II. Everyone works there, but no one lives there. The landscape is cluttered with freeways, strip malls, and housing development—all designed to cater to the automobile.

Now major renovation projects in San Jose attempt to restore its public realm to a level that residents can take pride in, with user-friendly public transportation, new public spaces, and buildings. While I strongly believe attempts to re-urbanize are a step in the right direction, I fear the changes will be sweeping and the consequences not fully considered. Poorly executed re-urbanization will be to the 21st century what suburban sprawl was to the 20th century. Instead, changes need to be staged with great care and foresight so the character of these projects develops naturally.

—Christopher J. Armstrong AIA
Bristol, R.I.

War-torn town

Ted Phillips' photo essay "Kosovo: Walls but No Shelter" [January, page 74] evokes the grim politics of mass destruction that wipes out civilization and centuries of heritage. "Where do we go from here?" could have been an apt subtitle—though perhaps it's that burning question that is at the heart of every Serb and Albanian, before sanity is lost forever.

—M. A. Baig, Assoc. AIA
Karachi, Pakistan

Gloss on coatings

In the article "Understanding New Paint Products and Formulations" [November 1999, page 131], Charles Wardell states that factory-applied coatings are "costly" so "most architects specify standard, field-applied . . . finishes." However, Wardell does not emphasize a crucial point about cost. While a factory-applied finish such as a 70% fluorocarbon paint may be marginally more expensive, it should last more than 20 years. A field-applied coating will have to be reapplied several times during 20 years, making it a more expensive solution. Moreover, the environmental impact of several field applications can be several times that of a single factory application.

—Penn McClatchey
Southern Aluminum Finishing Co.,
Atlanta, Ga.

Happy people

Kira L. Gould's January article "Your Firm Is Your People. Are they Happy?" [page 66] was right on target! Thank you for the insightful thoughts; I agree with everything she wrote.

—C. Jack Corgan, FAIA
Dallas

Uncle Sam's club

The article on the General Services Administration's "design excellence" program [February, page 62] failed to mention two critical points. The GSA hires a pair of firms for each project—a design architect with a nationally recognized portfolio and a local architect to execute construction documents. The GSA program deliberately excludes local design architects in favor of higher profile "magazine architects," though the latter are rarely in touch with the realities and concerns of life in

each locale. Because local architects participate only in the preparation of construction documents for someone else's design, there is a major fault line in the continuity of the process.

As a rule, the GSA permits the end-using agency only one representative on the A/E selection team. So the concerns and interests of the end-user are not fully represented in the design process. It's true that the user agencies are more than grateful to be getting new facilities. However, given the difficulties of creating good design for the government, I think that a few minor adjustments to policy and attitude would dramatically improve designs and save taxpayers money.

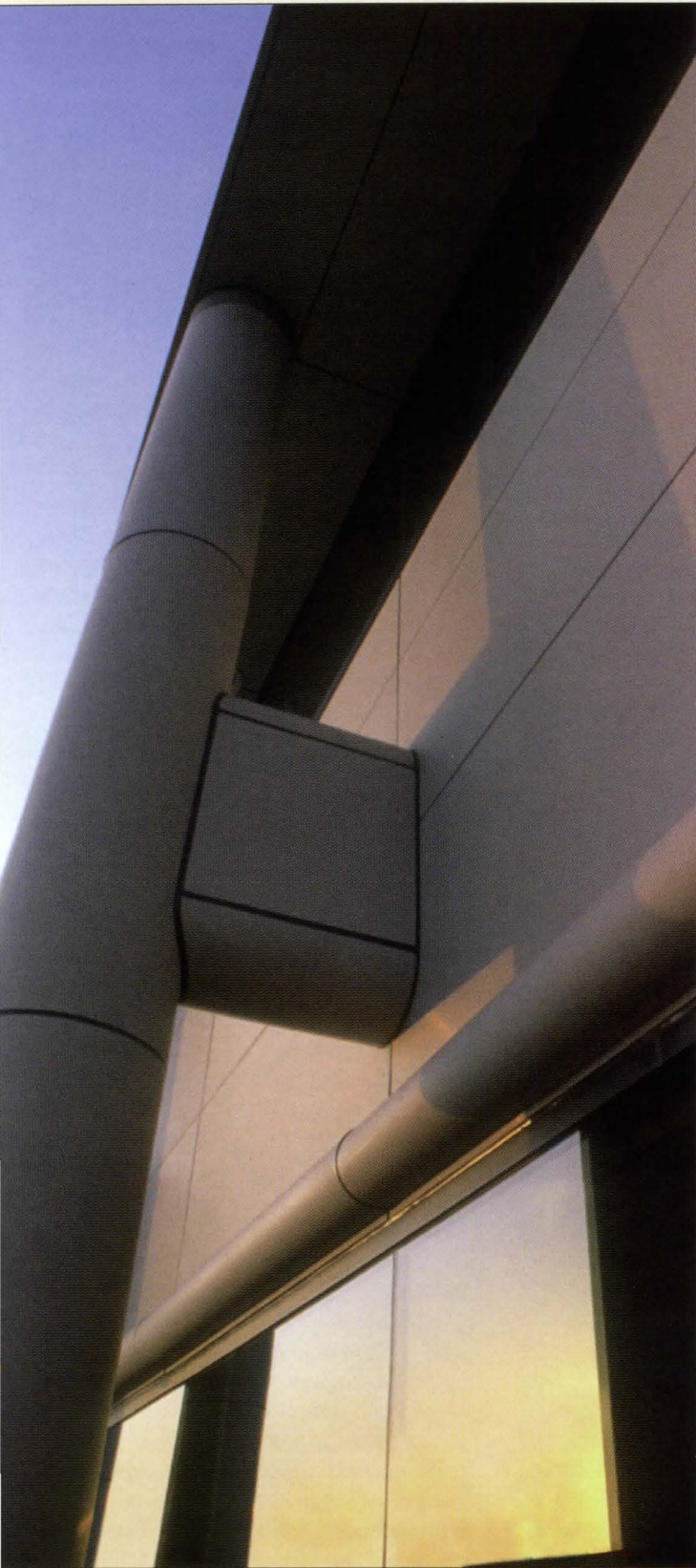
—Richard K. Perkins, AIA
Richmond, Va.

Foreign competition

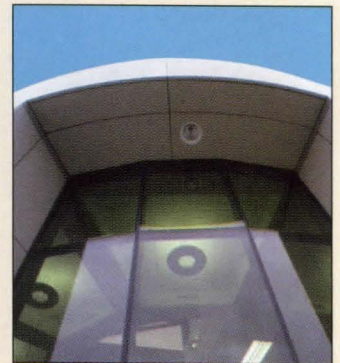
Why do a competition [Practice Matters, February, page 49]? The answer is that competitions are the true mechanism in a capitalistic society where architects compete for clients. An open design competition is far more democratic than other forms of market competition.

For the past decade I have practiced architecture and urban design in Germany, where 100 percent of public work and a large portion of private work are awarded through the competition process. Prizes are commensurate with the program demands and are sufficiently lucrative to attract a healthy amount of competition. The process is streamlined and simplified so participating is easy, reducing the risk.

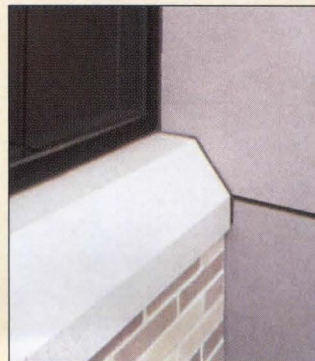
Competitions produce the highest quality design. One merely needs to look to Berlin, which has been rebuilt in the past decade almost entirely by competition winners.



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Letters

Competitions equalize the playing field, enabling the most qualified design to rise above the rest. Please do not rob the small, talented, unknown firm the chance to compete.

Competitions generate design excellence. The overall quality of design in Germany is very high. Improve them, refine them, learn from other lands how to better them, but don't condemn competitions.

—Robert M. Karn
Weingarten, Germany

The fame game

The "star system" critiqued by Cynthia Davidson in the February issue [page 51] gave a wonderful bird's-eye view of all the glamour that the American architectural profession can muster. Certainly, there are few who deny the power and glory of its coveted media image. However, community-based architects should be skeptical of their high-flying brethren. When stars crash, bystanders may get severely burned. Only eventually will life in the provinces return to normal. (Next time we must check those references.)

—Michael S. Watson, AIA
Columbia, S.C.

Once we had a brightly shining star system—Mies, Corbu et al—that created the models upon which everyday Modern architecture flourished. But the author of your February article on the star system, like all writers on architecture, must realize that our luminaries design but a small percent of buildings created by architects in this country. The tragedy of the current star system is its irrelevance to daily design issues as they are addressed at the community level.

—James A. Gresham, FAIA
via E-mail

Cynthia Davidson's probe raises many unanswered questions. Doesn't the marketing of stars and celebrity firms intensify the shift (in the public regard) of architecture to being a purely visual, skin-deep cosmetic commodity? Doesn't the spur of fame drive stars and their imitators to strain for attention with outrageous designs, in an ever-faster cycling of fashions and clichés? It's a distortion of what good architecture really is.

The distinction has been blurred between fame that is earned honestly and media-manu-

factured fame. Even more disturbing is the question of whether access to architectural fame is now—or ever has been—a level playing field. Shadows of doubt cloud around the concept that big stars, big firms, and big projects can lead the way in the quest for good architecture.

—A. Richard Williams, FAIA
Tucson, Ariz.

Women's issue

I was fascinated and delighted by Robert Ivy's editorial [January, page 15]. He asks many relevant questions regarding women's status in the workplace and writes, "In an era focused on issues of equality, we need to assess where women stand in the year 2000."

I'll tell you where I stand as a 39-year-old woman with a Master's degree in architecture and 14 years experience working both in the Midwest and Southern California. After the recession of the early 90s, I became a project architect at one of the largest design firms in the nation. While I was there I tried hard to escape the politics and prayed to get pregnant so I could have a legitimate excuse to quit the firm.

For the past two years I have been a proud mother of my son. One thing that this society has done for women in architecture is make it easy for them to choose to become full-time moms. This year I am losing my AIA title, which has been my last superficial link to the world of architecture, because I lack the funds to pay my dues. What are other women in architecture doing? I'd like to know where we stand, because when my son is in school I'm going to get back out there and continue the fight.

—Fariba Khalvati-Beighlie
via E-mail

Corrections

The November 1999 article on Sinte Gleska [page 85] did not list MB&A Consulting Mechanical engineers. In our News Brief on the National Underground Railroad Freedom Center, in Cincinnati [January, page 44], the credit for the architect should have read: Blackburn Architects, Inc., with BOORA Architects Inc. Credit for the Chibougamau Mining Interpretation Center, in Quebec, Canada [January, page 130], credit should have been listed as: Julien Architectes and Les architectes Plante et Julien. In our October 1999 coverage of the Business Week/Architectural Record Awards, we inadvertently left off a photo credit for Thaddeus Govan [page 98].

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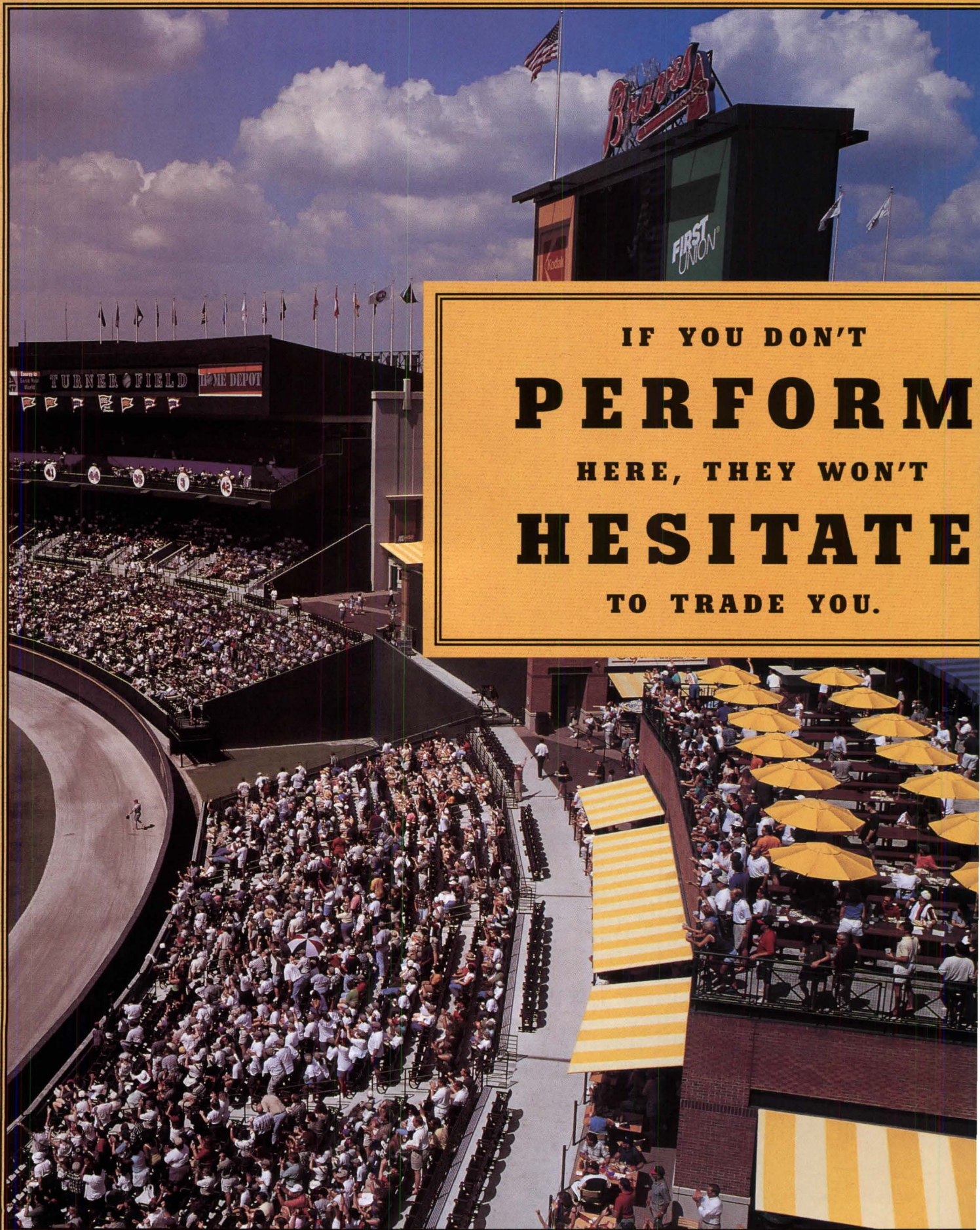
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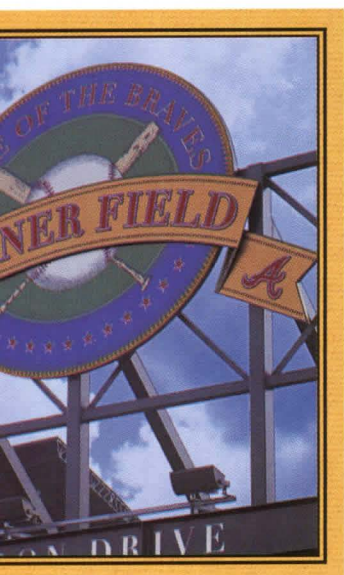
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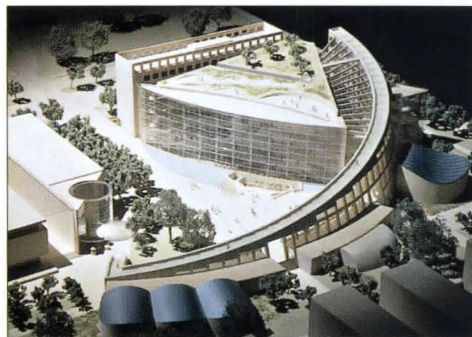
GWATHMEY SIEGEL TO DESIGN THE LATEST NEW YORK PUBLIC LIBRARY PROJECTS

The New York Public Library (NYPL) has chosen Gwathmey Siegel & Associates to design one of the most high-profile of its recent spate of enhancement projects: an updating of its Mid-Manhattan branch. At this writing, library officials declined to comment on the design, saying it is too early in the decision-making process, but plans reportedly include an expansion and renovation—not a replacement structure—of the current facility, which occupies a Fifth Avenue site facing the Beaux Arts main library. The budget is reportedly between \$40 million and \$50 million. Gwathmey Siegel recently oversaw the transforma-

tion of the old B. Altman department store on 34th Street into the NYPL's Science, Industry and Business division.

Meanwhile, the NYPL is nearing completion of a renovation of the Library for the Performing Arts at Lincoln Center. The two-year, \$30 million project, designed by Polshek Partnership Architects, includes an orientation center near the Lincoln Center Plaza entrance, redesigned public reading rooms, and new and improved exhibition galleries.

The NYPL was highly praised last year for David Brody Bond's \$15 million restoration of the reading room in the main library, which dates from 1911. *Soren Larson*



SALT LAKE CITY BOOKS ITS OWN LIBRARY UPGRADE

Salt Lake City has unveiled the future look of the new main branch for its public library, designed by Boston-based Moshe Safdie and

Associates and Salt Lake City's Valentiner Crane Brunjes Onyon Architects.

Construction is scheduled to begin this fall. The facility, located in the heart of the downtown area, will feature a triangular main structure, an adjacent rectangular administration building, a glass-enclosed "urban room," where full-height windows will provide visitors with dramatic views, and a 50,000-square-foot plaza intended for public gathering and interaction. A curving wall element, containing shops and food outlets, will weave the site together and will be mountable via steps that lead to a roof garden. The \$78 million project will enable the library to double its space for a collection and is being counted on to enliven the city's civic core. *S.L.*

ANOTHER ICON FOR SAN FRANCISCO'S YERBA BUENA: LIBESKIND'S PLAN FOR THE JEWISH MUSEUM

The design of a new building for the Jewish Museum San Francisco (JMSF) has finally been unveiled. The 100,000-square-foot project will occupy a critical edge of the city's

Yerba Buena cultural arts district, which already boasts buildings by acclaimed architects: Botta, Maki, Polshek, and Legorreta. With the JMSF, Daniel Libeskind will make his mark on the area, in a joint venture with the San Francisco firm

Gordon H. Chong & Partners.

The \$60 million project involves the reuse of and an addition to a turn-of-the-century brick power substation. "Starting with an existing historic building gives us a chance to extend the memory of the project over two centuries," says Libeskind. "For the first time, this building, which literally powered the success of the city, will be opened to the public." The old will be offset by the new with a group of tilted, complex volumes rising out of the substation. The shiny, metal-clad form is derived from the Hebrew word *chai*, meaning "life," and calls to mind Libeskind's Jewish Museum in Berlin.

The 15-year-old Jewish Museum San Francisco (currently housed on Steuart Street) has a mission to "examine the rich contemporary relevance and meaning of Jewish tradition and culture,"

according to museum director Connie Wolf. With this goal, the museum will have over 8,000 square feet of educational facilities, in addition to 20,000 square feet of galleries for both temporary and core exhibitions. Half of the ground floor (including much of the old power station) will hold a generous lobby with a large cafe and museum shop. The new portion will also extend into the Four Seasons hotel, now in construction on the site behind it.

Libeskind's is actually the second design for the project. The first, by Peter Eisenman, FAIA, met with opposition because of its alteration of the site's plaza. Eisenman and the JMSF terminated their relationship shortly after the 1997 unveiling. Now, Libeskind's scheme must gain the approval of the San Francisco Redevelopment Agency, after which construction is expected to begin late this year. *Lisa Findley*



OLDEST PUBLIC BUILDING TO GET A NEW PARTNER

It's a balancing act to design a modern museum beside a squat, nearly 400-year-old adobe structure—especially one at the heart of Santa Fe, N.M.

The 18,655-square-foot Palace of the Governors is known as the nation's oldest public building. It was the seat of New Mexico's government from the early 17th century until the early 20th, when it became a state museum. Now the Museum of New Mexico plans to build an expansion on the site, though it still faces a few political hurdles in raising the necessary \$30 million. The new building behind the palace will house the museum's historical collections. (The state legislature has yet to decide how much funding it will provide.)

Roy Woods of Santa Fe's Conron & Woods Architects envisions a five-level,

115,000-square-foot structure that would meet modern needs without overpowering the palace, a building he calls "the crown jewel of the collections of the history museum." Tentatively named the Palace Annex, or State History Museum, the new building will be wedged into a 28,745-square-foot footprint in the middle of a city block (at right, three different views; the addition is in yellow). The site is surrounded on two sides by museum properties, including the Palace and the state's history library and photographic archives.

Keeping in context

Woods' design places two levels underground, submerged 20 feet below grade, with the top three levels stepped back. Like almost everything else in the historic district, the annex will have a brown stucco finish, resembling mud plaster. But Woods declined to categorize it as Pueblo Revival, Santa Fe's dominant style—and a style that is defined by local design ordinances.

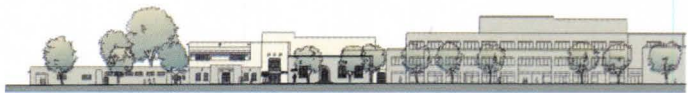
"That gets into trying to copy something," he said. "I mean, you



Washington Avenue



Palace Avenue



Lincoln Avenue

have the real thing right next to it in the Palace of the Governors. Anything we would build that attempted to imitate it would just cheapen that."

Peter M. Saylor of Philadelphia's Dagit-Saylor, which is consulting on the design, said the annex will have a special events atrium, a shop, offices, new exhibition spaces, and areas where parts of the collection in storage are visible to visitors. (His firm designed such storage areas at the Logan Anthropology Museum in Beloit,

Wis., and Land's Valley Museum in Lancaster, Pa.) Ninety percent of the museum's history collections are now in the non-climate-controlled basements of two buildings dating from 1912, which will be demolished. The new visible storage will allow passersby to view artifacts through glass windows into climate- and security-controlled areas where curators and researchers will work. If visitors want more information on what they see, they can get it from computer terminals along the windows. *Thomas Sharpe*

YOUTHFUL LONDON DUO BUILDS AN UNUSUAL ART GALLERY IN AN OUT-OF-THE WAY LOCATION

The New Art Gallery in Walsall has an importance quite out of proportion to its size or its location—a provincial town in the English West Midlands. When the art museum

(rear in photo) opened on February 17, it marked another step in the emergence of an alternative, pared-down aesthetic in British architecture that some are referring to as the New Austerity.

Won in a competition by young London-based architects Adam Caruso and Peter St. John (whose work ranges from private houses to public projects), the \$37 million New Art Gallery is placed on high ground, its tall square offset tower marking one end of this industrial town. The building stands in a new square, that was laid out in broad zebra stripes of asphalt by the artist Richard Wentworth.

Rising from this, the museum appears as a calm, otherworldly structure clad in huge pale terra-cotta tiles

(diminishing in size from base to summit) above a plinth of stainless-steel planks. The whole boxy assemblage is punched through with an apparently random selection of differently sized windows.

The entrance sits beneath a cantilevered corner of the building, leading into an enormous foyer with a polished black floor and a broad flight of black stairs. The walls are by turns board-marked concrete and timber. The stair balustrades are covered in fine tan leather. A multitude of slender, narrowly spaced smooth concrete beams forms the ceiling high above.

Why Walsall?

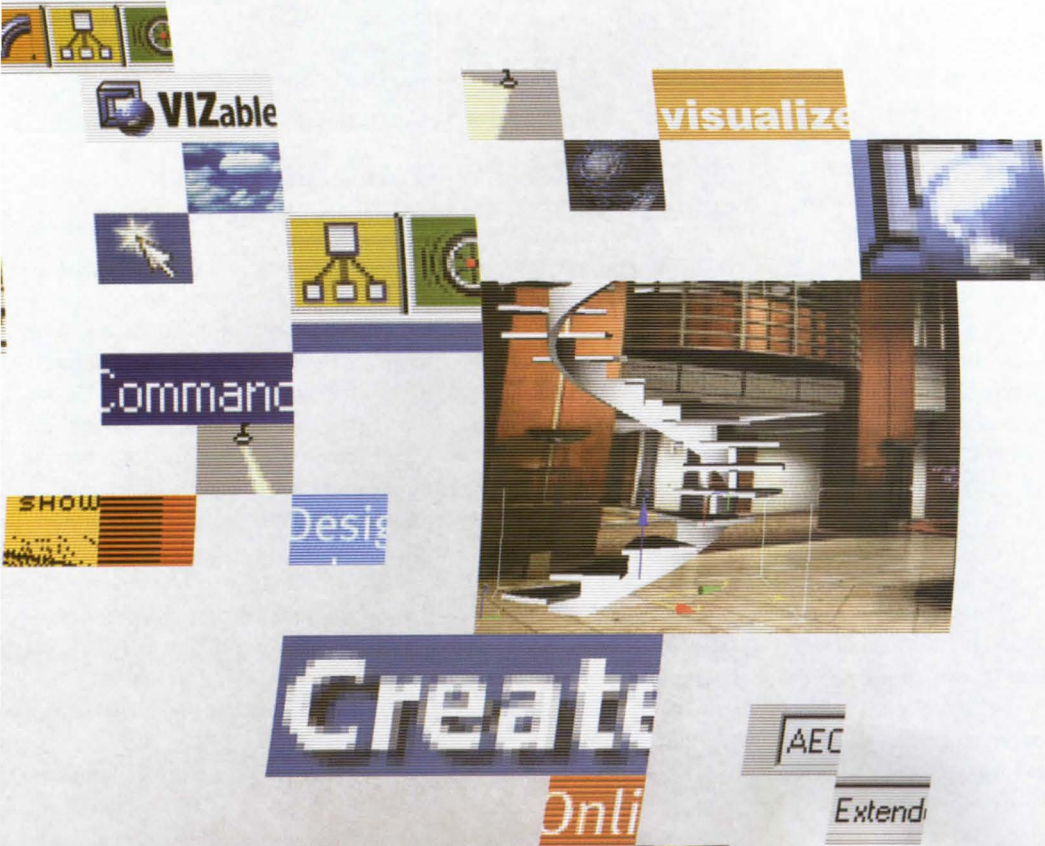
The gallery opened here because the town possesses the Garman Ryan collection, a personal collection of fine and ethnic art donated by the late Kathleen Garman—sometime art

dealer and locally born widow of the sculptor Jacob Epstein—and a friend, the American sculptor Sally Ryan. In addition to the collection are new temporary exhibition galleries and large education and studio spaces. The Walsall has just been named a regional partner of Britain's most important museum of Modern Art: the Tate Gallery in London.

At the heart of the building are the timber-lined galleries where the Garman Ryan Collection is permanently housed. This part, conceived as a series of domestically scaled rooms surrounding a large hall, attempts to house the artworks in an appropriately scaled setting. The museum is, in effect, a vertically-stacked sequence of spaces to be enjoyed in promenade. As Peter St. John puts it: "It was always seen as more of a public building than a machine for viewing art." *Hugh Pearman*



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TURF BATTLE BREWS FOR TWO D.C. MUSEUMS

The National Portrait Gallery in Washington, D.C., has closed for a face lift, while its sister tenant at the old Patent Office Building, the National Museum of American Art, is also receiving a sprucing up. Both museums, part of the Smithsonian Institution, have closed for top-to-bottom rejuvenation.

The politics of the project, though, grabbed most of the headlines about the work. On the day before he retired last year, Smithsonian Institution Secretary Michael Heyman recommended the Portrait Gallery be relocated to the first floor of the building—effectively the basement. Not only is the space less desirable than the upper floors, but the low ceilings would render it unacceptable to display some of the Portrait Gallery's larger works. The third floor Civil War Gallery, the Great Hall, and the Lincoln Gallery, site of Abraham Lincoln's second inau-

gural ball, will all be turned over to the Museum of American Art.

Critics of the proposal noted that Heyman's wife, a friend of Museum of American Art director Betsy Broun, may have had a hand in the directive. Portrait Gallery Director Alan Fern, who has resigned since the brouhaha began, maintains there should have been a more equitable distribution of the grander spaces. He has appealed to the Smithsonian for a reconsideration of Heyman's mandate.

Hartman-Cox, the Washington firm hired by the Smithsonian for the project, has been asked not to comment on the political maneuvering—or the difficulty of designing a space before a user has been identified. The 35-year-old firm, though, has extensive experience in preservation. The firm renovated the Folger Shakespeare Library and has a long-standing contract to maintain the Jefferson and Lincoln Memorials.

A final decision awaits for the interior of the Patent Office Building, but it is hoped the impressive Greek Revival building will become the resculpted Grande Dame of Washington's booming downtown district. *Ellen Sands*



DESIGN FOR A VERMONT WELCOME CENTER GROWS OUT OF A RICH AGRICULTURAL HISTORY

The traditional barn may be vanishing from the American landscape, but Timothy D. Smith & Associates is ensuring that some semblance of the form will be visible for years to come for visitors to Vermont.

The firm, based in North Bennington, Vt., employed agricultural forms and techniques in the scheme for the Southeast Vermont Welcome Center in Guilford. The center, which opened last November, has a barnlike main building that holds exhibits and information for travellers and other structures reminiscent of local farms. The main building's frame "is authentic hand-hewn timber," says Smith, adding that he specified a traditional slate roof, fashioned dis-

play racks from galvanized pipe, and designed the tiled bathrooms to be reminiscent of milking rooms, while adding modern touches, such as the skylights that line one side of the roof. The complex also has an orchard, a picnic shed, an "information crib" based on historic corn cribs, and a form reminiscent of a silo on the open-air public plaza.

The client, which is the state of Vermont, likes the theme: Smith has been hired to work on the programming for a similar center in Bennington. And the architect notes that the slate, wood, and other materials will grow more attractive with age. "The funny thing is," he says, "these buildings will look a lot better in 20 years." *Soren Larson*



MOHEGAN SUN THROWS THE DICE ON HUGE NEW GAMBLING LURE

Casinos are more known for kitsch and glitz than contemporary design, but Mohegan Sun, the gaming complex in Uncasville, Conn., owned by the Mohegan Tribal Nation, is taking a different tack with its latest venture. The \$800 million expansion project, said to be the largest private development under way on the East Coast, will include an angular, 1,200-room glass luxury hotel tower with porte-cochere, meeting and convention facilities, a 10,000-seat arena, spas and fitness centers, and, of course, abundant new gambling operations, including the 115,000-square foot Casino of the Sky.

The 34-story hotel (left), designed by Kohn Pedersen Fox, literally mirrors the tribe's reverence for nature, according to James von Klempner, AIA, a principal at KPF. "The landscape is a large part of the experience," he says, and the tower's glass "will reflect the colors of nature, rather than being a scar on the landscape." Crystals have a special place in Mohegan lore, the architect adds, so "we tried to make this tower itself into a crystal." Hirsch Bedner designed the hotel interiors while the Rockwell Group did the casino and public spaces, including the Casino of the Sky, a counterpart to the existing Casino of the Earth. The facilities will sit underneath the world's largest planetarium dome and center on Wombi Rock, an alabaster and onyx structure resembling a massive rock outcropping. It will pulsate with light to complement the planetarium show, and visitors will be able to climb up for expansive views of their fellow gamblers. *S.L.*



TOUGH.

{ *c e m e n t* }

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WOONG WASHINGTON WITH A NEW CHANCERY

A colossal pink palazzo on Washington's Embassy Row is sure to attract plenty of attention when it opens in June—indeed, the new Italian chancery (embassy office) is already turning heads along Massachusetts Avenue.

Italian identity

Having outgrown its existing facilities, the chancery needed to move. By purchasing a prominent site at the entrance to Rock Creek Park and selecting Roman architect Piero Sartogo, who believes that "architecture is a transmitter of images," the Italian Foreign Ministry decided to adopt a high-profile presence in Washington and make a strong statement of Italian identity.



Piero Sartogo Architetti, in association with Leo A Daly of Washington, D.C., designed the eye-catching homage to Italian classical architecture—seen through the lens of a futurist. With windows faceted at angles, steps that narrow as they recede, and a soaring roof that sits slightly askew atop the boxy four-story building, the chancery might have been painted by De Chirico, who delighted in

using perspective to heighten and manipulate perception. Even the box is not a box, but a square (171.5 feet on a side) bisected on the diagonal (like the original plan of Washington, the architect says) by a glass-topped atrium.

A display of designs

The interior walls are yellow and violet, and a glass exterior wall frames a view of the wooded

park beyond. Italian art will be on display, as will classic contemporary Italian furniture selected by the architect and installed in the atrium and on glass bridges above it. And, of course, authenticity mandates marble—42,000 blocks of hand-cut stone, quarried near the Italian town of Asiago.

Construction started in 1996. When complete, the structure will have a total usable area of 145,700 square feet. The consular section will have its own entrance, as will the ambassador. Visitors will pass through a security check and then enter directly into the atrium for meetings and public receptions. Smoking will be permitted throughout the building. After all, as they say, "That's (also) Italian!" *Jane C. Loeffler*

LAWSUIT TROUBLES VANCOUVER SKYSCRAPER PROJECT

One Wall Center is creating one big controversy. The black glass residential tower, now emerging on Vancouver's skyline, may forever change the trust between architects and Vancouver's planning department, according to many involved in the project. The city has filed a lawsuit against architect Peter Busby and Calmont Investments, the company owned by flamboyant developer Peter Wall. The city is arguing that both the architect and developer have not complied with the conditions that were placed on the tower's design prior to approval: a transparent building that incorporates clear glass as a prominent design feature.

After public hearings and a study commissioned by the city, the 48-story hotel/condominium tower was approved, based largely on its elliptical, transparent features (RECORD, May 1999). However, Busby has claimed that after the rezoning was granted, Wall changed his mind and decided on a more "obscure" glass color. For his part, Wall has stated that his choice of glass was indeed the glass approved by the city, and he has always complied with the directions. The confusion surrounding the chosen glass led to the lawsuit.

Jim Hancock, a partner with local firm Hancock Bruckner Eng and Wright, sat on the urban design panel that approved Busby's design. Hancock notes that regardless of the outcome, the relationship between architects and the city will be altered. "The system will have to change, the amount of trust between architects and the city will be reduced, and there will be fewer verbal agreements," he says. "There will be more accounting and record keeping and this will cost everyone more time and money." *John Gracey*

VINOLY GOES BACK TO NATURE WITH A DESIGN FOR COLUMBIA'S CLIMATE RESEARCH BUILDING

Columbia University has a distinctly urban image, but the school's new Monell Building, which opened in January, features an entirely different aesthetic. Designed by Rafael Viñoly Architects of New York City, the \$12 million, 27,000-square-foot structure, which will be a venue for international climate research, is perched along the cliffs 500 feet above the Hudson River in Palisades, N.Y., on Columbia's Lamont-Doherty Earth Observatory campus.

Viñoly wanted the building to

mimic the contours of the cliffside, so he designed a sloping, 562-foot-long, one-story structure with airy, sunlight-filled classrooms, offices, laboratories, and conference space. The structure is divided into two wings, which meet at a central point to form a central lobby. To ensure ample daylight, the architects placed a clerestory window along the entire length of the building. The facade was made of cedar and stone to blend with the surroundings. *Soren Larson*



SLICK.



{ *black ice* }

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PITTSBURGH TO DECIDE FATE OF HISTORIC AREA

With the mayor's blessing, a developer has proposed a major revamping strategy for downtown Pittsburgh—although the plan has been stirring heated debate.

In 1997, Mayor Tom Murphy selected Chicago developer Urban Retail Properties to build a retail and entertainment complex in the city's traditional shopping corridors of Fifth and Forbes Avenues. Street-Works Architects of Alexandria, Virginia, along with the Pittsburgh office of Perkins-Eastman Architects and local firms still to be selected, were to design the complex (top right: one possibility). The developers promise high-end national retail chains and cinemas that create "a distinctive urban center that is safe, economically vital and attractive to residents and visitors alike."

The \$480 million proposal, which requires \$58 million in public funds, would apparently displace 125 merchants and demolish 62 buildings while preserving 12 facades. The plan's supporters say the area in question is dilapidated, underutilized, and in need of drastic redevelopment



to recapture its prewar status as a regional shopping destination.

Several factions hold dissenting views. The Pittsburgh History & Landmarks Foundation, accepting the premise of major redevelopment, hired architect Stanton Eckstut of Ehrenkrantz Eckstut and Kuhn Architects in New York to produce a

more preservation-oriented plan.

Eckstut calls the redevelopment area "one of the most unique clusters of historic buildings built for commercial purposes anywhere." His alternative idea (bottom rendering) saves 36 structures and eight facades over a slightly different footprint than the URP offering. It also

incorporates more housing units and urban reconnections, such as the reopening of some underused pedestrian arcades.

Other groups reject redevelopment entirely. Working for the Golden Triangle Community Development Corporation, local architect Terry Necciai has begun a redevelopment program under guidelines from the National Trust for Historic Preservation. Necciai claims Fifth and Forbes is an irreplaceable asset, best served by incremental renovation and community action, especially in light of recent department store, stadium, and theater construction nearby.

To the surprise of local preservationists, Pittsburgh's Historic Review Commission disagrees. The commission approved the Mayor's plan, which requires partial dismantling of the local Market Square Historic District—marking the first time the body has approved demolition of one of its own historic districts.

Meanwhile, a local merchant's group has retained attorneys from the Institute for Justice in Washington to sue the city—but some experts predict a quick decision in the state Supreme Court and a resultant green light for Urban Retail Properties. And though the city council must complete its hearings process, a five-member majority is poised to vote with the mayor.
Charles Rosenblum

NEW PROGRAM AIMS TO PRESERVE CLASSICAL BUILDING CRAFTS

When craftsmanship was a legacy, knowledge was handed down from parent to child or master to apprentice. Today, the old traditions are often lost to a world of mass production. A new institute founded by architects Andres Duany, Ray Gindroz, and Leon Krier, among others, aims at reviving the art of building craft.

The Institute for Traditional Architecture (ITA) was formally launched in February during a weekend conference held in Windsor, Florida—a town designed by the firm of Duany and Plater-Zyberk. The town itself is a showplace of traditional architecture, most of it in an Anglo-Caribbean mode, and its most recent addition is a meeting hall designed by Krier.

The director of the ITA is Richard John, former director of the Prince of Wales Institute of Architecture. John brought that institute to the United States in 1996 and 1997 as the Prince of Wales Summer School in Architecture and the Building Arts. He is now on the faculty at the University of Miami.

Though the Prince's summer school was the most immediate

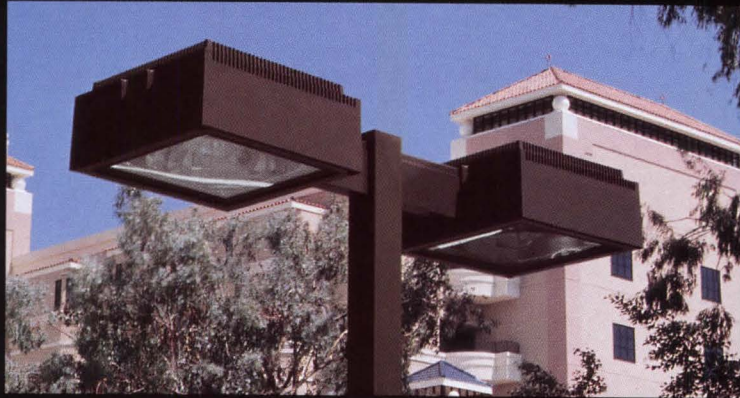
inspiration for the ITA, it is also patterned in part on a formal apprenticeship system and on the old Beaux Arts system. "It is a very old-fashioned model," says John.

Students will take classes in observational drawing and life and nature drawing, among many others. They will also study building materials, crafts, and techniques, as well as the essentials of building design and composition. "All culture is about reproduction," says Krier, "but the question is whether ideas can withstand reproduction without becoming sterile."

The ITA's objective is to provide a one-year educational program open not just to architects but to those in ancillary professions as well—interior designers, landscape architects, builders, and craftsmen. The ITA's students will attend two intensive seminars at the beginning and end of the program but will work for most of the year with a tutor. Each student will complete a series of design problems in order to be certified.

The first ITA class will be launched in May with a 10-day course at the University of Miami, "The Art and Craft of Traditional Architecture."
Beth Dunlop

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FAST-CHANGING WARSAW OPENS SUPREME COURT

After three years of construction and a cost of \$80 million, the Supreme Court on Krasinski Square, Warsaw, Poland's newest public building, has just been occupied by judges and the Commission for Documenting Crimes Against the Polish Nation (whose main role is to collect documents concerning crimes by Nazis and Soviets).

Work on the courthouse began in June 1996, a few years after architects Marek Budzynski and Zbigniew Badowski were chosen in a competition organized by the Association of Polish architects



(SARP). Their completed building comprises almost 500,000 square feet and is chiefly made of reinforced concrete floor slabs supported by reinforced concrete columns and communication shafts. The external walls are a

semistructural curtain walling with reflective glazing.

Under a flat roof covered with plants, the architects have generously used glass throughout the building to make staircases, internal bridges, partitions, and skylights.

The architects suggested that the square, destroyed during the war, be re-created, though in updated form. As a result, the square has been rebuilt along the line where other buildings stood before WWII; the scale of the Supreme Court is the same as its predecessors, though the design itself is contemporary.

One corner is created to form a background frame for an existing monument honoring the 1944 Warsaw Uprising. The new building's dominant feature is a symbolic representation of the regulatory aspect of law—a "Colonnade of Law," placed in front of the curtain wall, that forms one side of the square. The columns are inscribed in Latin from Roman law and Polish translations, enabling ordinary passersby to read what's written. *Wendy B. Schatzman*

NEW OFFICE TOWER IN ST. PAUL COMBINES HIGH-TECH IMAGE WITH HISTORIC CITY FABRIC

The recently completed Lawson Commons building, filling an entire block in the heart of downtown St. Paul, signals another major step in the city's on-going revitalization.

Designed by local architects BWBR, the 13-story office building—corporate headquarters for Lawson Software—features a traditional, warm red brick shell wrapped around a modern glass tower that curves out of the building's roof. That was the solution the architects devised for a design that would emulate the city's structural character of brick and stone while creating a high tech image for Lawson, Minnesota's largest software company. BWBR specified a distinct base, middle, and top, as in early 1900s architecture, capping the tower with a cornice recalling detailing of the nearby Saint Paul Hotel. Shea Architects of Minneapolis designed Lawson's corporate interiors, creating several up-to-the-moment spaces such as "ponder havens," or privacy nooks, "roundabouts" for standup meetings, and "the eggs," rooms for data and other electrical ports.

Lawson Commons, developed by Frauenshuh Companies, occupies a prized urban site, overlooking the classically proportioned Rice Park from the St. Peter Street street side and Wabasha, St. Paul's chief retail corridor, on the other. In a neighborhood of essentially brick and limestone buildings ranging from early 20th century structures to the 1985 Ordway Center for the Performing Arts, the completed Lawson Commons building fits in well, according to the city's planning department.

Technically, Lawson Commons is two buildings in one—about half the structure is a seven-level city-owned parking ramp, cleverly disguised by BWBR with vertical grills banded by art deco patterns. At street level, a retail arcade opens directly to Wabasha and to the landscaped EcoLab public plaza across the street. Apart from Lawson, prospective tenants have not yet been announced. *Bette Hammel*



COOPER-HEWITT BEGINS NEW AWARD PROGRAM

The Smithsonian Institution's Cooper-Hewitt National Design Museum has created a new awards program to honor American design. The first National Design Awards will be held in New York City in November, with First Lady Hillary Rodham Clinton serving as honorary chair. The prizes will be in three categories—Lifetime Achievement, Corporate Achievement, and Design Achievement—with the latter subdivided into three areas, including one for architecture, landscape architecture, and interior design. The awards will be bestowed each year on recipients whose work "demonstrates extraordinary vision and contributes to the nation's quality of life," in the museum's words. The inaugural jury includes David Kelley, CEO of design firm IDEO; architect Daniel Libeskind; William Mitchell, dean of the architecture program at M.I.T.; Martha Stewart; industrial designer William Stumpf; graphic designer Lorraine Wild; and artist and theater director Robert Wilson. (For a related article, see page 74.) *Soren Larson*



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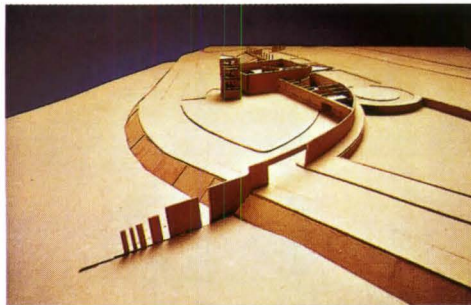
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News Briefs

The top of Tokyo At the center of its 7.8-million-square-foot Roppongi Hills complex, the largest private urban redevelopment project in Japan, the Mori Building Company plans to create the Mori Art Center, a museum dedicated to international art, architecture, and design of the late 20th and early 21st centuries. The Center will form relationships with foreign cultural institutions for collaborative exhibitions; New York's Museum of Modern Art is the principal partner and artistic advisor. New York City's Gluckman Mayner Architects is designing the new exhibition space, slated to open in 2003 in the top five floors of a new 54-story office tower by Kohn Pedersen Fox of New York City.

Tai for Tunis Tai Soo Kim Partners has been selected by the U.S. State



Florida's home for water sports memorabilia.

Department to design a new embassy complex in Tunis, Tunisia. The project will begin with a master plan for a series of buildings on a 22-acre site and move through full design of an 80,000-square-foot chancery and two town houses. The project, which has an estimated \$42 million construction cost, is part of an effort to improve security at overseas diplomatic missions and is Tai Soo Kim's first major design commission for the State Department.

Waterworks It appears that every leisure activity will eventually have

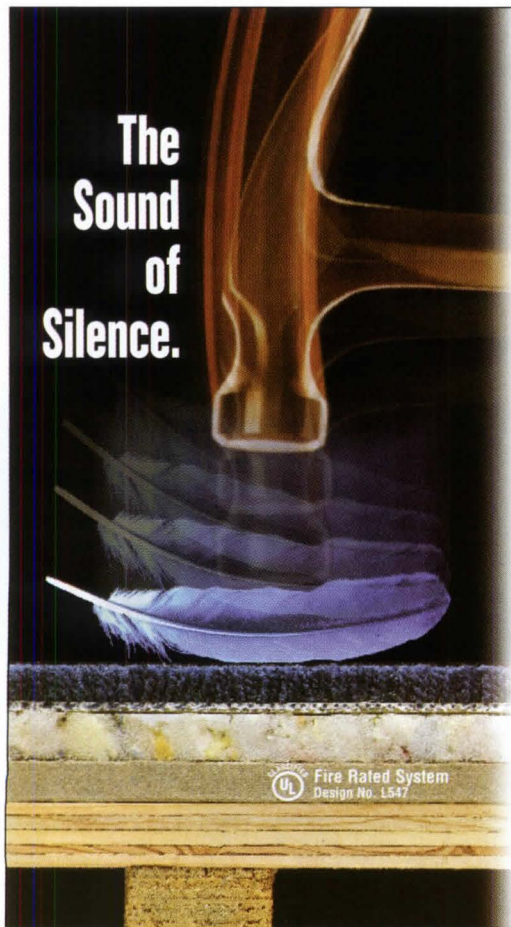
its own shrine. Architects Design Group of Winter Park, Florida, has designed the American Water Sports Museum and Hall of Fame, now being built off the highway between Orlando and Tampa. The facility—which will

showcase competitive water sports and athletes who have excelled in them—will form a sweeping, multicolored curve along its interstate frontage and will have an observation tower as an anchor, a lake for waterskiing, and a reflecting pool. It will be devoid of the sort of kitschy turrets and arches typically found near Orlando.

Going underground The Roosevelt Avenue subway station in Queens, one of the most heavily-used in the country, is being significantly rehabilitated for the first time since it opened in 1933. The \$65-million project, overseen by the

engineering group Vollmer Associates, along with Fox & Fowle Architects, involves a new building for the station entrance and bus terminal, the expansion or elimination of narrow corridors, and the creation of new retail space. Construction is expected to reach completion 2006.

Hope for Hartford Brennan Beer Gorman/Architects (BBG) is developing a master plan for Hartford's 33-acre waterfront district, known as Adriaen's Landing, as part of the city's downtown revitalization effort. The underutilized downtown district primarily accommodates surface-parking structures. BBG's master plan calls for a 700-room hotel with 100 residential condominium units. Accessible from the hotel will be a convention center, which, like the hotel, will use a palette of brick, stone, and glass. To create an animated street-level presence, the proposed "town Square" retail-and-entertainment venue will strive for a neighborhood feel. An assortment of restaurants,



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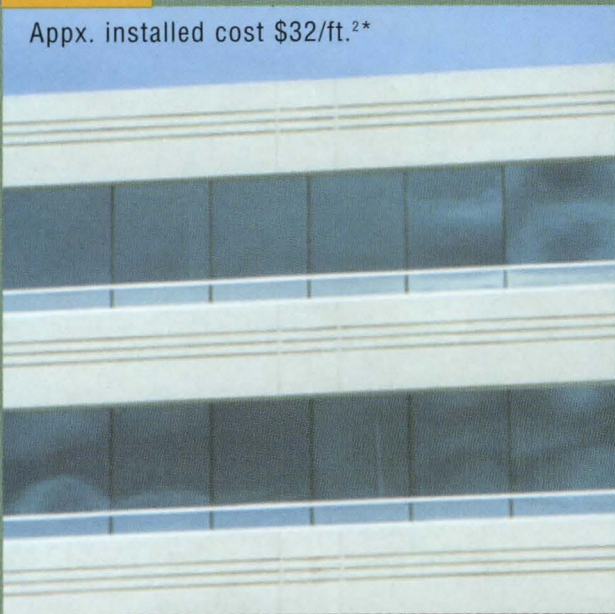


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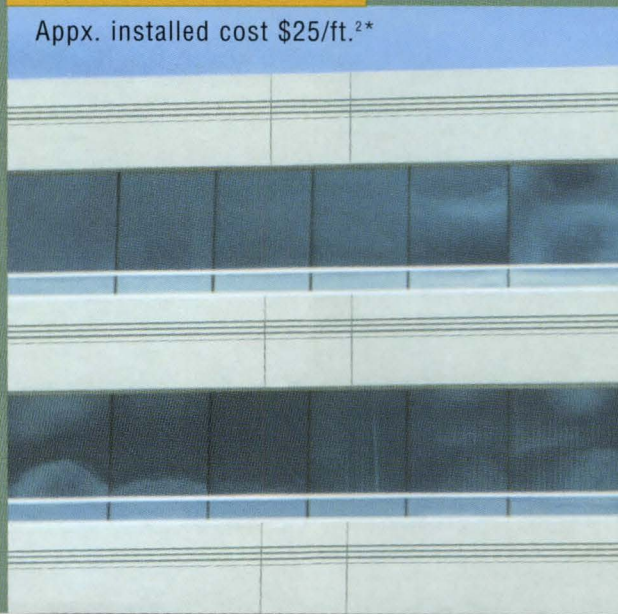
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News Briefs

shops, offices, and residential properties will be established, located in 2- or 3-story buildings in a variety of styles and materials.

Safety first Cities of all sizes are reemphasizing their downtowns. Paso Robles, Calif., has retained RRM Design Group of San Luis Obispo and EKONA of San Francisco to design a new Public Safety Center, to house a fire station, police station, and emergency response center. As part of the city's effort to keep its downtown vibrant, the \$12.5-million project will be built adjacent to the city hall and a 1929 Carnegie library. The

design will be in keeping with traditional small community downtowns: Much of the building is set back from the street level to fit with the existing downtown grid, the scale is in keeping with the area's other 2- to 3-story structures, and the building uses forms and materials (brick, roof tile, and terra-cotta trim) that are familiar in historic California downtown districts.

More for the millennium



BBG's new look for the Hartford riverfront district.

government of Puerto Rico is holding a competition to design a monument to the third millennium, to be built in the new Third Millennium Park in San Juan. The competition is open to residents of Puerto Rico and the U.S., and architects, landscape architects, designers, artists, and engineers are invited to enter, though each team must have at least one registered architect. The first-stage entries will be due June 16, after which five winners, who will receive \$10,000 each, will compete in the second stage, with an August 25 deadline. The second-stage winner, in addition to receiving a \$50,000 cash prize, will get the commission to produce contract documents for their own winning design. The construction budget is set at \$25

million. For more details, go to www.monumentcompetition.com.

Library looks An international competition is underway to find an architect to design a new structure for La Grande Bibliothèque du Québec, the main public library in downtown Montréal. The building will give the public access to Quebec's lending collection and important documents from the city's heritage and lending collection. For details visit www.grandebibliotheque.qc.ca/concours.

This old house Japanese archaeologists have uncovered the remains of what is believed to be the world's oldest humanmade structure, on a hillside at Chichibu, north of Tokyo. The shelter is thought to have been built by Homo Erectus, known to have used stone tools. The site has been dated to half a million years ago and consists of what appear to be 10 post holes, forming two irregular pentagons, which may be the remains of two huts. Stone tools were also found.



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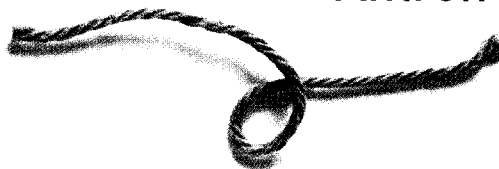
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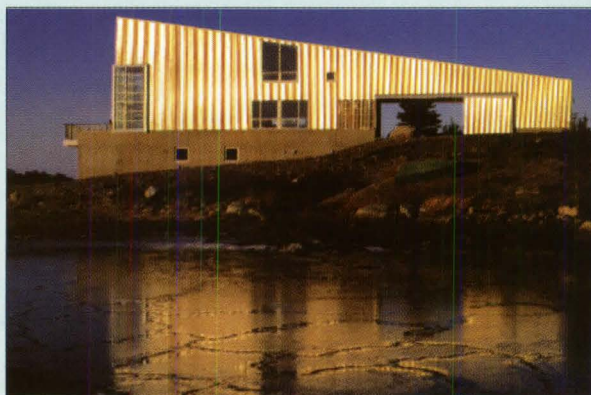
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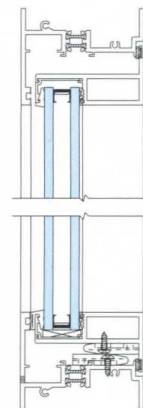
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Looking at the world of tomorrow and the house of today

Books

E-topia: Urban Life, Jim, but Not as We Know It, by William Mitchell. Cambridge, Mass.: MIT Press, 1999. 192 pages, \$23.

Reviewed by B.J. Novitski

Readers seeking a photographic vision of how future technologies will create science fiction cities of sleek buildings and flying taxis will not find it in *E-topia*. William Mitchell, dean of the school of architecture and planning at the Massachusetts Institute of Technology, refrains from such specific speculations. Instead, he places technological development in a broad historical perspective, drawing parallels from many cultures over the past several millennia.

From that vantage point, his future is a level-headed extrapolation of today's trends to tomorrow's cities. Most importantly, he presents architects with a challenge: it's up to us to direct change toward richer rather than more fragmented urban environments.

As computers become smaller, cheaper, and smarter, Mitchell predicts, we'll find them embedded in our clothing to monitor our health and in our wallpaper to adjust the lights, temperature, and music in our houses. Architects will learn to include such "smart rooms" in their design palettes. Twenty-first century cities, he writes, will become "interlinked, interacting, silicon- and software-saturated smart, attentive, and responsive places."

But as videoconferencing and

telecommuting make downtown offices less necessary, what will happen to our cities? Will we all work at home without time for personal interaction? Mitchell's optimistic answer is that when people can live and work anywhere, they will become more selective about where they choose to spend their nonworking time; presumably, they will pay more, not less, attention to urban quality.

Cities will transform themselves, says Mitchell, to accommodate those human activities that cannot be served by gadgets. Cozy coffee shops, live performances, venues for all manner of face-to-face encounters will thrive. Meanwhile, the suburbs, with pedestrian-accessible services such as childcare facilities and health clubs, will evolve into neighborhoods reminiscent of cohesive, self-sufficient 19th-century towns.

Speaking from the technologically wealthy environment of MIT, Mitchell gives scant attention to problems of economic and social inequity. Will computers, as he claims, eventually become inexpensive and universally accessible? Or will they become a permanent wedge between the world's haves and have-nots?

His book may err on the side of optimism, but he emphasizes that we needn't let negative possibilities overwhelm us. This book is an important call for architects to work proactively to strengthen the positive influence of technology on urban environments. As he says, "Our job is to design the future we want."

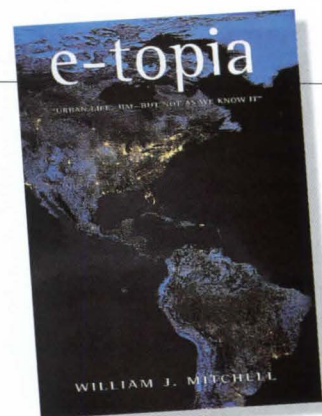
Home: The Twentieth-Century House, by Deyan Sudjic. New York: Watson-Guption, 1999, 240 pages, \$45.

Reviewed by Clifford A. Pearson

This survey of the modern house is much like a familiar fashion model: good looking but predictable. Its tale is told in two parts—first a quick review of each decade of the 20th century and then a compendium of 50 new designs (some built, some still on the boards).

Deyan Sudjic, the founding editor of the British magazine *Blueprint*, is a knowledgeable guide to the last hundred years of residential design. He covers each decade with a short essay and two or three iconic houses shown in a few pages each. But there are few surprises here in the choice of houses. For example, the 1930s are represented by Mies' Tugendhat House, Wright's Fallingwater, and Libera's Casa Malaparte.

The second part of the book is less formulaic with a collection of brief (mostly two-page) looks at new houses from around the world. The whirlwind tour goes from a house by Wiel Arets in Maastricht, Holland, to a sheep-farm house in Melbourne, Australia, by Denton Corker Marshall, with stops along the way in Barcelona for a pair of cottages by Enric Miralles, Benedetta Tagliabue Architects, a white concrete cube in Hiroshima by Shinichi Ogawa, and a steel-framed box raised off the ground in Bordeaux and designed by Lacaton & Vassal.



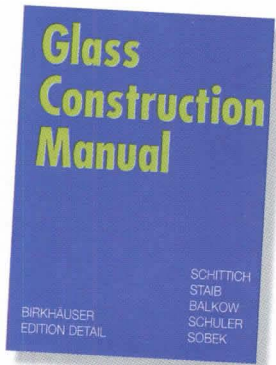
Glass Construction Manual, by Christian Schittich, Gerald Staib, Dieter Balkow, Matthias Schuler, and Werner Sobek. Basel: Birkhäuser, 1999, 328 pages, \$124.

Reviewed by Sarah Amelar
Belying its utilitarian title, *Glass Construction Manual* is hardly dry. This latest volume in Edition DETAIL's materials-in-architecture series is a visually rich A-to-Z on glazing. (It is the first of this series translated from the original German into English). With high-quality color photography and abundant, consistently clear construction-detail drawings, the manual incorporates

Books

34 case studies—recent built examples of exceptional glass work.

If you've ever wondered how Lord Norman Foster, Herzog & de Meuron, Tadao Ando, and others achieved specific glazing effects, this book will uncloak many construction mysteries. The case studies include Herzog & de Meuron's Caricature and Cartoon Museum in Basel, Switzerland;



Heikkinen + Komonen's Finnish Embassy in Washington, D.C.; and Jean Nouvel's Exhibition and Administration Building in Paris. Among the more spectacular architectural feats, the studies also consider the quintessentially simple, but successful window.

Broad in scope, *Glass Construction Manual* documents with illustrated text the historical and symbolic uses of glass, as well as its varying types, physical properties, hardware details, construction standards, and energy considera-

tions. The discussion of physical properties illuminates such characteristics as strength, load-bearing capabilities, and surface finishes.

With the clarity, lightness, and elegance of glass, the book takes on a complex topic, outlining an intelligent basis for design.

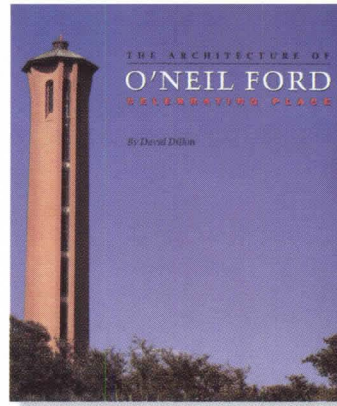
Morphosis: Buildings and Projects, 1993-1997, essays by Thom Mayne, Tony Robins, and Anthony Vidler. New York: Rizzoli, 1999, 456 pages, \$85.

Reviewed by Clifford A. Pearson

If you're looking for the table of contents in this latest monograph on the Los Angeles firm Morphosis, you'll find it about two-thirds of the way into the volume. Don't bother looking for page numbers; only the 13 appendices are paginated. And, no, you're not dyslexic; many pages are printed on translucent vellum so words on the back side comes through on the front. Like *Morphosis* and its founding partner Thom Mayne, this book revels in the willful breaking of convention.

But stick with it for awhile and you'll get sucked into this chaotic, off-balanced universe. First, it serves up several hundred pages of computer-generated images of Morphosis projects past and present: hyperkinetic renderings that fly you around and through some fascinating places, including unbuilt designs for the Spreebogen development in Berlin and the Prado Museum in Madrid and recently completed buildings for Hypo Bank in Austria and the Diamond Ranch High School in Pomona, Calif. Only then does any text explain the projects and show some of the seductive hand drawings that go with them.

The book's presentation requires the reader to do more work than is expected from the typical monograph. If you're not willing to roll up your sleeves and get engaged, you shouldn't bother. The rewards, though, of making the effort are considerable. Mayne's work has gotten richer and more intriguing in recent years just as he



and his firm have begun to build on a significant scale.

The combination of vellum and heavy-stock white pages, metallic-ink illustrations, and four-color photographs make this book a blast to look at and touch. *Morphosis: Buildings and Projects, 1993-1997* is not a casual read; it's a jolt. So buckle your seat belts and get ready for the ride.

The Architecture of O'Neil Ford: Celebrating Place, by David Dillon. Austin: University of Texas Press, 1999, 176 pages, \$30.

Reviewed by Clifford A. Pearson

Often overlooked in general histories of architecture these days, O'Neil Ford was the most important Texas architect of his generation. A straight-talking man who took pride in the enemies, as well as the friends, he made, Ford pioneered new building technologies (such as lift-slab construction and prestressed concrete shells) after World War II and showed how modern design could respond to local conditions and materials. From his office in San Antonio, he gave "modernism a clear regional accent" beginning in the 1930s, explains author David Dillon, and produced a "series of refined contemporary houses that combined the humanizing influences of Alvar Aalto and the California modernists with the relaxed familiarity of rural Texas."

Ford is perhaps best known for his large academic commissions, particularly Trinity University in San Antonio, the University of Dallas, and Skidmore College in Saratoga

Springs, N.Y. Dillon, who is the architecture critic for the *Dallas Morning News* and a contributing editor to *Architectural Record*, examines Ford's signature projects and weaves into his text telling anecdotes from the architect's life. Although clearly an admirer of Ford's work, Dillon doesn't shy from noting the problems with certain projects and the limitations of favorite technologies such as lift-slab construction.

Thought Palaces, by Peter Magyar. Amsterdam: Architectura & Natura Press, 1999, 336 pages, \$30.

Reviewed by Robert McCarter

Thought Palaces presents a provocative collection of drawings of 58 projects by educator and architect Peter Magyar. Produced during 35 years of work in Europe, Africa, and the Americas, these drawings integrate diverse definitions and criticisms of modern architecture that have emerged since 1965. In his precise and poetic drawings, Magyar inflects the forms of modernism to engage fundamental principles he has discovered in vernacular culture, such as the use of local materials and traditional building morphologies.

While always respecting existing urban forms, Magyar designs by carving and shaping heavy, anchored, earthbound masses, literally drawing his buildings up out of their sites through an organic fusion of geometry and ground. The inventiveness with which Magyar responds to both fundamental principles and the specifics of each project exemplifies Louis Kahn's definition of architecture: "Always more than the sum of its measurable aspects, a work of architecture is that which allows us to experience the immeasurable."

Robert McCarter is an architect and chair of the department of architecture at the University of Florida. His latest book is Frank Lloyd Wright (Phaidon, 1997).

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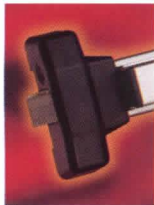
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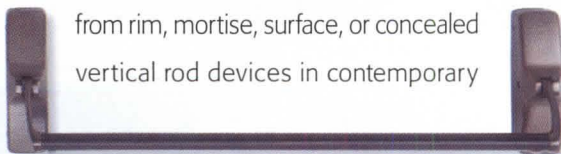
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A bombed-out Beirut is being born again—fitfully

Correspondent's File

By Michael Stanton

DEPARTMENTS

Not by accident, the end of the Cold War coincided with the inconclusive cessation of the hot war fought in Lebanon—particularly in the streets of Beirut—for 15 years. The reconstruction of the big city that contains, in its metropolitan area, more than half of this small nation's population, serves as an example of the enthusiasm and problems that have redefined global dynamics in the last decade.

Compared to the Mediterranean metropolises that share its topography and culture, the city stands ravaged by war and neglect. Pockmarks from small arms fire or the gaping wounds of artillery and rocket hits mark most buildings. They become ubiquitous around the Green Line, the urban no-man's-land between the major sides in this complex war with many factions, all of whom fought each other, and the foreigners who intervened, at one moment of shifting allegiances or another.

Along the Line, and after almost a decade without fighting, the buildings still hunch in on col-

lapsed floors or stand partially melted from the barrage, reduced to generic forms as all detail was shot away. These structures wait, like patients in triage, for demolition or reconstruction. Many are still occupied by squatters and the displaced who form a sociological counterpoint to the evident physical destruction. Furthermore, damage from combat is rivaled by an infrastructural collapse that is far from repair.

New construction and renovation have slowed in recent years as the post-war euphoria and the heated economy that accompanied it have subsided. Nonetheless, the city is transformed. Actually, more construction occurred during the war than demolition. An almost pure exercise in capitalism, wartime building was the result of speculation without restraint as regulations that governed construction dissolved along with the nation. The Lebanese, with characteristic vigor, continued to develop real estate in every lull in the conflict or whenever a site was outside the shifting trajectories of the many factions' shooting.

Seeds and speculation

A precedent was thus set for post-war development. Tower blocks now climb the mountains for 30 miles along the sea, presenting a fantastic landscape of pristine Mediterraneanism to the distant viewer—though brutally disappointing as closer inspection reveals that this expression of rampant development is generally without quality.

Decorating the shells of speculation are a mix of post-modernism of a global sort and vernacular reference that evokes "identity" through the attachment of arches, bay windows, and abstract decorative motifs. This mixture of pastiche and local form reduced to appliqué seems to try to remedy cultural amnesia—but amnesia may actually be their intent. In the trauma of

before the war but recently completed, is evocative exposed concrete expressionism. Perhaps the most distinguished—and certainly the most-published—post-war project is a nightclub called B018, a phenomenon that is appropriate to the new Beirut. For the project, Khoury's son Bernard produced a bunker with retractable roofs. B018 is buried and surrounded by an



Old and new are juxtaposed on the Damascus Road, leading out of the city.

Lebanon, what is presented in terms of new architecture seems more a substitution than a retrieval. The cultural field is being cleared to serve the new forces that are reshaping the economy. History is commandeered to advance ideology and the market.

The current landscape is not without its fine projects. The Interdesign building in West Beirut designed by Khalil Khoury, begun

ellipse of parked cars; all that is left on the surface are Range Rovers and Mercedes, the primary emblems of the bourgeoisie who frequent the place. The club is a chimera of moving panels and convertible furniture. As it is underground, it is also a tomb, perhaps too literally referring to the notorious massacre that occurred in the area at the beginning of the war, but it is also a shelter, one of the

Michael Stanton is currently a Visiting Associate Professor at the American University of Beirut. His design work has been awarded four times by the ACSA and he has won the Young Architect's Award from the Architectural League of New York and the Biennial Steedman Prize. Over the last six years he has directed 11 international workshops in Venice and Barcelona. Before Beirut, he was a guest professor at the Royal Danish Academy in Copenhagen.

Correspondent's File

spaces about which Beirutis are now nostalgic, places where social mixing and community were formed under the pressure of conflict.

The qualitative emptiness of most new buildings in Beirut has produced an overheated interest in the actual emptiness at the city's urban heart. The Beirut Central District (BCD) is now a symbol, in its vacuity, of the civic fragmentation and sectarianism that were not resolved—and in some ways may have been worsened—by the war. At the end of the fighting, the appropriation, by governmental decree, of all property in the center and the formation of Solidere, a real-estate corporation to develop it, was shortly followed by the elevation of that corporation's head, Rafik Hariri, to the position of Prime Minister—and the almost total demolition, by explosives, of the center of the city to clear the

way for modern projects, such as the United Nations headquarters, designed by Pierre Khouri and completed in 1997. In all, more than 1,000 buildings disappeared.

New battles

And so the war continues in the building process, both in the demolition of the heterogeneous downtown and in the assault on ideology that is its rebuilding. The erasure of history through the annihilation of the urban fabric offers a chance to rewrite it. Identity is an issue for people who feel they are losing that which distinguishes them. This is indeed the case with the Lebanese. But the gestures toward cultural recovery seem to primarily serve business interests. If architecture is any indication, a plural and liberal society within the region is redefining itself as pure marketplace.



Most of the buildings were recoverable, if badly damaged, in the front-line area. The choice of which to save is indicative of current mindsets. The mosques and churches remain, underlining the importance of the various sects that define the nation's political geography and identified the militias during the war. Certain fine modern buildings from the period of independence, like the Starco and Azzariah complexes and the Arab Bank, were renovated, but the majority of other saved structures are historicist confections from the late-Ottoman and French periods. Many older buildings, ancient and vernacular, were destroyed.

So were the structures that defined the major prewar civic spaces like Martyr's Square, the traditional main plaza of the city. Any references to the 5,000-year history of the city were reduced to archeology from Phoenician and Roman times. History's living presence in the fragments of old city fabric in the ancient souks and casbahs around the center has been replaced by these safely contained ancient relics. The reason for this is not just a museum-like strategy, but also a simple real-estate imperative: the old buildings were too small. The turn-of-the-century structures better optimize the potentially valuable property. Also, their language—a cross of Parisian boulevard and orientalism—is appropriate to this future bourgeois neutral ground.

Possibly the best news about the BCD at this point is that it is mostly unbuilt, and remains so due to the economic slump. The poten-

tial is still there for a dynamic metropolitan statement far, in spirit, from the reconstructions and simulacra that are beginning to occupy the urban wasteland.

Identity issues

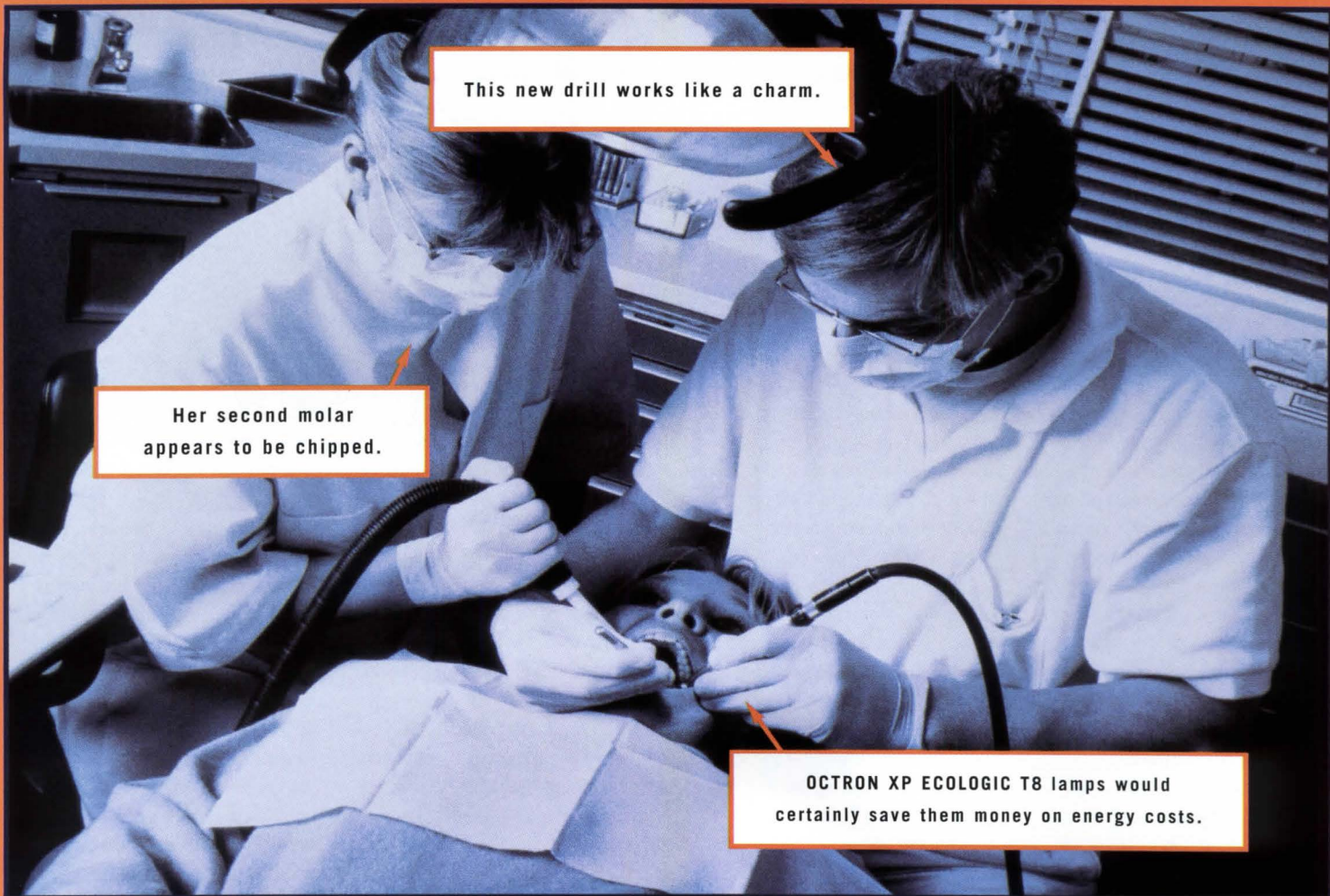
In terms of recent design, local architects are imitating the work of the international post-modernists involved in Beirut. Terry Farrell has designed several buildings and Ricardo Bofill was responsible for wartime planning initiatives. Corporate firms from the U.S. and Europe are getting involved and their work creates a sort of salable genericness. A form of New Urbanism seems to be determining the streetscape, and the movement's familiar rhetoric promises Seaside at ground zero. The problems may stem from the fact that almost the whole downtown has one owner with one objective. This may be unique in the non-Communist world. But chaos, as embodied in multiple ownership, is what cities thrive on. The struggle makes a metropolitan pressure and formal mix that is the essence of the urban. On Solidere's fantasy islands, these seem lacking.

The shell of an electrical station by Abdul-Halim Jabr and some renovated pre-war Modernist buildings form a few exceptions. Meanwhile, Rafael Moneo is reconstructing the souks that were demolished after the war. He recognized that their intimate scale and funky casualness is unrepeatable, and has opted instead to build a shopping mall more akin to the Lilla complex he collaborated



New souks, built by Solidere, have risen in the central district (above); the Lebanese Overseas Bank, designed by Pierre Khouri (left); the central district's United Nations Headquarters, also designed by Pierre Khouri (below).





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Correspondent's File

on in Barcelona. The souks become a festive marketplace, but are also nondescript.

In this way, much focus is on revivalist buildings with regional decoration. The legacy of great modern architecture from the period of independence is largely overlooked—even though this work, by Lebanese and Europeans, is of consistently high quality. Oscar Niemeyer designed a huge fairground in Tripoli and Aalto worked on an office complex in West Beirut, but the good work from that era by local designers is most noteworthy. Sadly, this seems to be without effect on current practice.

Urban opportunities

Though it is made so often, the comparison of Beirut with Berlin may be facile. It ignores the 45-

year lag between the reconstruction of the two cities and the social differences that separate Germany from the Middle East. Certainly the post-war fabric is similar, with its split urbanism and tortured fabric, but in Beirut the scars are fresh and the fragments impermanent. A chance, lost now in Berlin, remains. Maybe a comparison with Barcelona is more appropriate, for the topography and Mediterranean pleasure principles are nearly identical. But Barcelona has been a laboratory for urbanism for 300 years and is in a social democracy.

On the whole, it is better to liken Beirut with the situation in Havana. One city is dilapidated from the effects of 15 years of real war, while the other is the victim of a 40-year economic assault, but the dissolution is similar and the indomitable spirit of the residents



A view of Sodeko Square, on the Green Line, through a bombed-out villa.


is equally infectious. Both cities suffer from a collapsed infrastructure, yet are able to present an exciting urbanism brought on by shifting and displaced populations and by unanticipated metropolitan juxtapositions.

But is there a place in this context for architecture, especially in Beirut where, unlike Cuba, there is little concern from the authorities to support construction for the social

strata that shape new urban configurations? This question is central, given the hazy prospects of both cultures. The tropical energy and sense of a fantastic pressure toward the future are so compelling in these two urban battlegrounds that it seems architects and urbanists should find that place where they can enter the other discourse, even as they inevitably address the desires of power. ■

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What your mother never told you: Conventional wisdom strategies for greater profitability

Practice Matters

By Elizabeth Harrison Kubany and Charles Linn, AIA

DEPARTMENTS

Good economic times can lead to bad fiscal habits. When profits are high, it is easy to overlook a late payment from a client, or to spend lots of money pursuing projects the firm is unlikely to get. During the last recession, many architects tightened up their operating policies to maintain profits. Some have maintained these simple business strategies based on conventional wisdom because they improve the bottom line whether times are good or bad.

Grade your clients

With an average of eight percent of most firms' net billings going into marketing, chasing only the right projects can keep business development costs down. "We have a screening process that keeps us from going after jobs that we aren't likely to get," says Don Hackl, FAIA, of Loeb Schlossman & Hackl in Chicago. His firm's executive committee reviews clients on the basis of about a dozen criteria—whether it is a project type in which the firm has experience, what resources might be available to the client for funding the project, and whether the firm has done work for the client in the past. "The executive committee totals up the scorecard. If there are enough points, someone can go after the job. If not, we walk away," says Hackl.

What's it gonna cost me?

It is impossible to set a good fee without understanding what it will cost to produce the project. Robert Hillier, FAIA, president of the Hillier

Group, headquartered in Princeton, N.J., takes this a step further. He suggests creating a business plan for every project, including estimates of how many man-hours will be required, and how much consulting and miscellaneous overhead will cost. These estimates can then be used to create realistic work schedules. Hillier began this formal planning because some clients were demanding that such schedules be available for review. He now does one for every project because "it is the most effective way to track costs from start to finish."

Scope creep

Knowing the scope of work is the key to understanding what your costs will be. William Harris, AIA, of Signer Harris Architects in Cambridge, Mass., says it is important that everyone in the office—from the project manager to the draftsman—understands what the contract covers: "That way we don't spend time doing work that isn't covered by the contract." Architects often lament that clients ask them to expand the scope of work without expecting to pay for additional services. If the contract doesn't carefully detail the scope of work or if language in the contract is vague, the architect might be in a bind. To avoid such misunderstandings, the architect should spend time establishing the scope of work with the owner and itemizing it in the contract.

One architect admitted, "We used to lose about 15 percent on every job taking care of things that

weren't under our scope of work. Finally we had our lawyer draw up several ready-to-fax contract amendments to the owner-architect agreements which we issue immediately when we receive a scope-of-work-change request." These state the architect's understanding of what additional work has been requested, give a price for executing the work, and explain whether this change to the contract will affect the liability of the architect in any way. The client must sign the form and return it to the architect before any change in the scope of work is executed.

Cut your losses

"I would say that every architectural firm has been guilty of not stopping the work when a client has failed to pay on time," says Don Hackl. Architects are often afraid to alienate their clients by being tough on late invoices; there are clients who are aware of this reluctance and are quite willing to take advantage of it. But late payments should be a red flag for architects: If a client is unwilling or unable to stay current with the architect's invoices, there may be problems with funding for the project. It may be best for the firm to get out before it takes a huge hit financially.

For international work, where it can be even harder to collect on a delinquent account, many firms require the client to pay a retainer. If payment is not received by the due date, Hackl faxes a notice that the work will be stopped in seven days, the project team will be broken up

and reassigned, and the client will have to pay a fee to have the firm reassemble the team and commence work again. "It costs a lot of money to stop and restart a job; we should not have to eat this cost because the client hasn't paid on time," says Hackl.

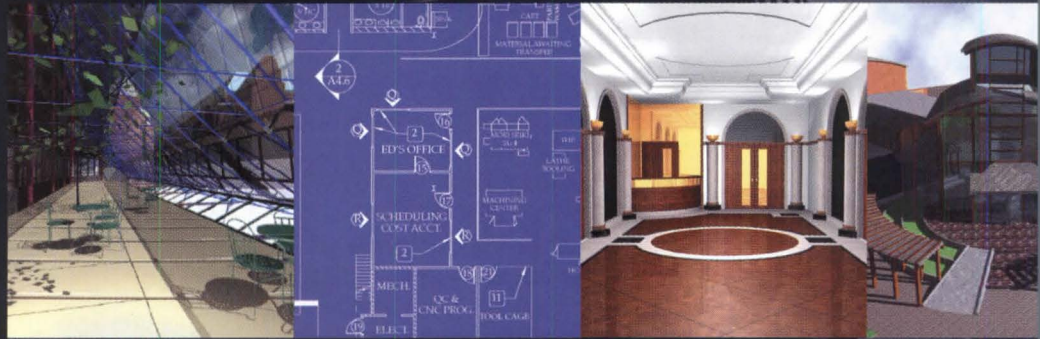
Put it in the contract

Paying close attention to the contract, and making sure the client understands that contract, can help improve profitability. Harris says, "I always try to go through the salient items in the fee proposal face-to-face to identify and clarify all the potential issues. My profitability has increased because I do not have to walk through invoices with the client once they are sent." Harris also touts the B141 1997 because it "allows me to spell out the initial assumptions that will impact my costs." For instance, he might assume the project will be built by a general contractor with a licensed supervisor. If that changed—say the client decided his brother-in-law (who was just breaking into the construction industry) was going to build the project *instead—the architect's scope would be affected.*

Stanley Stark, AIA, a partner at HLW International in New York City, says his firm has determined that it costs more money to work with certain consultants. While HLW does not try to dictate whom the client contracts with, "We let them know during negotiations that we will have to charge more if they work with certain companies with which we have had bad past experiences." ■

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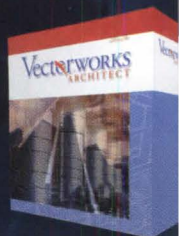
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CIRCLE 35 ON INQUIRY CARD

An urbanist says a sense of place is more important than the design itself

Critique

Interview by Andrea Oppenheimer Dean

DEPARTMENTS

Seven years ago, The New York Times described Fred Kent as someone “who would like to see most architects hit the road.” A disciple of William H. (“Holly”) Whyte, the influential urbanist who studied the city by observing how people used streets and plazas, Kent is president of the Project for Public Spaces (PPS), a nonprofit group that puts Whyte’s principles to work in retrofitting problematic parks, plazas, shopping strips, and streets across America. Kent sat for an interview with RECORD to talk about recent developments in our urban landscape.

Record: During the postwar decades, as American cities declined, public spaces followed suit—and so, it seemed, did old patterns of community cohesion. Now that cities are making a comeback, has interest in public spaces revived?

Kent: I think the era when there was a fear of cities and the diversity they represented is coming to an end, but this important shift has not gotten much press or television coverage. At PPS, we are getting more and more calls from mayors, nonprofit organizers—everyone but designers—asking us to help them bring back their public spaces, their town squares.

Record: Your mentor, Holly Whyte, said, “It’s hard to design a space that will not attract people. What is remarkable is how often this has

been accomplished.” What are architects doing wrong?

Kent: They’re making visual designs rather than civic places. A good place has less to do with how a space looks than how people use it: the activities that go on there, how comfortable it is, how easy it is to get to and walk through, the public image it projects. As we begin to realize how important the civic realm is and how we have lost it in recent years, we realize that we’ve relegated its design to a profession that seems interested mainly in making visual statements.

Take Centennial Park in Atlanta. In 1996 the city developed a plan for a major park in conjunction with the Olympics. The park was to be a metaphor for a quilt and was therefore laid out using a grid system. The problem is that many of the activities that go on in a park—walking, jogging, skating—don’t fit into a grid. When people start talking about metaphors you know they’re getting away from anything to do with human beings.

Bryant Park, though successful, also shows a lack of understanding of public spaces. In the back of the park near the public library there is a restaurant [Bryant Park Grill], which is a good idea; food is a great draw. The problem is you can’t see into the restaurant, and the people inside can’t see out. The building is impenetrable; it’s apart from the park.

Record: Does [New York City’s] Battery Park City work?

Kent: It’s not bad; it’s just not great. The main problem is that the base of the buildings were not designed to

take advantage of their proximity to the public walkway and the water. [Not counting] one central location, there are few restaurants and cafes overlooking the water. And many of the spaces don’t have the flexibility that is critical for allowing incremental growth. In great public spaces, such

ones where various activities are combined or triangulated. My favorite hypothetical example is a square that has a library and a coffee shop. The library has a children’s reading room that’s next to a playground, at the edge of which is a coffee shop for parents. In front of



In Atlanta, Centennial Park’s grid plan doesn’t accommodate activities like jogging or skating, says Kent.

as Central Park, activities just seem to fit along pathways. That’s because Olmsted would try something, see how it worked, and change it if necessary. At Battery Park City everything was fixed; it’s hard to evolve it.

Record: What are some of your favorite public places?

Kent: A key word is “triangulation.” The best type of public spaces are

the library you’d have a square, for weekly markets, seasonal events, art shows, performances. Ideally, also around the square would be a post office, a community center or meeting place, a fire station, and some stores. You put all those together and you have triangulation.

Record: What about actual public spaces that are successful?

Andrea Oppenheimer Dean is a contributing editor for RECORD and lives in Washington, D.C.

Critique

Kent: Some of the best were not planned by designers. Take good streets. Bleecker Street in New York City has more diverse stores than any shopping mall. Each block has its own character. In one neighborhood people shop for cheese, bread,

IT'S HARD FOR PEOPLE TO REALIZE THAT PLACE IS MORE IMPORTANT THAN DESIGN.

fish, meat, etc. Another has antiques and gift shops and still another has the clubs Bleecker Street is known for. All of the buildings are small, which makes it a good place for people to walk. The entertainment, restaurants, food stores, playgrounds, and little squares fulfill a complex set of needs for people in an urban setting. They support the local economy by stimulating local entrepreneurship.

Record: Your emphasis on locale and community fits in with the New Urbanist view. Have they made successful public spaces?

Kent: They're not about place-making yet. It's very hard for people trained in this era to realize place is more important than design. As a nonarchitect, I think you need 10 different kinds of designers working within a framework. You get more chaos than some people would like,

but you get a lot more people enjoying it. The best public spaces have grown over the years.

Record: How would you rate [the New Urbanist town of] Celebration's public spaces?

Kent: They are based on a visual aesthetic of an idealized place. There is a square in Celebration called Market Square, and I assumed there would at times be a market there. No chance. This is a little park with trees and seating. It's

all visual. Around it is a city hall, which has so many columns that you can't see the building behind them, and a post office that is pushed off into a corner.

At first glance Main Street looks very nice. There are nicely designed arcades, but they are too narrow for outdoor activity, to put places to sit, things to sell. And the buildings are attractive but not very functional. In the early 1900s, which is the decade that many of the buildings in Celebration try to replicate, designers understood that you design a window for a dress store differently than for a shoe store or a jewelry store. In Celebration, the windows are all alike.

A city I like is Roebling, N.J. It's a company town, built between 1904 and 1906 by one of the sons of John A. Roebling, designer of the Brooklyn Bridge. If you were to rate all the New Urbanist communities on a scale of one to 10, you might get a five. Roebling would be a nine. It has connected housing, separate, single-story family homes, narrow

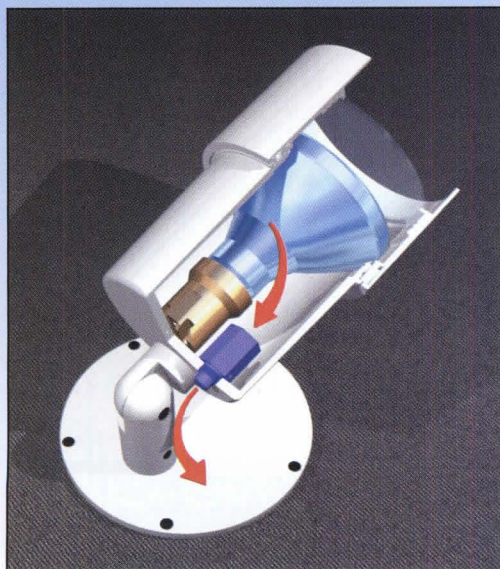
streets, commercial areas, a fire station that contains both the community center and a library. The firemen also function as volunteers who maintain the community center. It seems so perfect you can't believe it's real, but it is.

Another example is Rockefeller Center, one of the great squares. The buildings' commercial spaces have evolved over time and improved. There used to be banks at street level and now there are retail uses. The Today Show went into an old bank office; the auction house Christie's went into a garage. In the new part of Rockefeller Center, which was designed in the '60s, the architecture is so overscaled that it is nearly impossible to change.

But some cities are changing and some architects have begun to realize the positive impact their buildings can have if they are designed as places, not just for aesthetics. I used to say the newest building in any city would be the worst. In some cities that's no longer true. ■

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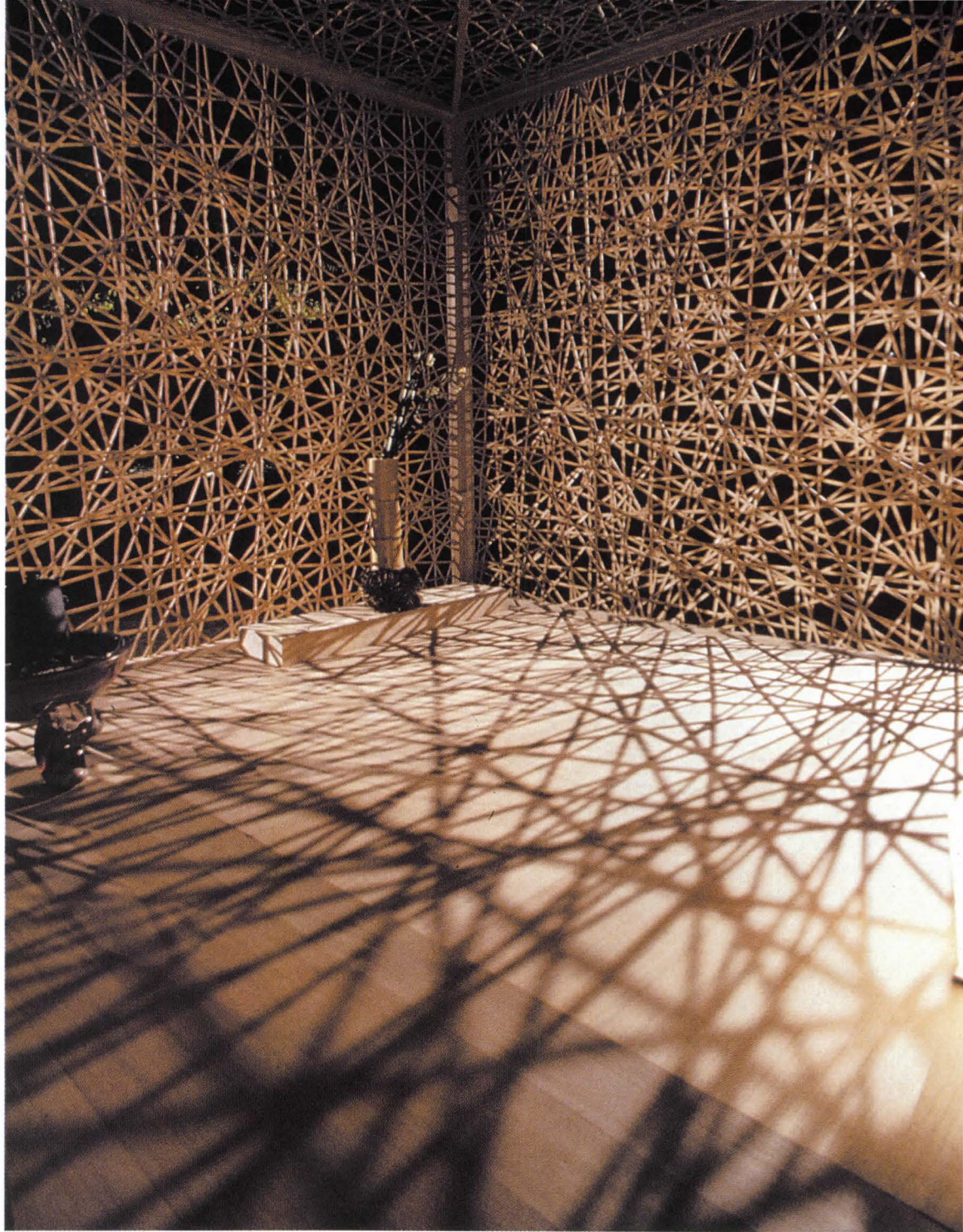
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Snapshot



By Elizabeth Harrison Kubany

Tea is central to the Japanese way of life. The tea ceremony, a symbolic pursuit with roots in Zen Buddhism, aims to purify the soul. Tokyo-based architect Shigeru Uchida believes that tea cures one's spiritual as well as literal thirst. The basic principle of the ceremony is that one meets another person for the first time only once and must therefore do everything possible to appreciate the encounter. From this basic tenet emerged a rigorous aesthetic that protects the sanctity of the room for the tea ceremony, as well as the utensils for serving the tea.

According to Uchida, a full understanding of the philosophy behind the formalized, methodical tea ceremony was lost as Japan entered modern times. Yet the ceremony's aesthetic and symbolism constantly reappear in Japanese daily life and are deeply embedded in the cultural memory of the Japanese people.

To create a bridge between lost Japanese values and the modern day, Uchida designed three styles of contemporary ready-to-assemble teahouses, each with bamboo walls, sliding cedar doors, and a stone step on which to

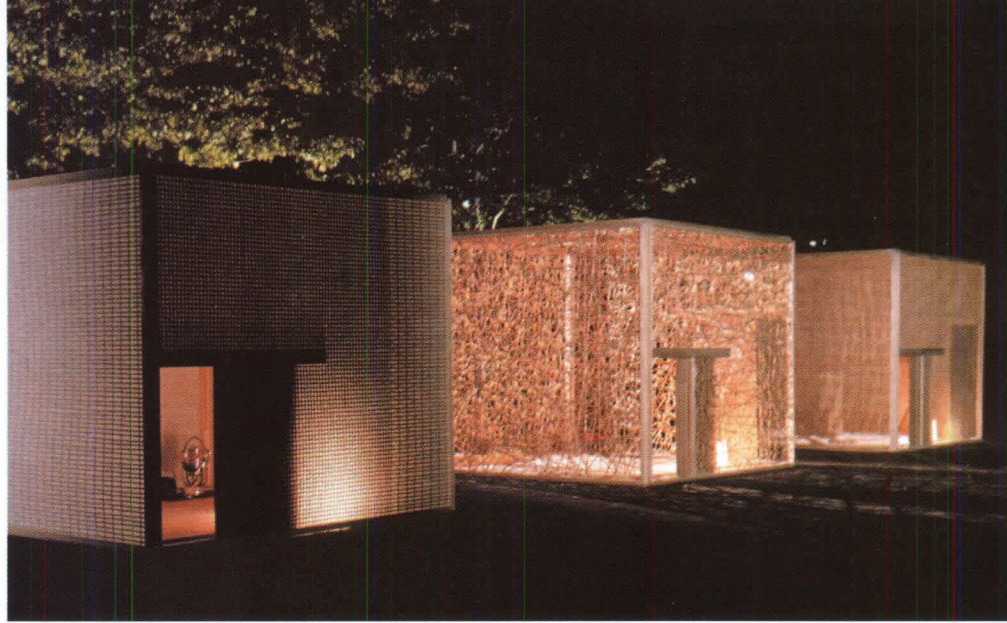
Modern teahouses steeped in tradition

Snapshot

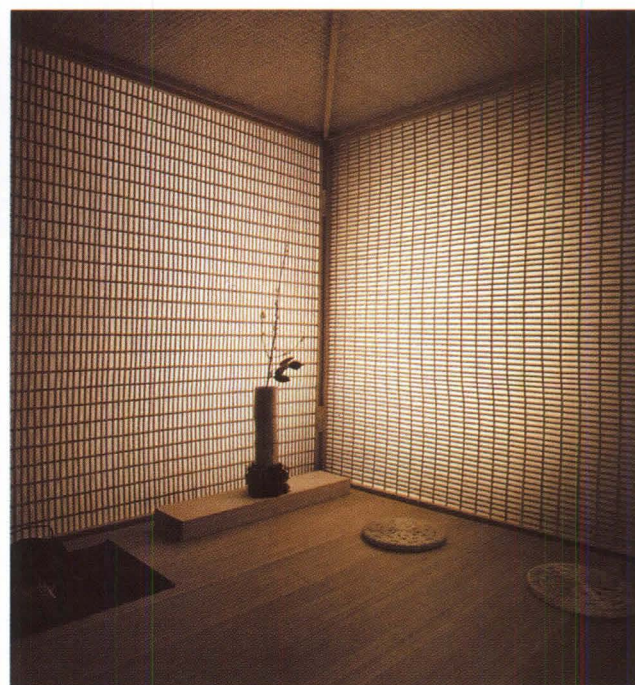
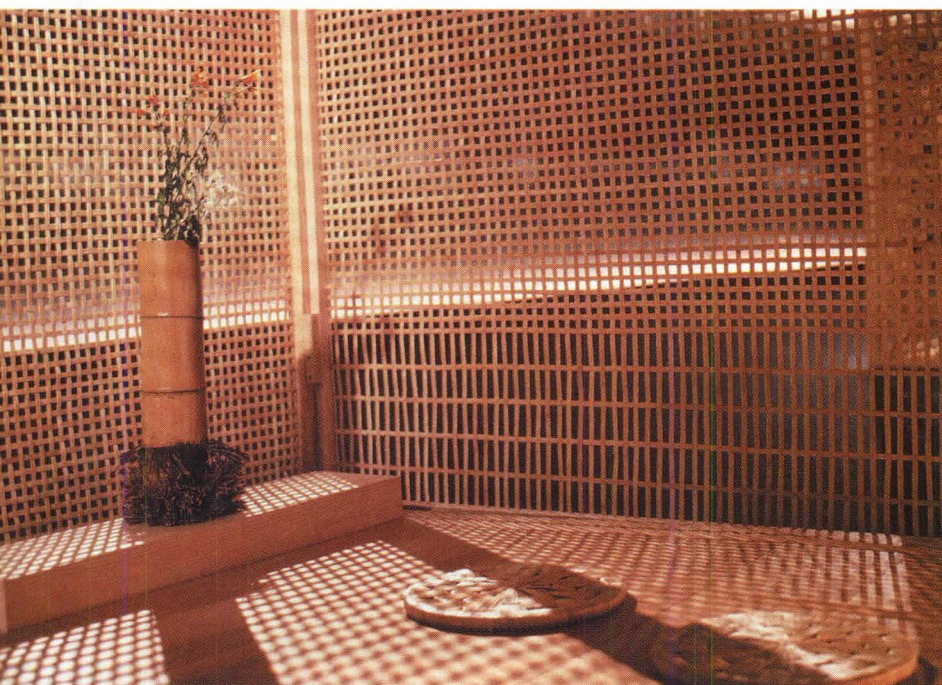
leave one's shoes. From February through August of this year, the three teahouses—Ji-an (“House of Perception”), So-an (“House of Composition”), and Gyo-an (“House of Memories”)—are traveling to museums and design centers throughout Germany as part of an exhibition called “Method Remembered: Toward a New Tea Room,” where they will be presented with Uchida’s new interpretation of tea accouterments.

According to Uchida, what distinguishes Japanese from Western building is the notion of *kekkaï*, or boundary, that subdivides a continuous space into small, sacred spaces by isolating and surrounding them. The three simple boxes—almost perfect seven foot cubes—are differentiated only by Uchida’s treatment of the *koshi*, or lattice walls, which separate inside from out. Ji-an and So-an’s *koshi* are elegant assemblages of squares and rectangles set in varying vertical and horizontal grids, while Gyo-an’s *koshi* is a tangle of triangles. In all three cases, the effect is one of stunning simplicity, peace, and silence. Reducing the teahouse to its most basic form, Uchida presents complex concepts in an understandable way. “This work recalls the deeply rooted method culture of tea that modern society has lost track of; it recreates it for the next generation,” he explains. “This is an attempt to translate the philosophy and principles of the tea ceremony so they can be understood from the perspective of the Western cultural experience.”

To accommodate the transient nature of contemporary life, the teahouses can be assembled, dismantled, and easily moved. And in the ultimate nod to modernity, the teahouses are available for purchase over the Internet (www.stilwerk.de) for \$25,000 apiece. ■



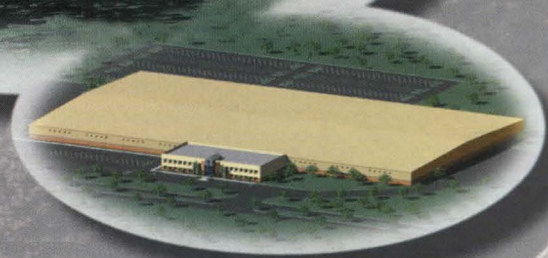
Shigeru Uchida’s modern take on the teahouse captures the essence of this ancient form. These buildings enclose a “realm of emptiness,” a uniquely Japanese concept of space, where the soul can be revealed.



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CIRCLE 42 ON INQUIRY CARD

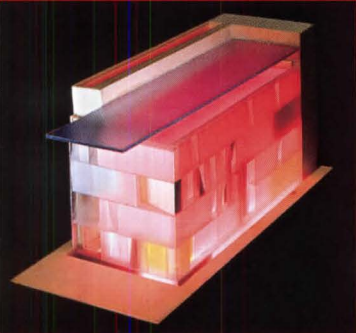
Design Culture NOW

FEATURES

Like a potent cocktail, the Cooper-Hewitt National Design Museum's first National Design Triennial shakes together a lot of ingredients and delivers a pleasant kick. The result is a blurring, not of vision, but of

boundaries, between the once-discrete disciplines of architecture, graphics, and product design. The Triennial, which runs from March 7 until August 6 at the Cooper-Hewitt in New York City, brings together work by 83 designers and firms, ranging from "deans" such as Frank O. Gehry and fashion designer Geoffrey Beene to "young turks" like architects Giuseppe Lignano and Ada Tolla of the

firm LOT/EK and product designer Gary Shigeru Natsume. To highlight design crosscurrents, the exhibition's three curators, Donald Albrecht (architecture), Ellen Lupton (graphics), and Steven Skov Holt (products) organized the work into eight interdisciplinary "characteristics"—Fluid, Physical, Reclaimed, Local, Minimal, Narrative, Branded, and Unbelievable. A sampling is shown here. *Clifford A. Pearson*



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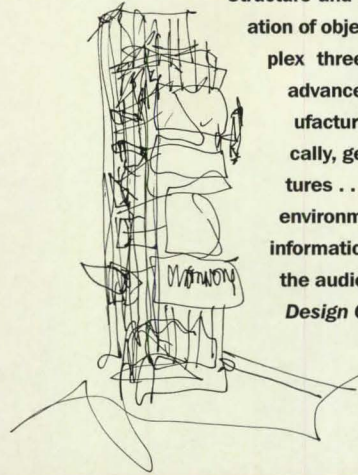
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Left: 1. Versace Boutique by Richard Gluckman, 2. poster by Alexander Gelman, and 3. Curvaceousness motorcycle by Cory Ness.

ARCHITECTURE

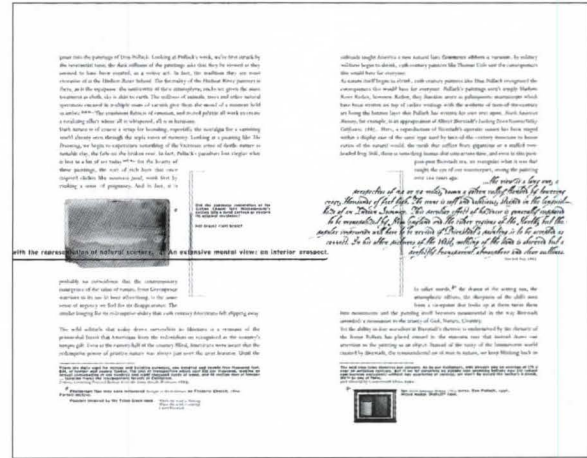
Structure and surface are merging in design today. The creation of objects, buildings, and interiors consisting of complex three-dimensional curves has been enabled by advances in computer-aided design, tooling, and manufacturing. Designers are conceiving of form organically, generating fluid surfaces in place of rigid structures . . . The designer has become an orchestrator of environments and experiences where materials, light, information, and imagery are in a state of flux, engaging the audience in active and intuitive ways.

Design Culture Now, Princeton Architectural Press



One Times Square (proposal)
Frank O. Gehry & Associates

GRAPHIC DESIGN

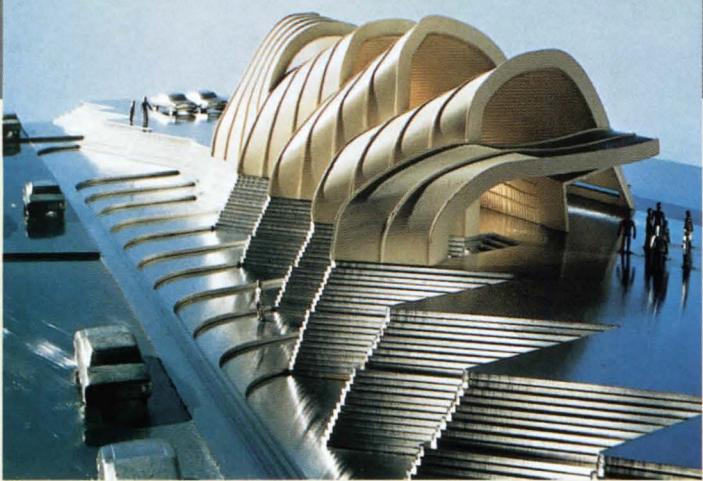


PRODUCT DESIGN

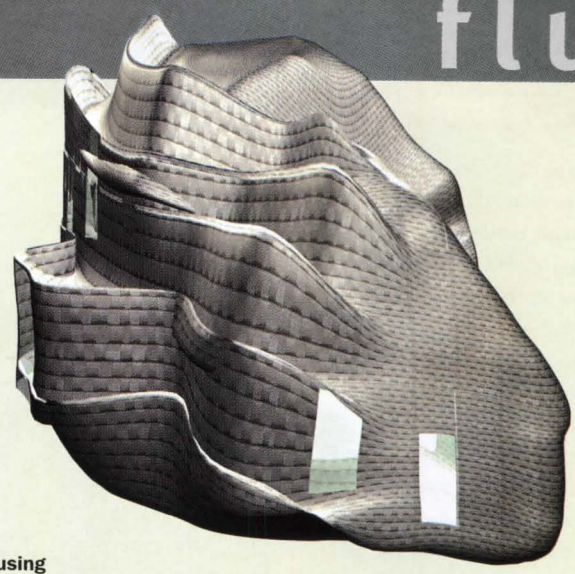
We are in the closing years of the Age of the Blobject, a period that began in the 1980s, when everything from the Ford Taurus to the Sony Walkman to the Tylenol caplet was designed with curved contours and swoopy silhouettes . . . Since then, blobjects, along with accepted standards for good design, have become more visually evolved. In the same way that the first generation of professional industrial design pioneers, in the 1930s, focused on streamlining objects, the designers represented [here] are hyper-streamlining everything from motorcycles and hairbrushes to sunglasses and computers. *Steven Skov Holt*

Swingline Contura stapler
Scott Wilson



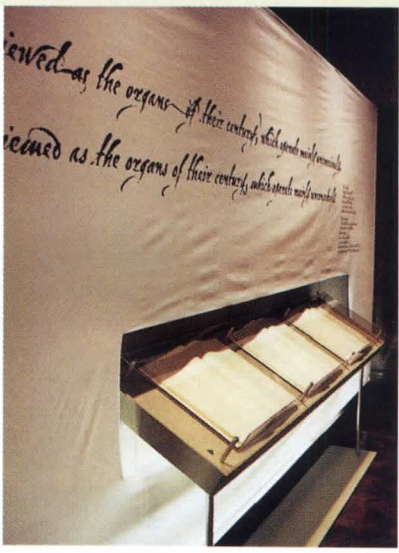


Hydrogen House (unbuilt)
Greg Lynn FORM



Housing
Kolatan/MacDonald Studio

idity, saturation, and overflow are words that describe the information sur-
that besets us at the start of the 21 century. Images proliferate in this media-
environment, and so too does the written word. Far from diminishing in influ-
e, text has continued to expand its power and pervasiveness. The visual
ession of language has grown increasingly diverse, as new fonts and formats
ve to accommodate the relentless display of the word . . . Since its invention
ng the Renaissance, typography has been animated by the conflict between
architectural elements—such as the page and its margins—and the fluid
tance of written words . . . As rigid formats become open and pliant, the
itectural hardware of typographic systems is melting down. *Ellen Lupton*



Volgare typeface
Stephen Farrell, Slip Studios

Mythopoeia catalogue
Stephen Farrell, Slip Studios



Javad global positioning system
frogteam

Mars glasses
Colin Baden, Hans Moritz, Jim Jannard



Java Station network computer
Montgomery Pfeifer Design Team

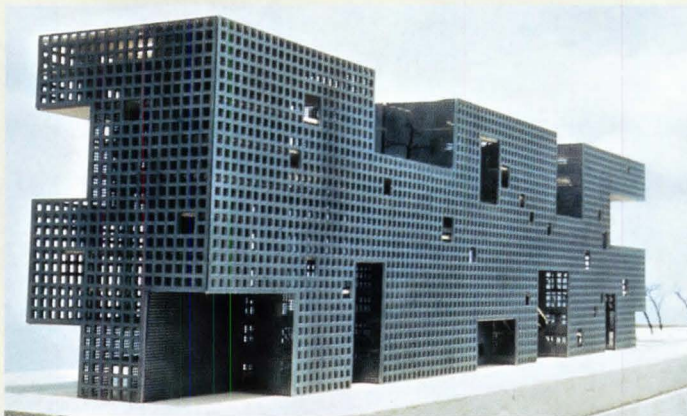


physical

ARCHITECTURE

The Triennial's participants rely on a range of strategies—from collage to mutation—for construction of [the] contemporary hybrid. In collage, discrete elements remain visually distinct. The juxtaposition and overlap of individual parts spur fresh insight. Mutations fuse discrete elements into new entities. In the process of becoming something else, forms meld to assume identities that bear few traces of their constituent parts. *Donald Albrecht* Designers engage the realm of physical experience by celebrating the play of light and shadow, juxtaposing diverse and sensual materials or reflecting on how an object, image, or building is made. *Design Culture Now*

MIT Residence 2001
Steven Holl



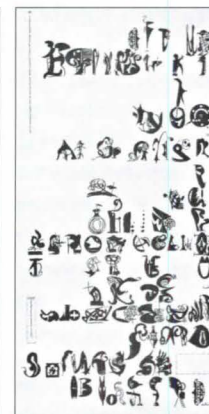
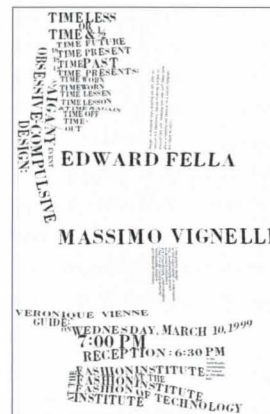
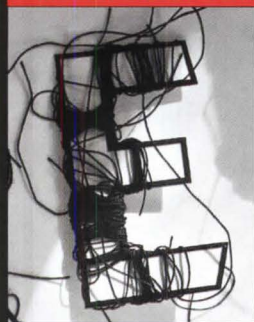
Museum of American Folk Art
Tod Williams and Billie Tsien



GRAPHIC DESIGN

Today, the simultaneity of diverse content streams is a given. Alongside the archetype of the printed page, the new digital archetype of the window has taken hold. The window is a scrolling surface of unlimited length, whose width adjusts at the will of reader or writer. In both print and digital media, graphic designers devise ways to navigate bodies of information by exploring the structural possibilities of pages and windows, boxes and frames, edges and margins.

Ellen Lupton



(Above) Mutilated Letters,
Speak magazine
Martin Venezky, Appetite Engineers

(Right) Harold Budd CD package
Bruce Licher



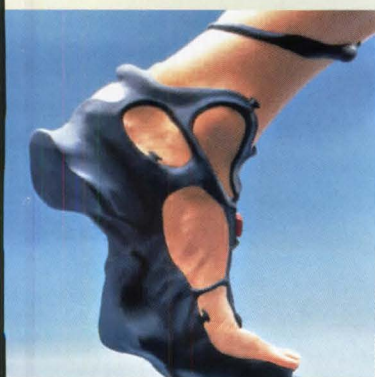
(Far right) Timeless or Time & 1/2,
poster front and back
Edward Fella

PRODUCT DESIGN

Driven by the possibilities presented by the computer, designers are in a period of unprecedented opportunity . . . Materials and shapes that were inconceivable only a few years ago have become routine. Advances in tooling, manufacturing, and computer-aided software have given the designer new ways to create organic forms. Even those products that remain impossible to physically model can be virtually realized in the digital world . . . Everything looks fast, organic,

and momentary. A new-found beauty is emerging. Even as we have become a culture of products, we have found that products no longer need to be physical.

Steven Skov Holt



(Far Left) Concept Shoe
Stephen Peart, Vent Design

(Left) Steelcase Q Concept
Martin Bone, IDEO

(Above) Cadillac Bike
Robert Egger

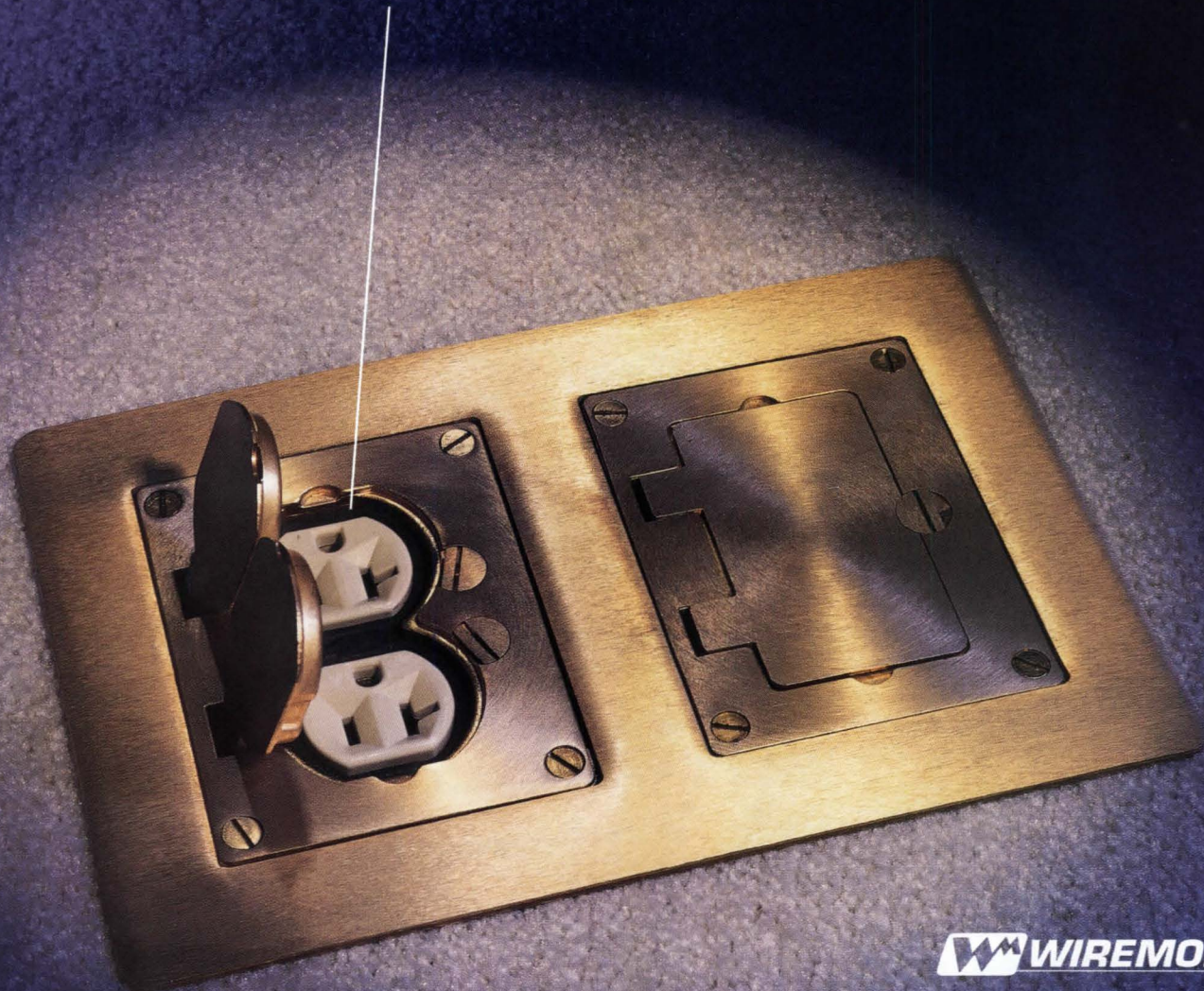
"Whew. All week, it's open me...close me...

plug things into me – cords, phone jacks, fiber optics.

But me and my buddies, we stay on top of things – not to mention under and around and...well, all over this building. See, we're a whole wire and cable infrastructure. We bring power and communications to about a thousand and one workstations on twenty-three different floors.

And we're all designed to handle future technology changes. Heck, I even heard we'll be bringing fiber to the workstation soon! Yeah, it's tough work, but I'll tell you, there's nothing I'd rather be doing.

After all, how often do you get to be a part of something this big?"

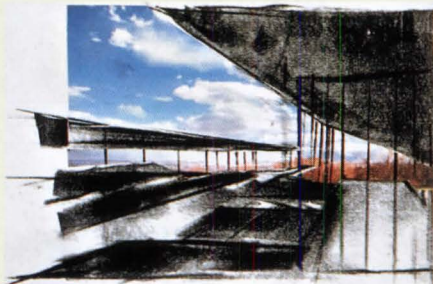


reclaimed

ARCHITECTURE

In a culture where images and materials are continually recycled, reused, and discarded, designers today often seek to reclaim abandoned places and products. Old forms receive new uses, and familiar icons and materials are mixed and recombined. Lost artifacts and obsolete media become part of the next generation's products or entertainment. As in hip-hop music, which uses a riff from an existing song as the foundation for a new tune, a sampled approach is influencing the design of objects, graphics, and interiors, where elements of one design become the genetic basis for new work. *Design Culture Now*

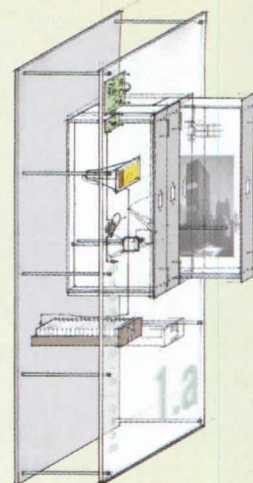
The hybrid approach [fuses] old and new, foreign and familiar, in the process helping people to see beauty in the everyday. *Donald Albrecht*



Museum of the Earth
Weiss/Manfredi Architects



TV-Tank
Giuseppe Lignano and Ada Tolla, LOT/EK

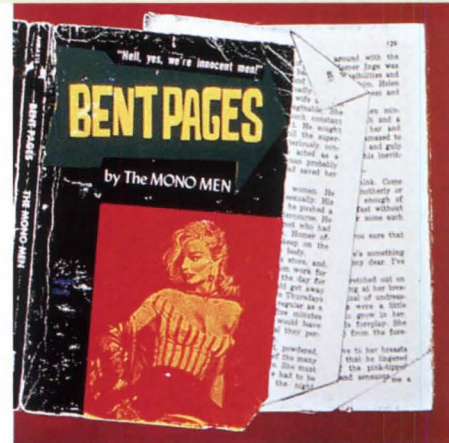
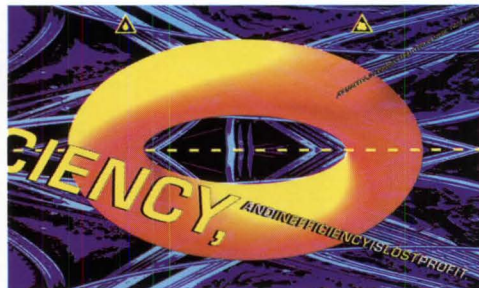


Mies-on-a-Beam installation
Lewis, Tsurumaki, Lewis Architects

GRAPHIC DESIGN

The alphabet is an ancient form that is deeply embedded in the mental hardware of readers. Graphic designers always ground their work, to some degree, in historic precedent, tapping the familiarity of existing symbols and styles even as they invent new idioms. While some designers pay their toll to history with reluctance, others dive eagerly into the reservoirs of pop culture. *Ellen Lupton*

Wired Magazine: Pollution Is a Measure of Inefficiency
Designer: Erik Adigard, M.A.D.



Bent Pages record cover
Art Chantry

PRODUCT DESIGN

[A] focus on the narrative component of design has itself led to a search through both design history and material culture for elements of our physical vocabulary that can be called upon anew. Even as we have been bombarded by news, information, and an ascending cascade of consumer goods, we have seen a corresponding rise in our collective penchant for nostalgia. This has manifested itself in a surge of retro-futuristic solutions that manage to look familiar at the same time that they appear different. The exuberant forms of the 1950s, for example, have been mined for their symbolic riches. Strange time loops keep bringing back long-abandoned images, objects, and celebrities. *Steven Skov Holt*

Strap Furniture
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Cloud 9 bathroom accessories
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ARCHITECTURE

Many architects draw from local forms and materials, local building traditions, and the immediate conditions of a site. Other designers draw on social and cultural history and seek to incorporate the voices and experiences of lost or overlooked populations. Design is conceived in response to its cultural environment. In the fields of architecture and landscape architecture, a new model of design as an intervention within a specific context is replacing the ideal of the monument or freestanding object imposed upon a place.

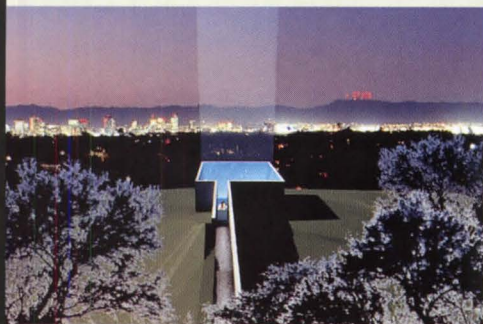
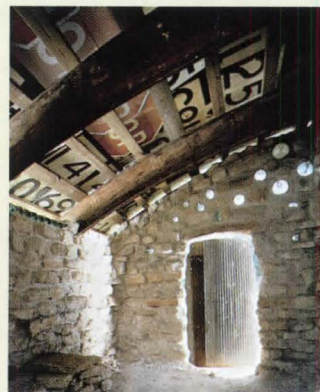
Design Culture Now



**House of Earth and Light:
McCue House**
Marwan Al-Sayed Architects

**Tocker/McCormack House:
Pool Pavilion**
Wendell Burnette Architects

Bryant House
*Samuel Mockbee and the Rural
Studio of Auburn University*



GRAPHIC DESIGN



Strands of History
*Design Director: B.J. Krivanek
Environmental Designer: Joel Breaux
Landscape Architect: Joseph Yee*

By integrating the written word into built environments, Krivanek adds public and poetic dimensions to the flood of commercial messages in the modern urban landscape. Krivanek, founder of Community Architexts, a nonprofit organization based in Chicago and Los Angeles, creates typographic interventions in response to the local conditions of a site—from its architectural features to the communities that use it . . . Krivanek generates the narrative content of his projects from the history of a site and through outreach to community members. *Strands of History* (1998) is located at the new central administration complex of the 23-campus California State University system in Long Beach (left). The project includes a timeline listing the social, economic, and commercial issues that have shaped California culture, from theme parks to World War II internment camps. *Design Culture Now*

PRODUCT DESIGN

In the field of industrial design, devices such as walkie-talkies [and other wireless products] facilitate local communication, connecting people by condensing distances . . . [the] IDEN i1000 telephone (1998) is an all-purpose communications device that functions as a speakerphone, cell phone, pager, and two-way radio (right). It's no toy, a fact that becomes clear with one look at its compact, contoured body of molded polycarbonate (it weighs only 6 ounces). Building on the flip-phone concept that has been Motorola's hallmark, the i1000's see-through cover sits atop a gently curved row of raised oval keys. A paradigm for telecommunications devices, the i1000, though small, has pushed back against the phone's relentless miniaturization, achieving an optimal size and ergonomic configuration for a hand-held device. *Design Culture Now*

i1000 Wireless Digital Communicator
Scott Richards and Craig F. Siddoway



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Residential structures spiking the urban skyline

By Akiko Busch

There is something about urban rooftops that invites innovation. The structures traditionally residing there—mechanical sheds, water tanks, and elevator housings—have a stark utilitarianism. At the same time, their forms tend towards eccentricity: Cylindrical water vats on stilts, utility sheds, bulkheads, and pyramidal skylights all contribute to the sculpture of the urban skyline.

Commerce has long recognized the advantages of the view upwards—witness New York City's giant Maxwell Coffee Cup, for years tipping over the banks of the Hudson River, or the Winston billboard that once adorned a New York skyscraper, with cigarettes emerging from a pack to fit the building setbacks. Add a battalion of terra cotta gargoyles, cupids, knights, and phoenixes, and clearly this becomes a landscape of happy incongruity.

That quality has been celebrated by many architects who view the rooftop as a building site. The ad hoc shacks, sheds, and greenhouses that sprouted there in the '60s and '70s resembled a skyline shantytown.

With little formal architectural intervention, such pop-ups and add-ons recall the New England barns that grew improvisationally with changing needs. But as the availability of urban real estate diminishes, the rooftop has emerged as an increasingly valuable lot. Sheet metal, tar paper, and cedar or redwood watertanks now abut such materials as rubber playground tiles and frosted glass.

As preservation, zoning, and community boards exert more control over rooftop sites, many aeries have risen to the occasion.



Siris/Coombs Architects' penthouse addition to William Randolph Hearst's palatial Manhattan apartment.

While some recent additions tend to be restrained and contextual, others seem more contrary. Some are follies or pastiches, taking cues from non-urban building traditions—miniature farmhouses and barns, Shingle-style cottages, suburban ranch houses, and rustic log cabins—or even ancient temples. Airy conservatories and clean-lined International Style pavilions also crown the skyline, as do exotic structures that seem to turn ordinary roofs into landing strips for interplanetary travel. As these examples confirm, there is indeed a paradise right smack dab in the middle of town. ■

Akiko Busch, author of six books, writes about architecture and design for such publications as Metropolis and House & Garden.



PHOTOGRAPHY: © PAUL WARCHOL (OPPOSITE); SIRIS/COOMBS ARCHITECTS (INSET, LEFT)



A COPPER-CLAD TURRET BECOMES A LOFTY LIBRARY

Architect Lee Harris Pomeroy turned an empty, copper-clad turret, punctuating the mansard roof of a turn-of-the-century Manhattan apartment building, into a secluded, two-story "scholar's library" for an adjacent apartment.

A steel staircase, following the turret's cylindrical form, connects the two levels of this rooftop retreat. Built-in bookshelves conform to the curving walls, as well. Existing round apertures, like portholes, capture Central Park views. In fine weather, the scholar's studies can extend onto the reading terrace.

Project: *Scholar's Library, New York City.*

Architect: *Lee Harris Pomeroy Associates/Architects*





A RESURRECTED TRUCK TRAILER CROWNS A MANHATTAN HIGH-RISE

Eccentricity and pragmatism intersect regularly on rooftops. In this case, LOT/EK partners Ada Tolland and Giuseppe Lignano perpetuate the traditional notion of the rooftop as a utilitarian landscape—but with an ironic twist: Here, in mid-town Manhattan, they installed a metal truck container box, raised 11 stories above street level. The architects reconfigured an 1,100-square-foot mechanical shed to create a living room, kitchen, and bath. Positioned on top of the shed, the container provides the framework for a 90-square-foot bedroom and small patio. Just behind this two-story structure rises the great vertical shaft of the Empire State Building.

Project: *Guzman Penthouse, New York City*

Architect: *LOT/EK*





A TRELLIS LEADS TO A CUPOLA WITH VIEWS

The wood, metal, and glass cube, designed by Culver City, Calif., architect Lorcan O'Herlihy for a rooftop in nearby Marina Del Rey (above), looks toward the sea on one side, and a cityscape on another. Reiterating the clear horizon lines around it, the cube's crisp geometry defines a detached office pavilion for a duplex in a four-story, wood-frame condominium built in 1974. The addition's vertical strips of clear

and translucent glass playfully modulate daylight filtering into the space. A trellis of Douglas fir, casting rhythmic shadows, leads across the roof terrace from a penthouse bedroom to this cupola-like home office with expansive views.

Project: *Kelly Residence, Marina Del Rey, Calif.*

Architects: *Lorcan O'Herlihy Architects*

AN ANGULAR BULKHEAD POINTS SKYWARD

Clad in copper with mahogany framing, this aerie (below) by New York architects Sage Wimer Coombe provides roof access from a Tribeca loft. Because the building stands in a landmarked district, New York City building code mandated that any rooftop building be hidden from the street, a condition met by the extreme angularity of the butterfly roofline. Rubber playground tiles pave the surrounding deck.

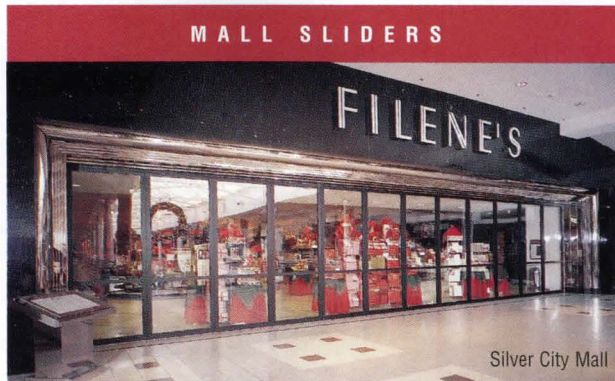
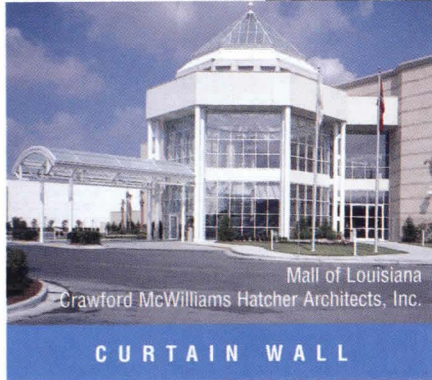
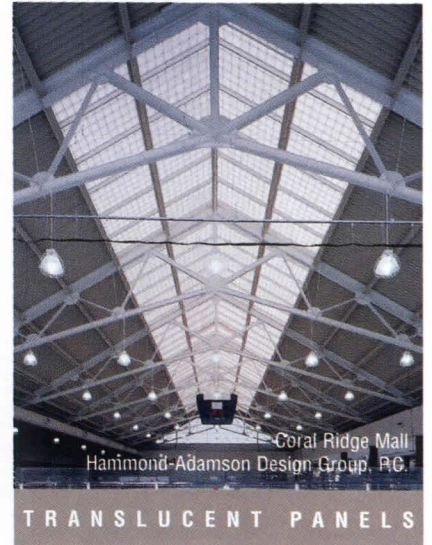
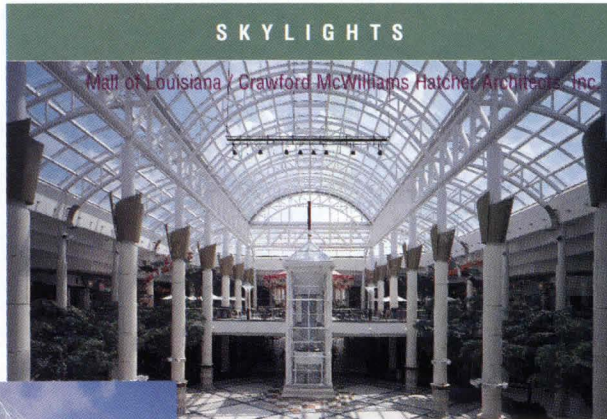
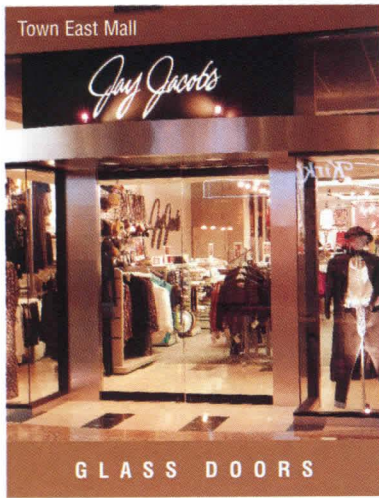
Project: *Stair Pavilion, New York City*

Architects: *Sage Wimer Coombe*



A SKYLINE BRISTLING WITH ECLECTIC MINIATURES: In the lower Manhattan neighborhood of Tribeca, with recently soaring real-estate values, property owners push skyward for more space—and sometimes even “mine” their rooftops for “gold.” The result: a rich array of tiny residential structures, including faux renditions of farm houses and a Dutch-gabled cottage, as documented here by John Petrarca, a local architect and author of the forthcoming book *Hidden Tribeca*.

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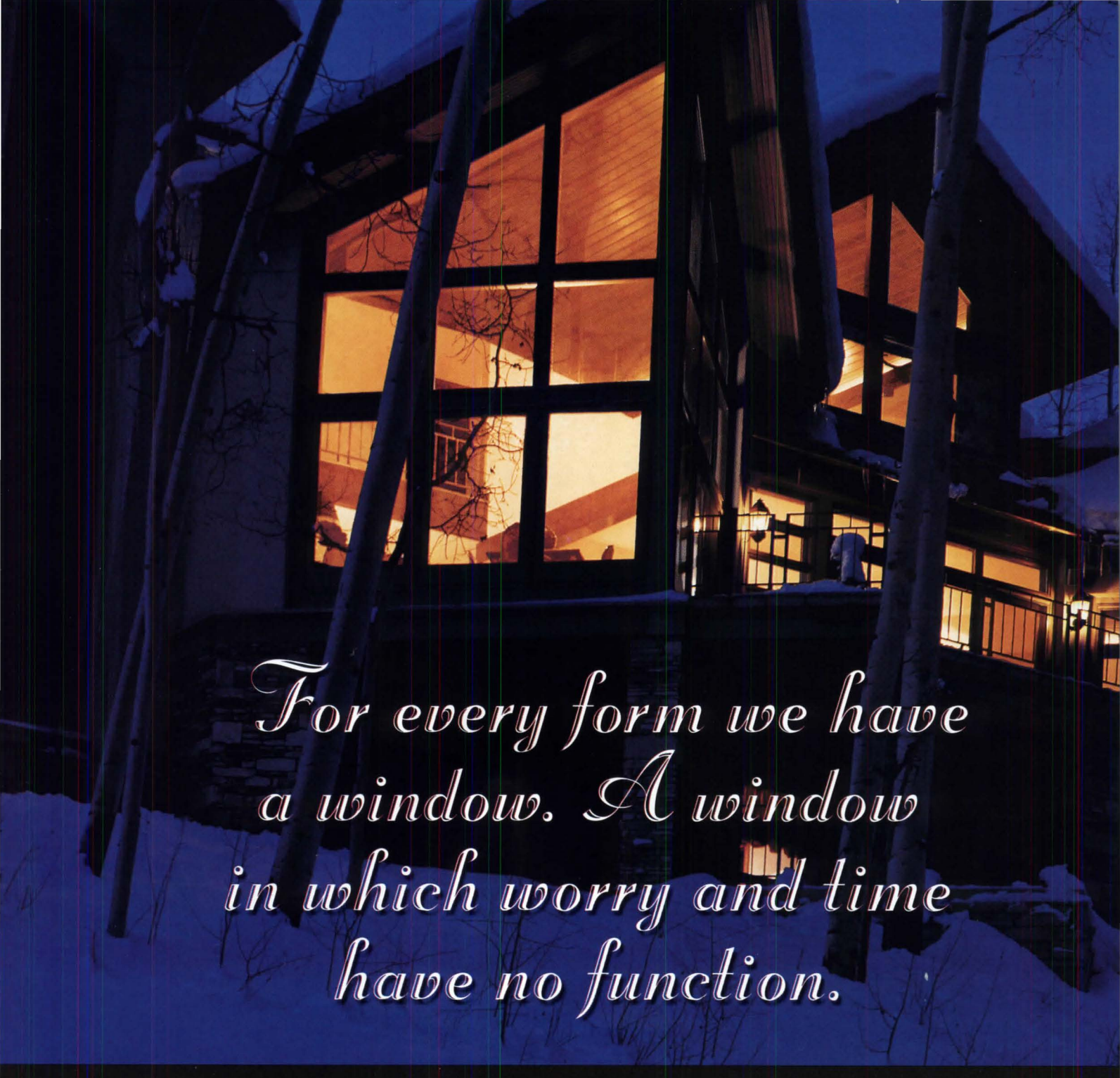
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Record Houses 2000

A streak of dynamism runs through RECORD HOUSES 2000. Whether with the sweep of a great curve, an implied slippage of planes, a fluid interweaving of form, or a seemingly precarious siting on a steep or rocky perch, the buildings all evoke and inspire movement. We discovered this quality in many projects throughout the selection process—clearly reflecting the spirit of the age.

Other aspects of RECORD HOUSES 2000 also transcended our expectations. In this millennial year, our pursuit of essential and innovative work took us into the global realm, even more than we'd anticipated. With exceptional projects coming to us from near and far, we decided to focus on outstanding houses wherever they might be: from the outskirts of Boston and Phoenix to the hinterlands of Fukuoka, Japan, and Espoo, Finland.

Houses by:

1. **Kennedy & Violich**
Architecture
2. **Ken Shuttleworth**
Architect
3. **Brian MacKay-Lyons**
4. **Alberto Kalach**
5. **Wendell Burnette**
Architects
6. **Jyrki Tasa**
7. **Hiroiyuki Arima +**
Urban Fourth

Our final selection brings together an eclectic mix of well-executed buildings, from the exotic or unusual to the quintessentially familiar. In form, materials, character, siting—and the very concept of home—these projects are remarkably varied. Each has a distinct personality. While Alberto Kalach's GGG House in Mexico City, for example, offers a complex journey through interlocking planes of cast concrete,

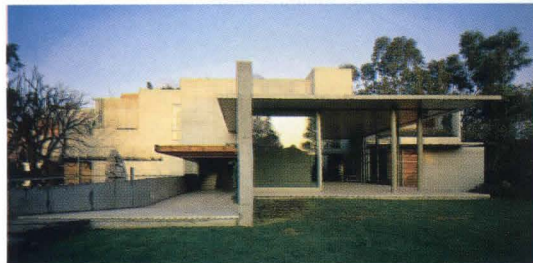
Ken Shuttleworth's Crescent House in Wiltshire, England, presents a sleek minimalist composition of smooth, white arcing walls.

In many of the projects, absolutely ordinary materials become rich and evocative, as in Jyrki Tasa's House Into in Espoo, Finland, where plywood and steel cables shape an extraordinary spiraling stair, or in Wendell Burnette's Schall Residence in Phoenix, where concrete blocks are transformed into a curving, almost billowing, wall.

Rethinking the conventions of domesticity, the Boston firm of Kennedy & Violich took a liberal and pluralistic approach to program, creating a house addition with a swimming pool flowing through its living room-cum-art gallery. Also merging daily life with art, Japanese architect Hiroiyuki Arima designed a building that combines an atelier and gallery with living quarters for an artist-in-residence.

The projects all speak of the places where they stand. Arima's chimerical building sparks the imagination with a surreal sensibility that seems distinctly Japanese. Abstractly sculptural, this diminutive structure has a "levitated" exterior stair that hovers, barely touching ground, while Wendell Burnette's Schall Residence, with parched materials and deep, shaded oases, clearly emerged from its surroundings in the Arizona desert.

With structures small and large, budgets ranging from tight to lavish, and dramatically contrasting sites, we offer RECORD HOUSES 2000 as a panorama of the architectural landscape. *Sarah Amelar*





An indoor pool (opposite) juts out past the shell of the house on the north side (above and below center). The main entry is on the east side (below) with the old house behind.



On a wooded site outside of Boston, **Kennedy & Violich** creates a house where boundaries disappear, and the architecture flows.

By Clifford A. Pearson

Why can't the swimming pool be in the living room? Why does the exercise room have to be separated from the art collection? Asking such questions, the clients for a house and private art gallery northwest of Boston challenged their architects, Sheila Kennedy, AIA, and Frano Violich, AIA, to create a place where traditional boundaries disappear. In the spaces they designed, lines of separation are transparent or just slide away.

This is hardly your typical American home, but it reflects changes in many people's lifestyles. Once a retreat from the workplace and the strenuous life, the contemporary house is now invaded by the home office and do-it-yourself health-club. Say goodbye to stone hearths and wood-paneled dens. Hello to computer stations, fax hookups, and indoor swimming pools. The Massachusetts couple who hired the Boston architects to design an addition to their 3,000-square-foot, gable-roofed house from the 1970s realized their spatial needs were expanding even though the kids had grown up and moved out. Deepening interests in art collecting, ethnomusicology, and sculpture making meant their nest was anything but empty.

The clients told the architects they didn't want to compartmentalize their lives. For them, work, play, relaxation, and entertaining overlap. Everything is fluid. By integrating the house's varied functions, they hoped to prevent it from "looking like a museum or feeling like a gym," says the wife. This was no easy task, considering that a 48-foot-long swimming pool, a dance/workout studio, a generous office for the husband, and a large living room had to fit into a 3,300-square-foot addition.

"We kept struggling with gallery and pool, gallery and pool," recalls Violich. "Each one ate up so much space." Things finally fell into place when the architects realized their design must be as fluid as their clients' lives. They encased the pool in sliding glass panels and cantilevered a third of it beyond the building envelope, so it seems to float between indoors and out. They designed a roof for the addition as if it were a piece of origami unfolding in six sections—an ingenious solution that opens up for a mezzanine office and double-height living room while providing more intimate spaces for dining and exercise.

Even part of the house's structure seems to float. At the juncture of the roof's six folds—where one would expect to find a column or some kind of support—the architects placed a void, a chimneylike lightwell that



descends as a frosted-glass cube hovering a couple of feet above the swimming pool. Instead of resting on one key member, the weight of the roof is transferred to the steel frame over the pool. The house seems in motion, wrapping around two courtyards—one off the kitchen and the other on the west side with views of nearby woods.

To protect the clients' collection of prints and paintings, Kennedy & Violich brought in sunlight mostly through clerestories, so it doesn't hit artwork directly. Where windows extend toward the floor, as they do on the west facade, the architects used fritted glass at eye level, to protect art from ultraviolet rays, and clear glass below.

Getting the infrastructure to work was critical to the success of

Project: *Residence and Gallery for Contemporary Art, Western Massachusetts*

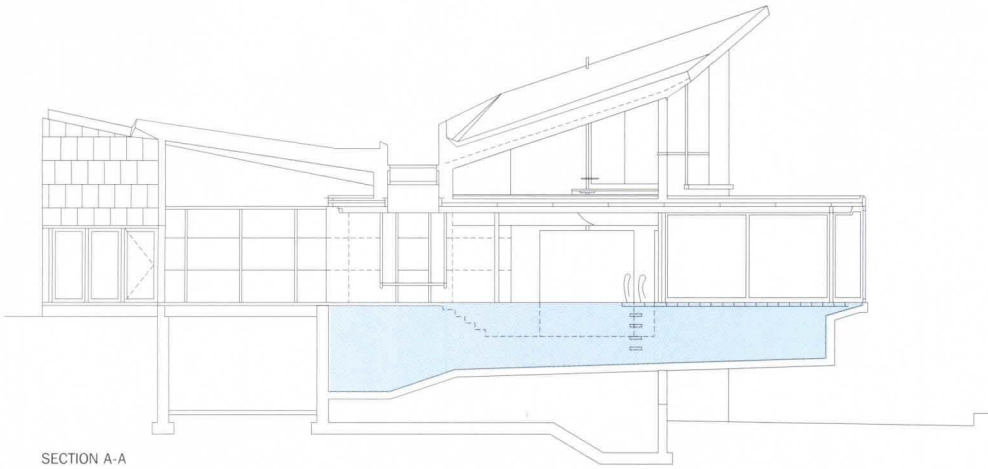
Architect: *Kennedy & Violich Architecture—Sheila Kennedy, AIA, Frano Violich, AIA, principals; Markus Froehlin, project architect; Craig Mutter, project designer; Bhupesh Patel, Scott Murray,*

Eduardo Sucre, assistants; Tarik Oualalou, presentation drawings

Engineers: *Sarkis Zerounian and Associates (structural); Ibrahim & Ibrahim Engineers (mechanical)*

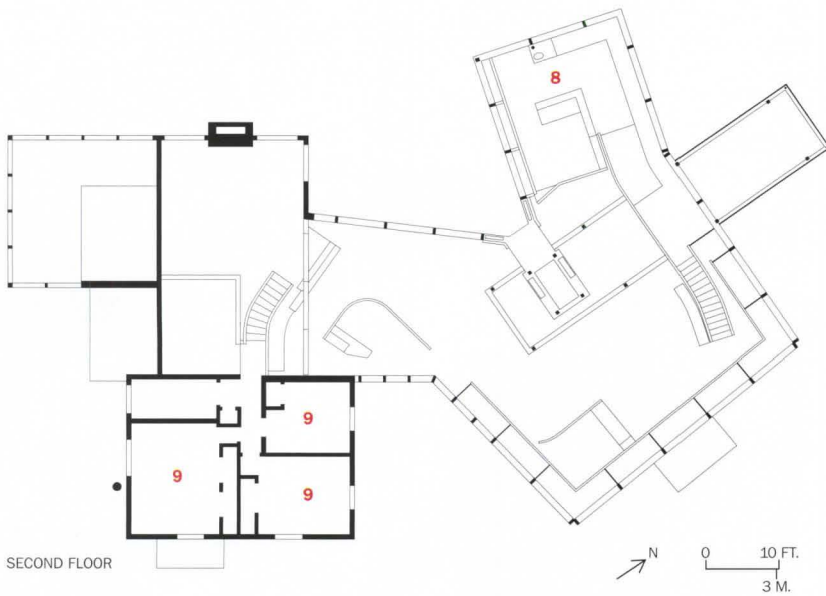
Landscape Architect: *Stephen Stimson Landscape Architect*

General Contractor: *Kistler & Knapp Builders, Inc.*

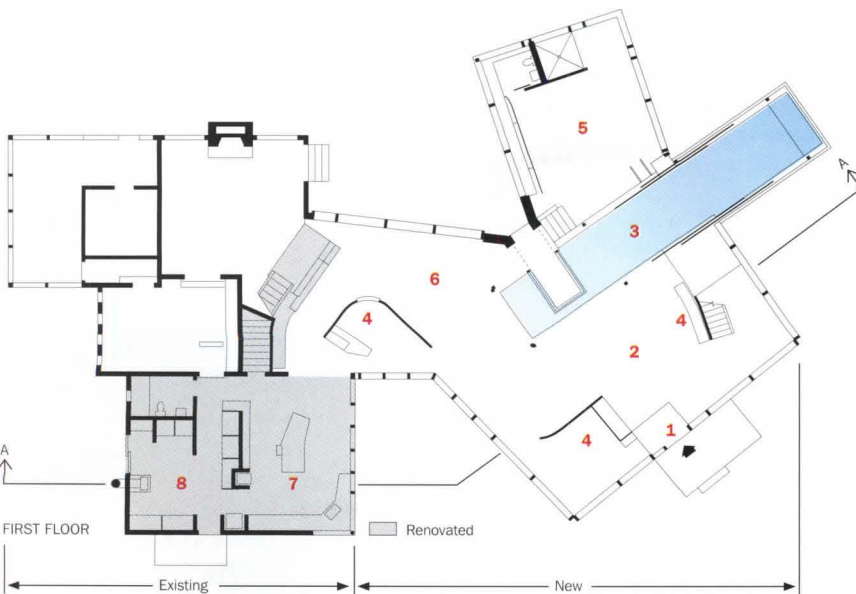


The steel frame surrounding the pool (opposite) holds a plenum with mechanical equipment and transfers the structural load of the roof to the floor. Pool water is disinfected with odorless ozone so the house doesn't smell of chlorine. A "near furniture" piece in front of the stair (opposite top) is a hybrid element that provides a wall surface for artwork and space for books, while also defining specific areas within the living room.

SECTION A-A



SECOND FLOOR



FIRST FLOOR

1. Entry
2. Living
3. Pool
4. "Near furniture"
5. Dance/work out
6. Dining
7. Kitchen
8. Office
9. Bedroom







the project. Dehumidifiers are tucked into a ceiling plenum above the pool to keep moisture away from artwork, while forced-air handling ducts are set within thick walls below clerestory glazing. “By making some things ‘thick,’ we could get other things—like interior partitions and the plywood floor—to be ‘thin,’” explains Kennedy. “In the past, we had exposed infrastructure, but here we embedded it in the architecture.”

Made of three-quarter-inch layers of fir plywood, the house’s thin elements are hybrids of architecture, infrastructure, and furniture. A curving and sloping plywood floor, for example, starts as a bridge over the pool, then turns into a ramp to the mezzanine office and ultimately a work surface for computer and books. Resting on steel beams with no joists, the elegantly morphing plywood construction looks like a sensuous piece of sculpture, especially when seen from the living room below. Freestanding elements, which the architects call “near furniture,” combine wall surfaces for hanging artwork with cabinet spaces for storage and help define specific areas within the flowing plan.

While the existing house was kept mostly intact, its north face was removed so that its living areas open directly onto the addition.

Exposed steel columns and beams provide a contemporary threshold between old and new. Visitors now enter through the new structure, which is clad in zinc on three sides and vertical cedar boards on its south facade. Treating the old building as a discrete object within the overall composition, the architects retained its original cedar siding, now painted teal.

Instead of orchestrating a procession of rooms or experiences, Kennedy & Violich created an integrated environment. This is an architecture of multiplicity, in which borders disappear and functions change with the sliding of a glass panel or the sloping of a floor plane. ■

Sources

Zinc roofing and siding: *Cominco*
Aluminum windows: *Efco*
Swimming pool: *Jackson Pools*
Glass pool doors : *Temp Glass*
Mosaic glass pool tiles: *Dal-Tile*
(Mosaicos Venecianos de Mexico)
Quartz halogen uplights: *Rambusch*

Burnished concrete floors: *D & M Concrete*

Poured concrete: *Gordon Richards*

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



Maple hardwood laid over plywood forms a bridge over the pool and then morphs into both floor and work surface for the upper-level office

(this page and opposite). The ceiling is painted a curry color, says Kennedy, selected because it is "mobile" or changes with the light.

The 79-foot-long glazed wall of the crescent-shaped living, dining, and play areas (below) faces south and southeast. The double

crescents (opposite) stand out as cleanly formed white shards limning a landscape of overlapping circles.



Not far from Stonehenge, the sleek white **CRESCENT HOUSE** by Ken Shuttleworth retraces patterns of millennia-old monuments.

By Suzanne Stephens

Seen from afar at dusk on a winter's day, the Crescent House in Wiltshire, England, shimmers through a veil of leafless trees. Its expansive, concave, glass wall affords brief glimpses of well-lit living spaces within. But you must approach the 4,000-square-foot house from the rear, where a solid, curved, white wall dominates the visual field, glowing eerily in the crepuscular light. The driveway follows that curve to one end, where the entrance is quietly recessed between two crescents. Here, a 10-foot-wide aluminum door slowly pivots open, and the owner and architect of the house, Ken Shuttleworth, his wife Seana, and their two children greet you as you step into a dramatic 16-foot-high hallway.

Following the arc of the hall (which doubles as a gallery for displaying the children's art), the smooth white wall on the right breaks about midway along the path. At this point, you turn and find yourself propelled into the extraordinary 118-foot-long sweep of the inner crescent's continuous living, cooking, dining, and play areas. Bound by a 79-foot-long, concave, mullionless facade of flat glass panels, this "garden room," wraps around a grassy lawn. A fire in the large concrete fireplace, embedded in the gallery wall of the outer crescent, warms the living and dining areas, and marks the de facto center of the house.

"I began with plates and teacups, then went to a compass, and finally a computer," says Shuttleworth matter-of-factly about his design process, as if this were *de rigueur*. He designed the inner and outer crescents with different widths, like phases of the moon, and placed them in an almost parallel alignment, shifted ever so slightly. While the inner crescent, with its glazed concave wall, is essentially one large room, the outer crescent, whose exterior wall presents itself so opaquely to the entrance drive, contains the bedrooms and baths. The rooms are small, spare, and windowless, except for narrow skylights against the rear wall. But there is a payoff: "You can lie in bed at night," says Shuttleworth, "and see the stars and moon overhead."



You don't have to look far for the inspiration for the weekend house that Shuttleworth, a principal in the firm of Foster and Partners in London, designed for himself and his family. The Crescent House recalls the circular sarsen (local sandstone) formations belonging to the sacred neolithic monuments of Stonehenge and Avebury nearby, and echoes the patterns of the mysterious circular ditches and causeways created long ago by Avebury's inhabitants.

But, this is the 21st century: Other aspects of the landscape also determined the design decisions. The five-acre site that Shuttleworth found at the edge of Marlborough Downs is across the road from a recycling operation and rubbish dump and close to a housing cluster. With a semicircular house, the architect could essentially turn its long back on what he wanted to blot out, gaining privacy for his family, and protecting the building from stormy, gusty west

winds. Since a concrete plant is located up the road, Shuttleworth used this local resource, forming radial fin walls and slabs from concrete, supplemented with masonry-block infill.


Project: *Crescent House, Marlborough Downs, Wilts England.*

Owner: *Ken and Seana Shuttleworth*

Architect: *Ken Shuttleworth*

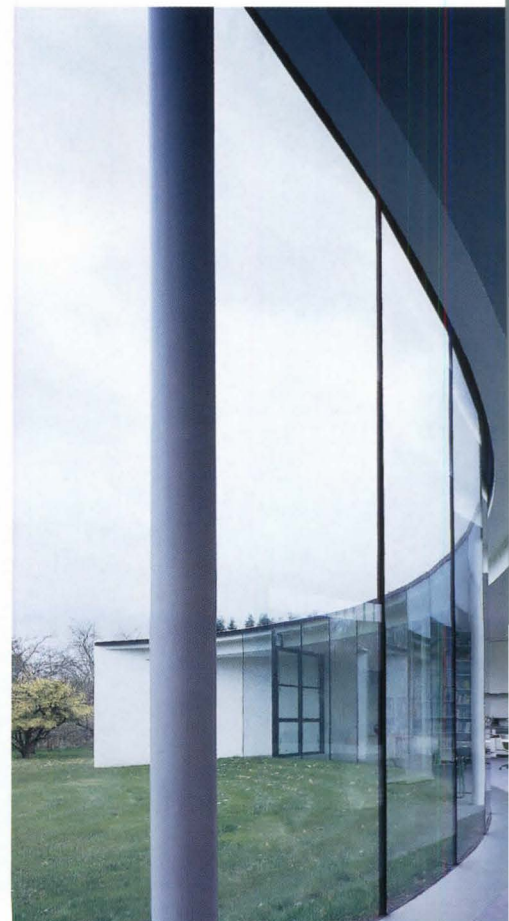
Engineers: *Tony Fitzpatrick and Adrian Faulkner (Ove Arup and Partners)*

Consultants: *Claude Engle (lighting); Roger Preston and Partners (mechanical and electrical)—Trevor Farnfield, Kevin Reed and Chris Munn; Davis Langdon and Everest (quantity surveyors)—Paul Morrell and Erland Rendell*



Glimpses of living spaces appear through a swath of trees cutting across the garden. Doors at either end of the house allow direct access to the lawn.



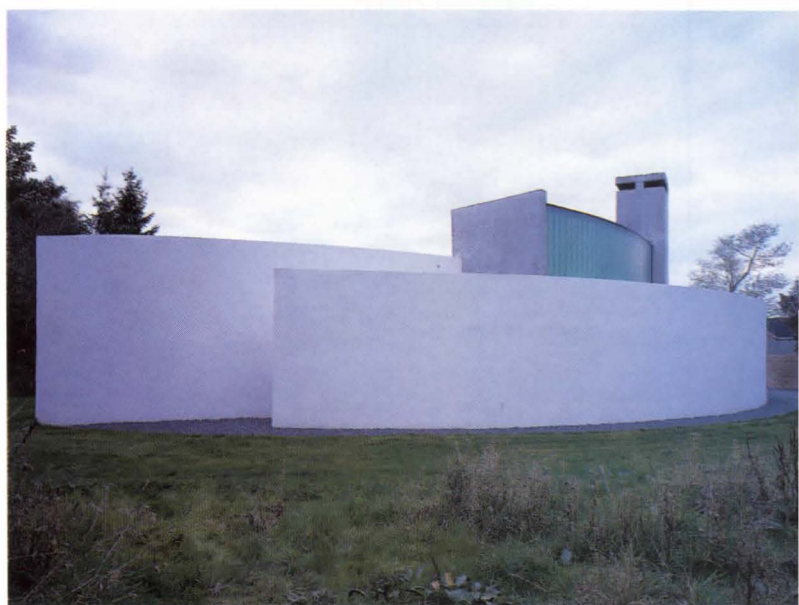
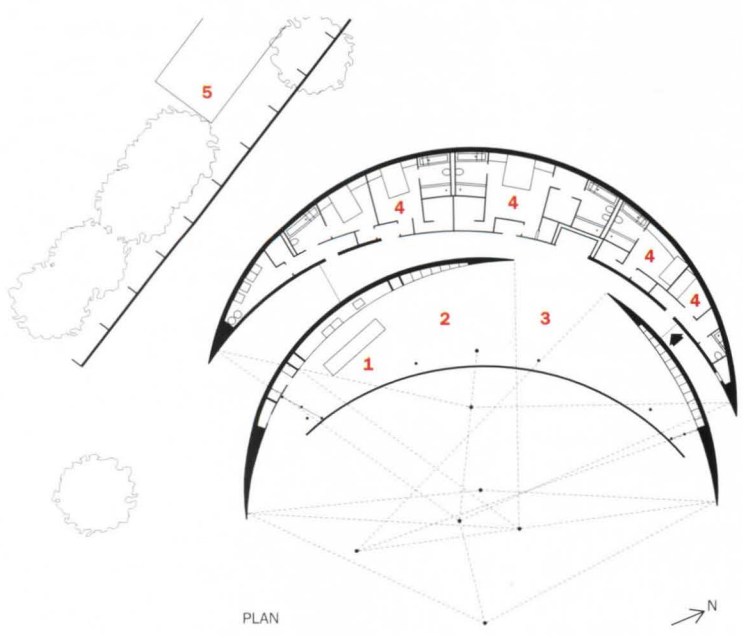




- 1. Kitchen
- 2. Dining
- 3. Living
- 4. Bedroom
- 5. Garden storage

Butt-edged glass panels (opposite), cantilevered from bolts at the base of the curtain wall, rise to 13 feet. The living room itself and its Lally columns are 11 feet high. The main entrance is through a 10-foot-wide door under a

concrete shear wall that doubles as a lintel; the rear (below) is windowless with white EIFS coating the concrete-and-masonry structure. The plan (left, below), shows plot lines for the radii of the various arcs.





The landscape design completes the circular pattern implied by the house plan, for the inner crescent's glazed wall embraces a round lawn, 105 feet in diameter, that is clipped in a pattern of concentric rings. ("How else could we mow it?" asks Seana Shuttleworth.) These circles overlap a larger hay-and-wildflower meadow, 328 feet in diameter, which in turn is bound by Shuttleworth's newly planted forest of 1,000 deciduous trees.

The overall scheme pays another homage—this time closer to the present—to the solar hemicycle houses that Frank Lloyd Wright designed between 1944 and 1959, particularly his two-story house for Herbert Jacobs in Middleton, Wisconsin (the second one for this client), and the one-story Cooke House in Virginia Beach. Although Wright did not give his earlier residences discrete semicircular forms, he oriented their concave window walls to the sun's angles, and had them wrap around interior gardens. In Shuttleworth's solution, the concave glass wall faces south and southeast, so that the public living spaces receive ample morning light.

During the hottest part of a summer day, the house is shielded by the adjacent trees, and west light is diffused through the entry gallery's clerestory windows. Thick concrete and masonry walls prevent temperature changes in the house from fluctuating too much during summer

THE HOUSE EVOKES NEARBY NEOLITHIC MONUMENTS AND THE SOLAR HEMICYCLE HOUSES OF FRANK LLOYD WRIGHT.

and winter. The interior benefits from cross ventilation; and in warm weather, the chimney acts as a passive ventilation stack.

In some respects, the Crescent House's pure white shapes and precise machine-like detailing bring to mind Le Corbusier's houses of the 1920s and '30s. The relationship to the earth, however, is different. Le Corbusier's houses, lifted on piloti, stand apart from their natural settings. The Crescent House, with its incised footprint, sits on the land lightly and gingerly, inextricably connected to it through circular motifs. In this manner, it is midway between Wright's organicism, with his nubby materials, earth berms, and rectilinear extensions, and Le Corbusier's isolated objects-in-space. As such, the design continues an idea seen in Foster and Partners' 1991 wing—a curved, glazed, and bermed addition—for its Sainsbury Center for Visual Arts at the University of East Anglia.

Although Shuttleworth's double crescents raise the question of whether function is being stuffed uncomfortably into the fragments of a circle, the forms apparently do not pose such problems for the inhabitants. (It helps, of course, that the architect and clients are so close, and the children tidy and well-behaved.) Though strongly formalistic, Crescent House seems to demand no undue sacrifices in the realm of practicality. Moreover, everyday life here is enhanced by a powerful kinesthetic experience—that is, the body's perceptions as it moves through the space. This experience is enriched by the ways in which the overall parti connects the house not only to its natural setting, but also to its place within the larger history of architecture. ■

Sources

Curtain wall: MAG Hansen (frameless double-glazed low-E units)

Concrete: O'Rourke

EIFS: CCS Scotseal

Built-up roofing: Sarnafil (single-ply membrane)

Elastomeric: Sarnafil

Downlights: ERCO

Carpet: Interface

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A small narrow mezzanine for a library runs along the rear wall of the gallery/hall, and is topped by translucent, C-channel-jointed glass.



A sketch (above) shows the relationship of the house to overlapping circles of the lawn, meadow and woods.



The south end of Howard House looms over a breakwater of rugged granite boulders. The tall windows, which give the living room panoramic views of the bay, are aluminum frames reinforced by steel sections.



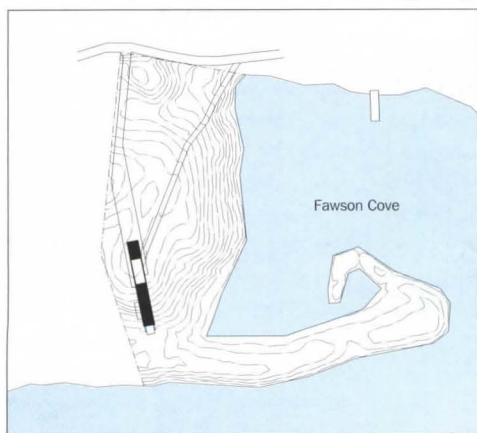
Amid lobster pots and fishing boats, Brian MacKay-Lyons' corrugated-steel **HOWARD HOUSE** rises on a rocky Halifax beach.

By Charles Linn, AIA

En route to architect Brian MacKay-Lyons' recently completed Howard House, a wooden bridge crosses a narrow inlet from the ocean. On each side of this passage to the Atlantic, boathouses, piers, and utility sheds have literally been built on top of each other, right behind small, single-family frame houses. The yards in this Nova Scotia village, south of Halifax, are decorated by old fishing boats, stacks of lobster pots, and bulky unidentifiable objects covered by sheets of bright blue plastic. When MacKay-Lyons calls it "dogpatch," he does so with respect, even reverence. "That's my palette, there," he says, gesturing with a flourish of his open, upturned hand. "It's dogpatch, but it's almost urban. These are nice sheds, eh?"

Elements of these structures—metal and wood siding, galvanized-steel roofing, open trusses, and cable-and-turnbuckle assemblies—turn up regularly in MacKay-Lyons' work. Often he hires boatbuilders and ironworkers to fabricate them for his projects. But these components are not incorporated into his architecture as vernacular pastiche. "People think of me as a regionalist, but it's just a pragmatic thing," he insists. To build intelligently in a given place, MacKay-Lyons thinks one needs a deep knowledge of the local material culture—an understanding of what materials are used to build, and why and how they are put together. "If you tap into the vernacular method of doing things, which is very rich here, you can get a lot of stuff built cheap," he points out. "And if you don't do that, you'll end up having to drive a taxicab, and then you don't get to build, right? Especially if you're in a poor place where there aren't a lot of rich aunties to pay you to build houses for their nephews."

Much of what determines how people build in Nova Scotia is



dictated by its variable and frequently harsh weather. According to locals, it can be 70-degrees Fahrenheit today and 20 below zero tomorrow. Fighting the weather all the time, Nova Scotians tend to build simple

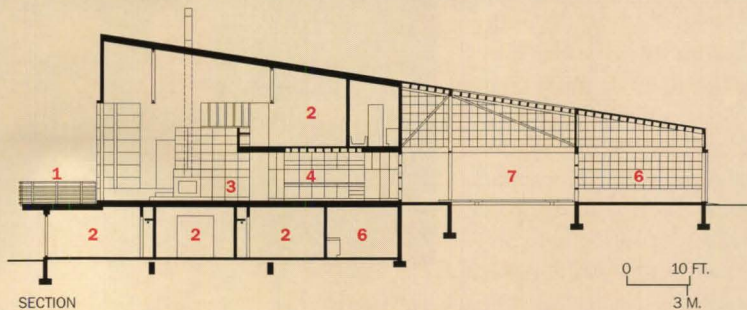
boxes with durable cladding, like noncorrosive metal and asphalt shingles—materials that can expand and contract. "If we do use boards," says MacKay-Lyons, "we're very careful: they're only nailed on one side, like a boat is built. We let them grow and shrink. With boards we always use a rain-screen because a lot of rain here falls horizontally."

Construction details, however, weren't the first thing occupying the mind of the Howard House client, art historian David Howard. A transplant from Vancouver, he was determined to take a scholarly approach to the design of his house. "I wanted the house to engage you in a thought process about how to bisect the aesthetics of pure and natural forms. I wanted to explore the separation between the sublime and the pastoral."

Howard House stands beside a bay in a small village of clapboard houses, on a lot MacKay-Lyons describes as "a pasture

Project: Howard House
Owners: David and Vivian Howard
Location: West Pennant, Nova Scotia, Canada
Architect: Brian MacKay-Lyons Architecture—Brian MacKay-Lyons,

principal; Niall Savage, Trevor Davies, Talbot Sweetapple
Engineer: D.J. Campbell Comeau Engineering (structural)
General contractor: Andrew Watts, Builder



1. Deck
2. Bedroom
3. Living room
4. Kitchen
5. Open
6. Storage/garage
7. Courtyard

where a fisherman used to keep a milk cow.” He realizes that clients come to him when they’re “ready to do some down and dirty things.” If they’re “from away,” as natives say, MacKay-Lyons helps them land on their feet. If they buy an overgrown field, he’ll introduce them to a local farmer who can recultivate it. “That’s good for the community.” Then his four-person Halifax firm will site the new building off to one side of the field, not in the center of it.

In characteristic MacKay-Lyons style, the architect worked up a scheme for Howard House with his clients at their very first meeting on

“TOGETHER WITH THE CLIENT, YOU GET GIDDY ABOUT AN IDEA, RIGHT THERE ON THE SITE, AND THEN YOU BUILD IT.”

the site. “You get giddy about an idea together right there,” he says. The long, 13-foot-wide shed they envisioned is a simple form, a corrugated steel-clad wedge that emerges from the rocks. A cast-concrete volume on the west side of the building, which contains stairs and a fireplace, is described by MacKay-Lyons as the “shoulder pad,” a mass that breaks the prevailing westerly winds shooting across the site.

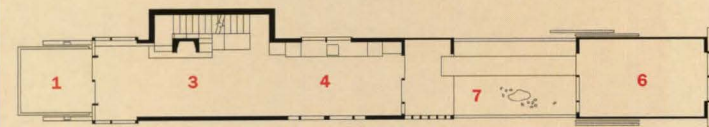
One enters Howard House through one of the large metal sliding doors to either side of the building. Behind these doors is a skylit

courtyard whose centerpiece is a large granite boulder, surrounded by the same fist-sized, weathered granite rocks found in the yard and along the beach. The courtyard—a manmade void with nature running through it—expresses David Howard’s notion that a house can be a form bisecting nature. The court also acts as a microclimate, where partially or fully open doors provide cross ventilation in the warm months. Windows on the east side of the house are larger than on the west, controlling summer heat gain. The size differential creates a Venturi effect with the prevailing westerly winds.

A wood-plank walkway inside the courtyard leads south to a sliding glass door, the house’s main entry, opening into the kitchen and dining area. The kitchen merges the double-height living room, where tall steel-braced, aluminum-mullioned windows with a balcony frame spectacular views of the bay. Bookshelves, the television, and fireplace are grouped along the living room’s west wall.

The Howards have two young children, and Vivian Howard says this continuous space works well with her family’s informal lifestyle. The open upstairs master-bedroom loft has a built-in writing desk that

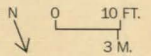
Metal doors slide aside to reveal the house’s interior courtyard (above, and opposite bottom). The master-bedroom loft has views into the living room and courtyard (opposite top left and right).



GROUND FLOOR



UPPER FLOOR



overlooks the living room, balcony, and water. A window at the opposite end of the loft overlooks the courtyard.

It must cross the mind of anyone who, like David Howard, sets out to build something challenging conventional notions of what a home is—particularly in a village of traditional clapboard frame houses—that the neighbors won't like the new. On the contrary, Howard says his neighbors have all visited and love the house. MacKay-Lyons isn't surprised. "It's only people from away who want to built Victorian reproductions that hate my work. The fishermen and builders—people who understand the material culture—they get it, and they like it." ■

Sources

Metal/glass curtain wall: Alumicor-South Shore Glass

Metal roofing: VicWest

Aluminum windows and doors: Alumicor

Skylights: Velux

Cabinetwork and custom woodwork: S & M Woodworking

Paints and stains: Benjamin Moore

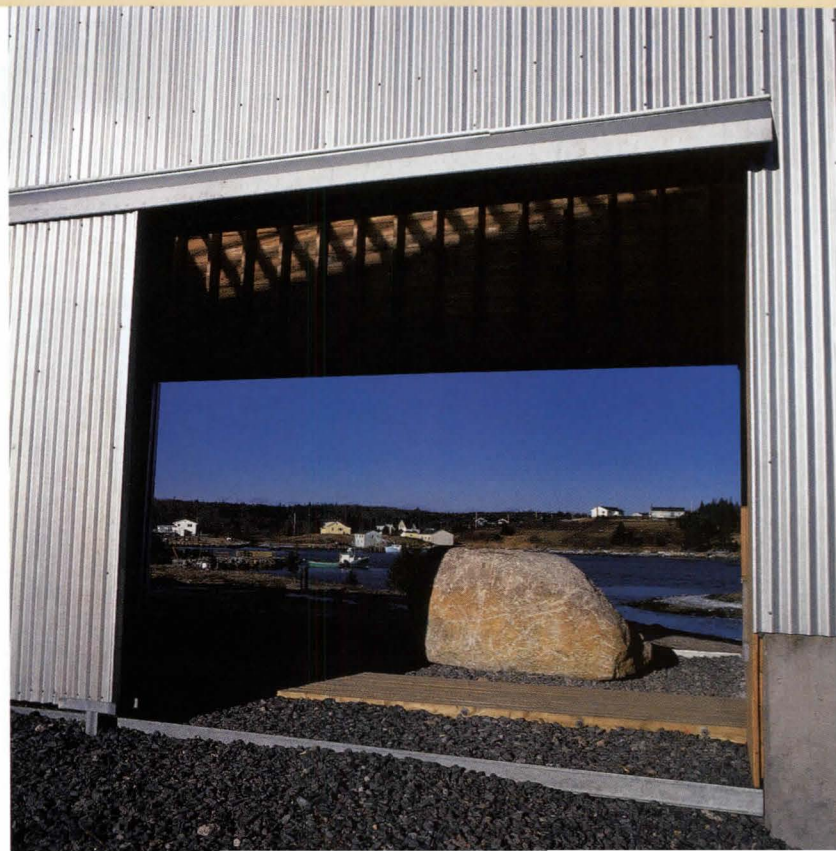
Floor and wall tile: Caesar-

Andalusia (living and bath areas)

Interior ambient lighting: Juno Lighting

Exterior: Noma

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Views south, toward the entry gate, reveal a bridgelike reflecting pool over a basaltic stone driveway (this page). The pool is also visible from within the entry corridor (opposite bottom). Facing the street, the house appears monolithic (opposite top).

Architect **Alberto Kalach** transcends the limits of a Mexico City site, creating the spatially inventive **GGG HOUSE** and its fragrant garden.

By Sarah Amelar

Just inside the front gate of the GGG residence in Mexico City, the house's complexity begins to reveal itself. Here, a driveway of basaltic volcanic rock swoops down alongside the building, passing beneath a shallow bridgelike reflecting pool: Metaphorically, the dry river seems to flow beneath the wet bridge. Within the house, an architectural language of interlocking spaces and planar elements that often slip past one another, instead of meeting, fully emerges. "You get a glimpse of a space, with diagonal views to other rooms, but then, you always have to go around something, perhaps a wall, to really discover what's there," says the house's architect, Alberto Kalach. "It's a bit like a labyrinth."

It is this very quality that transports you from the outer edges of an awkward site—bound by jarring adjacencies—through an experientially rich interior that extends into a lush and private garden. But outside the house's steel-plate front gate, the garden and the intricate journey to it remain hidden.

Sited just within the grounds of a golf-course development, five miles from the center of Mexico City, the one-third-acre lot abuts a poorer neighborhood with five-story, clothesline-draped apartment buildings directly behind it. ("In Mexico," explains Kalach, who has spent most of his life in Mexico City, "we often have these side-by-side contrasts between rich and poor.") The property faces the rear—or service side—of the golf clubhouse, and is flanked by a guard booth for this well-to-do community and the next-door neighbor's saffron-yellow faux hacienda. "These are the surroundings we wanted to make disappear," says Kalach, "Once you enter the site and house, the idea was to transport you to another world."

Inspiration for this 8,280-square-foot house came, in part, from Jorge Yzopik's rugged stone sculptures, one of which the architect positioned in each of the house's three reflecting pools. The sculptures, like the GGG House, investigate not only interpenetrating forms, but also, as Kalach explains, the voids between them. Both the house and sculptures have an



intentionally limited palette, exploring the nature of a particular material. For GGG, that material is predominantly concrete, though glass, walnut, travertine, and steel also play key roles. "You can make almost anything you want with a continuous concrete surface," says Kalach, "and I like the idea of one material that can solve many different problems, such as the structure of big cantilevers."

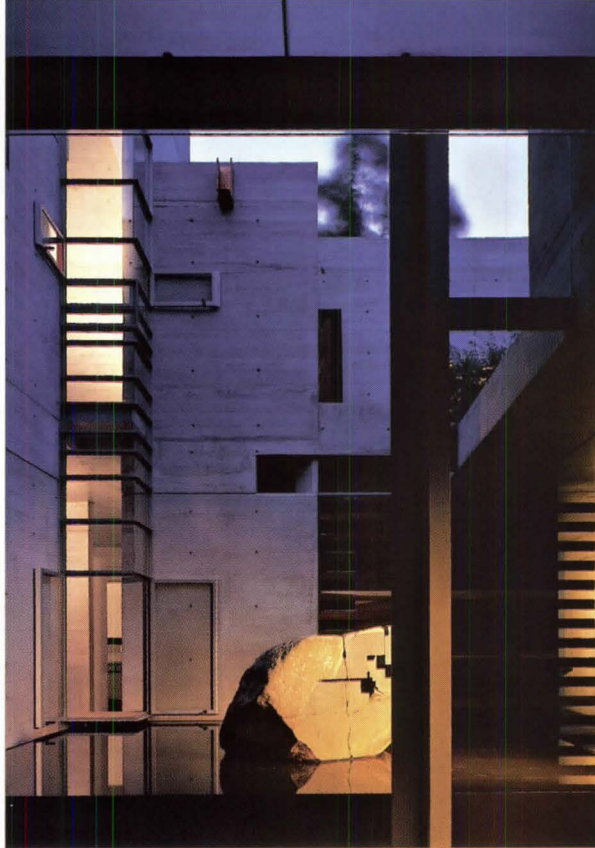
The architect had long dreamed of designing an all-concrete house, but many of his residential clients, he recalls, seemed "afraid of having a rough and monotonous material." And so, his previous domestic projects used concrete sparingly, combining it with brick and wood. With this home, however, the client, entertainment entrepreneur "GGG," took a more fearless approach. His attitude may have stemmed from his own knowledge of architecture. Soon after commissioning this home for himself, his wife, and two young sons, he was unexpectedly bedridden for two months, and seized the opportunity to read voraciously about architecture, turning himself into an enlightened and daring client.

With such free reign, Kalach took the opportunity to explore the possibilities of exposed, cast-in-place concrete. He created a warmly textured architecture more akin to the work of Paul Rudolph than the color-saturated buildings of fellow Mexican Ricardo Legorreta, or the



Project: GGG House, Mexico City
Owner: GGG [full name withheld]
Architect: Alberto Kalach, assisted by Felix Madrazo

Engineer: Enrique Martinez Romero (structural); Rafael Lopez (electrical)
Landscape: Tonatiuh Martinez
General contractor: Miguel Cornejo



The central court—a glazed, two-story shaft with a reflecting pool—provides a focus for the entire house. From the entry corridor (far left), a corner of the courtyard appears, just beyond a glazed bridge. A Jorge Yezpik sculpture stands at the reflecting pool's center (opposite, below, and near left) and a Wrightian corner window (near left) rises the full height of the court. From the second-floor bridge (opposite), views span a stone-filled terrace and a fiery red planting bed.

cool, precision-edged modernism of Mexico City-based TEN Arquitectos.

The first view of GGG House, approached from the south and hovering just behind the front gate, reveals smooth, telescoping concrete volumes, cantilevered at the edges. With essentially windowless monolithic forms, this is the house's most formidable face, shielding the interior from harsh southern sunlight and the encroaching dangers of Mexico City. (On the far side of the driveway, GGG has its own guard booth, manned 24 hours a day—supplementing the golf-club guard stations.)

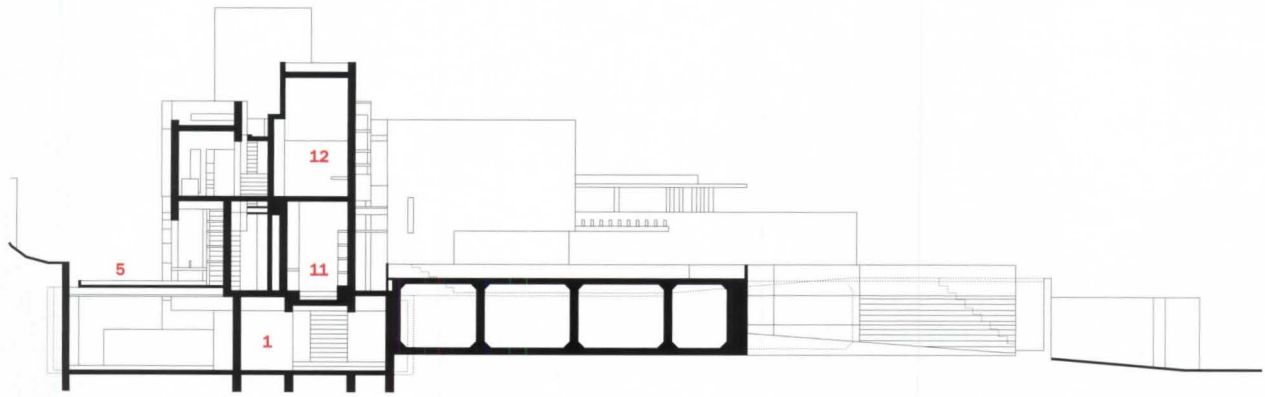
Once over the threshold, the house's volumes start to pull apart at the seams: Separately articulated planes open spaces to one another and to the outdoors, both horizontally and vertically. Just as Yezpik's sculptures juxtapose the stone's natural roughness with its sleeker, light-reflective cut surfaces, Kalach contrasts smooth panels of concrete with the same material expressively cast against long, horizontal planks.

This rippled horizontal texture, catching light and shadow, animates the entry corridor's west wall, creating convergent perspective lines that lead the eye forward. The house, however, like much Latin American fiction, offers no simple linear narrative or path: Instead, there is complex layering with frequent choices. Here, to one side, a walnut-clad stair vanishes behind the west wall; ascending to the bedrooms, it borders a window wall overlooking the driveway and its reflecting pool. But directly ahead, on the entry axis, a bridge of icy green-blue glass with steel beams crosses above the ground floor. Just beyond it, light appears from multiple sources: through a clear unmulioned skylight, from behind a second-floor window slatted with walnut, and through the one visible corner of a glass-enclosed central courtyard.

As you reach the courtyard and turn toward the east, this central space comes fully into view, its vertical shaft visually connecting the house's two floors. Enigmatic as the labyrinthine journey and brilliantly perverse as the watery "bridge," the glazed court is virtually inaccessible: A reflecting pool occupies its entire base. With a Yezpik sculpture at its center, the court





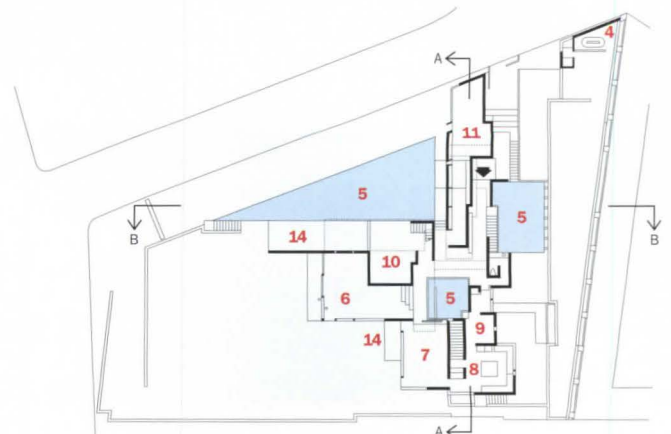


SECTION B-B



LOWER LEVEL

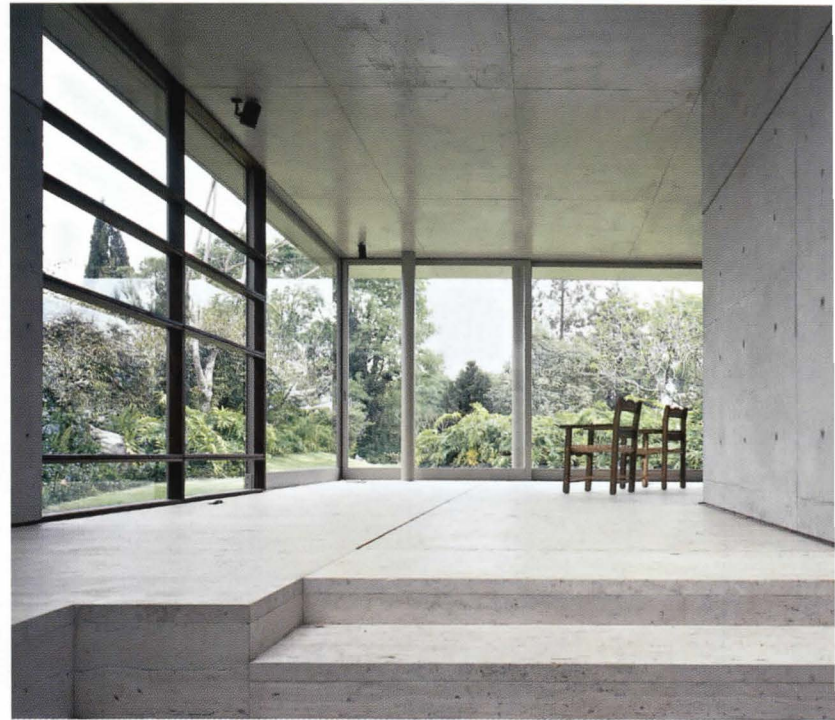
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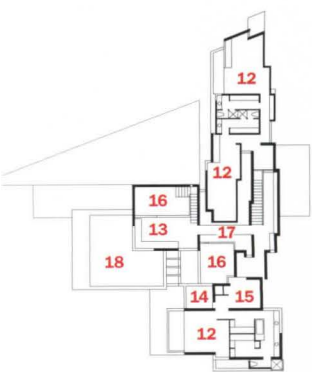
ENTRY LEVEL



Unlike the house's monolithic front elevations, the rear facade breaks into planes, opening toward the garden (far left). With



its two glazed walls slid open, the living room becomes an outdoor pavilion, shielded by a cantilevered roof plane (opposite). This room's character changes when the walls close, meeting at the corner (left and above). The steps to the living room bear a strong formal relationship to the central courtyard's Yazpik sculpture (left). A long triangular reflecting pool extends from the house into the garden (opposite).



- 1. Four-car garage
- 2. Laundry
- 3. Servants
- 4. GGG guard booth
- 5. Reflecting pool
- 6. Living
- 7. Dining
- 8. Kitchen
- 9. Breakfast
- 10. Den
- 11. Library
- 12. Bedroom
- 13. Study
- 14. Deck
- 15. Sitting
- 16. Open to below
- 17. Bridge
- 18. Roof garden

UPPER LEVEL

Shadows cast by a horizontal trellis against smooth concrete delineate an imaginary volume. The prowlike reflecting pool, extending into the garden, plays against the trian-

gular form of the sculpture within it. The den—providing a vantage point for this view—becomes a quasi-outdoor room when its glazed panels slide open.







The dining room's walnut screen has a toothlike edge that visually complements the travertine living-room steps (far left, top). In the project's intentionally limited material palette, a walnut-and-travertine stair leads up from the den (far left, bottom). At GGG, no two glazed corners are identical. Kitchen and master bathroom corner windows (bottom left and opposite) give the sensation of being outdoors. A clerestory window glows above the bridge (left top).





provides a focus for the entire house, and its border offers a place to pause.

From this literal turning point in the plan unfolds a succession of interconnecting ground-floor spaces: the breakfast room, kitchen, and dining room to the north, and living room to the west. Each room bears a

THE LIVING ROOM SPILLS INTO A GARDEN LUSH WITH BAMBOO, FIG TREES, WISTERIA, JASMINE, AND JACARANDA.

different relationship to the central court: While the entry corridor gives oblique views of this terrarium, the breakfast room connects with its two-story shaft through a long vertical slit, the dining room is screened from it by a sliding walnut partition with heavy teethlike members, the living room is wide open to it, and the glass bridge overlooks it.

Throughout the project, Kalach constantly considered the nature of transparency and aperture, creating a lexicon of glazing details, particularly at the corners, that eliminates visible frames (embedding them in the concrete) and often mullions, as well. The quality of light is richly varied: While in one room three sides of edge-to-edge glass may define a luminous volume, reminiscent of the work of Carlo Scarpa, elsewhere a slotlike aperture may cast a precise slash of light.

Whereas the journey toward the house's center is introspective, the rooms in the far reaches—the kitchen, living room, den, and, upstairs, the master bathroom—begin to merge with the outdoors. With two slid-

ing glass walls that meet at a cantilevered corner, the living room can become an open pavilion spilling into a rear garden, lush with bamboo, fig trees, night-blooming jasmine, lavender, myrtle, jacaranda, and wisteria. Permeating the architecture, this paradise ascends towards the second floor windows via planted terraces—horizontal planes of color and fragrance that change seasonally, sometimes flaming red with ground creepers or purple with lavender—and shallow rectangular pools full of smooth stones, some covered with water and others dry.

Given the tight site, it is remarkable that the interior and garden seem so completely removed from the larger setting. With the changing effects of light and shade, the experience of this enigmatic house is one of continual reorientation. “In many ancient cultures,” says Kalach, “there was a belief that you had to enter every house and every room indirectly, turning a couple of times because bad spirits move in a straight line: If you broke that axis, those spirits could not enter.” With evil spirits banished, the GGG House's space breaks out of its concrete labyrinth into the garden, where the architect calibrated the massing and landscaping so that the surroundings, too, all but vanish. ■

Sources

Lighting controls: *Lutron*

Plumbing fixtures: *Agape*

Stone: *Travertine and basaltic volcanic*

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The house's curving masonry wall echoes the road's double-curve. Views of Phoenix appear in the distance (opposite).



In the Phoenix desert, Wendell Burnette's great curving wall embraces his garden oasis and prowlike **SCHALL RESIDENCE**

By Wendy Moonan

It reminds me of my honeymoon in Marrakesh," a neighbor told Phoenix architect Wendell Burnette, referring to the Schall Residence, his latest house there. "My wife and I arrived at the airport, got a taxi, wound through narrow streets, and stopped at a giant wall with a little door," the neighbor continued. "I told the driver, 'This can't be the place.' We knocked, and the porter answered. Beyond the door was heaven."

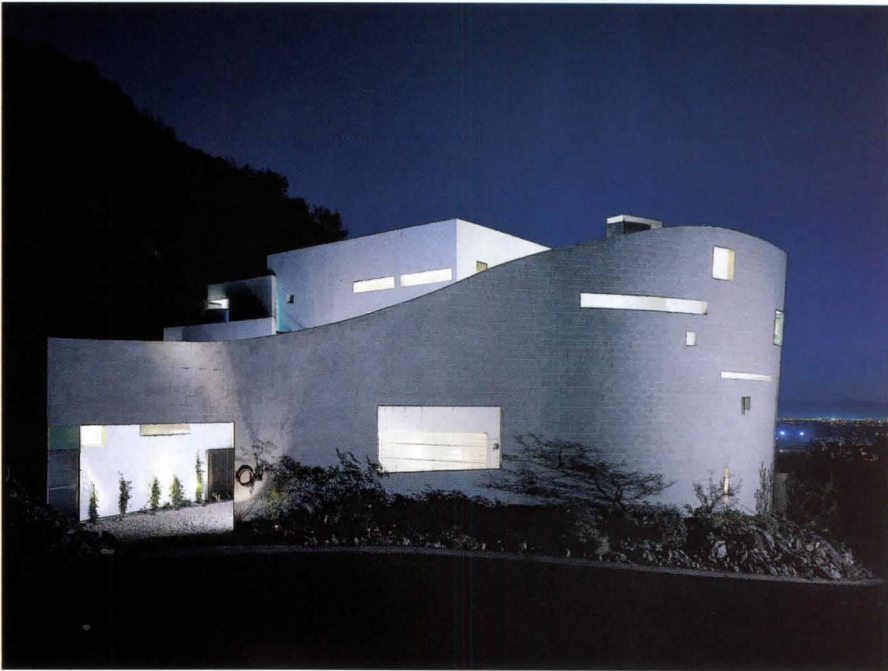
Burnette has never been to Morocco, but he was pleased by the analogy. "A lot of the imagery and emotion for the house [actually] came from Morocco," he says. "Houses there have a kind of urban quality, with high walls, cooling towers, and shade."

A walled compound was his response to a dense, nondescript residential development on North Mountain in the Phoenix outskirts. The one-sixth-acre site, at the end of a cul-de-sac, has sweeping views of the city in the valley below and the Sierra Estrella range beyond it. Behind the house rises a wall of desert vegetation and raw red stone: a natural cut in Phoenix's pristine North Mountain Preserve. One of Burnette's challenges was the 1980s housing stock surrounding the site: "a hodgepodge of Taco Bells," he recalls. Editing the context, the architect says, became both a "defensive position against visual pollution" and an opportunity to create an urban courtyard house. He wanted the interior to feel like paradise.

Originally from Nashville, Burnette has been passionate about the desert since he moved to Phoenix in 1980, following high school, to study at Taliesin West. After working with architect Will Bruder for 11 years, Burnette became a solo practitioner in 1996. He often works with his wife, Debra Burnette, a landscape designer specializing in desert vegetation, who collaborated on this project. "For me, the desert is like a dry ocean," he says, "Here, I wanted something sailing across it."

The Schall Residence, approached from below, looks like the hull of a ship, looming 40 feet above the cul-de-sac. A curving concrete-block wall, finished with a mortar wash of Portland cement and silica sand, mimics the double curve of the street's turnaround. And because the wall is also canted at its southern end 3½ feet over the street, it appears

Wendy Moonan is the architecture editor of House & Garden and a frequent contributor to ARCHITECTURAL RECORD.



to billow. Each course of masonry block overlaps the one beneath it, like the bands of timber on a hull, adding striations and shadow.

This corbeled form may seem overpowering, but it is not arbitrary. Walking across the street from the site one day early in the project, Burnette made a discovery: From an elevation 30 feet above the building pad, he could see a dramatic city skyline in the distance—looking straight down Central Avenue, the spine of Phoenix and the only street with towers. He realized he could get views of the downtown skyscrapers if, as he puts it, he "pushed the envelope. . . [to] capture every square inch of the site." And so, he designed a walled 2,200-square-foot house upside-down—that is, with the main living spaces on the second floor to take in the views.

The compound's entrance is through a large cut at the north end of the wall. Here, the masonry is no longer corbeled or canted, but vertical and seamless. The opening in the wall leads to a driveway, carport, and garage. Debra Burnette designed the motor court to spark the

Project: Schall Residence, Phoenix, Arizona
Owners: The Schalls
Architect: Wendell Burnette Architects—Wendell Burnette, Michael Le Blanc, Richard Hofmeister, design team
Engineers: Rudow + Berry, Inc. (structural); Otterbein Engineering (mechanical); C.A. Energy Designs (electrical); Castro-Fleet (civil)
Consultants: Debra Burnette Landscape Design (landscape); Lighting Dynamics (lighting)
General Contractor: Baywest Construction Management, Inc.

PROJECTS



senses. As you approach the house, crunching gravel underfoot, you pass blue trumpet morning glories, grape vines growing up a harp trellis, and a pink-flowering Mexican amapa prieta tree with spreading boughs. Even though you cannot see it, you can hear a fountain.

The procession through the house is a spiral winding upward. In true Wrightian fashion, the spaces contract and expand. For example, just inside the perforated-steel front gate, a dark tunnel-like passage suddenly opens out into a 14-foot-high patio tucked under the

**A “GROTTO FOR THE SENSES,”
THE COURTYARD IS SUNNY IN WINTER
AND SHADY IN SUMMER.**

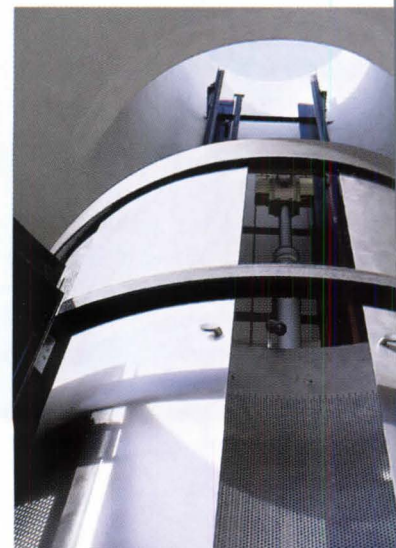
second-floor living quarters. This patio offers a spacious, shaded place to pause before entering the sanctum of the inner courtyard.

The courtyard, with a fountain-fed swimming pool, a vivid flower garden, and an Arizona sweet orange tree, has only three walls; the fourth is a line of horsetail reeds planted against the cut in the mountain. Designed for the Phoenix desert climate, this “grotto for the senses” forms an outdoor room that is sunny in winter and shady in summer. A vertical slit in the far corner—one of several in the project—creates a Venturi effect, which draws in breezes, accelerating and pulling them across the courtyard toward the mountain. (After three

months in the house, the clients, a retired aerospace defense engineer, and his wife, business manager for the Arizona Corporation Commission, have yet to turn on the air conditioning.)

The front door, one of Burnette’s most inventive moves, is a custom-made steel elevator on the side of the house, opening onto the courtyard. Burnette designed it for the engineer, who has hip problems. The perforated stainless-steel cab is a jewel-like piece. In plan, it’s an asymmetrical oval—the architect calls it a “squished-egg geometry”—that travels up into a cylindrical, wood-framed shaft. The shaft itself has a glass roof, giving it a nimbus of light and views of the sky.

For those walking, an elegant, curving, skylit stairway, paved in Mexican cantera blanco stone, also leads a flight up, arriving at a barbecue terrace, over the garage, and an evaporative cooling tower that gently chills the ambient air of the patio below. The terrace leads to the kitchen and the clients’ main living area. White-walled with





Stuccoed rear elevations open up to the pool with its walled-in garden and patio (opposite top; this page, top left). A stainless-steel elevator ascends to the second floor, as does a curving stair (this page, top right and bottom). Slotlike windows help create a Venturi effect that draws in and accelerates breezes.

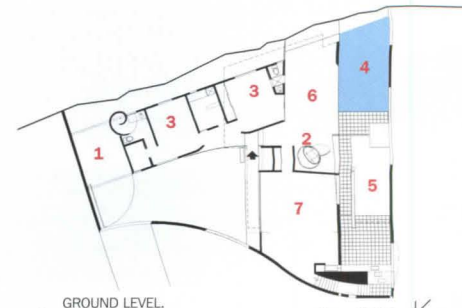


In the living room (above), a glazed, unmulioned corner yields spectacular views. Fuel-fed flames emerge from a granite channel set in the floor (left). In the kitchen/dining room, curly maple faces the cabinets (opposite).



UPPER LEVEL.

1. Carport
2. Elevator
3. Guest
4. Swimming pool
5. Garden
6. Shaded patio
7. Garage
8. Dining
9. Kitchen
10. Living
11. Bedroom
12. Barbecue terrace



GROUND LEVEL.

0 10 FT. 3 M. N



maple floors (salvaged from a World War II-era factory) and bird's-eye custom maple cabinetry, the 1,400-square-foot second-floor quarters include a kitchen, dining and living areas, a bedroom, and one-and-a-half baths. If you arrive by elevator, you immediately confront a horizontal strip window—one-foot high and 20 across—perfectly

“MY GOAL,” SAYS BURNETTE OF THE SCHALL RESIDENCE, “WAS TO RESTORE SERENITY TO THE SITE.”

framing South Mountain and the distant Sierra Estrella without revealing the nearby sprawl.

Beyond the dining area, a loftlike living room spans the courtyard below. Here, at the ship's prow, is a window with mitered edge-to-edge glass. Frameless, the large panes are clip-angled and silicon-sealed directly to the building's exterior masonry. Above this aperture, the ceiling curves up from 8½ to 14 feet, drawing you toward the only place in the building with skyline views. Burnette fitted this corner with a glass-topped table and built-in seats for two.

For the opposite side of the room, the architect designed, instead of a conventional fireplace, a veritable wall of fire that emerges from a 14-foot-long piece of honed, green granite, set in the floor and bisected by a narrow channel. Fed by solid cooking fuel, flames erupt, crackling like logs. Behind it rises a canted glass wall with views toward the courtyard below.

Throughout the house, the windows—some set flush and others recessed—are all fixed. Ventilation, with frequent Venturi effects, flows through screened 10-inch square openings, with hinged cabinet-like covers, and open sliding glass doors. Each window is individually shaped to frame a specific view of desert, mountain, city, or sky—but never of the houses next door. “My goal,” says Burnette, “was to restore serenity to the site.”

This house is about site-specific space-making and invention. The clients knew from the start that their architect had this kind of ingenuity; they hired him after stopping on the street to look at the Burnettes' own house [RECORD, April 1996]. As Wendell Burnette puts it: “The three-dimensional business card worked.” ■

Sources

Masonry: Superlite/Western Block (CMU)

Stucco: EIFS Stucco System by Dryvit (with integral color)

Metal: Mill-finish stainless steel

Glass: Clear and blue-green Eclipse (reflective glass by Pilkington)

Lighting: Halo, Nightscaping/B&K, Luce Plan, Flos

Plumbing fixtures: Speakman

Elevator: Waupaca

Furniture: Knoll, B&B Italia, Knoll, XO, Herman Miller

Cabinets: Curly and quilted maple (custom)

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

Perched on a steep granite hillside (site plan, opposite), House Into closes itself to the neighboring

houses (opposite top), while exposing open, dynamic elevations (this page) toward the sea to the west.



On a coastal hillside near Helsinki, **Jyrki Tasa** challenges the clichés of contemporary Finnish architecture with his exuberant **HOUSE INTO**.

By Peter MacKeith

A home away from the city, however modest—in a forest, along a lake or seacoast—is a vital desire for many Finns and a potent symbol of the cultural psychology. But drive 20 minutes west of Helsinki's center, into suburban Espoo, and the built realities of contemporary Finland come into focus. Corporate headquarters line arterial highways, and bedroom districts of private homes and bland prefabricated apartment blocks cluster close by.

In Soukka, a coastal district of Espoo, the spread of such recent construction is evident, even on the stony shoreline. But along a stretch of coastal road overlooking the Helsinki archipelago—dotted with diminutive

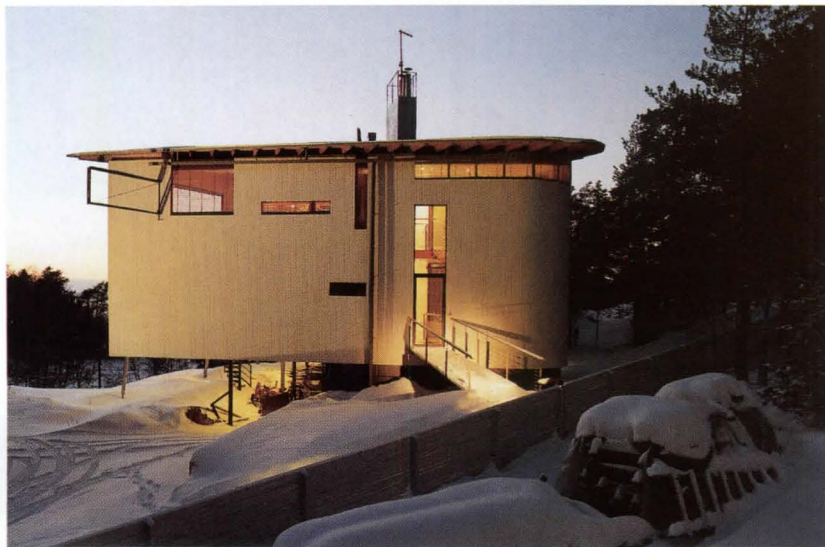
“manor houses”—architect Jyrki Tasa's House Into stands as an exception. Poised atop an exposed granite ridge, it resembles an airship, hovering between ground and sky.

“Into,” the client's first name, is also a Finnish root word meaning zeal, which fully conveys the design's architectural energy. Built as a small home for a recent retiree from the construction industry (and relative of the architect), the house departs strikingly from local architectural convention.

In the view of Tasa, a seasoned practitioner and professor at northern Finland's Oulu University, Finnish architecture should draw on a more complex genetic code than the region's typically rationalized,

prismatic, and sleek contemporary buildings would suggest—a code more expressive and dynamic in form, and more varied and textured in materials. Though many of House Into's architectural gestures may appear extravagant on first view (orthogonal relationships are in short supply), they actually proceed from sensitivity to both site and program.

From the low road approaching the house, perspectival distortions and a multiplicity of textures initially amplify the perceived scale of



the 2,000-square-foot building. Five mastlike, attenuated and skewed steel columns, cable-stayed and footed directly into the granite, gingerly support the wooden rafters of an uptilted roofplane. A central, 46-foot-tall chimney shoots through the roof, disappearing through an oculus. The roof shelters a broad deck and a faceted, screening enclosure of steel, glass, and wood. Cantilevered from a partial concrete foundation, the building appears to float above the ridge, introducing the project's quasi-aeronautical themes and language of suspended and tensile members.

Surprisingly, the entry drive then bends up and around to the house's opposite side, leading to a more solid, white wood-clad elevation, calmly composed and scaled, with discretely framed windows, a tall, narrow entrance slot, and level roof line. This polite, hard shell clearly shields the interior from nearby hillside houses, which virtually push against their lot lines. But even this apparently stiff and restrained face splays outward, forming a wedge-shaped plan that opens to light and views. The formally expressive plan is reinforced in section by the roof's upward tilt and the undercut volume of the house, so delicately balanced on the bedrock.

A few elegant details highlight the entry-wall composition: The roof hovers above this facade, allowing light to filter in through a clerestory strip; a second-floor steel window frame slides out perpendicular to the wall (opening a kitchen balcony to the outdoors); and a spiral

Project: House Into, Espoo, Finland

Owner: Into Tasa

Architect: Jyrki Tasa

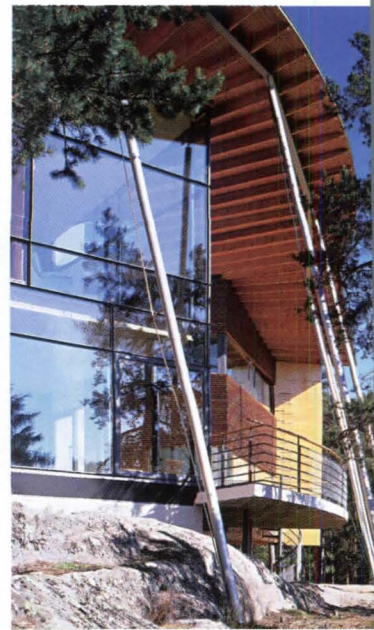
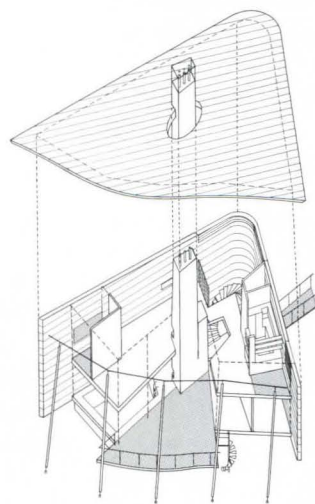
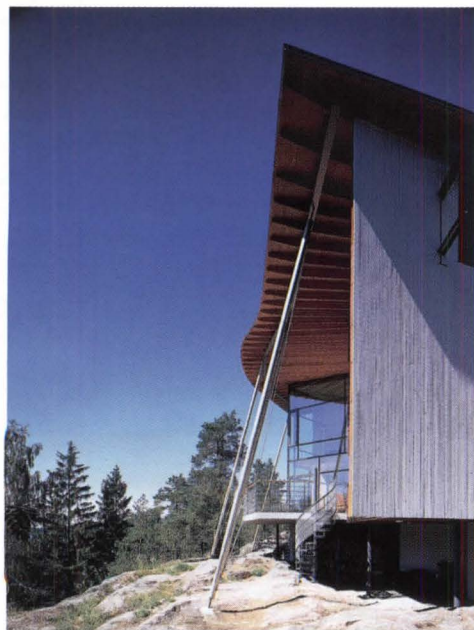
Engineers: Pertti Ranta (structural); Markku Kallio (HVAC); Kalevi

Utukka (electrical)

Landscape: Jyrki Sinkkila

General Contractor: Veijo Makkonen Ky

Peter MacKeith, former director of the International Masters Program in architecture at Helsinki University of Technology, is currently Assistant Dean of the School of Architecture at Washington University in St. Louis.



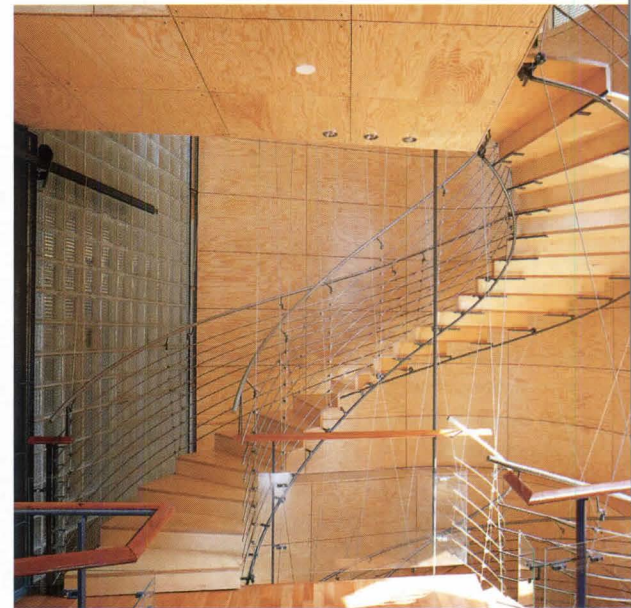


Skewed steel columns, cable-stayed and footed directly to the granite, accentuate the project's language of tension and suspension (opposite). With various types of wood, including cherry floor boards and pine-veneer plywood wall panels in the living room (this page top), Tasa creates a range of textures. The pendant living room lamp is of his design. A deep deck (this page bottom) extends the glass-enclosed swimming area to the outdoors.





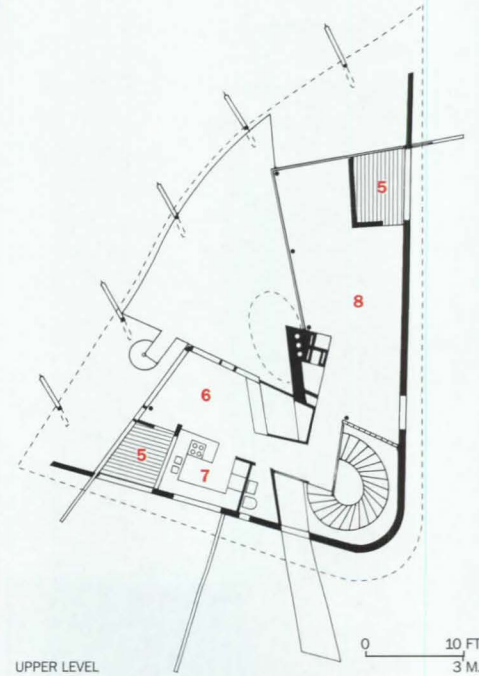
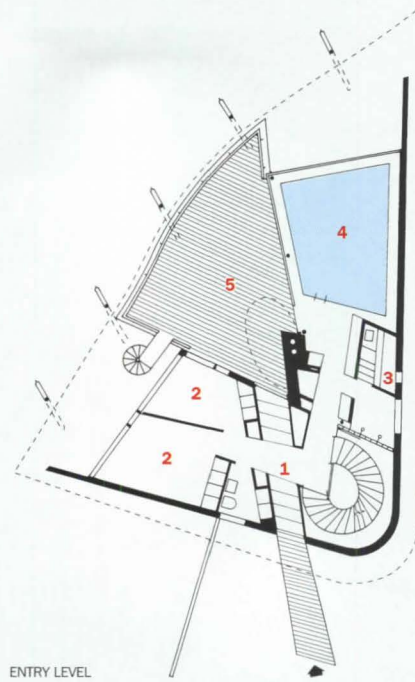
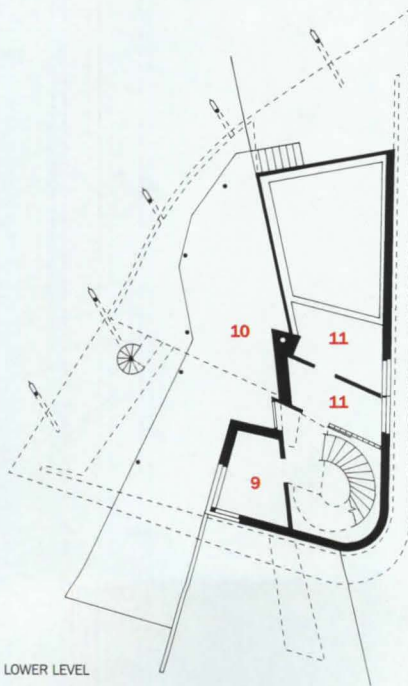
The great spiral stair (this page and opposite) offers a slow, dramatic ascent on cantilevered plywood treads, stabilized by a suspension system of intertwined steel cables and rods. The two-story stair is illuminated, in part, by sunlight filtering through a glassblock wall (below), clerestory windows (opposite), and a glazed door to the deck (left bottom).







Glass walls open the living room to seascape views (above). The kitchen (above center and opposite) is deftly organized with rod-suspended stainless-steel shelves designed by the architect.



- | | |
|------------------|------------------------|
| 1. Vestibule | 7. Kitchen |
| 2. Bedroom | 8. Living |
| 3. Sauna | 9. Hobby room |
| 4. Swimming pool | 10. Parking |
| 5. Deck | 11. Mechanical/storage |
| 6. Dining | |



of steel pipe forms a fire escape. A gangplank to the front door arcs over a small pond—as if this fantastic aeronautical machine had just alighted.

Once aboard, behind the opaque facade, a narrow bridgeliike vestibule is suspended in a stair hall that opens to the floor below. Here, spatial scale is compressed, yielding at once several views: through this level's two small bedrooms and glassed-in sauna with plunge pool, and down to the lower landing (leading to mechanical and hobby rooms). Light enters from many directions, with rays reflecting off the pool in its floor-to-ceiling glass enclosure. The plan and section activate movement through the house and site, proceeding from the tight, shadowed entry enclosure to the expansive, brightly lit pool area.

Within a bend in the plan rises a stair: a spiraling tour de force of cantilevered plywood treads and risers, stabilized by a suspension system of intertwined steel cables and rods (constructed despite the engineer's doubts). The dramatic ascent leads to open cooking, dining, and entertaining areas. Directed away from the surrounding tract development, views over the treeline reveal the seascape, facing toward western and northern light.

The top level resounds with nautical references: to woodcraft and assembly, to the decks, cabins, and metal fittings of ships. Along with dark cherry floors and walls lined in a staggered succession of plywood panels, Tasa designed prototypical furnishings—a divan, chairs, pendant light fixtures, and rod-suspended stainless-steel kitchen shelving.

In counterpoint to the stair, another major vertical element—a soapstone-clad tower of fireplaces and chimneys—occupies the home's literal center. While this tower can radiate heat at all levels (supplemented by piped warm-water and electrical heating systems), the project's spatial dispositions also address concerns of heat, air, and light: The extensive glazing and broad deck visually and physically project pool-and-sauna activities into the outdoors; a kitchen balcony draws southerly light; and the living area's semi-enclosed balcony catches the setting sun. The

uptilted roof hovers above all. Lightly poised on the skewed colonnade and central tower, it draws in the low winter sunlight while shielding the interior from the high summer sun.

Reversals in programmatic expectations—the entry placed at the house's “back” and communal spaces on the upper level—optimize the everyday experience on this seaside perch, and literally elevate the primary purposes of the house as a place of entertainment and relaxation.

Remarkably, Into was built with very few formal drawings—no sections exist, for instance, or details of the winding stair. The architect relied, instead, on the client's experience and construction-industry contacts, coupled with ample advice and participation from contractors and engineers. This approach is still possible in the small-scale economies of Finland, with its traditions of craft and skilled construction.

Modern Finnish architecture has engendered works of superficial imitation and of true depth. House Into's modernity, while referential (perhaps a condensed version of Alvar Aalto's Villa Mairea), avoids the pitfalls of this legacy. Through formal invention, well-crafted details, and site specificity with modulation of light and movement, the building offers an experiential richness. If restraint and precision have defined the perception of contemporary Finnish architecture, then the portrayal has been stereotypical and incomplete. At least on a domestic scale, House Into fluently proposes complementary roles for gestural expressiveness—refined through construction—and outright exuberance. ■

Sources

Masonry: *Lakan Betoni*

Concrete: *Lohja*

Curtain wall: *Rautaruukki*

Windows: *Karelia/Ehi-Myynti*

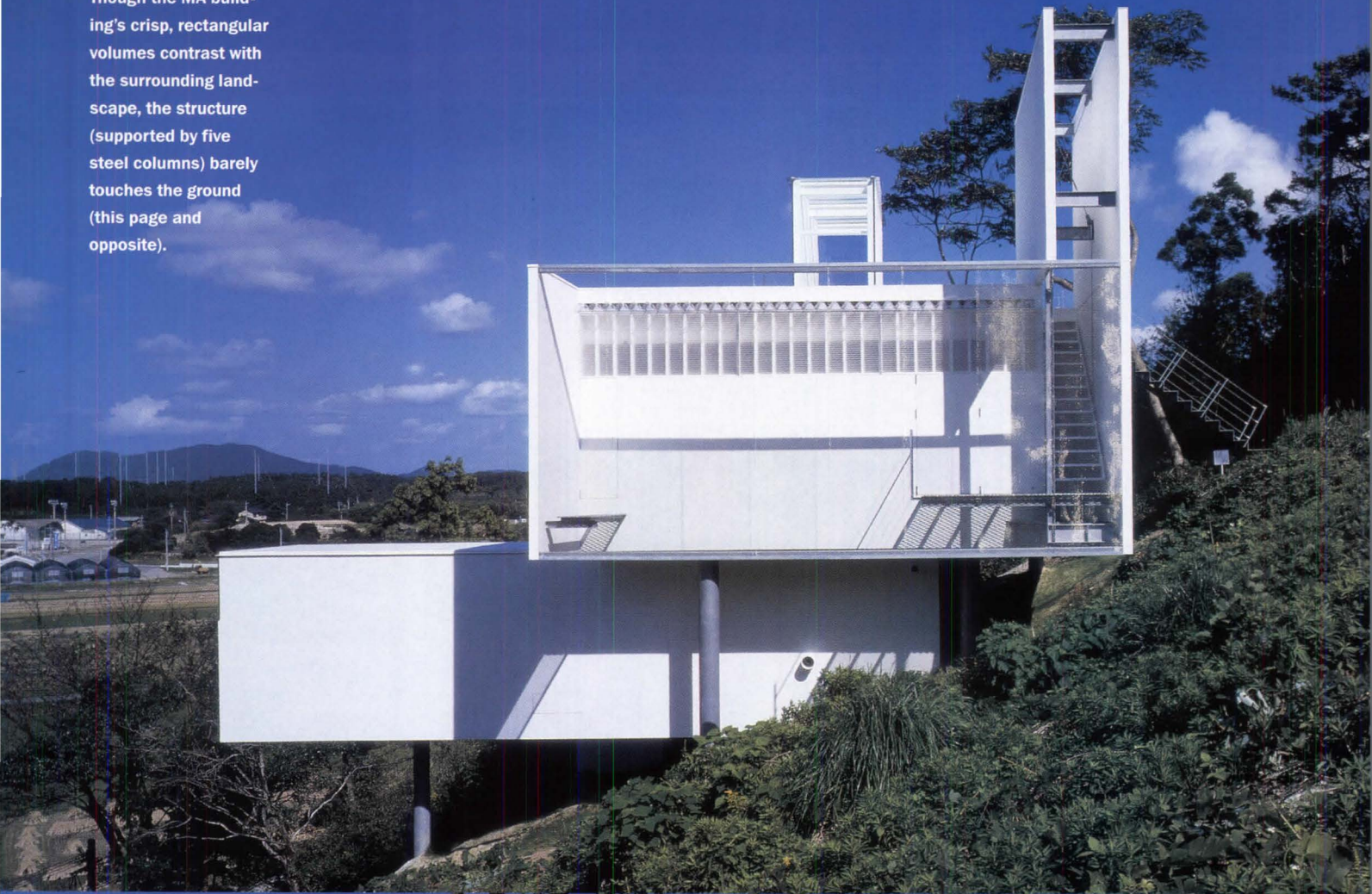
(*wood*); *Rautaruukki* (*steel*)

Glazing: *Lansilasi, Jura-lasi*

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www.architecturalrecord.com

Though the MA building's crisp, rectangular volumes contrast with the surrounding landscape, the structure (supported by five steel columns) barely touches the ground (this page and opposite).



Architect Hiroyuki Arima creates “MA”

—a combined art gallery/atelier/visiting artists’ house—
perched on a verdant Japanese hillside.

By Naomi Pollock, AIA

MA is the type of commission many architects dream about. An assemblage of five pure, white cubic volumes, the project looks, at first, like a gigantic abstract sculpture, perched delicately on a steep hill. But MA—simply named for the first two letters of the client’s name—is actually a two-story, 983-square-foot building, containing a combined artist’s gallery and studio in a square room upstairs and an intimate atelier that doubles as a cooking and sleeping area in a second rectangular box beneath it. Architect Hiroyuki Arima intended the design as a neutral backdrop for the creative activities of his client, a sculptor who works in paper and wire, and for visiting artists-in-residence who stay days at a time while preparing and exhibiting their work. But while the calm, white planes and geometric purity offset the art, the boxes appear anything but demure against the lush landscape.

Twenty miles from downtown Fukuoka, the largest city in Japan’s southernmost island of Kyushu, the property borders on Genkai National Park. Though this location brought restrictions, such as building-height limits and wastewater purification requirements, it still appealed to Arima and his client. “It was cheap, and its slope was interesting,” says the architect, “I don’t like flat land—slopes have power.” The stark white boxes of cedar board and cement siding contrast dramatically with the natural setting—an untamed jumble of conifers, sandalwood trees, and bamboo—but Arima made a point of touching the land as lightly as possible. Only five columns, arranged irregularly in deference to the site’s massive boulders, secure the steel-frame building to its footings.

Tethered loosely to the ground by a steel support, a metal stair leads up from the parking area to the roof, which overlooks rice paddies and the Genkai Nada Sea beyond. Though it has all the visual lightness of folded paper, the stair is actually composed of patterned steel plates, barely a quarter-inch thick and welded underneath to a steel beam.

Two boxy rooftop volumes, clad in cement board painted white, divert attention from the prefabricated log cabins and A-frames dotting the mountain rising steeply to the south of the property. One volume houses an art showcase with a skylight for the gallery. The other



encloses, between two cement-board planes, a stair leading down to the gallery entrance. (Visitors must actually ascend to the roof to reach the gallery below it.) The entrance, a place that seems neither completely indoors nor out, is partially hidden behind a steel mesh screen that shimmers in the sunlight.

Inside the gallery, most exterior views are veiled by corrugated polycarbonate sheets that span the entire east elevation and west-wall clerestory, flooding the space with soft, diffuse daylight. As the sun moves across the sky, its muted rays animate the room’s tin-plate ceiling and zinc-covered columns with changing reflections. Direct sunlight enters the gallery through a toplight that can be modulated by adjusting its “reed,” a movable panel that Arima modeled after the innards of a woodwind instrument. Similar devices on either side of the stair down to the atelier open to allow the penetration of light and close in a horizontal position to provide art display areas. The sole sources of electric light are six tiny fixtures to be rotated as needed among the building’s eight wall outlets. But these lamps shed so little light that the client initially

Project: MA, Fukuoka Prefecture, Japan

Owner: Mariko Tamura

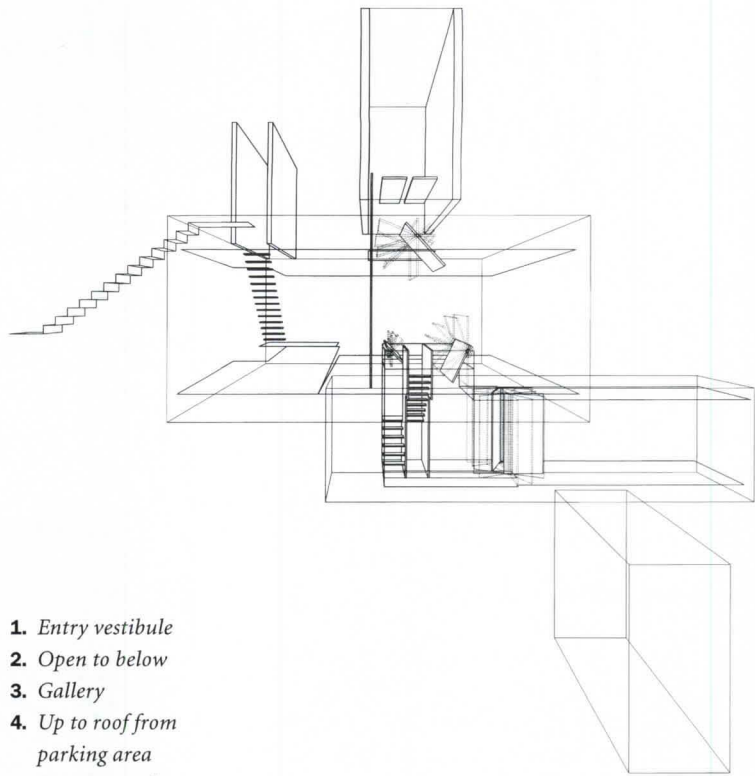
Architect: Hiroyuki Arima + Urban

Fourth—Hiroyuki Arima, principal

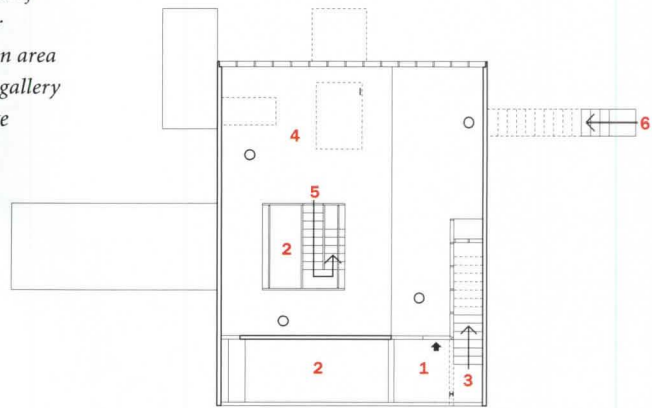
Engineer: Uno Design Office

General Contractor: Imamura-Kenso Co., Ltd.

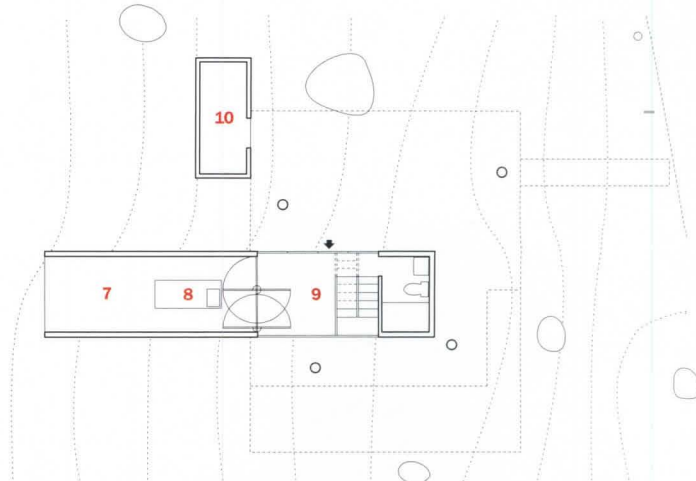
Naomi Pollock, AIA, is ARCHITECTURAL RECORD’s Tokyo-based correspondent.



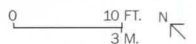
1. Entry vestibule
2. Open to below
3. Gallery
4. Up to roof from parking area
5. Down to atelier
6. Up to roof
7. Atelier
8. Kitchen area
9. Small gallery
10. Storage



MIDDLE (MAIN) LEVEL




LOWEST LEVEL



From the roof deck (top), views into the toplight (open to the elements) reveal the gallery, beneath a pivoting panel that modulates the introduction of sunlight.

Diffuse rays filter through windows (bottom), veiled in double-layered, corrugated polycarbonate sheeting, instead of traditional glazing.



Light reflects off the gallery's tin-clad ceiling and zinc-covered columns. An open-riser stair leads from the roof deck to the gallery entrance.



The stair from the parking area to the roof deck has the visual lightness of folded paper, though it is actually made of steel plates, welded underneath to a steel beam. Its top (left) and bottom treads, hovering above the ground plane, appear to float. From some views, MA looks like an abstract sculpture: five white volumes, delicately perched on a steep hillside (below).

depended on a flashlight whenever she stayed in the building overnight.

With a partially sloping floor plane, the gallery design echoes the site's dramatic topography. Stairs, prominently placed in the middle of the room, lead down to the atelier. Here—in the building's most private zone—a large window at one end lets in light and views, creating a focus for this narrow studio jutting out from beneath the cubic gallery volume. A workplace and office for one, the atelier has all the trappings of an efficiency apartment—hardly an unusual living arrangement in Japan, where homes are small by U.S. standards and personal space very limited.

While Arima did not look directly to traditional Japanese architecture for inspiration, the influences are unquestionably present: in the doors that double as walls, in the translucent screening elements, circuitous entry sequence, and universal or multifunctional spaces. But in MA, tradition is highly abstracted. A striking building, it holds its own against the natural setting and the art created within it. ■

Sources

Exterior cladding: cedar boards, cement boards, corrugated polycarbonate sheets

Roofing: Sheet metal, cedar decking

Floors: Cedar planks

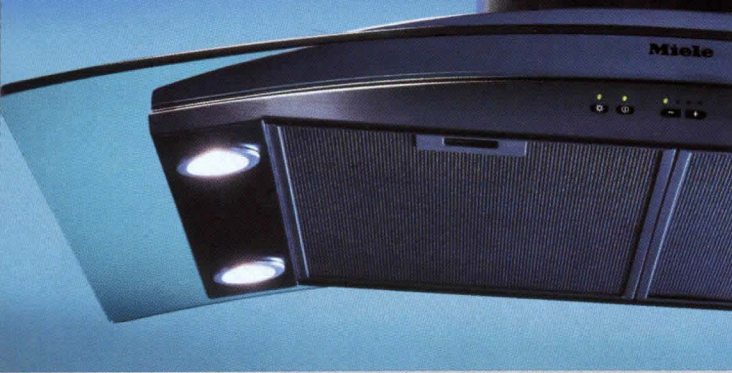
Interior walls: Lauan plywood

Ceiling: Sheet tin

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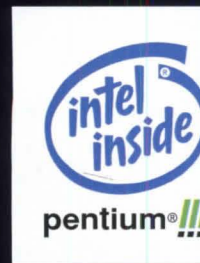
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Mastering the Master Bathroom

DESIGN SUBTLETIES ARE AS IMPORTANT TO THE SUCCESSFUL RESIDENTIAL BATH AS FAMILIARITY WITH NEW PRODUCTS, MATERIAL INNOVATIONS, AND SAFETY ISSUES.

By Charles Wardell and Wendy Talarico

Creating a space conducive to the ritual of bathing is a good problem for an architectural student," says architect Will Meyer of Meyer Davis Studio in New York City. That's because the master bath is one of the most complex rooms in the house. It's a small, tightly organized space, packed with fixtures and equipment, where one or more people perform a series of tasks—usually in a hurry, in a space clouded by moisture and odors. "Here, someone starts and ends the day," Meyer adds. A highly functional and beautiful space can enhance the daily ritual.

Most architects, by the time they finish school, have a good understanding of basic bathroom design. But it's practically impossible to keep up with all the new fixtures, materials, codes, and trends. "Architects who rarely design residential bathrooms can't stay current," says David Mullman of Mullman Seidman Architects in New York City. That's why it's important for them to find plumbers or mechanical engineers who are up on codes, knowledgeable hvac contractors, and plumbing suppliers who understand the latest fixtures and fittings.

These individuals can help the architect achieve optimal designs—the best shower drain placement, faucet height, and application of tiles to the wall. These are the subtle touches that make a

Charles Wardell is a freelance writer based in Martha's Vineyard, Mass., who specializes in technology subjects.

CONTINUING EDUCATION

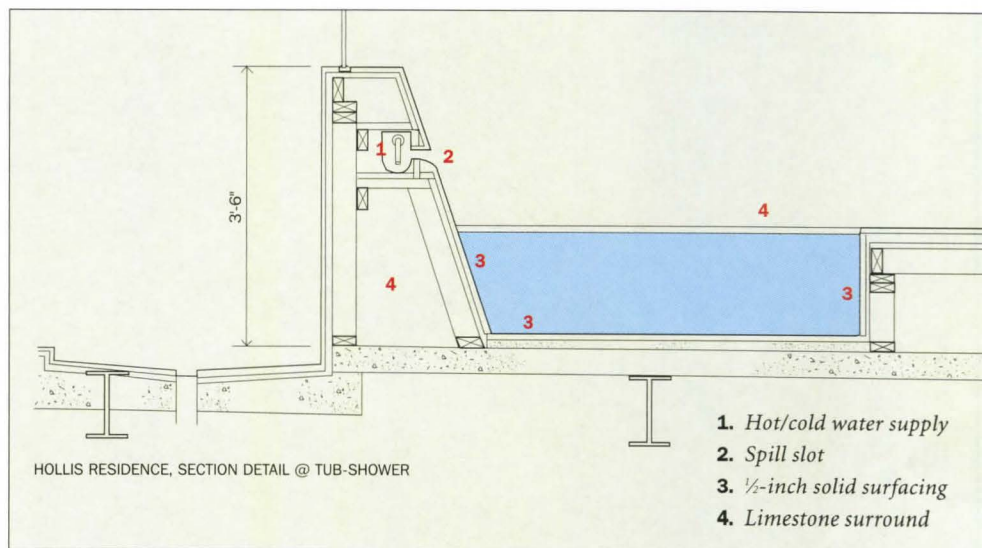


Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 156 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Describe new technology available for controlling bathroom temperatures.
2. Describe the new technology for toilets.
3. Describe methods of venting odors and moisture.
4. Explain the goals of bathroom lighting and space design.



bathroom work and make residential clients happy. "Architects may not design master baths every day," Mullman says. "But they use them every day. They know what works and what doesn't."

The unglamorous side

The mechanics of the bath should further the architect's design goals. "The important thing is to create an attractive, sexy bathing environment," says New York City architect William T. Georgis. "It's about feeling wonderful and special, about having architecture help people transcend what's common and mundane."

Nothing will bring a client back to the common and mundane more quickly than a malfunctioning toilet. Low-flush toilets are still the bane of many otherwise flawless bathrooms. It still seems that "any significant amount of waste takes two or three flushes," Mullman says, though new models are quieter and more efficient than the old ones.

Concealing the tank in the wall saves space and facilitates toilet cleaning. These units aren't easy to replace if a problem develops, however. Tank access is through a wall-mounted coverplate. Several companies, including Porcher, in Chandler, Ariz., and Duravit, in Atlanta, offer this feature.

In the shower, thermostatic or pressure-balancing valves prevent blasts of hot or cold water. These valves, also known as antiscald devices, are required in some states. Pressure-balancing valves monitor water pressure and compensate for changes in hot or cold supply lines. Thermostatic valves monitor temperature as well as water pressure. The latter cost about one-third more than the pressure-balancing type. Alternatives to these valves include thermostatic shower controls from Wisconsin-based Kohler or Grohe America, in Bloomington, Ill. They



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CIRCLE 54 ON INQUIRY CARD

CASE STUDY

Project: Hollis Residence, Paradise Valley, Ariz.

Architect: Randall Fonce, Phoenix

The stone, wood, and glass in this 240-square-foot master bath seem bleached and warm, appropriate to the desert. The space comprises adjoining his-and-her baths, each with its own toilet and sink. His area has a shower, her's a tub. The areas are partitioned with mirrored doors.

The floors, walls, and backsplash are Indiana limestone sealed and covered with tree wax, a paste that's worked into the stone to give it a low luster. The vanity is Carrera marble, while the vaulted ceiling consists of white



maple veneer over medium-density fiberboard. The wood was coated with a penetrating sealer to prevent moisture damage, and is also shielded by a glass ceiling suspended on 3/8-inch stainless steel rods over wet areas. The translucent 1/2-inch laminated glass, each blade measuring 8 inches by 4 feet, hangs in overlapping layers that follow the curvature of the ceiling over the tub and shower. The overall effect is like a jalousie window; glimpses of the wood appear through the glass blades that also diffuse the fluorescent ceiling lights.

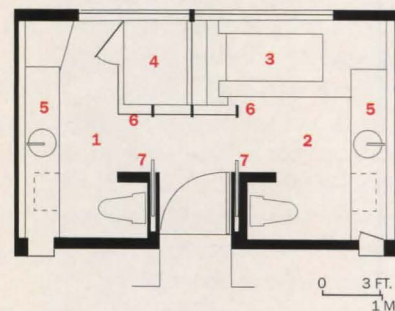
The same glass is used for panels to provide privacy around the shower and tub. The panels end 32 inches shy of the ceiling. The toilets are enclosed in walled compartments.

Fonce hid as many mechanical elements as possible since these, he says "distract attention from the



architecture." Even the bath faucet is concealed. Tub water, instead of running from a spout, flows hidden into a hollow in the tub's backrest until it overflows, cascading through a narrow slot and down an angled backrest. The 66-by-32-inch tub is made from a seamless piece of red solid surfacing with a limestone surround. The backrest is black solid surfacing. "This creates a monolithic surface," Fonce says. "It's warm and smooth and comfortable."

- | | |
|---------------|--------------------|
| 1. "His" bath | 5. Vanity |
| 2. "Her" bath | 6. Glass partition |
| 3. Tub | 7. Partition door |
| 4. Shower | |



have separate controls for water volume and temperature, permitting a fixed temperature during water-volume adjustments.

In the tub, a handheld sprayer makes it easier for the user to rinse while bathing or clean the tub out after he or she is finished. If the sprayer gets immersed, however, dirty water can enter the supply lines when pressure drops. A backflow preventer, available on some sprayers, blocks this contamination.

Large tubs are glorious, but they fill slowly (and the water cools) unless the plumber installs a large supply line. A 1/2-inch line is typical, but a 3/4-inch pipe, with a correspondingly large spout, is better. The best faucet for a tub or sink is solid brass with ceramic disks instead of metal and rubber washers, says David Landis, owner of Quintessentials, a plumbing supplier in New York City. And while many finishes, including nickel and pewter, look wonderful on the faucet, "the best choice for durability is still chrome," he says.

Venting odors and moisture

Bath fans are the first line of defense against moisture and odor. But noisy, rattling models are a nuisance, especially in a master bathroom adjacent to a bedroom. Several manufacturers, including American Aldes and Fantech, both in Sarasota, Fla., make fans with noise ratings lower than one sone (the equivalent of the soft hum of a refrigerator). These are typically remote-mounted units; the apparatus is installed in an attic, basement, or utility room with ducts running to the baths. These fans will move up to 200 cubic feet per minute (CFM) of air instead of the 50 to 100 CFM a typical fan. A remote-mounted system costs less than 10 percent more than a standard ceiling-mounted type—worth the investment.

The next challenge is making sure the fan gets turned on. Some, automatically controlled by humidistats, start up when there is a certain level of moisture—after a shower, for example—but they are not effective for removing odor. Fans controlled by motion detectors offer another

CASE STUDY

Project: *Grinstein Residence*
Architect: *Todd Bertellotti, AIA, GGLO Architecture and Interior Design, Seattle*

The original footprint of this remodeled bathroom, owned by a young business executive, featured tub/shower, toilet, and vanity areas that were so chopped up and compartmentalized, “you couldn’t tell they belonged to the same space,” says Bertellotti.

One of the challenges was to demarcate the bath’s wet and dry functions while making it clear that each was a part of the whole. Bertellotti separated the shower and toilet areas with textured cast-glass panels. Recessed into the slate floor, they appear to rise from the stone.

Created by Joel Berman Glass Studios in Vancouver, British Columbia, the tempered panels were made by placing sheets of glass in a mold and firing them. The heat causes the sheets to conform to the mold’s roughened surface. The result is a textured, wavy surface that blurs the shadowy outline of the person using the shower.

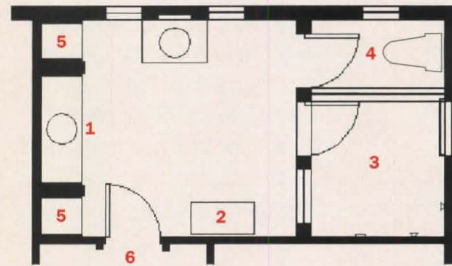
Natural finishes and materials were selected to evoke an ancient, rituals of bathing. The materials include multicolored slate wall tiles with a natural clefted finish, green slate 6-by-6-inch floor tiles that were tumbled to create slightly worn edges, and a freestanding, black

slate and stainless-steel wash basin with a shallow, cast-glass bowl. A penetrating sealer to prevent the slate from staining makes it easier to clean.

To make the bathroom “more roomlike,” says Bertellotti, he designed a large wooden armoire that contains a television for keeping up on the morning news and space for storing towels. This skylit room also has a teak stool, “for polishing your shoes or sitting on while trimming your nails,” Bertellotti says, and a handmade wool area rug that stretches between the vanities.

This bathroom has no tub, though other bathrooms within the house do. The owner chose to focus attention instead on the 39-square-foot, two-person shower. It includes a standard showerhead, as well as six therapeutic body jets aimed at different areas of the user’s body. Across from this is a “rain shower,” a 10-inch-diameter showerhead that drenches a second user with a concentrated gush of water.

Advanced lighting controls play an important role in this bathroom. Various preprogrammed lighting scenes, controlled by a small, unobtrusive keypad at the entry, use an array of fixtures, many of them custom made, and light levels for different effects. For example, a spotlight shines on the glass sink, and ceiling lights, illuminating the panels that make up the shower stall, make its glass glow.



1. Vanity
2. Armoire
3. Multi-head shower
4. Toilet area
5. Storage
6. Master bedroom

alternative, although they tend to turn on even if someone steps into the room for a moment. The best solution is often the garden-variety, spring-wound timer on the light switch. Fan America, of Sarasota, Fla., makes a fan that removes toilet odors at the bowl. An exhaust plate mounted to the toilet behind the seat attaches to a hose leading to a 1¼-inch PVC pipe in the wall. The pipe is connected to a remote-mounted ventilation fan.

Keeping warm

Hydronic heat, which produces warmth by circulating heated water through tubing beneath the floor, is a good choice for a master bath, particularly when the floors are tile or stone. This system keeps bathers’ feet warm, reduces thermal stratification in the room’s air mass, and, unlike forced-air systems, does not set up drafts. Also, unlike radiators, hydronic heat doesn’t take up valuable space. “It’s the most even, comfortable heat you can use,” says Christopher Dallmus, AIA, of Design

Associates Inc. in Cambridge, Mass. “And because you can’t see it, it has no architectural limitations.”

Hydronic heating and its controls are becoming increasingly sophisticated. While older systems used mixing valves to bring boiler-heated water to the correct temperature, newer systems use injection mixing with a pump that introduces the proper amount of cool water into the system. Coupled with accurate controls, of heat delivered matches the amount of heat lost by the room. The result: even temperatures. As Ted Lowe, president of the Radiant Panel Association, puts it, “The best analogy is the steadiness created by cruise control in a car.”

Radiant tubing can also be installed around the edges of a stone, tile, or concrete tub. It’s a technique Margaret Helfand, FAIA, of Helfand Myerberg Guggenheimer in New York, uses to keep bath water and tub walls warm. “It is one of those details you learn, from experience, that makes homeowners feel pampered.”



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CASE STUDY

Project: Private residence, Fairfax, Vt.
Architect: Thomas N. Fox, Jeffrey Diehl, New York City

The 200-square-foot bath in this secluded house in rural Vermont makes good use of limited space. It's organized into a sequence of compartments: sink/toilet, tub/shower, dressing, and laundry areas. The sink and toilet area does double duty, serving as the hall powder room and part of the master bathroom. Sliding doors let the homeowners, a retired couple, combine or divide the compartments.

The spaces are serene and minimal, though the architects are quick to point out that they were not striving for a minimalist aesthetic. "We wanted background materials that didn't call attention to themselves."

The floors are a mixture of white portland cement, white sand, and aggregate. They were trowelled repeatedly over a period of several days to achieve a finish that, Diehl says, "feels like a wood floor, neither slippery nor rough." It was also topped with a clear sealant to make cleaning easier.

The pool-like tub, made of the same concrete with a waterproofing admixture, measures 2½ by 5½ feet and is 20 inches deep. The back is sloped for comfort. The adjacent shower drains into the tub.

A 12-inch-wide ledge rims three sides. Radiant-heat tubing,

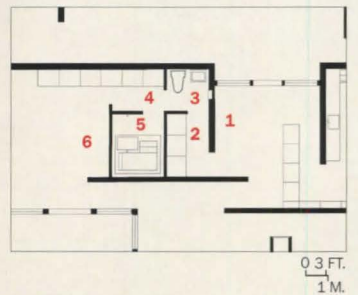


used throughout the house, runs behind the ledge, to warm the water and tub walls. On the fourth side, the ledge widens to accommodate steps into the tub, and to support a rectangular box of white Vermont marble. The box separates the tub and shower areas, houses the plumbing controls, and serves as a bench or a surface for toiletries. When the tub is full, the box appears to float in the water.

The walls of the tub/shower compartment are ¾-inch Italian green glass tile. The rest of the walls

are richly textured pebble dash.

As a counterpoint to the contemporary home's angularity, the architects included what Fox calls "a secondary system of round elements," consisting of round switch and cover plates. The bathroom also includes four translucent 3-foot-diameter circular skylights, bringing light to each of the compartments. A small aluminum gutter around each oculus captures condensation and conducts it into plumbing drain. Ventilation grilles are also hidden in the skylight wells.



1. Entry
2. Laundry/coats
3. Toilet/sink
4. Dressing area
5. Tub/shower area
6. Master bedroom

A radiant system is not always possible on a remodel. One alternative is to embed ½-inch-thick electric mats in mortar beneath the tile, to warm the floors. These mats won't heat a room, but they make it feel more comfortable. Todd Bertellotti, AIA, of GGLO Architecture and Interior Design in Seattle, used heat mats beneath the slate floors throughout the Grinstein home's bath (page 150), even in the shower area. These mats operate on a timer—they start heating about 30 minutes before the owner awakens and automatically turn off mid-morning. The mats are reasonably efficient; heating the floor of a 100-square-foot bathroom for four hours per day consumes about one kilowatt-hour of electricity. They are available from many companies, including DK Heating Systems in Wood Dale, Ill., and Easy Heat in New Carlisle, Ind., in a range of standard and custom sizes or shapes.

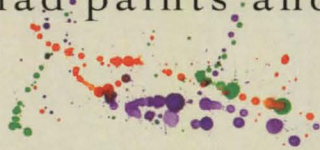
Electric or hydronic towel warmers, available from Colchester, Vt.-based Myson and Ward Hill, Mass.-based Runtal USA,

also keep bathers more comfortable. Although hydronic models are permissible, electric models must be installed outside of wet areas such as the shower stall. Bertellotti powers them with small, on-demand water heaters, such as those made by Laing Thermotech in San Diego. These water heaters are useful for powder room sinks far from plumbing supply lines.

A lighting plan

The master bath has evolved into a multi-use area with a steam room, jetted tub, dressing area, even exercise equipment. "As a result, we want as much ambience in the master bath as in other parts of the house," says Randall Whitehead, a San Francisco lighting designer. Ambient light bounced off the ceiling minimizes shadows. Whitehead favors coves, opaque wall sconces, and pendant fixtures with solid dishes that direct the light upward. All ambient bath lighting should be dimmer-

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controlled. "There are times you want the light low and times you want it at maximum," he says.

For task lighting around the mirror over the sink and at a makeup area, Whitehead suggests cross illumination, or an eye-level luminaire at either side of the mirror. This positioning provides even lighting for both sides of the face and minimizes shadows. If the mirror is wide, he recommends slipping a third fixture in the middle of its expanse.

Some new lighting products make it easier to illuminate the bath. Philips Lighting, in Somerset, N.J., introduced a dimmable compact fluorescent lamp called the Marathon Line (formerly the Earth Light). The 23-watt, 2,700-degrees-K lamp can be dimmed with a standard household dimmer. Iris Lighting Systems (a division of Cooper Lighting in Deerfield, Ill.) has the only recessed, dimmable low-voltage fixture for wet locations, such as showers (the N3/MRAASR/C).

Luscious surfaces

"Think stone," Mullman says. "It's dramatic because it's unusual in the bath." Some types are more serviceable than others. Granite and slate are dense and stain-resistant, but softer stones, such as limestone, are also fine, though they need to be protected with a penetrating sealer, because large pieces of polished stone are too slippery for flooring. Mullman uses many small pieces with sizeable grout joints. The same is true of ceramic tile; even the skidproof variety is slippery if the tiles are large without grout joints to provide a gripping surface.

Glass tile is popular, but Mullman has seen it fog when not applied carefully—water slips through the mortar and is trapped. Mosaic glass or ceramic tile presents problems, as well. The quantity of small pieces increases the likelihood of one coming loose. Also, these tiles often have no trim or corner pieces, creating rough edges and unsightly grout joints.

Space planning

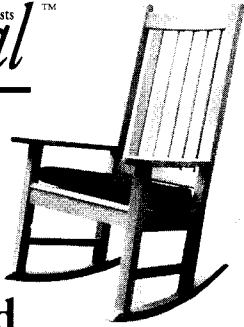
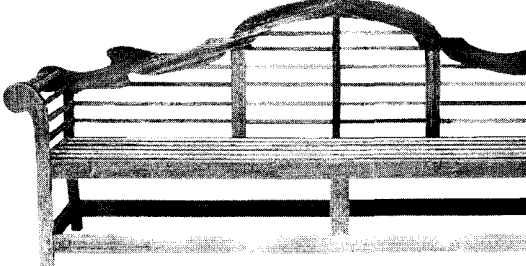
A good master bath design is part of a good overall house plan. "You have to think of the relationship of the bath entry to the other spaces in terms of privacy and view," says Christopher Dallmus, AIA, of Design Associates, Inc. in Cambridge, Mass. "You shouldn't look up the stairs or down the hall into the bath. Nor should you look into the bath and see the toilet. It should be tucked behind the door or in its own compartment."

A large master bath is not always best. The proliferation of oversized bathrooms shows a lack of environmental sensitivity, creativity, and ingenuity, says Margaret McCurry, FAIA, of Tigerman McCurry in Chicago. Even a bath that can serve a couple need not be huge. "Some couples like to talk to each other at the start of their day, to exchange plans," she says. Providing a secondary means of egress is one way to ease traffic congestion. A two-person shower with two entry points is also convenient. Putting the toilet in a separate room allows others access to the sink and bathing area.

Increasingly, bath components are integrated into other spaces. "The master bath doesn't have to be so traditional: two sinks, tub, shower, and toilet all in one space," says Thomas Fox, an architect in New York City. Rather, these areas can be compartmentalized or even brought into other rooms—a jetted tub in the bedroom, or a sink in the dressing area. And many people are foregoing the tub and allocating more space to a shower, sometimes with multiple shower heads.

Men and women use the bath differently, and standard dimensions don't account for the differing needs between genders. For example, to apply cosmetics, women need to get close to the mirror, but the typical vanity is too high for them to do this comfortably. One solution is differently sized vanities. In the Grinstein bath (page 150), Bertellotti made the man's sink 40-inches-tall while the

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CIRCLE 59 ON INQUIRY CARD

woman's is 34-inches-tall.

But perhaps the biggest change in bathroom planning is the increased need for shelves, cabinets, drawers, and other storage areas for toiletries. "A little medicine cabinet over the sink used to suffice," he says. "But it won't hold three containers of bandages, eight kinds of aspirin, six shampoo bottles, conditioners, rinses, sprays, mousses. It's nutty."

He suggests scaling the amount and type of storage to the occupant's size, age, and gender. Families with young children don't need as much space as those with teenagers, particularly teenage girls, who require a lot of shelving near the shower. Elderly occupants often want space for medications. Many women use drawers for cosmetics. Men often like a shelf in the shower for shaving supplies.

Safety first

But, beyond all the possible glamour or luxury of the bathroom, it is also the most hazardous place in the house. Codes provide basic safety guidelines—light fixtures near wet areas must be moisture-proof, shower doors must open out to prevent trapping someone who falls in the shower, and electrical outlets near wet areas must have ground fault circuit interrupters. By understanding the elements of design, an architect can make a bath safe. Some other considerations:

- Shower doors must be tempered glass, and some architects also specify the material for windows surrounding the tub or shower as well. A seat in the shower makes it easier for someone with any type of infirmity, from a heart condition to the flu, to wash safely. Many architects also install grab bars, even when they are not required.
- Shower controls should be easy to reach and operate from outside the stall so that the temperature can be safely set before the user steps in.
- Stairs are not a good idea in the bath, particularly around a tub. Standing up quickly after a hot bath often makes people lightheaded

THE BATH SPECIALISTS The National Kitchen and Bath Association (NKBA) is a trade organization for manufacturers of kitchen and bath supplies. The group also trains and certifies people to design these spaces. Certified bath designers, or CBDs, often work for bath showrooms or design-build remodelers, who seldom charge for bathroom design services if the client buys their products or has their company remodel the bath. Architects may find themselves competing with CBDs, who are likely to charge much less. Architects may also be asked to work with CBDs at the request of the owner, manufacturer, or showroom personnel, so it's wise to understand who CBDs are and how they work.

CBD training includes a minimum of seven years of experience or a combination of education and experience. At least three of those seven years must be spent in full-time bathroom design. CBDs, who often have a design background, must also take a written test and a practical exam, which includes designing a floor plan, mechanical plan, and a design statement outlining the strategy behind the design.

Much of the preparation for the exam is in understanding the NKBA's *41 Guidelines for Bathroom Planning* (www.nkba.org). These enumerate standard heights, dimensions, and clearances for nearly anything installed in a bathroom, including doors, counters, grab bars, and toilets, and offers a good indication of standard industry design practice.

and in no condition to negotiate steps. If steps are necessary, provide a handrail, even with only two or three stairs.

Safety in the bath is governed by common sense. "Any architect knows a tub that's tall and difficult to get into is treacherous," Mullman says. "One has to assume that most people will be careful. Even if you don't design baths everyday, you know that safety matters more than looks." ■



AIA / ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article "Mastering the Master Bathroom" using the learning objectives provided.
- ◆ Complete the questions below, then check your answers [page 212].
- ◆ Fill out and submit the AIA/CES education reporting form [page 212] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. What are some of the new features available in toilets?

2. What are the new water-control products and valves available for showers?

3. What are the considerations for venting in a master bathroom?

4. What are the advantages of using hydronic heat in the bathroom?

5. What are the goals of lighting and space design in master bathrooms?



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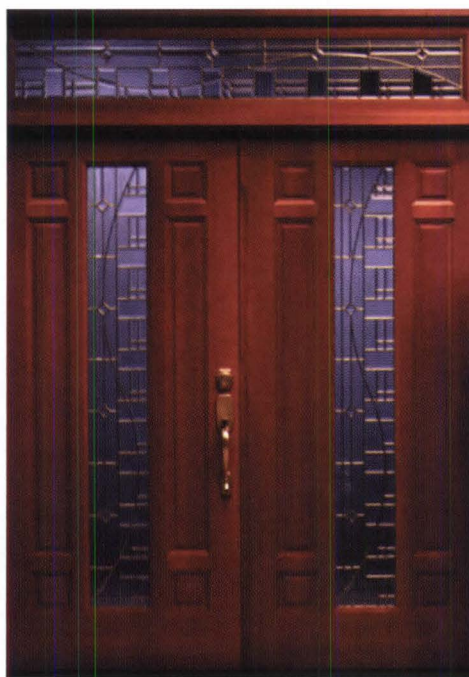


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JELD-WEN PRESENTS



Handcrafted Entry Doors: The Unique Specifications of Decorative Wood Doors

Handcrafted doors are a source of individual expression and beauty in domestic and commercial architecture. In other words, the entry door is an aesthetic statement. Wood, when combined with glass panels, is chosen for its durability, flexibility

and thermal properties. And while handcrafted doors may appear similarly built, there are basically two methods of construction. Each is considered by its proponents to be the stronger structurally. Yet the internal configuration—and the cost of the doors—vary considerably. So, too, does the type of wood species used—and ultimately the

design and construction, important nuances to be aware of when choosing a handcrafted door or custom designing one.

All doors manufactured in the United States must meet the rigorous standards set out in the American Architectural Manufacturers Association's standard 101/1.S.2-97. The standard targets the performance of windows and doors regarding structural adequacy to withstand wind loads, resistance to water leakage, resistance to air infiltration, and forced-entry resistance. Just knowing that all doors meet these standards, however, tells you little about their internal makeup.

Obviously, a handcrafted door differs from an engineered, machine-made door. Handcrafted doors generally offer a much greater aesthetic appeal—more style, more wood overlays and detail, more woodcarving, more glass. Differences exist, however, in types of wood used and how that wood is put together—not just between handcrafted and manufactured doors, but among handcrafted doors themselves.

AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read *Handcrafted Entry Doors: The Unique Specifications of Decorative Wood Doors*. To earn one AIA/CES Learning Units including one hour of health safety welfare credit, answer the questions on page 164 and follow the reporting instructions on page 212. Or use the Continuing Education self-report form on *Record's* Web site—www.architecturalrecord.com.

Learning Objectives:

- ❖ Describe the proper application and exposures for wood doors.
- ❖ Explain how the natural characteristics of wood affect strength, energy efficiency and sound transmission.
- ❖ Describe the proper finishing and maintenance of wood doors.
- ❖ Explain how wood doors can add value to a project.

MATERIALS—WOOD

Depending on the type of construction, handcrafted wood doors are made from a variety of hardwoods or softwoods. Here's a review of the basic characteristics of wood.

As a material, wood is highly versatile due to its botanical structure, composition and properties. It has high strength in relation to its weight, high heat and electrical insulating properties, and desirable acoustical properties. In addition, wood imparts a feeling of warmth not possessed by other materials, such as metals or plastics.

On a microscopic level, wood is composed of minute cells. One cubic meter of spruce tree, for example, contains 350 billion to 500 billion cells. Depending on the type of wood, cells come in different sizes and shapes. The cells of softwoods are called tracheids and parenchyma and those of hardwoods, vessel members, fibers and parenchyma. Almost all wood cells, even in living trees, are dead; that is, devoid of protoplasm and nucleus.

The structure of wood with regard to cellular composition and arrangement varies among species and this influences appearance and properties. Other variations in appearance are made by characteristics such as knots, spiral grain, compression and tension of the wood, shakes and pitch pockets.

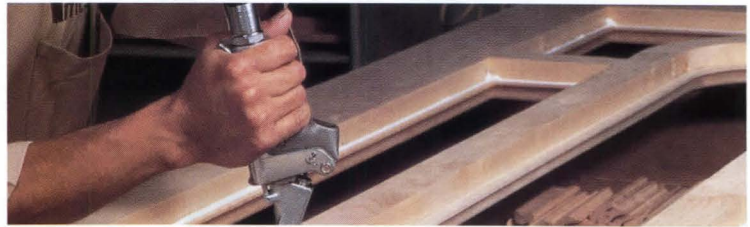
The warmth of wood is due to millions of small honeycomb cells between the fibers, providing a high percentage of dead air volume—an excellent insulator. The minute cells that wood is made of absorb water, making wood hygroscopic. Moisture affects all wood properties, and manufacturers of wood products strive to ultimately protect wood from excessive moisture gain. Manufacturers kiln-dry the wood to bring the moisture content between 8 percent and 12 percent. This ensures optimal machining during the door-making process, eliminates opportunity for decay and fungus buildup, and increases its strength and decreases dimensional changes. Drying is accomplished in the open air or in specially constructed kilns. Kiln-drying can be controlled and is often preferred.

Wood is not merely a natural insulator—it is actually 400 times more effective than steel and 1,800 times more effective than aluminum, according to WDMA sources. This is why thermal bow is significantly less of a problem with wood than steel or fiberglass. For example, if it's 0°F outside and 70°F inside, the steel on the outside of the door will shrink while the steel inside the house will expand.

This puts uneven pressure on the internal wood frame and the door will deflect. However, moisture does influence wood more than steel. Therefore, it is essential to properly seal all six sides of a door to prevent moisture penetration. In humid climates, overhangs further help protect doors from moisture.

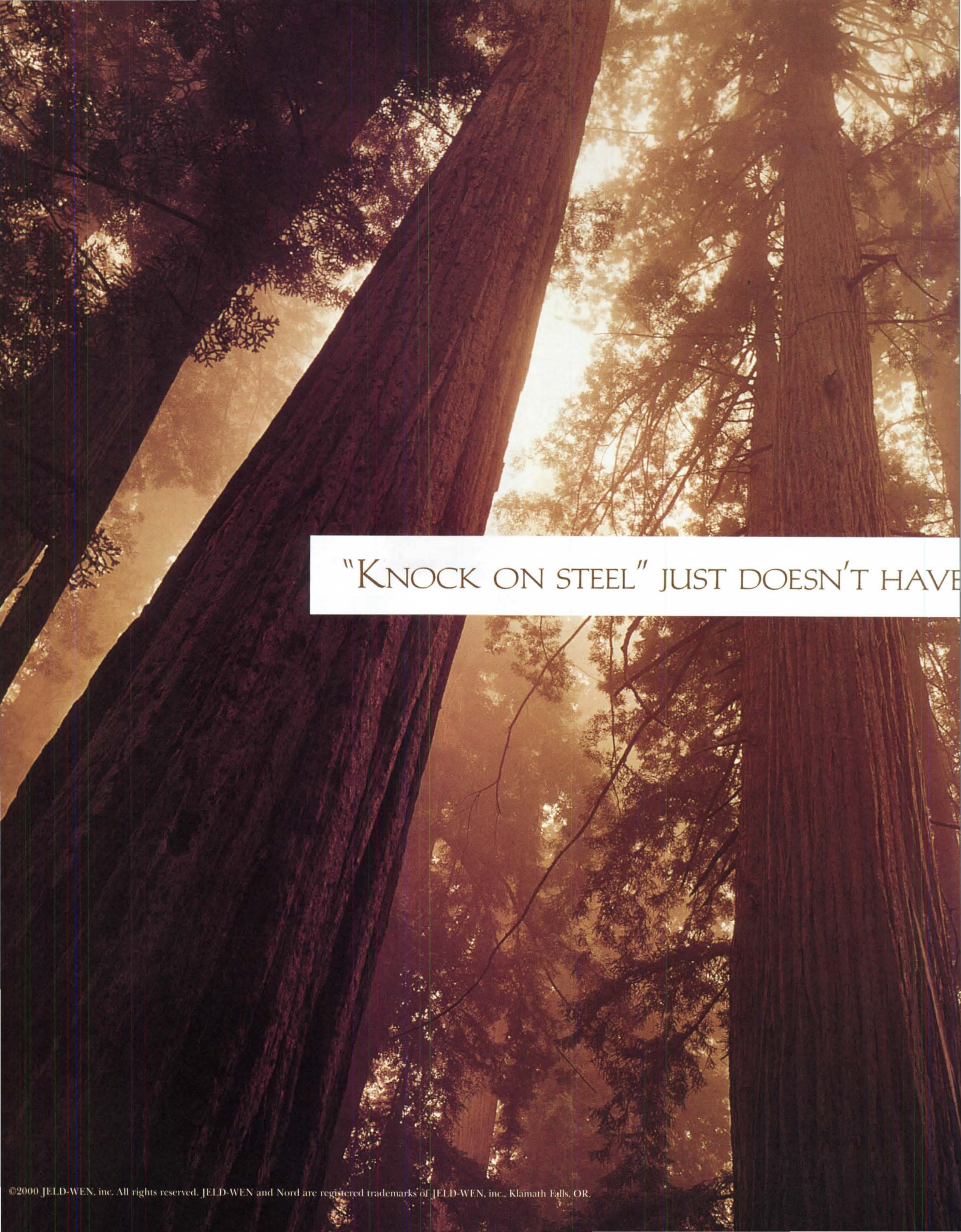
Regarding sound transmission, a wood entry door typically has an STC rating of 31. A typical insulated steel door has an STC rating of 21 and a hollow core flush door an STC rating of 21. To put this in context, this rating means that the noise transmitted through a hollow core door is approximately 100 percent louder than it would be if the door were solid wood.

Also of importance is proper finishing and preservation techniques.



CONSTRUCTION—GLASS

Part of the aesthetic statement of handcrafted doors is the glass treatment. Many different patterns, textures and colors are offered in glass that has been rolled, pressed or hand blown. Industry standards strictly regulate the use of safety glass to comply with ANSI-Z97.1, unless stated by the manufacturer. Caming is the bonding material that fuses glass pieces together. Glass can be single-bedded or double-bedded; that is, i.e., glazing compound can run around the rabbet face or around both sides of the glass to secure the glass in position and to protect against moisture.



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CONSTRUCTION

In today's market, consumers have a wide variety of door types to choose from including architectural flush doors, which may have solid or hollow cores, or stile and rail doors which may have veneer facing or may be of solid wood.

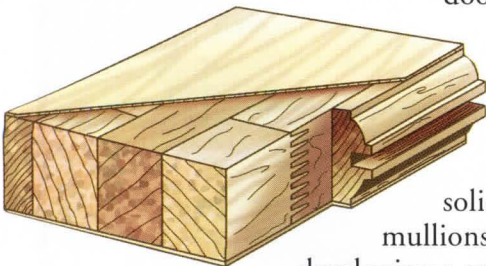
Solid Wood. Because of the high cost of wood, solid wood doors are being marketed mostly as handcrafted entry doors. Manufacturers generally offer premium woods such as northern red oak, genuine mahogany, black cherry, black American walnut, alder, or maple. One could argue that the solid wood door has a much richer quality than a veneered door. And makers of solid wood doors say the mortise and tenon joint construction used is the strongest structural method.

Hand-crafted doors offer the widest size range—some measuring as much as 42 inches by 92 inches. The doors weight can be 150 pounds to 200 pounds. There can be a lot of pressure on the door jambs.

Solid wood doors use a mortise and tenon joint construction (see drawing), the oldest known type of wood joinery. Pieces are cut to be joined male/female and then securely hand-fitted together. This construction is reported to be seven times stronger than dowel construction. If twisting of pieces or flaws are present or an error has been made in matching the wood, the questionable pieces are discarded. The pieces are then bonded with Type I waterproof glue and the door is placed in a hydraulic

press until the glue dries. Solid wood doors also allow for intricate hand carvings by wood craftsmen.

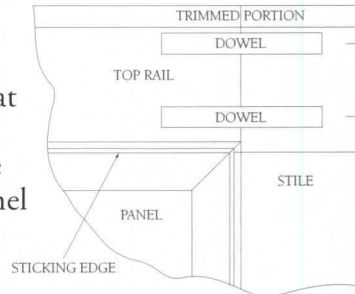
Veneered Components. Other specialty wood entry doors use veneered wood components that are designed to reduce chances of delamination, splitting and warpage and are thought to be stronger than solid wood. Stiles, rails and mullions are constructed by first developing a core of finger-jointed and edge-glued material to which solid edge bands are glued (see drawing). The offsetting grain patterns produce a substrate that is considered by some to be stronger and more stable than solid wood by itself. Veneers are sliced and laminated to the substrate.



With veneered components, a dowel construction is used. In this method (see drawing below), stiles and rails are joined by spirally fluted hardwood dowels. The fluting facilitates the glue spread (Type I glue) and results in a stronger door. Also, the glue area is increased over that of a solid wood door resulting in greatly reduced incidence of stile and rail separation and a tighter, stronger door.

Regardless of the internal construction of the door, wood is a material that is easily customized at the plant. Wood can be cut to odd sizes, it can be designed with unique panel formats, and it can be hand carved by craftsman. It is also flexible on the job site. If a door opening isn't exactly square, the wood door can easily be planed. Many wood doors can be cut up to two inches at the end at the job site to account for irregular openings or last-minute changes.

Handcrafted wood doors are carefully inspected throughout the entire manufacturing process and, therefore, typically achieve a level of quality machine-made doors can not.

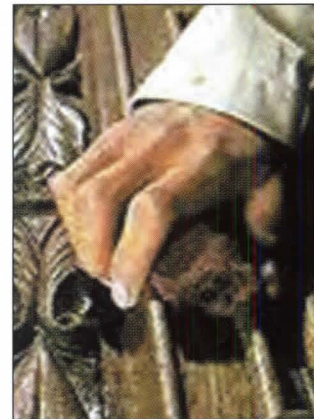


SANDING AND FINISHING

The care given to sanding and finishing a handcrafted door adds to its longevity and beauty. Check with the manufacturer to see if the door can be sanded and finished at the factory. This can provide the superior finish, but is not always available. Most often the finishing is up to the installer.

A typical finishing sequence would adhere to the following instructions:

- ❖ To assure uniform moisture exposure and dimensional control, all surfaces must be treated equally.
- ❖ Before applying the first finishing coat, remove all handling marks, raised grain, scuffs, burnishes and other undesirable blemishes by block sanding all surfaces in a horizontal position with 120-, 150-, or 180-grit sandpaper. To avoid cross-grain scratches, sand with the grain.



- ❖ After sanding, clean the entire door with a cloth, removing all dust and foreign debris. (Avoid caustic or abrasive materials.)
- ❖ A thinned coat of sanding sealer should be applied prior to staining to promote a uniform appearance and avoid sharp color contrasts or a blotchy appearance.
- ❖ All exposed wood surfaces must be sealed, including top and bottom rail ends. Cutouts for hardware in exterior doors must be sealed prior to installation of hardware and exposure to weather.
- ❖ If necessary, adjust components before finishing. (Wood panels can float.) Carefully realign with wood block and hammer.
- ❖ Before finishing, hang the door. Then remove it to finish properly. Door must be dry before finishing.
- ❖ Certain species of wood contain chemicals that react unfavorably with some finishes or

foreign materials in the finishing system. Where possible, test your finish prior to application. Do not use steel wool on bare wood and avoid rust or other possible sources of contamination.

- ❖ Avoid dark-colored finishes if the door is exposed to direct sunlight. This will reduce the chance of warping, veneer checking or fading.
- ❖ Doors with clear glass require special care. Finish should flow from wood slightly onto glass to prevent water leakage and protect glazing putty.
- ❖ Oil-based sealers for prior coats provide the best base coat for finishing. If a water-based primer is used it should be an exterior grade product.

Proper installation of the door is also recommended with clearances between door edges and door frames a minimum of $\frac{1}{16}$ inch on the hinge edge. For a latch edge and top rail, the clearance should be $\frac{1}{18}$ inch. ■

CUSTOM DESIGN CASE STUDY

Manufacturers of handcrafted wood entry doors offer uniquely designed doors. Architects can work with company representatives to custom design doors. The doors are “signature” elements in housing or commercial designs. Wood and architectural craftspeople such as architectural glass designer Shelley Jurs may be involved in the design process. One of her glass door designs for International Wood Products is shown here. After 20 years in the business, Jurs suggests that when designing a door it is most important to incorporate structural concepts into the glass design—to be aware of the door’s stability and tolerance characteristics, while taking into account the overall aesthetic appeal. Jurs, based in Oakland, California, incorporates rolled and poured glass and also likes to use hand-blown French and German glass known as pyramid shapes.



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ANSWERS:

1. The honeycomb structure traps dead air. Dead air is what makes wood a natural insulator and prevents it from easily conducting heat or cold. This means wood will not significantly contract or expand with the environment's temperature fluctuations. Door surfaces contracting and expanding at different rates is what causes thermal bow.
2. The offsetting grain pattern of the individual pieces of wood produces a stronger, more stable overall unit. This is because the grains are multidirectional and will not all bend in the same direction. Instead, the minor dimensional changes offset one another and tend to "even out." The veneer gives it the appearance of a single piece of wood, which is aesthetically more appealing.
3. Wood doors are aesthetically more appealing because there are more styles to choose from. Because of the way wood doors are made, architects have more options to customize to suit the project's interior and exterior. Wood grain is what most products made of alternative materials are striving to emulate. The risks of denting, thermal bow or excessive sound transmission are significantly decreased.
4. It is necessary to use exterior grade materials when applying the sealer and finish to the door and always include a base coat and top coat. It's important that the finishing contractor or homeowner seals all six sides of the door the four edges, the interior surface and the exterior surface.
5. Controlling the moisture content is important for wood to perform at its best. If the wood is kiln-dried and contains a moisture content between 8 percent and 12 percent, it helps to eliminate the opportunity for decay and it decreases the possibility of dimensional changes. It also helps manufacturers machine the wood components more precisely, which improves the overall accuracy and integrity of the finished door.

5. Why is drying an essential preparation of lumber?

4. What is necessary to ensure a long life of a wood door?

3. How can wood doors offer greater perceived value to a building project?

2. What are the benefits of finger jointed and veneered door components?

1. What is the benefit of wood's honeycomb cell structure?

QUESTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self-report form 212 and submit it or use the Continuing Education self-report form on the Record's Web site—www.architecturalrecord.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

Instructions

- ◆ Describe the proper application and exposures for wood doors.
 - ◆ Explain how the natural characteristics of wood affect strength, energy efficiency and sound transmission.
 - ◆ Describe the proper finishing and maintenance of wood doors.
 - ◆ Explain how wood doors can add value to a project.
- After reading *Handcrafted Entry Doors: The Unique Specifications of Decorative Wood Doors* you will be able to:

Learning Objectives

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Tech Briefs

• Getting moisture out of the house, particularly the bathroom, requires careful construction details. • CAD systems from overseas are changing the U.S. market.

CONTROLLING INDOOR MOISTURE IN ENERGY-EFFICIENT HOUSES

Although new houses are more energy-efficient than ever, their tightly built walls can reduce natural ventilation. An older house, one built before the 1970s energy crisis, may have three to five air changes per hour due to leaky walls, while the air replacement rate in an energy-efficient house is as low as one-half of an air change per hour.

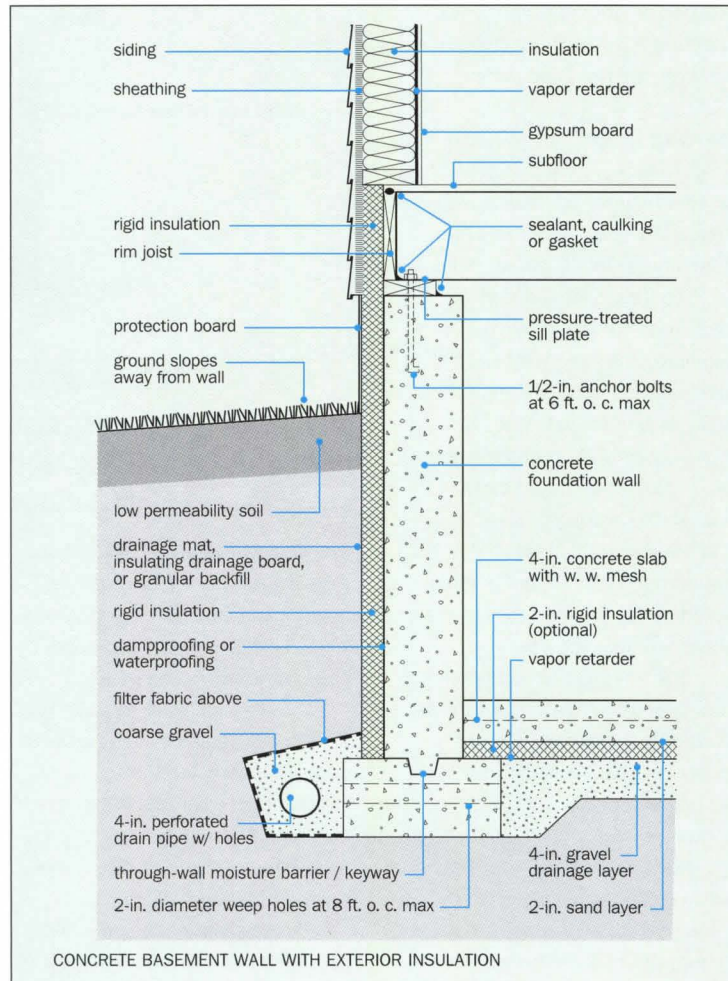
Consequently, water vapor generated by occupants and released from other interior sources lingers longer and builds up. It is no surprise then that the owners of new houses complain of window condensation, mildew and mold growth, and rot within the walls—all within a few years of construction.

Even though both the cause and means of preventing moisture buildup are well known, the number of affected houses continues to grow. To some extent, homeowners are also responsible; some of the water vapor released inside a house is due to homeowner habits. That's because of a lack of vigilance and attention to construction details by architects and builders.

Sources of moisture

Historically, architects and builders relied upon natural exfiltration of air as a means of controlling indoor relative humidity. Differences in temperature, vapor pressure, and air pressure force air to move through leaks in the walls, foundation, and attic. Warm, moist indoor air is constantly flushed out and replaced with cooler, drier outdoor air. Once inside, the cooler air is heated and its relative humidity lowered, continuing the exfiltration/infiltration cycle.

Sources of moisture include bathing, humidifiers, clothes dryers vented inside, and indoor storage of



firewood. Minor sources, such as cooking, houseplants, and even respiration, make a sizable contribution when considered in total. Soil moisture migrating through foundations and floor slabs, and initial and seasonal desorption from building materials comprise other sources.

Whenever warm, moist air strikes windows, walls, and other cold surfaces and is cooled below the dew point, the excess moisture (the amount above 100 percent relative humidity) is deposited as condensation. Water vapor carried inside walls, ceilings, and attics on convection currents of air flowing through joints and penetrations can condense on cold framing and sheathing. Indoor moisture sometimes passes completely through

walls, causing exterior paint to discolor or peel.

In northern climates, condensation occurs during the heating and cooling seasons. Its cause is almost always of excessively high indoor relative humidity—more than 40 percent. In summer, water vapor held in hot, humid outdoor air entering the house raises indoor relative humidity and causes condensation on cooler framing and subflooring.

In southern climates, condensation is a problem primarily during the cooling season. Here, the culprit is hot, humid outdoor air, seeping into walls, floors, ceilings, attics, basements, and crawl spaces, then cooled to below the

dew point by air conditioning. Framing and subflooring under air-conditioned rooms are especially at risk, as are wall framing and drywall in houses with vinyl wallcoverings.

Different levels of moisture create different types of problems. The amount of moisture needed for window condensation and for growth of non-decay fungi is substantially less than that required by decay fungi. Wood and wood-based products must be wetted by condensation to a moisture content of greater than 28 percent before they will rot. Decay fungi eat the wood itself. Once they are established, these fungi can carry on their destruction at a moisture content as low as 20 percent.

Mildew and mold are non-decay fungi that discolor the surface of wood and wood-based products, but do not cause rot. They grow wherever the relative humidity near a surface exceeds 70 percent. Most often black in color, mold and mildew (caused by two different types of fungi) feed on carbohydrates stored inside wood, on airborne organic detritus, and on the organic ingredients of coatings. Found most frequently in baths and basements, mildew and mold also show up in places with poor air circulation, such as closets. Mildew and mold sometimes form over cold spots created on the inside of walls by framing and other thermal bridges in a house's envelope. Spores released by mildew and mold create the characteristic musty odor.

Basements are worst

Typically, the largest single source of moisture in a house is the soil surrounding the foundation. Water leaks into a basement or crawl space through shrinkage and settlement cracks, joints, utility cutouts, and other penetrations in the walls and floor slab. It can also be drawn

Tech Briefs

continued from previous page

by capillary action into the pores in concrete or masonry walls, footings, or floor slabs. Evaporating water increases the relative humidity of air inside the basement or crawl space and raises the moisture content of sills, girders, joists, and subflooring to fungi-susceptible levels.

Gross leaks in basements and crawl spaces are usually repaired before damage is done. But most basement and crawl space moisture problems arise because of capillary water and diffusion of water vapor. In most cases, leaks are eliminated by installing perimeter drains, sealing cracks, backfilling with free-draining soil, regrading, installing gutters and downspouts, and damp-proofing or waterproofing exterior foundation walls.

Dampproofing is often confused with waterproofing. Dampproofing materials, such as bituminous liquids, cementitious coatings, and surface-bonding mortar, retard vapor transmission and capillary movement of water through concrete and masonry, but are less effective in stopping flowing water. Only waterproofing compounds, such as bituminous and elastomeric membranes, and bentonite coatings, keep water out. Other steps include installing a vapor retarder—8 or 10 mil polyethylene—under the slab or over exposed soil in a crawl space. Rigid foam insulation placed against foundation walls and under floor slabs also blocks capillary and diffusion ingress of water.

Sills, girders, and other framing members in direct contact with concrete and masonry are especially prone to mildew, mold, and rot because water travels, via capillary action, undetected and unimpeded from the soil through the foundation and into the wood. This can be prevented by inserting a “capillary break” of metal or plastic between wood and concrete or masonry. The

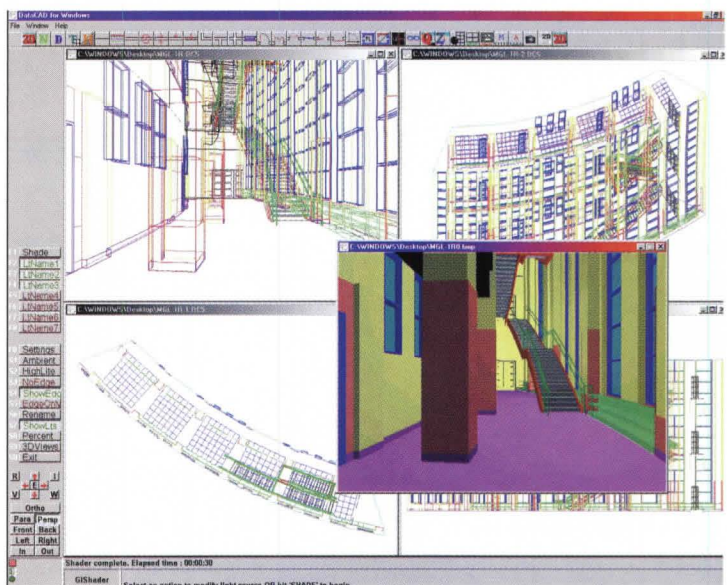
circle of dampness that sometimes shows up around the base of a foundation owes to capillary movement of water from the soil through the footing and up into the wall. This “rising damp” is stopped by placing polyethylene sheeting over the footing before walls are cast or built.

Getting help

A heat-recovery ventilator (HRV) or a humidistat-controlled whole-house fan keep indoor relative humidity below 40 percent in winter. HRVs capture some of the heat from the indoor air that is expelled. Bath and kitchen exhaust fans can be wired to a timer or humidistat-controlled switch. Washington and Minnesota require all new single-family houses to be equipped with mechanical ventilation. A similar nationwide requirement is anticipated by model and state energy codes within a few years.

The effectiveness of dehumidifiers during the heating season is debatable. Most cannot lower indoor relative humidity much below 50 percent, which is still high enough to cause condensation on the inside of windows and walls, and within walls, ceilings, and attics. During the cooling season, however, dehumidifiers are effective at preventing mildew and mold in basements and crawl spaces; they easily lower relative humidity below the 70-percent threshold needed by these fungi.

Attic ventilation should be sufficient to continually flush out moisture-laden air leaking from the living areas below. Continuous soffit and ridge vents work well in most houses. Vents are sized according to ceiling area and roof slope, and installed with half of the net free vent area at the eaves and half at the ridge. Attic insulation should be placed so that soffit vents are not blocked. Ceilings and walls should be fitted with a continuous vapor retarder located on the warm side. All penetrations through vapor retarders should be sealed against air leakage. *Stephen Smulski, Ph.D.*



BUILDING BOOM ATTRACTS NEW INTERNATIONAL PLAYERS TO AMERICAN CAD MARKET; OPENS UP MORE CHOICES FOR ARCHITECTS

Architects in search of greater productivity are turning to more powerful, architecture-specific software. While 2-D CAD automates paper drafting, newer intelligent 3-D CAD creates software models that correspond to real building components. A recent flurry of international alliances will bring not only a smattering of new companies to the States, but also a wider array of CAD choices.

The transatlantic tide peaked recently when Germany's largest CAD vendor, Nemetschek, announced a \$30 million acquisition of Diehl Graphisoft Inc., Columbia, Md., the makers of VectorWorks (formerly MiniCAD). The transaction puts financial muscle behind VectorWorks, offering American architects the prospect of a greatly enhanced product. In exchange, Nemetschek gains an American foothold for future product expansion.

Last spring, MB Software of Germany made a \$1.25 million strategic equity investment in DataCAD LLC, the Avon, Conn., developer of long-established DataCAD. MB, which acquired many smaller CAD companies in Europe, announced plans to upgrade DataCAD to DataCAD Plus (above), with many added features, while

introducing some of its own products, such as its fast and easy ArCom3-D modeler, to the U.S.

When Microsoft acquired its Seattle neighbor, Visio (the makers of IntelliCAD), some observers foresaw a Microsoft invasion of the CAD market. Instead, the company licensed IntelliCAD sales to Belgium-based Bricsnet, who will offer IntelliCAD in the U.S. market as a 2-D complement to its own 3-D Bricsnet Architecturals, introduced last spring.

Not all overseas interest in the American CAD market comes from across the Atlantic. Informatix in Japan acquired the rights to MicroGDS, a Windows-based CAD program with an impressive lineage, from industrial-CAD vendor Unigraphics. It is the successor to the minicomputer-based GDS, which was the successor to the pioneering McDonnell-Douglas CAD system—still considered one of the best CAD programs ever made. Despite its impressive lineage, MicroGDS might have been orphaned in the American market without Informatix's intervention. The Japanese parent continues to upgrade the product for the U.S. market through a U.K. affiliate that had a hand in the original software's development. *Jerry Laiserin, FAIA*



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CIRCLE 67 ON INQUIRY CARD

Digital Architect

Wired for living, houses go high-tech.

By B.J. Novitski

The theater darkens as the projector descends from the ceiling and a wide screen slides into place. Stereo sound envelopes each member of the audience; there's no such thing as a bad seat in this house.

More and more Americans are enjoying such scenarios at home. When Le Corbusier referred to houses as "machines to live in," he could not have anticipated today's upscale houses encased in electronics. With home automation on the rise, there are no limits—except the imagination and the amount of cash the homeowners have—to what could come next.

Designing a house full of automated devices is not much different from designing a house that isn't "wired." Few constraints are imposed by the equipment. And little specialized knowledge is required of the architect because the process can, and should, be acquired through consultants involved from the project's inception. Nevertheless, it's important for the architect to understand the basics of what is possible and to ensure that the client's expectations and budget are consistent.

Residential systems

The systems that can be automated theoretically extend to anything with an electrical switch. But the most commonly automated systems are hvac, lighting, security, audio/visual, telephone, water management, and windows.

Other than home theaters, for example, audio/visual systems include music zoned for each room, ambient sound systems with concealed speakers, satellite dishes, high-definition television, and digital as well as analog video.

Complicating this mix are the video games and personal computer networks which are constantly changing and growing in complexity.

Security features include motion sensors that trigger audible alarms, handprint recognition devices that unlock doors, and closed-circuit television cameras that monitor a child's bedroom or playroom, or survey the grounds of an estate. Floodlights and emergency exit path lighting can be coordinated and monitored from a central control point.

How each of these systems is programmed and monitored is likely to affect other systems within the house. For example, the operation of window blinds should jibe with the hvac, lighting, and security systems. It must also be coordinated with the home theater system. Coordinating the input and output of all these different systems is what makes home automation so complex.

Sorting out the options

The most important first step to ensure a successful residential project is to hire the right team of consultants, says James Davidson, AIA, based in Seattle. "Even for architects who are technologically savvy, it's nearly impossible to stay current. Often, electrical engineering firms specialize in networking and audio/visual systems." Other options include asking manufacturers if they are familiar with consultants, or contacting one of the trade organizations to find a list of contacts (see "Home Automation Resources," next page).

Home automation would be simpler if it were only a matter of specifying off-the-shelf systems. Many homeowners already have

keypad-controlled burglar alarms, motion-detecting exterior lighting, and remote controls for television. But as the number of such stand-alone systems grows, the difficulty of coordinating them all becomes unwieldy.

Enter the systems integrator. This consultant packages all the input to and output from the myriad systems and wraps them into a sin-

gle control device that the homeowner can use and modify with little technical know-how. The digital controls of residential systems, particularly hvac, are different from those of commercial systems.

ing of a Windows NT server and custom software to coordinate the operation of all the other systems. Each mechanical or electrical device in the house has its idiosyncratic controller. ISR works with the device manufacturers to translate those controller signals into a digital language that TRONARCH can understand.

By centralizing these commu-



Native stone and heavy timber belie the technology, including special lighting and music controls, in this house designed by Lundahl & Associates.

One such systems integration firm is Naperville, Ill.-based ISR Inc. (www.isr-usa.com). They developed TRONARCH, a commercial-grade home management system, consist-

nications, the various systems inform each other. For example, the security system, when triggered, can turn on selected lights. The ISR technicians customize the software to cater to the specific needs of the homeowner. They program in, for example, what each system does during vacation mode or how the house reacts when in "welcome-home-from-work" mode.

Digital Architect

A complicated combination of such settings plus manual overrides can then be programmed into a few buttons on the users' control devices. These can be wall-mounted keypads or touch-screens,

THINK OF A HOME ELECTRONIC SYSTEM AS A LOCAL AREA NETWORK — EVERYTHING TALKS TO EVERYTHING ELSE.

computer terminals, or wireless remote controls. What the homeowner sees is small and simple.

Design implications

How do all these high-tech systems affect the design of a house? Not at all, says Jeff Lundahl, AIA, of Lundahl & Associates in Reno, Nev., "except that you can eliminate some of the wall switch clutter."

In a recent house overlooking Lake Tahoe, built from traditional materials, Lundahl successfully blended a rustic design with embedded and largely concealed technology. "As long as these systems are planned early and the various consultants are coordinated," he says, "the design of the

house is fairly independent of the hardware demands. We haven't approached the design as a way to celebrate technology. We've exploited technology as a way to celebrate architecture."

This approach to techno-sensitive design is seen, for example, in the unobtrusive lighting systems that accent the native stone and heavy timber structure.

The only unusual spatial demand of automation hardware is a centralized equipment room. Its size depends on the size of the house and the extent of its systems, but generally, this room should be big enough to walk around in, have ample equipment racks, sufficient headroom, and adequate ventilation to dissipate the equipment-generated heat. For the convenience of the systems integrators, the space should be the single entry point for all the utility systems. All wiring should run from there to the rest of the house.

As for access panels in the rest of the house, Davidson recommends at least one per room. "Everywhere you used to put a

phone jack, now you put a connectivity panel that has Ethernet and coaxial cabling," he says. "And, if you want to be exotic, include fiber-optic cable. That will provide just about any capability you can imagine." With wireless transmitters, some of these panels could be eliminated altogether, further opening design options.

Coming soon

At the Massachusetts Institute of Technology's Media Lab near Boston, researchers are developing "smart rooms." Just as current security and hvac systems take input from motion and temperature sensors, future systems will sense other kinds of data from a room's occupants. Biosensors will be able to transmit health-related data about elderly shut-ins, for example. Transmitters built into the product codes in the grocery store will automatically order new supplies when necessary.

Making this possible, perhaps soon, is the unifying standard of Internet protocols. The same computer language and communication protocols commonly used now for the Web and e-commerce are also key to centralized home-management systems like TRONARCH.

Davidson explains that home automation devices are now built with the ability to tie directly into the Web. "Once you think of your home devices as a local area network," he says, "where everything talks to everything else, the opportunities for creativity are endless."

One MIT research project involves a house that can track a storm, protect itself from the storm, and, if necessary, repair any damage that's done. This "Home of the Future" project will also feature appliances that "speak" to each other to make sure the occupants never run out of hot water, for example. These appliances could also upgrade themselves. Smart walls could filter out annoyances, like car alarms, but admit bird songs or the sound of falling rain.

Davidson concedes that we're still far from the day when integrat-

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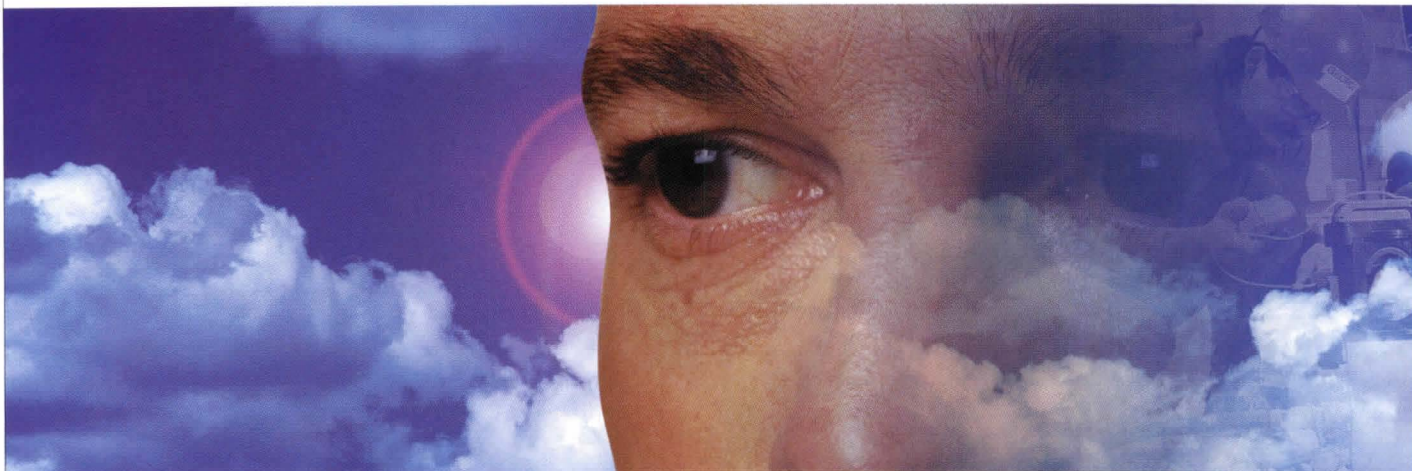
HOME AUTOMATION COSTS

THE NUMBERS INCLUDE MATERIALS AND LABOR, THOUGH LABOR RATES VARY BY LOCATION

SYSTEM	HOUSE SIZE		
	10,000 SQ. FT.	10-20,000 SQ. FT.	20-30,000 SQ. FT.
CLIMATE (ZONES, HUMIDITY CONTROL, OUTSIDE MONITORS, SENSORS) COST	\$10,500	\$26,000-75,000	\$90,000
LIGHTING (CONTROL STATIONS AND PANELS) COST	\$35,000	\$81,000	\$104,500
SECURITY (MULTIPLE INPUT/ OUTPUT POINTS) COST	\$9,500	\$29,500	\$55,500
CCTV	\$9,500	\$29,500	\$38,000
DISTRIBUTED AUDIO (200-DISC CD PLAYER, TUNER, CASSETTE PLAYER WITH ZONES AND KEYPADS) COST	\$19,500	\$59,500	\$85,000
HOME THEATER COST	MEDIA ROOM \$48,000	THEATER \$65,000	ENHANCED THEATER \$148,000
PHONE/DATA (MULTIPLE LINES/EXTENSIONS, PHONES, INTERCOMS, AND DATA JACKS) COST	\$12,000	\$27,000	\$34,000
WATER MANAGEMENT (POOL, SAUNA/STEAM, FOUNTAINS, IRRIGATION) COST	\$3,500	\$8,500	\$14,000
WINDOW TREATMENTS (SHADES) COST	\$11,500	\$22,500	\$50,000

ing all these technologies will be easy. For now, architects with a good understanding of computer networks are at an advantage in understanding these systems. Still, with the right consultants handy, home automation is within the grasp of any architect, and easy to use, even for those who never mastered programming the VCR or the coffee maker. ■

WWW For a vendor guide related to information technology in the home, go to **Digital Architect** at: www.architecturalrecord.com



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Michael Graves: Man of the House

PLATE PROTOTYPE, Disney

KITCHEN CLOCK, Alessi

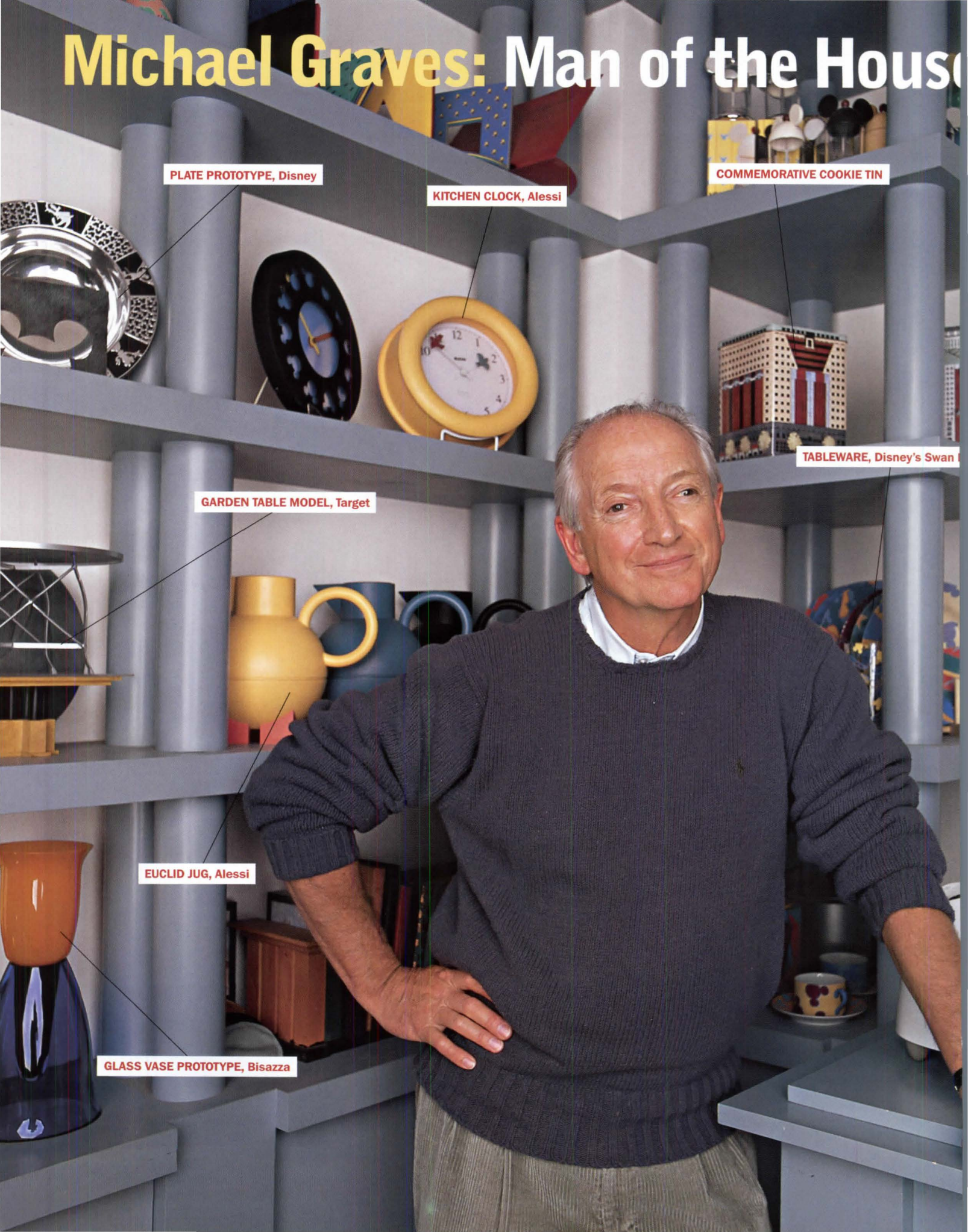
COMMEMORATIVE COOKIE TIN

TABLEWARE, Disney's Swan

GARDEN TABLE MODEL, Target

EUCLID JUG, Alessi

GLASS VASE PROTOTYPE, Bisazza



By Rita F. Catinella

Michael Graves, FAIA, one of the most well-known architects in the world, has brought a spectrum of products—from jewelry, lighting, kitchen accessories, picture frames, furniture, and dinnerware—to households of every tax bracket and design taste. His designs for Alessi, The Walt Disney Company, Target, and others, have literally made Graves a household name. We caught up with him recently at his Princeton, N.J., office. During our visit, his design staff was working on a range of products, from an alarm clock/radio for Philips, to a new line of products for Target, including a counter-top bagel holder, a line of barbecue tools, and a set of playing cards.

Q: You are an architect, but you spend about 40 percent of your time designing products. Isn't it strange to make such a commitment? When I was growing up in architecture school, my heroes were people like Charles Eames, Le Corbusier, Frank Lloyd Wright, Eero Saarinen, Mies van der Rohe; in other words, without any style inference. All of those people were engaged in production of not only architecture, but of things that would make the character of the room: the furniture, the carpeting, the lighting. I always thought that's what architects did. I get great joy out of making things and I never thought that stopping at the door or the surface of the building was what I was interested in.

Do you think the influx of affordable, high-design products for the home, such as those from Target, Pottery Barn, and Ikea, has elevated public taste? Think about what has happened to all facets of design in America, from automobile design to clothing design, and ultimately to products and architecture. It's a kind of a "Gapping of America." You probably don't go to Bloomingdale's to buy blue jeans or T-shirts when a store like the Gap sells a cotton shirt for \$9.95. That has allowed the Pottery Barns, Pier 1s, and Crate & Barrel to have an influence on taste.

How has this affected your personal experiences as a consumer? When I was growing up in architecture in the '50s I couldn't buy a white plate—that's what I thought was modern—and I went to a flea market and bought a set of plates from the Naval Academy that had the anchor on the backside. And I thought, *why can't we buy this?* I was a kid, so I couldn't go out there and say *let's make this and sell it in the marketplace.* Of course, as one of our product clients says, if I need something, probably 1,700, or even 17 million people in the United States need it too. Today, you can walk into Crate & Barrel or Pottery Barn and find almost anything you want, for a range of tastes. That's pretty amazing. So I think that was really the beginning of bringing that level of taste—high, low, middle—to all the rest of us.

Is there really a link between product design and architecture?

I don't think it's odd for an architect, even an architect whose primary interest is architecture and not product design, to do products. After all, most product designers in Europe are trained as architects. It's very hard to find one who has gone just to a design school. They value the people who are absolutely literate in the culture and understand the way metaphors and ideas are transmitted.



Dorothy teakettle for Target, 2000



Glass carafe and cup for Target, 2000



Blender for Target, 1999



Kitchen gadgets for Target, 1999



Pepper mill and salt castor for Alessi, 1993



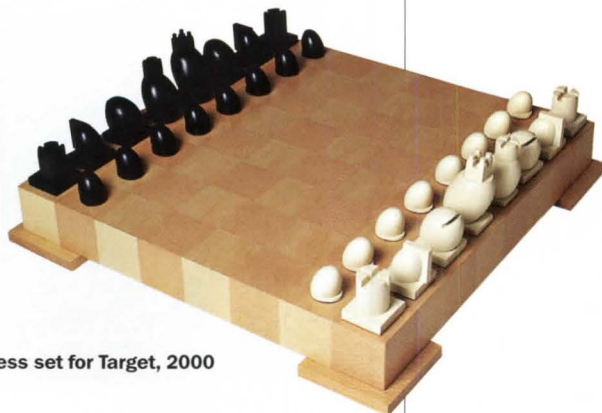
Kettle with bird for Alessi, 1985



Wall clock for Target, 1998



Wall sconce for Target, 1999



Chess set for Target, 2000

So, an industrial designer thinks and designs differently than an architect? I think so. Now I'm speaking out of school, but my sense is that the architectural idea, from structuring the initial architecture, then understanding its character, and finally providing the objects within that room, are all a part of a way of thinking; if you are only dealing with one part, such as the rug or the light, you may miss the larger picture. Eames and Saarinen trained as architects, and were partners at one time, but one went one way and one went the other. Saarinen certainly continued to work on furniture for the rest of his life, but not to the degree that Eames did.

You once said you didn't feel qualified to design a car, but you are now designing a special-order Cadillac. How did that happen? I think my comment was colored by an invitation I had years ago from an Italian automobile manufacturer who asked if I were interested in designing a new model for them. The terms of the agreement were that I would move to Turin [Italy] for two years and would give up architecture for that period of time. I would be paid very well, but even though I was extraordinarily poor at the time and couldn't afford my rent, I thought that I just couldn't stop doing architecture, no matter what the pot of gold was at the other end of the rainbow. So I thought [designing a car] meant that kind of commitment. What we are doing for this particular model of Cadillac is in a sense a shell-over; we are not designing the machinery. We don't design the works inside a toaster either. Tell us three things that you haven't designed yet and why? Well, I probably could name dozens of things that I haven't designed yet, but generally the reason is that I haven't been asked. What I would like to design might be a bicycle [pause] or a piano. I really do miss having a long-term relationship with a good furniture company. It would have been very nice to have been asked, by this time certainly, to form a relationship with a furniture company that has the distribution, the wherewithal, the showrooms, the catalogues, the sales force, the pricing, and the techniques available to us today for lines of furniture. Not just one chair.

Where does that original spark of inspiration for your product sketches come from? If you were introduced to me a half an hour ago, I would have forgotten your name, but I will not forget what you look like; my mind is visual. It isn't like my friend Colin Rowe [the late influential theorist and RIBA gold medal winner], who had complete historical recall, but it is a kind of visual recall. My sketchbook is in my briefcase and I carry it all the time, as Le Corbusier did. If I see a pattern on a plate in Milan, it's not that I'm going to bring that pattern home, it's just that I'm going to remember it because the placement of this or that on the pattern created a wonderful tension that I had never seen or thought of before.

So tell us, what is your favorite product? Do you have children? If you had three kids and I asked you which one is your favorite, you couldn't answer. No, I don't have favorites. There are a couple of orphans that I've sort of taken under my wing. I absolutely loved them, but they didn't sell because their prices were too high or they were something the public didn't like, like a little picture frame that we did for Target recently that hasn't sold very well. And every time I go to Target, I buy one just to make the sales look a little better because I love it so. It's a little orphan sitting there and it's going to sell out and nobody will ever see it again. What was the most challenging product to design? Well, certainly the Cadillac is technologically and aesthetically challenging. You

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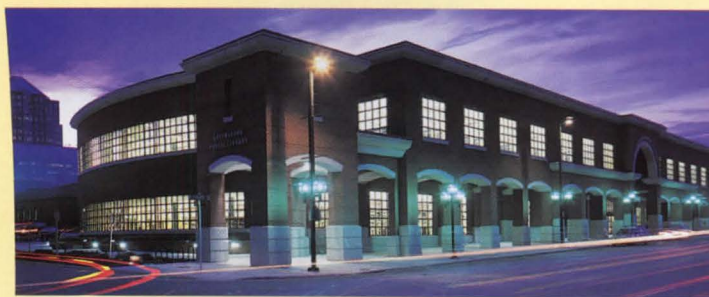
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Kettle, sugar bowl, and creamer, Disney, 1993



Various character bookends, 1992



Charm bracelet for Belvedere Studio, 1991



Sink for Duravit, 1999

Faucet for Dornbracht, 1999



find that almost everything has been done, and you can't draw anything today without it having resonance in something you might have seen before.

Your signature product, the bird-spouted Alessi teakettle, has sold a million pieces over the past 15 years. Did that pose a design challenge? One of the problematic requirements of the original Alessi teakettle was that it had to boil water faster than any other teakettle.

Was that a very lucrative venture? We didn't sign a very good contract for that particular object. Alessi had never had anything that had sold that well, and their experience was that if a product ages for 5 years or 10 years, its sales will dip and its cost will increase. [They argued that] materials cost more, cost of living increases, and therefore royalty should descend. And we bought into that.

What type of material posed the biggest challenge to work with? One of the requirements for working for Steuben for the first time was to go to Corning, New York, and work with a gaffer. You must blow a piece of glass and huff and puff. When it was finished they put it on the table and as it was cooling they asked what I would call it, and I said, *I'd call it a door stop*. It was just a glass blob. It's like a coach: you're not making the tackle, and you're not making the pass, all you are doing is telling them to do it and it's a very different sensation. You realize the dependency on the people making it.

Ever design a product and then years later ask yourself, *What was I thinking?* The most frustrating thing is when you work with some manufacturers and the gaffer isn't there from Steuben, and the people in the manufacturing process aren't as good as you want them to be, and you have to cancel the project because it doesn't stand very well. We had an experience with a chair where they simply couldn't get it right, and we finally had to say, let's not let this go to market.

How are you normally compensated for a product? Is it a royalty? Normally it is an up-front design fee. If we do our work and they decide they don't want to bring something to market because they've had a change of heart, it's never refundable, it may be recoupable. In certain situations it makes more sense to have it recoupable for them, because the length of design. If the design is a success and makes money for them, then we get a royalty.

How costly is to bring a typical product to market? It would surprise you. For instance, a plastic chair is an enormous investment. You see it at the grocery store for \$4.95, but the original was very, very expensive, and therefore they had to sell a gazillion of them. We never thought, for instance, that there were as many dirty toilets in America as there seem to be, because we sell over 3000 toilet bowl brushes a week! At Target it only costs \$7.99, so you are not getting a lot of royalty from that, but 3,000 widgets a week is a lot.

So there are golden opportunities out there for architects to make money designing products? The commercial life of an object is very different than the fee life of a building. If the fee life is a sine wave, where you get the job, your fee is paid, and the curve goes up through working drawings, it starts to descend through construction supervision. When the building is finished you are back down to ground zero again. Architectural firms need cyclical, or overlapping sine waves of building fees to manage their offices. If I design a tea kettle and it sells well—and that's the *if*—that trajectory is more or less either ascending for a long period of time, or it stays even. The toilet-bowl brush has been out about three

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Silk necktie collection, Graves Design Studio Store, 1998



Porcelain dinnerware for Alessi, 1994

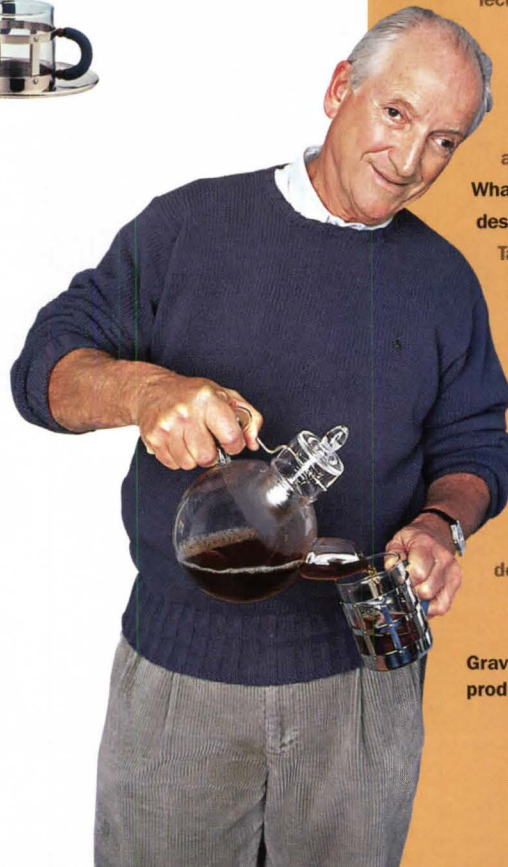
Necklace for Target, 1999



Coffee set for Alessi, 1989



Archaic vessels for Steuben Glass, 1989



Graves pours himself some tea from a teapot in production by Leonardo into a mug by Alessi.

months now and it's sold over 3000 every week for that time and presumably it will continue. I don't know for how long, but we can't buy them because they are out of them at Princeton.

What else sells well at Target? Generally our Target is out of all of the kitchen gadgets. The garlic press is really one of the best things we've ever done, though I can't eat garlic. These are new, [points to can opener, peeler, and other gadgets on the table] they have been out about two months, and the only one that I can ever buy is the pizza cutter. They're often out of the table clock and our watches. We sell about 1,300 teakettles a week at Target, and we made the single best-selling toaster in their history. But [Graves Design Studio products] also bring people into Target. I mean, it has had an effect on all of their sales. It has an effect on me! When I go to Target to pick up a watch to give to a friend or a client who's coming, I buy my golf balls and gummy bears there, you know? I'm teasing, but why wouldn't you?

In 1994 you opened a small store right next to your design office.

Any plans to have a chain of Graves Design Studio stores? This little store is there for our convenience. When people come to town to talk to me or to see a relative and they know about this store, they come to it. Retail is not where we should take a risk. We should take a risk in design, and let Target and others sell our products big time, rather than a little design shop someplace, or even a dozen design shops. That takes on a life of itself, and we don't have time to manage that. It would be wonderful to have stores with our furniture, carpeting, lighting, and our tabletop all together, but I don't have that.

Which products do you use most in your home? I use my Alessi teakettle. I use things on the counter—the toaster every morning, the can opener for my dog's food, the mixer occasionally. I've got an Alessi paper towel holder on one side of my sink and a Target one on the other—kind of dueling paper towel holders. I have picture frames around the house. But for a while, outside of the kitchen, I didn't allow anything I designed in the house because I have a collection of Biedermeier furniture. But I've changed that rule.

We designed some chairs for a hotel, and I did a slightly larger version for myself, so I have two chairs in the living room that I really like. Then I put the sconces in the house that we designed for Baldinger, and so there's a relaxation of that rule.

What has been the biggest lesson in your role as a product designer? People thought it was strange for us to design for Target, after designing for Steuben, Alessi, and others.

And I find it the most bizarre thing that I could ever imagine. When that question came up we were just opening the Denver Public Library and I thought that in architecture it would be like standing at the door and checking someone's W2 Form before they would be allowed in. I mean it's so silly to think that there is a difference in design between Target and Tiffany. There is certainly a difference in material, but the effort, the engagement in making that as a designer is exactly the same for me. ■



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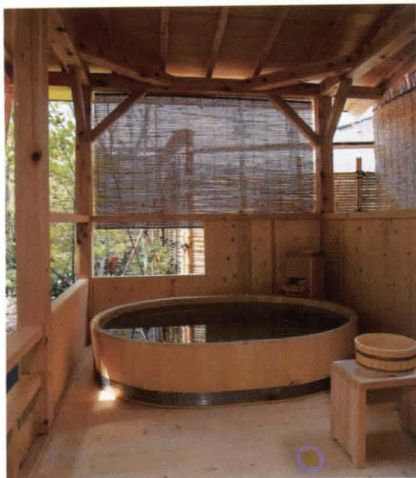
CIRCLE 74 ON INQUIRY CARD



WATER HYACINTH CHAIRS

New Products

When specifying for a bathroom, first consider who will use it. According to Gary West, president-elect, National Kitchen and Bath Association, this affects lighting, vanity height, and safety issues. Experts note a shift toward modernism, reflected by above-the-counter vessels and a strong presence of glass and stainless steel. *Rita F. Catinella*



water hot for up to 12 hours. Cypress also naturally produces an aromatic refined-oil essence, which is said to stimulate blood circulation, promote relaxation, stabilize blood pressure, reduce stress, and promote good sleep. Designs can easily fit into western-style housing, which most modern Japanese people live in today. The bath can be combined

with modern technologies, such as jet-bath and lighting, or with decorative interior materials, such as stone. Cypress wall and floor systems are also available. Hinoki Soken is currently looking for an American business partner to develop regional dealers in the U.S. 011/81/72/856-1435. Kyoto Science, Osaka, Japan. **CIRCLE 200**

JAPANESE SOAKING TUBS CAN CLEAN BODY AND SOUL

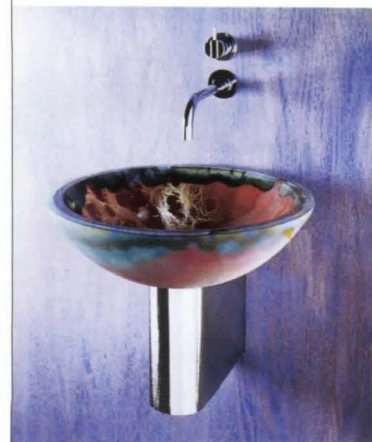
The Japanese history of using luxury wooden soaking bathtubs extends back more than a thousand years. Hinoki Soken Co. Ltd., one of the biggest manufacturers of Japanese-styled soaking baths, crafts them for high-end homes and traditional Japanese resort hotels. The tubs are

made of Kiso Cypress (also used to make Japanese imperial shrines), an expensive, replenished wood that has been strictly controlled by the government for more than 300 years. The cypress offers durability, watertightness, sterilizing power, easy maintenance, and keeps the

HAND-CRAFTED METAL AND GLASS BASINS

Alchemy Glass & Light, established in 1992 by artists Michael Murphy and Steve Weinstock, creates high-end sink basins, countertops, vanities, lighting fixtures, and bowls. Alchemy specializes in Cienega Glass, which is created by fusing ground metals between layers of glass. The organic patterns and colors sealed in the glass are determined in part by the way the metals are applied, but are also affected by the chemical changes that occur during the fusing.

Complementing the glass sink line are custom-made cast-bronze pedestals, vanity bases, and French limestone countertops. Alchemy's lighting line includes copper-mesh and burnished fossil sconces, Cienega glass hanging fixtures, and sanded steel-finished, glass-shade tribe torchieres. Drain assemblies are specifically made to fit the sinks and are available in a variety of finishes, including polished chrome, polished nickel, oil-rubbed bronze, and antique copper. Shown here is the wall-mounted velvet Cienega sink. 310/836-8631. Alchemy Glass & Light, Los Angeles. **CIRCLE 202**



NEW BATHROOM FURNITURE AND ACCESSORY OFFERINGS EXPAND UPON TILE LINE

Ann Sacks has recently expanded its product line; two new showrooms will sell not only tile and stone, but kitchen and bath accessories and plumbing as well. Lineaerredue bathroom furniture (top), for example, combines chrome-polished brass with either golden-hued wenge wood or warm teakwood for a contemporary look. Atlanta, shown here, is a part of a series consisting of four distinct designs that feature a minimal approach to modern Italian styling.

Additional products in the Lineaerredue series include the deep toned Afro, subtly scaled for smaller spaces. Other offerings include coordinating bath accessories, and

concrete or Carrara marble sinks. The Barbara Barry collection features several pieces "for him" including a semainier (razor case) with an optional square mirror, and a basin with hidden drawers and a lower shelf.

Of course, several new tiles are available from Ann Sacks as well, including the iridescent color palette of Vidrio ArtGlass (bottom left), which is available in 48 colorways and comes netted in 2-inch squares. The spectrum of colors that make up Erin's Glass mosaic glass tiles can be used to evoke a 3-D faux rug on the bathroom floor. 503/281-7751. Ann Sacks Tile and Stone, Portland, Ore. **CIRCLE 201**



New Products

► X marks the spot

The sculptural X Basin, designed by Bruce Tomb, is a sand-cast vessel basin available in white bronze, silicon bronze, brass, or aluminum. The basin has a signature X-shaped drain detail milled directly into the cast material. It can be mounted with a wall bracket or directly onto a countertop. The basin is shown here with a faucet from Chicago Faucet Company and an institutional foot pedal. 415/970-9210. Infinite Fitting, San Francisco. **CIRCLE 203**



► Antibacterial and stylish

Portobello America's Trinity line of tiles have many applications, including kitchen and bath countertops, backsplashes, tub and shower surrounds, and pools or spa surfaces.

The Trinity line, complete with coordinating trim and border tiles, is intended primarily for residential use, and features slight color and depth variations. The tiles come in various finishes including a slip-resistant floor finish for bathrooms and heavy

traffic areas and a gloss finish for walls and counters, each of which is glazed with an antibacterial surface. 714/535-3311. Portobello America, Anaheim, Calif. **CIRCLE 204**



◀ Built-in bidet

TOTO USA's newest bathroom concept is the Chloe Washlet, a seat that offers a convenient built-in bidet system. A gentle aerated dual-action water spray can be controlled by each user for a

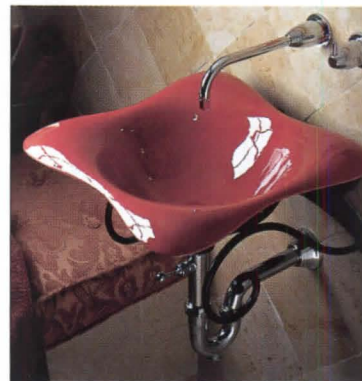
hygienic cleansing. A side panel control features an easy touch pad to direct the volume of the water flow, its temperature level, as well as a seat warming function.

Chloe's spray unit is self-cleaning with antibacterial properties, and it easily installs into a regular 120V AC outlet. 800/350-8686, x1700. TOTO USA, Morrow, Ga. **CIRCLE 205**



▲ Bathing for the younger set

Hansgrohe's colorful Alfie the Aquasaur handshower features both a full shower and soft aerated spray. Alfie's self-cleaning "whiskers" (tiny cleaning pins) shift in and out of the spray channels expelling dirt and build-up. Alfie can be easily retrofitted to be used with an existing showerhead. 770/844-7414. Hansgrohe, Inc., Cumming, Ga. **CIRCLE 207**



▲ Livin' la dolce vita

Kohler's new Dolce Vita cast-iron lavatory can be installed above the counter, self-rimming, or wall-mounted using Kohler's wrought-iron bracket. The properties of cast iron create a contrast between the smooth, glazed interior, and the textured exterior. The sink is shown here in the company's new Roussillon red color. 800/4-KOHLER. Kohler Co., Kohler, Wis. **CIRCLE 206**

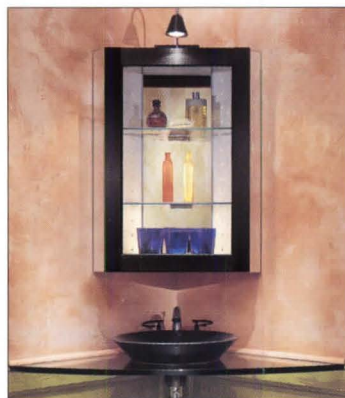
◀ A splash of zen

The Zen above-counter basin by Absolute features soft lines and a wave-shaped basin. Zen measures 20 inches wide by 14 inches long by 3 inches deep. Zen is available in more than 100 colors and can be mounted left to right, right to left, or front to back. Zen is designed for countertop installations, but can be used in all types of tabletop, countertop, or even vintage furniture installations. 800/359-3261. Absolute, A Division of American Standard Inc., Chandler, Ariz. **CIRCLE 208**



◀ Putting corners to work

The new corner cabinets in Robern's Designlogic series of modular cabinets are available with a choice of doors, aluminum frames, four colors, and three door glasses. Two cabinets may be stacked vertically on top of the other for up to 80 inches of storage space. The F Series, shown, offers mirror, clear, or frosted glass and an optional interior lighting system. 215/826-9800. Robern, Inc., Bristol, Pa. **CIRCLE 209**



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New Products

▼ Happy Days are here again

The geometric shape of the Happy D. bathroom takes on the shape of the letter D from the top view. The lavatories are available in a 29 1/2-inch or 25 1/2-inch size, with either a full pedestal or siphon cover. The smaller sink also comes in a console configuration. Wall hung versions of the toilet and bidet are available. Without an apron, the tub can be fitted with one of four Hoesch whirl systems. 888/387-2848. Duravit USA Inc., Atlanta.

CIRCLE 210



◀ 3-D Italian tiles

Frost, from Ascot Ceramiche, is a line of double-fired tiles complemented by a series of decorative and accessory tiles. Backgrounds are enhanced by texturing in the form of *essential lines*: circles and rectangles can be combined to produce different geometric shapes. Recessed dots and dashes, and raised squares, dashes, and lines add dimension and volume to the surface. 212/980-1500. Italian Trade Commission, Ceramic Tile Department, New York City. **CIRCLE 211**

► An eye for detail

The O-hi-O line of accessories is manufactured of aluminum, brass, and stainless steel. New Paris's gold-plated ball and aluminum cone forms the basic bracket for all items (soap dish, shown). Xenia features an aluminum triangulated bracket with a choice of colored-aluminum locking knobs.

215/826-9800. Robern Inc., Bristol, Pa. **CIRCLE 212**



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New Products

▼ Room with a view

Alumax offers a complete line of heavy glass hinges and hardware in 90 degree, 180 degree, and 135 degree glass-to-glass and wall-to-glass hinges in several standard and custom finishes. Shown here is the Alumax model DL-92 heavy glass shower enclosure in a chrome finish. 870/234-4260. Alumax Bath Enclosures, Alcoa Extruded Construction Products, Magnolia, Ariz.

CIRCLE 214



▲ Hand-glazed tiles create a dramatic toilette

The tiles accenting the bathroom above are from three different series from Mutina. Gli Scorzati, I Pastelli, and Crystal are all available in three formats, 4-by-4-inch, 3-by-3-inch, and Goccia (an ice-cream cone shape) in 3-by-3-inch. Goccia is also available in a fan shape. The rich colors range from cobalt blue, green, yellow, and ruby red, to light lavender. The tiles are hand-glazed and can have a shiny, speckled, or matte finish. They are available through several showrooms, including the soon-to-open Boffi showroom in New York City. 212/980-1500. Italian Trade Commission, Ceramic Tile Department, New York City. CIRCLE 215

▲ Seafaring faucet

Offered in polished chrome, the handles of AquaDreams' Nautica faucet resemble a ship's propeller. The Italian fixture complements the company's line of washbasins, shower doors, fountains, tabletops, lamps, and other handmade glass-fusion products. 877/818-9000. AquaDreams Ltd., Los Angeles.

CIRCLE 213



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New Products

▼ Model home

The Vitricor House, located in upstate New York, serves as a showcase for the various applications of Vitricor decorative acrylics. Bathroom showers are flanked by floor-to-ceiling shower surrounds in mildew- and stain-free Vitricor that feature photographic or abstract designs. 800/526-9469. International Paper, Decorative Products Division, Odenton, Md. **CIRCLE 216**



► Cleaning up the bathroom

MilleDue is a collection of vanities designed by Lino Cordato for Doma. In sync with Italian and European trends, MilleDue's freestanding units offer openness and flexibility. Also available are modular units that feature a variety of colors or wood finishes, incorporating marble or wood-veneered countertops, opaque glass cabinets, or beveled-arched mirrors. 310/657-3224. Doma Inc., Los Angeles. **CIRCLE 217**



▲ Proper British plumbing

The Piccadilly faucet, from THG, features marble levers and traditional English plumbing. Like all of THG's products, Piccadilly is available in a variety of different finishes. Matching accessories include robe hooks, towel bars, towel rings, tumblers, toilet brush holders, and soap dishes. 954/425-8225, THG, Coconut Grove, Fla. **CIRCLE 218**

▼ Not a draining experience

Pittsburgh Corning glass-block shower systems are delivered as a component system with glass-block, door, accessories, and specially-designed acrylic shower base all included. Each custom base design features molded channels that serve as guides for block placement. Option styles include the Classic, Neo Angle, and Walk-in. 724/327-6100. Pittsburgh Corning, Pittsburgh. **CIRCLE 219**



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New Products

consists of hand-cut, hand-rolled, and welded 16-gauge stainless-steel soaking baths and whirlpools, pedestal and counter top lavatories, and shower pans. The full-body countered soaking bath is shown here mounted in sandstone. The bath features weld seams and a hand-buffed finish. 303/665-8303. Diamond Spas Inc., Broomfield, Colo. **CIRCLE 220**



offering of the Brilliance pearl-nickel finish to its traditional handles and accessories, Neo Style bath faucets, Roman tub hand-held showers, and Monitor II two-handle pressure-balance tub/shower valves. The finish is highly resistant to abrasions from daily use and cleaning, and is guaranteed never to corrode, tarnish, or dis-

▲ Chameleon-like finish

Nickel finishes in the bath are increasing in popularity on account of their tendency to take on the tones and colors of the room's decor. Delta has expanded its

color. Like Brilliance polished brass, pearl nickel's resistance to corrosion from salt air and sea mist makes it ideal for coastal homes. 800/345-DELTA. Delta Faucet Co., Indianapolis. **CIRCLE 221**

► Not your average schvitz

The Indulgence collection of custom whirlpools features nine new designs and a variety of custom options. Options include lumbar massage jets, a massage pillow, and an air-induction sequencer that blows pre-warmed air up and down the spine through 16 positioned jets (shown). 800/632-0911. Aqua Glass Corp., Adamsville, Tenn. **CIRCLE 222**



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Products Briefs

► High-styled oak and pine

Morgan Door Company, part of the Jeld-Wen family, introduces the High Style collection of entry doors. High Style offers specially crafted doors in select oak and pine, in styles ranging from contemporary to colonial. The line offers a choice of decorative glass inserts, brass or lead caming, finishing options, coordinating sidelights and transoms, and sizes up to 2-feet-wide and 8-feet-tall.

800/877-9482. Jeld-Wen, Klamath Falls, Ore. **CIRCLE 223**



▼ Handcrafted mahogany

Simpson Door introduces a new collection of mahogany exterior doors. Handcrafted with Honduran mahogany, the collection features all new glass patterns in 24 different door designs. All of the doors feature raised moulding and bladder-pressed panels, and are handcrafted in the U.S. Matching sidelight and transoms can also be ordered.

800/952-4057. Simpson Door Co., McCleary, Wash. **CIRCLE 224**



▲ Efficient true-divided light

Architect Series wood windows and doors offer a wood interior and aluminum-clad exterior with a patented EnduraClad baked-on finish. An exclusive technology creates a true-divided light appearance yet provides the energy efficiency of insulated glass. 515/628-1000. Pella Corp., Pella, Iowa. **CIRCLE 226**

► Turn inside out

This conservatory for a 10,000 square-foot chateau-style residence in Connecticut's northwest hills serves as both a greenhouse and an entertainment area.

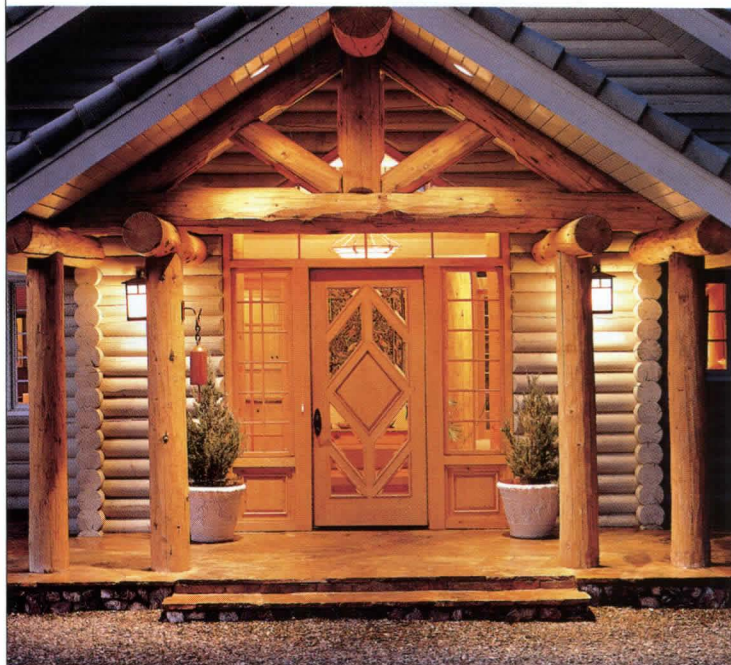
Architectural Openings used a combination of windows and doors to meet the clients sight-line requirements. The package included French doors, tilt-turn windows, electrically-operated hopper windows, and a wall-sized accordion door that opens a full side of the conservatory and turns the room into a converted patio. Architectural Openings



standard products are also ideal for oceanfront homes. They exceed grade 60 for air and water infiltration. 617/776-9223. Architectural Openings Inc., Somerville, Mass. **CIRCLE 225**

▼ First impressions

There are at least 600 possible door choices available from Pinecrest. Designs include Craftsman, Prairie School, Post Modern, Country French, Hand Carved, Victorian, and Hand Wrought Iron. Commissions include the private homes of Presidents of the United States, royalty, and internationally known personalities of screen, TV and sports. Pinecrest also offers mantels, shutters, cornices, and metal ceiling and wall panels. Custom designs are available. 800/443-5357. Pinecrest, Minneapolis. **CIRCLE 227**



▲ More sensitive to needs

Until now, the capability of the sensors on a garage door were limited to detecting down force on the bottom edge of the door, or by having the invisible beam broken between the photo-eye sensors. The highly sensitive, UL-listed DoorMaster

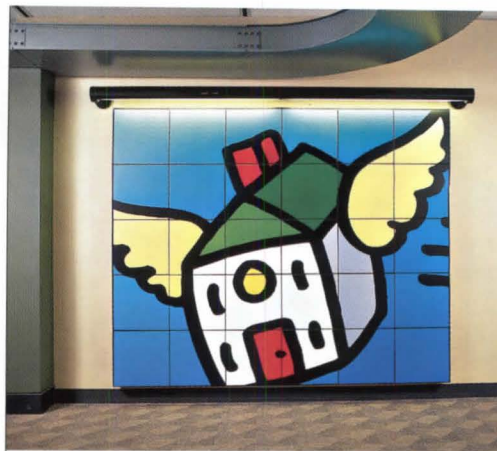
residential garage-door opener is able to detect any resistance to any part of the door, whether it's being opened or closed, which increases safety for children and pets, and reduces damage to vehicles. 800/827-DOOR. Wayne Dalton Corp., Mt. Hope, Ohio. **CIRCLE 228**

Products Briefs

▼ Floral fabrics

Bloom is a new collection of upholstery, drapery, and casement fabrics designed by Lori Weitzner for Sahco Hesslein/Bergamo. Inspired by the natural world, these velvets, silks, wools, linens, chenilles, and sheers will be available in 11 patterns and a range of colors. The fabrics are intended for residential, high-end retail, hospitality, and executive spaces. Weitzner is the first American to design a comprehensive collection for the company, which is headquartered in Germany. 212/888-3333. Bergamo Fabrics Inc., New York City.

CIRCLE 229



system. The Philadelphia firm suggested using large photo murals as part of a comprehensive 200,000-square foot renovation. GMAC supplied the artwork on CD-ROM to Marlite, which transformed the graphics into a grid formation and surfaced each component through large digital format printing. In addition

▲ New corporate direction

As part of the renovation of GMAC Mortgage in Waterloo, Iowa, Interspace Inc. incorporated the company's corporate identity as part of a directional

to the Marlite photo murals, Interspace also utilized Marlite Cherry paneling in the main reception area. 330/343-6621. Marlite, Dover, Ohio.

CIRCLE 230

▼ Tough as nails

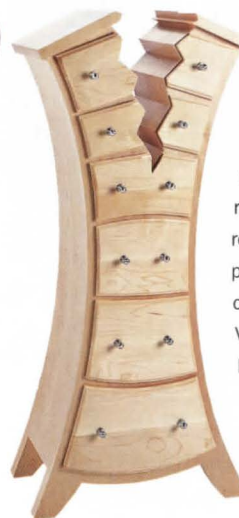
Used in commercial applications for more than 25 years, Iron Woods, from Timber Holdings Ltd. (THL) are naturally resistant to termites, rot, splintering, fire, and chemicals. THL works closely with designers to help them reach their environmental objectives. 414/445-8989. Timber Holdings Ltd., Milwaukee.

CIRCLE 231



► Interior or exterior railing

Inox is a new pre-engineered stainless steel railing system from HEWI. Guardrails and handrails feature a brushed finish corrosion resistant stainless steel for interior and exterior applications. Guardrail infills are attached to open pairs of stainless steel posts. The system accommodates three to seven horizontal rails and offers straight tube components of natural wood. 717/293-1313. HEWI Inc., Lancaster, Pa. CIRCLE 233



◀ Fun-iture

Whimsy is a way of life for Canadian Judson Beaumont, founder of Straight Line Designs. His Vancouver, British Columbia-based workshop provides design and manufacturing services of custom furniture pieces for trade show booths, movie and television props, retail environments, hospitals, corporations, and private residences. Beaumont also sells a number of designer pieces (shown) which can be shipped quickly. His diverse clientele includes Wilsonart International, Science World, Vancouver, Vancouver International Airport, and Overlook Hospital, Summit, N.J. 604/251-9669. Straight Line Designs Inc., Vancouver, British Columbia.

CIRCLE 232

► Puzzling floor covering

The firm of Transylvania-born architect and interior designer Adam Tihany not only designs numerous restaurants and hotels, but furniture, lighting, door hardware, and even restaurant linens (soon to be available from Frette). Rugs.link, his first collection of rugs for the residential market, is now available through M&M Design International. The collection features eight designs in a range of colors selected by the designer,



available in stock (6-by-9-feet and up) and custom sizes. Multiple rugs can be puzzled together to form larger ones. All rugs are hand-knotted in 100 percent wool. 212/726-0015. M&M Design, New York City. CIRCLE 234

Determination



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Product Briefs

▼ The one-stop block

Insulating concrete forms, which are modular blocks made of expanded polystyrene, are being used to build reinforced concrete walls for commercial and residential construction. Once put in place, the ECO-Block system creates the form into which the concrete is poured. After the concrete has cured, ECO-Block stays in place and becomes the insulation (interior and exterior) for the walls of home. 954/766-2900. ECO-Block LLC, Ft. Lauderdale, Fla. **CIRCLE 235**

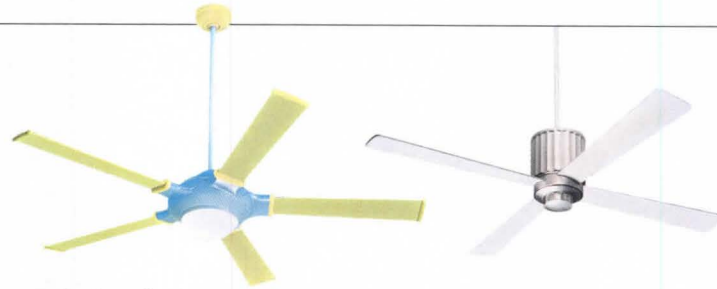
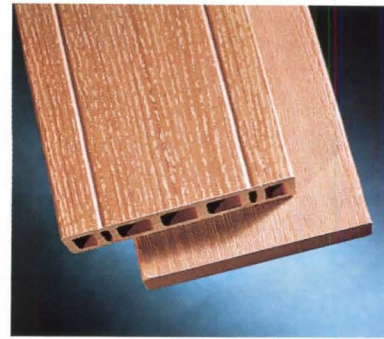


▲ Smart windows

The SmartFit double hung clad wood window features tilt-in, removable top and bottom sash. SmartFit offers many of the features of Caradco's premier line, but is less expensive and requires only a five-day lead time. Constructed with roll-form, overlapped aluminum cladding and weather stripping at the head and sill, SmartFit provides extra protection from air and water infiltration. Three exterior cladding colors and grilles between the glass are available. 800/238-1866. Caradco, Rantoul, Ill. **CIRCLE 236**

► Walk the recycled plank

Louisiana-Pacific is entering the composite decking market and plans to construct two wood-fiber composite decking facilities. Composite decking is made of recycled and/or excess wood products and post-consumer recycled plastic. Products will include solid and hollow planks and railing systems. 800/566-2282. Louisiana-Pacific, Portland. **CIRCLE 237**



▲ Rotating designs

UFO and Flute are two new additions to Ron Rezek's collection of modern ceiling fans. UFO, available in a matte titanium or a three-color "Miami" finish (shown), has a space-craft inspired body that rotates with the blades. Flute alludes to the drum of a classical column and is available in a textured nickel or gloss white finish. 541/482-8545. Modern Fan Co., Ashland, Ore. **CIRCLE 238**

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Product Briefs

▼ Exploring space

ClosetMaid's new MasterSuite closet accessories include a full line of compatible laminate and wire products. Laminate accessories are constructed of thermal-fused, 3/8-inch white melamine-laminated

particleboard with PVC edge banding creating scratch-resistant, nonpeeling surfaces. The line includes a center island kit with four slide-out drawers, tower doors that provide enclosed cabinet space for fine clothing, and corner shelves. Also available are 6-inch, 13-inch, and 17-inch-deep storage baskets, a jewelry tray, and stackable shoe racks. 800/874-0008. ClosetMaid, Ocala, Fla.

CIRCLE 239



◀ Gold-plated protection

Sto Gold Guard includes Sto Gold Coat, a roller-applied waterproofing coating that protects any sheathing material during and after construction, and Sto Gold Fill, a trowel-applied flexible joint compound used to fill sheathing joints and rough openings. Gold Coat works with a variety of sheathings, including gypsum, plywood, and OSB. Barrier EIFS can be applied directly over both lines. 800/221-2397. Sto Corp., Atlanta. **CIRCLE 240**

► Warm up with fir

Weather Shield has introduced American fir to its Custom Wood Interiors collection. The new American fir offering rounds out a family of softwoods that include knotty pine and traditional pine. American fir is ideal for classic and country settings, kitchens, and family rooms. The company's other four premium hardwoods in the collection—oak, cherry, maple, and



mahogany—can be used to complement hardwood floors and accessories.

800/477-6808. Weather Shield Mfg. Inc., Medford, Wis. **CIRCLE 241**

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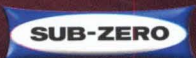
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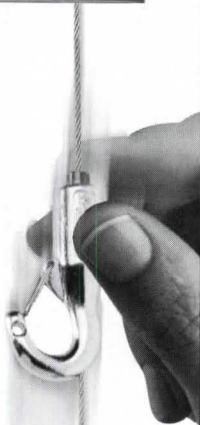
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Product Literature

New detailing manual

The Concrete Reinforcing Steel Institute (CRSI) recently published the 2000 edition of *Reinforcing Bar Detailing*, a textbook for reinforcing steel detailers. 800/465-CRSI. CRSI, Schaumburg, Ill.

CIRCLE 242

Ceiling systems catalogue

Chicago Metallic's 2000 catalogue focuses on standard and designer ceiling systems, perimeter curved/straight trim, fiberglass panels, vinyl-gyp panels, fiberglass reinforced panels, and the newly introduced drywall grid system. 800/323-7164. Chicago Metallic Corporation, Chicago. **CIRCLE 243**

Remodeling brochure

Laticrete's new brochure showcases a wide range of solutions for residential flooring installations. 800/359-3297. Laticrete International, Bethany, Conn.

CIRCLE 244

Ceiling specification

USG's 2000/2001 ceiling systems catalogue is an easy-to-use reference for specifying the company's ceiling panel, suspension system, and speciality ceiling

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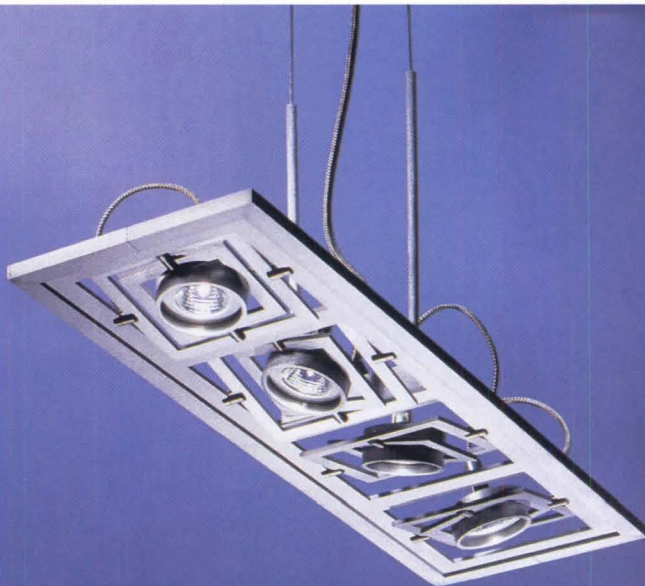
products. A CD-ROM also provides specification information. 800/950-3839. USG, Chicago. **CIRCLE 245**

Hardwood catalogue

Bostik's new hardwood products catalogue includes photos and detailed descriptions of the company's complete line of hardwood installation and care products. 800/7-BOSTIK. Bostik, Middleton, Mass. **CIRCLE 246**

Metal roofing ideas

Met-Tile has a new flyer showcasing rural and agricultural uses for its metal tile panel roofing system. 800/899-0311. Met-Tile, Inc., Ontario, Canada. **CIRCLE 247**



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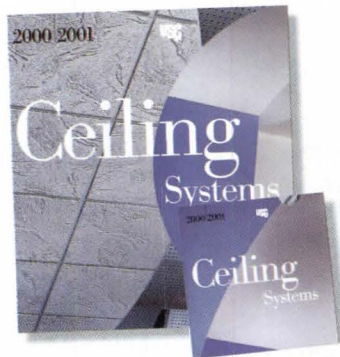
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Product Literature

seminars, and more is included in the newest edition of the Portland Cement Association catalogue, *Concrete Solutions 2000*. 800/868-6733. Portland Cement Association, Skokie, Ill. **CIRCLE 251**

Cabling system catalogue

The Siemon Company's 2000 catalogue features Siemon's latest cabling system and connecting hardware technology. 860/274-2523. Siemon, Watertown, Conn. **CIRCLE 248**

Particleboard guide

The Composite Panel Association's (CPA) 2000 buyers and specifiers guide includes listings of all CPA member companies and their particleboard and MDF mills. The guide also includes a raw material section, which describes composite panel fiber and resins. 301/670-0604. CPA, Gaithersburg, Md. **CIRCLE 249**

Fire code changes

The 2000 International Fire Code is a result of input from fire service organizations across the country. More than 900 proposed code changes were initially submitted for the code, resulting in more than 600 changes. 800/214-4321, x371. BOCA International, Country Club Hills, Ill. **CIRCLE 250**

Cement association catalogue

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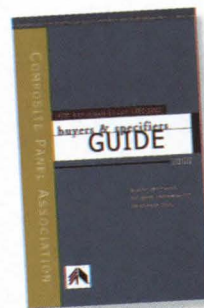
In a new full-color brochure, International Homes of Cedar highlights the advantages of systems-built cedar structures for commercial applications. The brochure features photography of commercial buildings, product descriptions, wall system options, and general specifications. 800/767-7674. International Homes of Cedar, Woodinville, Wash. **CIRCLE 252**

Door specification CD-ROM

Dawson Doors' new CD-ROM includes product specifications and CAD drawings. Macintosh and Windows compatible, the CD also features finish samples and photographs for each series of door. 716/664-3811. Dawson Doors, Jamestown, N.Y. **CIRCLE 253**

Accounting guide

The *2000 Construction Accounting Deskbook* covers construction accounting, taxation, financial administration, management, and legal issues in one volume. 619/699-6807. Harcourt Professional Publishing, Denver. **CIRCLE 254**



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Dates & Events

Calendar

Triumphs of the Baroque

Montreal

Through April 9

An exhibition of European architecture from 1600-1750, with 30 large-scale models. The Montreal Museum of Fine Arts. 514/285-1600.

Samuel Mockbee

Philadelphia

April 10

The architect presents his lecture "Rural Studio World Tour." University of Pennsylvania Graduate School of Fine Arts. 215/898-3425.

Todd Williams Work/Life

New York City

April 13

Williams lectures on current work. 6:00 pm. The City College of the City University of New York. 212/650-7118.

Against Design

Philadelphia

Through April 16

Designers and artists including Roy McMakin, Andrea Zittel, and Angela Bulloch blur the boundaries between architecture, design, and art. Institute of Contemporary Art, University of Pennsylvania. 215/898-7108.

Scale: The Young Architects' Forum 1999

Washington, D.C.

Through April 16

On display are the Architectural League of New York's winners of its 18th annual competition for young architects. National Building Museum. 202/272-2448.

Terrorism and Beyond

Oklahoma City

April 17-19

To mark the dedication of the city's federal building memorial, this conference addresses terrorist threats, motivations, concerns, policies, and predictions for the next century. Myriad Convention Center, Oklahoma City. 405/232-5121 or register online at www.okcterrorismstitute.com.

Land, Sea, and Air: Digital Maps Survey

New York City

April 20 - May 12

Curated by Michael Silver and Marc Tsurumaki, the exhibition accompanies a series of programs on the aesthetic, cultural, and political effects of new forms of mapping. Parsons School of Design. 212/229-8955.

The Un-private House

Vienna

Through April 24

This exhibition of 26 ground-breaking private houses by architects was organized originally by Terence Riley for the Museum of Modern Art in New York City. MAK-Austrian Museum of Fine Arts. 011/43/(1)712-8000.

Millennium Models

Los Angeles

Through April 28

A multidisciplinary show of young talent in the fields of architecture, interiors, landscape, product design, and graphics. Pacific Design Center. 310/657-0800.

Piet Mondrian: The Transatlantic Paintings

Cambridge, Mass.

April 28 - July 22, 2001

Some 15 late paintings by the master abstractionist will accompany this display of the results of two years' technical research into the artist's methods. Harvard University Busch-Reisinger Museum. 617/495-9400.

En chantier: The Collections of the CCA, 1989-1999

Montreal

Through April 30

Celebrating its 10th anniversary, the CCA displays the best of its collection of architectural drawings, renderings, models, and photographs. Canadian Centre for Architecture. 514/939-7000.

Landscape Architecture at Harvard

Cambridge, Mass.

Through April 30

Photographs and installations explore both the heritage and future of landscape—from art to ecology, technology, and sociology. Harvard University Graduate School of Design. 617/495-8275.

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Dates & Events

Public Architecture Exhibitions Philadelphia

May 4-6

Throughout the city, 12 individual exhibitions coincide with the AIA National convention, themed "New Century, New Vision: Livable Communities for America's Future." AIA Philadelphia. 215/569-3186.

See the U.S.A.: Automobile Travel and the American Landscape Washington, D.C.

Through May 7

This exhibition celebrates roadside architecture and the culture of the automobile, featuring photos by John Margolies, author of 10 books on the subject. National Building Museum. 202/272-2448.

Ten Shades of Green New York City

Through May 13

Critic Peter Buchanan has curated this major traveling exhibition of sustainable design work by Norman Foster, Thomas Herzog, Michael Hopkins, and Françoise Jourda. The Architectural League of New York. 212/753-9173.

Ralph Rapson: Sixty Years of Modernism Washington, D.C.

Through May 28

The first comprehensive exhibit of the work of this Midwestern modernist, whose achievements encompass architecture, furniture design, and urban planning. The Octagon. 202/638-3221.

Retail Lighting Conference Fort Worth

June 7-9

This gathering, titled "Illuminate 2000," promises the latest techniques and hands-on learning for lighting designers, specifiers, and project managers. Texas Christian University. 800/828-7134.

Summer Program in Classical Architecture 2000

New York City

June 9-July 23

An intensive training program in the building arts for students in the architectural design disciplines, practicing architects, interior designers, preservationists, educators, builders, and craftspersons. The Institute of Classical Architecture. 917/237-1208.

Structure and Surface: Contemporary Japanese Textiles

San Francisco

Through June 20

Japanese masters combine traditional techniques with modern industrial methods, in woven metals and other materials suitable for interior design and clothing. San Francisco Museum of Modern Art. 415/357-4000.

Gwathmey Siegel & Associates Exhibit New York

Through August 14

A display of 14 institutional projects is augmented by a 50-foot wall that surveys the entire practice of the firm. The Graduate Center, The City University of New York. 212/817-7394.

Frank Lloyd Wright: Windows of the Darwin D. Martin House Washington, D.C.

Through August 20

An exhibition of some 70 art-glass windows, doors, and skylights (both originals and reproductions) that Wright created for the house in Buffalo. National Building Museum. 202/272-2448.

Competitions

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Entry deadline: April 17

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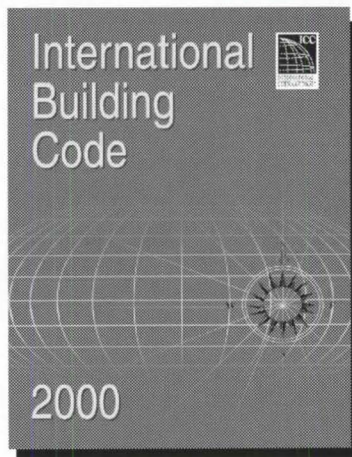
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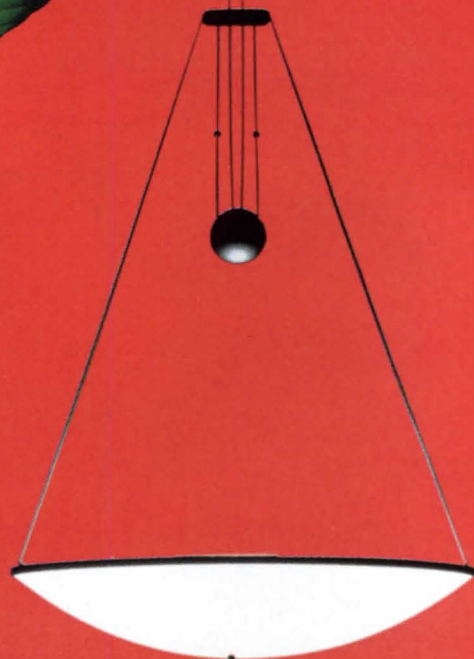
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Dates & Events

first prize, designers will propose an urban redesign for a three-block area facing Parliament in the Canadian city of Ottawa. Call 613/789-1115 or visit www.raic.org/competition.

Best Practices in Affordable Housing

Entry deadline: April 30

The City Design Center at the University of Illinois seeks projects for an Internet catalogue of outstanding affordable housing in the U.S. Call 312/996-2076 or E-mail cdesignc@uic.edu.

Ermanno Piano Scholarship

Entry deadline: May 31

This \$10,000 scholarship open to 1999 architecture graduates offers a six-month internship with the Renzo Piano Building Workshop, in Genoa, Italy. Mail qualifications and vitae, including samples of your work, to: Renzo Piano Workshop Foundation (Ref. 9th Ermanno Piano Scholarship), Via Rubens 29, 16158 Genoa, Italy. E-mail www.rpwf.org.

Southern Living Home Awards

Entry deadline: May 31

Completed, furnished, and landscaped homes in the Southern states (unpublished) may be submitted in a binder, with descriptions, floor plans, and a minimum of three interior and three exterior photographs. Winners will be featured in *Southern Living* magazine; homeowners will each receive \$1,000. For entry information, contact Erin Broussard or Lynn Nesmith 800/366-4712, x6358.

The Gifu World Design Competition: Jan Ken Pon (Rock Paper Scissors)

Entry deadline: June 30

The \$10,000 first prize (also, prizes of \$5,000, \$2,500, and \$500) will be awarded to the designer of a manufacturable object "usable by the hands or made to fit in the hands." Paper, wood, ceramic, and/or metal must be used. Call 212-966-3722.

Please submit information for the calendar to ingrid_whitehead@mcgraw-hill.com.

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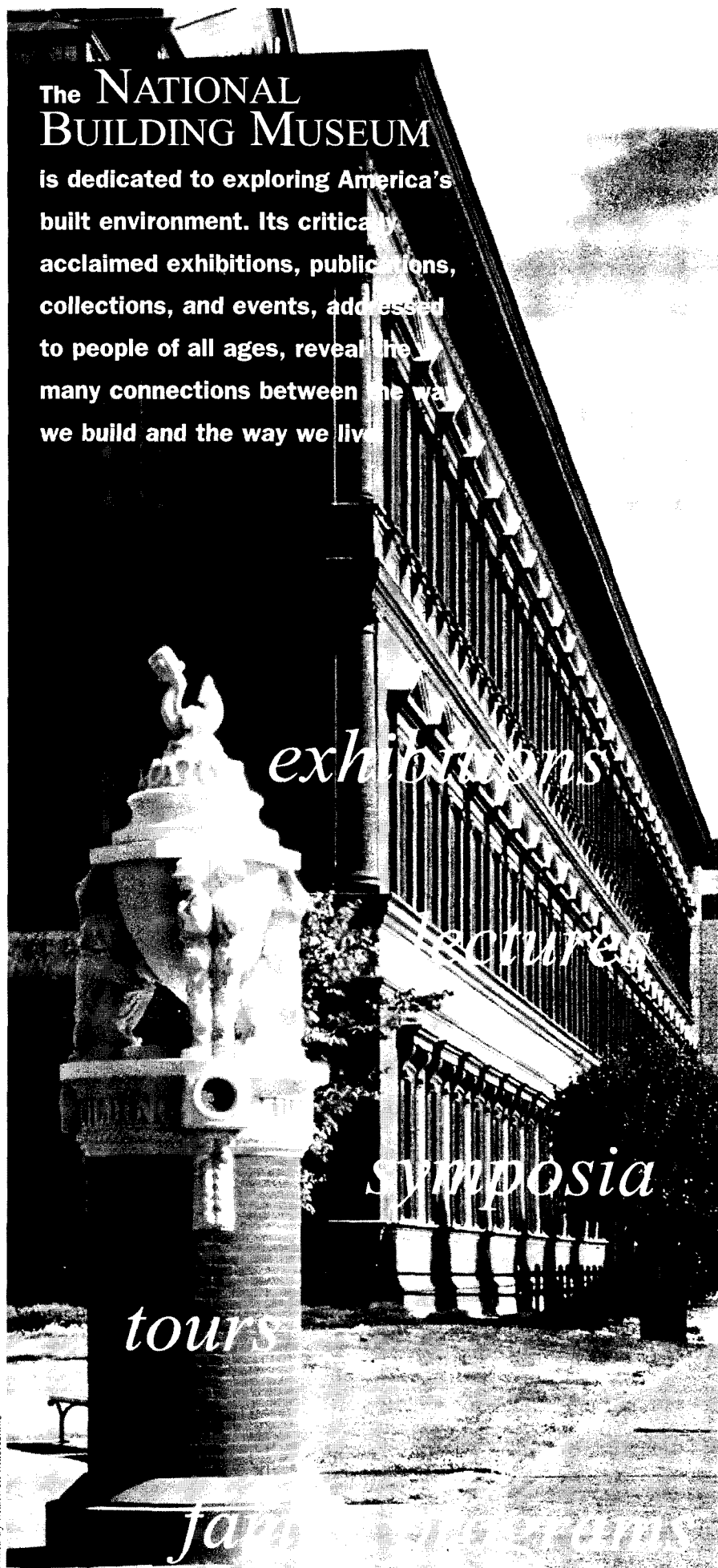
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ANSWERS

Questions appear on page 156. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Toilets have such new features as a tank concealed in the wall and built in odor control. New residential toilets must be 1.6 gallon. Many architects, however, do not find this amount of water satisfactory, and find their clients must flush two or three times to evacuate waste. New models function better, requiring fewer flushes.
2. New technology for showers involves valves for balancing temperature and volume, and faucet finishes. An antiscald valve is required in some states. These valves are either pressure-balancing or thermostatic; both are designed to prevent the user from getting a blast of hot or cold water. Pressure-balancing valves track pressure changes in the hot or cold lines and adjust the water pressure accordingly. Thermostatic valves monitor pressure and temperature changes. Faucets with the new ceramic disk valve last much longer than the old metal and rubber fittings. New finishes are popular, such as pewter and nickel. But chrome, the old standard, is still the best choice for durability.
3. A ventilation fan is required in bathrooms to prevent moisture and odor buildup. Often, however, the fan is not used because it is noisy.

New ventilation designs include a remote-mounted fan where the unit is in an attic or basement with ducts running to the bathroom. The fan can be controlled by a humidistat that turns it on when the humidity is above a set level, or by a motion detector that turns it on when someone steps into the room. A timer can be set with the light switch, or the fan and light switch can be turned on simultaneously. For odors, an exhaust plate mounted behind the toilet seat connected to a remote vent fan works well.

4. Hydronic heat, which produces warmth by circulating heated water through tubing laid beneath the floor, keeps the floor warm, keeps an even temperature, and does not set up drafts like forced-air systems, or take up space like radiators. Radiant tubing installed around the edges of the tub keeps bath water warm and prevents that shock of cold when a bather leans against the tub wall. If floors are tile or stone, electric mats, embedded in the mortar, warm the floors. Electric or hydronic towel warmers also help keep bathers warm.
5. A bathroom needs both ambient lighting and task lighting. Ambient lighting should be on a dimmer, using wall sconces, coves, or other sources to direct the light upward. Task lighting is used around the mirror at face height for applying makeup or shaving. Cross illumination at eye-level minimizes shadows. Space-planning goals include designing to provide maximum privacy to a person using the toilet while someone else is using the sink or shower.



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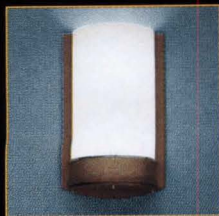
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Applications

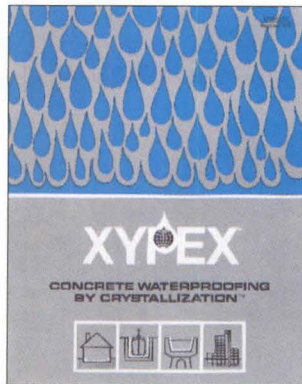


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Openings

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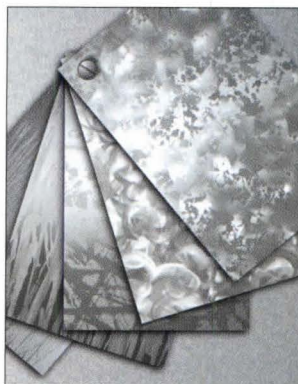


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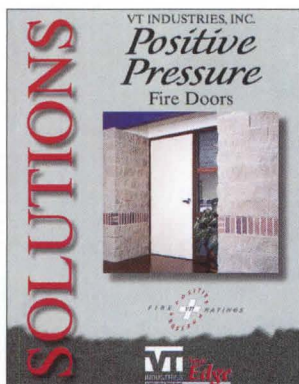


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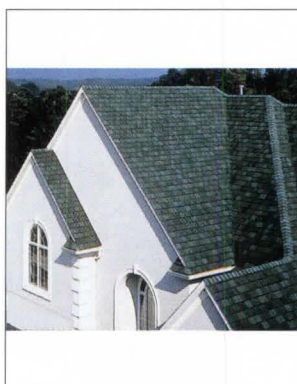


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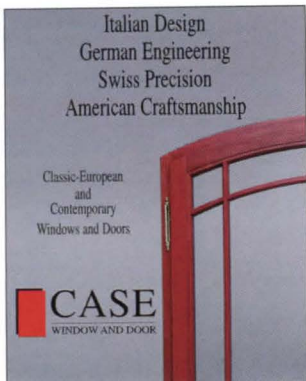


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Neo-Metro™ Collection

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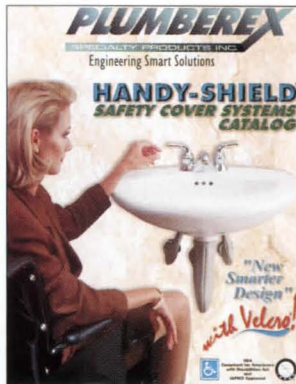


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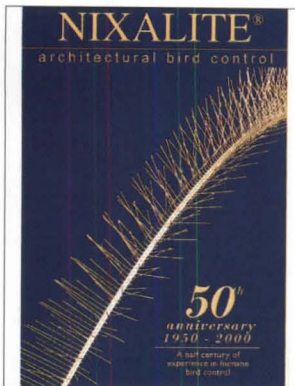


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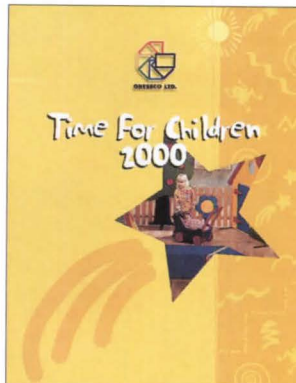


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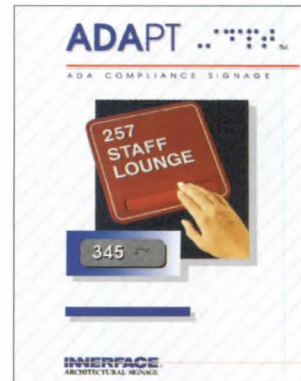


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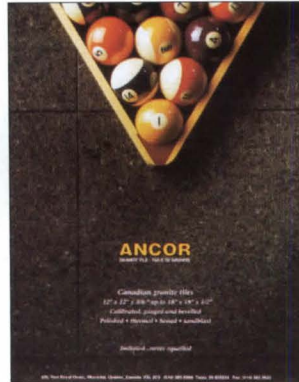


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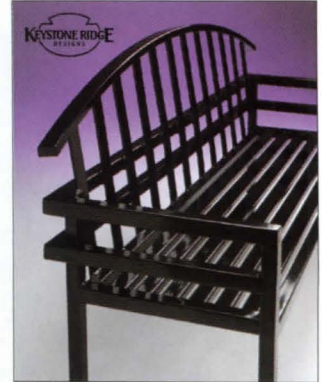


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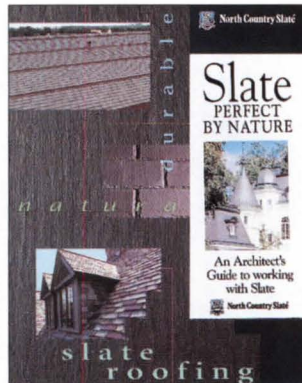


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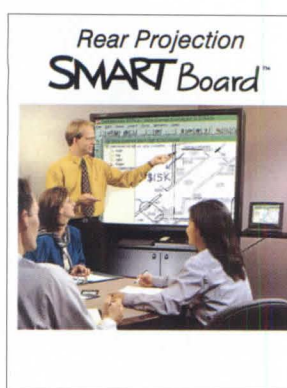


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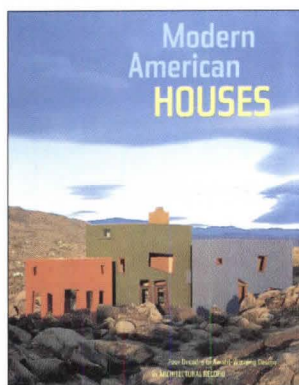


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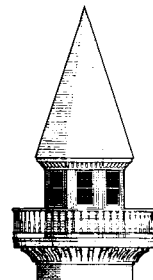


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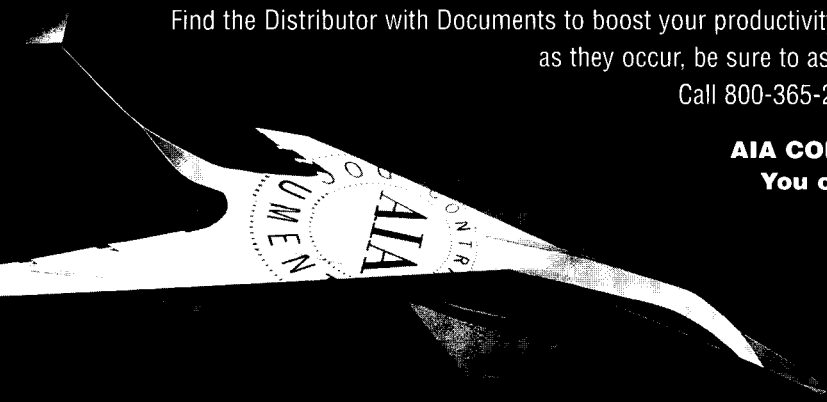
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Earth angels save historic religious buildings at risk

Interviewed by Ingrid Whitehead

Diane Cohen and Robert Jaeger spend a lot of their time in churches. But it's buildings they're trying to save, not souls. Co-founders in 1989 of the non-profit, non-sectarian organization Partners for Sacred Places (www.sacredplaces.org), Cohen and Jaeger have three goals: to help congregations and their communities restore and sustain their churches and synagogues, to develop an effective national network of advocates for sacred places, and to make the public understand the value of sacred places as irreplaceable centers that create and nurture community life. RECORD caught up with them in their Philadelphia offices.

Q: *What constitutes a sacred place?*

Robert Jaeger: There are lots of sacred places in the U.S., including many that are unbuilt. Partners for Sacred Places focuses on the built: convents, rectories, schools, monasteries, synagogues, and churches. Basically, historic structures originally built for religious purposes.

Why do these structures need saving?

Diane Cohen: Churches, synagogues, and meeting houses were, historically, the most important buildings, architecturally and structurally, in communities. These were where the most resources were invested, and when their physical condition starts to deteriorate, the congregation may not have anywhere to turn. Often, the art and craftsmanship in these spaces is comparable to that of city halls and other major public buildings. Less obvious is that these buildings are socially very important. These places are serving as community centers. They provide child care, homeless shelters, dance classes—programs for the entire community. And not just for the congregation, but for anybody.

RJ: We call them sacred places, but it's not the particular religion that matters. It's the social aspect that we want to keep vital. Often, these buildings have gone through one or more faith identity changes. From Episcopal to Pentecostal or whatever—the new owner or congregation is still always committed to social programs.

So when a congregation contacts you, how can you help?

DC: First and foremost we're a resource. We have the nation's biggest database on all kinds of specialty firms and services for restoring sacred places. We encourage good planning through conferences and workshops. While we don't directly fund restoration, we can help members of a congregation find grants and services that can help.

RJ: We're the place to turn to for anyone who's interested in learning about churches or synagogues. We also encourage architects and specialty craftspeople to become part of our network.

What's next for Partners?

RJ: A turning point for us is the book of research we recently published, *Sacred Places at Risk*, which came

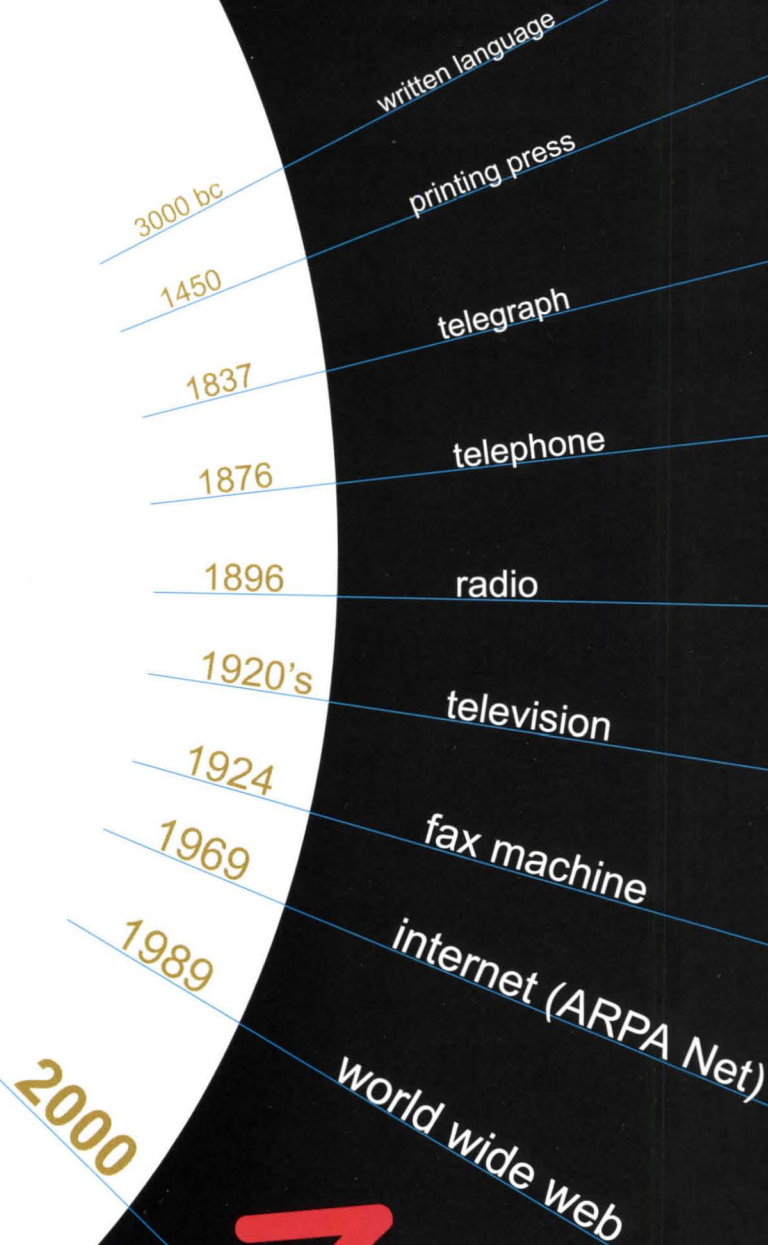
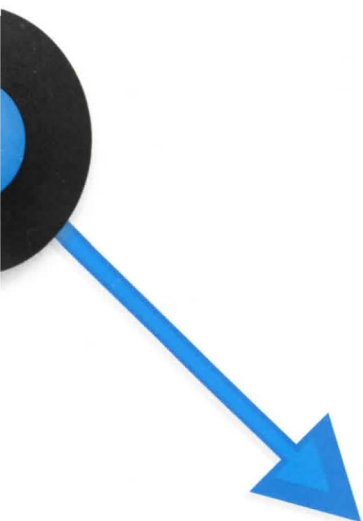
from interviewing over a hundred congregations. It includes statistics and evidence on how older churches and synagogues are serving communities. We really want to get a national fund in place, to help these spaces, to help communities keep their social programs going strong.

How old-fashioned! Your work actually encourages human interaction.

DC: That's true. Our desire is to take a step beyond preservation. The pleasure of coming together within a community should not be denied, and sacred places like the ones we save are exactly where that happens. ■

Photograph by Euclides Santiago, taken in St. Francis de Sales Catholic church

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