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On the Cover: Pod, Brooklyn, N.Y., by Leeser Architecture. Photograph by Matthu Placek.
Right: Parsons Kitchen companion pieces, by Allan Wexler. Photograph by James D'Addio. ►



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The AIA/ARCHITECTURAL RECORD

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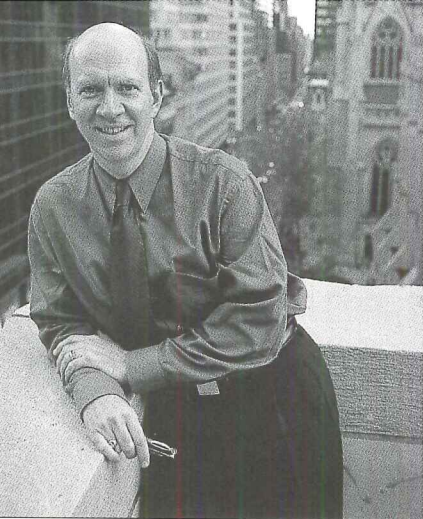
WWW * You can find these stories at www.architecturalrecord.com, including expanded coverage of projects. Explore the latest news about emerging architects at architecturalrecord.com/archrecord2.



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Seeing is believing

Editorial

By Robert Ivy, FAIA

Architects beware: Photographs can lie. You already knew it, but it's worth repeating, since what appears in print may not be backed up by experience. Despite the beautiful photographic images this magazine and its international peers offer each month, you have to see architecture for yourself to catch its essence. That fact came crashing home this August on a trip scouting for ARCHITECTURAL RECORD.

We saw immediately what you would never perceive in print. The initial images we received in New York had described a kind of interior luxe, a large colorful space filled with custom appointments and furnishings. The reality, however, jarred with the imagery. Time and the human hand had lightly soiled the walls with a skein of use like olive oil, worn the carpets and the plush velour of the perfect beige chairs. There is always a gap between the perfect picture and the inevitably grimy world.

The same trip demonstrated that the camera can inflate size and importance. You could see it in a flash, as the speeding train zipped by a vaguely familiar form. We had considered that tiny concrete building with the glazed façade beside the road. It had seemed so much larger when shot frontally from a low angle, but who would have known its actual size from the pictures? The reality was sobering, apparent even at high speed.

As the essayist Susan Sontag has pointed out, photographs routinely aestheticize the subject, turning it into a fetish, "an article of consumption," the object of our lust and fantasy. In architectural photography, the attraction is heightened by the shared desire of architect, photographer, and client to present the work in the best possible light. No one wants an ugly or cluttered shoot.

Architectural photography, a specialized craft, poses the question of documentation, by asking, "What is real?" The best professional photographers routinely lavish effort to catch the moment and will wait hours for the perfect morning light or the empty street. At its best, their work can be poetic, seductive, overtly beautiful. But is it real? And what does that term mean for the architectural photographer? Routinely the masters alter the setting for the

best shots—by scrubbing and flooding the concrete pavement with water, moving wiring, and carting in plants.

Most importantly, the human eye and its point of view varies; no two photographers take the same picture. Seeing is personal, an action bound in the eye of the viewer and unique to the photographer. Technical mastery, format, and artistic sensibility all interplay in the resulting shoot. By modulating light, angle, mood, coloration, texture, weather, and clarity, the photographer inevitably interposes a layer of understanding and emotion that gives the shot a signature of personality and time. Craft becomes art.

For the last 150 years, architectural photography has relied on cumbersome methods that have demanded deliberate planning and execution to achieve the finished picture. Although the photographers that work for this magazine tend to be technical purists, new technology allows publications and photographers to expunge the unkempt detail, clone the sky, and remove the offending wart. This far-ranging wizardry, multiplied by contemporary software and the advent of the digital camera, raises questions of ethics and asks us to debate the complexities of picture taking and consumption.

This extremely mutable medium—surficial, as thin as the light that coats the architecture and bounces back to us—seems to be rocketing forward at warp speed. New media challenge our long-held methods and shake our confidence in what we observe. Is it real? Is it new? Is it fake? At RECORD, we pledge that we will continue to scout, to personally visit as much of the architecture as is possible, before presenting major projects to you. For despite technical advancement in architectural photography, and despite the richness of the images we portray, one constant jumps up like a slap: To really get it, you have to see for yourself.



Pillsbury Hall, one of the architectural treasures of the University of Minnesota, was completed in 1889 as a home for the teaching of basic sciences. The Romanesque building was designed by noted architects Leroy S. Buffington and Harvey Ellis.

Letters

Picture if you will...

Can you imagine Philip Johnson, Richard Meier, and Peter Eisenman scurrying around every registration period trying to get together 36 Learning Units? Imagine if this ridiculous requirement had been instituted earlier: We may have found H.H. Richardson, Stanford White, and Louis Sullivan attending a class in Pendentive Bracketing for three Learning Units.

—Roy Euker, AIA
New York City

Bolder not always better

In your June issue [CRITIQUE, page 75], Robert Campbell, FAIA, critiqued our profession's over-emphasis on bold works, which are often appreciated primarily by the architectural elite. He was precisely on target. Architecture schools, professional journals (including RECORD), and awards programs have glorified 'novelty' to the detriment of all other values. Architects often complain that we are under-appreciated, under-compensated and viewed as arrogant by the public. Of course we are if function, harmony, and beauty are perpetually given a back seat to *avante-garde* innovation and fashion. And we reinforce this pattern every day—if it is radical looking and was designed by a star-architect, it couldn't possibly be bad and certainly not criticized lest we be branded boorish and unc cosmopolitan.

If we are to regain the public's trust, and our place as the maesters of the built environment, we would do well to bring our values back into balance. While our minds should always push the boundary of what we know, innovative works should not be built or lauded for that virtue alone, but rather when they serve a greater good.

—Scott Rodwin, AIA
Rodwin Architecture
Boulder, Colorado

Stars in their eyes

Several different items in your June issue converged to underscore the gap which can occur between great design (and responsible budgeting) and an uncritical trust in celebrity architecture. Robert Campbell's critique [JUNE 2001, page 75] of the real depth and value of blobbed designs (and other such boldies) makes extremely important points about the often sad disconnect between surface fashion and inherent design value in the given total project. Beyond question, daring and bold architecture (Gehry at his best, say) can reach vogue status because it's bloody good inside and out—but you sure can't assume you're going to get great design in the fullest sense just by assigning the latest celebrity architects to your job. Case in point, in the same June issue [NEWS, page 28], the Wexner Center already needs a major renovation to make the building work—as though this wasn't a priority in the original design program?

Going for fashion and "names" is a very old game, and an old gripe. New forms, new tricks, new arguments: they're healthy, keep them coming. I think this only becomes a problem when turning to celebrity fashion becomes uncritical and unexamined, with attendant budget-blowing to fund the signature design. Campbell worries about the influence of the critic in sanctifying or hyping new-wave designers who may often fail to deliver real design below the photo-spread level. This is worth pursuing, but today I believe the problem starts with the client. One can easily see this with many academic or similar institutions who so obviously wish to be seen as certifiably hip: the short-lists for these owners' projects will unfailingly tie-in with heavily-published name recognition branded as the edge-du-jour. That would be great if this reflects

true progressivism understood in some depth, but my sense of this is that it is increasingly a case of being on the bandwagon in a simplistic way—being able to show the institution is in vogue-step, rather than looking very deeply for the long-term value in the architect/program/context fit.

Now there also seems to be a willingness to go for vogue at any price: many high-profile projects carry budgets (and design fees to match) which have gone off the scale. I hope the world is getting design value to match. Earlier this year, Lincoln Center revealed a plan to renovate its performing arts complex [NEWS, JUNE 2001, page 43] for the obscene sum of \$1.5 billion. The Lincoln Center buildings were disappointing from the start both for style and sometimes for substance, and renovation is certainly in order. But the last thing one of our most important cultural institutions needs to do today is send the message it lives in an economic stratum ever deeper in the elitist realm. Sure enough, Mr. Gehry is on the design team. Will enough of that money address function and the real business of connecting audiences and the arts? Or, will there be a huge effort to do yet another variation of forms which are now in danger of becoming predictable fashion?

As with any wave, we are getting a few great buildings at the height of current fashion, but this might be a time to look a bit harder for priorities and perspective. I look forward to further exploration of your June Critique issues.

—John von Szeliski, AIA
Costa Mesa, Calif.

Are the kids alright?

The tragic death last year of an architecture student in an automobile accident after an all-nighter in studio has raised some important

issues and prompted a Studio Culture Task Force to investigate unhealthy and dangerous practices in architecture schools. While sleeplessness and automobiles do not mix well, we should be careful not to focus too much on the sleeplessness side of the equation. The well-intentioned complaints from students seem to place the blame exclusively on the time-honored practice of long and often late hours in studio. While their workload sometimes goes over the top, we need to ask about the increasing dependence on automobiles. Excepting commuter schools, why do we automatically accept that students must drive to and from campus? Why aren't there places available to live within walking distance? Why isn't transit available, or taxis, perhaps paid for by the school if hired after-hours? Why have we opted for patterns of development and a transportation system that burden all of us, including students, with the necessity of owning, registering, maintaining, insuring, fueling, and storing vehicles—to the tune of about \$600 per month per vehicle. Students often spend more on cars than housing. And then there are, alas, the social costs of congestion, pollution, and injury and death, as this tragedy has so poignantly reminded us. The car, not the all-nighter, is the more recent and more lethal ingredient in studio culture. While I believe that architectural education continues to place too much emphasis on solo performance and obligatory, habitual experimentation that is more an end than a means, the hard work and competition of studio are not the real risk or danger. In fact, perhaps we should be proud that the lights in the architecture school burn latest on campus. I hope the Task Force focuses on improving campuses and transportation as well as

Letters

pedagogy and studio culture, while not assuming that automobile dependence is a given in our lives.

—Douglas S. Kelbaugh, FAIA
Dean, Taubman College of
Architecture and Urban Planning
University of Michigan

Energized

It is heartening to see articles on sustainable energy design firming roots in the vastness of RECORD [DIGITAL ARCHITECT, JUNE 2001, page 195]. The “fruits”, when they bear, will be for all to relish. Energy consciousness is serious issue (though Mr. Bush may have different ideas) and the architectural community does and must laud the hard work that various companies and organizations are doing, especially to make it easier for architects to develop a sustainable design with ease and aplomb. The article “Resources for energy design and simulation.” is a case in point.

Unfortunately, a couple of facts mentioned in there are unsubstantiated. The mention of Building Design Advisor (BDA) as the interactive front which works with Energy Plus is not true. In fact, work to develop an interface for Energy Plus is an ongoing project and the best guesses are that it is a ways off from completion.

—Ashish Chaturvedi
Chapel Hill, N.C.

Wake up

Architecture is poised, at this moment, to change in ways far beyond our current interest in materiality and sustainability. The design of sentient systems of response and control has seen little growth since the development of thermostats and security systems. Not any more. As evidenced by your decision to cover Ten Arquitectos' Educare School Gymnasium in Guadalajara

in the June 2001 issue [page 118], some architects are now considering architecture as a sentient construct from the beginning of the design process. This is very different from the old way of finishing up a building's “design” and then calling in the engineers and other consultants to “add” environmental and security control systems.

But how could we be aware of this trend if we rely on the coverage you provided? Your headline refers to gills moving, which is very catchy, but we don't get any pithy quotes from the architect on the new approach, or a sense of what new technical developments were incorporated to make these gills possible.

In a time when there are fewer architectural magazines than ever, we need to rely on RECORD to catch on to trends like this, and give us insights we can use.

—Anders Nereim
Via e-mail

Pulp Culture

If your writers choose to use popular

culture references, they might want to do a bit more research.

A statement from your Exhibitions column in the July issue [“Opposite attractions,” page 67], regarding the “universal name recognition” of Frank Gehry, claims that the recent occurrence of Gehry's name in the television drama *Ally McBeal* is “proof that Gehry has become a branded entity . . .” the writer continues, “. . . the writers [of *McBeal*] obviously assumed that the audience would get it.”

Though the position is astute, the argument is a tad tardy. In the late 80's, there was a five time, Emmy-award-winning television drama called *thirtysomething*. Perhaps you have heard of it. In one episode, a character compliments another on his nicely designed chair. The other character responds, practically in passing, “Frank Gehry.”

This pop culture “proof” of Gehry's omnipresence was over a decade ago, not this last TV season.

What's next? I hope that a writer will not tell us that the

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FAX

Information Age has begun earlier this year, and evidence of such a new phenomenon is this Summer's invention called the FAX machine!

—Anthony Poon, AIA
Los Angeles

Decadence at dawn, 2001

Going back to the first issue of this year [EDITORIAL, JANUARY 2001, page 19], and as another enthusiastic reader of Jacques Barzun's book, *From Dawn to Decadence*, I applaud your thoughtful review of this important book that has much to say to architects. It will appeal to architects who are searching for the substance beneath the surface of our effervescent culture.

In his survey of 500 years of cultural history in the West, Barzun guides the reader to a better understanding of why some works have survived and others have perished. For the architect who is seeking to distinguish the durable from the ephemeral in his or her day-to-day practice, I can't think of a better guide than Jacques Barzun--

now, I believe in his 93rd year.

—Mark Ueland
Philadelphia

Fashion, turn to the right

I am one of those who have long deplored the descent of our noble profession into a business closely resembling that of clothes and the fashions that determine them. The speed with which critical opinion can change, the recycling rather than development of style, the hype accorded the shocking—you know the drill. When I saw Ulrich Lehmann's "Fashion and the cultural fabric of architecture" [CRITIQUE, APRIL 2001, page 61], I expected someone finally to observe that the emperor was wearing no clothes.

Instead, if I read Lehmann correctly—and these days, I'm never sure I understand the advanced language of the cultural establishment—he seems to be saying that it's okay. Relax and enjoy it. And he quotes the arch-enemy of decoration, Adolf Loos, to somehow bolster his argument.

I'm sorry. Architecture is, for me, still a profession and not a fashion. It carries with it the historic responsibilities to client and society as well as the reputation of the individual architect. This has nothing to do with the outrageous games of haute couture.

—Robert F. Gatje, FAIA
New York City

Digital signatures

I enjoyed Anthony Vidler's article [CRITIQUE, MAY 2001, page 71] discussing the "emerging computer style" generated by the digitalization of the design process and the as yet unresolved complications engendered by this transformation. However, I question if every digitally designed project has to be modeled after Bilbao? Important architects with signature styles have always engendered imitators who more often than not, appropriate only the stylistic elements, but not the essence of the original work. The finalist's designs for the Lyon, France science museum competition [NEWS, MAY 2001, page

44] gives one pause. Eisenman's design for the City of Culture in Galicia, Spain [NEWS, MAY 2001, page 48] was also unabashedly derivative of Bilbao.

I am not shocked by the copying but by the high profile names of the copiers! Where are the new form givers?

—Ken Laser
New York City

Corrections

Landscape architect and professor Michael Van Valkenburgh's name is misspelled on two occasions ["Landscape Urbanism: It's the future, not a contradiction," AUGUST 2001, page 66]. Also in that article, on page 68, images of South Coast Plaza's "Bridge of Gardens" are credited to landscape architect: Kathryn Gustafson. Kathryn Gustafson was lead designer on that project; landscape architect of record was Anderson & Ray, Seattle, Washington; architect was Ellerbe Becket, James Poulson, principal; and pedestrian bridge engineers, HNTB.

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Architects and preservationists rally for Saarinen's TWA Terminal

For many architects, Eero Saarinen's 1962 TWA terminal building at New York's John F. Kennedy International Airport epitomizes the architecture of flight. That's why Philip Johnson, FAIA, and fellow New York architects Robert A.M. Stern,



FAIA, and Peter Samton, FAIA, joined Museum of Modern Art president Agnes Gund in an Aug. 14 press conference to rally support for protecting Saarinen's masterpiece at JFK. Supporters fear that the terminal is on the road to destruction, even if full demolition is not immi-

nent. The Municipal Art Society (MAS) hosted the event, which also included representatives of the National Trust for Historic Preservation and other civic groups.

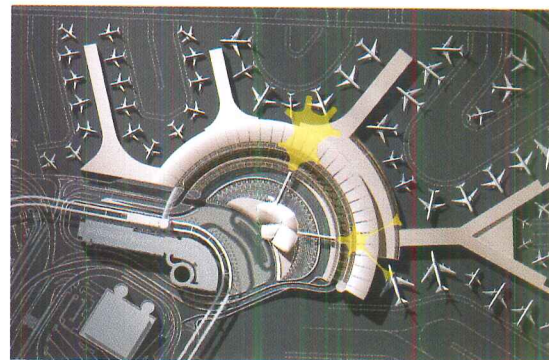
The Port Authority of New York and New Jersey will keep most of the Saarinen building in its JFK expansion plans, but it would no longer be used as a terminal and may be converted into a restaurant or other uses. A concept master plan developed by Beyer Blinder Belle shows how the original two satellite gate areas would be demolished (above right, in yellow) and new terminals for United Airlines and JetBlue Airways would surround the Saarinen building.

Stern drew a parallel to New York's Pennsylvania Station, for which demolition was foreseen but could not be stopped. "The TWA

building is the Pennsylvania Station of the air age," said Stern. "To cut any part is to open the door to its final destruction . . . Remember Pennsylvania Station! Let's not make the same mistake again!"

Frank E. Sanchis, executive director of the MAS, told a New York Landmarks Preservation Commission hearing, "The best way to preserve Saarinen's masterpiece is to preserve its function. We have great fear if this building is relegated to an auxiliary use, its survival will be threatened."

John E. Czarnecki, Assoc. AIA



Peter Samton, Philip Johnson, Agnes Gund, and Robert A.M. Stern (from left) speak out against plans (above, top) to alter and change the use of the original TWA terminal (above).



Welsh Assembly dismisses Lord Richard Rogers

In a remarkable move for a high-profile commission, Richard Rogers Partnership (RRP) has been dismissed from its role as architect of the Welsh Assembly building in Cardiff after the firm completed the design. The Welsh Assembly terminated Rogers' contract July 17 due to forecasted cost increases. At

press time, the assembly had invited RRP to suggest ways that the project could be completed under budget. It was unclear if the assembly would move ahead to hand procurement responsibility for Rogers' design to another company. Construction was halted after pilings were driven.

The assembly building will be the first purpose-built headquarters of the Welsh government following the devolution of power from London in 1998.

The project has been the subject of intense cost scrutiny since Rogers won an international competition for the building in

1998. The original construction cost was \$21.8 million, but it escalated alarmingly—the cost of the roof alone has risen by 200 percent. Current estimates for the total building cost are around \$65 million.

Rogers' termination marked the culmination of several months of worsening relations between RRP

and the Welsh Assembly. Excerpts of a letter from Lord Rogers to Edwina Hart, the Welsh finance minister, were leaked to the British press in late June. "The project has been bedeviled by your representatives' attempts to disguise the cost implications of a wide range of client decisions," wrote Rogers. "I sense that RRP is being blamed for the cost consequences of these factors. This is unacceptable."

Rogers has suggested that client demands for the use of native Welsh materials, as well as "divisive and adversarial" contractor arrangements are behind the cost increases.

The extent of compensation to RRP has not been determined. Rogers expects payment for work completed and may consider legal action. *Adam Mornement*

Record News

OFF THE RECORD

TIME magazine named **Steven Holl** the best architect in America. And you thought you were it?

British firm **David Chipperfield Architects** has been selected to design both the \$24 million main public library in Des Moines and the British Film Institute's Film Centre.

The five firms on the U.S. General Services Administration shortlist to design a \$306-million, 771,000-square-foot Census Bureau headquarters in Suitland, Md., are **Ai** of Washington, D.C.; **Eric Owen Moss** of Culver City, Calif.; **Kohn Pedersen Fox** of New York; **Skidmore, Owings & Merrill** of New York; and **Studios Architecture** of San Francisco.

Rem Koolhaas, **Thom Mayne** of **Morphosis**, and Spanish firm **Miralles Tagliabue** are finalists in a competition for the \$140 million California Department of Transportation (Caltrans) headquarters in downtown Los Angeles.

The Chicago Symphony Orchestra performed September 9 at the gala opening of the Jewish Museum by **Daniel Libeskind** in Berlin [JANUARY 1999, page 76].

The shortlist has been narrowed to three teams competing for the \$122 million main public library commission in Minneapolis: **Ellerbe Becket with Meyer Scherer & Rockcastle**; **Cesar Pelli & Associates with Architectural Alliance**; and **RSP Architects with Hardy Holzman Pfeiffer**. The next round of interviews is in mid-September. The library will be part of a two-block, mixed use project.

North Korea needs good architects, badly. The country has announced that training quality architects is a "number one priority," and has asked countries such as Britain to provide architecture scholarships at their best schools.

NEA announces New Public Works grant recipients

Recipients of the second annual National Endowment for the Arts (NEA) New Public Works initiative were announced in August. The NEA initiative awards up to \$50,000 each to 10 organizations to fund design competitions for a range of projects. Particular emphasis was given to landscape design competitions this year, with six recipients which had a significant landscape component. Each applicant has one year to complete the competition.

This year's recipients include Art Center College of Design in Pasadena, Calif., Brooklyn Public Library in Brooklyn, N.Y., City of Perth Amboy, N.J., Denver

International Airport, District of Columbia Office of Planning, Papago Salado Association of Phoenix, Real Art Ways of Hartford, Sixteenth Street Community Health Center of Milwaukee, and the University of Florida in Gainesville, Fla.

One recipient, the New York City Department of Design and Construction, received a \$50,000 grant to support an open design competition for an expansion of the Queens Museum of Art. The proposed jury includes Enrique Norten, Merrill Elam, AIA, David Childs, FAIA, and Ben van Berkel.

"By encouraging communities to conduct these competitions," NEA chair Bill Ivey said, "we are ensuring that, no matter where they are located, they have access to the best, most innovative design talent available."

Next year's initiative, which will have an emphasis on school design, will be expanded to award up to



\$1.25 million for as many as 20 projects. New Public Works will provide up to \$75,000 each for as many as 10 school design projects and up to \$50,000 each for up to 10 general projects. For more information on New Public Works, visit www.arts.gov. Letters of interest for the next round of grants are due January 11, 2002, for competitions to begin in fall 2002. JEC

U.S. building forecast shows little change from 2001 to 2002

Total building contract activity in the United States is not expected to differ greatly in 2002 from 2001 projected totals, but the 2001 numbers show marked declines in most building type categories from 2000, according to F.W. Dodge. The 2001 numbers are based on actual totals through May with projections for the rest of the year. An estimated 4.72 billion square feet of building space will be contracted this year, a five percent decline from 4.97 billion square feet in 2000 and a nearly eight percent decline from 5.10 billion square feet in 1999. Nonresidential contract activity is expected to decline 10 percent this year from 2000, from 1.86 to 1.68 billion square feet. In the chart, percent change is based on the prior year totals in the same category.

Chart Source: F.W. Dodge

	1999	2000	2001	KEY: MILLIONS OF SQ. FT.	
				2002	% CHANGE
TOTAL BUILDING	5098.9	4967.0	4718.8	4755.9	+1
NONRESIDENTIAL	1844.0	1862.2	1680.1	1643.5	-2
COMM. & INDUST.	1258.0	1286.7	1115.4	1082.3	-3
STORES	310.7	308.5	270.4	259.7	-4
WAREHOUSES	259.0	298.1	242.9	229.6	-5
OFFICES	278.8	300.0	256.8	243.2	-5
HOTELS	83.1	70.1	62.1	67.1	+8
GARAGES/SERV. STATN	185.1	199.6	180.9	173.1	-4
MANUFACTURING	141.4	110.3	102.3	109.7	+7
INSTITUTIONAL	586.0	575.5	564.7	561.2	-1
EDUCATION	244.1	251.1	262.8	258.8	-2
DORMITORIES	17.7	21.9	22.3	23.1	+3
HEALTH FACILITIES	98.8	87.7	79.8	82.9	+4
PUBLIC	49.8	44.5	40.9	39.8	-3
RELIGIOUS	48.7	49.7	50.0	46.6	-7
AMUSEMENT	88.1	93.9	80.0	77.1	-4
MISCELLANEOUS	38.7	26.7	28.9	33.1	+14
RESIDENTIAL	3255.0	3104.8	3038.7	3112.4	+2
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CIRCLE 15 ON INQUIRY CARD



Record News

OFF THE RECORD

New York-based publisher Condé Nast has hired **Rem Koolhaas** as a consultant, offering editorial and marketing advice. He is not being hired to design a building. Condé Nast publications include *Architectural Digest*, *House and Garden*, *New Yorker*, *Wired*, and *GQ*.

British firm **Rick Mather Architects** has won a competition for the masterplan and new academic buildings at the University of Lincoln in Lincoln, UK.

A \$1.4 billion expansion has been approved for Oakland International Airport. Also in Oakland, Kansas City-based **HOK** has been hired to evaluate possible new ballpark sites for the A's.

The **AIA** is working with **ABC News** on stories about the state of American schools, scheduled to air in September.

New York's **Cooper, Robertson & Partners** has been selected to design a new museum and visitor center at the Gettysburg National Battlefield Museum. **Atkin, Olshin, Lawson-Bell & Associates**; **Kallman McKinnell & Wood Architects**; **MGA Partners**; and **Smith Group** were competing.

The **Massachusetts Turnpike Big Dig managers** announced a surprising \$150 million cost increase for the project due to limited federal aid and unexpected price hikes in construction. The project's price tag is now about \$14.4 billion.

Perkins & Will has the commission for the \$28 million College of Engineering at North Carolina State University in Raleigh.

Hammel, Green & Abrahamson has moved its 400+ staff into new offices in a renovated warehouse building at 701 Washington Avenue North in the Minneapolis Warehouse District.



Environmentalists urge Gehry to quit plans for Playa Vista developer

Frank Gehry, FAIA, is the object of environmentalists' ire since having been hired by developer Rob Maguire to create a masterplan and design four buildings for a portion of Playa Vista, the largest swath of undeveloped land in Los Angeles.

Playa Vista's 1,087 acres includes the Ballona Wetlands, but the 60 acres that Gehry is planning is not a part of this system. Environmentalists, including a group called the Ballona Valley Preservation League, would rather have the entire site preserved as open space. They're concerned that having a well-known architect like Gehry on board will add momentum

to the development of more of the land in the future, including the wetlands.

Playa Vista, adjacent to the Pacific Ocean, is just north of Los Angeles and south of Santa Monica.

Howard Hughes owned the property in the 1940s, and built a runway and aircraft plant. The hangar in which Hughes built his Spruce Goose seaplane remains on the site, and will be preserved. A number of development proposals for the land have died in the past 20 years, including plans for a DreamWorks studio in 1999.

The primary developer, Playa Capital, now plans more than 8,000 housing units, including low-income housing, and about five million square feet of commercial, office, and retail space, while keeping more than half of the 1,087 acres open space. Construction has started on about 700 apartment units.

Gehry is working solely for Maguire, who is in the process of purchasing 60 acres with 10 existing buildings from Playa Capital for \$90 million. Gehry will design four buildings totaling 450,000 square feet of space, and his firm is planning to relocate into a 45,000-square-foot building formerly used to manufacture helicopters. The landscape firm Olin Partnership will plan the 14 acres of open space



The Playa Vista site, once owned by Howard Hughes, includes the Ballona Wetlands.

around the Gehry buildings, and Gensler is working with Gehry's office on the building designs.

Protesting Gehry's role in Playa Vista, activists picketed and held a 90-minute vigil in front of his office on July 30. Environmentalists held signs that called Gehry a "frog murderer" and Malibu architect Eric Lloyd Wright, grandson of Frank Lloyd Wright, spoke. Wright told RECORD, "Gehry's removal from the project may not stop the developer from moving forward, but his involvement gives a stamp of approval to the whole project, making it much harder to stop Playa [Capital] from developing all of the land."

Activists tried to make a personal plea by protesting in front of Gehry's home on Aug. 8, delivering an 8-foot-tall "Earth memo" signed by more than 1,000 people.

In a meeting with protesters, Gehry's partner James Glymph, FAIA, said Gehry Partners will remain on the project, stressing that the 60-acre site has been zoned for industrial uses for many years and the development will not harm wetlands. *Danette Riddle and JEC*



Activists, including Eric Lloyd Wright (above), protested outside Gehry's office on July 30.



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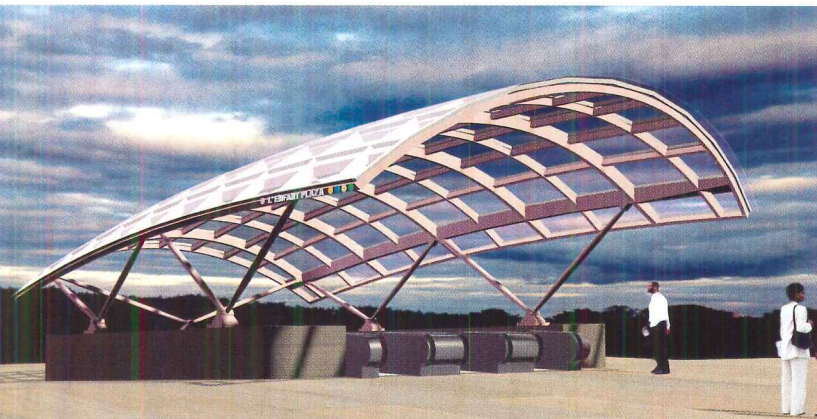
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D.C.-area architects win competition for Metro canopies, former-awardee Moore outraged

Drawing inspiration from the distinctive curved, coffered ceilings of the Washington, D.C. Metrorail subway system, architects Jon Lourie, AIA, Richard Chenoweth, AIA, and

Richard Houghton collaborated to win an international competition to design a canopy prototype for Metro's outdoor station entrances. The canopies are intended to shel-

ter Metro escalators, which are often in need of repair due to exposure to inclement weather.

The competition, sponsored by the Washington Metropolitan Transit Authority (WMATA), attracted more than 167 international entries, but all four finalists were Washington, D.C.-area architects. Lourie, Chenoweth, and Houghton are from Silver Spring, Md. Other finalists included the team of Stanley Ira Hallet, FAIA and Ali Omar; the Weihe Design Group; and Arthur Cotton Moore, FAIA.

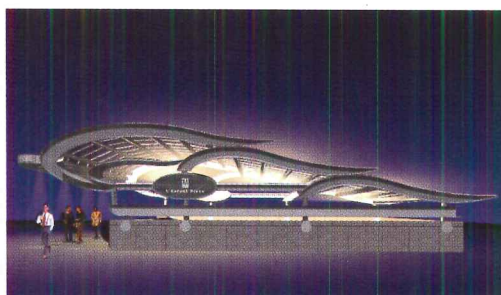
Late last year, Metro awarded the design commission to Moore [DECEMBER 2000, page 34], but many local architects spoke out against both Moore's design (below, center) and the WMATA's architect-selection process. The WMATA subsequently denied Moore the contract and initiated the competition with Moore as an automatic finalist. But Moore was never fired

and was not paid for the design services he provided.

"They hired us, which is a procurement," according to Patricia Moore, speaking for Moore's office. "They never fired us, they had no reasonable cause to fire us, and then they commissioned the competition, which is a second procurement. I've got three lawyers knocking on the door telling me we have a case here."

Speaking for the winning architects, who worked with Arup on their design, Lourie noted that the glass-and-steel canopy paid homage to Metro architect Harry M. Weese's coffered vaults. He said the competition had been an opportunity for smaller firms to enter the realm of civic architecture.

Canopy construction will likely start in spring 2002, with all 46 to be complete by 2005. An estimated \$27 million has been budgeted for the canopies. *Ellen Sands*



The Metro canopy design by Jon Lourie, AIA, Richard Chenoweth, AIA, and Richard Houghton (top) won the competition in Washington, D.C. Finalist entries include those by Stanley Ira Hallet, FAIA, and Ali Omar (above, left), Arthur Cotton Moore, FAIA (above, center), and Weihe Design Group (above, right).

"A man of our times," Clinton likes contemporary look for his office

Bill Clinton is remarkably receptive to contemporary design, which surprised the architect of his office, Navid Maqami, AIA.

"I was worried that he would want something traditional, but he's a man of our times," Maqami told RECORD. Maqami is the director of the New York office of Greenberg Farrow Architecture, which worked with Gruzen Samton Architects on the design of the former president's Harlem office. Interior designer Sheila Bridges, lighting designer James Underwood, and interiors consultant George M. Romanella assisted on the project.

Clinton moved into the 8,600-square-foot office in August, after first considering a much more expensive space in the Carnegie Hall Tower in midtown Manhattan. Located on the top floor of a 14-story office building on 125th Street, the office was renovated at a cost of \$6.21 per square foot, according to the General Services Administration. Maqami said some millwork and lighting plans were scaled back to keep costs in line with a tight budget and timeframe.

Taxpayers will pay for the \$31.50 per square foot rent, which is cheap compared to the \$89 a square foot cost at Carnegie Hall Tower.

The president's office is a 22-by-42 room, with a desk at one end, an informal seating area, and a



Computer rendering of Clinton's Harlem office.

table for meetings. Nine-foot-tall bookshelves, covered in Cherry veneer, line his personal office walls. Maqami said bookshelves were a top priority: "He'd often ask, 'do I have enough bookshelves?'"

The remainder of the office suite includes a reception area, glass-enclosed conference room, and offices and cubicles for Clinton's 10-person staff.

Clinton joined the architects in selecting chairs at the Bernhardt Design showroom in Manhattan. Maqami said Clinton personally tested the chairs that he selected, including Bernhardt's Prague chair, designed by Madonna's brother Christopher Ciccone. *JEC*



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CIRCLE 17 ON INQUIRY CARD

Chicago's Millennium Park construction at least three years late and far over budget

The turn of the millennium has come and gone, but Chicago's Millennium Park has yet to open. Originally planned to open in summer 2000 to highlight the city's millennium celebration, the ambitious park just north of the Art Institute along Michigan Avenue is now far over budget, and still two years away from completion. Initially budgeted at \$150 million, the park costs are now estimated to be near \$370 million. A number of problems and misjudgements have plagued the planning and construction of the park, now likely to be complete in summer 2003.

Under construction at the northwest corner of Grant Park on land that was once a railyard, the 24-acre park is bounded by Michigan Avenue, Columbus Drive, and Randolph and Monroe Streets. Mayor Richard M. Daley unveiled the park plans in spring 1998, and estimated the cost at \$150 million with \$30 million coming from private donors and most of the rest coming from revenue from a new underground parking garage. The park, built above a 2,500-car garage, will include a metal band shell and trellis by Frank O. Gehry, FAIA, an indoor performance venue for the Chicago Music and Dance

Company, and a large sculpture by artist Anish Kapoor.

Planned as a fast-track project, the push to build quickly ultimately caused more problems. A complicated project, the park is built on top of the parking garage and partly on a bridge spanning the remaining commuter rail tracks. A *Chicago Tribune* investigation published August 5 revealed how problems arose when construction began while planners had only vague ideas about what would actually be built on top of the park. As plans progressed, numerous design revisions called for engineering and construction changes that delayed the project and drove up costs. As revisions were made, hundreds of caissons already in the ground had to be enlarged or shortened, or new ones had to be added. The *Tribune* also reported that city officials rushed to begin the parking garage construction before a building permit was issued. Planned for completion in February, the garage is unfinished.

Private donations, now totaling more than \$100 million, are funding the band shell and sculpture. Meanwhile, other aspects of the park plans have been discarded due to cost overruns. A crushed-granite promenade that was to run the length



Chicago's Millennium Park construction continues as the price tag soars.

of the park will now simply be lawn. What was planned as a sloped lawn area near the bandshell for concert-goers will now be a flat lawn.

In reaction to the *Tribune* investigation, Mayor Daley blamed

contractors and Gehry for delays, but Gehry said band shell construction documents were ready for bidding a year ago. Skidmore, Owings & Merrill is the primary architect for the park. JEC

Trump hires SOM for Trump Tower Chicago—may be world's tallest building

New York developer Donald Trump wants to make his mark in Chicago in a big way. He plans to develop a multi-use building in downtown that could be the world's tallest building, but the height and size has not been confirmed.

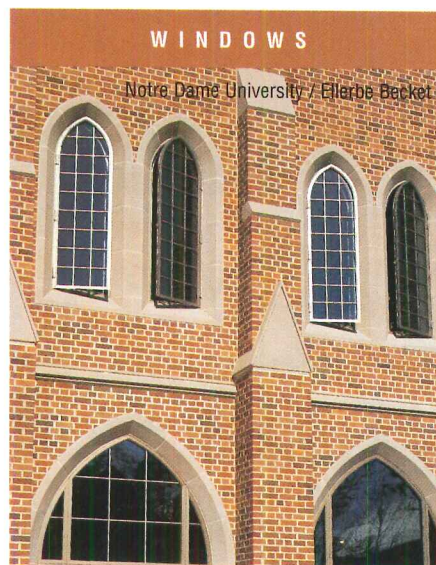
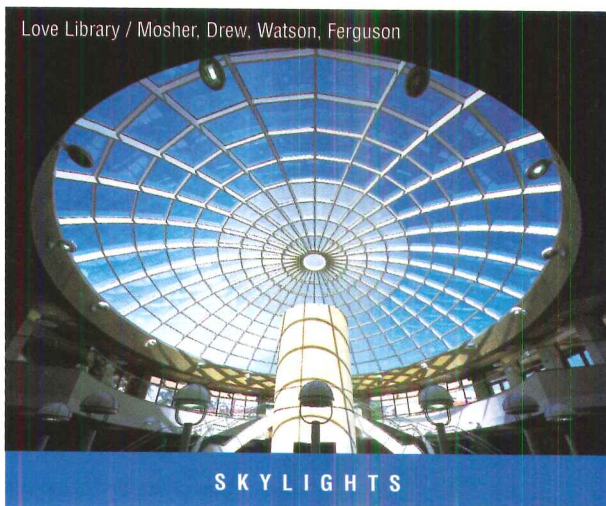
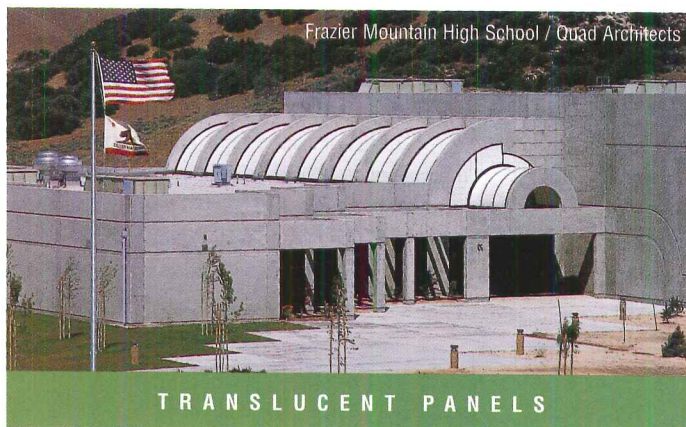
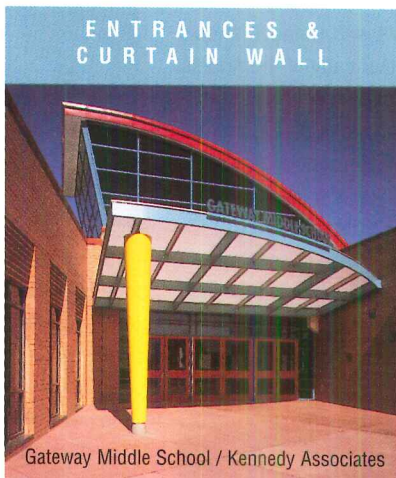
Trump is entering a joint venture with Hollinger International, parent company of the *Chicago Sun-Times*, to develop the project, called Trump Tower Chicago, to be located on the current site of the *Sun-Times* headquarters on the Chicago River at Wabash Ave. The 1.8-acre site would be valued at \$75 million under terms of the joint venture agreement.

Skidmore, Owings & Merrill (SOM) has been hired for the commission after being considered on a shortlist that included Kohn Pedersen Fox and Lohan Associates. SOM partner Adrian Smith, based in Chicago, will head the design team. The building is expected to have 2.4 million to 3.1 million

square feet of space, with luxury condominiums, office and retail space, and possibly a hotel. Whether the building will include a new *Sun-Times* headquarters remains to be determined.

In a key move that would help Trump in his effort to build a lucrative tower on the site, the air rights over a parking structure just north of the *Sun-Times* building were put up for sale in August by the Marshall Field family, a former owner of the *Sun-Times*. Trump may acquire the air rights when they go on auction in October to assure that views to and from his building would remain intact. The proposed Trump building would increase the air rights value, and Trump may want to capture that before another developer benefits. While Trump has a casino in nearby Gary, Ind., he has yet to develop in downtown Chicago. JEC

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What's Shakin': New Architecture in LA exhibits eight projects in two MOCA locations

Architectural exhibitions tend toward retrospectives of an architect's body of work, but a new two-part exhibition put on by the Museum of Contemporary Art (MOCA) in Los Angeles attempts to capture the vitality evident in its hometown's current innovative construction projects. Opening simultaneously at MOCA at the Pacific Design Center and MOCA at the Geffen

Contemporary on September 16, 2001, *What's Shakin': New Architecture in LA*, surveys eight projects under construction across the City of Angels.

A range of institutional, commercial, and public work is represented in the exhibition, through the use of models, video, digital imagery, and construction photographs, among other media.

The shows are organized by Brooke Hodge, MOCA curator of architecture and design.

The two largest projects shown are both located in downtown Los Angeles—the Walt Disney Concert Hall by Frank O. Gehry, FAIA, which opens in 2003, and Rafael Moneo's Cathedral of Our Lady of the Angels, complete in fall 2002.

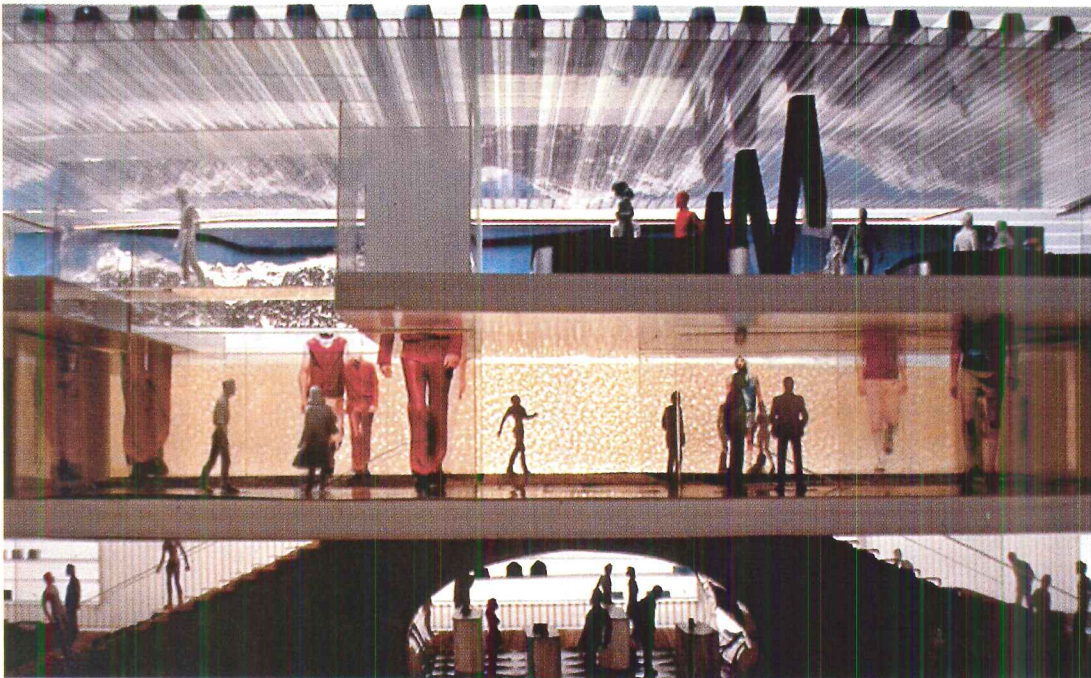
Two other projects offer variations on entertainment space. In Beverly Hills, one of three new U.S. Prada stores designed by Rem Koolhaas will include spaces for performance and exhibition as well as shopping. Michael Maltzan, in collaboration with Toronto designer



Bruce Mau and Dutch landscape designer Petra Blaisse, has designed an addition to the UCLA Hammer Museum [JUNE 2001, page 42] that will also feature exhibition and performance space.

Two schools are also on exhibit. The new campus for the Southern California Institute of Architecture (SCI-Arc), designed by Gary Paige and SCI-Arc faculty and alumni, will be built inside an abandoned freight depot [MAY 2001, page 38]. Another school in the exhibition, the Accelerated School, designed by Marmol Radziner + Associates, will house over 800 kindergarten through 12th grade students. Corporate projects in the show include "The Pterodactyl" in Culver City by Eric Owen Moss and an office for Uniserve by Greg Lynn.

The Pacific Design Center portion of the exhibition runs through December 30, 2001, and the show at the Geffen Contemporary closes on January 20, 2002. *Kevin Lerner*



The show includes Koolhaas' Prada store (above) and the Accelerated School (right) by Marmol Radziner & Associates.

AIA and NOMA leaders discuss possible approaches to increase minority architect numbers

Leaders of the National Organization of Minority Architects (NOMA) met with leaders of the American Institute of Architects (AIA) in a summit August 1st to discuss ways to increase diversity in the profession.

"I sense there is an untapped pool of talent out there that we are overlooking," said John D. Anderson, FAIA, president of the AIA.

NOMA president Paul Taylor, AIA, called for the meeting, which included representatives of the National Council of Architectural

Registration Boards, the Association of Collegiate Schools of Architecture (ACSA), and the American Institute of Architecture Students.

The NOMA is concerned that the number of African-American architects remains alarmingly low and has not increased. While 12.3 percent of the the U.S. population is African-American, in 1999 only 2.3 percent of U.S. architects were African-American, according to the Statistical Abstract of the United States. The growth rate in the per-

centage of African-American architects has been 0.7 percent, or essentially flat, since 1983, according to AIA statistics.

Based on ACSA survey findings, recommendations were made to attract more African-Americans into the profession: better exposure and education about the profession at the middle and high school levels, more funding including scholarships and grants, more role models, active recruitment of African-American students and faculty, additional

recruitment efforts by African-American architects in their region's colleges and universities, better recruitment in the inner city, and summer design camps for high school students.

Gordon H. Chong, FAIA, 2002 president of the AIA, said the AIA will continue to nurture a partnership with NOMA. Summit members agreed to continue a dialogue to define a purpose, create a plan, and develop a network among collateral organizations. *JEC*



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CIRCLE 19 ON INQUIRY CARD

After years of planning, three museums open in Vienna's MuseumsQuartier

By the end of this month, Vienna will open three entirely new museum structures to complete its MuseumsQuartier, an extension of the city's monumental core that's ambitious even amid a European museum-building frenzy.

These treasures are hidden behind a quarter-mile-long Baroque facade once housing imperial stables. The MuseumsQuartier is across from Vienna's famed Ringstrasse, the neo-Baroque pageantry of the art history and natural history museums, and the Hofburg Palace.

The prominent position of the Quartier accounts for its long and controversial history. A 1987 design competition was not decided until 1990, when Vienna-based Ortner & Ortner was chosen, with Manfred Wehdorn as the restoration architect. Though the scheme was continually pared back over succeeding years for lack of money, the design's stone, metal, and glass modernism, though restrained,

raised hackles among preservationists. A slim, oval-shaped 200-foot-tall tower—intended as a kind of contemporary signpost visible from the Ring—was eventually scrapped. Director Wolfgang Waldner plans to eventually build the tower.

Two new structures, the Leopold and Ludwig collections, dominate the expansive courtyard behind the former stables. The Leopold collection houses an encyclopedic collection of seminal works covering Austria's contribution to the development of European Modernism from the Secession onward. It's a 127,000-square foot, off-white cube clad in limestone—evoking a Minimalist villa. Inside, the spaces are lofty, neutral, and luxurious with stone wrapping the walls and ceiling of the main stair and an entry atrium.

The Ludwig collection of art from the 1960s and 1970s forms the core of the Museum of Modern



Vienna's MuseumsQuartier (above) includes the Leopold collection (left) and the Ludwig collection (right) buildings, both by Vienna firm Ortner & Ortner.

Art Ludwig Foundation Vienna. Ortner & Ortner built another cubic structure, though this one is clad in dark basalt stone with a roof that billows up into a gentle curve. The theatrical, industrial look of the full-height atrium was created by exposing the mechanicals of glass-

clad elevators linked to white-box exhibition spaces by glass bridges.

Tucked into or behind existing historic structures are venues for performances and exhibitions, the Architecture Center Vienna, the Tobacco Museum, and a children's museum. *James S. Russell, AIA*



Germany considers rebuilding Royal Palace

Berlin's Royal Palace (right), home to Germany's Hohenzollern dynasty for more than 200 years until 1918, was once the city's symbolic heart. Though much of the exterior survived World War II bombing, the Communist German Democratic Republic (GDR) destroyed the remains in 1950 for ideological reasons. The German government is considering reconstructing the Palace in some form in this 300th anniversary year of the House of Hohenzollern.

An international commission of politicians, architects, historians, and developers has been organized by the German government to supervise an

architectural competition. The commission must address three questions: What should the new building look like? How should it be used? And, most importantly, who should pay for it, and how?

In July, the commission issued its first recommendation: The building presently on the site, the Communist-era Palace of the Republic, should be demolished and a structure approximating the size and appearance of the Royal Palace (model, left) should be built. The commission will likely issue a more lengthy building plan by the end of the year.

Opponents of rebuilding the Royal Palace argue that this would restore a symbol of Prussian militarism, but supporters emphasize that the goal is to reclaim the center of the city with a grand building.

Is reconstruction, at an expected cost of \$800 million, practical? The Hohenzollern Palace was huge—built over centuries with ornamental façades and an equally impressive interior. The city of Berlin is shaken by serious financial problems, so the German Federal government will likely pay for much, but not all, of the reconstruction. The commission has not determined the building's functions, but it may need to include some revenue-generating uses. *Eva Schweitzer*



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News Briefs

Vidler named Cooper Union dean

Anthony Vidler has been named dean of the Irwin S. Chanin School of Architecture at The Cooper Union in New York City. A search for a new dean was launched last year, following the death of John Q. Hejduk, who had been dean since 1975. Vidler was professor of art history and architecture at UCLA from 1993 to 1996 and 1998 until this year. He was dean of the Cornell University College of Art, Architecture and Planning from 1996 to 1998, and was on the faculty at Princeton University for more than 25 years prior to 1993. The Cooper Union architecture program has not been known as a leader in integrating computer technology in its curriculum, but that may change. Dr. George Campbell Jr., president of



Vidler

The Cooper Union, told RECORD, "I think it's the right time to become aggressive in that area and Tony is open to that."

\$6.3 billion O'Hare expansion faces opposition

Chicago Mayor Richard M. Daley presented a plan this summer for a \$6.3 billion expansion of O'Hare Airport, including commuter rail extensions, a new runway, two expanded runways, and a \$3 billion terminal expansion. United Airlines rejected key elements of the plan, though, because of conflicts with a 1999 plan now being implemented. Opposition from surrounding suburbs is also expected. Illinois Gov. George Ryan, who must ultimately approve the plan, held four public hearings on the plan in late August.



Nevada Museum of Art by Will Bruder.

Bruder's Nevada Museum of Art takes shape

Construction is beginning on the new Nevada Museum of Art, The Donald W. Reynolds Center for the Visual Arts, E. L. Wiegand Gallery, by Will Bruder. The 55,000-square-foot Reno museum will include more than 13,000 square feet of exhibition galleries, a 180-seat theater, research library and study center, and a rooftop sculpture garden with views of the surrounding mountains. Inspired by the Black Rock Desert and Nevada landscape, Bruder chose to clad the four-story building in black slate. The \$22 million building, being built on the existing museum site, opens in spring 2003.

Phillies unveil design for new ballpark

The Philadelphia Phillies have unveiled their plans for a new baseball-only ballpark. Designed by Hellmuth, Obata + Kassabaum and Philadelphia's Ewing Cole Cherry Brott, the 43,000-seat ballpark will open in

2004 on a site just east of Veterans' Stadium, which will be demolished for parking. The ballpark, with views of the Philadelphia skyline to the north, will be part of a sport complex including a new Philadelphia Eagles football stadium, designed by NBBJ Sport, opening in 2003, and the First Union Center, recently completed for the 76ers and Flyers.



Phillies' proposed ballpark.

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News Briefs

\$48 million expansion plans for National Aquarium Boston firm Chermayeff, Sollogub and Poole, whose partners designed the



National Aquarium \$48 expansion

National Aquarium in Baltimore as part of the firm Cambridge Seven Associates, has been hired for a \$48 million expansion and renovation of the 1981 Maryland aquarium. The 60,000-square-foot addition will include a replica of an Australian Outback river canyon with a 40-foot-tall waterfall. The expansion will be complete in 2005.

Fisher honored as America's Oldest Worker Green Thumb, a provider of training and employment for mature and disadvantaged workers, is honoring architect Harold Fisher, AIA, with its 2001 National Prime Time Award for America's Oldest Worker. Fisher, who turns 100 on Oct. 28, is founder and president of Harold H. Fisher & Associates, a firm specializing in religious architecture in Harper Woods, Mich.

Fisher began as an architectural apprentice at age 15 in 1916, and founded his firm in the mid-1940s.

Balsley to redesign Halprin's Skyline Park in Denver

Landscape architecture firm Thomas Balsley Associates of New York was selected in a competition for a \$12 million redesign of downtown



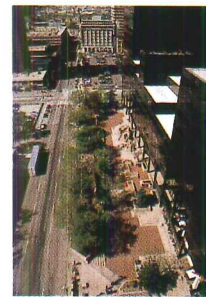
Fisher

Denver's Skyline Park. Initially designed by modernist landscape architect Lawrence Halprin in 1973, the 100-foot-wide sunken park runs along three blocks of Arapahoe Street. The tree-lined 3.2-acre area has served as downtown Denver's primary open space for years, but has since fallen into disrepair. The redesign, as suggested by Toronto urban design and plan-

ning firm Urban Strategies in a consulting plan, calls for areas for outdoor performances and festivals, botanical gardens, an ice rink, and fountains. The competition shortlist included DHM Design of Denver with Carter Tighe

Leeming and Kajiwara of Marin County, Calif.; EDAW of Denver with Jerde Partnership of Venice, Calif.; Ken Kay Associates of San Fran-

cisco; and Hargreaves Associates of San Francisco. *Tony Illia*



Denver's Skyline Park

Architects Eric Bedford, Marshall Myers, and Martin Stern, Jr. die

Eric Bedford, chief architect of the British government from 1950 to 1970, died July 28 at age 91. Bedford designed the 1961 Post Office Tower (now British Telecom Tower)

in London. **Marshall D. Meyers**, FAIA, an architect who worked for Louis Kahn from 1957 to 1973, died Aug. 12 at age 70. Meyers was project architect for the Kimbell Art Museum, and completed the Center for British Art at Yale University after Kahn's death. **Martin Stern Jr.**, an architect of Los Angeles coffee shops in the '50s and Las Vegas hotels in the '60s and '70s, died July 29 at 84. Stern designed the Sahara Hotel's first tower in 1959 and the MGM Grand Hotel.

Redefining the Practice of Architecture

Vital information.

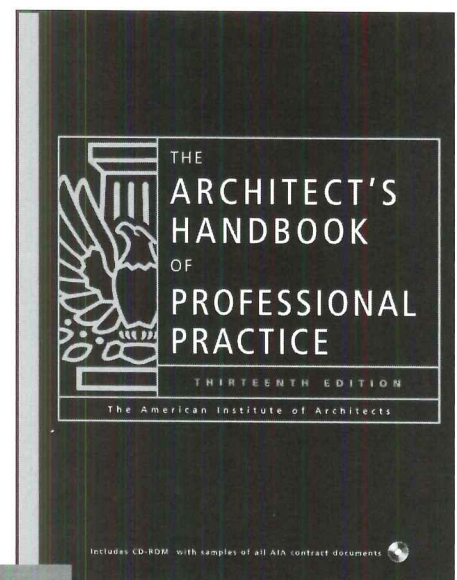
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Dates & Events

New & Upcoming Exhibitions

The Democratic Monument in America 1900–2000

New York City

September 5–October 3

Explores the complex and often conflicting beliefs that surround the issue of building monuments in America. Organized by the Harvard Design School in collaboration with Parsons School of Design. At the Aronson Gallery at Parsons School of Design. Contact 212/229-8987.

Connections: Cesar Pelli Washington DC

September 12–April 28

One of the most comprehensive retrospectives on the life and work of distinguished architect and AIA Gold Medalist, Cesar Pelli. Through photographs, photo murals, over 100 drawings, and thirty original models, the show will explore over a half century of his career, culminating with his most recent work. At the National Building Museum. Contact 202/272-2448

The Architecture of the American Craft Museum—An Exhibition

New York City

September 14–January 13

An installation of a model of the newly designed building by architects Tod Williams/Billie Tsien and a photo essay documenting the construction process, from groundbreaking to near completion, of the museum's new site at 45 West 53 Street. Contact 212/977.7170 or see www.folkartmuseum.org.

Alternative Architecture: The Work of Allan Wexler Buffalo

September 15–October 27

Exhibits the work of this unconven-

tional artist/architect whose designs explore the relationship between the applied arts and fine arts through highly unusual, small-scale works of architecture. Other artists will be included in the show, as well. At Hallwalls Contemporary Art Center. Accompanying lecture by Wexler to take place on September 15, at the Albright-Knox Gallery. Contact lamarche@buffalo.edu.

Perfect Acts of Architecture Pittsburgh

September 15–January 6, 2002

Features over 140 drawings and collages on the architectural meditations of architects from the 1970s and 80s when work was highly theoretical. Includes the works of Rem Koolhaas, Bernard Tschumi, Peter Eisenman, Daniel Libeskind, and Morphosis. At the Heinz Architectural Center. Contact stitelert@carnegiemuseums.org.

Nova Scotia Architect: Brian MacKay-Lyons—An Exhibition Chicago

October 9–November 1

A traveling exhibition that explores the original work of this Canadian-born architect. The opening will commence in Chicago with a lecture from the architect entitled, "Stewardship." Graham Foundation. Contact 312/787-4071.

The Chicago Bungalow Chicago

October 18–January 15, 2002

This exhibit offers a kaleidoscopic look at 20th century life in urban America as viewed through the architectural and social history of the Chicago Bungalow, via photos, memorabilia, and samples of decorative arts. At the Chicago Architecture Foundation. Contact 312/922-3432 or see www.architecture.org.

Ongoing Exhibitions

Mies in Berlin

New York City

June 21–September 11

Exhibits work from the early career (1905–1938) of architect Ludwig Mies van der Rohe. Though Mies is known mostly for his American Modernist glass skyscrapers, this exhibition will focus on early influences. At the Museum of Modern Art. Contact 212/708-9400 or see www.moma.org.

Mies in America

New York City

June 21–September 23

Exhibits work from the late career of the German architect Ludwig Mies van der Rohe, after he arrived in America in 1938. The Seagram Building in New York and the Farnsworth House in Illinois are the show highlights. At the Whitney Museum of Art. Contact 212/570-3600 or www.whitney.org. Exhibition complements Mies in Berlin.

Glass of the Avant-Garde: From Vienna Secession to Bauhaus

New York City

August 21–February 24

Featuring the Torsten Brohan Collection from the Museo Nacional de Artes Decorativas in Madrid, the exhibition surveys the early 20th-century avant garde glass movement in Austria, Germany, and the Czech Republic, and includes the work of Josef Hoffman, Otto Prutsxcher, and Michael Powolny. At the Cooper-Hewitt National Design Museum. Contact 212/947-4557.

From Arts and Crafts to Modern Design: The Architecture of William L. Price

Washington, D.C.

Through March 24, 2002

Exhibit is the first retrospective of the architect's thirty-year career and includes original drawings and paintings, furniture and decorative arts. Famous projects include Atlantic City's luxury hotels, many midwestern railroad stations and private homes. At the National Building Museum. Contact Russell C. Campbell III at 215/898-7798 or ruii@pobox.upenn.edu.

Lectures, Symposia & Conferences

DC Builds—14th Street Renaissance Washington, D.C.

September 4

14th Street NW, still scarred from the 1968 riots, is experiencing an amazing rebirth. Public officials, private developers, and local residents will discuss the complex issues involved in the rejuvenation of this corridor from downtown to Columbia Heights. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

The Future of Public Space in an Era of Privatization Washington, D.C.

September 5

A symposium moderated by Paul Goldberger of the New Yorker magazine. Panelists include Nathan Glazer, Jerold Kayden, and James Todd. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

New York City on the Verge: New Design for the Waterfront New York City

September 6

Organized by the Van Alen Institute, the symposium will present the ideas of designers directly engaged in the challenges of program, infrastructure, and design for

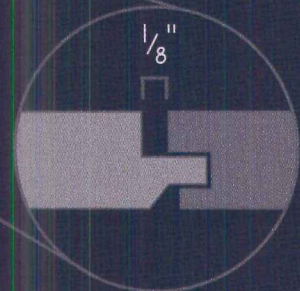
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Dates & Events

waterfronts. Co-sponsored by the Department of Architecture, Parsons School of Design. At New School University. Contact 212/924-7000 x16.

2001 Bentley International User Conference Philadelphia

September 23-27

Conference includes workshops and demonstrations on technology, business information and the latest commercial release of MicroStation V8. Related panel discussions include subjects such as, "Women in Technology." At the Pennsylvania Convention Center. Contact 610/ 458-2614 or see www.bentley.com/biuc.

Design + Architecture 2001 Miami

October 1-30

Beginning on the 1st with D+A day, this month long celebration features a variety of exhibitions, tours, open houses, workshops, and lectures along the Florida Coast. The event is part of a community-wide effort to raise awareness of the impact of design and design-related fields in the immediate community. Visit www.designandarchitectureday.com.

An American Legacy: Sarasota School of Architecture Tour and Symposium New York City

November 1-5

A five-day symposium and tour on land and water of 48 structures designed by Paul Rudolph, Ralph Twitchell and colleagues of the Sarasota School of Architecture who brought the ideas of Frank Lloyd Wright to sub-tropical Florida. At The Fine Arts Society of Sarasota. Contact 941/388-1530 or see www.sarasota-architecture.org.

Less is More: Tenth International Symposium of Architecture Monterey, Mexico

November 2

A symposium featuring Ken Yeang, Manuelle Gautrand, Rodolfo Machado, Francisco Serrano and Alberto Kalach. Part of the University's 55th anniversary. At the Universidad Autonoma de Nuevo Leon, Facultad de Arquitectura. Contact 011 52 83 76 26 00 x111 or facarq@ccr.dsi.uanl.mx.

Architecture in the Form of Dialogue: 4th International Architecture

Symposium - Pontresina, Switzerland

November 12-14

A three-day symposium dedicated to the discussion of media, politics, mobility, and architecture in the coming century. Sponsored by the British Council, the forum features an interdisciplinary panel of internationally known architects, theorists, and city planners, including Will Alsop, Wolf D. Prix, Maxwell Hutchinson, and Hani Rashid. Contact +41 81 838 83-18 or visit www.archisymp.com.

Tours

The Municipal Art Society Tours New York City

September

As part of the continuing Discover New York series, there will be tours of Grand Central Terminal, Midtown Manhattan, Rockefeller Center, Greenwich Village, and other neighborhoods and sites. Contact 212/935-3960 or see www.mas.org.

Charleston's 25th Annual Fall Candlelight Tours of Homes and Gardens Charleston, S.C.

September 20—October 27

Hosted by the Preservation Society of Charleston. Each tour highlights a different neighborhood. Contact 800/968-8175 or preserve@preservationsociety.org.

The Art and Architecture of Bilbao and Barcelona

October 12-19 and October 19-26

Hosted by Archetours, the tour examines the fascinating works of Gaudi to Gehry and many other greats in between! Contact 800/770-3051 or info@archetours.com.

Sicily: Archeological and Architectural Splendors

November 10-20

Hosted by Archetours, the tour combines luxury and learning about Greek, medieval, and even Art Deco architecture. Contact 800/770-3051 or info@archetours.com.

Conventions

Restoration & Renovation New Orleans

September 7-8

Marlite Modules



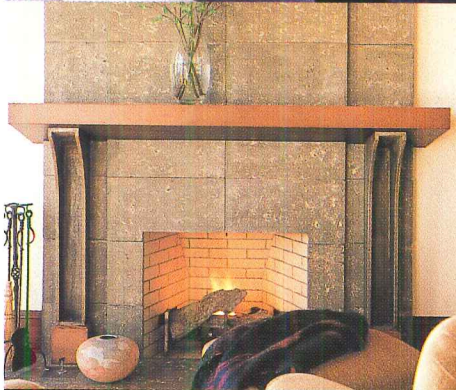
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Rail-volution: Building Livable Cities with Transit

San Francisco

September 13—16

Choose from over 60 workshops, plenary sessions, and symposia. Get an in-depth look at the latest in transportation innovation. Contact www.railvolution.com.

Six Degrees of Collaboration Washington, D.C.

September 22—24

Explores the benefits and challenges of implementing the many technologies that foster collaboration in the building design and construction process. Sponsored by the AIA Technology in Architectural Practice (TAP)/PIA. Contact kshertz@aia.org or 202/626-7579.

Build Boston Boston

September 22—24

Brings together over 350 suppliers of building products and services and more than 11,000 architects, engineers, specifiers, contractors, facility managers and other networking specialists from all over the world. At the World Trade Center Boston. Contact 617/385-5214 or ed.hurley@fmr.com.

3rd Paradox Conference: Third-Millennium Habitats

Phoenix

September 21—23

Over three hundred architects, planners, and urban visionaries will convene to discuss the future of sustainable design, community planning, and its related cyberspace applications. Contact 415/865-0481 for more information.

AIGA National Design Competition 2001 Washington DC

September 23

Hosting an arena of speakers, the AIGA's ninth biennial national design will explore the ways in which design may shape and conversely impact society in the future. Visit www.aiga.org/content

Competitions

USITT Theatre Architecture Awards

Deadline: October 2

The United States Institute for Theatre Technology is hosting this competition for the best design of theaters anywhere in the world that are new constructions or renovations. Contact 800/93USITT or see www.usitt.org.

The City of Wildwood

Deadline: October 12

Soliciting designs for a new bicycle and pedestrian overpass that will serve as a connection in Wildwood, Mo., between the most populated areas and the town center. Team or individual entry. Contact 636/458-0440 or mcfinearts@earthlink.net.

Architecture for Natural Disasters

Deadline: November 14

Seeking exemplary temporary and permanent architecture that prepares for or responds to natural disasters. Sponsored by the Takiron Company in Japan. Contact 81 3 3818 1961 or fax 81 3 3818 6742.

The Rome Prize

Deadline: November 15

Qualified Architects, Designers, Landscape Architects, Composers, Scholars, and Visual Artists are invited to apply for this prestigious award that includes spending six months to two years in Rome. Visit www.aarome.org/prize for more information.

Jenn-Air Kitchen Competition

Deadline: December 28

The best new or remodeled kitchens that use Jenn-Air major appliances exclusively are eligible. A \$10,000 cash prize and a trip to Milan are offered. Contact 612/375-8541 or vmelen@clynch.com.

Percent for the Arts: Bus Shelters

Deadline: February 15, 2002

The Bloomington Community Art Commission seeks proposals for three new bus shelters to be installed throughout the city. The award includes \$2500 to each of the winning designs. Contact BloomingtonArt@aol.com for a brochure.

E-mail your submissions for Dates and Events two months before the event to ingrid_whitehead@mcgraw-hill.com

For and about the new generation of architects

archrecord2 FOR THE EMERGING ARCHITECT

DEPARTMENTS

From the very beginning, archrecord2 has been more of a presence on architecturalrecord.com than it has been in the magazine, owing, of course, to space restrictions. This month's Design feature speaks to why. Two young architects covered in a mere two and a half pages? Can't be done, right? Well, it can, as long as it's only a tantalizing taste of the complete coverage to be found on the Web. Which is not to mention Work, Live, and Talk, all of which get their due online.

DESIGN

Young architects join the "fold."

On the surface, the work of Alice Min Soo Chun (and her frequent collaborator Timothy McDonald) has little to do with that of Theodore Galante. The most obvious connection would be that much of the most creative work of both architects remains unbuilt. But that would be to lump them in with a huge number of architects just starting off on their own.

One less obvious, but no less telling connection is a shared preoccupation with adaptable architecture, or more specifically, architecture that *folds*.

For example, take the Ethereal Theatre, designed by Chun and McDonald with a group of their students. Built as a design/build summer studio for the Philadelphia Fringe Festival, an annual drama event, the theater folds and unfolds to adapt to the various uses the Fringe performers might devise for it. And on top of that, the structure is portable, able to be moved about the city as the festival requires.

A true design/build project, the theater has its construction documents literally scratched into its metal structure.

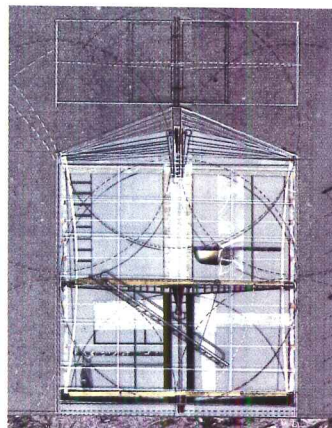
Chun, whose father is a practicing architect in Seoul, South Korea, and whose mother is an artist, has an interest in

architecture that will make a difference in the community. Philadelphia's Office of Housing and Community Development chose a design for affordable housing that she worked on with McDonald, Daniel Magno, and Wesley Wei. Chun also served as Project Architect for Wei's Pennsylvania House in Media, Penn. [APRIL 2001, page 154]. She has also taken it upon herself to design Explica, a prototype for a portable, foldable house that can be airlifted or driven to a site and unfolded *in situ*. Explica houses could be used to shelter victims of natural disasters, poor families, or even vacationers. Only the foundation of the structure



**Ethereal Theatre,
Philadelphia, 2000**

Alice Chun and Timothy McDonald. Marshaling a group of students, the architects designed and built a portable outdoor theater for a drama group for \$7,000.

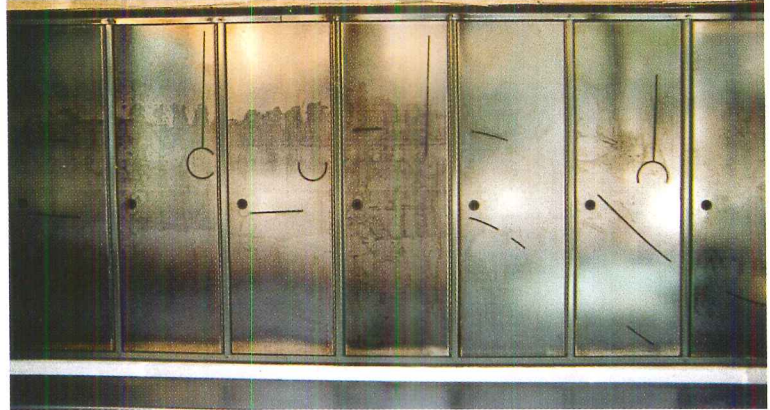


Explica House, unbuilt, 2001

Alice Chun. Explica is a prototype for low-cost foldable housing. The main walls fold out from a rear service wall. Only the foundation is prepared and built on site.

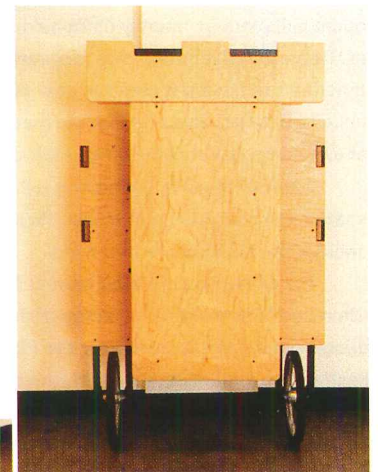
**Brookside School Lockers,
Bloomfield Hills, Mich., 1995**

*Theodore Galante, Architect.
Galante realized a young student's
need for individuality, and crafted
200 unique lockers to replace the
proposed standard model.*



**Rose/Broder Residence,
Center Harbor, N.H., 2001-2002**

*The Galante Architecture Studio.
In this renovation project, a central
wall divides public and
private spaces. A copper cylinder,
perforated by translucent tubes,
serves as a beacon in the forest
when the lights in the cylinder's
rooms are illuminated.*

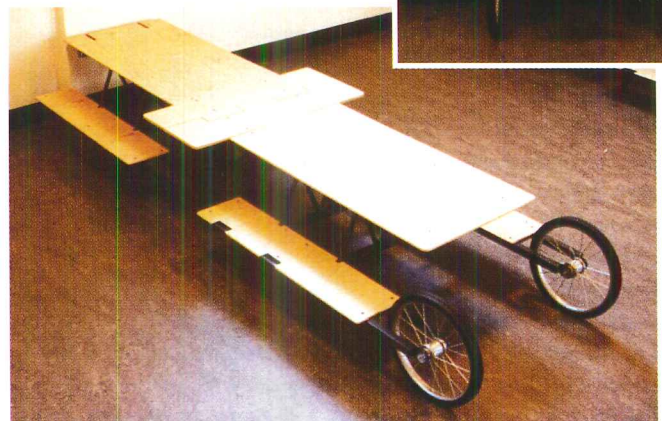


continued from previous page would have to be prepared on-site, allowing for a high degree of adaptability.

Chun plans to continue her teaching at the University of Pennsylvania and Temple University, and has begun work on some larger-scale projects. But her true calling, as she sees it, is, like her idol Samuel Mockbee, to continue her work with architecture for the good of the people.

Like Chun, Theodore Galante went to work for his school after earning his master's degree. But where Chun went to work teaching, Galante started working as a designer, serving as project architect for a pedestrian bridge and some other work on the campus of the Cranbrook Academy of Art, his graduate alma mater. Eventually, he moved from Michigan to Cambridge, Mass., where he now runs his own studio. First, though, he worked for Peter Rose as site architect for the Brookside Elementary School.

When a contractor submitted a proposal for 200 standard-issue lockers for the school, Galante saw a conflict between the school's stated purpose of reinforcing the individuality of its students and the sameness of the proposed locker banks. So Galante proposed to design and fabricate the lockers himself. The resulting lockers, which are an abstraction of the building's plans, are each a unique creation. Galante also worked with Crossings Architecture to design his first folding project, a group of lunch tables for the school. Inspired by the tricycles that the students are riding just before lunch, and constrained by the area of the existing lunchroom, Galante and his associates designed tables that roll up



**Children's Folding Lunch Tables,
Bloomfield Hills, Mich., 1995**

*Theodore Galante Architect and
Crossings Architecture. Tables
reflect their intended occupants'
playfulness with bicycle wheels.*

10:21 am Jan 2001

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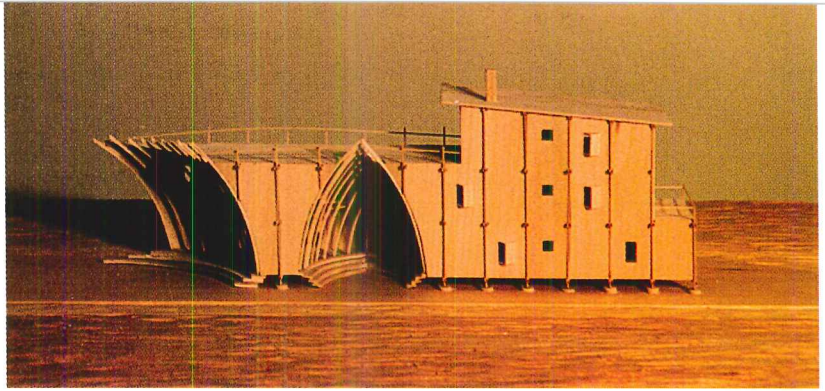
Products manufactured by United States Gypsum Co. and USG Interiors, Inc. ©2001 USG Corporation

continued from previous page against the wall on bicycle wheels.

His biggest folding project, however, is his competition entry to design the Palos Verdes Art Center in California. Several of the buildings in Galante's campus-like proposal transform according to need, the most striking changeable element being a covered sculpture garden whose roof panels can flip up to form a billboard to advertise upcoming exhibitions, or, even serve as a drive-in movie theater.

Galante's practice appears to be on the verge of having two projects under construction. One, a residential renovation in the New Hampshire woods, works to capture views of the lake on which it sits. The other is an addition to a recreation center in Falmouth, Mass. The latter commission called for a box with a tar roof, but Galante managed to articulate the skin of the building with concrete boards and insert architecture by stealth. Nothing in these two designs or those on the boards at Alice Chun's studio shows any sign, however, of including any structures that fold. *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more projects from Alice Chun and Theodore Galante, including projects mentioned in this article.



Vawter/Lewrenzetti House, Keego Harbor, Mich., unbuilt
Theodore Galante, Architect.
Designed as a lakeside retreat, this

residence brings the lake right up to and then inside the house during periodic floods. The foundation is raised on piers.

LIVE

On the Side: Karin Pitman

It's no surprise that Karin Pitman, AIA, would spend some of her spare time painting. She was, after all, trained as an architect. The bigger surprise is that this planner and landscape architect from Albuquerque, N.M., should find release in poetry. "I don't write them too often," she says, "and mostly they are a way for me to get some of my emotions out when I'm not quite sure what's going on internally"

The poem (far right) was submitted to an art show as an explanation for the painting below. The requirements for submission said, according to Pitman, "artists are encouraged to be creative in their responses"—as if artists wouldn't be creative. So I made my submission in more of a poetry form than in prose." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more examples of the leisure activities of young architects and to learn how to submit yours.



Formed By It

as if canyons
before air, water around us
pulsing to a heartbeat
shaping us, sculpting, weaving life

living water, protecting, nourishing
now cleansing, cleaning, baptizing
washing, refreshing, drawing us,
calling, always near

play with it, in it, on it, around it
oblivious to meaning, amused
entertained, it fills us, scares us
teaches us, eludes us

watching, pondering, cycles repeat
draws us, puzzles us, races by
crashes noise, change constant
forcing its way, carving out

leaving beauty, particles tiny
one by one, progress unseen
moment to moment, come, go
flooding, drying, ebb, flow

slowing, stagnant, winding by
scarce trickle, rushes through
repeating rhythm, precious drop
erasing before, but reminding

06 April 2000

TALK

Connect with your peers

The great cyber conversation at the TALK section of archrecord2 is still raging, and with a vengeance. We add a new topic to the hubbub this month, so stop by the site to let us know what you think: What books, magazines, and web sites are you reading these days? What do you think of them?

WORK

Forge a career and get ahead

For regularly updated stories that affect the careers of young architects, the place to look is archrecord2's WORK section. Things are always changing, so check in often.

For news and features that affect your emerging career, pay a visit to architecturalrecord.com/archrecord2

A renaissance on the river in Saint Paul

Correspondent's File

By Bette Hammel

Minnesota's capital city, Saint Paul, is not unlike Pittsburgh in some ways. Both were once thriving cities with industry churning on their rivers, and both midsized cities were hard hit by the loss of much of that industry in the latter part of the 20th Century. Like Pittsburgh, Saint Paul is today in the midst of a renaissance in which the city's riverfront land is being reclaimed. St. Paulites are returning to the Mississippi.

With the 1997 "Saint Paul on the Mississippi Development Framework" plan as a basis, once-forsaken areas along Saint Paul's 27-mile-long riverfront are being rejuvenated. The plan touted far-reaching goals, spelling out ways to revive the downtown core, connect it to the river, and re-evolve the city's image as a thriving Mississippi River town. Results are now evident thanks to the leadership of Mayor Norm Coleman, dedicated business and community leaders, and planners and architects.

Cass Gilbert, Minnesota's most renowned architect when he practiced in Saint Paul in the 1880s and 1890s, visualized a city plan with a crescent-shaped network of tree-lined avenues radiating from the capitol to the river. As the city grew, however, buildings were built with their backs toward the river and industrial pollution contaminated the water and land. By the early 1990s, Saint Paul's downtown core

was losing out to the suburbs.

Alarmed civic leaders hired Toronto-based urban design and planning firm Urban Strategies to devise a plan. When Urban Strategies partner Ken Greenberg saw the city in 1994, he noted "a sense of disinvestment, of loss of jobs and population and a downtown seriously hollowed out."

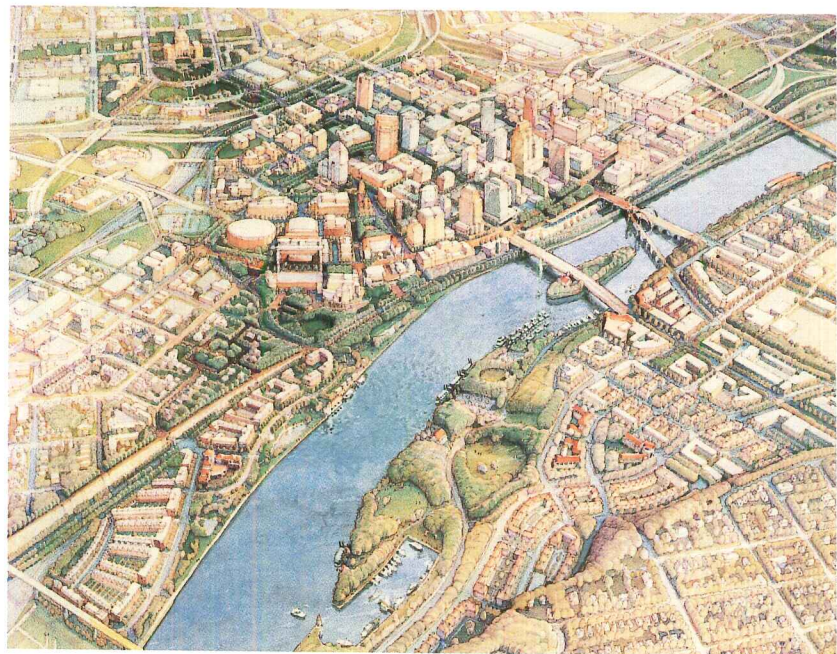
Led by Greenberg (now with his own firm, Greenberg Consultants), Urban Strategies assembled a team that developed "a methodology that insisted that the 30 to 40 organizations already involved (in St. Paul's redevelopment) be a part of it," Greenberg said. Thousands of people participated, along with key members from city planning, parks and public works, and the mayor's office. An implementation agency, the Saint Paul Riverfront Corporation, was formed and the Saint Paul on the Mississippi Design Center, co-directed by Urban Strategies, was established to coordinate implementation of the design principles.

The plan spelled out a vision for downtown "as a system of interconnected mixed-use urban villages nestled in the lush green of a reforested river valley." Based on 10 principles of city-building, such as evoking a sense of place, restoring the urban ecology, and investment in the public realm, the plan targeted four city precincts for development. "We identified the crescent of opportunity in Cass Gilbert's grand axis extending from the state capitol to the river," Greenberg said.

As a further embellishment of the plan, the Riverfront Corporation introduced the Renaissance Project, which identified a network of connections between downtown, the neighborhoods and the river, streetscape improvements, as well as a strategy for public/private fundraising. More than three dozen

and TKDA Architects and built in 1998, the wide-sweeping bridge is designed with extra-large sidewalks and overlook plazas. Greenberg called the bridge, "a great city balcony, a key turning point in the way the city thinks of itself."

While the bridge was under construction, major work was underway



The vision for the "Saint Paul on the Mississippi Development Framework."

building projects, valued at more than \$190 million, have been built based on the framework principles.

Framework for building

The first completed project considered a catalyst for future economic growth was the rebuilt Wabasha Street bridge, a vital link to Harriet Island (south of the Mississippi from downtown) and the West Side. Designed by Saint Paul Public Works

to reestablish 70-acre Harriet Island Regional Park as the city's gathering place, at a cost of \$14.5 million. Although the island park's amenities had fallen into neglect over time, river quality had been improved considerably thanks to the city's decade-long investments in storm water management and flood control. By 1997, the river was the cleanest it had been in 50 years. When the new park opened in September, 2000, crowds

Bette Hammel is a Minnesota-based freelance journalist specializing in architecture.

Correspondent's File

enjoyed expressions of Harriet Island's rebirth, such as the River Walk paved with stepping stones funded by local families, a restored 1941 pavilion designed by Minnesota's first African-American architect, Clarence Wigington, and a terraced plaza leading directly down to the river.



Graves designs Target Stage

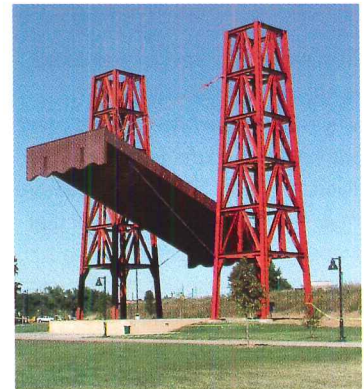
Inspired by the open lattice steel frame bridges that once spanned the river, Michael Graves, FAIA, in association with Saint Paul firm Rafferty Rafferty Tollefson Architects, designed an outdoor performing arts pavilion on Harriet Island called The Target Stage, completed this August. The pavilion has two red web steel-framed towers supporting a suspended roof of copper, drawing inspiration from the Saint Paul Cathedral dome. On the adjacent Raspberry Island, a curving

glass arch structure called The Schubert Club Band Shell, by James Carpenter of New York, will be completed in spring 2002.

A crucial portion of the Saint Paul plan was construction of the \$100 million Science Museum of Minnesota, the city's first public institution with direct access to the river, completed in late 1999. Designed by Ellerbe Becket, the seven-story brick, stone, and glass building cascades down to the riverfront through a series of indoor and outdoor stairways and terraces. At

street level, a brick facade encases a new convertible dome Omnitheater.

The tenacious effort by The Design Center, Riverfront Corp. and City Hall are still paying off. More than 3,000 units of new housing have been built in accordance with the framework plan. While some say the Saint Paul plan is "Cass Gilbert Revisited," it's more than a simple grid of streets and boulevards. Greenberg said, "Thanks to the work of a lot of people, this city is transforming itself." ■



Wabasha Street Bridge (top left), Science Museum of Minnesota (top right), and the Target Stage (above).

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Critique

By Michael Sorkin

On the outskirts of Fairfield, Iowa, (a sign reads "A Cast of 10,000, Appearing as Themselves"), two vaguely Moghul office buildings slide by my car window. The buildings aren't far off the suburban norm. But something is clearly different; is it those unusual cupolas? Down the road, two gold domes announce the campus of the Maharishi University of Management, the heart of a thriving community of several thousand followers of the Maharishi Mahesh Yogi, guru to the Beatles, progenitor of Transcendental Meditation (TM), and the force behind the newly incorporated Vedic City, a 549-acre town under development a couple of miles away. This is Iowa's 950th city, its first new one in 19 years.

I first saw the Vedic City plan a few years ago and it was love at first sight. A "mandala" of 10 circular neighborhoods surrounded a circular center laced with canals and greenery. The geometry recalled Ebenezer Howard's blithe diagrams of the garden city, ideal cities of the Renaissance, Lebbeus Woods in the late '80s. Compact, pedestrian, green, neighborhood-based, with its own formal language, founded on a strong community predisposition to collective behavior, this seemed to be a utopia with legs.

Jonathan Lipman, AIA—lead architect for Maharishi Global Construction—was my indefatigable tour guide. He began by explicating the basic architectural principles that inform the process of "creating ideal housing in harmony with natural law." The intention (and I quote from a pamphlet on the subject) is

"building for the health and happiness of everyone" by "connecting individual life with cosmic life, individual intelligence with cosmic intelligence." The problem is especially acute in architecture and planning because—of all the systems in the material work—this is one that fails to self-organize itself in harmony with universal systems.

The Veda rules

The guide for this elision is the *Sthapatya Veda*, one of 40 sacred Sanskrit texts that describe Hindu cosmology. The basic architectural principles are straightforward and include: an invariable eastern orientation for the main entrance; a central courtyard (*Brahmasthan*); a Vedic proportioning system based in nature; a proper *vastu* fence delineating the property; natural, nontoxic materials; a correct relation to existing topography and water bodies; and an appropriate deployment of uses within the structure. The mood of this Vedic regulation is similar to that of Feng Shui (not to mention the Sierra Club), sharing the idea that architecture is most socially effective when it aligns itself with larger cosmic forces, through its geometry, orientation, and construction.

On its face, the *Veda* seems to recapitulate the modernist injunction to incorporate *espace, soleil, verdure*. And the two share both a penchant for global reconstruction and a fondness for scientific language. The Maharishi argues that the state of transcendence achieved by meditation is a kind of royal road

to oneness with the "unified field" described in contemporary physics. But the argument goes beyond such generalities. The eastern orientation is explained not simply via the poetry of the rising and shining sun but according to the idea that the thalamus—the joint between mind and body—fires its neurons at different rates according to orientation. East is best, helping to dissipate anger, fear, disease, and poverty.

Shortly after I returned to New York, I received a paper from Lipman in which he and his co-researchers seek to demonstrate that houses with an eastern entrance are dramatically less likely to be burgled than those facing south. Vedic design had a different kind of impact on the people who work at a small Sthapatya-Veda office building constructed from a kit of varnished pre-cut logs. The building houses a company that photographs mass events—marathons, graduations, conventions, etc.—and markets individual shots to thousands of participants, a business requiring great accuracy and loads of computer technology. The owners raved about dramatic reduction in worker errors, the disappearance of bad language, a perceptible rise in levels of contentment, and a 42 percent increase in sales. I was to hear many such stories.

The benefits of the system are held to offer hope to humanity as a

whole. The theory is that if the square root of one percent of a given population is engaged in mediation, the effects will carry beyond it: enough mediators, peace comes to the planet. This has given rise to a plan to construct a huge TM community in every second time zone, housed in 12 mixed-use sky-



That Vedic look: the Wynne House by Henry Clark.

scrapers, each accommodating 100,000 meditators. Plans for the first of these (designed with Minoru Yamaski's office) are underway for a site in São Paulo. And to link them all, the Maharishi is in the process of forming a virtual country, a single conceptual and spiritual space inhabited by his multinational followers, a truly contemporary conceit.

I visited a dozen houses in and around Fairfield, ranging in size from cottages to mansions. All share the necessary Vedic features and are impeccably orderly and lovingly built. All are constructed in a style that is unexceptionally comfortable and suburban, although Lipman and other local architects argue that the *Veda* specifies no particular style. The designers are simply responding to the vernacular, fitting in to their

Critique

adoptive community. Of course, there are special features. Switching on the jumbo TV in one house, I found the Maharishi's own cable channel. In several bedrooms, faint sounds of *ragas* came from a closed-circuit system playing in the closet. And, always, there was a meditation room, sparsely furnished and lined with portraits of the benignly smiling Maharishi.

Wright meets the Maharishi

Lipman, the author of a monograph on Wright's Johnson Wax Building, showed me his own design for the Joel and Joy Hirshberg house, modeled on Wright's 1902 Willits House in Highland Park and retaining a Wrightian sense of flow. In the room of an adolescent son is a wall full of academic medals, (the incredibly successful students at the K-12 school on campus are presented as proof of TM's power), a homemade robot and a bar-mitzvah picture. TM supplements religion: Joy Hirshberg, for example, is president of the local synagogue, founded to accommodate a Jewish population newly arrived to live the Vedic lifestyle.

Mandala One is the most well-advanced of the neighborhoods, its initial houses facing east on small-ish lots with a scraggly green at their center, awaiting landscaping. The houses, designed by a number of architects, are stylistically similar but by no means identical and are unified by a collectively taken decision to clad their steeply pitched roofs in uniform (and handsome) concrete shingles. Behind Mandala One lies Vedic City's principle civic monument, the Observatory, a miniature of the famous Jantar Mantar in Jaipur, India, the touchstone for orienting everything. The Observatory is also a version of the original radiating town plan, an abstraction and measure of its planetary alignments. It sits comfortably with the native style of abstraction, the Jeffersonian grid that subdivides the larger landscape.

Both sacred and secular grids claim to be rational and foreground a belief in evidence, in scientific method and analysis. Both extend patterns dating back millennia and expressed in a wide variety of cultural arrangements. And, both easily measure subdivisions of property. Vedic City has no more collectivized property than normal arrangements: like the Maharishi's new country, the collective is virtual. The city is being built by developers for homeowners with all the financial and regulatory arrangements of more standard-issue versions of the American Dream. This is a private community, engineered via the same system of codes, covenants, and restrictions as anyplace else.

One of Vedic City's first developers is Rogers Badgett, an ex-broker and director of The Raj, a tranquil ayurvedic health spa. Described in promotional literature as French Country in style, it is, vaguely. Badgett, who came to TM after seeing the Maharishi on Johnny Carson, in his native Kentucky, is a decade or so older than most of the people I met in leadership roles. But he reinforced my sense that these people come from a very specific cultural time and place, boomers who discovered TM in its '70s heyday. Under their business suits, these were utopians I could recognize.

Eco-design; no utility bills

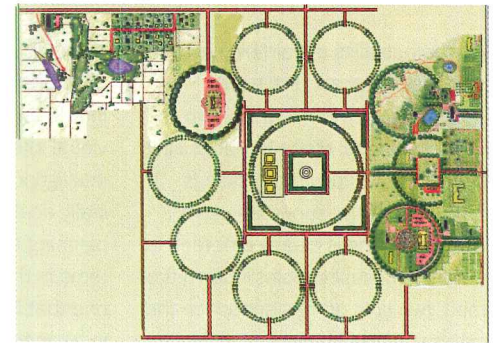
No such suit for John Freeberg, who greeted me with a cheery, "Seen enough symmetry yet?" We jawed about the seeming inflexibility of the Sthapatya strictures as a medium of formal invention as we drove to the site of "Abundance Eco Village," of which he is codeveloper. We began, though, with a tour of a straw-bale house under construction by a colleague on a nearby hillock. Nicely crafted and surrounded with various solar, wind, and other natural technologies and appliances, the place had a familiar,



comfortable feel. And my conversation with Freeberg—on energy generation, insulation, solar gain, organic agriculture, and construction technology—was one I'd had in various settings and guises many times before. The wrinkle, of course, is the *Veda*, which allowed for our discussion of morphological strategies for combining southern solar orientation with Vedic preferences for the east.

Although it will soon hold 32 houses, the Eco Village—"America's First Sustainable Community"—consists now only of lightly rolling farmland just outside Vedic City, two greenhouses, a couple of new ponds, and extensive planting to begin a permaculture. Advertising boasts "all the benefits of proper orientation and Vedic proportions enhanced by the latest in ecological design" with "cost similar to other developments but no utility bills."

Later, in the cafeteria at the University, I looked around the room at my fellow diners to see if I could discover anything unusual in their faces, dress, or attitudes. I couldn't. The campus itself had been inherited from a college gone bust and had been augmented over the years by new construction in Vedic style as well as by a series of "rectifications" of existing buildings to bring them into alignment with basic principles. Even the two domes were being corrected, their round bases being squared off to reflect current



The Hirshberg Residence by Jonathan Lipman (top); master plan for Vedic City (above).

interpretations of the *Veda*. Other additions included a gigantic Butler building for 7000 meditators, a mobile-home park, and several more modest academic structures. A master plan under development aims to address what is most strikingly lacking at both the university and at Vedic City: a coherent approach to the integration of landscape and agronomy with urbanism.

After lunch, we met with Alaric Arenander, a neurophysiologist and director of the Brain Research Institute. He ushered us into a classroom for a brief introduction to the Vedic science of mind, clearly not the first time he'd diagrammed consciousness for skeptical tourists. The chalk-talk covered territory with which I had grown familiar over my two days: TM was a route to a pure consciousness that created a condition of oneness with the unified field. The architecture of the brain matches the architecture of consciousness, providing the key for social and individual "harmonization." Back in his office, Arenander fired up a topographic 3-D rendering of a rotating brain on his laptop,

A white, rectangular bathtub is positioned on a concrete ledge overlooking a vast, blue ocean under a clear sky. The bathtub is the central focus, and its shadow is cast on the concrete. To the right of the tub, there is a white plastic bag and some green plants with red flowers. The background shows a distant horizon line.

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Critique

highlighting those areas engaged during TM. Piled everywhere were stacks of print-outs of brainwaves, and on the wall was a poster comparing normal and "criminal" brains. After I returned home, he e-mailed me a paper about the effects of TM on violence. The paper's conclusion: a regular program of TM in the schools will dramatically reduce violence and stress and markedly improve creativity and intellectual performance, "good news to those who would like to apply simple solutions to complex social problems."

Utopias everywhere

Fairfield sits at a nexus of such intentions. Due east and just over the Mississippi lies Nauvoo, the first Mormon capital. Up the road is Iowa City, great college town. Mennonites and Shakers are thick on the roadways in their horses and buggies. Hasidic Jews, seeking community, have taken over Postville, Iowa. The

countryside itself is a point grid of perfect farmsteads, small sustainable self-contained utopias, one-family-large, the *original* dream. Even the multinational corporations build utopias, the communities of franchises at exits off the interstate.

Most legendary of these communities is Amana. Founded in 1854 by a group of German religious communitarians, the Amana Colony grew into a self-supporting network of six villages with an almost completely closed economy and all property held communally. This system lasted until the "Great Change" of 1932 when—under pressure of shrinking isolation, the Depression, and red-baiting—the community elected to join the capitalist, secular system that surrounded it. But the historic architectures and affinities remained and over 90 percent of the community is still occupied by descendants of the original colonists.

It's a tender time to visit Amana, which is well into the process of morphing into the Amana Experience. Amana-style restaurants abound, all serving "family-style," evoking the original communal kitchens of the colony. The old streets are lined with fudge stores and craft shops. Signs are in German. People are in costume. Amana is becoming a theme park, America's most invigorated and contemporary style of utopia.

Vedic City is also to have its theme park, Maharishi Veda Land, an indoor sequence of hi-tech illusionistic tableaux designed by the magician Doug Henning. Its intent is didactic and the literature promises that visitors will leave *enlightened*. The theme park style permeates Vedic City, with its Vedic Golf Course and watergarden, its spray of hotels, its Vedic health spa, its precise, teleological, planning. But does this invalidate it in any way? Was I wrong to find it very pleasant?

The bad book on theming—from Disneyland to the ersatz small towns of the New Urbanists—is that it's mendacious, simulated architecture,

trickery to conduce consumer behavior, inauthentic cultural expression. Of course, one person's theme is another's cultural motif: style is really irrelevant. More problematic is the inviolable character of the originating sacred text. Whether Bible, Constitution, Veda, Vitruvius, or the Building Code, strictures run the risk of being consumed uncritically and suppressing invention and democracy. Like restrictive covenants and homeowner associations, they can become the medium of excluding the Other.

Vedic City seems much better than this. The cosmology is innocent and the practices useful and successful. Even the grandiosity seems benign: all prophets use hyperbole to make their points. The architectural results, if sometimes veering towards kitsch, are extremely livable and increasingly engage vital questions of sustainability and the environment. Vedic City has something to teach planning beyond pure tolerance. And the message—peace, love, understanding, and less stress—ain't bad. You got a problem with that? ■



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Establishing your design firm as a values-based organization

Practice Matters

By Paul Jorgensen, AIA

At its best, design can be a wonderful, joint experience in which people with many different skills work together to overcome each project's special challenges; various ideas are developed, and things get built. The experience should be very satisfying. But, often it isn't. Why? Because some firms capable of designing good buildings can be difficult places to work. Good and bad organizations come in all shapes and sizes, although it has been my observation that the larger the firm, the greater the risk that those running it will become preoccupied with its form. They often put more structure, rules, and procedures in place to govern those who are actually in the trenches doing the work, while losing track of the values and mission that originally motivated its formation. The resulting bureaucracy that emerges may make managers less concerned with solving their client's problems, further weakening the firm's effectiveness.

Unfortunately, architects have little training in the dynamics of organizations and how to create, manage or survive in them. Once on the job, we either learn to adapt to the internal logic of a particular workplace or end up leaving.

Values-based organizations

Does this mean that organizational problems cannot be overcome? No. The real problem is that often the

During his 25-year career, Paul Jorgensen, AIA, has worked with some of the largest AE firms in the U.S. He can be reached at pjaia@worldnet.att.net

way firms are organized does not emphasize a core philosophy or system of values. Organizational structure in itself is not a very good motivator for human beings.

Firms are a lot like people: Before you can be effective in life you must know who you are: what you believe in; what motivates you, and what you will do for money and what you will not. Firms are the same. A firm defines what it is by being concerned about some things, and not about others. It needs a reason for being—something great must motivate it to succeed. Mere survival is not a reason for being, nor is making money.

For example, a group that decides it wants to design leading-edge biotech research facilities has a reason for being. Being the best provides motivation. Two people striking out on their own in an effort to succeed do not necessarily have a concept that will make them successful. But if their ambition is to find innovative technical solutions while exploring new design directions for public sector clients, they will have a more directed vision and better chance for success.

People have dreams and emotions; organizational structures do not. Strongly-held beliefs—values—are the foundation of an effective organization. Firm leaders and employees who have ideas and aspirations in common can generate tremendous energy. For people starting out on their careers or seeking a new job, the best strategy is to try to find an employer whose beliefs and values are similar to their own.

Organizational styles

Since architects create structures, they seem to gravitate toward structure-like business models. Some firms are organized like tripods, held aloft by design, management, and marketing. Another structure is matrix-like: principals oversee project managers who, in turn, oversee the different departments supplying staff to the project. Other firms are organized into "pods"—studios that



market and produce their own work. Sometimes each studio is associated with a particular building type. Other firms use a market segment approach as an overlay to a firm-matrix organization.

Finally, there are firms built around the strong values, ambitions and capabilities of a single person. A firm like this can be very clear about what it stands for because the principal's values are felt all through the workplace.

When firms lose their way

Growth and change make many firms forget their original mission and values. For example, many design firms have experienced tremendous growth over the last few years. When their workloads increased, they added staff to one office, or additional offices were opened or acquired. When a firm is kept alive and growing over a long period of time, it is almost inevitable that the original reasons and passions upon which the firm is based are transformed gradually through its history. New people bring new ideas, for better or worse, so it is ironic but true that a firm without an eye to transformation and change can lose its original vitality through success and longevity.

When change occurs and old methods of organizing and accomplishing work break down, it is natural to attack these problems. But, this is also the time when the philosophy and values underpinning the firm are at their most vulnerable if they are not considered. Working in both large and small firms, I have observed that the larger the company, the more a firm's structure and organization will be tinkered with. Meddling with organization charts, rules, and procedures does not usually enhance a firm's vitality. Usually, these tinkering have the most effect on the very same upper-level managers who are mak-

Practice Matters

ing the changes; that is, those whose careers have revolved around creating rules and changing organizational matrices rather than interacting with clients and working on projects.

Any firm that becomes sidetracked from its values base can be full of conflict and tension. Managers compound things by improvising solutions to long-term problems. Internal rules and policies are covered over by a veneer of political correctness publicly, but regarded privately with cynicism. New hires in such firms immediately learn that things get done in two ways: the way the organizational chart says they get done and the

fit in with the firm's approach to practice—strong values will attract like minds. Expressing these things, in value and action statements, is useful because these become the measure of how things are done.

Value and action statements

Each value statement is part of a building block that expresses part of the firm's overall philosophy. What they all have in common is that they describe beliefs, behaviors, and that they engage and empower people at all levels in the firm, not just the managers. They should also foster open communications.

When creating values statements, it is also important to keep

WHEN A FIRM BECOMES SUCCESSFUL, IT MAY FORGET ITS ORIGINAL MISSION.

way they really get done. These contradictions create confusion that can put employees and employers in conflict, something that few of the best talent and brightest people want to be part of for very long.

A values-based system

Conflict can be minimized if the leaders of a firm are aware of the pitfalls of unchecked growth, particularly when it begins to cloud the core ideas that were behind the founding of the firm. Some firms have found it helpful to hold retreats specifically designed to reevaluate the firm's purpose, expanding these ideas and devising means of expressing them to the rest of the organization, not just in words but in actions too.

The firm's leaders must live the core ideals they set forth and show their commitment to them. If leaders expect one thing of employees and do something else, their efforts at establishing and maintaining a philosophical basis for the existence of the firm will be in vain. When the leaders of a firm articulate what they believe in, they can also better test whether prospective employees

in mind that most people need and want something more from their job than a paycheck. People want to believe in what they do, to believe in what their company stands for and the work it produces. They want to do a good job and help their company be successful. They want to be encouraged, recognized, and treated fairly, in an environment where they are not threatened, but encouraged.

Examples of values statements that might apply to firms of all shapes and sizes could include many things, such as the following:

- We care about our clients and each other. We want to be proud of the work we do.
- We will look for the right answer, not just the first answer. We will look for innovative solutions in design and the use of technology.
- Everyone contributes to our success, and shares in its rewards. We will help each other.
- I will help do what needs to be done. We will work hard, yet still have fun.
- No dogs are allowed in the office, that is, no clients, no jobs, and no coworkers. No children are allowed—we're all adults, and we will act like it.

- If an action is unacceptable ethically, we won't take it. The truth matters.
- If something troubles you, speak up for the good of everyone. If you don't know what to do, talk to someone. If you don't understand, ask questions.
- We are responsible for the quality of the buildings we produce.
- If a design or detail is substandard and needs to be fixed, make an issue of it, but also be prepared to help fix it.
- We are in business to make money, and money is good, but it will not make us compromise our standards.
- More work is good—we need to market even though everyone is busy.
- We will share information about the projects and the firm with each other but not with outsiders.
- Change will never go away and we will always continue to examine and embrace it.

Your firm's values statements

Your own firm's list of values statements will differ from this one, depending upon who you are, and what kind of firm you are building. I have been successful in using such lists as mottoes for firms I have managed, to help vocalize and clarify values statements and build firm culture.

The most important thing that values statements can do is to empower workers. This gives them a sense of individual responsibility for their actions, while emphasizing that they have a responsibility to the firm and the client. Sharing responsibility is the key to encouraging people to act individually, as well as being fertile ground for developing a firm's future leaders. When successful, employees will act on these principles even when the firm's leaders are not present.

Values statements that encourage open communication also help with conflict resolution. When conflicts do arise, as they will, discussions with an employee can center on individual responsibility, not just on whether the firm's procedures

have been acted upon to the letter. The great benefit of an open system like this is that there is constant feedback about what is working and what is not, and this allows course corrections to be made more easily. When your managers and employees can discuss problems openly, you can find potential solutions that fit your specific organization. Of course, this also requires leaders to be leaders, not dictators or aristocrats.

The ideas expressed here are not meant to diminish the fact that even values-based organizations need structure; however, this can be an overlay which defines how certain functions and responsibilities are assigned. As the organization changes, the responsibilities of different employees can be re-evaluated.

Responsibilities don't always have to be distributed purely on the basis of rank. Instead they can be parceled out according to each individual's area of expertise. The focus of the practice can then remain on its mission and its work for clients, rather than on making its employees conform to rules. Remember, a value-based organization cannot be expected to flourish in a highly-structured setting dominated by rules and procedures.

The acid test

When I first became a manager, I reflected on why I loved working at some firms and others were torture, as well as and why people were energized in some firms and cynical and demotivated in others. The difference seemed to be that some organizations emphasized structure and rules of bureaucracy while others seemed to motivate people with a sense of purpose—it is as simple as the difference between control and leadership. My personal observation is that when things are working well in a firm, its mission and direction will be clear. The only way you can test them for yourself is to question yourself, your employees, and look at the resulting work all of you produce. ■

Mies is back and a new group of books explores his designs and legacy

Books

By Stanley Abercrombie, FAIA

Mies van der Rohe, by Yehuda E. Safran. Lisbon: Editorial Blau, 2000, 214 pages, \$79.95 (clothbound), \$60 (paper).

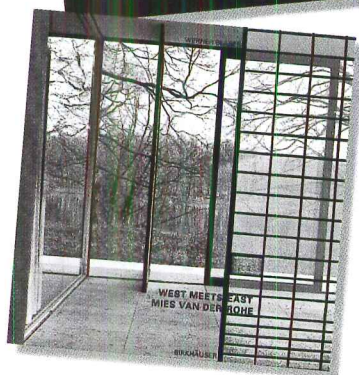
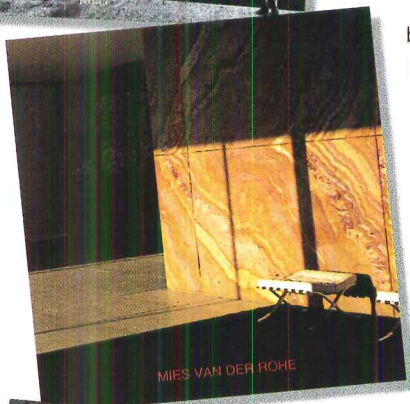
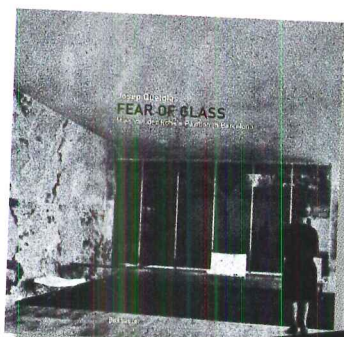
West Meets East—Mies van der Rohe, by Werner Blaser. Basel: Birkhauser, 2001, distributed in the U.S. by Princeton Architectural Press, New York, 135 pages, \$60.

Fear of Glass: Mies van der Rohe's Pavilion in Barcelona, by Josep Quetglas. Basel: Birkhauser, 2001, distributed in the U.S. by Princeton Architectural Press, New York, 200 pages, \$25 (paper).

As we all know, not one but two mammoth Mies van der Rohe exhibitions have recently opened in New York: *Mies in Berlin* at the Museum of Modern Art and *Mies in America* at the Whitney. This magazine's May issue presented excerpts from the catalogs of both shows. "No longer seen as a purely historical figure," the editors noted, "Mies is now viewed as vital to contemporary design." As would be expected in such a situation, the two catalogs are not alone in their attempts to remeasure the giant; here are three more. In different ways, all three stretch our understanding of Mies in new directions.

The English/Portuguese monograph by Yehuda Safran, described as an architecture/art critic in Paris and New York, is the most conven-

Stanley Abercrombie, FAIA, is a former editor of Interior Design magazine who is now based in Sonoma, Calif.



tionally organized of the three, consisting of a brief essay followed by a description of 21 buildings, an illustrated chronology of buildings and projects, a biographical note, and a bibliography. But the buildings chosen include some surprises. All three of the monographs that established the Mies canon—the one by Philip Johnson in 1947 and the ones by Peter Blake and Arthur Drexler in 1960—skipped quickly through the

earliest work and gave their first full attention to the revolutionary glass skyscraper schemes of 1919 and 1920-21. Safran, on the other hand, devotes seven pages to three of Mies' pre-1919 houses and ignores all his unbuilt projects.

Safran's essay also strays a bit beyond the usual territory. He introduces us to stage designer Adolphe Appia, described as "the crucial, albeit completely ignored, inspiration for the abstract dimensions of Mies' later work." The four Appia sketches for scenery included by Safran display a poignant emptiness, but the implied connection to Mies is unsubstantiated. Regardless of its own speculative nature, the essay builds to this lyrical-dramatic conclusion: "The truth of Mies' work lies, then, in the manifesting of the truth which transcends the work.... Mies and Appia were instruments on which the wind of unsuspected spaces played its first tentative tunes."

Werner Blaser's *West Meets East* is a revised and considerably enlarged version of an interesting book first published in 1996. Having studied and worked with Mies and having written books about Chinese architecture, Japanese architecture, and Miesian architecture (including separate volumes on the Farnsworth house (1999), the Lake Shore Drive apartments (2000), and Crown Hall (2001), as well as the 1965 *Mies van der Rohe—The Art of Structure*, and the 1980 *Mies van der Rohe—Furniture and*

Interiors), Blaser seems uniquely qualified to compare Mies' design with the design of the Far East. He does not suggest any Miesian dependence on Eastern design or thought, but simply "an extraordinary similarity." Texts by Blaser and Johannes Malms, in both English and German, are followed by a portfolio of visual analogies.

In his introduction to Josep Quetglas' *Fear of Glass*, Rafael Moneo writes that "The reader should not expect to find in Quetglas' work the hackneyed interpretations of many ... critics, invariably centered on spatial flow, on the presence of Neoplasticism, on the distinction between structural and merely formal elements.... For Quetglas, the [Barcelona] pavilion is, simply, a representation of the Germany that rose from the ashes after the First World War." For many of us, of course, those "hackneyed" aspects remain interesting, but it is nevertheless tonic to approach the pavilion from another angle.

Quetglas imagines Mies' asking, "What should the pavilion resemble if it is to resemble—to stand for—Germany?" Part of the author's answer is that in 1929 "English work, underground and sooty, had come to an end. German work was born: modernized, transparent, crystalline, electric." What follows includes comparisons of the pavilion with the Doric temple, the positing of reflectivity as the criterion for materials selection, references to Bruno Taut's 1914 Glass House and Eisenstein's 1925

Books

Potemkin, and much more. Parts of this multilayered fantasia on the pavilion—including, for this reader, its title—are opaque, but redeemingly large parts of it are fresh, provocative, and smart.

Buckminster Fuller: Anthology for the New Millennium, edited by Thomas T. K. Zung. New York: St. Martin's Press, 2001, 388 pages, \$33.

"Bucky" Fuller was a giant figure through all the middle decades of the 20th century, celebrated as an architect, engineer, and inventor, and celebrated even more for his independent thinking about the future of what he called "Spaceship Earth." He was a prodigious writer, a marathon lecturer, and an indefatigable world traveler. He developed mass-producible housing, a three-legged car, a nondistorting flat map of the globe, and a two-piece bathroom. He worried about how much our buildings weigh.

Yet since his death in 1983, his reputation has deflated. Today everyone knows what a geodesic dome is, but few remember its creator. No, kids, it wasn't Walt Disney. This eclipse of awareness is not only sad but troublesome, for we—and our fragile spaceship—have never needed Bucky's vision more than we do now. Architect Thomas T. K. Zung, who was a partner with Bucky in the firm of Buckminster Fuller, Sadao and Zung Architects, comes to the rescue with this newly compiled collection of Bucky's writings. As Zung writes in his introduction, "The need for the public, especially the young, to discover his thinking anew impelled me to take on this anthology."

Zung has taken it on in an

interesting way. Rather than strictly imposing his own opinion about which passages are most relevant today, he has made a rather catholic selection of 20 chapters, each from a different one of Bucky's many books. And each is introduced with a brief essay by a different contributor. Among these are: architects Lord Norman Foster, Charles Correa, and Shoji Sadao (another former partner); writers Calvin Tomkins and Sir Arthur C. Clarke; Dr. Arthur L. Loeb of Harvard and Martin Myerson of the University of Pennsylvania; and actresses Valerie Harper and Marian Seldes. These have not been added solely for their celebrity; each of them knew Bucky or had some close connection with his work.

Zung's book closes with several interesting appendices, the last of which quotes Bucky, not in reference to some invention or scientific insight, but in reference to our own future: "Whether humanity is to continue and comprehensively prosper ... depends entirely on the integrity of human individuals and not on their political and economic systems." I, for one, believe him. *Reviewed by Stanley Abercrombie*

The Wittgenstein House, by Bernhard Leitner. New York: Princeton Architectural Press, 190 pages, \$45.

Between 1926 and 1928 the philosopher Ludwig Wittgenstein and the architect Paul Engelmann designed and built a house for Wittgenstein's sister in Vienna. Although he had no training and this would be his sole architectural venture, Wittgenstein dominated the undertaking and re-created himself in the process. He designed everything with fanatical exactitude. Every design decision is a reflection of the



THE WITTGENSTEIN HOUSE

BERNHARD LEITNER

whole—everything adds up to a larger picture of Wittgenstein's intentions. Double sets of doors that open two ways alter and redefine what it means to enter or leave a room. Metal window shades that pull up from the floor below (they're on counterweights in the basement) change our experience of light and our notions of privacy. When a locksmith asked, "does a millimeter here or there really matter so much to you," Wittgenstein roared, "Yes!" His sister admitted that her house was "more a dwelling for the gods than for a small mortal like me." Sadly, as beautiful as the results are, they have rarely been seen or fully appreciated. Bernhard Leitner tours us through the house, allowing it to reveal itself in time. He collects a variety of views in photographs and texts that together demonstrate a unique vision. It is a book worthy of its subject.

The book's structure might have pleased even Wittgenstein. Four gatefolds open to reveal photos of the same doors or windows open, partially opened, and closed. Several pages are reproductions of a small pocket photo album, blank facing pages and all, so that we feel we are holding the album in our hands or looking over Wittgenstein's shoulder as he works. There are color photographs that show heretofore-unseen layers of paint recently discovered during restoration, showing Wittgenstein's careful attention to the color of what we call "white."

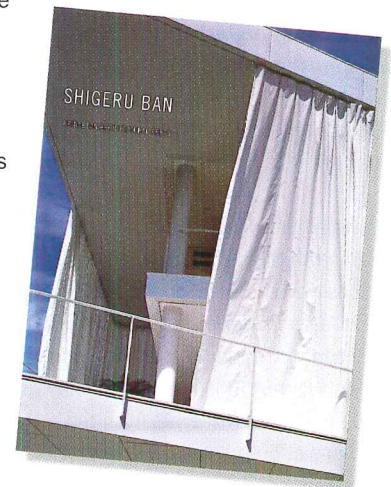
For 30 years the author pho-

tographed and documented the structure and played a significant role in saving it from destruction and restoring it. Parts of the text are about that history. You needn't be familiar with Wittgenstein's thought to appreciate his book. Thanks to Leitner, Wittgenstein's venture into architecture may finally get the appreciation it deserves.

Reviewed by Roger Shepherd

Shigeru Ban, by Emilio Ambasz and Shigeru Ban. New York: Princeton Architectural Press, 2001, 176 pages, \$35.

Some of his buildings have fluttering "curtain walls." In others he uses sturdy paper tubes as structural members or furniture as walls. Nearly always his designs appear almost weightless and brushed with light. Influenced initially by the New York Five, especially John Hejduk, Shigeru



Ban translates Japanese architectural history in a very contemporary manner, as Emilio Ambasz points out in his forward. Ban stands out for his talent at turning banal materials into dignified structural elements, for his social commitment—his housing for disaster victims in Rwanda and Kobe comes to mind—and for his self-effacement. This handsome volume shows his early work, furniture and exhibition design, case study houses, private residences, paper architecture, and public buildings. *Reviewed by Andrea Oppenheimer Dean*

Snapshot



By Soren Larson

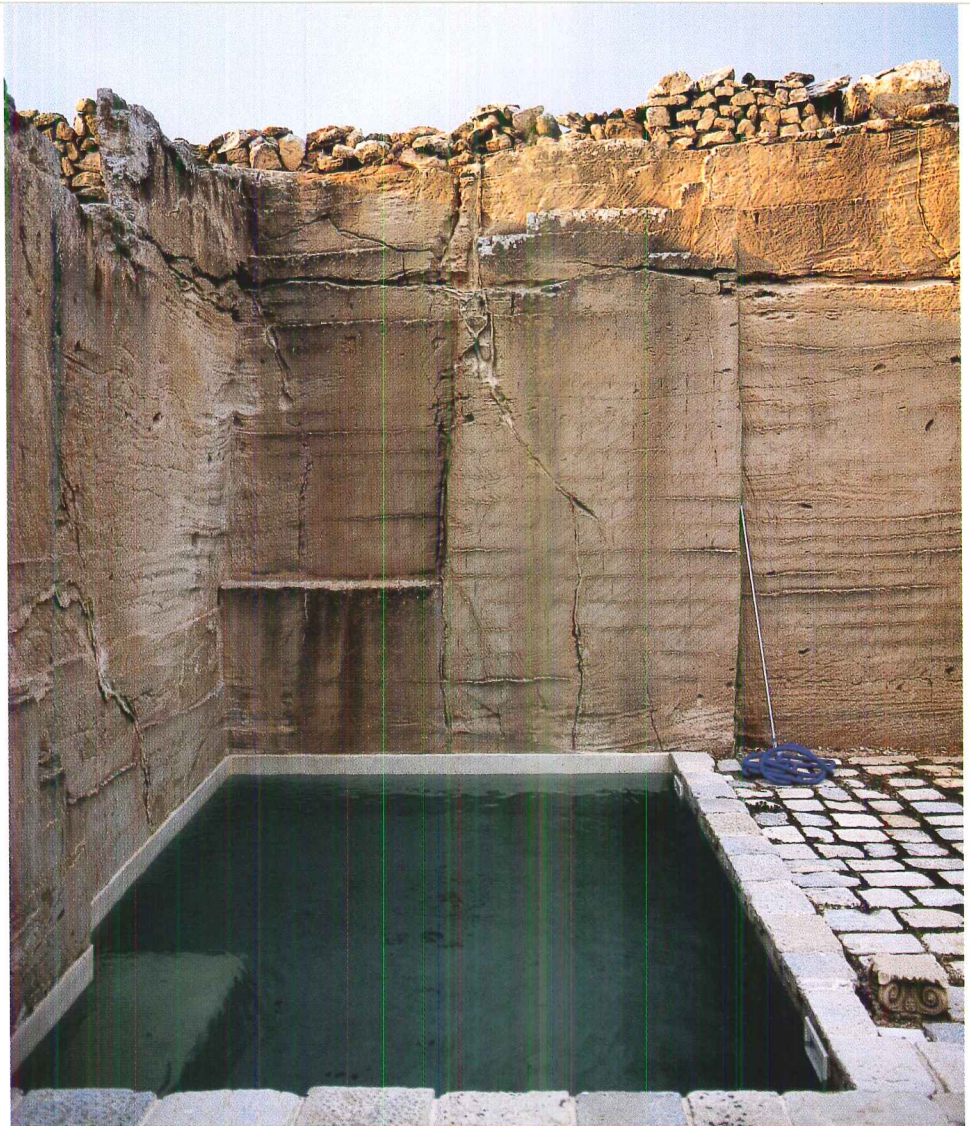
If it's known at all, the bucolic island of Favignana, a mile off the Sicilian coast, is known for the traditional *tonnara*—the annual killing of bluefin tuna. Local fishermen, who have been enacting this ritual since the Stone Age (local cave paintings confirm it), trap the fish as they migrate through this part of the Mediterranean and spear them in a bloody spectacle enjoyed by the island's entire population of about 3,000.

Hardly the place to find a mainland architect such as Maurizio Anastasi. A recent arrival to this hilly paradise, Anastasi comes from Rome but respects local traditions. When he bought a 20-acre parcel five years ago, he didn't try to leave his own mark on the landscape; instead, he built into the land—adapting an ancient stone quarry and converting it into a rugged series of compartments that he calls home.

The quarry contains marblenlike stone called calcare, which Anastasi describes as “very hard, but very easy to work with,” used to build cities even before the Romans started hauling it off during the Punic Wars. Over the last

Making home between a rock and a hard place

Snapshot



few, neglected decades, local vegetation and an untended orchard of pears, pomegranates, and apples took root among the stones. Anastasi kept the fruit trees, installed an unobtrusive plumbing system, and went to work on the array of carved-out stone formations. He fortified existing caverns with iron and placed glass in available openings to make windows. Then he dug new caves into the rock, punching out holes to let the light in, and added a stone-and-iron tower for his central chamber, where he watches the sunrise from his bed.

Though the work was extensive, Anastasi kept the plans simple. Some of the bedrooms are nothing more than a room with a bed—while others have an artifact or two brought back from South America or Africa. He procured all his materials from Palermo, Sicily, and used locals to help with the construction.

“It’s a house, but it’s not one building. It’s basically all these holes,” Anastasi says, counting nine bedrooms, two living rooms, a kitchen in the central tower, and two more outside in the garden. The bulk of his home is below grade, but Anastasi says “you never get a sense of darkness. It’s very big and spaced out, and everything gets a lot of sun.”

Anastasi has been an architect for 20 years, having studied in Rome, and then worked in Brazil and South Africa before returning to Italy. Now that he’s on Favignana, he takes the ferry to visit clients on the mainland, but more often he’s wandering his tranquil gardens or strolling to the sea. “Our lives are so busy, so frantic,” he says. “The idea here is to live without stress. This is wonderful, especially if you’re an artist. No smog, no traffic . . . you only have the ocean, you have the sun. You can express 100 percent of your creativity. I don’t feel isolated at all, because now that my friends know about it, people are coming to visit me all the time.” ■





Indoors and out, the architect kept it simple: a swimming pool (opposite, top), a bedroom (opposite, bottom) and a room with a view (this page).

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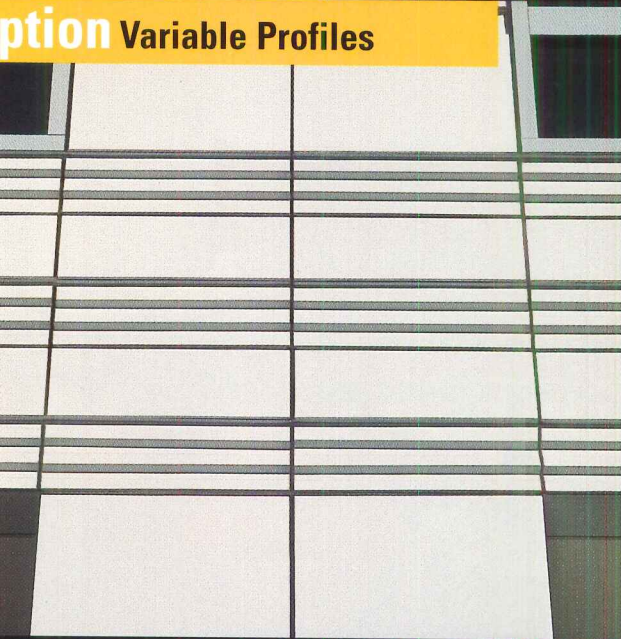
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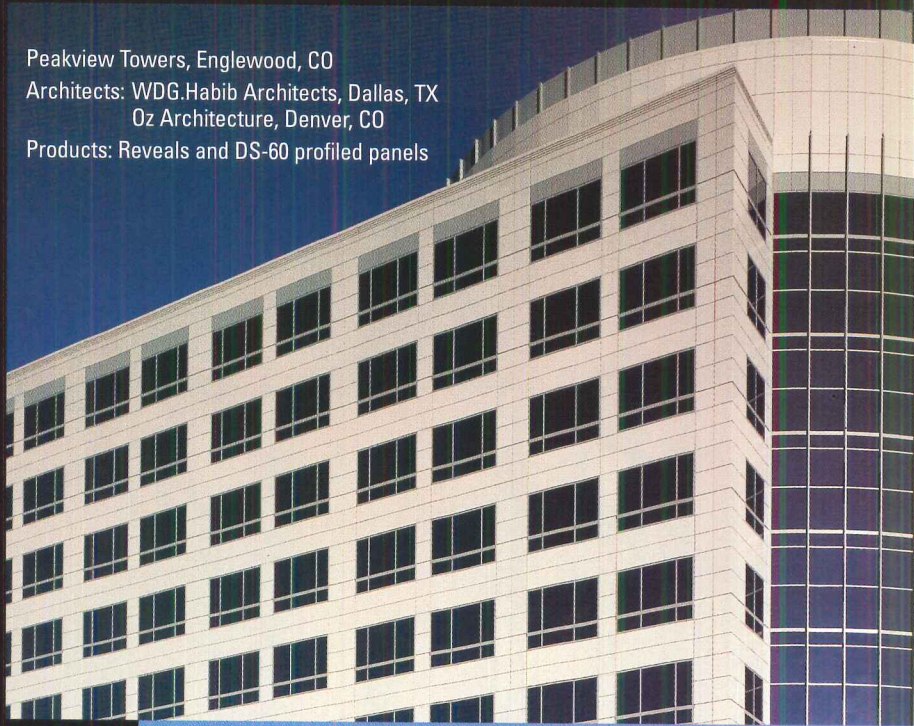
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ROOM in a BOX

The
intrigue
with
compact
and
convertible
interiors

By Elisheva Levi

Room-in-a-box is space with a sense of humor. At once contained and container, it can sometimes become an interior within an interior. Presenting itself unsuspectingly as a simple box—say, a cabinet, valise, mobile compartment, or trunk—it opens, allowing the elements of a full-scale room to unfold, slide, or spring from (and back into) it. The logic of room-in-a-box spans the practical to the whimsical as it coyly manipulates space and function. With complex interlocking parts, these contraptions delight in organizational efficiency. Like Chinese puzzles, they beckon us to actively participate and investigate their strange hinges, slits, and openings in order to expose the inner workings—and enact the spatial game of “now you see it, now you don’t.”

This ingenuity traces its historical lineage through the early 20th-Century Murphy bed, steamer trunk, Pullman kitchen, and, later, the convertible sofa bed. In that spirit, room-in-a-box compacts multiple functions into a single object, prompting the question: Is it furniture at the scale of architecture or architecture at the scale of furniture?

Exploring this conundrum, the late Italian designer Joe Colombo in the 1960s and '70s created objectlike “microenvironments,” such as the Mini-Kitchen (page 92), which streamlined domestic activity. More recently, Vito Acconci’s “Car Hotel” (page 94) similarly distills habitation to a set of bare essentials—but flaunts the limits of real-world practicality.

Taking a more “Maximalist” approach, Toland Grinnell’s Machine for Living (this spread) juxtaposes a panoply of related and seemingly unrelated activities—including a hamster on a running wheel near a bar and a bedpan—to suggest the frenzy of eclectic excess.

Rooms-in-a-box can be both movable and loaded with moving parts, as in TimeZone’s Luggage House (page 95) and Allan Wexler’s Parsons Kitchen (page 93). Here, architecture hovers between stasis and mobility, suggesting the impermanence of interior space.

Meanwhile, Wexler’s Vinyl Milford House (page 93), a provocative inversion, functions simultaneously as a room in and *out of* a box. By stowing living components in extrusions outside the main volume, it ironically undoes its own efficiency, never actually reducing the total area needed for object storage plus occupants.

In this era of hybrid live-and-work arrangements, rooms-in-a-box resonate with the desire to compress life’s forms and functions, while thinking, as they say, “out of the box.” ■

PHOTOGRAPHY: © TOM POWEL (PRIVATE COLLECTION,
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Mini-Kitchen
1964
Joe Colombo

This "microenvironment" on wheels, in a cube measuring just 2½ feet on each side, compresses the accoutrements of an entire kitchen: refrigerator, oven, stovetop, spit, and grill, with storage for six place settings, serving trays, pots, pans, cooking utensils, and recipe books.





**Parsons Kitchen,
1994
Parsons School of Design
Allan Wexler**

The kitchen serves as a bar for gallery openings at Parsons School of Design's Department of Architecture. Encased in a plywood box, it rolls out of an existing wall niche. Wine glasses, chip bags, and pans are meticulously arranged to create strong visual rhythms. Wexler also designed companion pieces as well, including the Kitchen Sink Crate, Self-serve Coffee Crate (with refrigerator) and Broom Closet Crate (with apron storage).



**Vinyl Milford House
1994
Katonah Museum of Art
Allan and Ellen Wexler**

Wall cut-outs in this one-room shed precisely fit the forms of each piece of furniture. Thus, the interior space, or box, can become object free. When slid into the wall pockets, the furniture takes on a two-dimensional presence in silhouette.

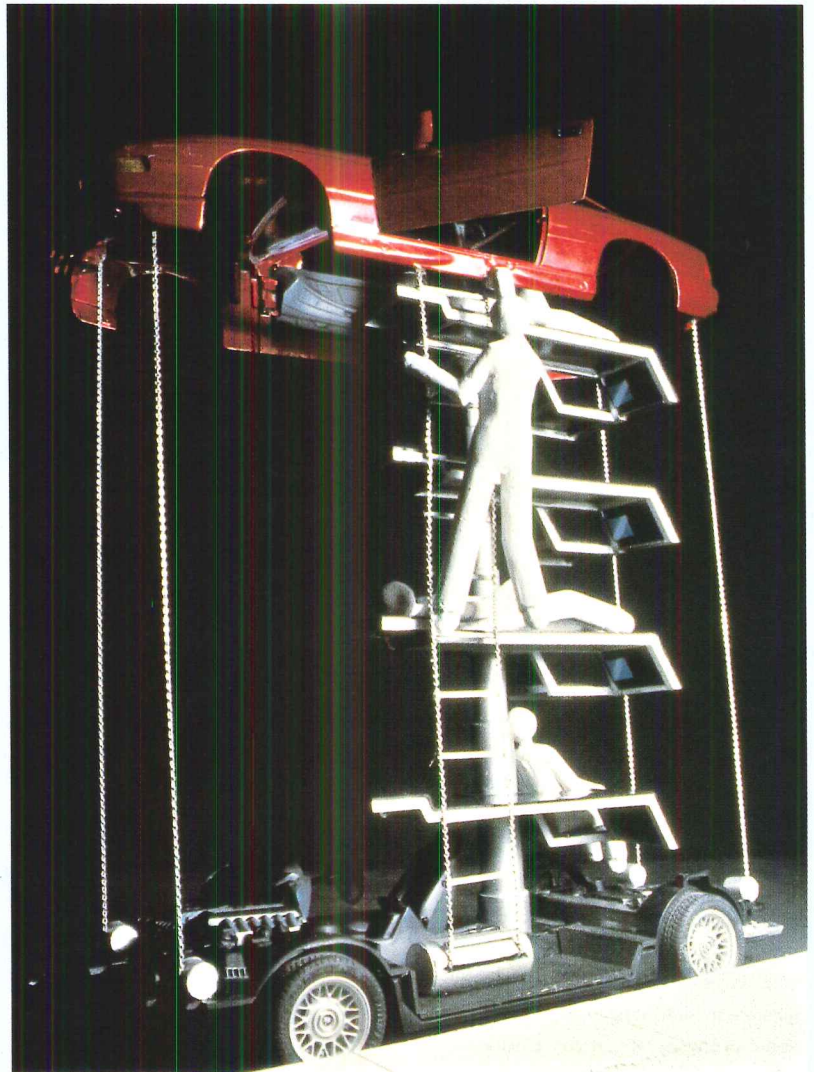




Car Hotel
1995
Acconci Studio

A joy-ride variation on the room-in-a-box, this mobile hotel—a world of rest and relaxation—springs up from an otherwise ordinary car.

“IN THE MIDDLE OF THIS CONVENTIONAL CAR IS A HYDRAULIC PISTON ATTACHED TO STACKABLE BED-AND-SEAT UNITS. THE DRIVER’S SEAT REMAINS UNENCUMBERED, AND A PUMP CAN BE STORED IN THE TRUNK. THE CAR’S SHELL LIFTS HYDRAULICALLY TO FUNCTION AS THE ROOF OF A FOUR-STORY HOTEL. EACH FLOOR CONSISTS OF A RUBBER BED (SUITABLE FOR OUTDOOR USE), FORMED INTO A PILLOW AT THE HEAD AND A SEAT AT THE FOOT. NEXT TO EVERY SEAT IS A TELEVISION, DIRECTED TOWARD THE FLOOR BELOW. A CHAIN LADDER ROLLS UP OFF A SPOOL ON THE CAR FLOOR, ALLOWING ACCESS TO THE STORIES ABOVE. THE CAR TRAVELS THROUGH THE CITY FROM NEIGHBORHOOD TO NEIGHBORHOOD, PROVIDING A MOBILE HOTEL WHENEVER AND WHEREVER NEEDED. —Vito Acconci



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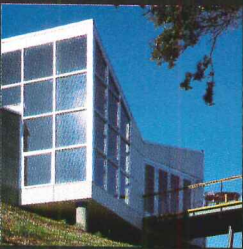
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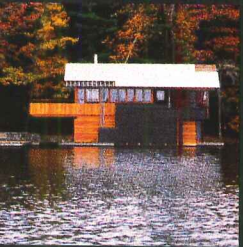
Conference Barn
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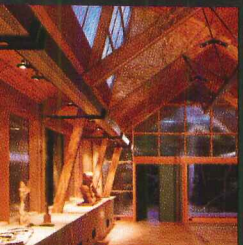
Misha/Twaddell Residence
Burks Toma Architects,
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Maple Valley Library
Johnston Architects, Seattle, WA,
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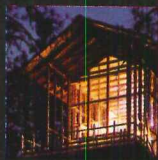


Muskoka Boathouse
Shim-Sutcliffe Architects, Inc.,
Toronto, ON



Wood Studio
Frank Harmon Architect,
Raleigh, NC

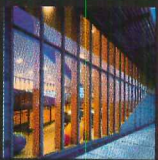
MERIT Award



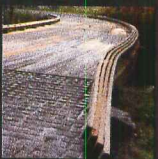
Pine Forest Cabin
James Cutler Architects,
Bainbridge Is., WA



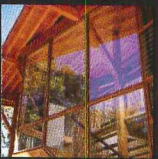
Pilchuck Glass School Studio Annex
Weinstein Copeland Architects,
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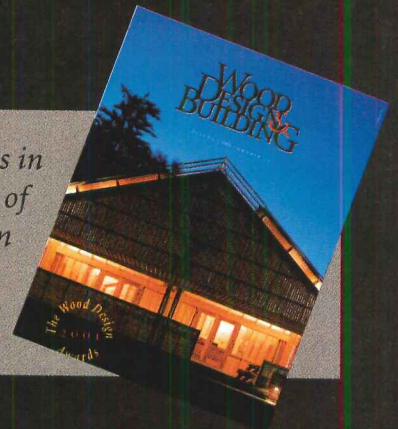


Vehicular Bridge
Gray Organschi Architecture,
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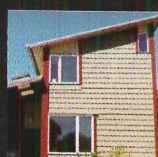
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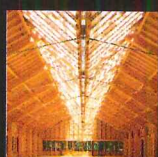
Robertson House Crisis Center
Hariri Pontarini Architects,
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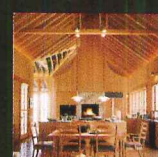
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The reception area features interactive “kiosks” that pivot and a “skyline wall” facing views of Chicago.

By Michael Speaks

Today architecture is undergoing a remarkable transformation that has little to do with new high-tech materials, computer softwares, or new shapes or forms. Rather, it is a transformation in the practice of architecture itself. This became clear to me recently when I visited George Yu and Jason King, principals of the firm Design Office (DO) [DECEMBER 2000, page 100], at their storefront location in Culver City, California.

I was struck by not only the range of their design work—which includes commissions for Max Studio clothing stores and offices for an independent record label in Vancouver—but by the facility and intensity with which they discussed the business activities of their clients. During our

Michael Speaks is the director of the Post-Graduate Metropolitan Research and Design program at the Southern California Institute of Architecture in Los Angeles.

conversation about their collaborative design for the recently completed IBM e-Business briefing center in Chicago, Yu cited reports of quarterly earnings as frequently and with as much enthusiasm as he cited more recognizably architectural sources. Only near the end of my visit to the office did he or Young even mention that the briefing center was on the eighth floor of 1 IBM Plaza in Chicago, the last skyscraper completed by Ludwig Mies van der Rohe. Referring to a recent *Business Week* article, Yu noted that 40 percent of IBM's revenues and 48 percent of its profits are now generated by IBM Global Services, the consulting division that commissioned DO and Imaginary Forces (IF), a prestigious Hollywood-based film production studio, to become members of a collaborative team. This proved to be significant, because traditionally such commissions are overseen by IBM's Real Estate Services group, which would have handed the project to one of its strategic partners, such as SOM or



In a classic Mies office tower in Chicago, **Jason King** and **George Yu** of Design Office integrated digital technology and new ways of working into the architecture of IBM's Center for e-Business Innovation.

THE BIG BLUE YONDER





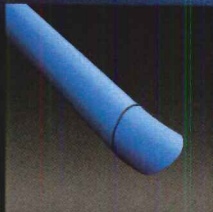
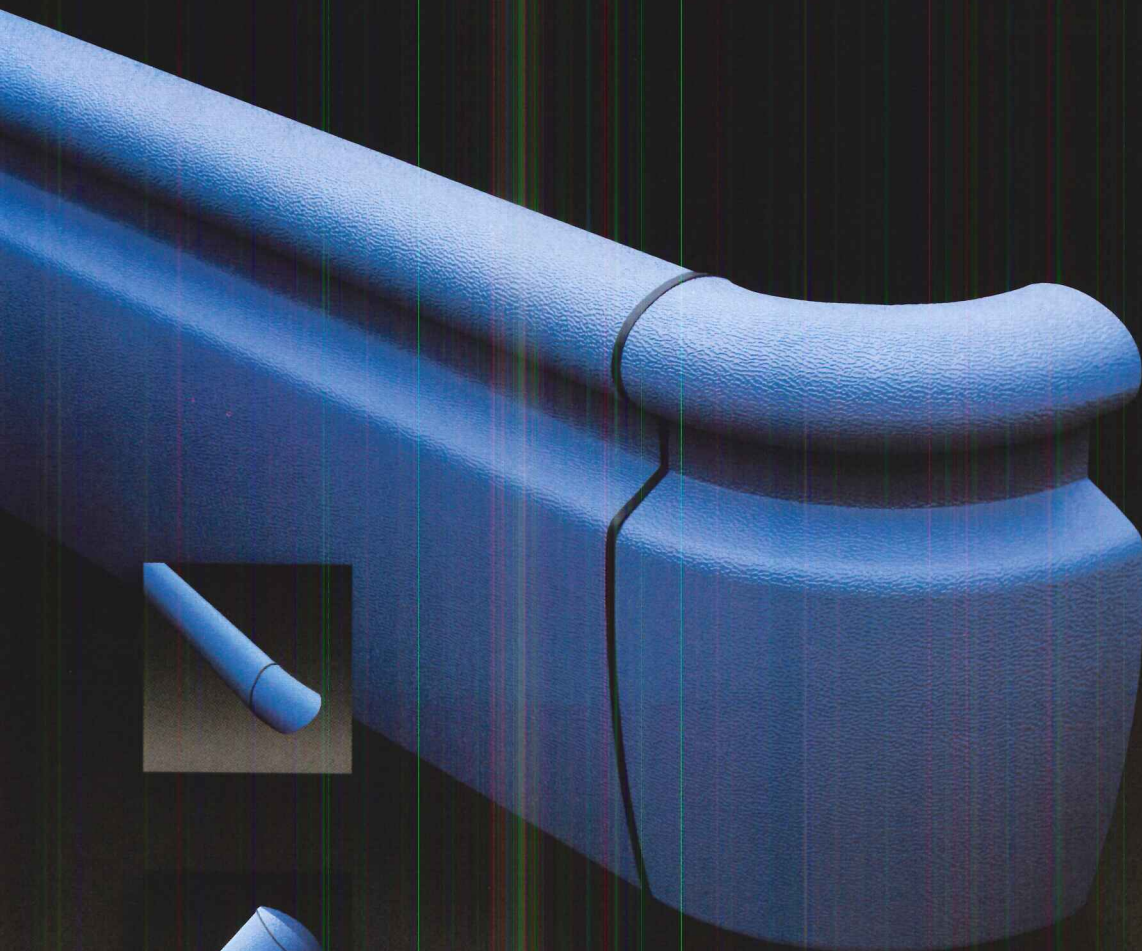
Made of nine glass doors, the 30-foot-long retractable “galley wall” displays rear-projected images.

HOK. If IBM had handled it the old way, the project-delivery process would have been relatively straightforward. The client would have offered the architect a problem and the architect in return would have offered a final design solution, having little control over the scope or program. But instead, DO and IF became de facto members of an innovative “thought-leader” team spearheaded by IBM e-Business Marketing and Strategy, and joined by HOK, which analyzed and questioned the parameters of the problem and offered an innovative environmental solution.

Leveraging a powerful brand

Setting its sights on becoming the most significant player in the high-stakes business-and-technology-consulting market, IBM has undertaken an aggressive marketing campaign that seeks to position Big Blue as a steadfast though innovative force. In the wake of the dot.com and high-tech slowdown, the company is targeting a middle ground between innovative (but less stable) firms like Razorfish, and stable (but less

innovative) firms such as Accenture (formerly Anderson Consulting). Leveraging its immensely powerful brand—the third-most valuable in the world, according to a recent *Business Week* survey of the top global brands—IBM Global Services hopes to engage its consulting clientele in a collaborative process. Instead of selling the client a product, the company invites clients to become part of a collaborative team that includes IBM and its network of strategic partners. The idea is that working together will create end-to-end business solutions employing a variety of customizable services. The Centers for e-Business Innovation were created to give physical presence to this collaborative process. The first of the centers opened in Atlanta in 1996 and proved to be extremely successful. In 1999, IBM developed a more comprehensive strategy that included a series of regional centers, each of which was designed by a different regional team. The Chicago center, however, was meant to be a prototype that could be applied to all future locations: more than a design, it was to be the embodiment of a business philosophy.



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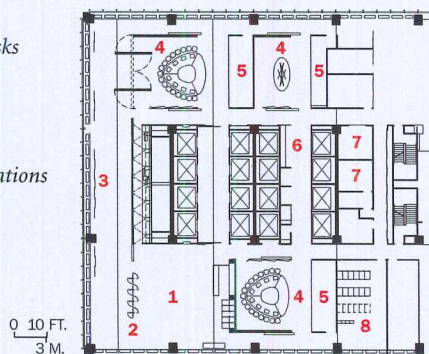
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8. LAN



The design brief for Chicago called for a consulting facility aimed at senior-level corporate management that would reinforce the IBM brand while at the same time encourage collaboration and innovation. Since the actual product to be offered at these centers is consulting services, the challenge was to make these services palpable and memorable, without resorting to a hard sell. The project team—Yu and King from DO, Mikon van Gastel and Matt Chekowsky from IF, and Nancy Rowe from IBM—set out to create a nonhierarchical, interactive environment that would enhance group-based, creative activities without beating clients over the head with either technology or the IBM logo. This meant that neither brand nor environment could remain static. Using sophisticated motion graphics, IF animated the venerable IBM logo created by Paul Rand in the 1950s, so it can dance on the interactive digital screens and surfaces running through the center.

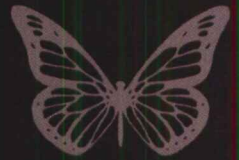
One of the most intense zones of new technology is the reception area, where a series of four interactive “kiosks”

Depending on the positions of the pivoting interactive kiosks and the sliding doors of the

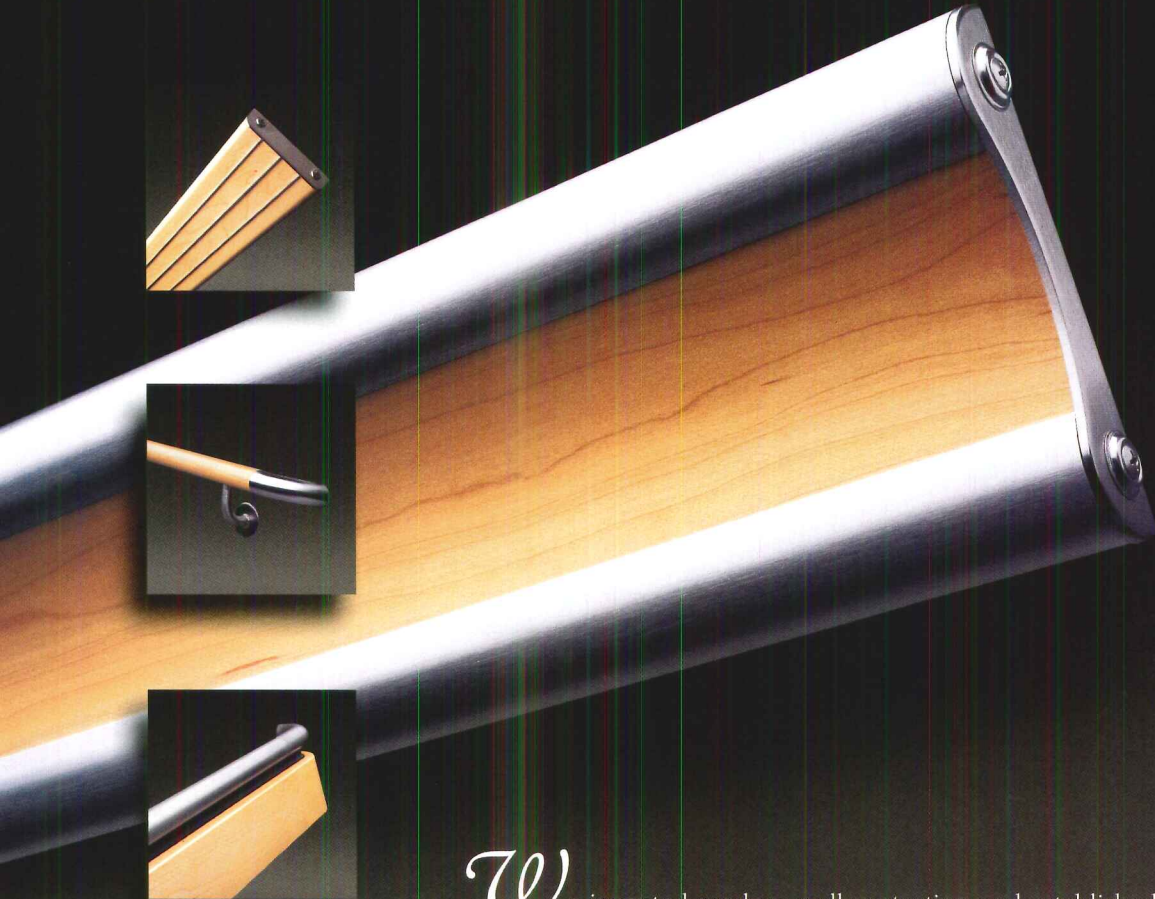
galley wall, the lounge can change in character from open to streamlined.

pivot so they can either open the space to an adjacent lounge or close it off. The kiosks are loaded with touch technology and even motion-activated audio, immediately engaging visitors in an information-rich environment. Along one perimeter of the reception space, a “skyline wall” blocks part of the view of the Chicago skyline and replaces it with simulated live feeds and images of cities from around the world. Superimposing global images onto local views sends a powerful message of the nature of IBM’s business. Around the corner from the reception area, a 30-foot-long “galley wall” continues the display of high technology with images projected onto nine sliding glass doors.

The use of new technology to encourage collaboration is perhaps most evident in the briefing rooms where a



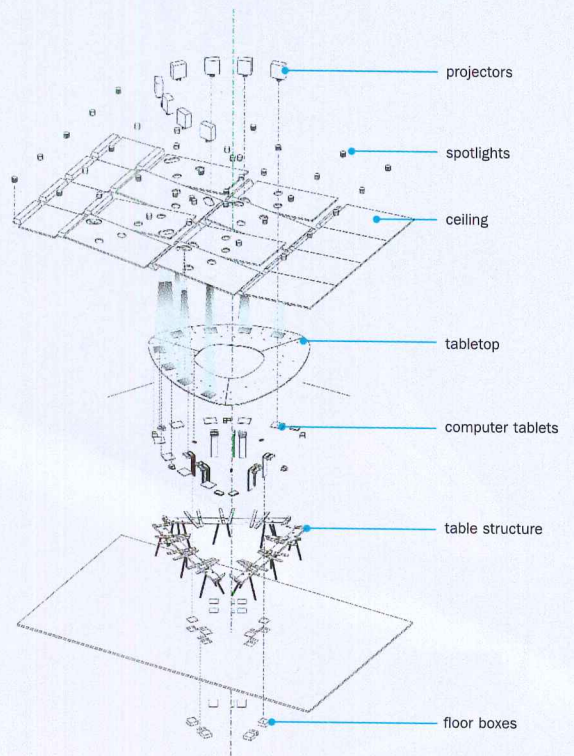
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CIRCLE 51 ON INQUIRY CARD



An interactive table in each briefing room allows all participants to see and manipulate images or information projected onto screens in front of each chair. The design encourages collaborative work.

custom-designed conference table shaped like a guitar pick serves as the electronic hub. Ceiling-mounted projectors beam images to monitors embedded in the tabletop, distributing visual information to each person sitting around the table. The shape of the table and the innovative way it functions as an information source make it a remarkable object of beauty and power. Such attributes also discourage standard business presentations delivered by a single authority from the head of the table.

New way of doing business

Forsaking the usual strategy of creating identity by embedding a brand in or on an object, the design team established an overall environment. By emphasizing the total experience rather than individual products, the IBM Center for e-Business Innovation pioneers a new way of doing business. In an industry where the product—information, knowledge, know-how—is intangible, establishing identity and solidifying relationships are keys to success. The strategy seems to be

working. Since the Chicago site opened in January, 2001, IBM's "close rate" on deals for consulting services here is projected to be 40 percent, 12 percent higher than the average at other centers. The bottom line is that the company has signed more than \$35 million in contracts at the new center.

Much of the project's success stems from the collaborative nature of the design process, an essential factor considering that the e-Business center's goal is to encourage collaborative endeavors. Each member of the design team was challenged to work outside his or her professional field of expertise. Architects had to become brand strategists, motion-graphics experts had to think spatially, and marketing executives had to create a physical brand experience, not just a brand identity. The lesson for architects is that architecture can add value by expanding its purview. Good design alone is no longer enough. ■

www For more on this feature story, The Big Blue Yonder, go to www.architecturalrecord.com

Record Interiors

2001

Confession: I am a voyeur of space. And if you're reading this magazine, you might well share that tendency. I'm not speaking of spying on people and their private acts—I just want to steal glimpses of places, of partially hidden interior realms.

The notion of a beckoning “view in”—the inward draw from the exterior—played a strong role in RECORD INTERIORS 2001. When soliciting entries for this issue, we rarely expect facades—after all, interiors with no visibility to the outside world can be successful. But this year brought a range of intriguing dialogues between inside and out.

At Electric Sun III tanning salon, for example, inspiration for a vivid, yet serene, interior came paradoxically from the chaotic L.A. strip-mall around it. Here, architects Escher and GuneWardena clad luminous tanning booths in huge-scale imagery to give an unassuming second-floor space a street presence amid a cacophony of billboards.

In a more private arena, the Bartlett Pennington House by Burley Katon Halliday shields its inner life from passersby. But just over the threshold, the introverted former workers' cottage gives way to an

unexpected interior sequence, with glassy elevations opening onto an outdoor room or “secret” walled garden.

By contrast, Hanrahan Meyers' Schrom Studios, in Long Island City, NY, has no street interface, yet evokes metaphors of indoors and out. An interior within an interior, it features a freestanding glazed pavilion (a conference room) within a loft-

like “streetscape.” The inner sanctum invites coworkers and clients to peer through its transparent walls.

Transparent and translucent materials can also provide more deceptive lenses, as in ARO's Qiora day spa in NYC. Through a glass front, this interior appears lightly veiled in sheer fabric, as if coquettishly exposing all—while, in fact, the scrims simultaneously hide and reveal, softening and concealing the impermeable boundaries of private zones.

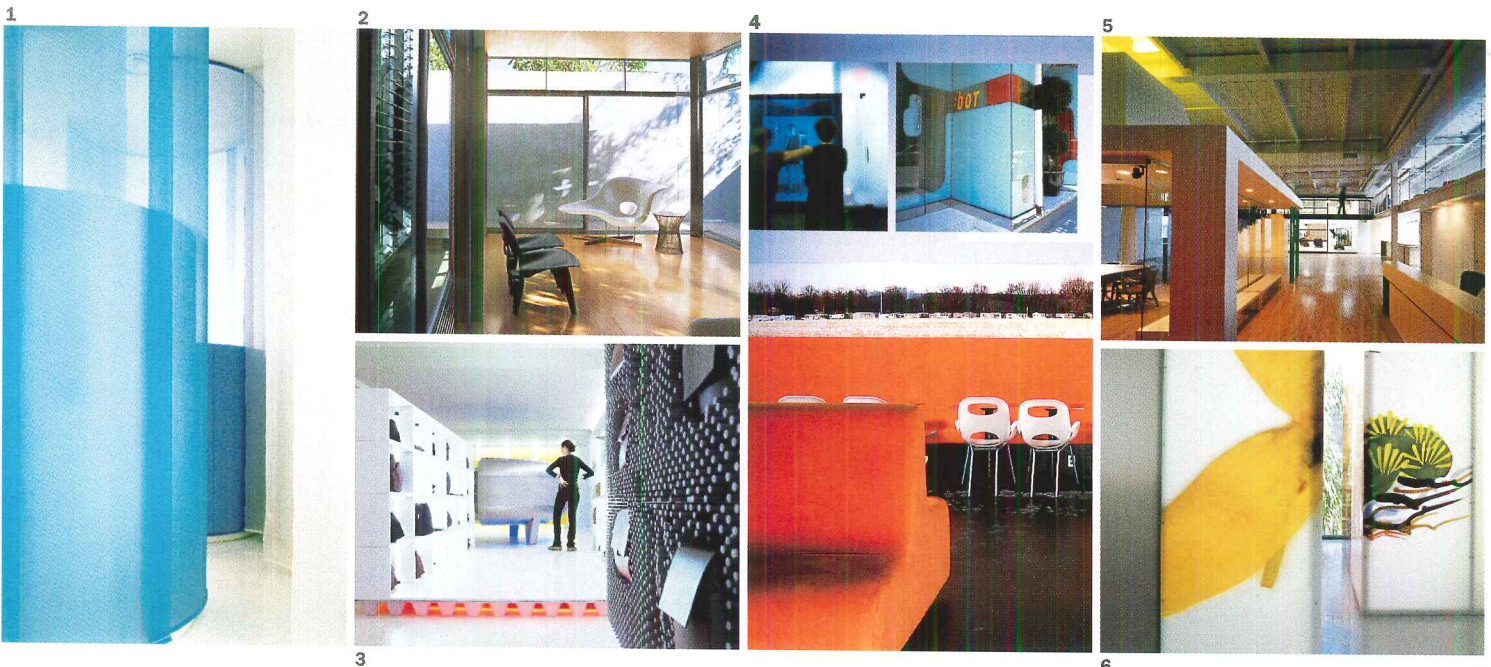
Like Qiora, Paris' Mandarina Duck boutique and New York's Glass bar and Bot and Pod restaurants all began with street-level storefronts. At NL's Mandarina Duck, the windows proffer glimpses of playfully inventive displays akin to installation art. With saturated colors and quirky forms, these partial views encourage a closer look.

Leeser's Pod, Bot, and Glass take more liberties with the traditional plateglass window. Bot and Pod were both designed with glass facade panels that open, in effect pulling apart the front wall and blurring interior with exterior. When the panels are closed, imagery or abstract “pseudo ornament” on the glazing invites peek-a-boo views in.

But Glass is the project that takes the naughtiest and most literally voyeuristic leap. Heightening the current trend toward sexually titillating restroom design (especially in nightspots), Leeser puts Glass's unisex washroom right against the front facade. By night, a mirror over the sink becomes a one-way window from the street, publicly displaying the private acts (washing up and primping) of unwitting clients.

We don't promise a risqué game with every project, but the views inward are all worthwhile. Please let your curiosity take the lead—through the windows and into the following projects. *Sarah Amelar*

1. ARO: Qiora
2. Burley Katon Halliday: Bartlett Pennington House
3. NL: Mandarina Duck
4. Leeser: Glass, Bot, Pod
5. Hanrahan Meyers: Schrom Studios
6. Escher GuneWardena: Electric Sun III



At night, Qiora glows through a glazed facade (opposite). Even the solid walls of circular treatment cabins dematerialize visually amid layered veils (this page).



Finessing the soft sell, **ARO** wraps a luminous New York City spa and boutique in seductively gossamer veils at **QIORA**

By Sarah Amelar

The deeper you go in Qiora, the softer the focus gets—as if you were plunging under water or drifting through a cloud. From outside this day spa and store, the views through its plate-glass storefront seem remarkably clear, nearly revealing all. But the short, mood-altering journey inward—from a stylish stretch of New York City’s bustling Madison Avenue, over Qiora’s threshold, and into its more intimate spa zone—grows increasingly hazy.

Layers of veils, tinted in shades of aqua or milky white and suspended from the ceiling, become denser as you move toward the back of the 1,500-square-foot boutique. Gauzily wrapping the space’s perimeter and enclosing circular treatment cabanas, the sheer fabric sensuously mutes all edges. But as you wander through this ethereal oblivion, you’ll likely be unaware of the ways the design was consciously calibrated to make you, and the bottles of Qiora skincare products, look radiant. It all seems so natural and effortless, but this is, after all, Madison Avenue.

What’s for sale here isn’t just the packaged fluids: it’s the ambiance, the aura and mindset that the products promise. The word “qiora” means “light from within,” and Qiora proposes “to beautify the skin by relaxing the mind and body” through its products, along with “meditation-inspired deep breathing, healing touch, and closed-eye inner focusing.” And this isn’t just a casual feel-good connection between beauty and relaxation: As Qiora marketing literature solemnly purports, it’s “the first skin care developed from research establishing a milestone in the holistic science of healing. The breakthrough proves that stress . . . harmfully affects your skin.” (Not, some would argue, that we needed any “scientific proof” of that consequence.)

So, clearly when Qiora’s parent company, Shiseido Cosmetics, set out to create this flagship store and spa, a manifestly spirit-and-skin-purifying atmosphere was essential. The effect had to be at once subtle

Project: Qiora Store and Spa, NYC
Architect: Architectural Research Office—Stephen Cassell, Adam Yarinsky, partners in charge; Scott Abrams, project architect; Josh Pulver, Eunice Seng, Rosalyne Shieh, Kim Yao
Design collaborator: Shiseido

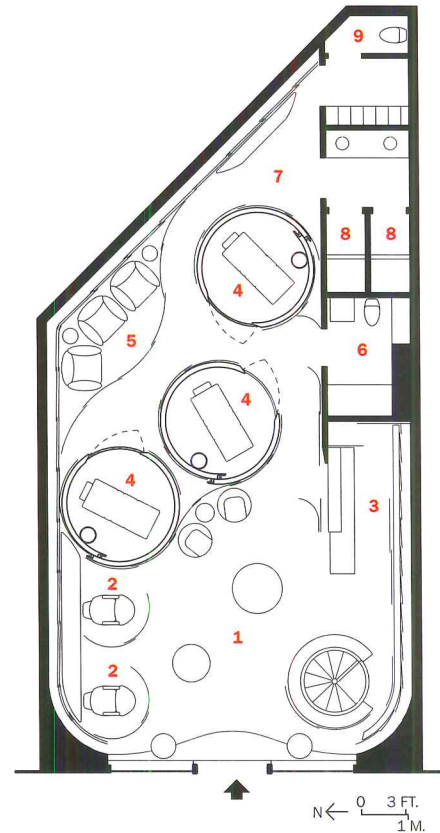
Cosmetics: Aoshi Kudo, creative director; Rikya Uekusa, project designer
Engineers: Selnick/Harwood (structural); Lilker Associates (mechanical)
Lighting: Johnson Schwinghammer
Curtain consultant: Mary Bright
Audio-visual: Shen, Milsom & Wilke



and potent. And, of course, to showcase the new Qiora line, the setting and product packaging needed to embody the single “holistic” vision.

Thus, Shiseido sought out an architect to collaborate closely and poetically with its creative director, Aoshi Kudo. The company chose Architectural Research Office (ARO), a young New York firm whose projects had included a furniture showroom with a tensile fabric ceiling, as well as Times Square’s Armed Forces Recruiting Station, a tiny, highly visible building draped in a great neon America flag. (ARO is currently working with Rem Koolhaas on the New York City Prada store.)

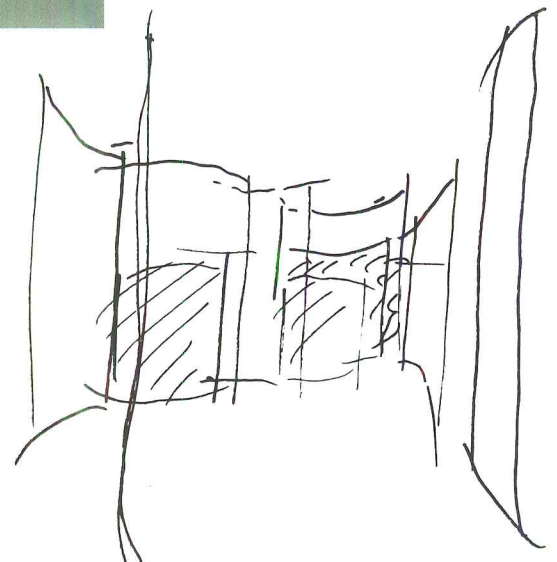
When ARO joined the project, Kudo had already designed the Qiora containers: mostly translucent, minimally labeled vessels in frosty whites and watery blues in shapes that depart slightly, but fluidly, from the conventional cylinder. When it came to spatial decisions, however, ARO partners Adam Yarinsky and Stephen Cassell were involved early on. In search of the good proportions and dramatic height that would give airy expansiveness even to a small interior, the architects helped select the Madison Avenue venue: a storefront with 20-foot-high ceilings and a Modernist glass facade at the base of a 37-story tower.

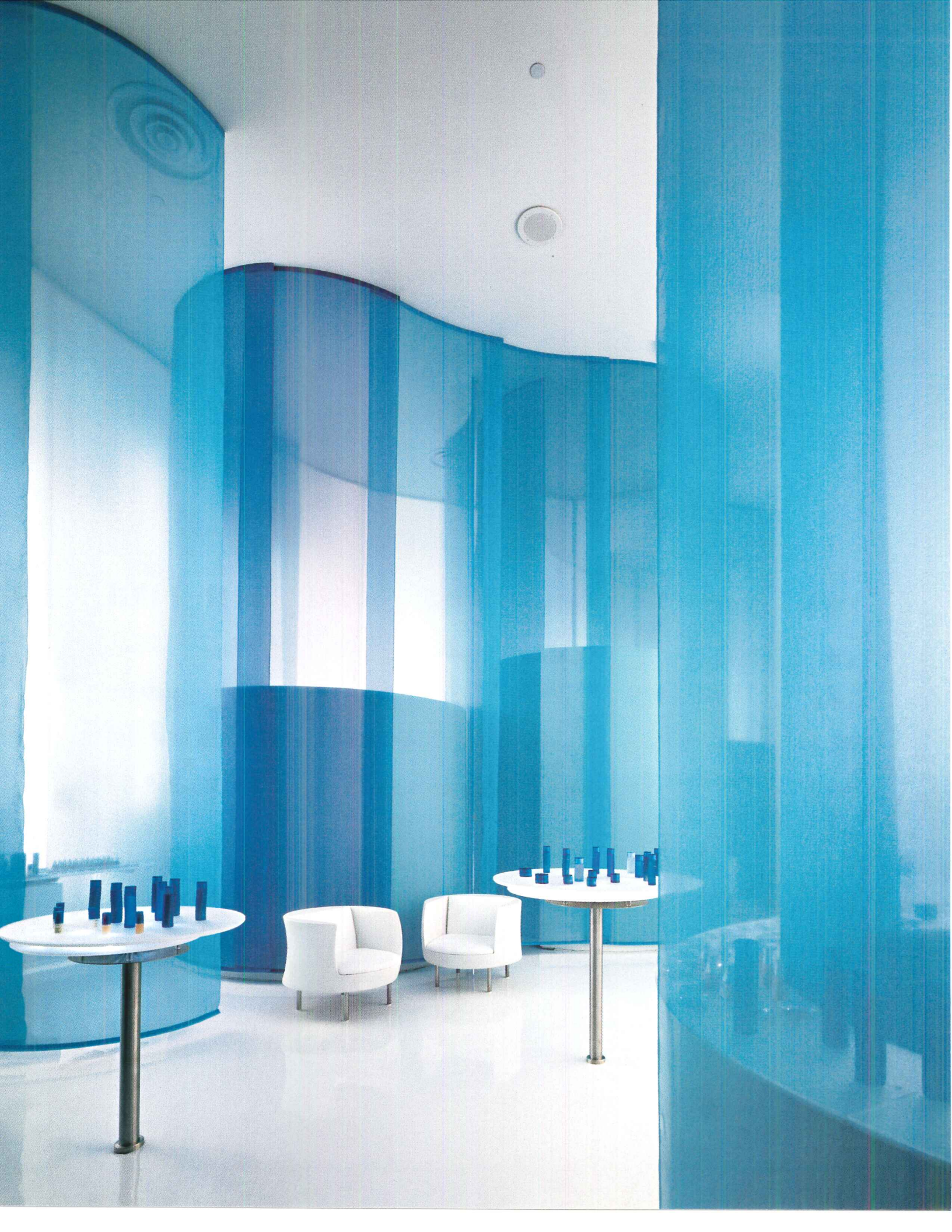


1. Retail
2. Consultation
3. Cashier/wrapping
4. Spa cabin
5. Men's/ADA bathroom
6. Lounge
7. Women's dressing area
8. Shower
9. Women's bathroom

Outside veiled consultation stations near the front of the shop (above) are fiber-reinforced-plastic chairs (above and opposite) designed by Kudo, who also created Qiora's packaging. Display

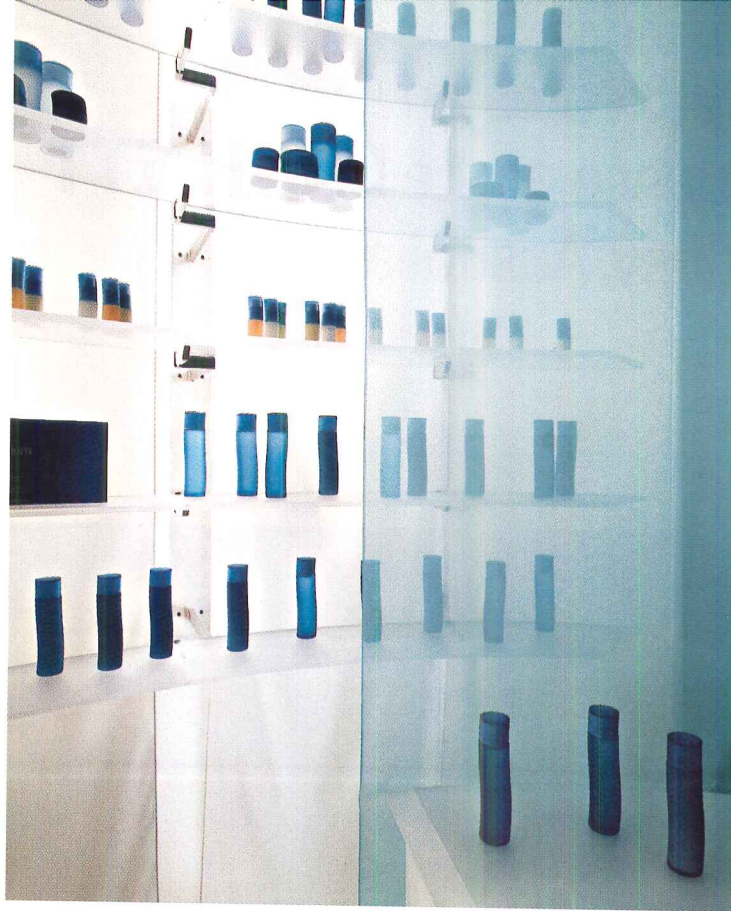
tables (opposite) have frosted acrylic tops with hollow steel pedestals, through which bundled fiber optics are threaded. Cleanly reflecting all is the glossy white, poured-epoxy floor.



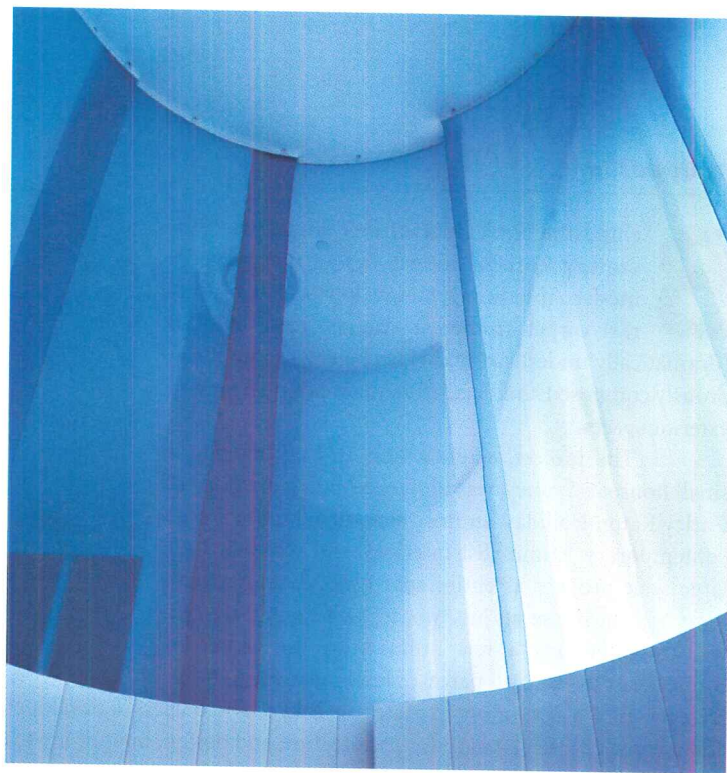


Sheer white scrims over opaque white draping soften the spatial perimeters. Bottled skincare products, here creating striking patterns in shades of aquamarine, were integral to the entire interior design.





The interior, with its translucency, colors, and clean, supple lines, was consciously coordinated with Qiora's package design (left and opposite). The scrims were installed (below) with an elegantly simple, but practical, detail: They attach by Velcro to ceiling-mounted metal strips, allowing for easy maintenance.



“But the challenge in this limited space,” says Yarinsky, “was like designing a submarine: There was a contradiction between the amount of program loaded in and the level of calm desired.” The program included offices, which now occupy a 1,500-square-foot basement level, directly below the store, as well as retail, consultation, spa treatment, changing, and shower areas. For the architects, the combination of public and private, luxuriant and utilitarian functions raised questions: How could they, for example, attain the privacy necessary for massages without compromising overall lightness and visual continuity? They solved this dilemma with three circular treatment cabins that don't meet the ceiling, thus appearing to float in space. The circular forms, eliminating corners and barrierlike flat surfaces, allow for visual flow. But the solution went further.

Yarinsky and Cassell quickly realized that sheer fabric could perceptually dematerialize such hard, solid vertical surfaces as the cabin enclosures. Generating an aura around products and clients, the ephemeral textile could screen out nuts and bolts, access panels, sound systems, and other esthetic distractions. And scrims varying in opacity and overlap could enhance the sense of spatial complexity and depth. “We saw the possibilities,” says Yarinsky, “of blending the perimeter into the forms, of blurring the distinction between edge and object.” Originally, the architects envisioned all white fabric, but Kudo persuaded them to use a range of blues that would highlight his packaging. Then, to install the custom-dyed cloth, ARO devised an elegantly simple, but practical, detail: vertical strips of organza attached by Velcro to ceiling-mounted metal strips, allowing easy removal for cleaning or repair.

Lighting, as much as suspended veils, was key to the design's experiential qualities. Reacting against the sameness of standard retail track and can lighting, ARO embraced the Qiora metaphor of “light from within” by eliminating visible light fixtures, in favor of more mystical illumination. On the perimeter walls, the architects mounted fluorescent fixtures—warm and cool—vertically in staggered formation behind layers of white flame-retardant-treated fabric. A computerized dimmer almost imperceptibly

switches between warmer and cooler light. “The coolness,” says Yarinsky, “has the natural feel of a cloud passing briefly across the sun on a bright day.” The light also invites views deep into the space at night.

Within the boutique, an even, diffuse glow creates a luster on the skin with few shadows—making clients feel naturally beautiful, while tacitly endorsing the product and treatment benefits. Meanwhile, in the front retail area, fiber optics shine up through the frosted acrylic tops of ARO-designed display tables, glimmering through liquids in translucent jars.

Qiora's realm of the senses relies not only on lighting and the tactile qualities of veils, but also on a sound system that can play lapping or purling water from within the cabins' padded, white Ultrasuede-lined walls.

Throughout Qiora, ARO successfully coaxed the complicated into seeming clean, pure, and silky, while achieving a remarkable mix of privacy and apparent openness. This delicate and supple dreamscape is capable of an all-enveloping, almost hypnotic, effect—perhaps inducing mellowed clients to buy into the Qiora way of life. ■

Sources

Lighting: A+L Lighting (fluorescent); Lutron (dimmers); Opra S.G.F. (DMX motor-controlled fiber optics)

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

Burley Katon Halliday creates an unexpected interior sequence at the **BARTLETT PENNINGTON** house in Sydney, Australia

By David Clark

PROJECTS

Behind the black door of this sandstone 19th-century workers' cottage lies an unexpectedly modern interior. Open the door and, like a surreal carpet runner, a straight path of glass (dramatically underlit at night) beckons you into a rigorously composed and detailed sequence of interior and exterior spaces.

The project, a renovation and addition to a small house in Sydney, was designed by Iain Halliday of Burley Katon Halliday, an Australian firm known for its contemporary, Minimalist interiors, and recently, such large-scale projects as entire apartment developments.

The house sits just two steps off a quiet lane of a well-to-do suburb a few miles from the center of Sydney. Its site—a small parcel of land measuring 30-by-55 feet—is of a scale more expected in Tokyo. The owners, a developer and a banker with a passion for architecture and design, bought it with the intention of making something for themselves with architectural impact. “Difficult to do with a project so small,” concedes Halliday, but nevertheless he has produced a remarkably simple and sophisticated piece of work.

Typical of Georgian cottages, the original two front rooms were well-proportioned, formally composed, and nearly symmetrical, while the rear service areas comprised a more *ad hoc* accretion of spaces, built as needs arose. Halliday's first step, as he recalls, was to “release the strength of the two front rooms” by demolishing the back quarters, leaving a simple thick-walled sandstone structure.

Continuing the axis of the existing central corridor, the glass path runs straight through a sequence of interior and quasi-exterior spaces, from the sandstone cottage through two boxlike additions, ultimately reaching a walled courtyard. The middle building, a stainless steel-clad service zone (which can be glimpsed from the street over the roofline of the original building), contains a kitchen, bathroom, and laundry, while the rear building, a glass “living box,” opens onto a sunny, high-walled courtyard facing northeast. (Down Under, of course, the north is the sunniest exposure.)

David Clark is a Sydney-based journalist who frequently covers architecture and design. He is a former editor of Belle magazine.



The three pavilions are joined by enclosed glass bridges that skip across a shallow moat of water around the central service core. This device grew from the need to maintain the ratio of outdoor space required by council regulations, and a desire to keep the new work detached from the old. The separation ends up adding poetic qualities. A delightful indoor/outdoor experience comes from passage through a sequence of interior spaces punctuated by discrete outdoor “events.”

With deep stone walls and small apertures, the original pavilion had a sense of enclosure that made it the logical place for private quarters. Here, a bedroom and a study flank the central corridor. Sliding doors, operating like shoji screens, can divide or unify this first structure's three zones. Its interior is fully lined in silver ash veneer, chosen for the relation of its tonal quality to the exterior's honey-colored sandstone. This wood-lined interior is detailed like a fine piece of cabinetry, with sleek panels sliding from wall pockets to completely cover the window openings.

Opposite the existing front windows, Halliday added two new openings through which glass doors pivot open over the water, nearly touching the stainless-steel wall an arm's length away. With the panels closed, this interior can feel like a hermetically sealed jewelry box, but

Project: Bartlett Pennington House, Sydney, Australia

Architect: Burley Katon Halliday—
Iain Halliday, David Katon, David

Selden, Tim Alison, design team

Engineers: Taylor Thompson
Whitting; Vos Partnership
(mechanical)

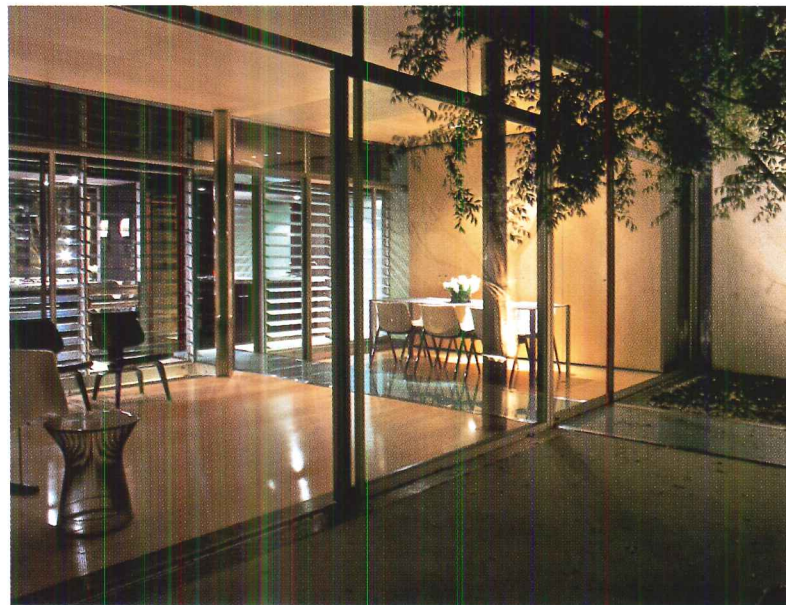


The path through a 19th-century stone cottage (opposite) now culminates in a crisply Modernist glass-box addition (this page).



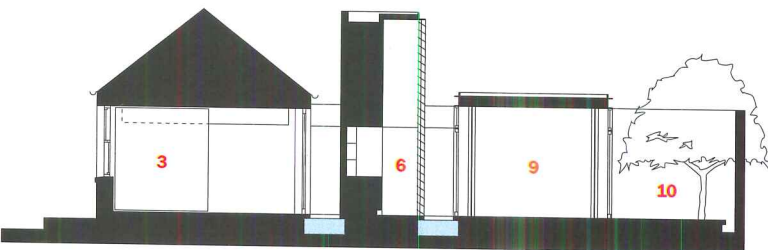
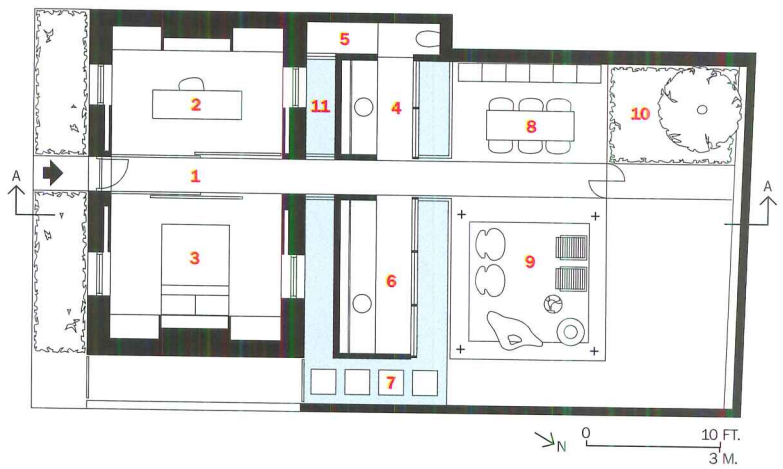
A straight path of glass, dramatically underlit at night, leads from the original stone cottage, now lined in silver ash veneer (above) through two additions: the stain-

less steel-clad service building (opposite right) with a glass louvered elevation (above right and opposite left) and the transparent living/dining pavilion (right, and above right).





1. Corridor
2. Study
3. Bedroom
4. Bathroom
5. Tub
6. Kitchen
7. Stepping stone
8. Dining
9. Living
10. Garden
11. Moat



SECTION A-A



The living pavilion (opposite) and connecting corridor, enclosed in glass, allow for glimpses and communication across a narrow moat and

through glass louvers to the kitchen (this page). Though small in scale, the house offers a visually rich journey with changing exterior/interior views.





In the original stone cottage, silver ash veneer now lines the study (left), bedroom (below), and sliding panels, which function like shoji screens, separating the rooms from the central corridor.

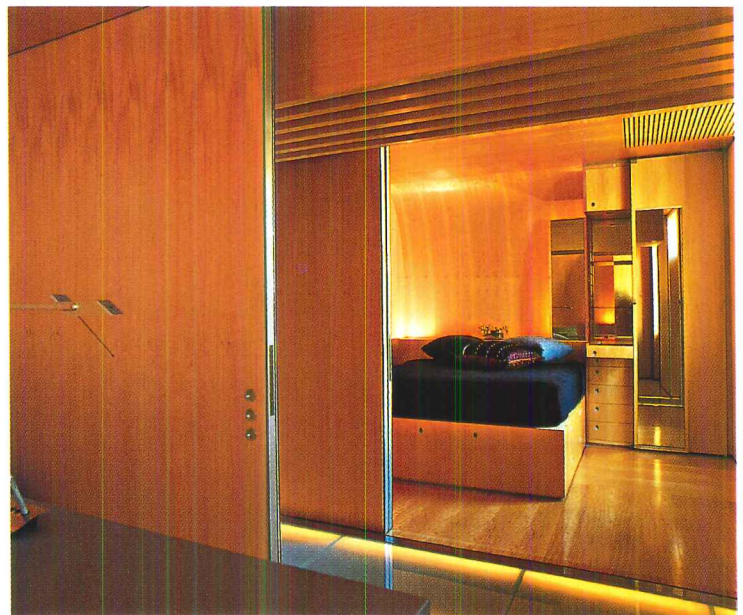
when opened to the light, breezes, and water, this space is transformed.

The second box is a narrow volume rising up almost 16 feet with a glass louvered wall to the north. Opening toward a glazed pavilion across the narrow moat, the louvers allow for layered views and communication, especially between the kitchen and living areas. This wall also projects above the next pavilion's roofline to capture northern light.

After the spatial compression of the entry corridor with the bedroom and study sliding doors closed and the visual weight of overhead timber blades above, this glazed zone offers a sense of release as in Classical architecture, achieved here at a remarkably small scale. The bathroom, all the way to the west, nestles against a party wall adjoining a neighboring property. With a deep-set bathtub, tucked into the moat, it's possible to bathe while looking out onto water.

The third pavilion approximates the interior proportions of the front rooms and is similarly lined with wood veneer. With obvious allusions to Mies van der Rohe and Philip Johnson, this structure has sliding glass walls on three sides, which literally open the interior. In warm weather, perpendicular panels can be pulled apart, dissolving a corner into the outdoor room of the courtyard. With an enclosing garden wall, and the exterior ground level matching that of the interior, the indoor and outdoor zones meld together.

Given the scale and compression of the site, it is almost impossible to stand back and grasp the building's whole exterior. And so, the experience becomes emphatically one of interiors and quasi-interiors—with spaces both covered and open to the sky. The design influences are varied and clearly legible: Classical axuality, Miesian modernity, and Japanese simplicity. It's a lot for a small space. Nonetheless, Halliday has fused them together with a logic that creates a calm, but richly varied, place. ■



Sources

Glazing: Pilkington

Lighting: Erco, Kreon

Paints and stains: Cabuts

Faucets: Vola

Hinges: Dorma

Locksets: Abloy

Kitchen appliances: Fisher &

Paykel (refrigerator); Miele (dish-washer); Smeg (oven and stove)

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

The threshold between the original thick walled cottage and the additions ushers in abundant daylight.



NL Architects with DROOG Design creates the MANDARINA DUCK store in Paris, sparked with inventive and whimsical displays



By Claire Downey

Mandarina Duck is not a Chinese restaurant, but an Italian company known for innovative luggage and design-conscious handbags. When it recently launched sportswear lines for men and women, its retail outlets needed rethinking. On top of creating a strong brand image with displays of accessories and clothing, Mandarin envisioned its new spaces as incubators for ideas.

For its flagship boutique, which opened in Paris last October, the playfully named company called on Amsterdam-based Droog Design (which literally, though perhaps tongue-in-cheek, translates as “Dry Design”). While not architects or furniture/industrial designers themselves, Droog founders Renny Ramakers and Gijs Bakker regularly collaborate with designers and architects who share their irreverent, but always intelligent, design view. Ramakers and Bakker function much like art directors, alternately acting as talent scouts, curators, and visionaries. For the Paris store, Droog turned to another Dutch group, NL Architects.

The four NL partners—Pieter Bannenberg, Walter van Dijk, Kamiel Klaasse, and Mark Linnemann—had begun working together in the early 1990s while commuting between their homes in Amsterdam and architecture school at Delft University. They officially set up an office in 1997. Through much productive back-and-forth, Droog engaged NL in an intense exchange of ideas, choosing some and discarding others.

Since NL conceived the Paris store as a prototype, the furniture and display elements are mostly freestanding objects, adaptable to nearly any space. The architects call the displays “cocoons,” each capable of housing its own shelving or hanger system. These objects are varied, ranging from a tunnel of industrial pallets cast in translucent plastic to “the vacuum wall” that seemingly suspends merchandise in midair. Instead of crowding the store, this eclectic collection gives an overall effect of spaciousness against a neutral backdrop of white walls and floors.

Reminiscent of installation art, these pieces include the freestanding “pin wall,” an aluminum panel studded with 20-inch-long metal rods that can slide forward or back to create bulges on one side of the wall and the inverse, “impressions,” on the other. It’s an optical play, as well as an open system, adjustable to accommodate, say, a suitcase or handbag.

Claire Downey is Architectural Record’s Paris-based contributing editor.

Project: Mandarin Duck, Paris

Klaasse, Mark Linnemann, principals

Architects: NL Architects—Pieter

Associate architect: Antonio Virga

Bannenberg, Walter van Dijk, Kamiel

Curator/client: Droog Design

Mandarina Duck's inventive product displays include the "Inverse Clothes Rack" (this page and opposite), a steel-clad spaceshiplike booth that beckons shoppers inside it, and the "Pallet Tunnel" (this page and opposite top), a luminous shelving element made from industrial pallets cast in translucent plastic.



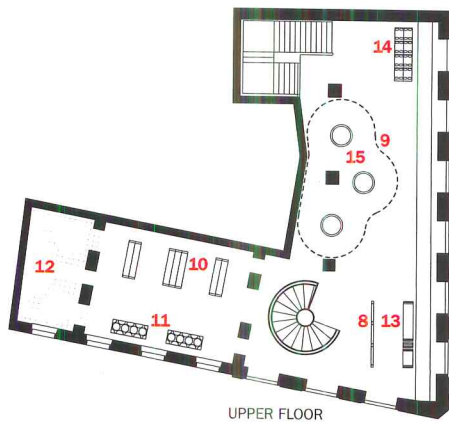




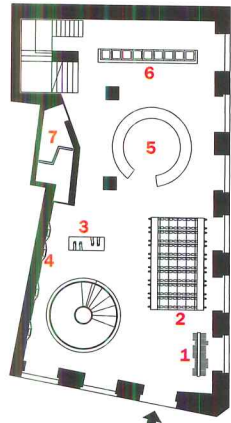
The freestanding "Pin Wall" (opposite) features aluminum paneling studded with close-set metal rods that can slide forward or back to display bags of different shapes and sizes. The "Rubber Wall" (this page) is striped with thick, colorful elastic bands that can easily and playfully hold merchandise in a variety of positions.

Near the "Rubber Wall," a "Mandarina Duck yellow" stair rises to the upper floor. Though this spiral may be conventional, the designers proposed a stair that would rotate like a vertical rotisserie (as yet, unrealized). The "Pallet Tunnel" is vividly lit from below (opposite bottom). "Grassland" (opposite top) offers fitting rooms amid fiberglass "stalks."





UPPER FLOOR



ENTRY FLOOR

- 1. Pin Wall
- 2. Pallet Tunnel
- 3. Incubator
- 4. Rubber Wall
- 5. Inverse Clothes Rack
- 6. Counter
- 7. Fitting rooms
- 8. Vacuum Wall
- 9. Curtain Room (enclosed in strands of steel beads)
- 10. Fluo-cupboards (with fluorescent-light shelves)
- 11. Mirrorboxes
- 12. Grassland fitting rooms
- 13. Epoxy-cupboards
- 14. Socle (mini-Pallet Tunnel)
- 15. Stackable round tables



Another wall is striped with colorful thick elastic bands that can hold merchandise in a great variety of positions. Just as playful, the dressing rooms were inspired by gently swaying cornfields. Each room is actually a clearing amid hundreds of fiberglass “stalks,” or rods, (comprising more than 98,000 linear feet) anchored to a flat metal base and free to bend at the slightest touch. The dense arrangement provides total (curtainless) privacy, while evoking a strange, rustic hut à la Mad Max.

Mandarina Duck spans two floors, totaling 3,230 square feet. To beckon customers up to the larger, second floor, the architects designed a wide spiral stair that would gradually rotate like a vertical rotisserie, constantly shifting the arrival point. Unfortunately, this element was not built as planned and the current spiral stair is literally at a standstill. But the store remains a work in progress, and NL’s surplus ideas—which include a conveyor belt through the store—may one day be realized.

NL consciously created designs that could be repeated and further developed at Mandarin Duck locations throughout France, though no second project has yet been announced. For flagships in London and Milan, the company is consulting different architects (rumored to include Zaha Hadid) to generate a unique prototype for each international market. The designs will likely serve up more ideas than Mandarin can use. “But in a world where you traditionally work with permanence,” says Klaasse, “it’s a relief to be able to try things out.” ■

Sources

Pallet Tunnel: Lexan Exell, MDF
Pin Wall: Aluminum, id-polyethylene
Rubber Wall: Rhodorsil Melange Maitre

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

Leeser Architecture explores notions of the everyday in three different New York City venues: **GLASS** bar, as well as **BOT** and **POD** restaurants

GLASS

By Cynthia Davidson

PROJECTS

Has the increasingly architectural presentation of everything from lamb chops to ice cream taken over the role of design? Is a “designed” restaurant often covering up for mediocre food? Is restaurant design ever independent of the menu?

Thomas Leeser, AIA, believes that restaurant design is mired in nostalgia, and wants to move it into the future, but I see his three recent New York City commissions—Bot, Pod, and Glass—as attempts to wrestle with the everyday: the ordinary acts of eating, eating without seeing, seeing without thinking. “The everyday is the most resistant to change,” he says. “How do you theorize it? How do you critique it?”

Leeser takes on the everyday in shades of black, white, and gray at Glass, in the trendy neighborhood of Chelsea, where this restrained palette puts emphasis on his façade: a large square of deep blue glass framed by frosted white panes. By day, the unmarked elevation is mysteriously opaque, its blue panes mirroring the sidewalk activity. By night, when lit from within, the blue glass reverses this quality, becoming a transparent window that reveals activity at the restrooms’ trough sink. Suddenly the everyday act of washing up and primping in front of the now-interior mirror is on public display.

The decision to put the restrooms along the front façade stems, Leeser says, from his 1980s bar days, when “everything happened in the bathroom—sex, drugs, etcetera.” But today, it also seems to play off recent moves to make public performance of private acts, as in Diller + Scofidio’s Brasserie restaurant, where a trough sink penetrates the wall separating the men’s and women’s rooms. Leeser goes two steps further: At Glass, the toilet rooms are coed—men and women share one long sink—and so, both sexes are on view to the street.

The live, after-dark spectacle of the front window is a tough act to follow in the bar itself. Beginning with a basic 3,000-square-foot store-

Cynthia Davidson is the former editor of Any magazine and Any books. She currently edits the Writing Architecture series published with MIT Press.

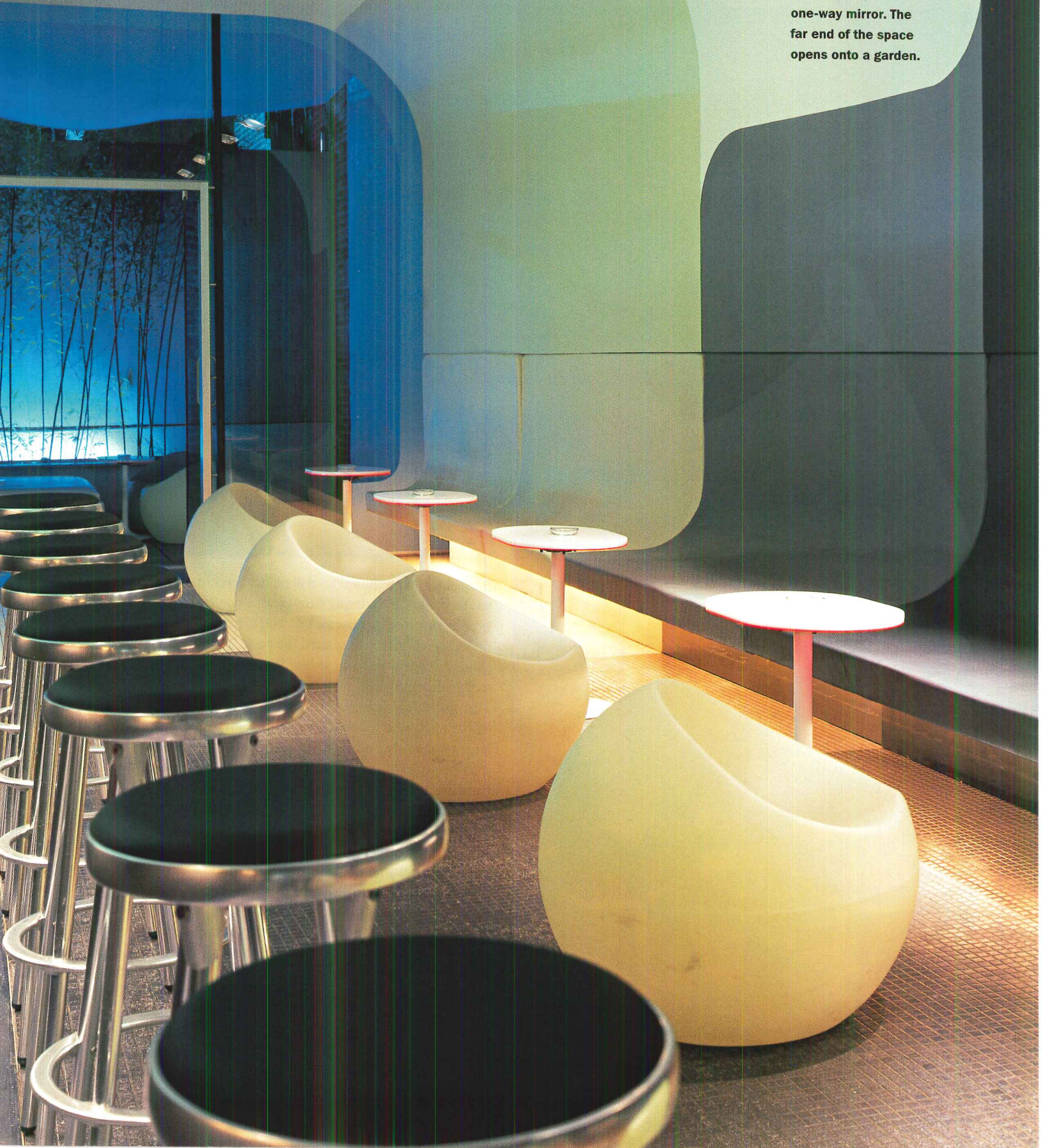
Project: Glass, NYC; Bot, NYC; Pod, Brooklyn, NY

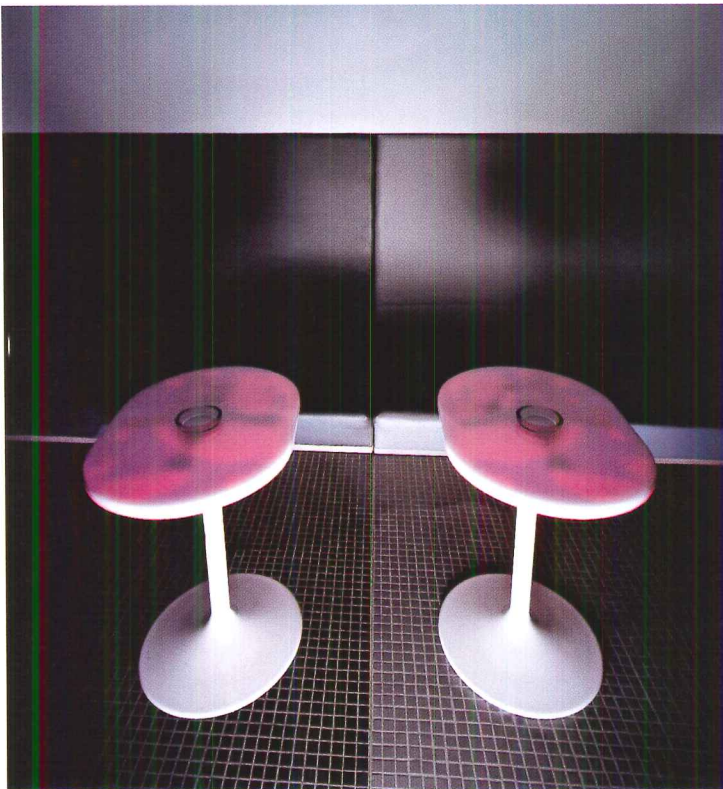
Architect: Leeser Architecture—Thomas Leeser, AIA, principal; Caroline Vanbiervliet, project architect (Glass); Marco Bevilacqua,

designer (Glass and Bot); Max Zinnecker, project architect (Bot); Andy Saunders, Max Zinnecker, Raymond Kwok, design team (Pod)
Associate architect: David Riebe (Pod)



By night, Glass' facade (opposite) offers a window onto the coed bathroom sink, where unwitting clients primp before a one-way mirror. The far end of the space opens onto a garden.

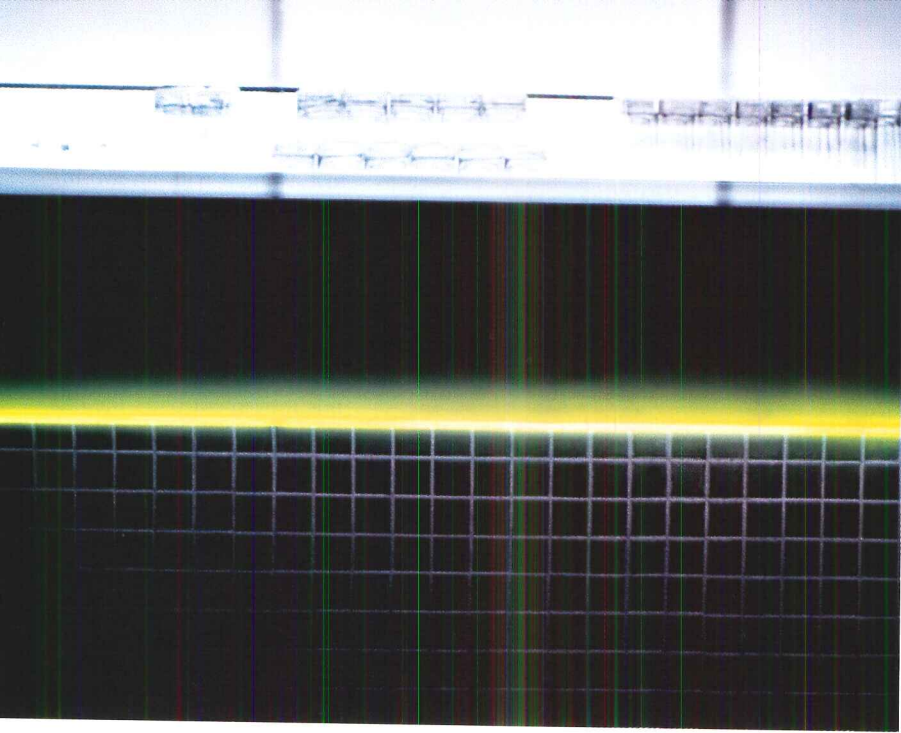




front shell that required no real plan, Leeser inserted into the rectangular void a kind of undulating fuselage of drywall. The curves are deceptively simple, inspired by automobile and airplane design. A bench along the one long wall narrows toward the back of the room, where a transparent glass wall opens onto a garden. Without a bar crowd filling the space, it seems disconcertingly banal. Where is the dance floor? The mirror ball? The nightclub atmosphere? The place is so “cool” that it’s almost Minimalist, with square ceramic tiles laid in subtly curving patterns and large capsule-shaped insets of rubber set strategically into the floor. The materials are commonplace industrial, but their appearance in a “scene” bar is unexpected. Does the bar crowd notice?

Meanwhile, a mile or so downtown, Leeser has played out the everyday game entirely differently at Bot, a neighborhood trattoria. Sitting in the garden at Bot, with laundry hanging overhead and the hum of air conditioners all around, is an otherworldly experience. Otherworldly because it is New York but could be Barcelona—and because the plexiglass tables are aglow with fluorescent color and the “room” itself seems to be coming apart at the seams.

Located on Mott Street just north of Little Italy, where until recently “colorful” tended to describe the neighborhood’s residents more than its restaurants, Bot is a jolt of style from front to back. Like a horizontal shaft of light, the room bores through the ground floor of a brick tenement building, connecting the street to a back garden. This act of “blowing out the space,” as Leeser calls it, transforms the base of the building. It also more than tripled Bot’s warm-weather seating area to 2,500

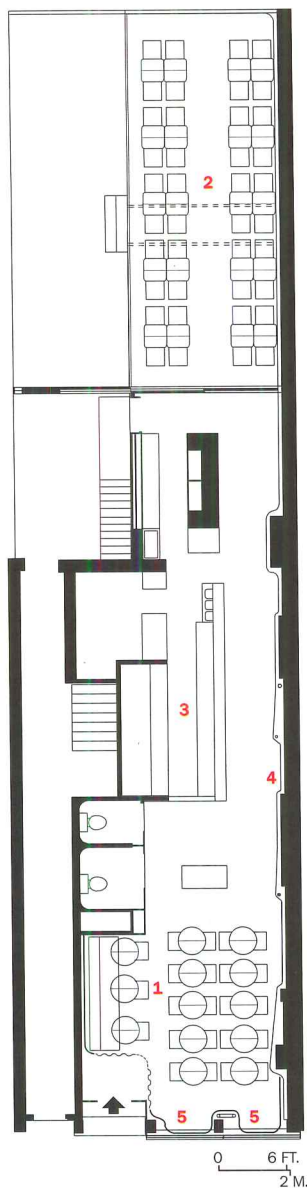


The interior's fuselage form creates undulant passages, as glimpsed from the garden (below) or near the bathrooms (opposite top right) and entry (opposite top left). The plexiglass of the table tops (opposite bottom) and bar counter (left) punctuate a primarily grey, black, and white space with luminous flashes of color.



Bot's facade features "pseudo-ornament": a pattern of cutouts, applied with adhesive, that allows peek-a-boo views in (below). The porch (opposite bottom right) and interior rely on bright "non-food" colors, as in the wavy chartreuse wall opposite the open kitchen (right) and the orange-and-pink plexiglass tables (opposite bottom left and top).

1. Dining
2. Dining "porch"
3. Open kitchen
4. Wavy wall
5. Operable facade panels



square feet, providing for *al fresco* dining without adding any real additional structure, just a porch with an awning overhead and a step down to a garden. A translucent, honey-combed plastic panel slides open to reveal the porch, and a curtain can be pulled shut to separate it from the garden. All this movement blurs the distinction between inside and out, and the building itself seems to "come apart."

Back up front, at the street, a wall of clear glass wraps around the old cast-iron columns of a former storefront bistro, boldly announcing the presence of a new neighbor. The glass wall's four doors can remain open, dissolving the façade onto the street. The glazing is articulated with what Leeser calls "pseudo-ornament": a pattern of cutouts, applied with adhesive, that allows peek-a-boo views of the columns, painted bright orange, and into the space beyond. It's part *Clockwork Orange* and part *2001*, Leeser says, a "millennium restaurant" that looks to the future.

If bright colors alone signal "future," then Bot is it. Along the north wall is a flowing ribbon of drywall painted chartreuse. Cloaking the existing structural elements, it becomes an undulating surface that disguises the transition from interior to exterior. Suspended between ceiling and floor, the backlit wall emits a blue glow along its "hemline," suggesting a petticoat, if not a mysteriously inaccessible space beyond.

These are "non-food colors," Leeser says, though he persuaded the client that chartreuse is the shade of olive oil. The vivid green wall is loud enough to distract diners from the hum of the air conditioners, and the custom pink-and-orange tables bright enough to contrast with plates of pasta. If the color proves too much, diners can look toward the open kitchen that occupies the center of the room, barely hidden by translucent plexi counters, also backlit in blue.

As approaches to interior architecture, the subtlety of Glass and the heat of Bot are like salt and pepper: Both may be set on the table, but their effects are very different. The holder that keeps them together is the restaurant Pod—which chronologically followed Bot and preceded Glass—across the East River in Williamsburg, Brooklyn.

It's a sign of Manhattan's outward migration when a restaurant touting "world-influenced cuisine with Malaysian and Latin twists" opens on North Seventh Street, opposite a roofing contractor's garage and a mixed batch of three-story houses. But Brooklyn offers more room for experimentation, as reflected in Pod's deep, 5,000-square-foot double-height space, which telescopes inward from the street.

Like Bot, Pod features a hot palette of orange with chartreuse and glass facade panels, which open completely to the street (though the glazing is yet to be printed with the transparent tree images Leeser had planned). A precursor to Glass, it forms a "pod," rather than a fuselage, of space and has a coed trough sink (though this one's "off stage").

At Pod, Leeser's interest in the everyday takes on an eerie *Twin Peaks* charm with a conceptual "log" in a bold wood-grain veneer, serving as the bar, and images of American trailer parks lining the bar walls. Is Leeser, a native German, poking fun at America? At Brooklyn? Or is he just being playful?

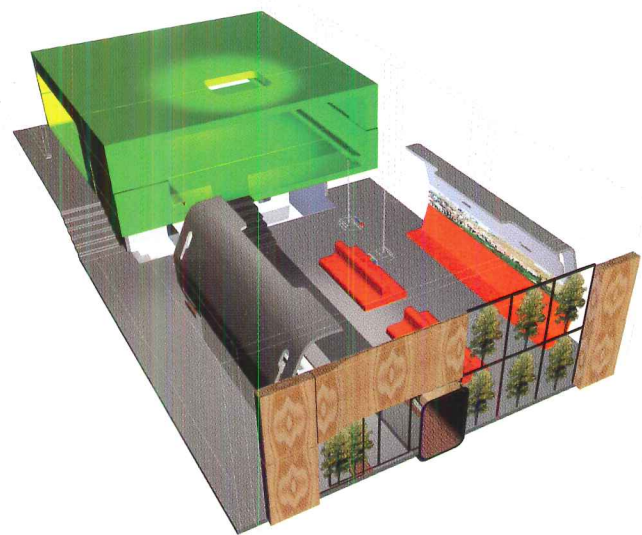






Leeser likens Pod's orange benches (above and below) to bus station seats and the video over the bar (above) to a ballpark screen and

an ordinary bar's TV. The yet-unbuilt facade (below) will have transparent trees and plastic lenticular 3-D images of wood grain (below).



"The whole idea of the restaurant is the American suburb," he says. The green room, or pod, is "the house," up several "front steps" from the front lawn/backyard bar area, where the custom table tops sandwich images of wood grain and grass between, once again, sheets of plexiglass. The walls, curving inward as they rise, incorporate video-projection screens, which Leeser likens to the video screens in ballparks (although suburban kids don't play in stadia like that—at least, not yet).

Pod's suburban concept, however, may be better left aside in order to focus on the space itself, where the movement from street to bar to restaurant telescopes the interior, energetically delivering the message that "something hip is happening here." The seamlessly wrapped dining room's podlike qualities are accentuated by chartreuse paint covering nearly every surface. Even the banquette rolls from the green wall, barely visible until you're on it.

Most revealing about Pod, Glass, and Bot is that Leeser, too,

seems to be working from a menu. The vibrant chartreuse, custom plexiglass tables, undulating, space-shaping surfaces, and the public display of private acts have clearly been served up to provoke a reaction. Pod's curried crisped oysters with coconut-wasabi dip are not an everyday menu offering, but they, and Leeser's concoctions, whet the appetite for more. ■

Sources

Title: Daltile (Glass); Bella Tile Co. (Pod)

Flooring: Allstate rubber (Glass); Stonesource terrazzo (Bot)

Plexiglass: Just Plastics bar, tables, and counters (Glass and Bot); custom sink (Glass)

Faucets: Kroin (Glass); Speakman (Pod)

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





The architects pushed the reception desk (this page), offices, and services to one side to keep the main space open, except for a floating conference room and stair (opposite).

Hanrahan Meyers sculpts space with flashes of light and color at the **SCHROM STUDIOS** across the East River from Manhattan

By Clifford A. Pearson

When the producers of *Sex and the City* shot a scene at the Michael Schrom and Company Studios in Long Island City, they set up their cameras in the conference room, not the stage. That's because the glass-walled, cone-topped conference room saved them the trouble of inventing something hip and cool on the sound stage. Why build a facsimile of an elegantly edgy New York City office space when the real thing was right there?

The same industrial/media aesthetic that grabbed the attention of the *Sex and the City* folks helps Michael Schrom and his partner Carl Sturges market their company to clients looking for a place to produce television commercials. Along with spectacular views of the New York City skyline and generous daylight, the design helps compensate for the company's recent move across the East River and out of Manhattan. Set on the top floor of the Silvercup Studios building (a former bakery that is now a film and video center where *The Sopranos*, *Sex and the City*, and many movies are shot), the new 16,000-square-foot production-and-office space is twice the size of the company's old location and now benefits from greater proximity to other television production facilities.

Like their clients, architects Victoria Meyers, AIA, and Tom Hanrahan, AIA, fell in love with the raw space and river-dappled light. Their job was to give these elements definition without constricting them, to add character without diminishing their impact. "We started with a simple cardboard model just to get a sense of the envelope," says Meyers of her firm's design process. "Then we began to push the space around to make connections and objects," she adds. "The idea was to eliminate the cubbyhole effect," says Hanrahan, "and make everything one place."

Working with the existing 18-foot-high ceilings, the architects created a conference room that doesn't meet the ceiling, instead floating as a freestanding element, wrapped in clear glass walls. (White silk drapes and a blackout curtain can be pulled for privacy or video viewing.) The only connection between the conference room and the ceiling is the cone, which is faceted and scoops in daylight through a filter of yellow-tinted film sandwiched between two layers of glass. The conical element is like a chimney for light and the warm yellow glow it casts on the conference

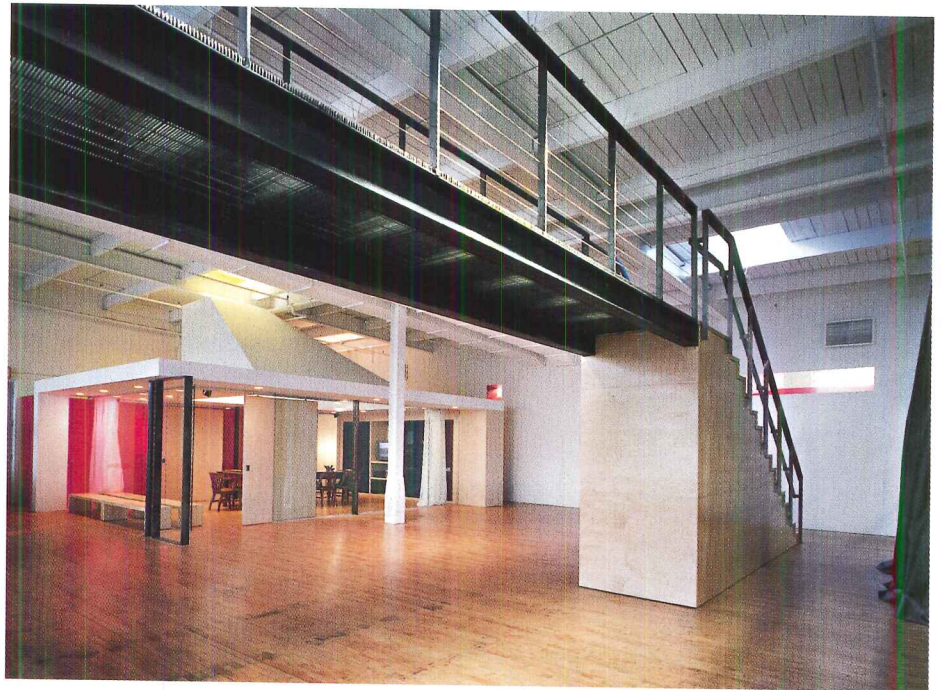


table evokes the sensation of sitting around a hearth.

To keep the main level as open as possible, Hanrahan and Meyers inserted a mezzanine along the west side of the studios, overlooking the Manhattan views. Placing a work area with glass-topped desks directly above private offices and support rooms, the architects crafted a grand space that employs volume and light as its primary tools. Slicing through this space is a maple-and-metal stair with a steel-grate bridge leading to the mezzanine. Like the conference room, the stair is treated as an object whose freestanding nature only emphasizes the expansive volume around it.

While the north end of the studios handles the program's public functions of greeting, meeting—and wowing—clients, the south serves as

Project: Michael Schrom and Company Studios
Long Island City, New York
Architect: Hanrahan Meyers Architects—Tom Hanrahan, AIA, Victoria Meyers, AIA, partners; Corvin Matei, project architect
Engineers: Robert Silman Associates

(structural); Bean United, Inc. (mechanical)

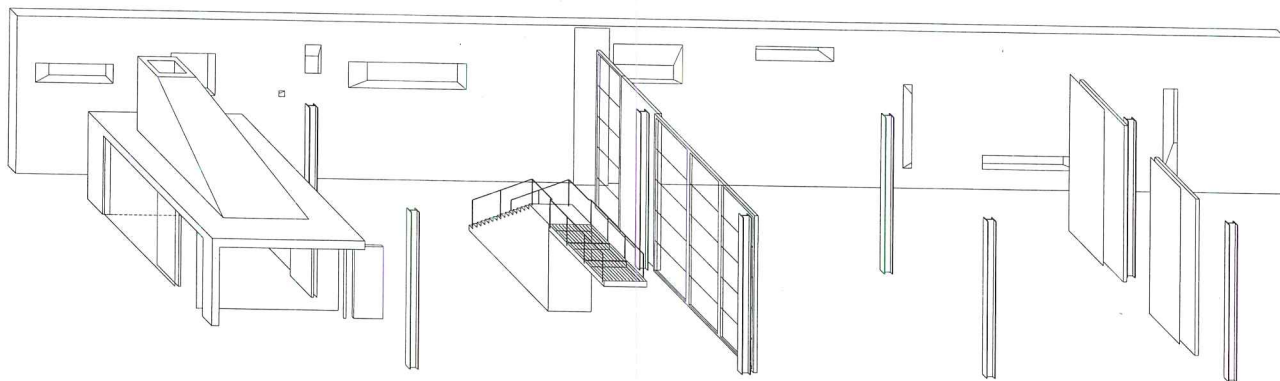
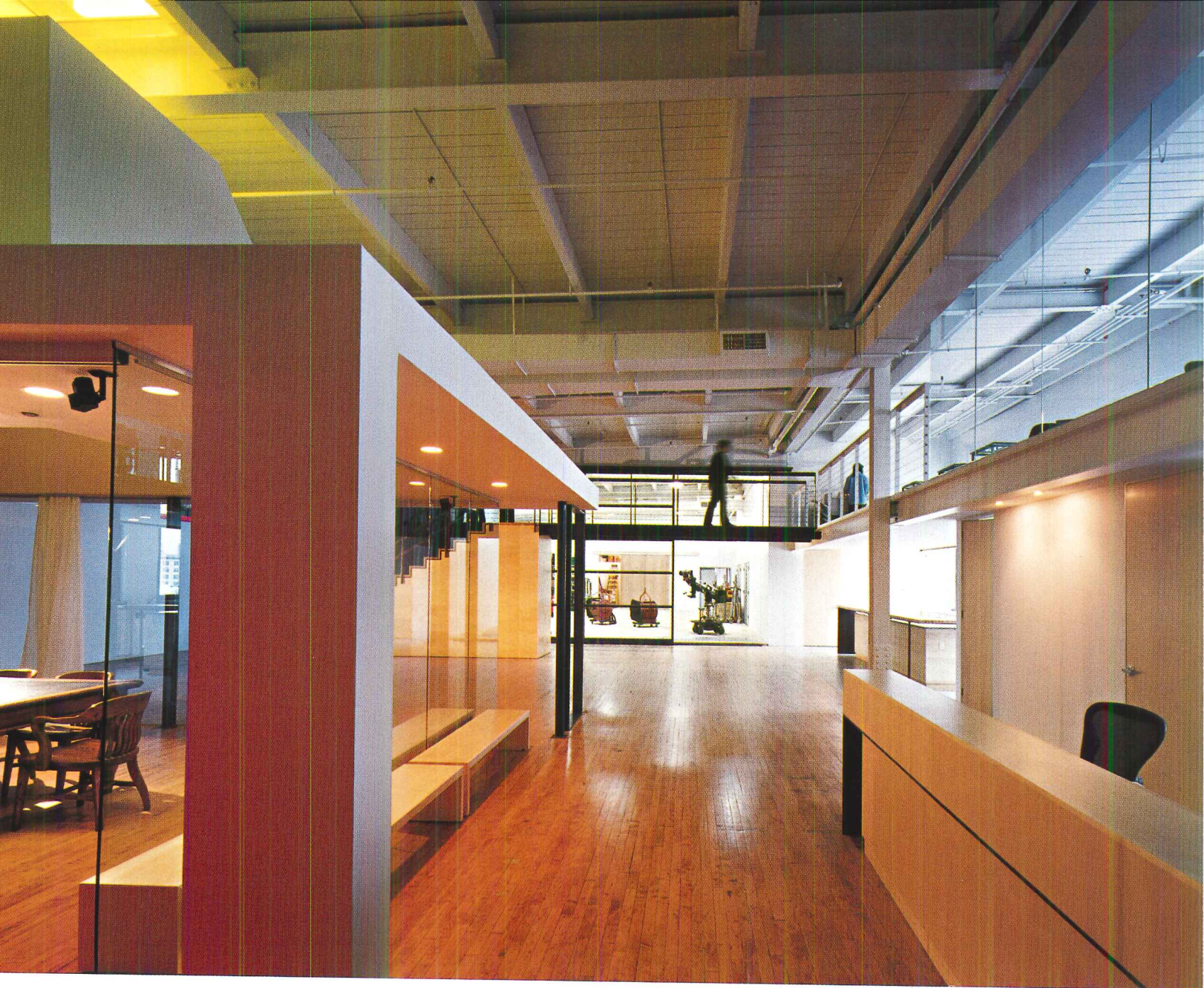
Consultant: Richard J. Shaver (lighting)

Subcontractors: TXT Electric (electrical); Gotham Air (HVAC)

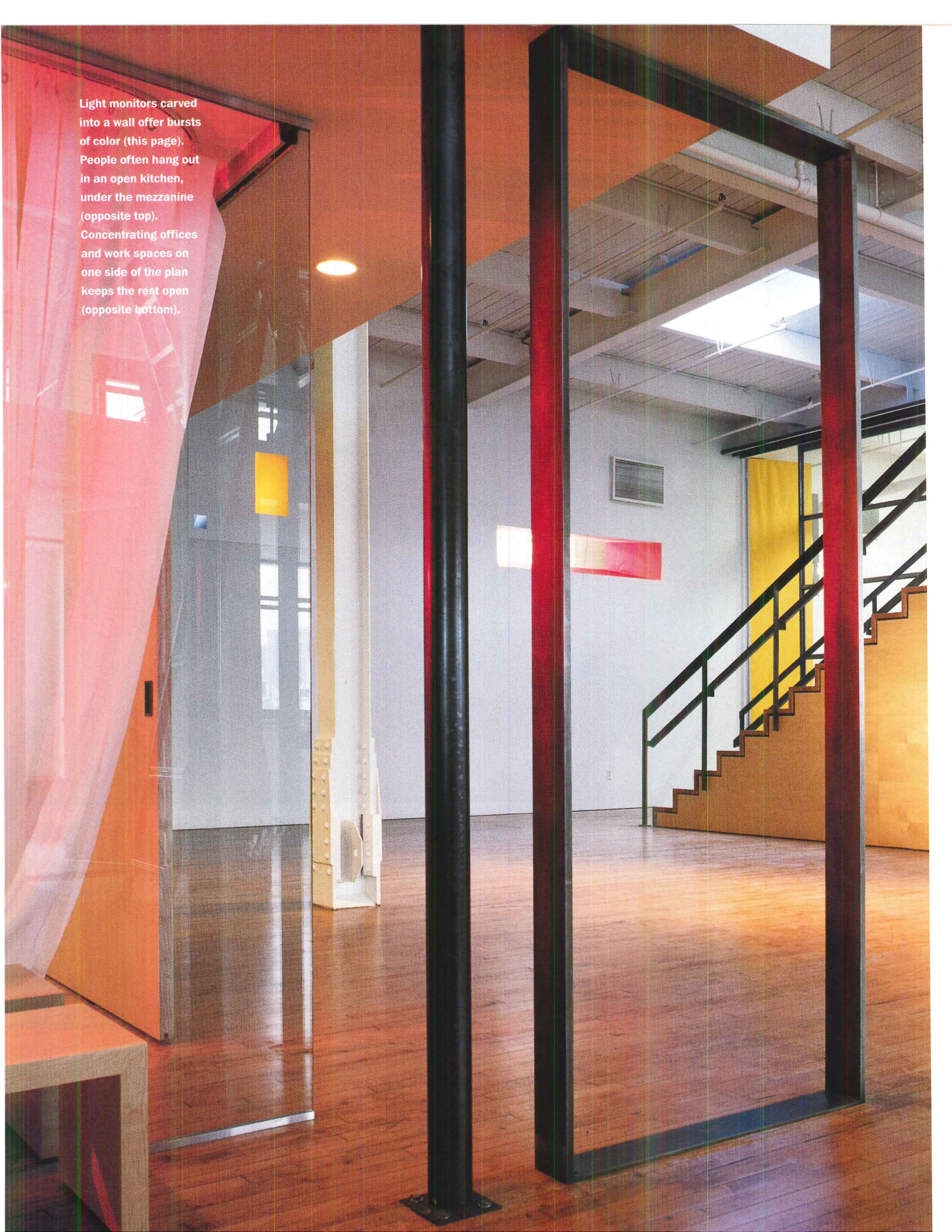
General Contractor: Leo Moore & Associates

Inspired by Dan Flavin's art, the architects stacked fluorescent bulbs under a colored skylight in the conference room. Only a glass wall separates the public area from the stage (opposite).





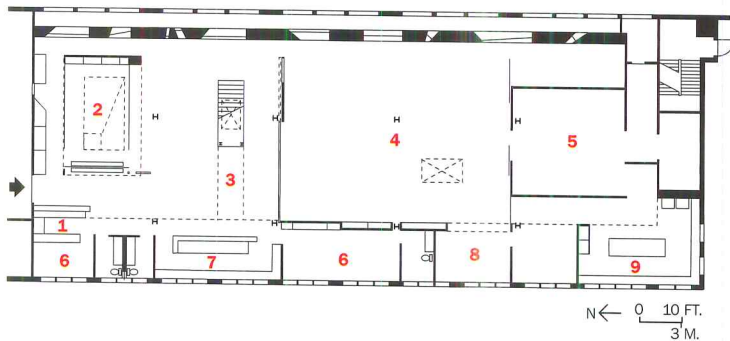
Light monitors carved into a wall offer bursts of color (this page). People often hang out in an open kitchen, under the mezzanine (opposite top). Concentrating offices and work spaces on one side of the plan keeps the rest open (opposite bottom).





the more prosaic production area for shooting commercials, storing equipment, and styling camera-ready food. This area also includes a glass-fronted “client tank” on one side of the stage that allows advertising executives to watch as commercials are shot. Above the tank is a small lounge and makeup area. In most studios, such production spaces are essentially factory floors sequestered behind closed doors. Here, they are separated from the more glamorous administrative spaces only by two-story-high glass doors that slide along floor and ceiling channels. When commercials are shot, a dark green floor-to-ceiling curtain can be closed.

Controlling and manipulating illumination is a recurring theme in the work of Hanrahan and Meyers. In the Schrom Studios, the architects employ a two-part strategy of washing the main public spaces with light through the tall windows on the west and channeling rays through “monitors” carved into a five-foot-deep wall on the east. Recalling Le Corbusier’s windows in a chapel at La Tourette, the architects angled the cuts of their monitors and painted some of the inside surfaces vibrant colors such as deep blue, yellow, and coral.



- | | |
|----------------------|-----------------------|
| 1. Reception | 6. Office |
| 2. Conference | 7. Kitchen |
| 3. Bridge (overhead) | 8. Client tank |
| 4. Stage | 9. Commercial kitchen |
| 5. Shop | |

To maintain the project’s lean sensibility, Hanrahan and Meyers kept to a simple material palette: maple woodwork, steel structural elements, and glass walls. “We wanted something that would last 10 years,” says Schrom. “We wanted classic Modern, not trendy.” And in the highest compliment from someone who collects and races Porsches, Schrom describes Hanrahan and Meyers’ work as having a strong “German design influence.” In a business known more for its noise than its restraint, the studios’ calm demeanor speaks loudly.

Compared with the new Silvercup facilities, Schrom’s old digs in Manhattan “were like a cave,” recalls Sturges. “At the end of a long day of shooting, you would be really tired and just want to get out of there,” he says. “But here, everyone wants to hang around and enjoy the view.” ■

Sources

Structural steel: East Bay Ironworks

Glazing: Ace Glass & Mirror

Skylights: Tri-Star Skylights

Metal doors: Custom by Gabrielle Shelton

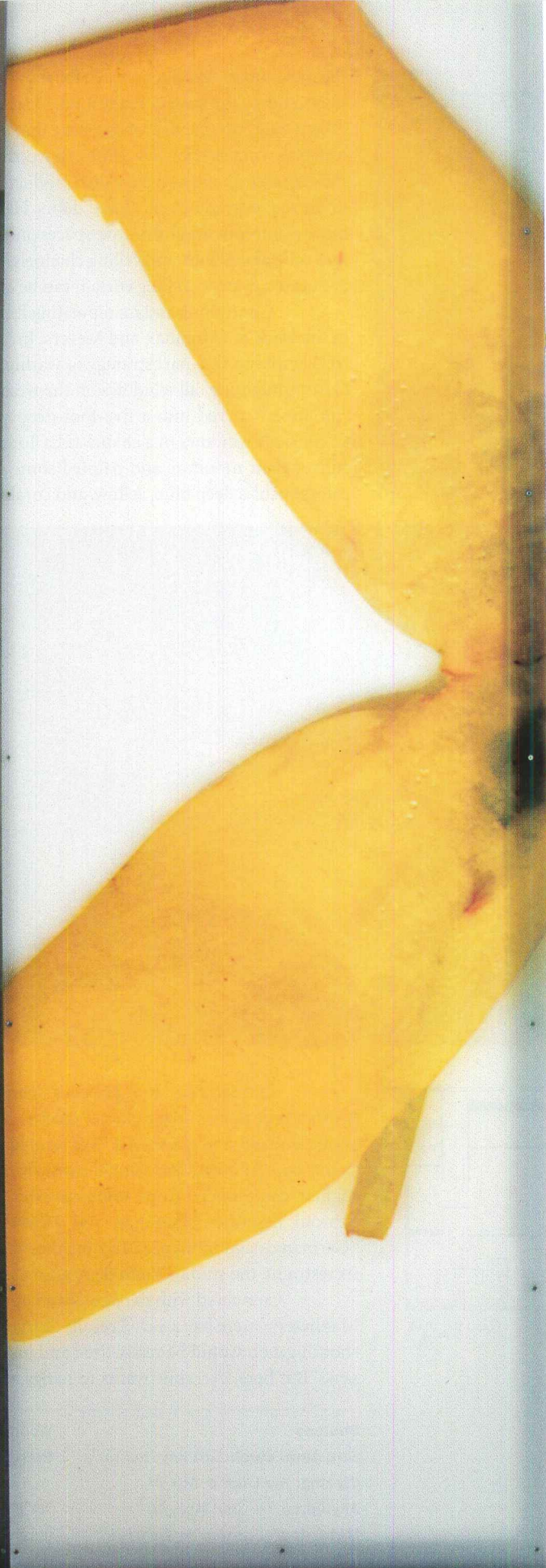
Sliding-door track: Hafele

Woodwork: Custom by Bench Dogs

Refrigerator: Sub-Zero

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

The luminous tanning booths, each with its own large-scale imagery, are staggered, promoting collagelike overlaps. Thus, the whole story is not revealed at once. From the street (opposite), these graphics are potent enough to hold their own amid the strip mall's visual cacophony.



With **ELECTRIC SUN**'s lanternlike volumes and vivid imagery, **Escher** and **GuneWardena** reenvision the strip-mall tanning salon

By David Hay

When actors or models walk into Electric Sun III, the new Los Angeles tanning salon by Escher GuneWardena Architecture, they discover they aren't the only objects of beauty in sight. The salon itself has an artful opulence that's more than just a deft metaphor for physical allure. Above the glistening floor, covered in high-gloss polyester paint, the tanning lights positively glow through the booths' acrylic panels. Some panels are milky white, while others are adorned with colorful, mostly abstract, computer-generated images by artist Jonathan Williams. Especially at night, the tanning booths appear as shimmering lanterns.

Here, Los Angeles-based architects Frank Escher and Ravi GuneWardena have pared back all volumetric forms to their essence, ensuring that the favored design element, light—from the tanning beds, as well as bountiful daylight—rules the salon atmosphere. But creating a magically luminous interior for 13 tanning rooms, as well as reception and service areas, was not easy, especially at this location. Electric Sun III occupies 2,000 square feet on the second floor of "one of the ugliest buildings in L.A.," in Escher's words, a strip mall not 50 yards from the heavily trafficked corner of La Cienega and Beverly Boulevards. Ringed on three sides by floor-to-ceiling windows, this former carpet store is highly visible to pedestrians and people in cars.

And so, the architects decided to take advantage of the space's public profile. "If the customers were exposing their bodies, we thought, why couldn't we expose our interior to the outside?" recalls Escher. But the client, Brian Heberling, was concerned about privacy. Clearly, any exposure would have to be non-literal—inspiring the architects to experiment with light.

In two earlier tanning salons for Heberling, Escher and GuneWardena had achieved an ethereal quality by bouncing and reflecting light, emanating from opaque tanning booths, onto the ceiling. (They do the same at the rear of Electric Sun III where the air-conditioning requirements of higher-powered tanning beds demand rooms with solid walls.)

David Hay lives in Los Angeles, where he often covers architecture and the arts.

Project: Electric Sun III, Los Angeles
Architects: Escher GuneWardena Architecture—Frank Escher, Ravi GuneWardena, AIA, principals; Bajana Banyasz

Engineers: Mahdi Aluzri (structural)
Artist: Jonathan Williams
Contractors: Castle Rock Constr. (general); Air Engineering (mechanical); Dan Filipi (electrical)

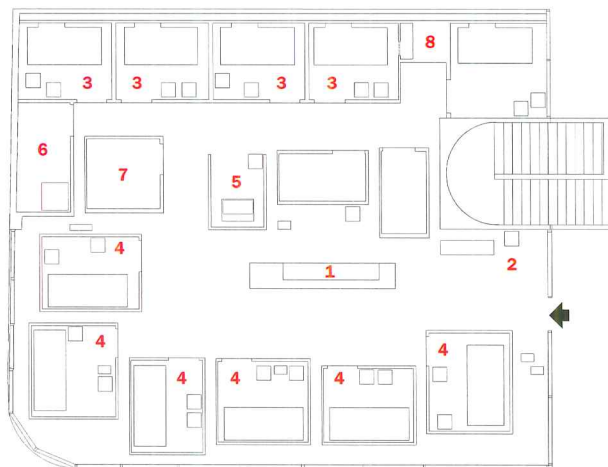






The salon's relatively small space is rife with scale play as the fluid images create a metaphoric stage set around human occu-

pants. At the reception desk (this page) and throughout *Electric Sun III*, people are often cast in silhouette against the illuminated booths.



- | | |
|--------------------------------|-------------|
| 1. Reception | 5. Vanity |
| 2. Waiting | 6. Laundry |
| 3. Tanning booth (opaque) | 7. Bathroom |
| 4. Tanning booth (translucent) | 8. Music |

But the subtlety of such an effect, even more so when viewed from the street, prompted the architects to light up the actual booths. To compete with this intersection's billboards and smaller signage, they realized they'd have to go further. Accordingly, Escher GuneWardena turned to Williams to add imagery to the luminous booths.

Using the Maya computer program employed by animators on the movies *Toy Story* and *Shrek*, the artist built a virtual model of the salon. He spent hours placing images on his model's panels. His choices were eclectic. Williams first took a lily, then a piece of aluminum foil, and put them directly on his scanner. (The foil is an allusion to the silver reflectors ardent

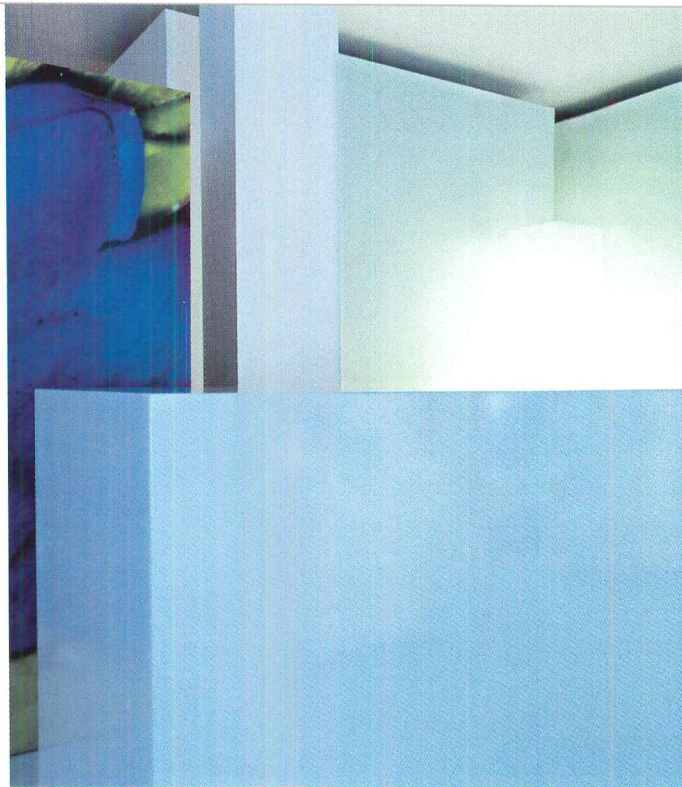
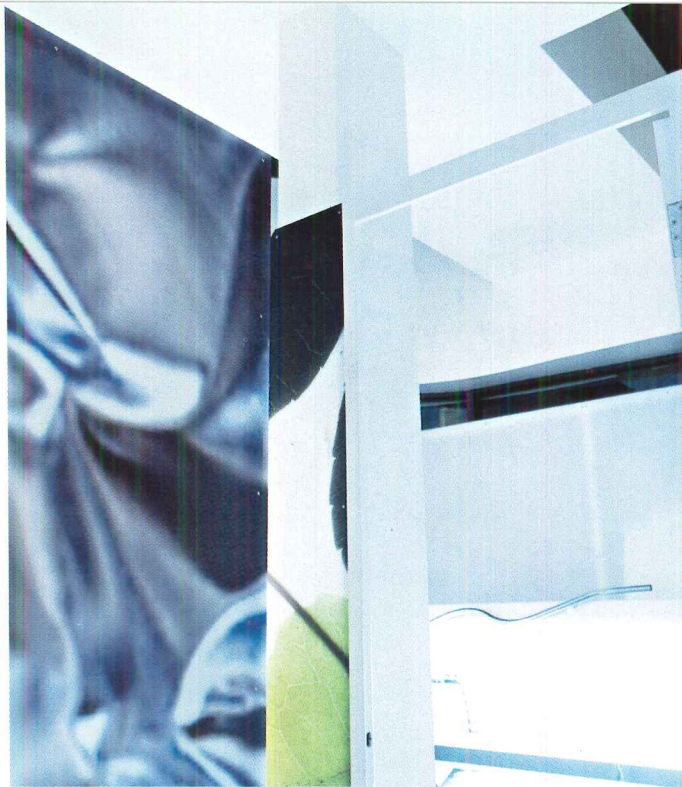
“I JUST WANTED EACH OF MY IMAGES TO HAVE THE DELICACY OF THE ARCHITECTS’ FORMS,” SAYS WILLIAMS.

sunbathers once used.) Other ideas came from a stage set for Kabuki theater. Eschewing direct visual connections between his images, Williams says, “I just wanted each one to have the delicacy of Frank and Ravi’s forms.”

Forty-four computer printouts, laminated on the acrylic panels, appear in the salon. From the outside in daylight, the colorful booths form a collage with the surrounding advertising images. With the onset of darkness, when the buildings fade away and the drably lit billboards recede into the background, Escher and GuneWardena’s glowing boxes

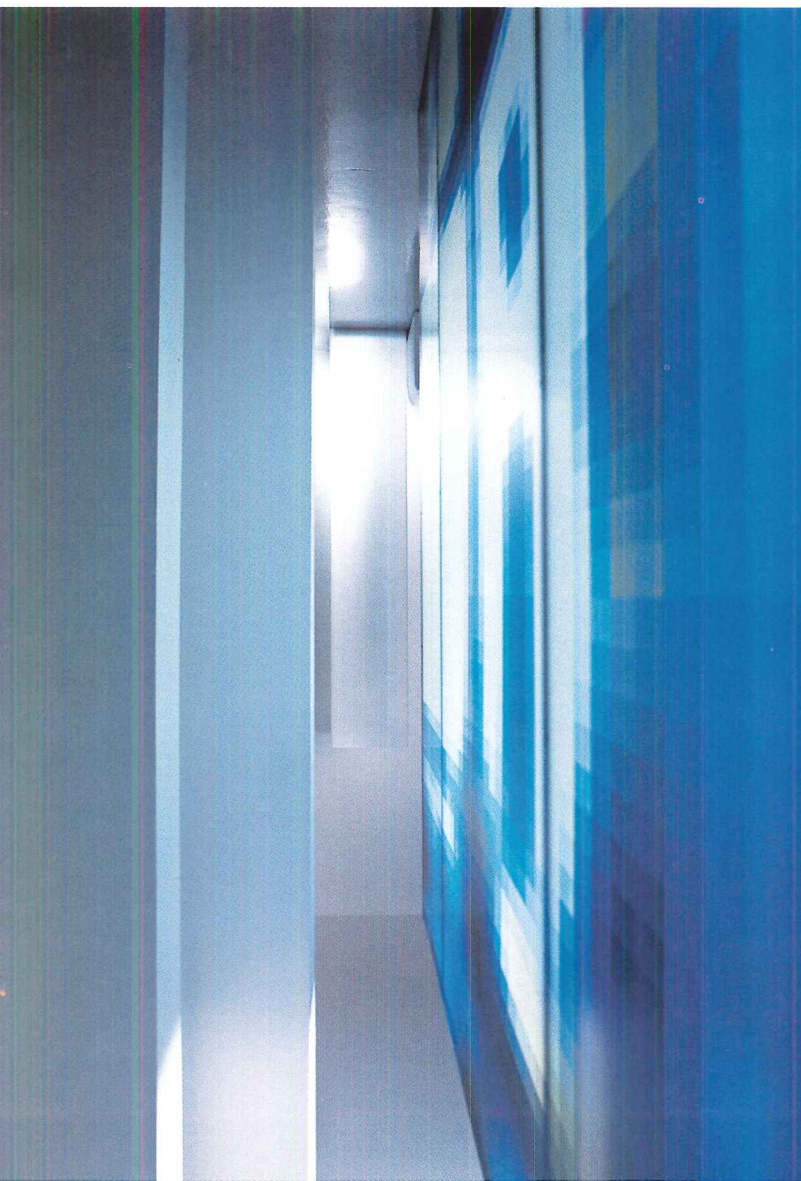
To give the images center stage, the other elements—counters, chairs, footstools, light fixtures—were reduced to minimal cubelike volumes, and the floors were painted glossy white.





The collage effect of the tanning-booth imagery (this page), creates a range of striking abstract compositions. These lively

graphics play against minimal furnishings, reduced to cubelike forms, as in the light fixture and reception desk (above).



illuminate the boulevard. (Apart from the tanning lights, the cabins can also be lit by custom six-foot-tall rectangular “towers” housing fluorescent tubes encased in white acrylic.)

The architects, of course, also had to consider the experience from inside these steel-framed booths, which range in size from 7-by-9 to 8-by-9.5 feet “We viewed it as an art installation—so we wanted people to notice the images and nothing else,” says GuneWardena. Thus, they reduced the benches, lights, and footstools to Minimalist, cubelike forms and took pains to conceal the extensive air-conditioning ducts and returns. All surfaces around and within the booths are covered in high- or semi-gloss finishes, either white or gray, to reflect the “lanterns,” instead of competing with them.

The formal impact of the tanning cabins is exaggerated by the openness of the plan. A wide reception area and generous circulation space leave room for each structure to stand apart from its neighbor. In most cases, the architects staggered the booths, allowing them to hover against the shiny floor, each one like a leading actor on a stage.

The cumulative effect is an interior where small, illuminated temples delicately mirror the narcissistic ambitions of the salon’s clients, while, out on the street, the seductive light show lures others toward these same ambitions. ■

Sources

- Paint:** Du Pont (*high-gloss floors*)
- Sinks:** House of Stainless (*custom*)
- Faucets:** American Standard
- Toilets:** American Standard
- Lighting:** Karma Kontrol (*custom*)

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

Public Musings on Acoustical Privacy

IN OFFICES, IT'S NOT ONLY WHAT YOU HEAR BUT WHAT YOU DON'T HEAR THAT MATTERS.

By Michael Chusid

At my first job in an architecture firm, I was berated on more than one occasion for eavesdropping on the conversations of the firm's junior partners. Although my fellow interns and I did pay close attention to what they were saying (how else were we to learn the business?), it also happened to be exceptionally easy to overhear conversations in that office. Working in an open office, the junior partners were consigned to cubicles along the building's masonry and glass perimeter. These hard surfaces reflected their voices directly to the drafting tables occupied by the interns, located merely six feet away. In addition to inhibiting their ability to discuss sensitive work and personal issues, the fact that we could hear the conversations of the junior partners, while sometimes informative, was distracting and surely reduced our productivity.

This example underscores the importance of speech privacy as a crucial concern in the acoustics of office environments. A number of trends have coalesced to make speech privacy an even greater issue today than before. Foremost is the increased use of open office environments. It is estimated that 58 percent of office denizens now work in open offices. Furthermore, many businesses have reduced the space assigned to each employee to lower their overhead expenses. This results in more people and noise in any given room. It also means that people sit closer together, an important factor in acoustics because the intensity of a sound increases exponentially as the distance between the source and receiver is reduced. With many professionals, managers, and even top executives now working in open offices, it's much harder to ignore speech privacy than it was in the days when only the administrative underclass sat at open desks.

Michael Chusid, RA, CSI, CCS, is a frequent contributor to RECORD. He is principal of Chusid Associates and specializes in building product marketing and technology. He can be reached at www.chusid.com.

CONTINUING EDUCATION



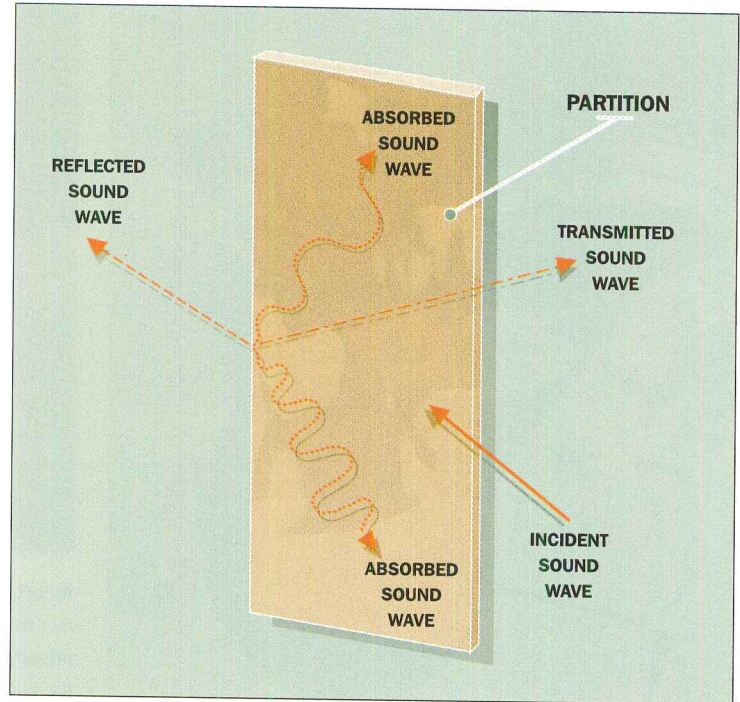
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 242 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Describe the growing problems of acoustical privacy in offices.
2. Identify ways to mask speech in office environments.
3. Explain the role of ceiling systems in acoustical design, and discuss new advances.

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



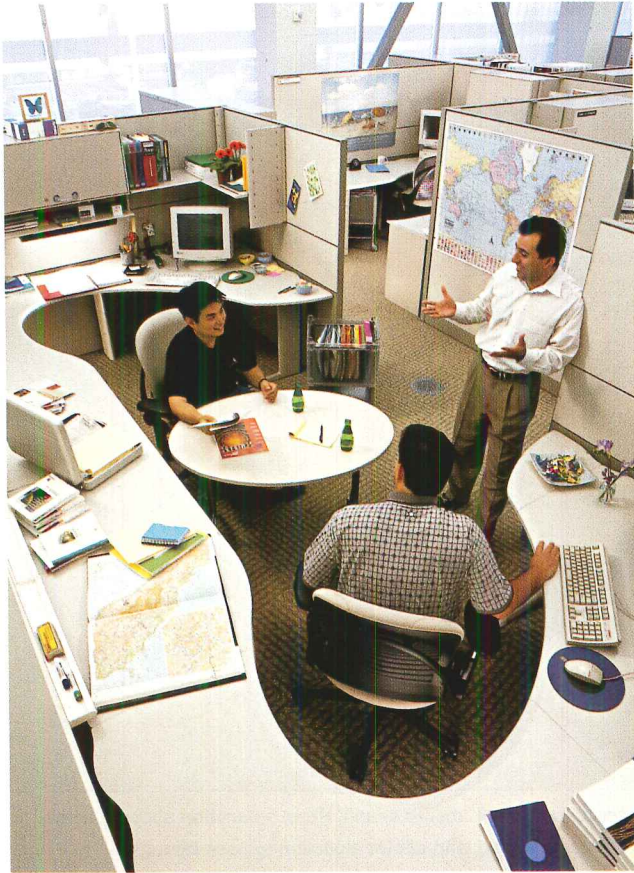
Building materials reflect or absorb sound. Here, a partition absorbs some sound, reflects some sound, and allows a portion to pass through.

Fundamentals

A comprehensive program of acoustical design should conform to ASTM E1374 - Standard Guide for Open Office Acoustics and Applicable ASTM Standards. According to Charles C. Roy of CCR Associates LLC, a company that provides turnkey solutions for office acoustics, the fundamentals of speech privacy can be expressed as the "ABCs of absorb, block, and cover unwanted acoustical information."

Absorb: The most useful measurement of noise absorption is the noise reduction coefficient (NRC), the arithmetic average of a material's sound absorption coefficients at 250, 500, 1000, and 2000 Hz, rounded to the closest 0.05. These mid-range frequencies are those most commonly associated with speech privacy. Ceiling systems are the primary means of absorbing unwanted sounds in open offices, and the desired NRC for a ceiling depends on a room's noise level and function. While ceiling systems with an NRC of .60 may be adequate for private or small open offices, ceilings with a higher NRC are increasingly desirable in large open offices, for optimum noise attenuation and speech privacy.

Closely related to the absorption of the ceiling system is the type of lighting used. Ceiling-mounted fixtures with large flat lenses can bounce noise from one workstation to another. While troffers with deep parabolic louvers are an improvement, Peter Ngai, vice president of engineering at Peerless Lighting, says there is growing acceptance of pendant-mounted linear fluorescent fixtures. Their narrow, convex profiles are less likely to act as acoustical mirrors, and they leave more



At left, partition height is a tradeoff between privacy and accessibility: higher partitions block speech, but lower partitions allow

greater visibility. Above, reflective ceilings in the center of a conference room can make it easier for conversations around the

table to be heard. Conference room acoustics must also be designed for teleconferencing and multimedia presentations.

of a ceiling's surface exposed, thus improving the ceiling's sound absorbing capabilities.

Block: Sound travels in waves and can be blocked by materials with a sufficiently high sound transmission class (STC), which ranges from zero (no privacy) to 70 (complete privacy). While STC ratings for office furniture partition systems range from 15 to 30 (compared to an STC of 40 to 44 for a $\frac{3}{8}$ -inch gypsum board partition with $\frac{3}{8}$ -inch metal studs), they are an important component in speech privacy. Many cubicle

OPEN-PLAN OFFICES, WHICH ARE GAINING POPULARITY, PRESENT SPECIAL CHALLENGES FOR SPEECH PRIVACY AND OTHER ACOUSTICAL CONTROLS.

systems feature fabric-covered acoustical insulation surfaces which can reduce noise reflection within a cubicle, but their ability to absorb sound is often compromised by office furniture and papers hung on partitions. The direction of one's voice affects how audible it is to nearby listeners—thus, good cubicle design enables occupants to turn easily toward a partition while engaged in conversation with coworkers or on the phone.

Partitions less than 60 inches in height lose effectiveness as acoustical barriers because they're not high enough to block the voices of most standing adults. According to Pam Brenner, manager of work-

place issues for Steelcase, decisions about partition height often represent a tradeoff between accessibility and privacy needs. Accessibility may be necessary for collaboration and ease of communication within a workgroup. Issues of visual privacy and territoriality must also be taken into consideration.

Blocking sound is also an issue with enclosed private offices and conference rooms. In addition to using a partition system with a satisfactory STC, it is crucial to seal all openings and the perimeter of the partitions to prevent flanking sound. Where confidential levels of speech privacy are required, partitions should be extended through the ceiling and sealed to the structure above. Ductwork and air diffusers should be arranged to prevent sound transmission from space to space. Similarly, doors that face each other on opposite sides of hallways should be staggered to reduce the direct transmission of sound from room to room.

Cover: Designers rely increasingly on sound masking (i.e., background noise) to cover unwanted noise. It is ironic that speech privacy concerns are higher today than they were in the past when office equipment made the workplace even noisier. Gone are the clatter of impact typewriters and daisywheel printers, the clamor of mechanical telephone bells, and rumble of street noise through open windows. Even the whoosh of air flowing through ductwork doesn't always provide background noise, because contemporary energy management systems often dictate the use of variable volume diffusers or other air distribution systems that cycle off for energy conservation. In a quiet office, any speech has a high signal-to-noise ratio



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CASE STUDY

Project: <kpe>, Los Angeles

Architect: Samuel Anderson Architect, New York

For the new Los Angeles office of <kpe>, an Internet firm working in the entertainment industry, Samuel Anderson Architect was given a narrow floor plate in an existing building and asked to create an unusual and dynamic space appropriate to the client's image. Principal Samuel Anderson said the owner also wanted an open plan that expressed only a "subtle hierarchy" within its staff—the only enclosed spaces in the 19,000-square-foot tenant improvement are two private offices and several rooms for conferences, mechanical and office equipment, and storage. Anderson says that the nature of the client's work allowed them to accept a space that was acoustically brighter than most offices, making the space's glass curtain walls and sealed concrete floor acceptable as interior finishes. According to acoustical consultant Ronald Eligator of Acoustic Dimensions, many tasks didn't need high levels of speech privacy—just a distraction-free environment that could be accomplished with partitions of an appropriate height and an acoustically absorbent ceiling.

The starting point for the ceiling design was the existing fibrous fireproofing on the bottom of the structural slab above the space. Anderson specified an acoustically transparent perforated metal ceiling from Ceilings Plus to conceal overhead mechanical equipment while allowing noise to get, as he puts it, "zapped" by the fireproofing. Additional sound attenuation was created by installing SoundTex acoustical fabric inside the perforated metal panels.

As in most open-plan offices, the ceiling is the largest surface and becomes a dominant visual element. Anderson wanted to break up the surface and avoid a mono-

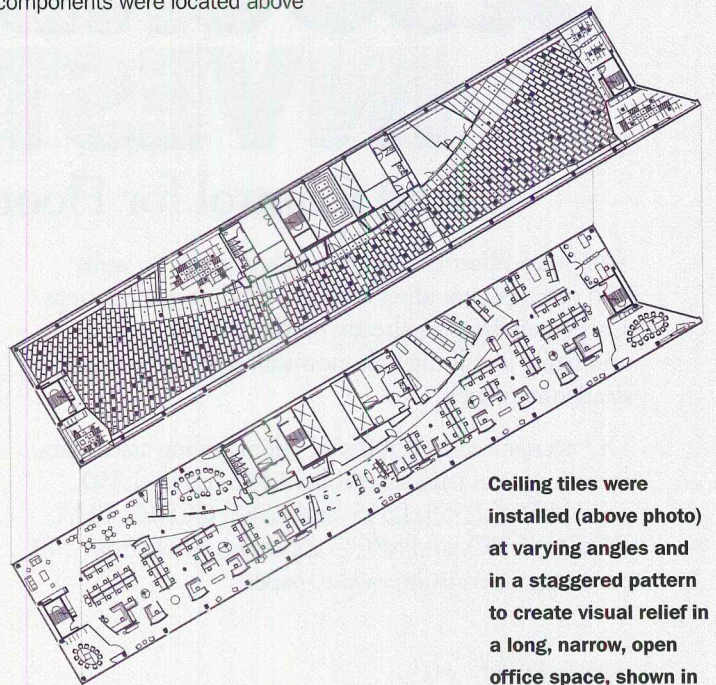


lithic appearance. To do this, the design called for a gap between each panel. The fireproofing and other above-ceiling elements were painted dark blue to create "the psychological relief that the ceiling had infinite depth." The 2 x 4-foot panels were installed in a staggered running bond arrayed along radiating lines that converged at a point 200 feet outside the building. The visual effect is that the ceiling pattern appears to change as one moves through the space. Depending on one's vantage, the voids between the panels form curved, linear, or zigzag lines. Additional visual relief was created by tilting each panel at a slightly different angle. Together, the ceiling creates the impression of waves rippling through the office and radiating out into the world beyond.

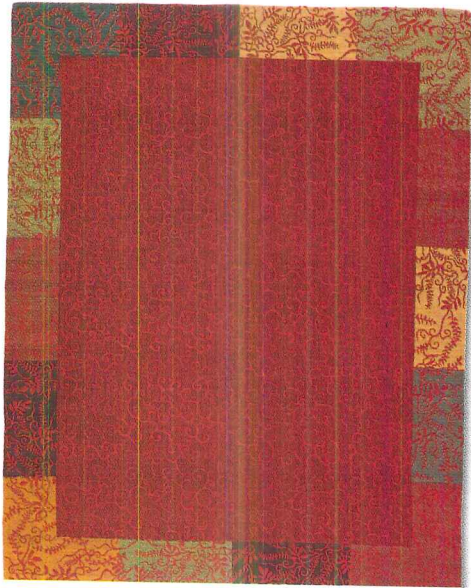
Perforated metal over batt insulation was also used to create sound absorbing panels around the larger, custom-designed workstations intended to be used as conference areas. Partitions around the few enclosed rooms were made of hot-dipped galvanized steel angle frames with infill

panels of laminated glass selected to reduce sound transmission. Another key component of the project's acoustical design was careful coordination of architectural and mechanical elements. According to Eligator, ductwork was sized to reduce noise levels and equipped with acoustical linings, and noisy components were located above

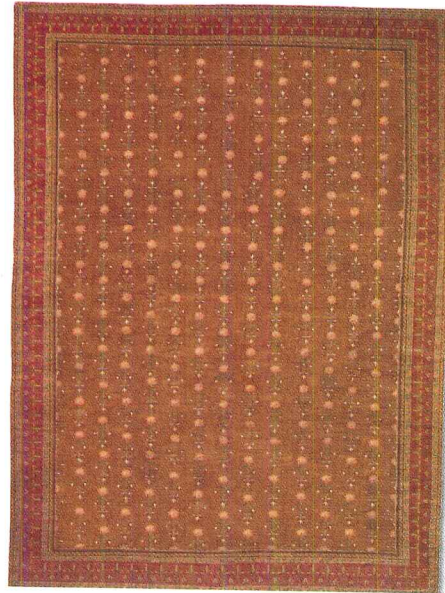
copy rooms and other service spaces whenever possible. Loudspeakers were installed above the ceiling panels to play music, but a sound-masking system was not required because there was already sufficient background noise for the privacy level required by the client. MC



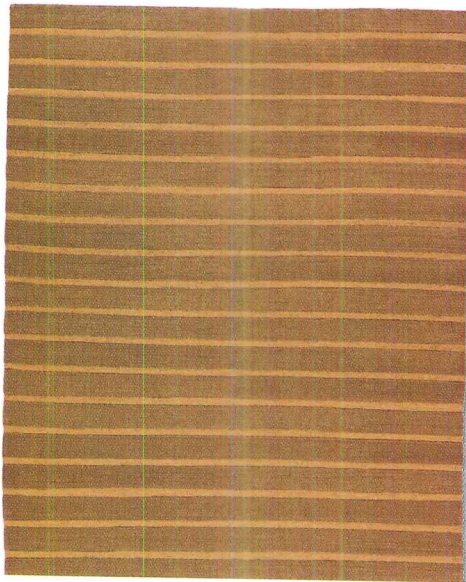
Ceiling tiles were installed (above photo) at varying angles and in a staggered pattern to create visual relief in a long, narrow, open office space, shown in the drawings above.



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CIRCLE 62 ON INQUIRY CARD

that makes it easier for listeners to make out words—which is why sound masking systems have gained popularity.

Additional background noise is generally provided via an electronic sound masking system. According to Dennis Paoletti, **FALA**, an acoustician with Shen Milsom & Wilke/Paoletti, today's masking systems are an improvement over the white noise generators of the past. Now, a signal from a random noise generator is fed through an equalizer to create a shaped spectrum tuned to the room's acoustical environment. The ideal, he says, "is to produce a uniform level of background noise so no one notices it." Loudspeakers are then strategically located throughout a space to produce the masking noise. While Armstrong has introduced a ceiling tile with built-in loudspeakers, the best place to mount a masking noise generator, says acoustical consultant Ron Eligator of Acoustic Dimensions, is above a ceiling, so the masking noise can be distributed inside the plenum and produce a more uniform sound field throughout an office.

New Dimensions Overhead

Most offices still use the traditional 2 x 4-foot lay-in ceiling, and new types of mineral fiber, wood, and fabric-covered panels have been intro-

Design Strategies for Normal Speech Privacy in Open-Plan Offices

DESIGN COMPONENT	GOALS	POTENTIAL PROBLEMS	SOLUTIONS
ABSORPTION	Minimize reflective surfaces in open offices.	Excessive reverberation; hearing noises from distant and adjacent areas.	Add absorptive materials wherever possible, especially on ceiling.
BARRIERS	Block sound transmission for acoustical and visual privacy.	Compromise in already-limited noise reduction effectiveness.	Allow no air gaps; use minimum STC 25 materials; make barriers at least 60 inches tall.
MASKING	Account for low background noise and intrusive noise.	Lack of privacy and intrusive background noise.	Add electronic masking system appropriate for space.
HVAC	Minimize HVAC noise.	Intrusive background noise.	Size designs for minimum flow turbulence; insulate ductwork; use silencers and active noise control when feasible.

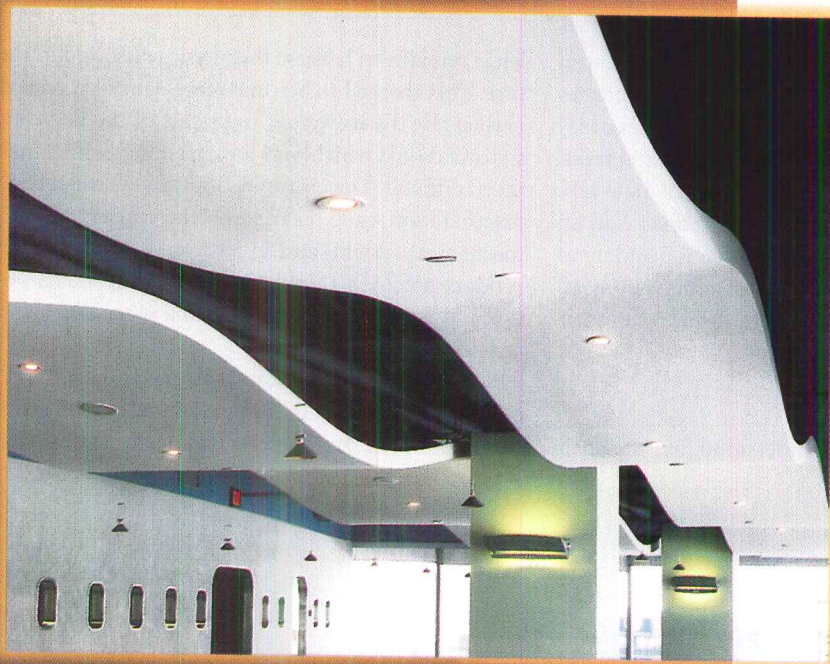
Adapted from "Architectural Acoustics Design Guide," Acentech/James Cowan, senior consultant (McGraw-Hill, 2000).

duced by several manufacturers to address the needs of open offices. Designers are increasingly eschewing the Cartesian world of the rectangular grid by seeking variations in ceiling scale, shape and trim, and using materials that can be morphed into three-dimensional forms. A manifestation of this trend is that perforated metal ceilings are now at home in office environments. Vaults, domes, and other unique configurations have become more feasible due to advances in CAD and computer-aided metal-forming techniques. Perforated metal also offers designers a new

In large open-office areas, vaults and other three-dimensional configurations provide relief from visual monotony and create a better sense of orientation. The use of larger panels is in keeping with the scale of this room.



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palette of visual aesthetics: A wide range of metals and finishes can be specified; perforation patterns can be customized to control a ceiling's opacity and luminosity; and panels can be integrated with lighting, air distribution, and other services. Nancy Mercolino, president of Ceilings Plus, a metal ceiling producer, notes, "Metal panels are lightweight, easy to install, and provide easy access to cabling and equipment located in ceiling plenums."

Though metal does not absorb sound, perforations make the panels acoustically transparent so they can be used to support and cover sound absorbing materials. A new type of acoustical insulation, non-woven fabric, has been engineered specifically for this application. One non-woven product, SoundTex, is manufactured by Freudenberg Nonwovens Limited and is only 0.2 mm thick. When factory-laminated to the back of a perforated panel, it creates resistance to airflow and dissipates noise by converting vibrational energy into heat. This new acoustic insulation can be used where concerns about airborne glass fibers may limit the use of traditional acoustical materials. Recent tests conducted by Ceilings Plus showed that its panels had an NRC of up to .75 when used with non-woven fabric insulation and up to .90 with one inch of glass fiber insulation. Other manufacturers of metal ceilings are beginning to compile data on acoustical performance of their ceiling systems as well.

Design Soundings

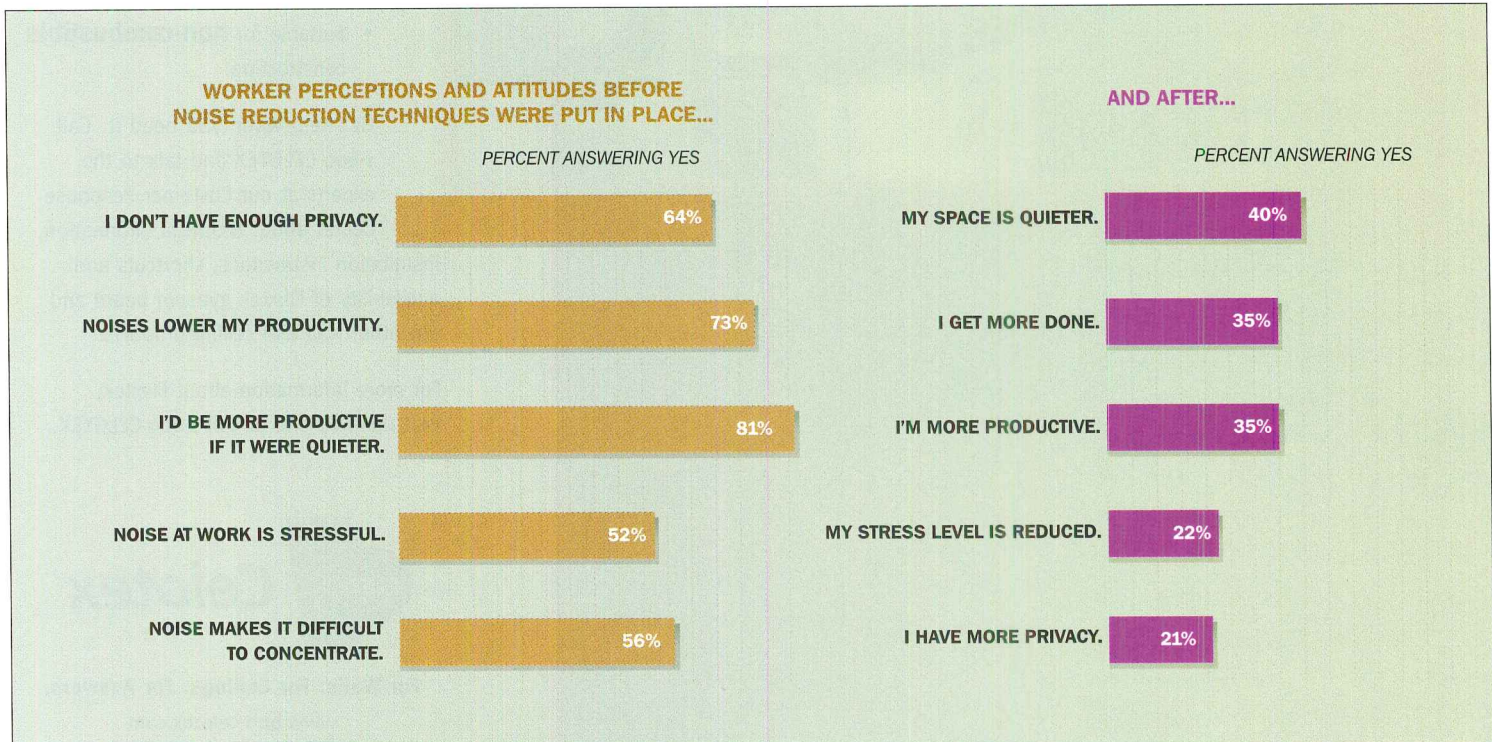
The fundamentals of good acoustics are well understood, but the chal-

Design Strategies for Background Noise Control			
DESIGN COMPONENT	DESIGN CONSIDERATIONS	POTENTIAL PROBLEMS	SOLUTIONS
ABSORPTION	Reflective surfaces can increase annoying background noise and degrade privacy.	Excessive reverberation; hearing noises from distant areas of open offices.	Add absorptive materials wherever possible, especially on ceiling.
MASKING	Low background sound level and intrusive noise are present..	Lack of privacy and intrusive background noise.	Allow no air gaps; use minimum STC 25 materials; make barriers at least 60 inches tall.
HVAC	HVAC noise should be minimized.	Intrusive background noise.	Add electronic masking system appropriate for space.
SOUND ISOLATION	Intrusive sound from other rooms or outdoors should be minimized	Intrusive background noise.	Size designs for minimum flow turbulence; insulate ductwork; use silencers and active noise control when feasible.

Adapted from "Architectural Acoustics Design Guide," Acentech/James Cowan, senior consultant (McGraw-Hill, 2000).

lenge remains to harness the physics of sound in the service of architecture. This charge has become more daunting since designers, influenced perhaps by the irreverent trappings of the dot-com industry, are using stylistic motifs which may look fresh but which make acoustical control more difficult. For example, omitting a suspended ceiling can increase reverberation time, exaggerate the impact of noise produced by the mechanical system, and expose hard, reflective structural surfaces. To produce acceptable results, a designer must begin by understanding the types of work to be performed in a space and assessing the firm's work style and corporate culture.

While telecommuting may allow a lucky few to work in the pastoral quiet of a mountain glade, the open-office concept continues to gain momentum in many businesses, and such projects continue to



A study conducted by the American Society of Interior Designers focused on identifying how workers in an open-office environment felt about

noise in the workplace. The office in question was undergoing noise abatement measures. A majority of workers agreed that excessive noise is distract-

ing and lowered their productivity, although responses after noise abatement measures were somewhat mixed.

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grow in size. Fletcher Thompson, Inc., an architecture, engineering, and interior design firm, recently completed a corporate headquarters in which 250 employees work in one 45,000-square-foot “room.” Designed to support collaboration and teaming, the facility “has a hushed but vibrant quality, like the main reading room at the New York Public Library,” notes Douglas Disbrow, the studio design leader.

Many prognosticators say that office acoustical privacy concerns will only get more serious as digital technologies continue to change the workplace. To the existing volume of speakerphones, wireless telephones, and audible computer prompts will be added even more teleconferencing, voice recognition software, and desktop multimedia software.

If these trends continue, there may be a limit to what can be achieved through acoustical abatement. Are we all doomed, then, to wear earplugs just to hear ourselves think? Or instead, will we see the fostering of a new type of corporate behavior in the workplace? Brenner suggests, for example, that co-workers should send calls directly to their voice mail without ringing when they are away from their workstations. She cites another example of a salesman who was trained to stand when making important calls to convey energy and strength. When he was moved from a private to an open office, he had to learn to sit when speaking so his voice wouldn’t sail into neighboring cubicles.

If such an epidemic of civility does break out, I will have only one regret—that it didn’t happen 20 years sooner, when I was still working in that noisy architectural office. ■



A custom beech perforated-wood ceiling was used in conjunction with non-woven acoustical fabric for this office space in Los Angeles.



AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article “Public Musings on Acoustical Privacy” using the learning objectives provided.
- ◆ Complete the questions below, then check your answers [page 242].
- ◆ Fill out and submit the AIA/CES education reporting form [page 242] or file the form on ARCHITECTURAL RECORD’s Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

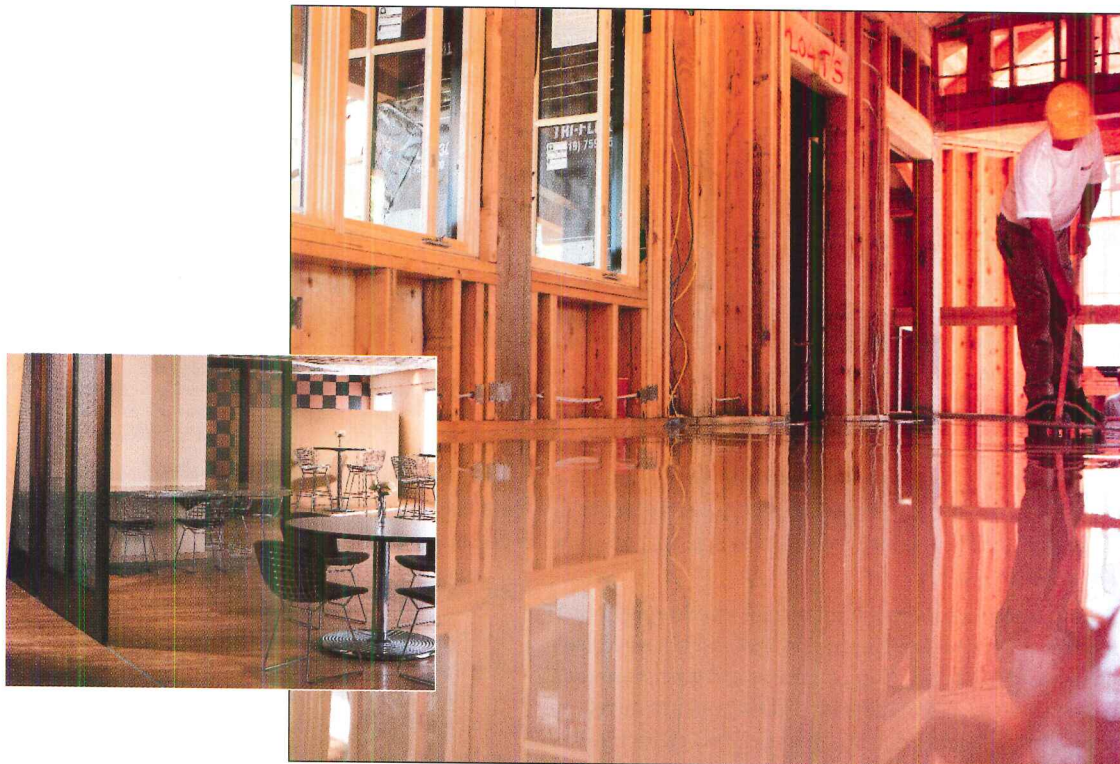
1. What are the ABCs of acoustical privacy?

2. What are the design tradeoffs in limiting the height of office partitions?

3. What is the role of ceilings in an open-plan office?

4. What acoustical considerations must be given to a facility’s air distribution system?

5. Why have perforated metal ceilings become more popular?



USG Presents

GYPSUM CONCRETE FLOOR UNDERLAYMENTS ARE STRONGER THAN EVER

by: Brendan Deely
General Manager
USG Corporation Industrial Products

Thanks to their quick, cost-effective installation, light weight and excellent performance characteristics, poured gypsum floor underlayments have emerged as a leading choice for a wide range of commercial, institutional, residential and renovation applications.

and application requirements. These high-strength products withstand heavy construction traffic without powdering, dusting, chipping or cracking. They also offer improved flowability, which makes them almost completely self-leveling, reducing application time and finished floor preparation time.

WIDE-RANGING APPLICATIONS

In multifamily and single-family construction, gypsum concrete underlayments provide needed sound control and fire resistance in a lightweight formulation. They also provide an ideal thermal mass for radiant heat applications, ensuring uniform heat distribution throughout the entire floor surface.

In new commercial construction, gypsum concrete underlayments are typically applied over structural concrete or precast concrete planks to create a smooth, monolithic floor surface that delivers superior strength, sound control and fire resistance. The product sets quickly, allowing foot traffic within two hours and continued construction activities the next day.

Gypsum concrete underlayments are also ideal

Although the products have been used for more than 50 years, only recently have they begun to realize their full potential. Leading manufacturers now offer complete specification and application packages, which include networks of trained applicators, strict quality control procedures and full product lines designed to deliver optimal performance for specific job requirements.

Gypsum concrete underlayments are currently a dominant choice in multifamily construction, and their use is escalating rapidly in commercial markets. The growth in commercial applications is driven largely by recent increases in compressive strength performance. Minimum gypsum concrete underlayment compressive strength standards, which historically were set at 1,000 to 1,500 psi, have now nearly doubled to 2,500 psi.

While not all gypsum concrete underlayment manufacturers and applicators offer minimum-strength 2,500-psi products, those that do provide architects with a practical, cost-efficient flooring solution that reliably meets a wide range of performance

Use the learning objectives below to focus your study as you read **GYPSUM CONCRETE FLOOR UNDERLAYMENTS ARE STRONGER THAN EVER**. To earn one AIA/CES Learning Unit including one hour of health safety credit, answer the questions on page 179, check the answers on page 242 and follow the reporting instructions on page 244 or, use the Continuing Education self report form located at www.architecturalrecord.com.

LEARNING OBJECTIVES:

- Describe the applications where gypsum concrete underlayment can be used.
- List the benefits of poured gypsum concrete underlayment.
- Specify a poured gypsum installation.



The existing concrete floors in this renovated 26-story office building in downtown Philadelphia were cracked and uneven.



Approximately 525,000 sq. ft. of gypsum concrete underlayment (shown freshly poured) was applied over the existing floors throughout the building.



The new gypsum concrete underlayment provides a smooth, even surface, ready for floor finish material installation. The entire application was completed for less than half the cost of using a portland cement-based product.

leveling or resurfacing materials in commercial renovation. They apply from featheredge to 3-inch thicknesses in a single application. Thicker applications can be achieved through multiple lifts (multiple layers) or by applying the product over a high-density substrate panel.

Gypsum concrete underlayments bond strongly to existing concrete and other floor surfaces, and require minimal surface preparation. Unlike portland cement products, which often require “shot blasting” (an expensive and time-consuming process that involves shooting small metal pellets into existing concrete to roughen the surface), poured gypsum flooring simply requires cleaning and priming. This makes gypsum concrete underlayment the quickest and most cost-efficient option for transforming worn, cracked and uneven floors into smooth, high-strength surfaces ready for the application of finish materials.

GYPSUM UNDERLAYMENT ADVANTAGES

Gypsum concrete underlayments offer a wide range of performance features and application benefits. They accept virtually any type of floor covering, including vinyl composition tile, ceramic tile, wood laminate, glued-down hardwood and carpeting.

Because they can be applied thinner than portland cement products, gypsum concrete underlayments are lightweight, making them ideal for wood-framed buildings where concrete-based alternatives may require structural alterations. A 3/4-inch-thick gypsum concrete underlayment floor weighs approximately 6.25 to 7.5 pounds per square foot and has a dry density of only about 115 to 125 pounds per cubic foot.

Gypsum concrete underlayment assemblies offer UL-certified fire ratings of up to two hours. The floor’s fire resistance is due to the fact that gypsum is naturally fire resistant. When exposed to flame, it releases moisture in the form of steam, thereby slowing heat transmission.

Sound control is another key benefit of these flooring systems. The excellent acoustical properties of a poured gypsum floor result from the product’s mass, combined with the fact that the underlayment does not shrink as it sets. Unlike portland cement products, which shrink, gypsum concrete underlayments seek and fill cracks and joints, a major source of sound leakage between floors. Gypsum concrete underlayment floor assemblies deliver STC (Sound Transmission Class) ratings in the high 60s and IIC (Impact Insulation Class) ratings of 55 and higher, even with hard-surface floor coverings.

Gypsum concrete underlayments also install quickly and cost-effectively. The product consists of a formulated gypsum cement mixed with sand and water. The resulting slurry is pumped and poured in place, then “screeded” to a smooth, monolithic surface. Depending on the floor layout, up to 30,000 sq. ft. of gypsum concrete underlayment (3/4 inch thick) can be applied in a single day.

A 3/4-inch poured gypsum floor is usually fully dry – and ready for floor finish application – within five to seven days, when properly ventilated and temperatures are

maintained above 50 degrees F. This compares favorably with concrete, which never stops curing and usually requires at least 30 days before floor finish materials can be applied.

SPECIFICATION ISSUES

When specifying gypsum concrete underlayments, architects must match product performance with project requirements. Compressive strength is a key consideration. Expected psi strength requirements should be spelled out clearly as part of the underlayment specification. However, when creating the specification, remember that gypsum concrete underlayment strength is impacted by a number of factors, including the quality of raw materials used, on-site design mix and application techniques. To ensure against any of these variables negatively impacting floor performance, it is advisable to “overspecify” a gypsum concrete underlayment floor, rather than select a product that just meets minimum strength requirements. Higher-strength products deliver a minimum 2,500 psi and provide a cost-effective means of ensuring that minimum performance requirements are met or exceeded. These higher-strength formulations require no additional labor or time to apply.

Products in the 2,000 to 2,500 psi range are recommended for multifamily and single-family construction. For light-commercial applications, specially formulated products delivering 3,000 to 3,500 psi are recommended. Generally speaking, 3,000 to 3,500 psi is suitable for hotels, motels, retail stores, offices and similar applications. The higher strengths these products deliver ensures that the underlayment will stand up to heavier trade construction activities typically associated with

(continued on p. 178)



Due to its light weight and excellent sound control properties, gypsum concrete underlayment is the leading underlayment choice for multifamily construction.

EVEN MOUNTAIN CLIMBERS APPRECIATE SMOOTH FLOORS

Erehwon Mountain Outfitters specializes in providing customers with equipment and gear to deal with rough outdoor terrain. But when the company decided to open a new retail location in an existing Orland Park, Ill., mall, it found itself facing a surface problem that couldn't be solved with harnesses, clips and climbing boots.

The 18,500-sq.-ft. retail space, which had been vacant for a number of years, had a concrete and terrazzo floor that was uneven and cracked. A complete resurfacing was required. The new floor surface would be covered with two types of carpeting and hardwood flooring, and would serve as an exposed wearing surface (protected by a sealer) on store walkway areas.

General contractor and project designer Graystar Corporation called in Barrier Corp., a Morton Grove, Ill.-based specialist in floor leveling, underlayments, toppings and coatings, to assess the situation.

Barrier Corp. president Paul Helmer offered one solution – LEVELROCK™ 3500 Brand Floor Underlayment, a poured gypsum concrete underlayment from USG Corporation Industrial Products.

“It was the only product that made sense for the job,” said Helmer. “It bonds directly to concrete and terrazzo with minimal preparation. It also offers the flowability to enable us to go from featheredge to 3 inches thick to completely level the surface. And finally, it delivers the compressive strength (a minimum of 3,500 psi) to stand up as a wearing surface in the walkway areas.”

To accomplish the job, Barrier crews cleaned and spray-primed the existing floor surface, and caulked all perimeter joints. They determined the existing floor elevations using a laser level. Based on the laser results, the floor was “pinned” with elevation pins to mark the exact thickness that the gypsum underlayment needed to be poured to achieve a level surface.

The underlayment was then mixed and pumped into the building, where it was poured over the surface and screeded to the thickness of the elevation pins.

The end result – an exceptionally smooth, high-strength floor surface – ensures that Erehwon's customers won't be encountering flooring peaks or valleys as they gear up for the next climb.



Skip Pastore, site manager for Barrier Corp., reviews construction plans following application of the gypsum concrete underlayment floor. The floor is ready for continued trade traffic within 24 hours.

ANATOMY OF A GYPSUM UNDERLAYMENT APPLICATION

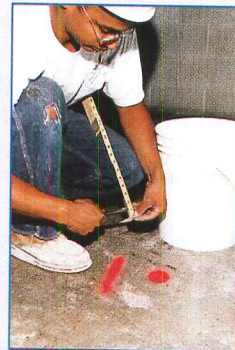
A step-by-step look at the application of gypsum concrete underlayment during renovation of a new retail location for Erehwon Mountain Outfitters in Orland Park, Illinois.



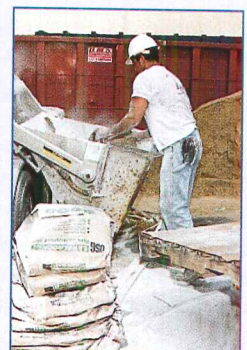
The existing concrete and terrazzo floors in the 18,500-sq.-ft. retail location space were cracked and uneven.



Barrier Corp. flooring applicator crews used a laser to measure existing floor elevations.



Based on the laser results, elevation pins were attached to the floor to indicate how thick the underlayment should be applied.



Bags of gypsum concrete underlayment were mixed with sand and water to create a slurry.

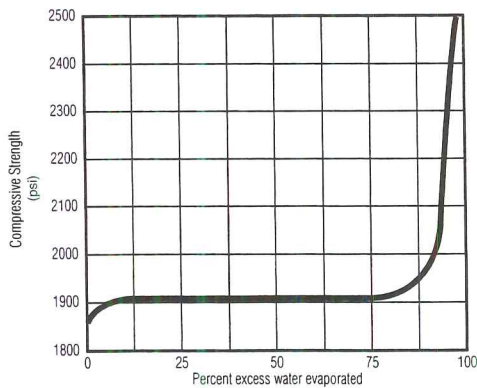


The gypsum underlayment mix was pumped via hoses and poured directly onto the floor.



The underlayment was screeded to the thickness of the elevation pins to achieve a smooth, even surface.

Gypsum Concrete Floor Underlayment The Effects of Water Evaporation on Compressive Strength



The compressive strength of gypsum concrete underlayment increases only slightly until 93 percent of the moisture has been removed from the floor.

commercial construction and, of course, heavier use after the project is completed. Strengths of 4,500 psi and higher are available, and should be specified for heavy-use commercial and institutional applications. This especially holds true when specifying the underlayment for floor leveling or repair applications over concrete substrates in heavy traffic areas.

No matter what the application, remember that performance and application are impacted by the on-site design mix. High-performance gypsum concrete underlayments utilize low-water-demand formulations. When these products are overwatered, the floor strength is significantly diminished, resulting in a loss of compressive strength.

Overwatering also frequently produces a chalky surface film that negatively impacts the adhesion of glued-down floor finishes.

Another consideration is the quantity and quality of sand that is added to the mix. Oversanding, like overwatering, diminishes the strength of the floor. Likewise, the type of sand used impacts performance. A clean, sharp, properly graded sand aggregate (per ASTM C33), commonly referred to as plaster or masonry sand, is recommended for most applications.

Yet another consideration is drying time. Gypsum underlayments do not cure like portland cement, but hydrate (set) instead. After the initial chemical set, gypsum concrete underlayments continue to gain strength as the remaining free

moisture evaporates. (See chart.) The majority of the free water in the floor must be removed before the strength of the underlayment is fully realized.

Architects can effectively neutralize all these design mix variables through two strategies: specifying higher-strength products and insisting on using only manufacturer-trained applicators. Licensed applicators understand the critical importance that sand and water have on the design mix. They will conduct on-site “slump” tests to measure design mix and product flow. Top applicators will also provide compressive strength reports. The reports, made from on-site cube samples, are the only way to determine actual performance for a specific floor application.

Other key specification criteria for gypsum concrete underlayments include:

- The building interior must be enclosed before, during and after installation, and a temperature of at least 50 degrees F must be maintained. When properly ventilated, a gypsum cement underlayment will usually attain full strength within five to seven days.
- The subfloor must be clean, dry and structurally sound.
- Apply a manufacturer-approved primer or bonding agent just prior to pouring the underlayment.
- Gypsum concrete underlayment should be applied a minimum 3/4 inch thick over wood framing and typically 3/8 to 1/2 inch thick over plank or poured-in-place concrete.
- After the floor has dried, it should be sealed using a manufacturer-approved sealer to minimize dusting when glued-down floor finishes will be applied.

A RELIABLE SOLUTION

Gypsum concrete underlayments have come a long way in recent years. They now give architects reliable and practical solutions for a variety of flooring needs. The products are used and recommended by many of the largest and best flooring and underlayment contractors in the business. And most importantly, gypsum concrete underlayments themselves are stronger than ever.

Today's top-of-the-line gypsum concrete underlayments offer almost double the compressive strength that products typically delivered 10 to 15 years ago. As a result, architects are now able to specify poured gypsum underlayments with complete confidence ... and take advantage of the fire resistance, acoustical performance and application versatility that these products provide.

CHOICES FOR RESIDENTIAL FLOOR UNDERLAYMENTS

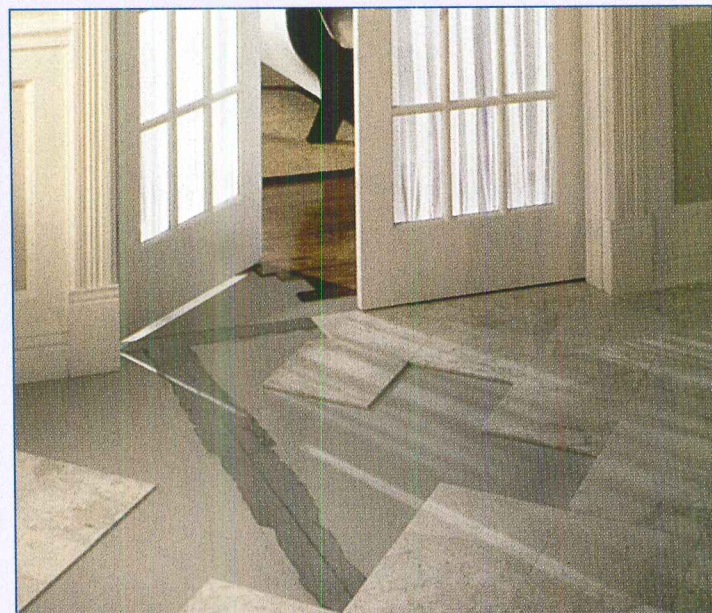
While gypsum concrete underlayments offer attractive performance upgrades for residential construction, wood-based panel underlayments, such as plywood, OSB (oriented strand board) and lauan remain the dominant choice for single-family construction.

However, there is one residential application where gypsum underlayments are experiencing rapid growth. Specially formulated products, such as USG's LEVELROCK Brand floor underlayment-RH (Radiant Heat), provide excellent thermal mass for radiant heat floors, ensuring even distribution of heat over the entire floor.

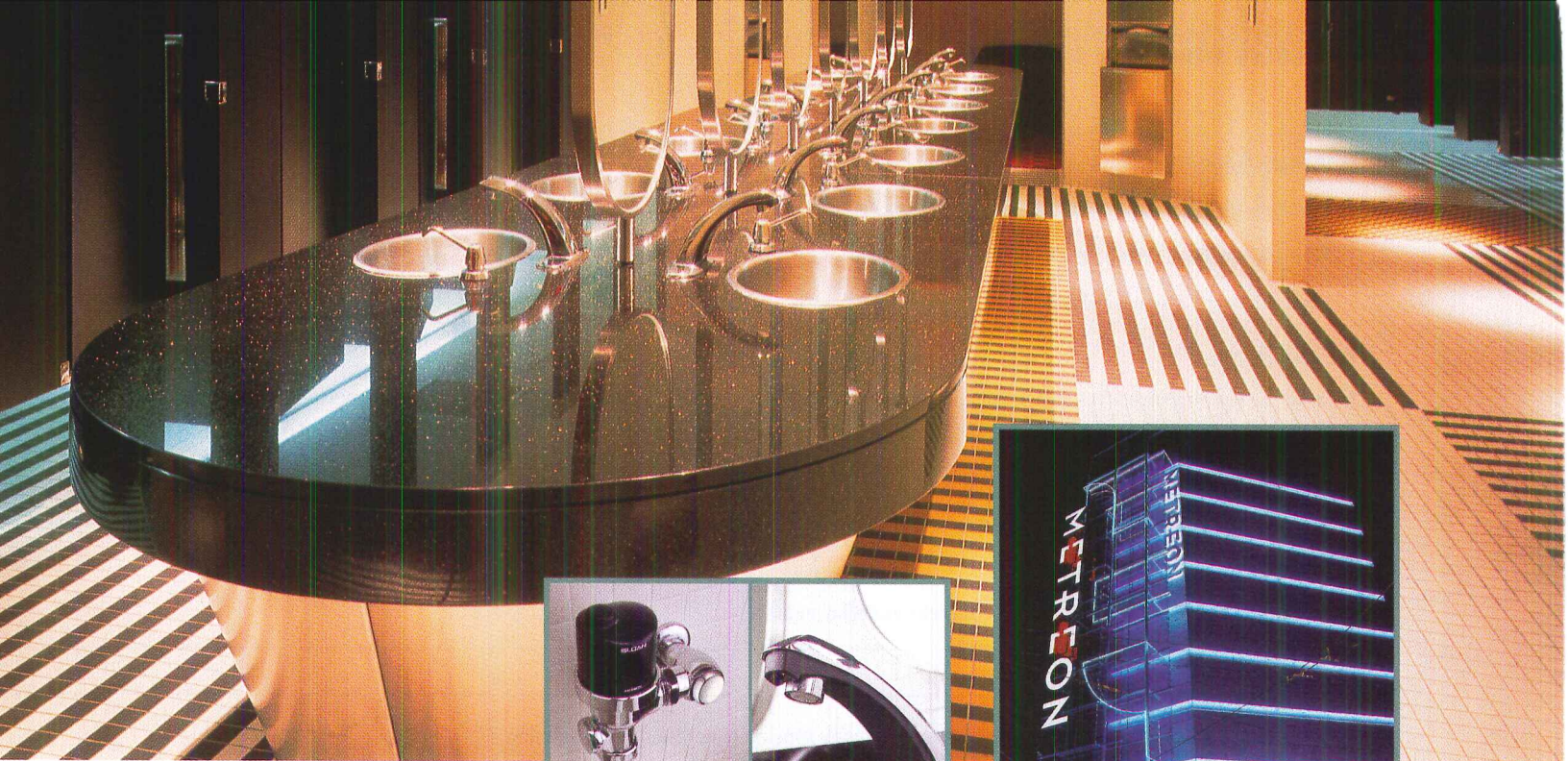
For more conventional single-family floor applications, underlayment selection is generally based on the type of floor finish to be used. For carpeting, OSB is suitable from a

performance standpoint. However, OSB is not a viable option under vinyl, as the rough surface of the panel may eventually show through the floor finish. To remedy this situation, a 1/4-inch-thick board of sanded lauan is often installed over the OSB substrate before laying down the vinyl.

A recently introduced gypsum/fiber underlayment panel offers a practical, labor-saving alternative. FIBEROCK® Brand Underlayment-AQUA-TOUGH™ from USG delivers up to 60 percent more indentation resistance than traditional products, while ensuring a smooth, flat surface with no bumps or ridges to telegraph through. Additionally, the panel contains no resins, adhesives, solvents or dyes that can stain floor-covering materials.



For residential construction, FIBEROCK Brand Underlayment-AQUA-TOUGH™ offers a high-performance alternative to wood-based underlayments. The gypsum/fiber product is up to 60 percent more indentation resistant than traditional panels.



WHY
METREON—A SONY
ENTERTAINMENT CENTER
RELIES ON
SLOAN
FLUSHOMETERS AND FAUCETS

The recently opened METREON—A SONY ENTERTAINMENT CENTER chose Sloan Optima® Plus Flushometers that integrate electronics and time-tested hydromechanics. For example, Sloan's Perfect Sense® EL-1500 Optima sensor utilizes advanced electronics that adjust automatically to surroundings. Sloan Optima Flushometers have their own LED diagnostics. The Optima system automatically flushes after 24 hours of non-use assuring fresher restrooms.

Sloan's Optima PLUS® EBF-85 faucet was chosen because it is the world's first battery operated fiber-optic faucet. It blends fiber-optic and infrared technology to sense user's hands. It also adjusts to its changing environment without manual adjustment and emits an audible signal when the battery life is low.

Sloan's electronic products match the sophisticated environment of this 350,000 sq. ft. technology, entertainment center which boasts the most powerful and interactive web site on the internet today, www.METREON.com.

Learn more about why entertainment centers rely on the performance of Sloan. Call **1-800-745-0800** or circle the number below for a copy of our full-line catalog/CD-ROM.



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CIRCLE 104 ON INQUIRY CARD

LEARNING OBJECTIVES

- Describe the applications where gypsum concrete underlayment can be used.
- List the benefits of poured gypsum concrete underlayment.
- Specify a poured gypsum installation.

INSTRUCTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn to page 242 and check your answers. Fill out the self report form on page 244 and submit it or use the Continuing Education self report form on *Record's* web site - www.architecturalrecord.com - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. What are the benefits of using gypsum concrete underlayments?

2. What are the key factors to bear in mind when specifying gypsum concrete underlayments?

3. Why is the gypsum concrete underlayment design mix an important consideration?

4. Why is gypsum concrete underlayment a good choice for multifamily housing?

5. How do gypsum concrete underlayments compare to portland cement-based alternatives?

ABOUT USG

USG is a Fortune 500 company with subsidiaries that are market leaders in their key product groups: gypsum wallboard, joint compound and related gypsum products; cement board; gypsum fiber panels; ceiling tile and grid; and building products distribution.

LEVELROCK™ Brand Floor Underlayment, recently introduced by USG Corporation Industrial Products, is establishing new performance standards for gypsum concrete underlayments. LEVELROCK Brand products offer a minimum compressive strength of 2,500 psi, which is nearly double the compressive strength of competing entry level gypsum concrete products. Compressive strengths as high as 5,500 psi are available.

LEVELROCK Brand products offer ideal solutions for commercial, multifamily and single-family new construction and renovation. The underlayments are installed by a network of trained contractors who work closely with on-site USG quality control teams.

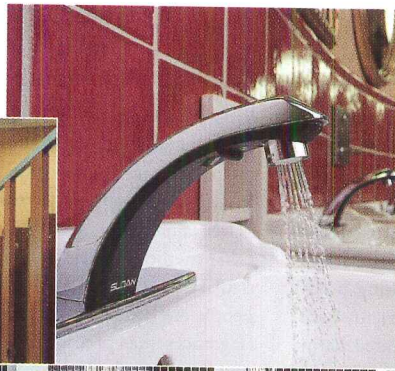
For more information on LEVELROCK Brand Floor Underlayment, write USG Corporation Industrial Products, P.O. Box 806278, Chicago, IL 60680-4124, call USG at 800-487-4431 or visit the USG Corporation Industrial Products Web site at www.gypsumsolutions.com.

For information about other products from USG, visit the USG Web site at www.usg.com.



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SENSOR TECHNOLOGY BRINGS INNOVATIVE SOLUTIONS TO BATHROOM DESIGN

Using Electronic Plumbing Products to Enhance Public Restroom Facilities

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

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION Series

Use the learning objectives below to focus your study as you read **SENSOR TECHNOLOGY BRINGS INNOVATIVE SOLUTIONS TO BATHROOM DESIGN: Using Electronic Plumbing Products to Enhance Public Restroom Facilities**. To earn one AIA/CES Learning Unit including one hour of health safety credit, answer the questions on page 185, check the answers on page 242, and follow the reporting instructions on page 244 or, use the Continuing Education self report form located at www.architecturalrecord.com.

LEARNING OBJECTIVES:

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

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

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

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

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

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

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

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

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

IMPROVED RESTROOM HYGIENE



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

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

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

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

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

REDUCED MAINTENANCE AND HOUSEKEEPING

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

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

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

WATER CONSERVATION

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

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

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

THE ADA AND HANDICAPPED ACCESSIBILITY REQUIREMENTS

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

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

FACILITY IMAGE

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

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

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



THE HISTORY AND EVOLUTION OF SENSOR OPERATED PLUMBING PRODUCTS

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

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

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

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

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

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

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

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

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

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

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

CHOOSING THE APPROPRIATE SENSOR PRODUCT FOR A FACILITY

With all the variety of products now available for the architect to specify it is important to understand that specific devices are not necessarily well suited for all projects. In many high traffic areas such as airports, bus stations, and sports stadiums, quick on and off operation and rapid cycling are a must as the owners of those facilities demand that users be serviced quickly and exited into the more important aspects of their facility. Water closet applications are particularly important because of the variety of activities that go on within a stall (activities that often go beyond their

designed intent). Sensor water closet valves should feature an override button that allows the user a "Courtesy Flush" to clear any tissue or other debris that has been added to the bowl before or after is its primary use. Timing delays should be incorporated into the sensor circuitry to help prevent false flushing that can occur as the user moves within the water closet compartment.

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

"Point of Use" or "Body Bounce"

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

Maximum Faucet Run Time

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

Durability and Functionality

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



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

Adaptable to Diverse Habits

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

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

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

Impact of Other Electronic Devices

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

Fit Facility's Traffic Profile

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

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

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

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

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

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

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

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

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

LEARNING OBJECTIVES:

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

INSTRUCTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn to page 242 and check your answers. Fill out the self report form on page 244 and submit it or use the Continuing Education self report form on *Record's* web site - www.architecturalrecord.com - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. How does the use of sensors make a restroom more hygienic?

2. How do sensors reduce odors in restrooms?

3. How do plumbing sensors help conserve water?

4. When is it appropriate to specify battery operated sensors as opposed to hard wired sensors?

5. What are the causes of most problems with sensor plumbing products?

6. How have ADA guidelines made sensor plumbing a popular choice?

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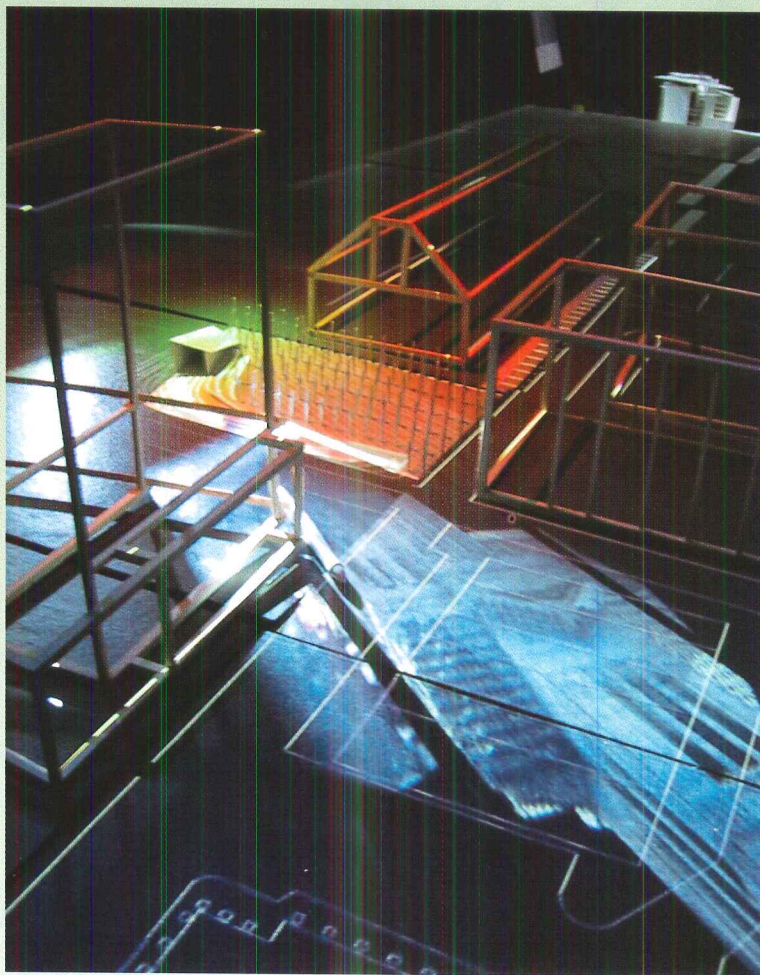
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CIRCLE 68 ON INQUIRY CARD


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THE DIGITAL PRACTICE

This month, we plow
new territory and go virtual



Building models shown on the Luminous Table, a design tool developed by MIT's Media Lab that wirelessly tracks the positions and orientations of objects on a tabletop display. Objects are "seen" by an overhead camera; as they're moved, the camera responds by projecting the virtual sunlight, shadows, and wind patterns that would result in reality. The table is used by MIT students to assess design and planning options.

A former colleague once admonished me and a group of fellow engineers for being too risk-averse. He told us, shaking his finger in a professorial way, "Sometimes if it ain't broke, you gotta break it." This advice—from a silver-haired avuncular man whose already boundless energy seemed even more so after he underwent bypass surgery—has stuck with me, and this month's feature story reflects this breaking-the-mold spirit. Instead of focusing on digital products and tools, it's a thought piece—an essay on how digital tools shape architectural education. As students are either returning to school or just starting their first semesters, it seems appropriate to reflect on what the continuing digitization of the profession means for those just learning the craft, as well as those who teach it.

On another subject: Although the digital practice section has appeared four times a year (March, June, September, and December) for a couple of years now, it hasn't been truly digital in form. Jerry Laiserin's monthly Digital Architect column has been posted to our Web site since February 1999; occasionally, product reviews have appeared as well. I'm happy to say that we're increasing the amount of enhanced and expanded material on our Web site. You can find it at

www.architecturalrecord.com/digital. Follow this link to news stories, briefs, features, product reviews, vendor lists, and of course, Digital Architect. *Deborah Snoonian, P.E.*

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CIRCLE 72 ON INQUIRY CARD



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Use of technology during charrettes proves popular with designers and the local community

Honolulu, Hawaii: home of Waikiki Beach, top-notch surfing, and now, digital planning techniques.

This summer, the AIA Honolulu chapter used digital technologies at a paperless urban design charrette. On Saturday, July 21, local AIA architects and members of the American Planning Association, the American Society of Landscape Architects, and others gathered to develop planning schemes for four potential development sites in Honolulu. The process was such a success that the mayor of Honolulu, Jeremy Harris, committed to purchasing technology to help city planners—a move strongly supported by local residents.

The charrette was a long-standing component of the chapter's Architecture Week activities, said chapter president Alan Nemiroff, AIA. But using digital tools was new this year. "We felt that using technology would allow us to develop alternatives more quickly, and we wanted to make the schemes more information-rich," he said. "We also wanted to make the process accessible—to both designers and the local community."

A combination of tools

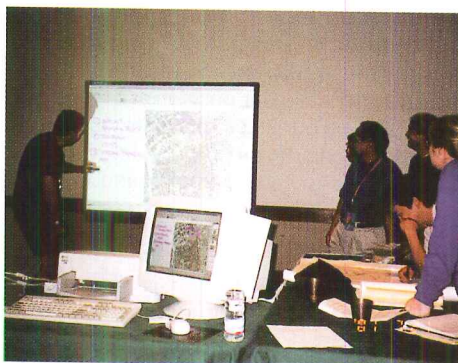
Several technologies were used together during the inaugural sessions. The chapter leased four 72-inch SMART Boards—electronic white boards—and each of the four teams used a SMART Board connected to a desktop PC, which contained electronic models of the sites in SketchUp software, a 3D drawing program (reviewed by RECORD, June 2001, page 199).

www For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at www.architecturalrecord.com

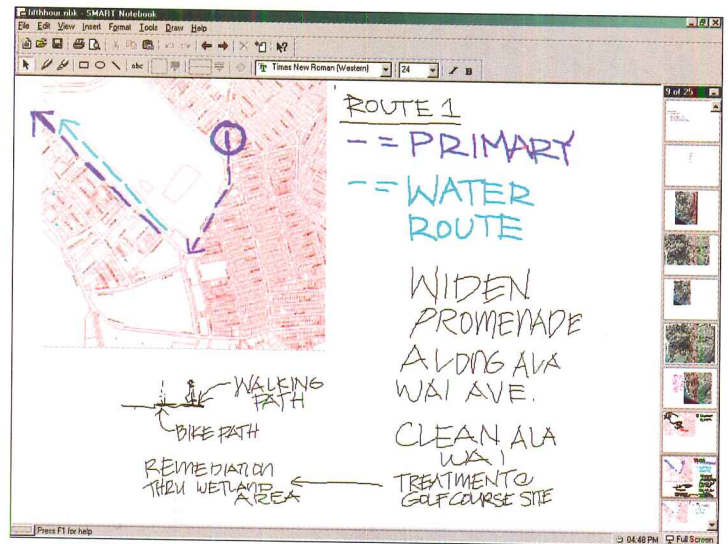
"SketchUp developed massing models of existing features on top of aerial photographs of the sites before the charrettes began," noted David Kaahaaina, chair of the chapter's urban design committee. "So each team worked with a good base of information." Before the charrette, some participants underwent two to three hours of software training via live or Web-based demonstrations. "A few hours was enough to help people feel comfortable using the software," said Kaahaaina. He noted that those who hadn't undergone training before attending the charrette were quickly brought up to speed by other team members.

During the charrette, participants gathered around the SMART Board to draw and discuss alternatives, much like the traditional process of encircling drafting tables to review paper plans. The work of the teams—notes, drawings, annotations—was captured in SMART Notebook, electronic flip chart software (similar to PowerPoint in function) that's packaged with the SMART Board.

The few technical difficulties encountered during the exercise were easily overcome. "Really, the day went off without a hitch," said Nemiroff. "None of the models crashed, which was a relief." Yasser Mailaka, a SketchUp representative



Charrette participants sketch and write on SmartBoards; their work is captured on the PC.



One charrette team presented its options in SmartNotebook with digitally-captured sketches and text to show proposed site features.

who provided onsite support during the charrette, said, "The charrette was an ambitious effort on the part of AIA Honolulu. I believe it represents a profession-wide desire to carry the use of digital media beyond mere drafting, and to more fully leverage the way we collaborate and communicate visually."

Envisioning the future

After the charrette, the teams reconvened and presented their planning options to a larger audience—digitally, of course. "The technology really enabled the teams to develop viable options in just a few hours," observed Nemiroff. "The final presentations included flyovers and 3D massing models." SketchUp has a viewing tool that allows a building or site to be seen sequentially at different angles, giving it an animation-like functionality without the long rendering times and memory-hungry features of animation software.

The paperless process was given an extra boost in August when Mayor Harris invited Nemiroff to demonstrate the technology to over 1,500 residents at the city's second Citywide Vision meeting, an initiative to improve Honolulu's neighborhoods by engaging community members in their planning. The demonstration was met with enthusiasm, and it was there that Harris committed to investing in SMART Boards. Nemiroff said, "These tools really give users power over the planning process—to be able to move buildings and landscaping elements around easily at a large board. And because the information is captured electronically, it saves a tremendous amount of time."

Using these technologies together was a challenging feat, and Nemiroff was pleased that it went as planned. "We were basically asking people to run off a cliff and either fly or crash," he said. "And they all flew." Asked if the exercise will be repeated in future years, his reply was emphatic. "Absolutely," he said. "We don't intend to go back to paper." Deborah Snoonian, P.E.

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CIRCLE 73 ON INQUIRY CARD

Digital Architect

Architectural Computing, Without Wires

By Jerry Laiserin, FAIA

In the world of technology, yesterday's science-fiction fantasy often becomes today's reality and tomorrow's mainstream tool. Fans of *Star Trek* fondly remember the fictitious "communicator"—a flip-top, handheld device not much bigger than a deck of playing cards, with seemingly limitless computing power, plus the ability to link over vast distances to other communicators and to big computers on the mother ship. Now, when Bob Schulz, AIA, chief architect in the chancellor's office at California State University, flips open his Kyocera QCP-6035 SmartPhone, one almost expects him to say "Beam me up, Scotty," and be instantly teleported to one of the 27 campuses he oversees.

In the same manner that desktop computers and Internet

other architects are using these tools now, and consider the effects of this technology as it is more widely adopted.

What's available?

Wireless technology can be divided into a few broad categories. Two-way pagers, such as Motorola's Timeport or Research in Motion's BlackBerry, provide always-on wireless Internet access to e-mail, limited Web browsing and "instant" text messaging. Yet they lack all but the most rudimentary data storage and processing power. This limitation makes them ill-suited to architecture-specific computing tasks like punchlists, field notes or drawing review, although they're still acceptable for general on-the-go business management for people

IN THE NEAR FUTURE, WIRELESS DEVICES WILL INCORPORATE BOTH COMPUTING AND COMMUNICATION FUNCTIONS.

communications have transformed architectural offices, devices like Schulz's promise to transform job sites, clients' offices, manufacturers' showrooms and any other location where architects need to analyze, design, document or present their work. Forward-looking practitioners need to understand their wireless communication choices, learn how

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

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who need to communicate quickly with coworkers or clients.

Handheld PC systems, in contrast, are portable, battery-powered computers that weigh just a few ounces, and run software that mimics and synchronizes with programs and data on desktop or server computers—even advanced software like spreadsheets and CAD. Handheld computers can be further divided between systems employing Microsoft's WindowsCE operating system (OS), such as Casio's Cassiopeia, Compaq's iPaq (reviewed, page 211) and Hewlett-Packard's Jornada, or those employing Palm Computing's Palm OS, such as Palm's own devices (which currently outsell all others), HandEra's 330 model (reviewed,



The convergence of handheld computing devices with wireless communications technology, as in the Handspring Visor with VisorPhone attachment, opens new opportunities for client service and project delivery.

page 211), Handspring's Visor or Sony's Clie.

One drawback of handheld PCs is that they typically lack built-in wireless communication capability. However, most currently available devices are equipped with physical connectors, ports, or slots for plugging in add-on devices such as wireless modems. Modems are offered by outfits such as Novatel or Sierra Wireless, and are capable of plucking e-mail or Web pages out of thin air, albeit with the aid of a monthly subscription to a wireless Internet service provider such as GoAmerica or Omnisky. Kyocera's SmartPhone, and a similar device from Samsung, combine the functions of several devices—a Palm OS computer, a built-in wireless modem

and a full-featured mobile phone. Not to be outdone, mobile phone vendors Ericsson, Motorola, Nokia and Matsushita have collaborated to incorporate computing functions into their future phones. This will occur via a new OS called Symbian, which is unfortunately incompatible with both Palm and Windows. Microsoft is countering these moves with a phone-based version of Windows—code-named Stinger—which is currently available only outside the U.S. in a prototype model made by Sendo. Ultimately, the question will be whether consumers prefer that their mobile phones become computers, or that their handheld PCs become mobile phones.

Who's using what?

The ways that architects currently mix and match these tools vary widely, depending on the firm in which they practice and on each individual's role within the firm. For example, Mark Ginsburg, AIA, a partner in the seven-person firm Curtis + Ginsburg in New York, uses his Palm Pilot for general business productivity, like many professionals who travel for work. Ginsburg relies on Puma's Intellisync software to synchronize his Palm-based address book, calendar, and to-do list to the Lotus Organizer software he uses to manage those functions on his desktop PC. He also uses CES, Inc.'s

Digital Architect

QuickOffice to link notes and expense reports on his Palm to their counterparts in Microsoft Office Word and Excel.

Other small-firm principals and solo practitioners extend the capability of general productivity applications to manage their practices. Joseph Vance, AIA, owns a five-person firm in New York that does residential work nationwide. He has equipped everyone on his staff with a Palm device and a Targus portable keyboard. "Intricate meeting minutes that used to take an hour or two to transcribe can now be typed while the meeting is in progress, then transferred to an office computer for formatting and e-mailing in a matter of minutes," Vance says. He adds that each Palm/keyboard combination saves

including syncing to Mac versions of Microsoft Word and Excel, and to Now Up-to-Date & Contact schedules and address books (from Power On Software).

Richard Buday, AIA, president of Archimage in Houston, was an early adopter of handheld PCs. He has owned six different devices over the last 10 years; currently he owns a Handspring Visor Edge. Buday uses Documents-to-Go software to connect Palm OS programs to the desktop-based programs of Microsoft Office. His mobile software toolkit also includes TimeTracker, with which he records the time he spends on each of his projects. He then links this data to the desktop version of Quicken's Quickbooks Pro for processing timesheets into invoices. Buday has developed a job-cost/fee template for his handheld computer, which allows him to propose and revise project fees while away from his office, even during client meetings. He has even downloaded the text of the Americans with Disability Act (ADA) regulations in Texas, and converted them on his desktop PC to Adobe PDF format, which he can view and search via Adobe's Acrobat Reader on his Visor.

Another class of users consists of business development principals who function like sales staff. They need handheld computers to communicate with coworkers, to take work on the road, and to manage extensive contact lists. For some, the always-on e-mail connectivity of a two-way pager may be sufficient, although many prefer more computing power. Paul Seletsky, who recently left a position as technology manager for a 350-person architectural firm to join a high-tech startup company, points out that most handheld PCs support not only add-on modems but also video add-ons that let marketing principals run digital slide shows on any computer monitor or projector—a feat far beyond the

powers of a two-way pager.

Compaq's iPaq can deliver video presentations via a VoyagerVGA PC Card from Colorgraphics inserted in the iPaq's optional expansion sleeve. Visor users can achieve the same result with Margi Systems' Presenter-to-Go add-on module.

The most demanding users among today's handheld-toting architects are those engaged in construction administration, who divide their time between job sites and their regular workplaces. They have the same needs as other

What's next?

The introduction of PCs, along with CAD and other software, eliminated much of the tedium and inefficiency of drawing on paper. But it still left architects tethered to their offices as firmly as Beaux Arts designers were once stuck in their ateliers. Handheld PCs with wireless Internet connections promise to make architectural practice an anywhere, anytime activity. Savvy practitioners will take advantage of this new mobility to engage their clients more closely, and to collaborate more

NEW STANDARDS FOR WIRELESS COMMUNICATIONS WILL ALLOW HANDHELD PCS, CELL PHONES, AND OTHER PORTABLE DEVICES TO TALK TO EACH OTHER.

architects and professionals, and also require access to weather reports, digital photos, CAD files for viewing and sketching, punchlists, and so on. At the site of a new \$230-million, 400,000-square-foot laboratory for the University of California at San Francisco, Luminita Ruva, AIA, leads the construction administration team for the SmithGroup, executive architect for the project. In her field office, Ruva has a desktop PC equipped with a high-speed Internet connection to her company's intranet. She uses this PC to synchronize her iPaq to data and files used by the 1,000-person firm. This includes copies of AutoCAD drawings she refers to each day, on which she can make notes and sketches in Autodesk's OnSite View (OSV—reviewed, page 212) directly on the iPaq's touch-sensitive screen, or via voice annotation with its built-in dictation recorder. Ruva says she will create the project's punchlist next year by making comments directly on plan drawings in OSV and issuing key-plans and keynotes to locate punchlist issues. For designing or issuing sketches in the field, she is evaluating the use of ArcSecond's PocketCAD (reviewed, page 212) which adds full editing and drawing functions for AutoCAD DWG, DWF and DXF files on handheld devices.

directly with consultants and contractors—imagine meeting in an engineer's office, client's office, or a job site trailer with instant access to every file and drawing needed.

Even within offices, wireless connectivity is gaining ground. A technology standard named 802.11b—also known as WiFi—allows architects with laptops or handheld PCs to move around within an office, gathering in groups and working together spontaneously, while remaining connected to the office's network. WiFi networks can be established on construction sites as well, giving site workers mobile access to project information—and to each other. An even shorter range standard called Bluetooth, which is just coming to market, will create "personal area networks" that create wireless connections among devices such as handheld PCs, mobile phones, keyboards and digital cameras, just by mere proximity, so that they can share and swap information.

As wireless services increase in speed and decline in price, the ability to keep handheld devices connected to office networks and the Internet will become a key advantage for digital architects. To paraphrase *Star Trek's* Captain Kirk, now is the time to boldly go where no architect has gone before. ■



PocketPC devices, such as the Compaq iPaq, which use Microsoft's WindowsCE operating system, are especially well-suited to running CAD programs like Autodesk's OnSite View.

over \$1,000 compared to the cost of a laptop. He finds that he and his staff have no difficulty linking Palm-generated data to the computers in his "100% Apple Macintosh" office,

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Digital Pedagogy: An Essay

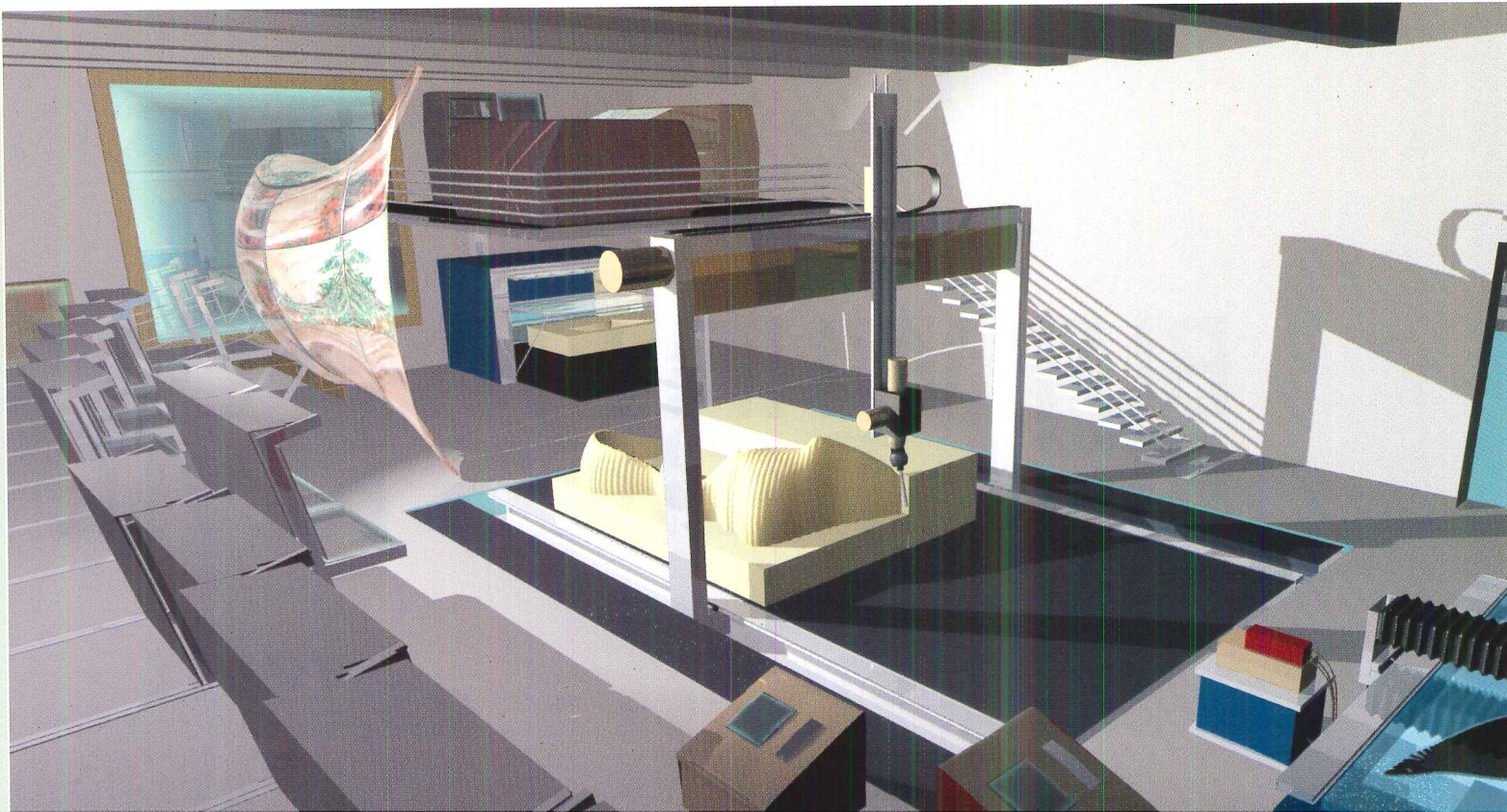
One educator's thoughts on design software's profound effects on design thinking and teaching

There's no question that knowledge of CAD programs and competence with other design software are de facto skills possessed by today's architectural graduates. But how are those skills imparted? And how does design software affect the way students learn about and design buildings?

The ongoing debate between architects who embrace digital design tools and those who wish drawings were still executed by hand has been growing in scope. In this essay, digital design is addressed from within the academy itself. Noted architectural educator Dana Cuff explains both the opportunities and limitations created by the increasing use of 3D CAD and visualization programs in teaching studios, and suggests these tools are vehicles for creating not only new forms of architecture, but also new teaching methods and enhanced design capabilities. She offers an intelligent perspective on a debate which, over time, we hope will evolve into a discourse.

Deborah Snoonian, P.E.

Below, a rendering of a proposed 3D manufacturing lab for UCLA's Department of Architecture and Urban Design. The lab will feature equipment needed to produce complex architectural models designed by students using 3D CAD and visualization software.



In the late 1980s, one of the most important transformations of the contemporary profession was just beginning to surface: computing. During the intervening years, computers have become pervasive in all aspects of architectural education and practice. At the same time, the debate within the profession has shifted from the relevance of drawing in pencil and ink to the relationship between digital media and architecture itself. Although questions about the role of learning to draw in an electronic age are still relevant, it is worth setting aside the issue of the computer-as-tool in order to examine instead the more profound questions of the computer's cognitive implications, and whether there are emerging new modes of thinking about architecture and space. How are computers transforming the way architects learn to design and build?

The more things change, the more things will keep changing

Architecture schools are concentrating resources to develop computing power into a creative medium for young architects, to attract talented students and young faculty. This once meant setting up laboratories, hiring software jockeys, and garnering large grants for computer research. Now, because computing has become a populist skill, computers are breaking out of the lab to take over where parallel rules left off. To some degree, architecture schools are accomplishing what will be necessary and more difficult for computer science and electrical engineering to pull off—the creative re-wiring and unwiring of digital media, so that as computing becomes increasingly ubiquitous, its capabilities transform accordingly. In architecture departments, the assimilation has created more relevant, more seductive, more visual, more task-oriented applications. Eventually, they may even be more architectonic.

Dana Cuff is a professor of architecture and urban design at UCLA. In addition to her extensive writings on issues of architectural practice, she recently published a book on modern urbanism, The Provisional City (MIT Press, 2000).

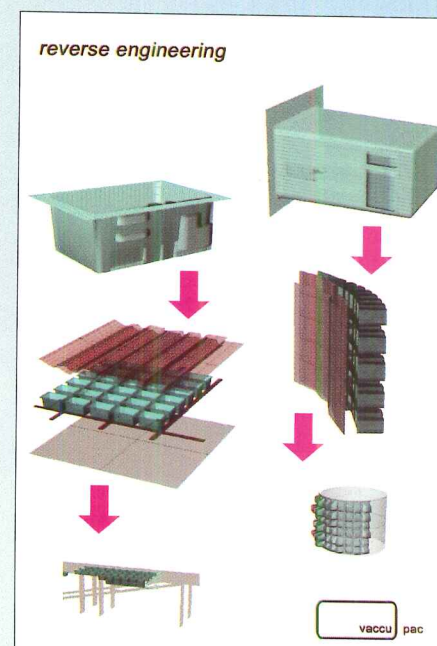
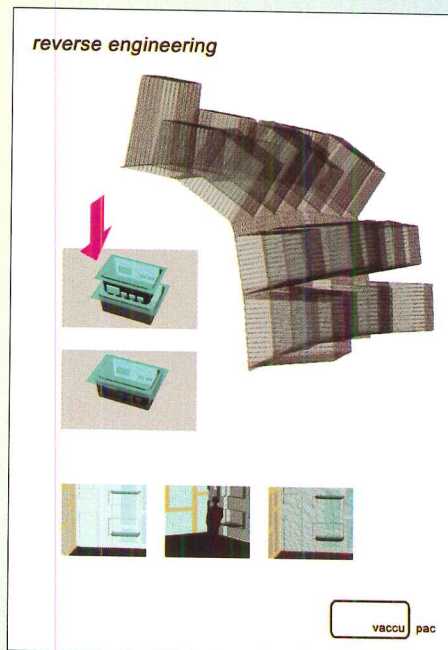
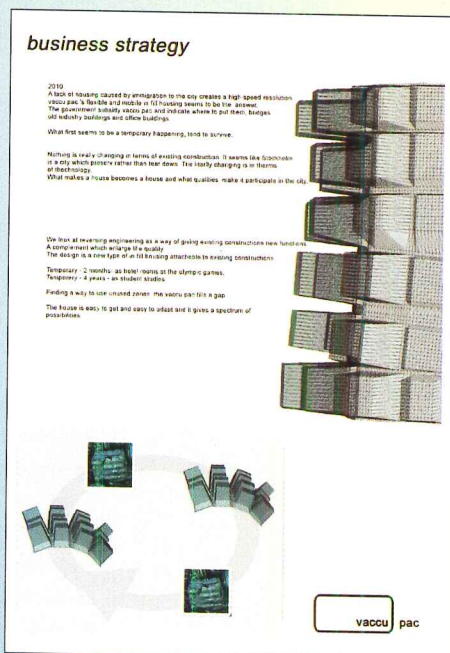
In today's final reviews of projects done by architecture students, the work on the walls is increasingly if not entirely computer-generated. Consider an indigenous ritual among architects: the charrette, now gone digital. Boards documenting analysis and precedent that would have required hours of graphic design, paste-up, and lettering can now be modified with hindsight to include text and images that are more reflective of the design project's end-state. The design project itself can undergo substantial last-minute alterations, so long as the print queue isn't prohibitive. The charrette's alchemy is stronger than ever, though the studio may be distressingly empty. Each

NOW THAT COMPUTING HAS BECOME A POPULIST SKILL, COMPUTERS ARE TAKING OVER DESIGN STUDIOS WHERE PARALLEL RULES LEFT OFF.

student at home, in studio, or in the lab is locked in an intimate nose-to-screen tango with a beige box. Simultaneously, each student is dependent on a number of tools of the digital age: the network, the large format plotters, the milling machine, and other output peripherals. As a result, printing costs soar, files bomb, servers go down and must be patched, and everything takes longer than estimated. Some students never print their projects at all—their final presentations may be computerized projections, evanescent shows for jurors who can no longer get up to take a closer look. Students asked about a design decision may reply that it was less a decision than a "moment," as if the animation software were temporarily interrupted, rendering the particular frame on view somewhat arbitrarily.

Today's academic digital design is impressive but also paradoxical. The charrette example shows that students are simultaneously more isolated and less independent; are able to design more passively or with

student project developed using 3D studio Max software for a design workshop in Stockholm. The project is a housing scheme inspired by the structure and logic of cell phones and other consumer technology.



new inventiveness, both formal and mathematical; and can design more responsively yet with less commitment. Students are exploring alternatives in ways that were never possible before, when each alternative required a prohibitive investment of scarce resources—time, model materials, or ideas. Scarcity—a condition John Locke considered a fundamental governing principle in society—has been replaced by overabundance. Computers allow students to produce minor design variations with a minimal investment of time, so that trivial alterations can be endlessly explored, while qualitatively distinct alternatives require the same pre-digital level of effort. With speed the currency of computation, and time the scarcest resource in school (and practice), the architect's fickle muse—the deadline—has been perverted. While some

COMPUTERS ALLOW STUDENTS TO EXPLORE MINOR DESIGN VARIATIONS WITH A MINIMAL INVESTMENT OF TIME, WHILE DISTINCT ALTERNATIVES REQUIRE THE SAME PRE-DIGITAL LEVEL OF EFFORT.

types of work can indeed be done more quickly, it's also possible for students to make their projects look finished in less time than ever.

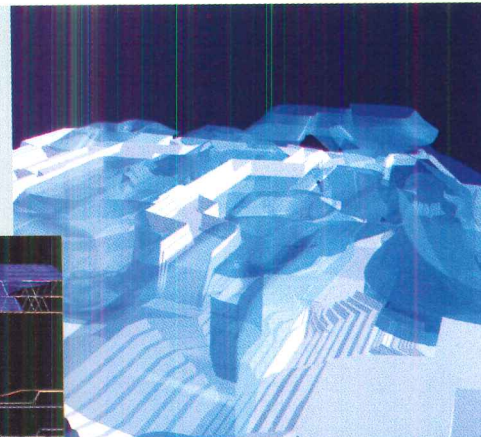
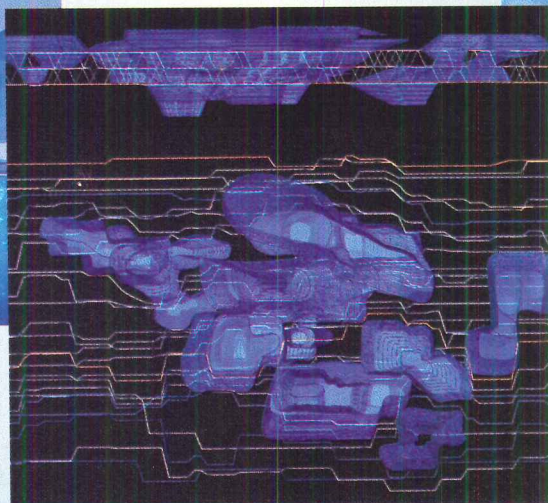
As rapidly as digital technology changes, the characterization above captures pedagogical challenges that can be overcome with similar dispatch. This will require knowledgeable experimentation on the part of faculty, many of whom are caught instead supporting or resisting digitization. Texas A & M's Mark Clayton makes a distinction between digital design and what he calls "tactile" design, that is, traditionally conceived and produced work where the touch of materials is fundamental to working knowledge of building design and construction. Clayton argues that both digital and tactile design are necessary components of contemporary design teaching, but his characterization clarifies why the two sides in the digital debate both miss the mark. Those who resist com-

puting say that digital design is to tactile design what cloning is to sexual reproduction: the first takes the pleasure, soul, and beauty out of the second. From this vantage, digital design, like cloning, produces freaks of nature. On the other side of the debate, digital design is defended as qualitatively equivalent to other technological innovations and design media, all of which have their own message and deterministic biases. Thus, just as tracing paper was understood to create transparency in building, CAD programs formulate a layered building structured around coordinates.

The flaw in the first argument is equating digital and tactile design: they serve different purposes. At present, computers both extend beyond and inadequately simulate material construction. Tactile design is necessary, at least for now, to ensure the translation from drawing to building—a process schools remain ill-equipped to teach. The flaw in the second argument, in support of CAD, is that it underestimates the computer. Digital design involves "smart media" that is different from prior forms of media: it is not a tool, but has built-in tools; it holds vast quantities of information which it can translate and reveal; it embeds links to other models, information, and versions of itself. Although we can agree that the invention of perspective or tracing paper provoked new architecture, that new way of seeing buildings pales in comparison to the new modes of thinking computers make possible.

Tools that reflect and enable design

One means to examine the interaction between the architect's thinking and computation is to look more closely into the most commonly-deployed software. At present, there is a limited range of software being used in architecture schools both in the U.S. and abroad. Like standard textbooks used in teaching medicine or law, architects for the first time have some common ground. Such unification has historically strengthened a profession's standing in the larger society. As long as the computer was conceptualized as a tool, its significance was no greater than that of a pen or pencil. But because of the cognitive implications of computing,



A student design for an entryway to the Los Angeles Zoo, created using Maya software. The design was intended to provide an immersive environment for visitors, who move around and through aquarium tanks.

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CIRCLE 74 ON INQUIRY CARD

design software that's common to students around the world is akin to a poetic, architectural Esperanto.

A simple classification distinguishes two basic types of design software: first, production-oriented programs such as AutoCAD, ArchiCAD, or CATIA; and second, visualization software for modeling, rendering, and/or animation such as Maya, FormZ, 3D Studio MAX, StudioVIZ, Rhino, Alias, and Softimage. It might be presumed that production software is most pertinent in practice, while visualization software is the terrain of students. This easy division is undercut by the iterative design process, in which projects benefit from early exploration in visualization software but then must be translated for purposes of development in production software, later to return to viz-ware to tighten up the design.

This description of digital design highlights at least two structural determinants: the issues of translation, and the inherent biases of

IF STUDENTS ARE EXPOSED TO A VARIETY OF DESIGN SOFTWARE, THE DESIGN PROCESS CAN BECOME AN EXPLICIT PEDAGOGIC FOCUS FOR EDUCATORS.

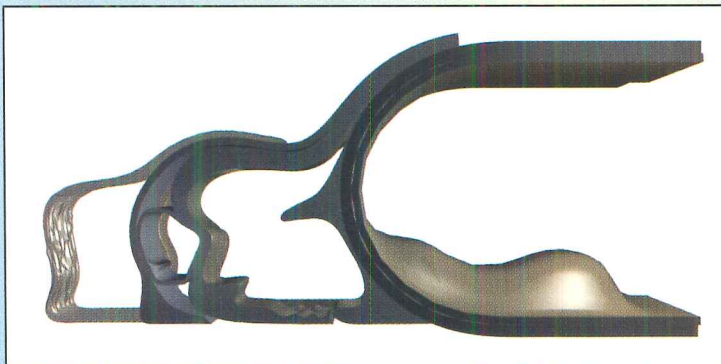
each piece of software. These are significant to schools because software both reflects and enables forms of thought, as does language, according to the Whorfian hypothesis. Software shares some characteristics that influence design. There is a decided bias toward surface rather than space; organization of information and the design process are increasingly significant; visualization software is not well-adapted to real-world construction; and the mathematics, algorithms, and geometric principles governing software are generally unquestioned by the designer. These traits, once made explicit, can be pedagogically addressed.

There are some distinct differences between software packages as well, which can be exemplified in a comparison of two programs, FormZ and Maya. In FormZ, geometric shapes like cubes, cylinders, and

cones are modeled as solid, faceted forms. This parallel to physical modeling is one of FormZ's strengths; however, the designer cannot retrace her steps for revisions and reconsideration in the digital model. Moving designs into production software is not as complicated in FormZ as with animation software like Maya. Rather than geometric objects, Maya utilizes curves (actually NURBS, non-uniform rational b-splines) that can be extended into surfaces and blobs, which can be subsequently deformed and manipulated. Maya allows a reversible modeling or design process, making it possible to return to the original curve or its mathematics, according to David Erdman, who teaches at both UCLA and Rensselaer Polytechnic Institute. In the most shorthand manner: FormZ begins with geometric shapes so that models are accretions formed of additive masses; Maya begins with curves to animate, warp, fold, and morph.

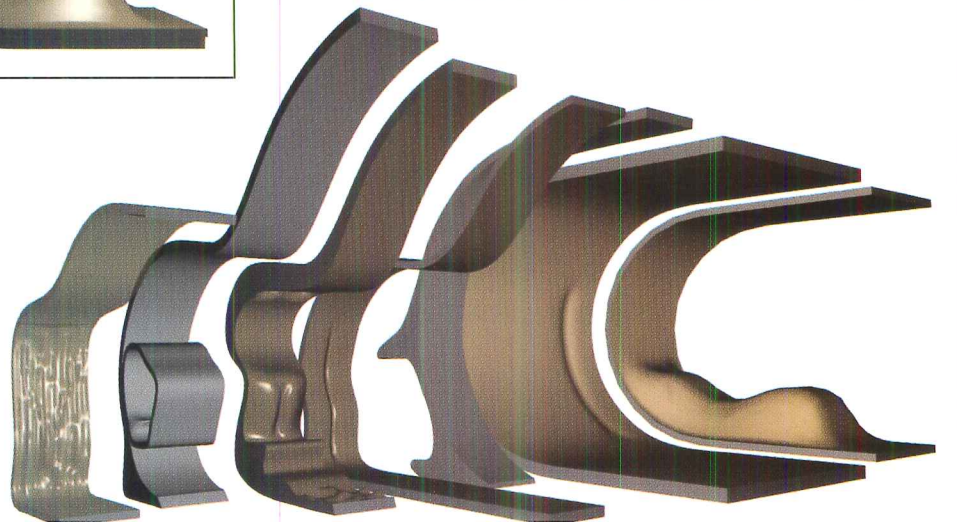
Most schools tend to prioritize one visualization application in studio, which invites a particular way of thinking about design. This inadvertently teaches a design process, as the FormZ-Maya comparison suggests. If students are exposed instead to a range of applications, the design process can become an explicit pedagogic focus. While the traits of particular software packages would also seem to limit the range of design solutions, both Erdman and Clayton point out that, in skilled hands, the automated tools and internal structures of software are far less limiting and less visible than in the work of novices. In teaching, then, it is important to develop students' skills beyond the introductory, more constrained level.

What remains problematic is moving between viz-ware and production software, or between digital and material design. The 3D modeling or sketching capabilities of Studio MAX, Maya, or Softimage set a visual direction that is not yet material, but begs for higher resolution in its own terms. This yields the startlingly seductive images that grace architecture schools nationwide—images that embody little understanding of structure, construction, building systems, or even function. They are representational but not instructional, and instruction is a primary role of design drawings.



Variations on wall sections with display panels, created by students using MAYA software. MAYA allows curves to be folded

and extruded into different shapes. The user can return to previous forms to explore different design alternatives.





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Bridging the divide, advancing the profession

How are computers changing the way we learn to design and build? In school, computers and the common software are creating rich, if paradoxical grounds for design experimentation. Indeed, there is an undeniable, alluring energy in those architecture schools where computers are integral to the studio. But at present, their design experimentation is not well-connected to building real projects. While schools invariably produce graduates insufficiently prepared for employment, the academy may be further removed from practice and from buildings than ever.

Several important factors should shift this trajectory toward digital design that has greater material and instructional implications. The current generation of design faculty uses computers in both its firms

TECHNOLOGIES SUCH AS COMPUTER-AIDED MANUFACTURING, MILLING, AND RAPID PROTOTYPING WILL BRING TACTILE, MATERIAL, AND STRUCTURAL CONCERNS TO DIGITAL DESIGN.

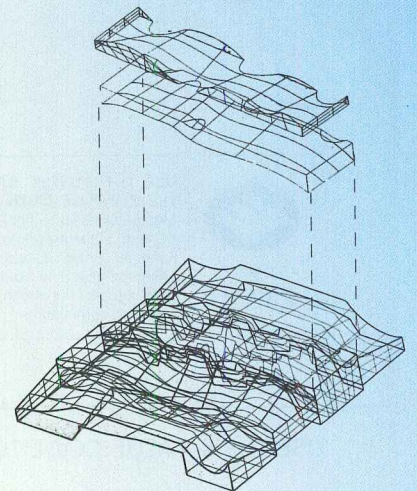
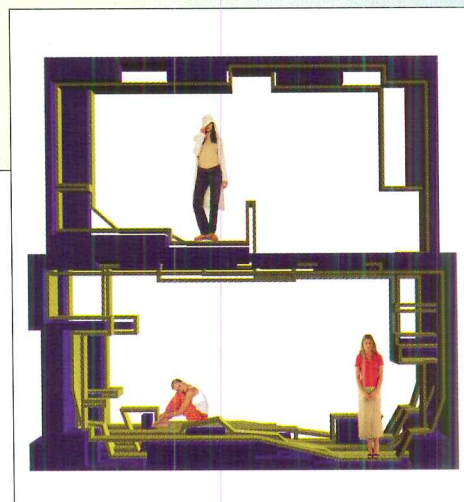
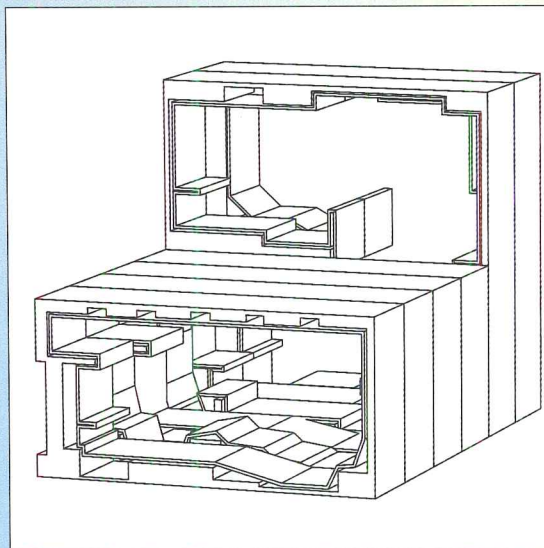
as well as its studios, and this will tend to merge the two arenas. Computer-aided manufacturing, stereolithography, robotics, milling, and rapid prototyping are moving into architecture schools, which will bring tactile, material, and structural concerns to digital design. The construction industry is simultaneously growing more sophisticated electronically, such that new methods, components, and processes are beginning to make digital images more buildable. The issues of translation between visualization and production programs are hot topics of software development, and we can look forward to imminent advances in the capabilities of these programs. As more computer-generated design solutions become realized buildings, the better we will understand how to teach students to design digitally.

Schools are beginning to bridge the divide between digital and

tactile design inventively. At UCLA's Department of Architecture and Urban Design, computer-driven milling machines are in constant operation as students fabricate wooden and foam models. Plans for an extensive "digital shop," called the 3-D Manufacturing Lab (image on page 200), will add new materials capabilities to 5-axis mills that can carve volumetric space as it's conceived using design software. The lab will permit students to build not just models but full-scale building details, structural elements, and components. With such tools at the ready, the computer actually fully enables new design capacities: students will be able to develop innovative forms of structure and material combinations and test them at scale. Across town, at SCI-Arc, studio professor Chris Genik and UCLA alum Greg Petroff of Vizrt intend to bring Vizrt's real-time, integrated 3D modeling software to the campus. Digital environments used in both traditional and new media (e.g., Vizrt and Hani Rashid created the virtual New York Stock Exchange) can bring actors and actions seamlessly into architectural space. Students will be able to visualize the inhabitation of spaces they are designing using software such as in FormZ. At the University of Michigan, the newly-appointed chair of the Taubman College of Architecture and Urban Planning, Tom Buresh, is working to link the school's expertise in and long tradition of building technology research with digital design. By bringing in architect-practitioners with a strong interest in materials research to studios newly infused with digital capabilities, Buresh hopes to make a transparent connection—literally and metaphorically—between the shop, research laboratories, and studios.

While the connections between digital models and buildings are crucial, they are only part of the new territory carved by computers. Computer-driven explorations are expanding the way both educators and students think about architecture. Schools embracing the new technology will lead the way to bring about emergent forms of practice. ■

www To find this article as well as more information on digital technology for architects, including reviews and vendor lists go to www.architecturalrecord.com/digital



A student project from Rensselaer Polytechnic Institute, designed using FormZ software. The project involved creating spaces with

similar material characteristics and design logic at three different scales, to allow for maximum flexibility of use of the spaces.

Digital Product Reviews

Hardware and Software, In the Palm of Your Hand

By Jerry Laiserin, FAIA

Previously-reviewed examples of project management software for handheld devices include Meridian Project Systems' Prolog Pocket (RECORD, September 2000, page 193) and AEC Software's FastTrack Schedule 7.0 (RECORD, June 2001, page 200). JL

On the Other Hand

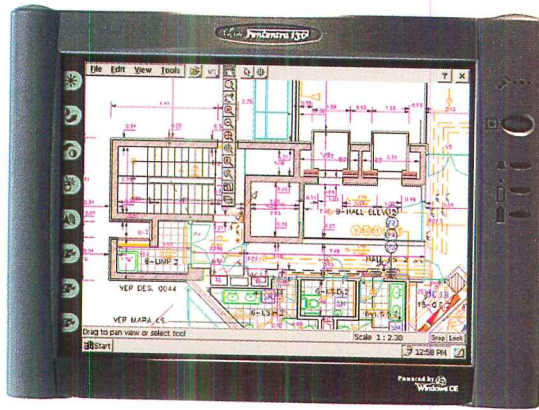
HandEra 330 handheld computer

A key decision for an architect buying her first handheld PC is whether she will need or want to view and annotate CAD files on its tiny screen. If so, current software options dictate choosing a machine with Microsoft's WindowsCE operating system (OS, version 2.11 or higher), such as Compaq's iPaq PocketPC, reviewed below. However, virtually any task other than CAD can be accomplished on either Windows-compatible PocketPCs or on devices using Palm Computing's PalmOS, which also has the advantage of being easier to synchronize with Macintosh computers. Which brings us to the HandEra 330.

HandEra uses the same micro-processor and memory as Palms and Palm-compatibles offered by

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

www For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at www.architecturalrecord.com



Autodesk, Inc.'s OnSite View lets users annotate CAD files with handwritten notes and voice memos. Fly-out menus maximize the screen area available for drawings.

Handspring and Sony. Like all PalmOS devices, HandEra's software includes an address book, calendar, to-do list, expense reports, notes, e-mail, and synchronization of these programs with their desktop counterparts. Add-on software lets users work with portable versions of Microsoft Office files. Information is entered by using either the stylus on the touchscreen (via Graffiti writing—a built-in handwriting recognition system), or by adding an optional keyboard.

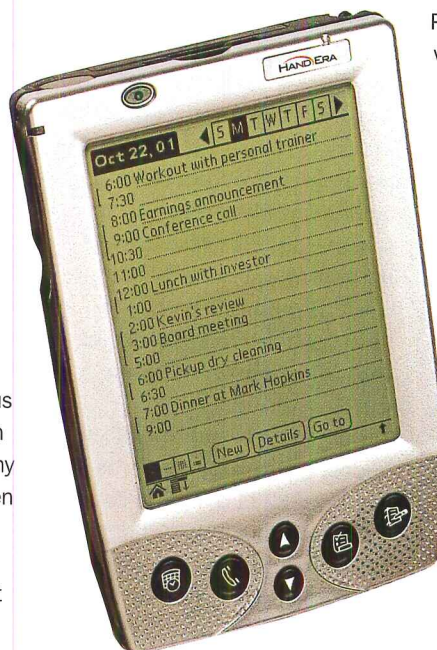
Instead of dedicating 20 percent of the screen area to Graffiti input, as on other PalmOS devices, HandEra's input area can be hidden, making the entire screen available for reading notes or scrolling through lists. Although physically the same size, HandEra's screen has three times the resolution of other PalmOS machines (320x240 versus 160x160), so more information can be viewed at once, albeit at very tiny font sizes. Information on the screen can be displayed in either portrait (vertical) or landscape (horizontal) mode, which could be a convenient

feature for future applications (other than Peanut Press' eBook Reader, few add-on software programs support landscape display mode at present).

HandEra was one of the first PalmOS manufacturers to include voice recording capability for short memos. The model 330 also sports two expansion slots: one for Secure Digital (SD) add-ons used in Palm Computing's latest machines; and another for

CompactFlash (CF) add-ons widely used with laptops and digital cameras. Both SD and CF are open standards, meaning that more add-on devices will be able to be developed for them—which gives HandEra more flexibility than its

The HandEra is a PalmOS device, with a built-in voice recorder, that can display information in either portrait or landscape mode.



PalmOS competitors such as HandSpring's Visor, which has expansion slots that are proprietary.

Architects looking for a mid-priced PalmOS device with superior viewing and expansion capabilities should get their hands on a HandEra.

System requirements: None.

HandEra, Inc.
2859 104th Street
Des Moines, IA 50322
(515) 252-7522
www.handera.com

Windows to Go

Compaq iPaq 3650 PocketPC

Microsoft may have needed three tries to produce a version of Windows that was competitive with Apple's Macintosh operating system (OS)—but that third effort put Microsoft in the game. The same has happened with the company's foray into the world of handheld devices. Machines that use the PalmOS still lead the market, but version 3.0 of WindowsCE has put Microsoft and PocketPC hardware on the map as serious competitors. The most popular line of PocketPC hardware is Compaq's iPaq series; the 3650 is the mid-priced favorite. (The top-of-the-line model 3670 offers twice the memory—64MB—but also costs a third more).

Like all WindowsCE handhelds, the iPaq 3650 (pictured in "Digital Architect," page 198) is a bit larger and heavier than most PalmOS machines. But these disadvantages are more than offset by a faster processor, more memory, better

Digital Product Reviews

expandability, and a brighter screen in full color—albeit such perks result in a shorter battery life and higher cost. For users whose tasks require Windows compatibility, this may be a fair set of trade-offs. WindowsCE includes pocket versions of Microsoft Word, Excel and Outlook that synchronize easily with desktop files, without the need for add-on helper software. The OS also supports a wide variety of other applications—notably CAD viewing and editing tools.

Users can add hardware to the iPaq via slip-on sleeves that contain slots for CompactFlash (CF) or PC Card add-ons. PC Cards are a universal standard for laptops, and can transform the iPaq into a presentation device, a network node, or a wireless receiver, or any two at a time. The iPaq also includes a voice recorder, and the memory included in this version is sufficient for using it.

For those who want Windows everywhere, need strong graphics capability, and can handle its additional cost and bulk, the iPaq 3650 beats the Palms hands-down.

System requirements: None.

Compaq Computer Corporation
20555 State Highway 249
Houston, TX 77070
(800) 888-9914
www.compaq.com

On Your Mark

Autodesk OnSite View 2.0

Some architects spend their working hours at desktop PCs running CAD software; others divide their time between the office and the field, or visit their clients and consultants, but don't need to use CAD files. However, more and more practitioners—whether large-firm project managers or small-firm principals—benefit from being able to open, view, and mark up CAD files on the go. These are the folks Autodesk targeted for its OnSite

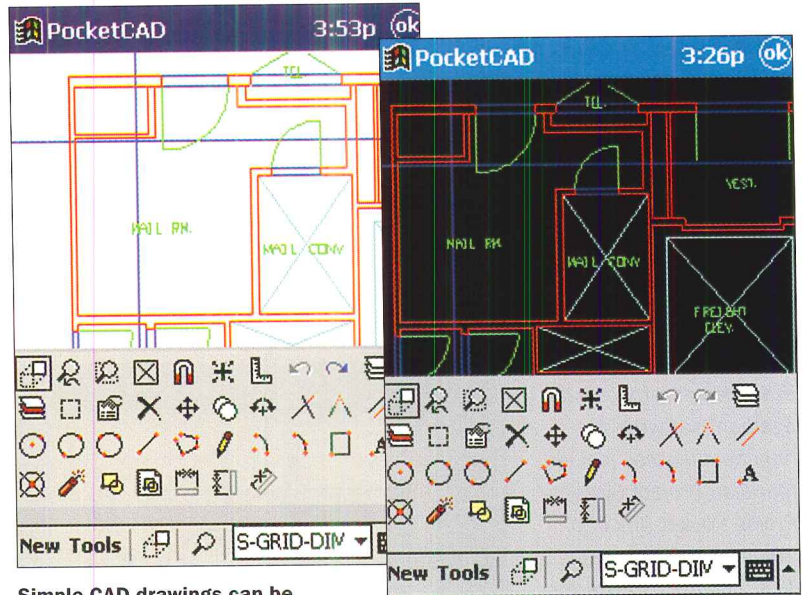
View (OSV) software.

Version 1.0 of OSV (reviewed in ARCHITECTURAL RECORD, September 2000, page 193) delivered basic CAD file manipulations, such as pan and zoom, zoom extents, and toggling layers, and also supported features from Autodesk's Volo View, such as measurement of areas and distances, and simple redlines and annotations. The latest version of OSV coordinates with AutoCAD 2002 and Architectural Desktop 3.3, and adds a number of useful enhancements.

Instead of the previous on-screen toolbars, OSV2.0 uses fly-out menus to maximize the screen area available for viewing drawings. Enhanced markup includes user-definable symbols, which can include imported images—like having a set of custom rubber stamps for annotating drawing files. For hardware that includes recording capability, such as Compaq's iPaq, OSV's audio note function allows users to link dictated voice files to specific locations on a drawing—perfect for construction observation and punchlists.

As a WindowsCE application, OSV2.0 can synchronize with files stored on the Internet, such as at Autodesk's PointA Web site or Buzzsaw's MyFiles or ProjectFolders. Files created using OnSite View are saved in a format called OSD; firms wishing to publish their DWG or DXF files in this format on a server (to provide firm-wide access) can purchase OnSite Enterprise to make the transition possible. Whether used stand-alone or enterprise-wide, OSV offers the best view of CAD, in the office or on the go.

System requirements: Handheld device, such as PocketPC, running WindowsCE2.11 or higher; desktop version of AutoCAD 2000 or higher, or Architectural Desktop 3.0 or higher.



Simple CAD drawings can be created in the field quickly using Arc Second's PocketCAD Pro. The software uses many commands familiar to AutoCAD users.

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

CAD "en plein air"

Arc Second PocketCAD Pro 4.0

Artists from the romantic era onward made much ado about escaping their studios to paint *en plein air* to capture the immediacy of the outdoor experience on canvas. Architects, too, have a long tradition of making field sketches, but rarely attempt precision drafting outside the office. Full-size drawing sheets, boards, and T-squares or parallel rules are not exactly portable. Their digital successors, CAD-capable computers, are desk-bound boxes or clamshell-style notebooks that are unwieldy to use on foot. For those occasions when precisely drawn designs or revisions must be done at the job site or in a client's or contractor's office, PocketCAD Pro 4.0 (PCP4) software on a WindowsCE handheld computer fills the bill.

Given the small screen size, awkward input methods, and limited memory of WindowsCE PocketPC devices, few architects are likely to try creating new drawings from scratch in PCP4. Most architects use the software to edit

existing drawings for as-found or as-built conditions, and to sketch plans from on-site measurements in a compatible digital format. Architects engaged in construction administration, or facility management and operations, may also need to issue original sketches on the spot for integration with record drawing files back in the office.

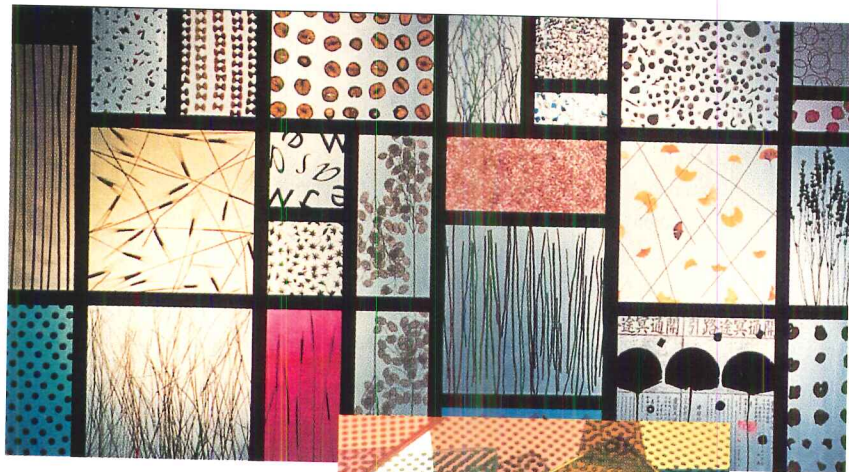
PCP4 is "powered by Autodesk technology," so commands such as move, offset, snap, and so on will be familiar to AutoCAD users. The program can handle files in AutoCAD DWG and DXF formats, as well as Web-compatible DWF files (via a recently released add-on). While PCP4's redline management and markup tools are not as slick as those in Autodesk's OnSite View, some users have a greater need to edit and create drawings than merely to annotate them. For such folks (and you know who you are) PocketCAD Pro is a must-have.

System requirements: Handheld device, such as PocketPC, running WindowsCE2.11 or higher.

Arc Second, Inc.
44880 Falcon Place #100
Dulles, VA 20166
(703) 435-5400
www.pocketcad.com

New Products

The biggest breakthroughs this year in the interior finish category involved ceiling and plastic innovations, as seen below. Manufacturers continue to explore the use of new materials, including flooring made from Palm wood, solid surfacing that looks like glass, and laminates that are both recycled and recyclable. *Rita F. Catinella*



An array of 3-D objects can be embedded in Lumicast (above). Solutia's color system can be customized to match any taste (right).



Colored interlayers and 3-D objects add drama to interior light

Two introductions this year manipulate plastic, glass, and other materials to alter interior light in new ways. Lumicast hand-cast translucent panels from Skyline Design capture embedded 3-D objects (such as rose petals or wheat) in clear polymer that can be lit from the front

or back. Lumicast panels come in 12 standard designs with infinite custom capabilities: bar tops and back bar areas, retail transaction areas, as an inset detail in cabinetry, and in feature walls and light fixtures. Lumicast is offered in a

standard 3/4-inch thickness, but can also be custom fabricated. Available in sizes up to two feet-by-six feet, Lumicast works best in modular or grid format.

Traditionally used as an exterior component in buildings, architectural laminated glass is now seeing increased use in an artistic design option in interior spaces. Currently available in over 600 colors and nine designs, the colored plastic interlayers from Solutia are made with heat and light-stable pigments, instead of dyes, to produce truer colors. 773/278-4660. Skyline Design, Chicago. **CIRCLE 200** 877/674-1233. Solutia Inc., St. Louis. **CIRCLE 201**

Translucent panels among new ceiling options

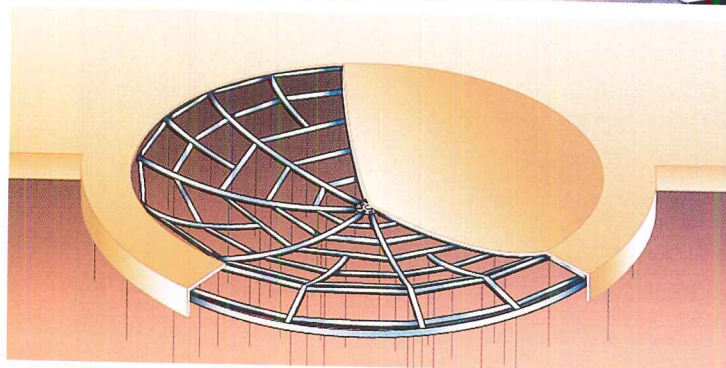
During NeoCon in May, the USG showroom introduced a strong grouping of new products to the ceiling category. Translucents Luminous Infill panels can be integrated with lighting to create a variety of visual effects. The fully accessible translucent panels are available in three finishes: Lexan (either glass-green matte or clear matte) and FRP (natural). The Class A panels accommodate both curved and flat ceiling systems, and can be matched with coordinated suspension ceiling colors.

Another new offering, C² Paired Compásso Channels, are available in four, six, and eight-inch heights, as either straight or curved components. They can be configured to create circles, straightaways, curves, arcs, angles, logos, or symbols. Lighting and signage can be hung or mounted on the channels in

a variety of ways. The channels can be hung from ceilings with hanger wire, cable, or rods.

In addition, the USG Drywall Suspension system now offers a pre-engineered and prefabricated system for designing and building ceiling domes quickly, precisely, and cost effectively. The system utilizes custom interlocking components that eliminate the guesswork of on-site measuring, bending, and cutting. It reduces dome installation costs by as much as 50 percent compared to using traditional black iron and hat channel construction methods. The components are completely integrated for on-site construction. 800/USG-4YOU. USG, Chicago. **CIRCLE 202**

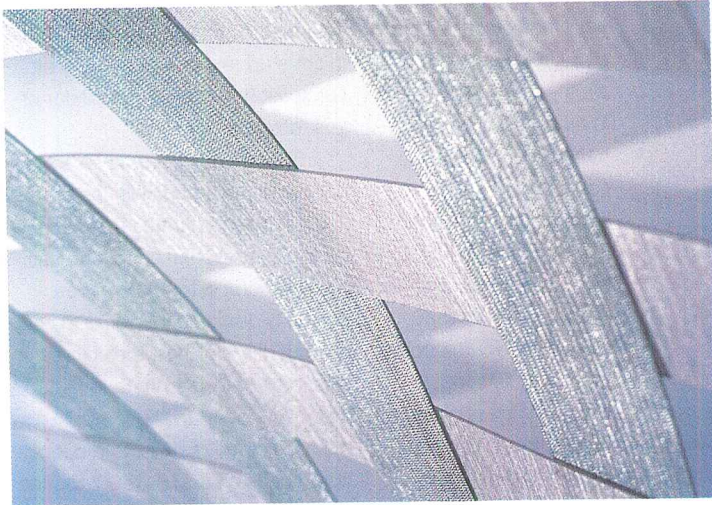
Clockwise: Paired Compásso Channels; curved translucent infill panels; pre-engineered dome system.



New Products

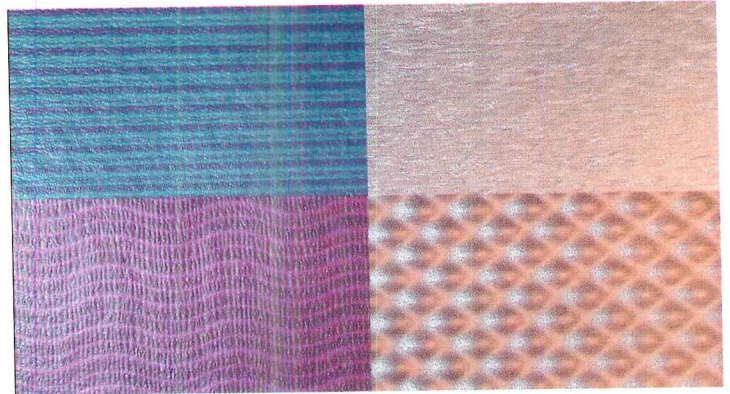
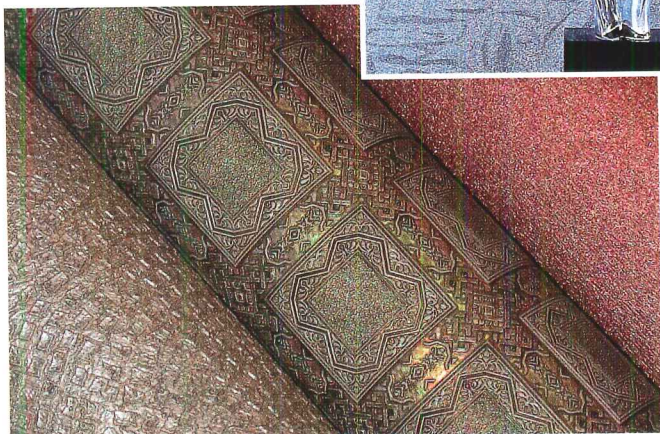
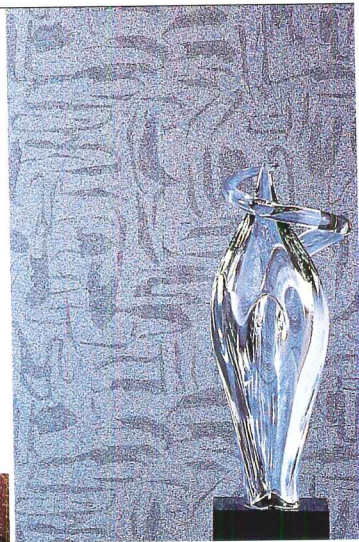
▼ Surface tension

Xorel Surfaces is the first woven hard surface using Carnegie's Xorel textile. Developed exclusively by Carnegie, Xorel Surfaces combines the colors, patterns, and textures of a woven textile with the strength and flexibility of a rigid material. Even though the textile is on the surface, the material can be drilled, cut, bent, tapped into, and heat-draped. Created by thermofusing PETG, a polyester resin, with Xorel, the end result is a durable, cleanable, hard surface with no chlorine content or plasticizers. 516/678-6770. Carnegie, Rockville Centre, N.Y. **CIRCLE 203**



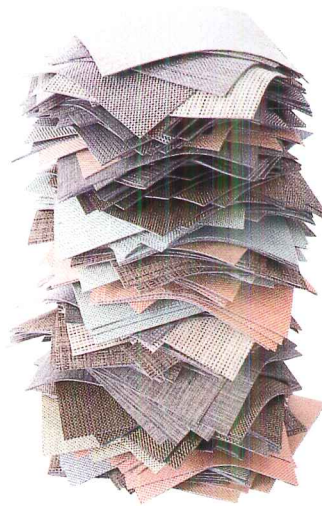
► Covering solutions

At this year's NeoCon, Omnova Solutions offered an array of new wall-covering options. New products include MemErase dry erasable wallcovering product and Wall Power, from Muraspec N.A. (right). Some of the metallic-like products on display from Omnova's Tower Contract division (below from left to right) were Santiago, Marrakech, and Meteor. 330/869-4200. Omnova Solutions Inc., Fairlawn, Ohio. **CIRCLE 205**



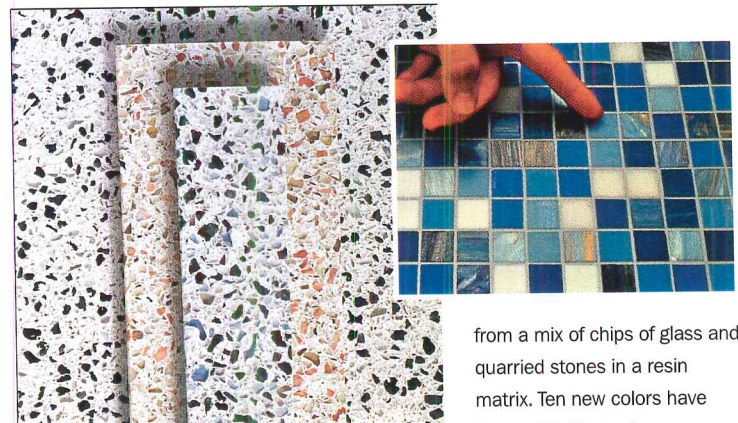
▲ Far out flooring

The new Amtico Colormetrics and Techno styles offer psychedelic color lines and simulated 3-D textures. Colormetrics offers a range of floor tiles in eight "fruit flavors" (Lemon, Cherry, Blueberry, Spearmint, Lime, Raspberry, Plum and Tangerine), with Rib or Wave patterns visible beneath a protective wearlayer. The Techno range offers metallic styles using Amtico's magnetic embossing technique to give the tiles a simulated 3-D effect. 800/268-4260. Amtico International Inc., Atlanta. **CIRCLE 204**



◀ Woven vinyl flooring

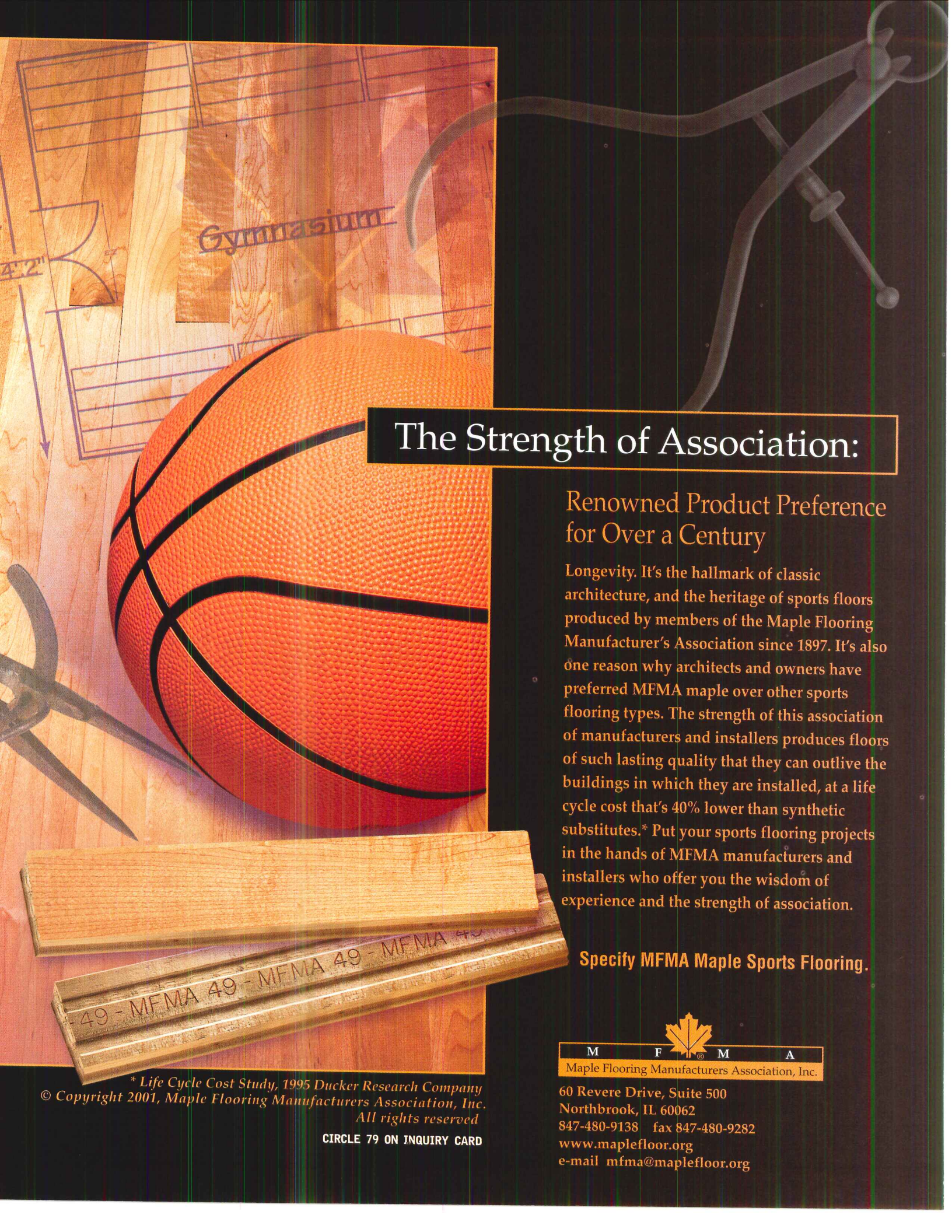
Back in 1997, Sandy Chilewich's award-winning line of fabric RayBowls for the tabletop met with great success. In keeping with her passion for textiles, Chilewich introduces Plynyl, the result of an intensive design and research process to create a woven vinyl floor surface that is washable, flexible, and versatile. Available in tiles, mats, and wall-to-wall, Plynyl is offered in a multitude of weaves, ranging from the natural look of a multi-colored sisal, to the high tech feel of aluminum. 212/679-9204. Chilewich, New York City. **CIRCLE 206**



▲ Check mate

Bisazza's life-size chessboard display at the Coverings trade show in May showed off its mosaic and slab products. Petrae (above left) derives its look

from a mix of chips of glass and quarried stones in a resin matrix. Ten new colors have been added to Le Gemme (above right), the company's proprietary mosaic tiles. The new colors include six shades of blue, two in green, and two in lavender. 305/597-4099. Bisazza N.A., New York City. **CIRCLE 207**



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CIRCLE 79 ON INQUIRY CARD

New Products

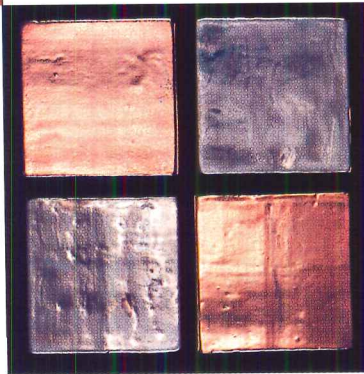


▲ Standing over a palm tree

Palm wood flooring is one of the new products from Smith & Fong Plyboo. The palm wood comes from plantation-grown coconut palms that grow throughout Southeast Asia. After 60 to 80 years these trees stop producing nuts and are usually removed and replaced with new ones. 866/835-9859. Smith & Fong Plyboo, San Francisco. **CIRCLE 208**

▼ Muted metallics

Metallics handmade glaze wall tiles are offered in bronze and pewter. The five-inch-square tiles were created with a muted glaze and deliberately varied to create a subtle activity beneath the metallic finish. The tiles can be used all in one color for a dramatic effect or paired with other non-lustrous tiles. 212/644-2782. Paris Ceramics (USA) Inc., New York City. **CIRCLE 209**

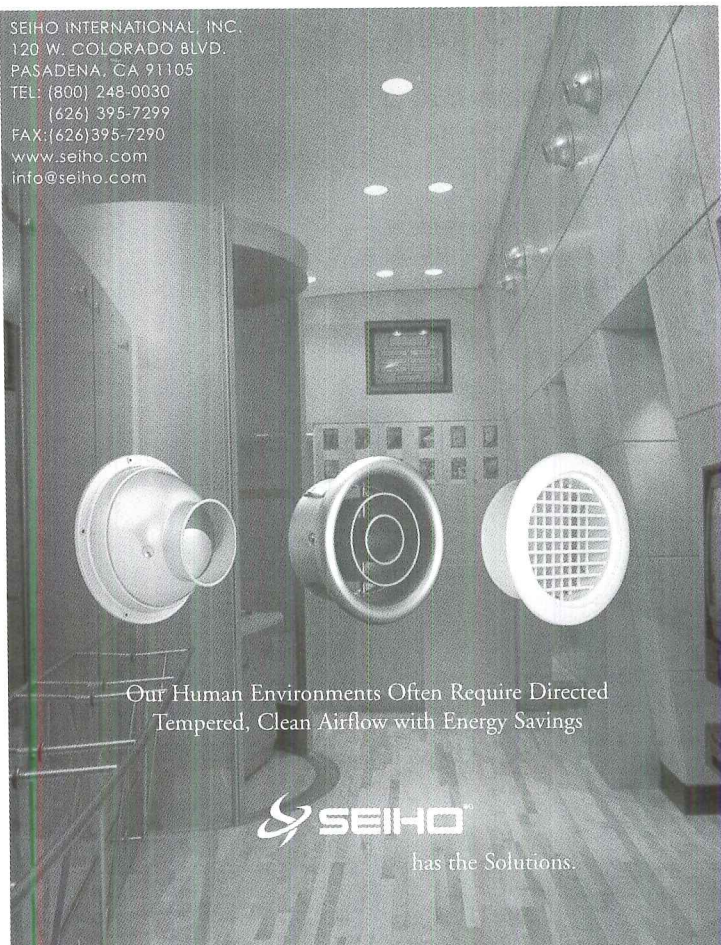


▲ Colorful metal paneling system

Metal laminates by M6Z Designs are specifically created for commercial interiors, and come in over 10 patterns, 16 colors, and four perforation sizes. Suggested applications include column covers, wall panel systems, privacy screens, canopies, and display units. The Google Headquarters (above), designed by Gryphen Architecture, features the metal laminate paneling system in the Clouds pattern with custom color finishes. 510/444-0853. M6Z Designs Inc., Oakland, Calif. **CIRCLE 210**

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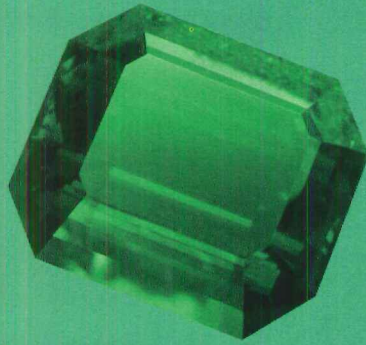
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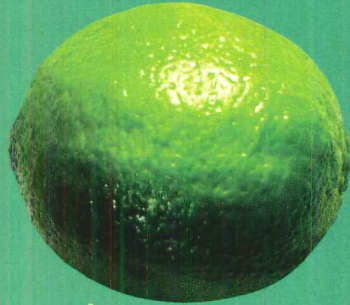
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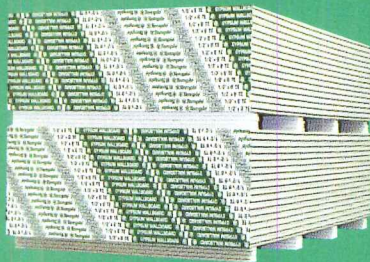
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New Products

▼ Wonder wall

Marlite has redesigned its Marlite Modules decorative wall product, enabling architects to design their own wall grid patterns in a variety of configurations, colors, and finishes. The modules systems are ideal for office, financial, as well as casual dining, quick service, and grocery settings. The system now offers 15 different panel sizes, which can be applied to the wall in an array of patterns. The new finishes include solid color panels, stained particleboard, wood veneers, and an expanded range of faux printed finishes. 330/343-6621. Marlite, Dover, Ohio. **CIRCLE 211**



▲ Turning walls into gold

Innovations has designed overprints on its Eco-Alchemy wallcovering products. The four patterns, Wave, Honeycomb,

Brushstroke, and Coral, are comprised of wood pulp and recyclable polyester. They are printed with water-soluble dyes and contain no heavy metals. Eco-Alchemy prints are breathable, reducing mold and mildew on the wall. The natural wallcovering is 54-inches-wide, and has a Class A flame rating.

They are available in over 30 SKU's in addition to 29 solid colors. 212/807-6300. Innovations in Wallcoverings Inc., New York City. **CIRCLE 212**

► Tree tiles

RealWood Tiles are made from North American hardwood veneers saturated with thermosetting resins. The tiles do not absorb water, and are an alternative to ceramic and other tiles for backsplashes, wall tiles, residential accents, and commercial installations. They come in seven colors and three standard sizes, can be easily cut, and install like ceramic tile. 866/852-2340.

RealWood Tiles, Amherst, N.Y. **CIRCLE 213**



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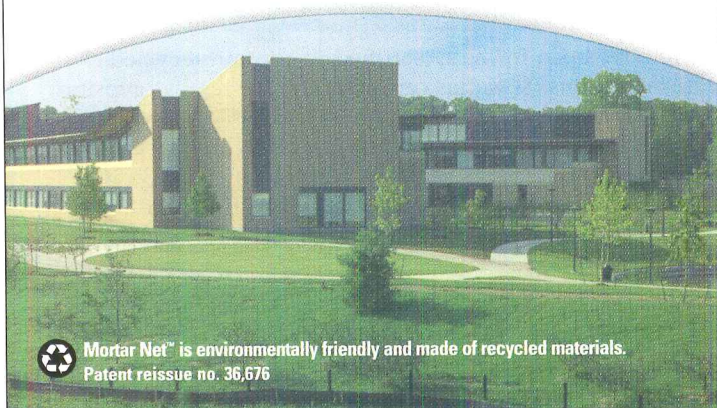
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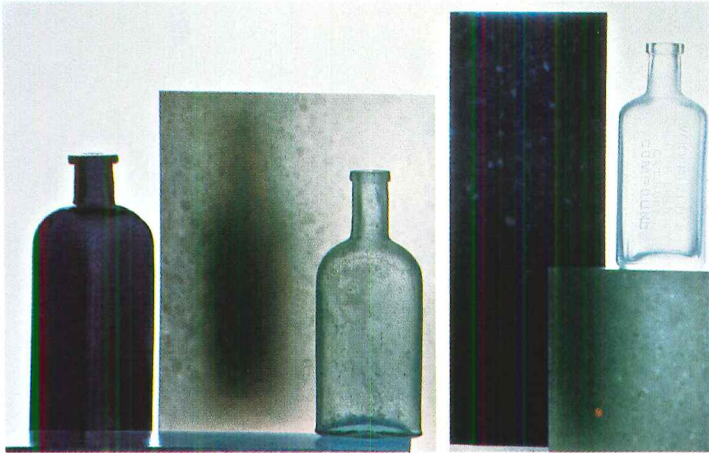


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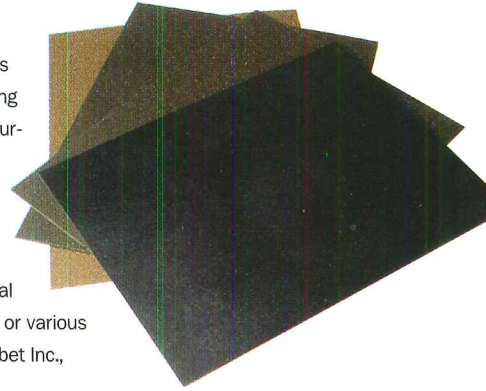


▲ Glazing the surface

The Glass Series is a new formulation of solid surface material developed exclusively by Avonite to resonate the translucency and dimension of natural glass. This translucency makes the Glass Series ideal for a variety of back-lighting techniques. The collection (shown here from left to right) includes Sky Glass, Frosted Glass, Cobalt Glass, and Antique Glass. The result of Avonite's recent creative partnership with designer Lindsay Dakota is a collection of furniture pieces using their products, including a desk design made of products in the Glass Series. 800/428-6648. Avonite, Albuquerque, N.M. **CIRCLE 214**

► I'll be back

Abet Laminati has launched Tefor, its first recyclable and recycled surfacing material. Tefor, an alloy of manufacturing wastes of high pressure laminates and chemically inert polypropylene, can be used for interior applications including retail shelving, backsplashes, and vertical cladding. Tefor is available in black or various natural shades. 800/228-2238. Abet Inc., Englewood, N.J. **CIRCLE 215**



◀ Pearlescent patterns

One of the recently introduced patterns in Nevamar's 2001 collection of high pressure laminates is Blue Shimmer HauteLink, the latest colorway in the HauteLink series. Blue Shimmer HauteLink and the other pearlescent patterns in Nevamar's Hallmark collection are offered in postforming and vertical forming grades in popular sheet sizes. 800/638-4380. Nevamar Decorative Surfaces, Odenton, Md. **CIRCLE 216**

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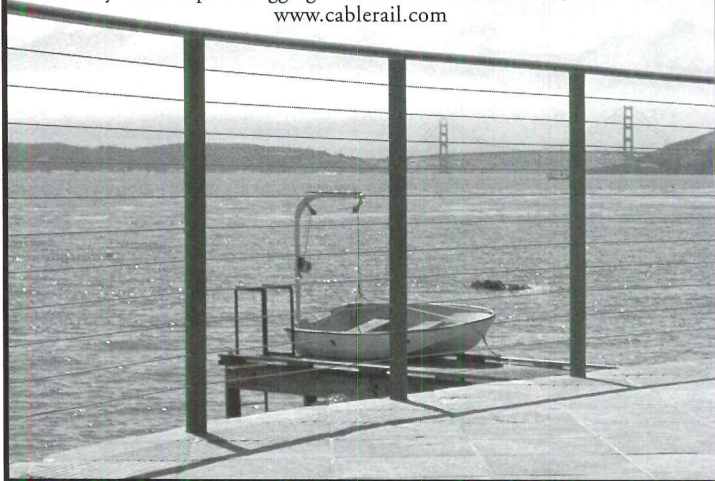
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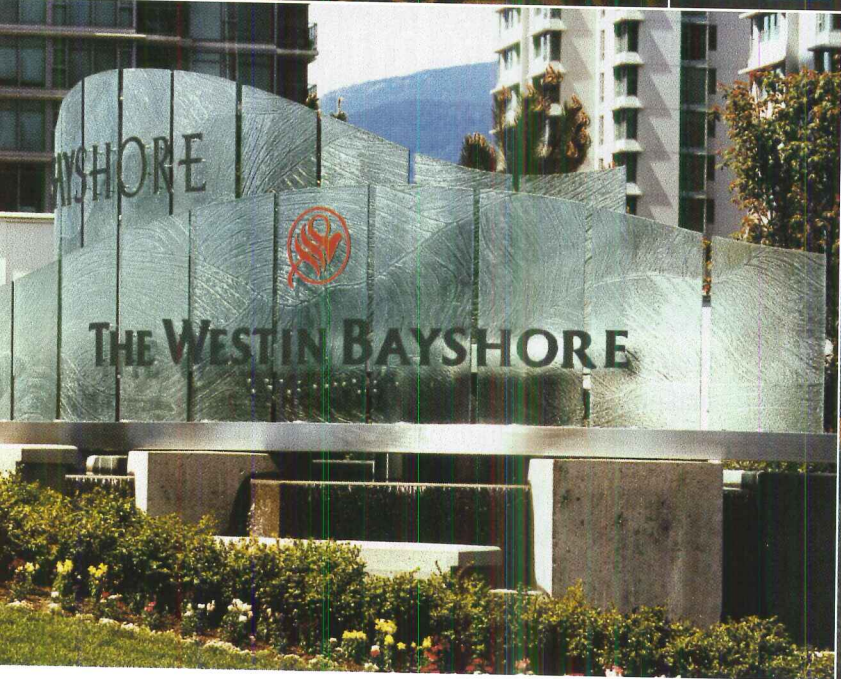
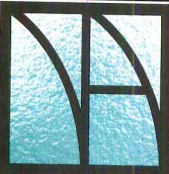
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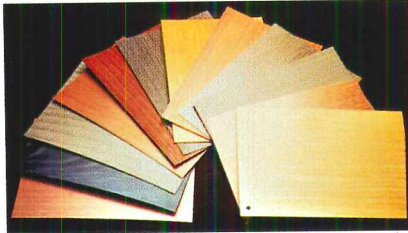
CIRCLE 88 ON INQUIRY CARD

New Products

► Color to dye for

Tabu's line of dyed natural and reconstituted veneers is now available in the U.S. The veneers include hundreds of colors, patterns, and species, and are aniline-dyed using a computer calibrated coloring process. The dyeing process

allows the veneers to retain the characteristics of the wood, while eliminating color variations. Tabu veneers reduce the waste experienced with natural veneers caused by these variations. 866/989-1111. WTP Corporation, Englewood Cliffs, N.J. **CIRCLE 217**



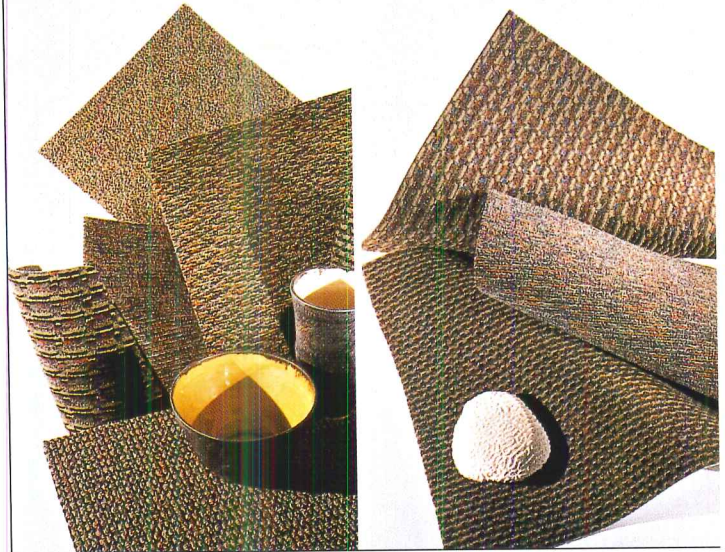
◀ Magnifique metallics

Liri's metal line includes ten textures in sparkling silver, bringing the total number of high pressure laminates to 30. The postforming aluminum surfaces are hammered, corrugated, and polished, sized into four-by-ten sheets, and protected by a lacquering and anodizing process. 888/522-5474. Liri America Corp., Fairfield, N.J.

CIRCLE 218

▼ Carpet collaboration

The Tandem Collection is a new line of modular and broadloom carpet from the Tandus Group companies—C&A Floorcoverings, Monterey Carpet, and Crossley Carpet Mills. The Tandem Collection is a cross-category coordinated collection which utilizes the same color lines for all three brands. The Collection includes three 12-foot broadloom styles and three modular tile and six-foot styles. In addition, Tandus Group has developed a common color palette to help develop other coordinating products. 706/259-9711. C&A Floorcoverings, Dalton, Ga. **CIRCLE 219**

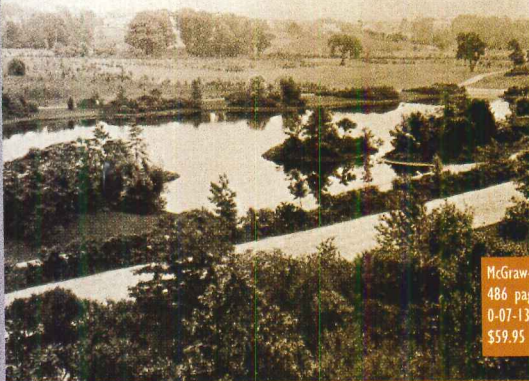


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Product Briefs

▼ Creating your own groove

The Groove lounge seating system, shown here at the Steelcase Wood showroom in Chicago, provides mobile workers with plug and play touchdown locations. It is equipped with a simple "kit of parts" to be configured into lounge seating, ottomans,



shelving units, tables, or docking stations for the home, open office, private office, meeting area, or waiting room. 888/STEELCASE. Steelcase Wood Furniture, Grand Rapids, Mich. **CIRCLE 220**

▼ Hardworking freeloader

Bretford's newest addition to the Free System line of furniture is Freeloader, a mobile, personal storage unit that won two Best of NeoCon awards this year. Designed by Formway Design Studio of New Zealand, Freeloader features a multi-functional work surface, and internal and external shelving, file drawers, pencil trays, and waste bins that can be easily reconfigured by the user without tools. 800/521-9614. Bretford Manufacturing Inc., Franklin Park, Ill. **CIRCLE 222**



▲ Don't look like a tourist

The Profile One Infomast directional system features extruded aluminum profiles fitted with precision stainless steel castings. Available components include informational panels, tables, CPU housings, flat screen displays, and foot rests. Profile One can incorporate a CPU box with computer connections for use as a stand-alone station. 800/553-7722. Cornelius+, Pittsburgh. **CIRCLE 223**

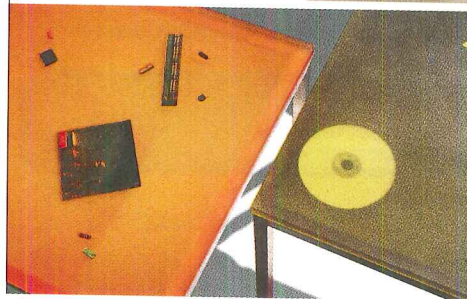
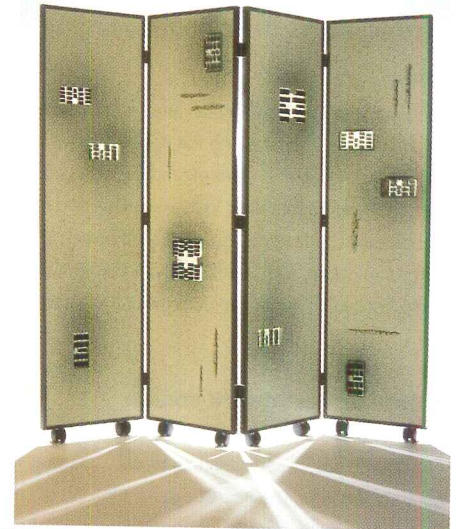


Product of the Month Suspended spaces

Spotted at this year's International Contemporary Furniture Fair in New York, Bernstein Design specializes in the design, fabrication, and installation of "suspended spaces." Stairs, floors, counters, tables, chairs, beds, light fixtures, and even small houses are magically suspended in mid-air, secured only by stainless steel connectors and cables—rigid supports and bracing are not necessary. The Suspended Stair (above left) is made of two-inch-oak treads that also come in glass or metal. Each tread is secured with multiple stainless steel cables, each with a breaking strength of 6100 pounds. This version of the Chair Without Legs (above right) features a seat and back of brushed stainless steel, and cables with a breaking strength of 920 pounds. 312/432-1212. Bernstein Design Inc., Chicago. **CIRCLE 221**

► Intel inside

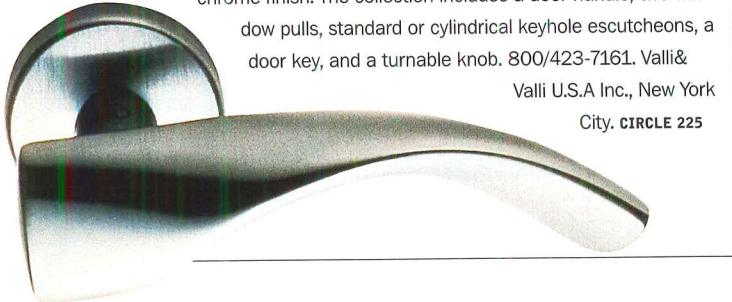
Artist Marcia Stuermer's "bits" line of furniture (below), screens, and hardware, is made of translucent resin, recycled computer components, botanical elements, and/or custom embedments. The Relica product line (right) is made from hand-carved Trupan MDF from sustainable sources and recycled computer circuit boards. 800/941-1935. Fossil Faux Furniture, San Francisco. **CIRCLE 224**



Product Briefs

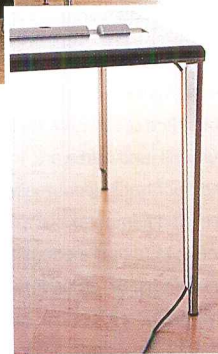
▼ Sinuous hardware

YK Duemila, the latest addition to Valli&Valli's Fusital collection, is a new collection by Yoshimi Kono that highlights the sinuous aesthetic of the lever. Crafted from brass, each piece in the collection is available in a brass, satin brass, or satin chrome finish. The collection includes a door handle, two window pulls, standard or cylindrical keyhole escutcheons, a door key, and a turnable knob. 800/423-7161. Valli&Valli U.S.A Inc., New York City. **CIRCLE 225**



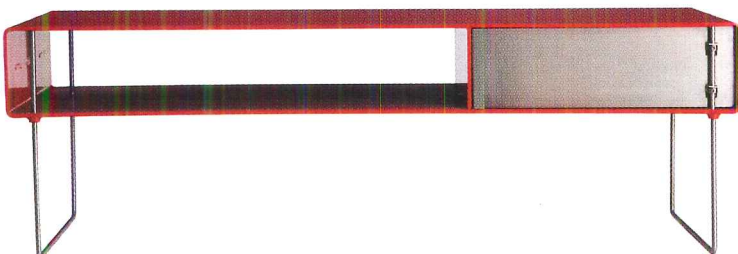
▲ Powerful legs

The Salone Collection offers a variety of power/data solutions, seen here through the desk's elegant parson leg (right). Including a roster of modular casegoods, sectional and freestanding lounge seating, and occasional tables, Salone comes in 12 solid colors, 17 hardwood colors, and three metal finishes. 800/533-1696. Tuohy Furniture Corp., Chatfield, Minn. **CIRCLE 228**



▼ Custom metalwork source

Since 1998, Amuneal has been manufacturing the MetalForms furniture line and has offered custom architectural metalwork, retail fixtures, prototypes, and custom contract furniture. The Axis Cocktail table, one of Amuneal's latest introductions, is formed from two pieces of laser-cut aluminum, which are powder-coated in a variety of colors. 215/535-3000. Amuneal Manufacturing Corp., Philadelphia. **CIRCLE 230**



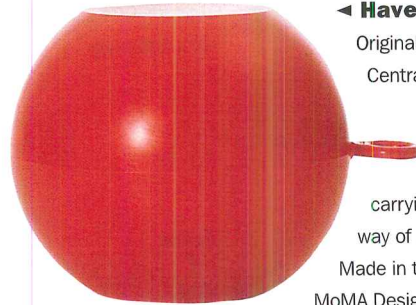
► Ahead of its time

This summer the Avio table system made a cameo appearance in "A.I. Artificial Intelligence," in the office of a futuristic scientist played by William Hurt. Designed by the husband and wife team of Lisa Bottom and John Duvivier, Avio is height-adjustable, comes in rectangular, corner, and curvilinear worksurface shapes, and can support shelves, whiteboards, or tackboards, and overhead storage (in a clamshell design). 800/851-1196. Herman Miller Inc., Zeeland, Mich. **CIRCLE 226**



◀ Have a ball

Originally produced for the garden of the Central Museum of Utrecht, the Skippy portable stool is a versatile seat or side table for indoor or outdoor use. Its open handle, designed for carrying, also makes a good cup holder or way of securing the stool in a public space. Made in the Netherlands. 212/708-9746. The MoMA Design Store, New York City. **CIRCLE 227**



▼ Well managed

The Vista Series for open-space power and communications delivery allows specifiers to incorporate full data/communications and power into any open space. The Series can be used with modular furniture or as a stand-alone wire and cable management system. It consists of two round- or square-end channels that contain wires or cables and support a decorative center panel. 800/621-0049. The Wiremold Co., West Hartford, Conn. **CIRCLE 229**



▲ Hydraulic elevator system

With the introduction of the Schindler 330A, Schindler now offers a complete holeless solution for a wide range of low-rise buildings, including office buildings, retail locations, hotels, hospitals, and more. The new elevator eliminates the below-grade jack-hole, and expands the company's holeless hydraulic offering to low-rise building owners and managers. 973/397-6500. Schindler Elevator Corp., Morristown, N.J. **CIRCLE 231**



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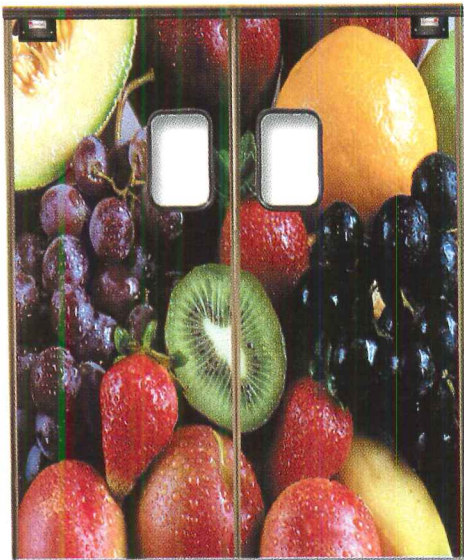
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Product Briefs

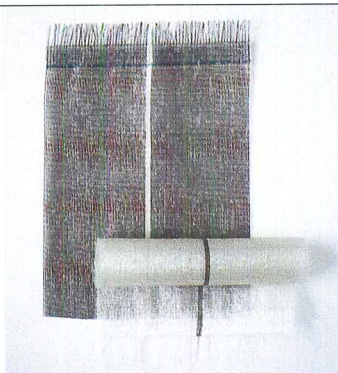


◀ Behind door #1

The InfoDoor concept consists of four door designs: GraphicDoor, AdDoor, PocketDoor, and LogoDoor. The GraphicDoor features a large digital graphic (sample shown), AdDoor is a vendor-provided promotional door, PocketDoor has a crystal clear thermoformed pocket, and LogoDoor incorporates the retailer's name or logo on the door. 800/543-4455. Chase Industries Inc., Cincinnati. **CIRCLE 247**

▶ Keep that carpet in line

The PatternLok carpet foundation system, developed to reduce bow and skew, has been upgraded with a modified yarn component. This provides a smooth and consistent foundation for improved pattern integrity and improved tufting definition, enhancing the overall appearance of the finished product. 706/629-7771. SI Flooring Systems, Calhoun, Ga. **CIRCLE 249**



▲ Rays of light

Raydoor is a space dividing system designed to create private environments in both residential and commercial settings without sacrificing natural

light. Raydoor offers standard and custom panels that can be used as sliding, swinging, folding, or fixed walls, doors, screens, or partitions. The doors are made from sandwiching a layer of acrylic between two bonded frames, making them both strong and lightweight. In contrast to their delicate appearance, the panels

provide sound insulation comparable to that of ¼-inch glass, and work with most available hardware, should security be a priority. 212/421-0641. Raydoor, New York City. **CIRCLE 251**



▲ Flexible collection

The Flex Collection, designed by Brian Kane, consists of a chair with or without a tablet, an ottoman, tables, and an

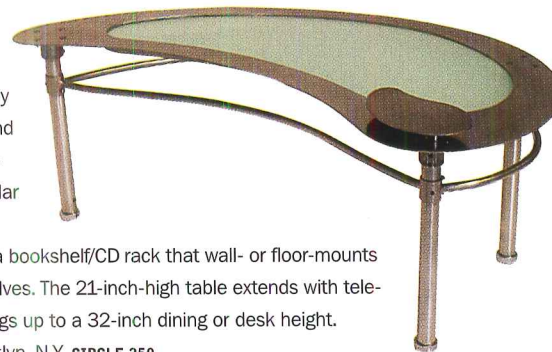
easel. The chair and ottoman frames are made of tubular steel and feature a mesh fabric covering available in black, silver, natural, red, yellow, blue, and green. The chair has a perforated steel platform under the seat for easy access storage. The frames are available in silver and black. Martin Bratrud is currently developing sev-

eral new companion pieces for this collection. 323/770-4171. Martin Bratrud Inc., Gardena, Calif.

CIRCLE 248

▶ Grows with you

Seed, a stainless-steel and glass table designed by Marc Trautrimas for Arc, and manufactured by Vortex, is part of a new line of modular home/office furniture that includes a side table and a bookshelf/CD rack that wall- or floor-mounts with adjustable height shelves. The 21-inch-high table extends with telescoping satin aluminum legs up to a 32-inch dining or desk height. 718/599-3338. Arc, Brooklyn, N.Y. **CIRCLE 250**



▲ Good walls make good neighbors

Village Wall II is a system of mobile, flexible office components that can be tethered to patented wall-mounted rails, offering abundant workspace surfaces and display options, as well as full storage capabilities and cable-management. Created by FM Design in London, Village Wall II can be used in small single person offices, meeting and breakout rooms, or in large open floor plans. Modules work against walls or as back-to-back units, saving space and expense in an open plan by providing their own division. 800/543-5848. Tellus Furniture, A Paoli Company, Orleans, Ind. **CIRCLE 252**

[Case Study No.1328] Product Development

We know that to stay top dog in this business, you've got to create products that people (or their hairy sidekicks) not only need, but love, like this Haws pet fountain. It's been customized with a slow-drain bowl, which allows Rover to get the tennis ball taste out of his mouth fast. At Haws, we don't just make drinking fountains, we make them better.



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Product Briefs

The 13th annual Montreal International Interior Design Show (SIDIM), held in May, was a rendezvous for design professionals in the commercial and residential interior markets. Here are a few products that stood out for beauty or innovation.



▲ Customizing Canadians

Julia Ray and Salvatore Spatafora, principals at Rai Design, divide their work into three categories: custom residential, mass production, and custom corporate. Custom offerings include a 12-piece outdoor furniture collection featuring a material palette of Brazilian mahogany, cast bronze, and black slate. The mass-produced lines include Corr, Spot, and Sport. The Corr line features layers of corrugated cardboard that are laminated and scored (Corr sofa, above left). Available in black or white, Sport (above right) is a foldable, portable chair that secures belongings in a neoprene zipper pocket. 416/694-5157. Rai Design, Toronto. **CIRCLE 232**

► What's Nu?

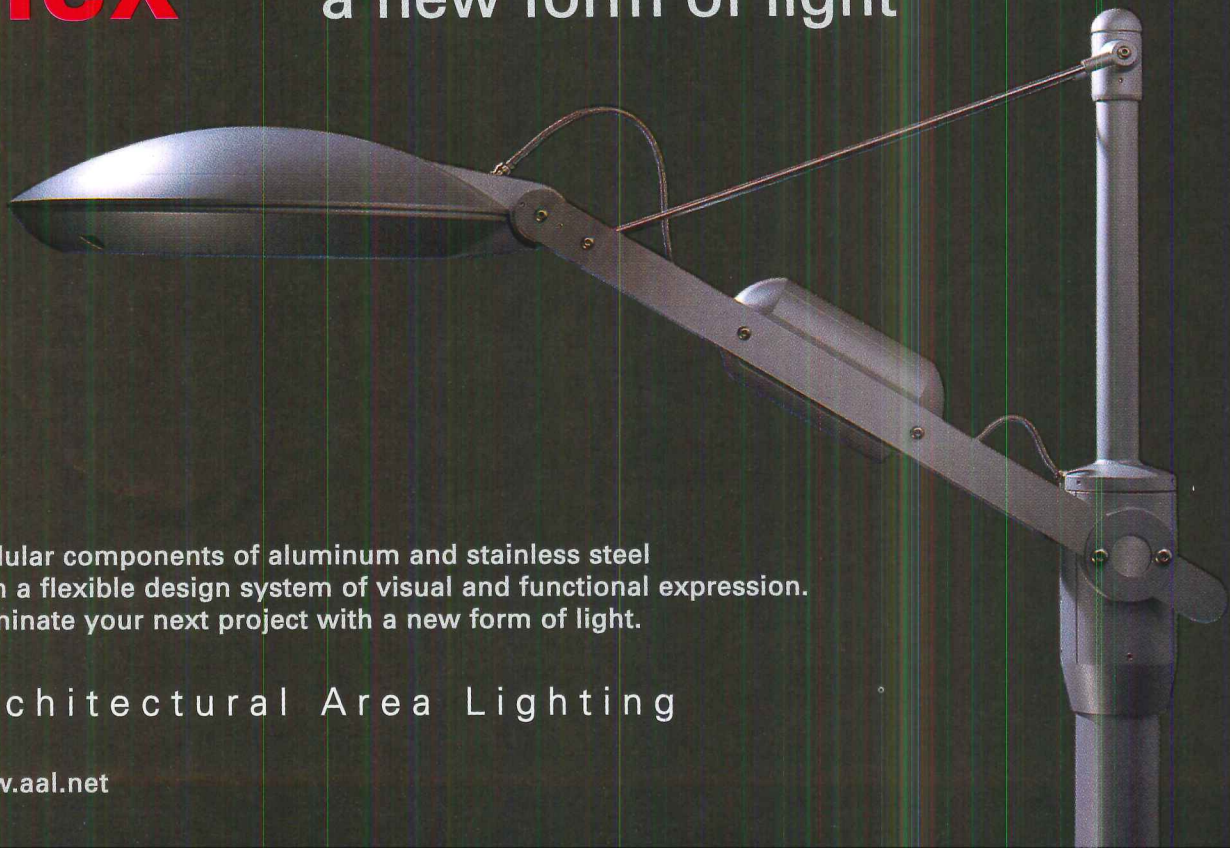
The Nu Collection earned first place in the Residential Furnishings category at SIDIM. The modular units are available in various dimensions, and feature rift cut oak veneer in natural, ceruse (shown), or wengé finish. The rectangular bowl can be recessed or installed to overhang towards the front or towards either side of the unit. The mirror opens to either side to reveal a spacious medicine cabinet. 800/921-9508. Vanico Maronyx, Lachenaie, Quebec. **CIRCLE 233**



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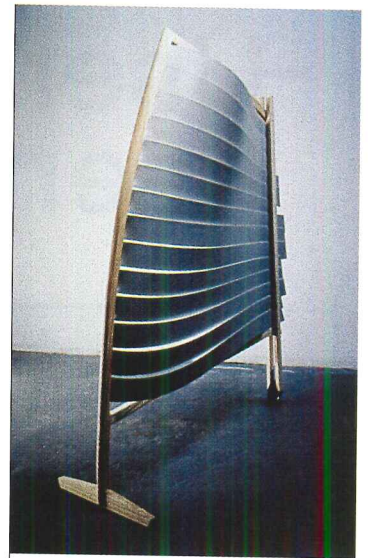


▲ Fit for a king

Although this Zen-style tub looks like a podium bath, it does not require any special construction. Made of finished polyester resin, cedar, and translucent blinds, the tub was designed to give more nobility to the bathroom. Elevated six inches above the ground, the tub requires a small stair. Blinds help it convert to a standing shower. 418/262-3652. Dolce Design, Quebec City, Quebec. **CIRCLE 234**

▼ Fits like a glove

The Box stacking chair, designed by Claude Mauffette and Jean-François Jacques, features an anodized aluminum seat and back that are split in half vertically instead of horizontally to create the "cup" shape essential for centering the body and dividing weight evenly. The chair, not yet in production, will come in five colors and has a 7/8-inch tubular steel structure. 514/939-2494. Claude Mauffette Design Industriel, Montreal. **CIRCLE 235**



▲ Far from monotonous

Monotone designer Pedda Jungmann claims his goal is to find the positive aspect of simplicity through a basic palette of wood, metal, stone and glass. His designs include a coffee table of baltic birch, oak, and aluminum, and a room divider (above) of ash and polyethylene. 416/703-9612. Monotone, Toronto. **CIRCLE 236**

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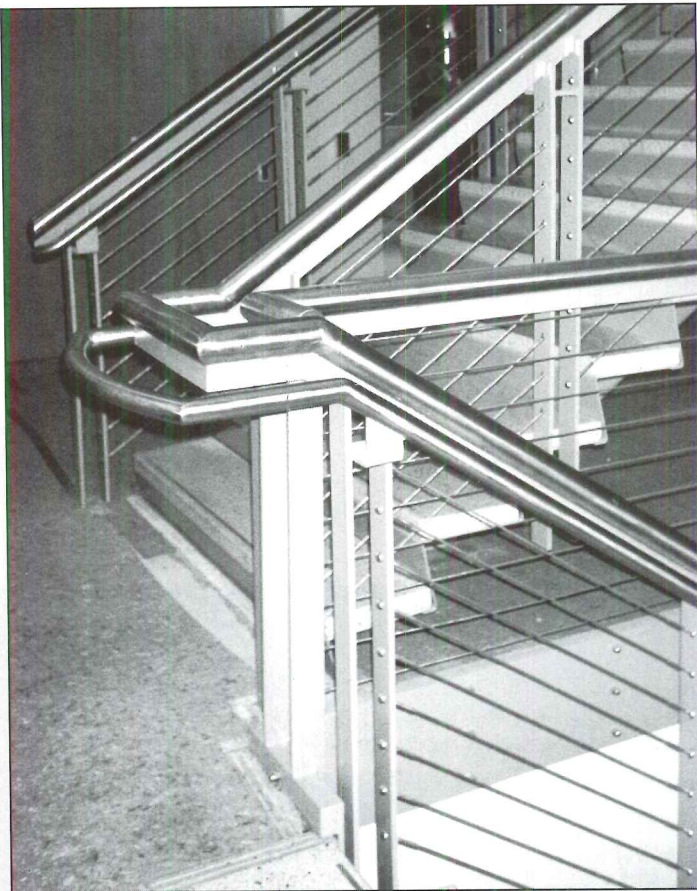
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Product Literature

Laboratory casework

A new brochure highlights Fisher Hamilton's full line of stainless steel casework for laboratories and the product's advantages such as rust-free durability, effective sterilization, and long life. 920/793-1121. Fisher Hamilton LLC, Two Rivers, Wis. **CIRCLE 237**

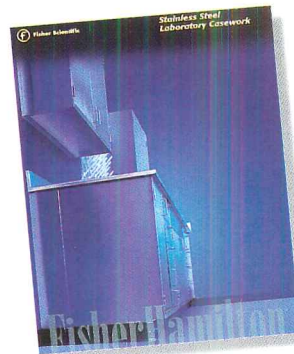
Lighting systems catalog

W.A.C. Lighting Company has introduced a new 80-page catalog featuring five track lighting systems, and low- and line-voltage recessed housings and trims, including a new line of Multiple Recessed Spots in both square- and rectangular-shaped housings. 800/526-2588. City of Industry, Calif.

CIRCLE 238

Aluminum glazing systems

EFCO introduces its updated 40-page product catalog. The catalog features photographs of finished projects, from new construction to historical replication, along with detail drawings and product information for the company's complete line of custom architectural windows, curtain walls, entrances, and storefronts. 800/221-4169. EFCO Corporation, Monett, Mo. **CIRCLE 239**



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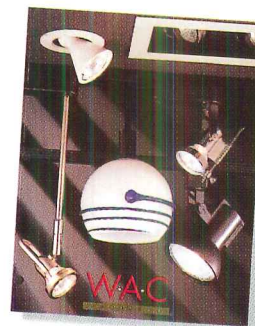
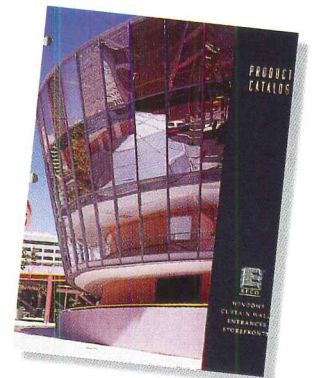
Light roofing and under-roofing product info www.onduline.com

Over 100 photos showing the versatility of stone www.champlainstone.com

Special section for architects offers CAD drawings and detailed window product info www.weathershield.com

Green guide

The publishers of *Environmental Building News* have just issued the second edition of *GreenSpec Directory*. This 362-page guide includes detailed information on more than 1,500 carefully screened products, along with generic guideline specification language, all organized in the industry-standard 16-division CSI MasterSpec system. 800/861-0954. BuildingGreen Inc., Brattleboro, Vt. **CIRCLE 240**



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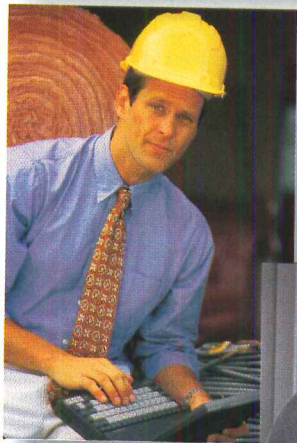
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Product Literature

Raised floor options

The Southern Forest Products Association has published a new brochure explaining the option of building a home with a raised floor foundation. 504/443-4464. Southern Pine Council Kennar, La. **CIRCLE 241**

Door additions

Simpson's free 12-page brochure presents a complete catalog of product photography and product specifications, including images of 35 doors and an assortment of matching sidelights and transoms. 800/952-4057. Simpson Door Company, McCleary, Wash. **CIRCLE 242**

Cabinetry catalog

KraftMaid's new catalog/idea book and new Decorative Molding catalog and idea guide illustrate ideas to personalize kitchens, baths, and other rooms using cabinetry as furniture. The free 96-page catalog and idea book present 71 door style choices and more than 80 room design ideas, separated by wood species. 800/571-1990. Kraftmaid Cabinetry Inc., Middlefield, Ohio. **CIRCLE 243**

Commercial insulation

CertainTeed Corporation is offering a free

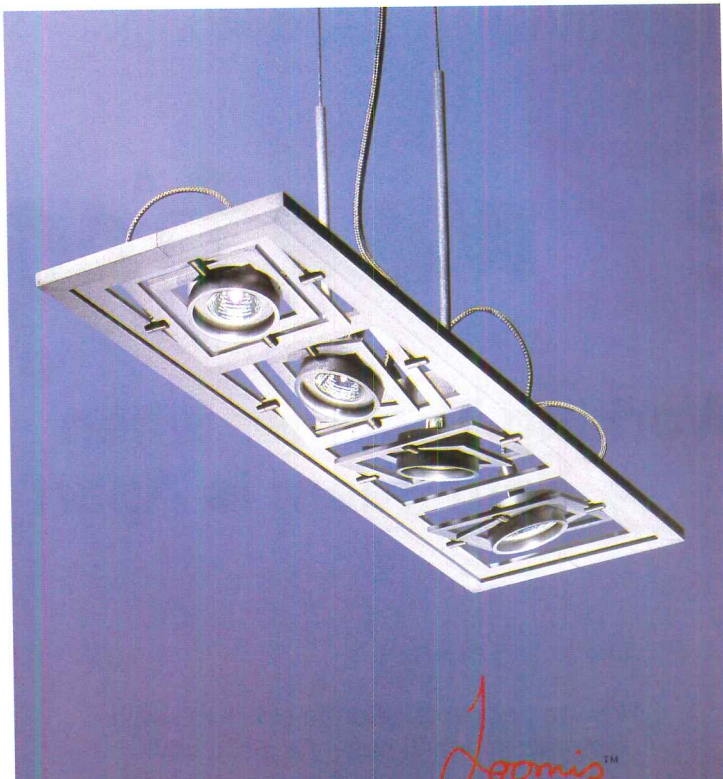
product guide showcasing its CertaPro commercial insulation line. Ten different types of insulation are discussed including fiber glass batts, board, blanket, and blown-in insulation. 800/723-4866. CertainTeed Corporation, Valley Forge, Pa. **CIRCLE 244**

Classic CAD

New England Classic announces a collection of to-the-trade CAD design software. These new offerings include the *New England Classic "Classic Design Assistant"* as well as recent upgrades to industry standard design software, *Chief Architect* and *Planit Autograph*. 888/880-6324. New England Classic Inc., Portland, Maine. **CIRCLE 245**

Wind design guide

SPRI, the sheet membrane and component suppliers to the commercial roofing industry, has announced a new version of its "Wind Design Guide for Low-Sloped Flexible Membrane Roofing Systems." Currently revised and updated, SPRI's easy-to-use wind design guide incorporates the most recent data from ASCE-7-98 wind speed tables. 781/444-0242. SPRI, Needham, Mass. **CIRCLE 246**



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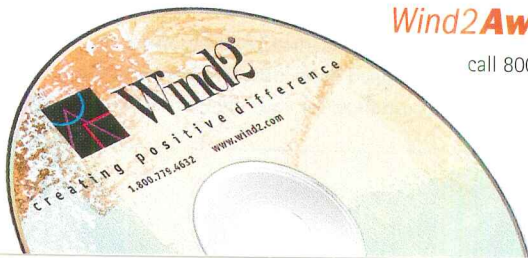


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GYPSON CONCRETE FLOOR UNDERLAYMENTS ARE STRONGER THAN EVER

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Answers to Continuing Education Questions from Page 179

1. Gypsum concrete underlayments are lightweight, high-strength products that apply quickly and cost-effectively. They can be used in commercial, institutional, residential and renovation applications. For renovation applications, they are an ideal leveling or resurfacing material and can be applied from featheredge to 3-inch thicknesses. Gypsum concrete underlayments bond strongly and require minimal surface preparation, while delivering excellent sound control properties and fire resistance. The products set quickly, allowing foot traffic within two hours and continued construction activities the next day. They can withstand heavy construction without powdering, dusting, chipping or cracking.
2. The most important consideration when specifying gypsum concrete underlayments is to select a product that meets or exceeds minimum compressive strength requirements. Due to variables in raw materials and design mix, it is advisable to specify a higher-strength product rather than one that just meets minimum requirements. Specifiers should also insist on working only with licensed and trained gypsum concrete underlayment applicators. The building interior must be enclosed and a temperature of at least 50 degrees F must be maintained during and after installation. For full application thicknesses, gypsum concrete underlayments should be applied a minimum 3/4 inch thick over wood framing and typically 3/8 inch to 1/2 inch thick over plank or poured-in-place concrete. After the floor has dried, it should be sealed using a manufacturer-approved sealer to minimize dusting when glued-down floor finishes will be applied.
3. On-site design mix is a key consideration because it can impact gypsum concrete underlayment performance and application. High-performance gypsum concrete underlayments utilize low-water-demand gypsum cement formulations. When these products are overwatered, the floor strength diminishes significantly. Overwatering also frequently produces a chalky surface film that negatively impacts the adhesion of glued-down floor finishes. Another consideration is the quantity and quality of sand that is added to the mix. Oversanding, like overwatering, diminishes the strength of the floor. Likewise, the type of sand used impacts performance. A clean, sharp, properly graded sand aggregate (per ASTM C33), commonly referred to as plaster or masonry sand, is recommended for most applications.
4. Poured gypsum underlayment is ideal for multifamily housing for several reasons. First, it provides excellent fire resistance. Gypsum concrete underlayment assemblies offer UL-certified fire ratings up to two hours. Second, poured gypsum is excellent for sound control since it fills cracks and joints as it is poured, stopping a major source of sound transmission. Third, poured gypsum concrete underlayment is thin and lightweight. Finally, the underlayment accepts almost any type of finished floor covering, including vinyl composition tile, ceramic tile, wood laminate, glued-down hardwood and carpeting.
5. Gypsum concrete underlayment has many benefits compared to portland cement-based products. A gypsum floor underlayment is usually ready for the application of finish materials within five to seven days. Portland cement products require at least 30 days before floor finish materials can be applied. They also shrink as they dry, which can result in cracks. Gypsum concrete underlayment does not crack, and effectively fills cracks and joints in the existing floor surface. Poured gypsum concrete underlayment also requires minimal surface preparation and can be applied from featheredge to 3-inch thicknesses. Up to 30,000 sq. ft. of gypsum concrete underlayment (3/4 inch thick) can be applied in a single day.

SENSOR TECHNOLOGY BRINGS INNOVATIVE SOLUTIONS TO BATHROOM DESIGN

Using Electronic Plumbing Products to Enhance Public Restroom Facilities.

Sponsored by Sloan Valve Company

Answers to Continuing Education Questions from Page 185

1. The most important reason for using plumbing sensors is to keep a restroom hygienic. When people touch a faucet to turn it on, bacteria and communicable diseases can be spread to other people who also touch it. Installing touch free faucets and flush valves with sensors to turn them on greatly reduces the transmission of bacteria and disease.
2. Odors in restrooms often are the result of toilets or urinals not being flushed after use. Sensor flushing devices flush the waste after each use, thereby eliminating standing urine and waste in the plumbing fixture and their odors.
3. When plumbing sensors are installed on faucets, the water runs only as long as the sensor light is reflected back to the sensor. Once the hands are removed from the faucet area the water turns off. In high use areas this reduces a lot of water being used while people are reaching for soap, scrubbing their hands, or reaching for paper towels. To keep overruns from occurring by the sensor not turning off, a maximum run time should be incorporated into the faucet.
4. Battery operated sensor valves and faucets allow for easier and more cost effective installation. They are most appropriate when the building must be retro-fit, battery changing maintenance is easy to address, and when the use is light to moderate such as in an office building or restaurant. Hard wired sensors require the work of both an electrician and a plumber. They are best for high use, multiple fixture, new settings where they can be wired once with little maintenance, such as a stadium or airport.
5. The cause of most problems with sensor plumbing products identified by the manufacturers is poor installation. Although the installation is not difficult, it is different from manually operated devices. They must be installed and adjusted according to the manufacturers requirements. A problem that can occur with sensor products is interference from high intensity lights. This is controlled by specifying blocking electronic circuits. Another problem could be physical abuse or vandalism. People will try to turn a knob on a faucet to turn it on. Therefore faucets need to be secure on the sink and should have an anti-rotation device. Faucets also need a maximum run time to prevent vandals from blocking the sensor shut off. Timing delays should be incorporated into the sensor circuitry to help prevent false flushing from movement in a toilet stall.
6. ADA guidelines dictate the amount of force required to activate a faucet or flush valve, and have strict definitions for the size, positioning and design of plumbing products and their activators. Sensor plumbing products meet these ADA requirements for handicapped users. Since they are also designed for other users, a single product meets the needs of the full user population, eliminating the need for different products for each segment of the population.

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ANSWERS TO: "PUBLIC MUSINGS ON ACOUSTICAL PRIVACY"

Questions appear on page 172. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. "A" is for absorbing mid-range frequency sounds by using a ceiling system with a satisfactory noise reduction coefficient (NRC) to prevent speech from bouncing off the ceiling from one cubicle to another. "B" is for blocking sound by using partitions of sufficient height and sound transmission class (STC) to block speech, preventing direct passage of sound into adjacent workstations. "C" is for covering unwanted sound by using sound masking to decrease the signal-to-noise ratio.
2. For acoustical privacy, partitions should be higher than the head height of personnel sitting or standing in adjacent workstations. However, lower partitions may be required for visibility and to enable communication among individuals engaged in collaborative work. Ultimately, though, workers need to direct their voices into acoustical panels when possible so that the panels can absorb sound effectively.
3. The ceiling is the largest surface in an open office, so it plays an

important role both visually and acoustically. A high NRC is required both to reduce ambient noise levels and to enhance speech privacy by preventing sound from reflecting from one cubicle to an adjacent one. Aesthetically, designers are exploring new dimensions and configurations to avoid the monotony of a large, flat, 2 x 4-foot grid.

4. While the whoosh of air from an air distribution system can contribute background noise for sound masking, increased reliance on variable volume air distribution systems means that supplemental sound masking systems may be required for times when the air distribution system is shut off. High-pitched hissing sounds or the opening or closing of valves can also be distracting; locating ductwork above a suspended ceiling can help distribute any noise, lessening its potential to become a distraction. Ductwork entering enclosed rooms needs to be treated to prevent the transmission of speech from one side of a wall to the other.
5. Many designers have begun to use perforated metal panels in open-plan offices because they can be fabricated in a wide range of shapes and configurations, which increase ceiling design options. Although metal panels don't block sound, new non-woven fabric insulations make it simpler to install acoustical insulation in a metal panel. Using these two materials in combination can lead to satisfactory acoustical performance in large, open spaces.



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- "Public Musings On Acoustical Privacy" [page 163]
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- "Sensor Technology Brings Innovative Solutions To Bathroom Design" [page 181]. Section sponsored by Sloan Valve Company.

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FACULTY POSITIONS

MASSACHUSETTS INSTITUTE OF TECHNOLOGY DEPARTMENT OF ARCHITECTURE

The Department of Architecture at MIT announces a search for one tenure-track position in architectural design at the level of assistant or associate professor. Evolving with a strong humanist bias and an ethos of entrepreneurialism, MIT's department of Architecture is explicitly committed to excellence in both pedagogical and research activities. Believing that the cross-current between the two creates a charged atmosphere for study and a critical edge for research, we are seeking candidates with an ability to thrive within this context. Primary criteria for the position are proven excellence in the teaching of design studios and strong promise of significant creative achievement in the field through the application of computer methodologies to design research, theoretical practice, professional practice, or a combination thereof. We seek candidates who can demonstrate an ability to work at the forefront of this research and to advance such inquiry within the department - especially within the studio sequence. Also desirable is the ability to link this area of inquiry with other areas of research within the department, such as sustainability, material innovation and assemblies, or contemporary theory. We also expect the character and energy to participate in the intellectual life of the department, readiness to teach at all levels of the studio program, and the aptitude to participate in research programs that engage colleagues and students at both the professional and post-professional degree levels. Initial screening will be conducted on the basis of: letter of interest that includes a list of possible references, curriculum vitae, and a ten page non-returnable portfolio of design work. We will begin reviewing applications in early December and continue until the position is filled. Please send all materials to: Chair, Design Search Committee, Department of Architecture, Room 10-491M, MIT, 77 Massachusetts Avenue, Cambridge, MA 02139, Fax: 617-253-9407. MIT is an equal opportunity/affirmative action institution. Women and minority candidates are strongly encouraged to apply.

UNIVERSITY OF OREGON DEPARTMENT OF ARCHITECTURE

The Department of Architecture at the University of Oregon seeks thoughtful, skillful, and effective faculty members for a number of positions ranging from post-graduate fellow to distinguished professor. Successful applicants must be able to demonstrate the promise of effective and inspiring teaching in architectural design studios and specific subject area courses. Fellowship in Architectural Design + Structures: The Department is seeking post-graduate and/or professional candidates with an interest in developing a career in teaching. The design fellowship offers the opportunity to gain experience in studio instruction and to develop an area of subject course specialization. This year the search for fellows will focus on candidates who wish to address the synthesis of structure and architecture and have a strong interest in helping students learn to integrate structural principles into architectural design. Expectations include co-teaching one or two of the large enrollment, required structures courses, design studios, and one exploratory elective, with a total of four course assignments distributed over three ten week terms. In addition, fellows are

expected to pursue a program of research, scholarship or creative practice which, with the advice and mentoring of senior faculty, can become the foundation of a sustained inquiry into emerging issues in the field. Fellows are expected to spend one year in residence at the University of Oregon. Architectural Design + Structures: The Department is seeking candidates for a tenure-track position in architectural design and structures who address the synthesis of structure and architecture in their teaching, research and/or creative work and have a strong interest in helping students learn to integrate structural principals into architectural design. Candidates are expected to have well-defined research, scholarship, or creative practice interests with a commitment to sustained inquiry into emerging issues in the field. They must be proficient at nurturing creative inquiry by students, promoting integrative design exploration in both subject area classes and studios. This position involves teaching required courses in the one-year structures sequence and architectural design studios at the graduate and undergraduate levels. The normal teaching load will be five courses per academic year, distributed over three 10-week terms. Expectations for this position includes co-teaching one or two of the required structures courses each year, design studios, and the opportunity for one advanced elective as part of the annual, five course rotation. In addition to these appointments, we are seeking a pool of applicants for two one-term distinguished visiting professor positions: Frederick Charles Baker Chair in Architectural Design. The Baker Chair is an endowed chair with a special focus on the study of light and lighting as a phenomenon in architectural design. Pietro Belluschi Distinguished Visiting Professor in Architectural Design. Belluschi professors are prominent architects and architectural educators who will bring true distinction and unique opportunities to the University of Oregon. Qualifications: 1. For all positions, an accredited Master of Architecture degree is required, or a B.Arch and graduate degree in an associated discipline. 2. Fellows and tenure-track candidates must demonstrate the potential to engage integrative research, scholarship and/or creative work, and disseminate the results. 3. For tenure-track and senior positions, previous teaching experience is desired. 4. Professional experience in architecture or a related field is an asset. Application process: Full descriptions of the individual positions, and the specific application requirements for each, can be obtained by visiting our web site: (<http://architecture.uoregon.edu/people>). Review of applications for the fellowship and tenure track positions will begin November 1, 2001 and continue until the best available candidates are identified. Appointments to the distinguished professorships are made from a continuing pool of candidates, with an annual review of that pool which begins on November 1. Interested parties are urged to contact the department as soon as possible. Complete applications and /or inquiries should be addressed to: Nancy McNaught, Office Manager, Faculty Search Committee, Department of Architecture, School of Architecture and Allied Arts, University of Oregon Eugene, Oregon 97403-1206, tel: 541-346-1435; fax: 541-346-3626; e-mail: mчнаught@darkwing.uoregon.edu The University of Oregon is an equal opportunity, affirmative action institution committed to cultural diversity and compliance with the Americans with Disabilities Act. Women and minorities are encouraged to apply.

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SCHOOL OF ARCHITECTURE

UNIVERSITY OF ARKANSAS, FAYETTEVILLE

The Position: The School of Architecture is seeking a scholar or leading professional of national stature in architecture or landscape architecture for Dean at the University of Arkansas, Fayetteville. The School: The School of Architecture houses the state's only accredited five-year professional programs. The school awards a Bachelor of Architecture, a Bachelor of Landscape Architecture, and a non-accredited four-year Bachelor of Science in Architectural Studies. Each student in the Department of Architecture is required to complete an in-residence study program in either Rome or Mexico City. Students of Landscape Architecture are required to participate in the department's program in Bath, England. Responsibilities include administration of four units: the Architecture Department, the Landscape Architecture Department, the Garvan Woodland Gardens, and the University of Arkansas Community Design Center. The School has approximately 300 students, 27 full or part-time faculty, and 14 staff. The Dean serves in the capacity of oversight of the four units and reports to the Provost of the University. The Dean of Architecture sits as a non-voting member of the State Board of Architects and is on the State Board of the Architecture Association. Desired Attributes: Awareness of the profession and vision for its future; Ability to cultivate innovation and excellence in teaching, scholarship, research and creative work; A commitment to shared decision-making and team building within a multidisciplinary environment; A proven capacity for effective teaching and academic administration; A nationally recognized record of accomplishment in scholarship, research, and practice in the field of architecture; Willingness to participate in the University's forthcoming capital campaign; A commitment to external relations. Qualifications: Candidates should hold a terminal degree in architecture or landscape architecture or a related field and must be qualified for tenure; Candidates must be a registered architect or landscape architect. University and Community: Established in 1871, the University's vision is to be a nationally competitive, student-centered research university serving Arkansas and the world. Fayetteville is located in the northwest corner of Arkansas, among the rivers, plateaus, and valleys of the Ozark Mountains. The city has a population of 60,000, including 15,000 students. The Northwest Arkansas region, which has a strong economy and is growing steadily, has 350,000 inhabitants and is home to several major national and international businesses. Little Rock, Tulsa, Dallas, Kansas City, and St. Louis are within a six-hour drive or less. To become a candidate, please submit a letter of application expressing your interest and view of this position, including a statement of your educational philosophy and how you envision the role of dean. Also send a curriculum vitae and the names, addresses and telephone numbers of five references to: Dean Randall B. Woods, Fulbright College of Arts and Sciences, 525 Old Main, University of Arkansas, Fayetteville, AR 72701. Consideration of applications will begin on September 30, 2001; however, applications will be considered until the position is filled. The appointment will begin July 1, 2002. The University of Arkansas is an Affirmative Action/ Equal Opportunity Employer and applications will be accepted without regard to age, race, color, sex, or national origin. Applicants must have proof of legal authority to work in the United States.



Pascale Girardin: Ceramics and the city

Interviewed by Ingrid Whitehead

The work of ceramic artist Pascale Girardin shows up again and again in the fabric of Montreal's commercial interiors. Handmade dishware, lighting, installations, accessories, wall tiles, and porcelain curtains are some of the elements that architects and interior designers (such as Canadian designer Jean-Pierre Viau) have discovered add a certain "je ne sais quoi" to their designs. After winning several Canadian art awards and grants, Girardin is now branching out from her native Montreal: You can eat off her dishware at the Japanese restaurant Nobu in New York and Las Vegas or pick up a set at Manhattan's upscale housewares shop Felissimo. She spoke to RECORD from her Montreal studio.

Q: *What is it about working with clay that appeals to you?* Clay can be shaped into simple, irregular organic forms which require the viewer to be still and attentive. As long as my mind can't fully get around a shape, I'm satisfied. Clay allows me that. I try not to be too attached to the end result, but the creative process. I can't be that attached; after all, 20 to 25% of the work is lost—warped, cracked, or ruined by firing problems. You learn to accept that and not put so much into how the pieces end up.

What brought you to ceramics in the first place? I thought I'd become a mycologist, as I was interested in biology. I also painted for 13 years, and played classical guitar. But after taking a course in pottery I never looked back. Also, I was highly influenced by Quebec artisans such as Maurice Savoie, Jean Cartier, and Jordi Bonet.

How do you collaborate with architects? What are the architects looking for when they come to you? The architects and interior designers I've been working with are looking for unusual textures or forms to integrate with their designs. For example, the project I'm working on now with Jean-Pierre Viau incorporates 15,000 suspended clay elements strung on 300 strings. These will act as curtains for four windows that are 10 feet high and 9 feet wide. It's for a restaurant called Lychee. It's time-consuming work, and very much a craft. When it's finished, the work will not impose itself on the design, but will quietly give the room warmth and softness. I've also created room separators for Quadrangle Architects in Toronto, for the Grey Advertising offices there.

As a craftsperson, what scale do you prefer to work in? It's an evolution. Right now my vision includes working with architects to create larger-scale projects. I'd love to do a fountain. I love exploring the boundaries and the possibilities; redefining the limits of the material.

What about functional objects vs. art? Everything has a function, so I don't think art falls in a separate category.

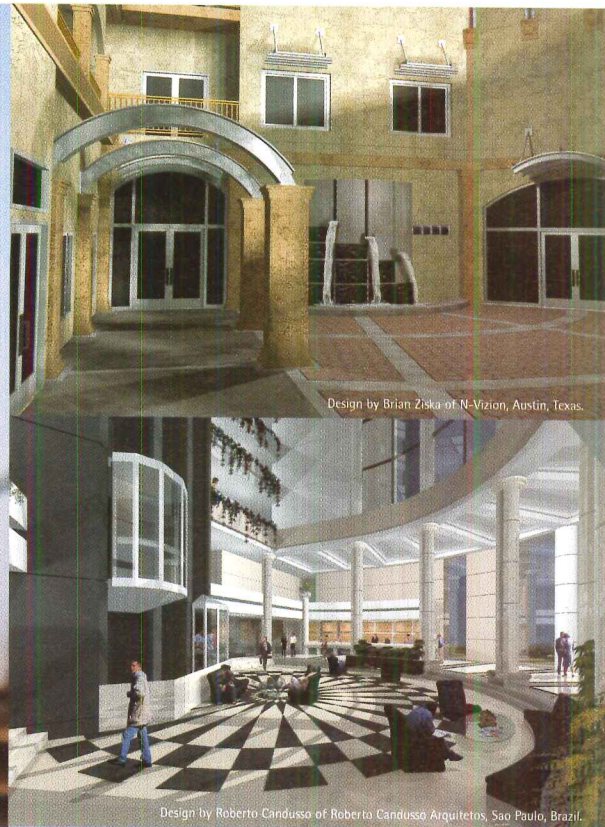
Clay, as a material seems so vulnerable, and so subject to your will. Do you see it as such? My approach to clay is like any other creative endeavor—I use what I know but count on chance, accidents, and mishaps to redirect me. There is a certain flexibility that is necessary to working with the material. Although, I do have a sense of certainty when I work. It's a feeling of confidence that I will make, within the boundaries given to me, something completely one-of-a-kind and authentic.

Photograph by Frédéric Le Paumier

For more information about Girardin and her work, go to allshookup.com/girardin

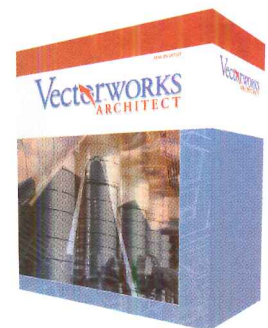
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