

ARCHITECTURAL RECORD

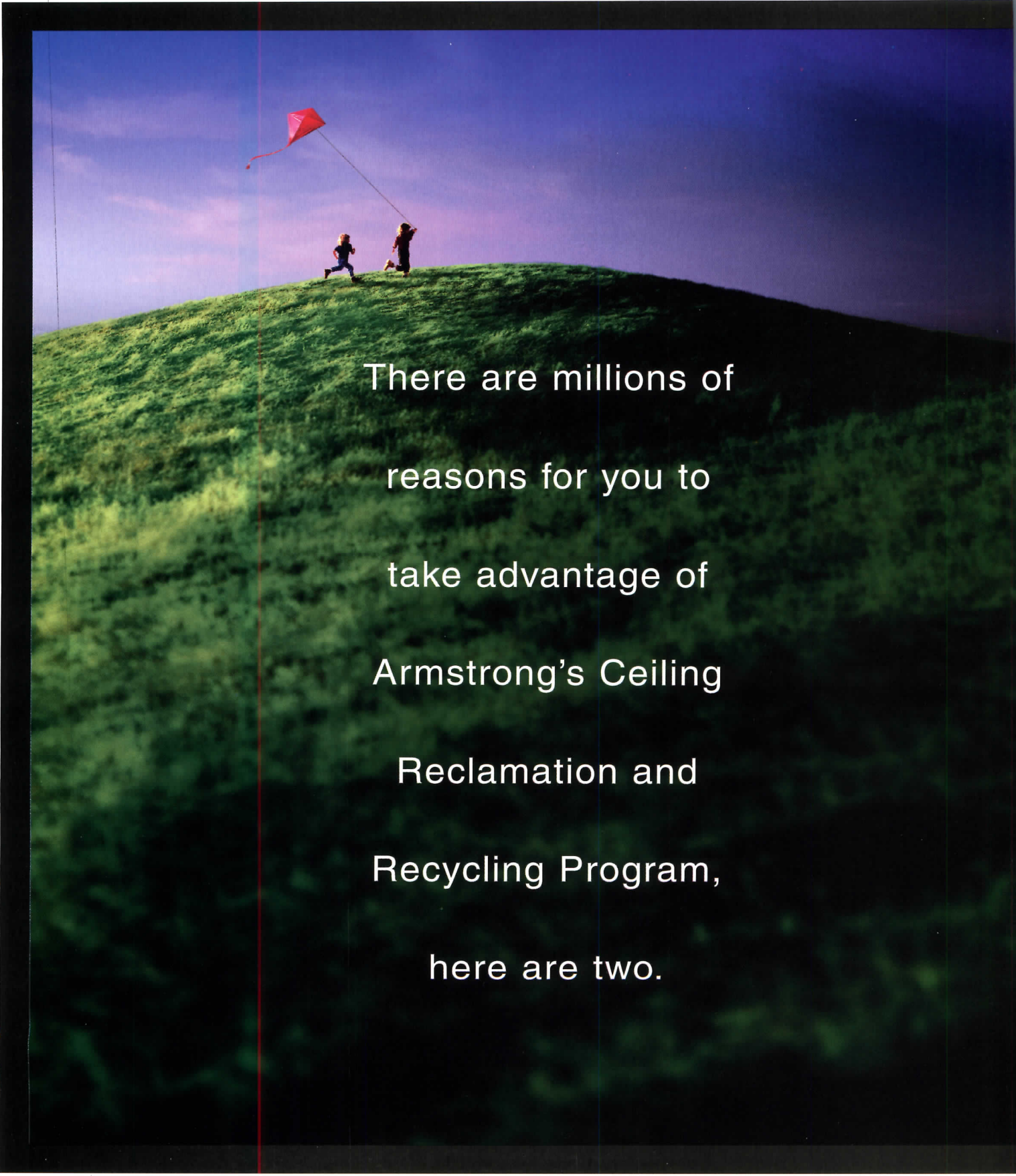
Record Houses



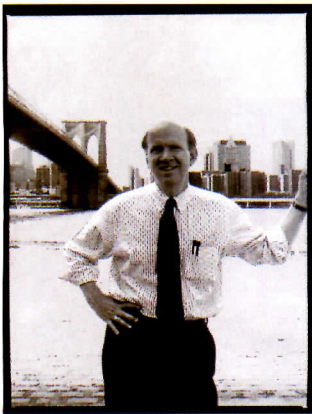
IS THERE AN AMERICAN ARCHITECTURE?

AN ESSAY BY ROBERT CAMPBELL

PAVILIONS OF PLEASURE

A photograph of two children running on a grassy hill under a purple and blue sky, flying a red kite. The scene is captured from a low angle, emphasizing the height of the hill and the vastness of the sky. The children are silhouetted against the bright sky, and the red kite is a prominent feature in the upper left quadrant. The overall mood is one of joy and freedom.

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EDITORIAL

The Most Valuable Asset

BY ROBERT IVY, FAIA

Not all marriages last. Chosen after a careful search, Mark Hurwitz served for only one year as the executive vice president and chief executive officer of the American Institute of Architects. The AIA's executive committee, with the approval of the board of directors, acted with appropriate dispatch to resolve unspecified issues surrounding his employment, citing contractual differences. The interim leadership of the seasoned Norman Koonce apparently has righted the ship, allowing the organization to continue pursuing its agenda for its members and all architects, including a national media campaign, continuing education, and lobbying efforts, until a permanent EVP/CEO can be named. Most members will never feel the difference.

Why should we care? The AIA's experience raises issues for all architects, members and nonmembers alike. First, they did their homework before they hired: the organization's process involved a competent and persistent search committee, a well-known executive search firm, careful review, and good follow-through. But despite their best intentions, the employment of this key figure did not work out.

How much more difficult is it for the typical architect to attract and retain talent? How much of your own time is spent agonizing over personnel matters? Hiring, that critical first step, can seem like a minefield. Every office has its unique employment war stories, from people landing in the wrong jobs to more troubling ethical dilemmas, such as the firm that suspected a new accountant of misrepresenting the company's finances. The contemporary office is faced with a scarcity of adequately trained employees—a challenge that may encourage cutting corners when a tempting new project architect seems ready to join the team. The candidate seems too good to be true, so we sometimes do not call the references, probe in conversation, or administer the test.

Hiring, however, merely begins the dance. Architects seem ill-equipped for managing what corporate America has labeled “human

resources.” In a professional culture that treasures collaboration and shared values, who wants to spend time on messy individual problems? We assign so much importance to our buildings and planning projects that we often postpone dealing with human concerns. We are sometimes shy in one-on-one meetings and uncomfortable with personal confrontation. Virtually no architectural education prepares us as managers of people; unless we have been lucky, there is neither theory nor practical help in our educational bank to draw from, forcing us to rely on the grab bag of experiences we have acquired along the way. As a result, we are sometimes blind to the needs of individuals and groups different from ourselves.

Most architects, however, want to be good managers and employers. Regardless of size or financial means, every firm can improve hiring practices and human-resource management with a strong commitment of time and money from leadership. It may involve coursework, consultants, or ongoing dialogue with peers; at the least, it requires the dedication of firm principals. The rules for obtaining and keeping a talented staff are straightforward and well publicized. A very select list follows:

Execute a plan for career development and training, with annual performance reviews of each employee.

Find the courage to say what's on your mind, and when the occasion demands, find an appropriate way to say good-bye: action in the face of difficulty is one definition of courage.

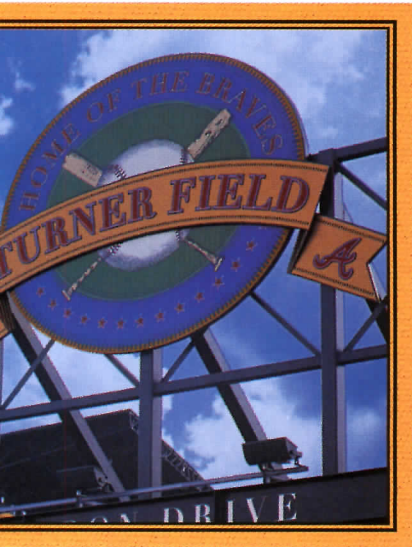
Conversely, help your employees aim for their own success.

Plan for your own people as effectively as you would for your clients. Despite technological advances, there is no computer that can exercise good judgment and no asset as valuable as the right person for the job.



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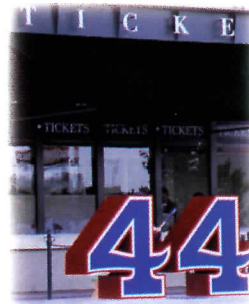
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LETTERS



The good, the bad, the ugly
In February's criticism of the Culver City Trivida building (above) by Eric Owen Moss [page 104], author Suzanne Stephens begins and ends her four-page piece asking, Why do this? My question is, Why write about it? There are many other worthwhile and interesting projects out there.
—Daphne Tomchak, *Architect Seattle*

That someone took time to visit Trivida and write a "critique" is troubling. I say "critique" because the writer seemed afraid to honestly express her real opinion of the building. She lets Mr. Moss's own explanation of his design go basically unchallenged.

Seeing this project in RECORD makes me wonder if architecture has become a competition to design the most bizarre structure a client will pay for. The cost of construction must have far outweighed its benefit, and having 84 drawings to refer to was surely a nightmare for the builder.

—Keith P. Hemingway
Seattle

Stephens responds: The article examined the risks of experimentation. Few architects are willing to question conventional aesthetics and torture uninteresting materials into such unexpected forms.

Orthogonal peg in a round hole
When I examined Peter de Bretteville's Cistern house in a home magazine, I assumed the designer didn't know any better. Now that I have seen the same project in your February issue [page 124], I cannot

help but respond. It seems to me that the architect and his wife missed a wonderful opportunity. Confronted with what is essentially an inverted Palladian villa, they allowed the structural grid to dominate. From the photographs of the interior, you can hardly tell the building is round because there is very little interplay between the circle and the square or, for that matter, the inside and the outside.

The architects never questioned the Platonic geometry they were given, so now their unique cistern looks, I imagine, more like the Modernist boxes and brick neocolonials that line their street.
—Jay Klebeck
*Powerline Design
Hermosa Beach, Calif.*

Paper plans

Your February Digital Architect piece concerning coming software that "will completely change the way architects design" [page 43] promotes an entirely new product-delivery system not born of professional necessity. Author B. J. Novitski apparently imagines a seamless jump from the creation of 3D drafting and modeling aids to the orchestration of a complete revolution in the worldwide building industry.

Software designers have neither the right motivation nor the expertise to oversee a change on the scale proposed. Our existing paper-based product-delivery system may be ripe for improvement or replacement, but if a change is desirable (or inevitable), then architects, engineers, and contractors must wrestle the lead away from the CADD industry.

—Brad Gaubatz, *AIA
Sarasota, Fla.*

Substance abuse

Douglas Coupland's feeble little Critique in February [page 39] is one of the most appalling stories I have ever read in ARCHITECTURAL RECORD. His enthusiasms concern nothing more than fashion. Ultimately, the piece blatantly fails to

acknowledge the far more important aspects of architecture that must be dealt with by architects.

—Scott Springer, *AIA
New York City*

Learning from London

Ironically, American designers are approaching the new century by stepping back into the past—with retro-texture and faked small-town nostalgia passed off as urbanism. Our European (and Asian) "old world" counterparts, meanwhile, attempt to live and design for the present and future. In addition to the green and energy-conscious concerns cited in Robert Ivy's March editorial [page 15], architects abroad put a heavy emphasis on development of humane and user-friendly intermodal transportation systems that minimize dependence on the automobile. Perhaps recent British experience will help refocus us on the possibilities of the here and now.

—Jeremy Scott Wood, *AIA
Boston*

Are social issues engaging?

I eagerly read January's "Listening to Critics" [page 68], hoping for some understanding of the current state of contemporary architecture. Alas, there were only passing mentions of architecture's "social relations," which I interpreted to mean the social contract to produce livable housing, inspiring schools, humane hospitals, and memorable public buildings. Today, except for buildings where self-expression prevails (such as museums and private houses), few other types engage critical opinion. This may explain why the six critics appear fixated on aesthetics, showing little interest in the challenges now confronting architects in an irrational landscape influenced by Gehry and Hadid.

—James A. Gresham, *FAIA
Tucson, Ariz.*

Newhouse overlooks Mies

The complete omission of Mies van der Rohe's National Gallery in Berlin from Victoria Newhouse's otherwise

interesting January essay on Daniel Libeskind's museums [page 90] is surprising. The gallery is only a few kilometers from Libeskind's new Jewish Museum.

—Robert Lawton Jones, *FAIA
Tulsa, Okla.*

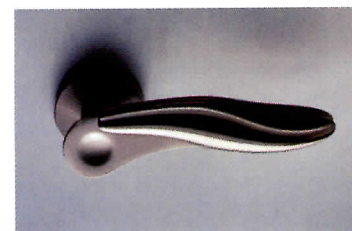
Credits/corrections

The translucent panels at the Goodwill Games Swimming and Diving Complex in East Meadow, New York, were not made of fiberglass, as we reported in the March issue (page 133). The project features a cellular extruded polycarbonate panel system manufactured by CPI International.

The photograph of San Francisco City Hall on page 61 of the February issue was taken by Jim Thielemann for Ceitronics.

The construction manager of the Soaring Eagle Hotel (February, page 173) was the Christman Company of Lansing, Michigan.

Staff architects Tse-Chiang Leng and Harry Pell were part of the team working on the Atlantic City lighthouse featured in January (page 107). The landscape architect for the project was John P. Williams of Miceli Kulik Williams and Associates.



In December's Product Reports, the cabinet hardware from Gruppo Valli & Valli pictured on page 110 was mistakenly identified as being designed by Sir Norman Foster. His door lever for the manufacturer is shown above.

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CIRCLE 11 ON INQUIRY CARD

SPEAK OUT Architects are neglecting the bulk of housing consumers, causing a dearth of good design and a rift in the profession.

ANDRES M. DUANY

Andres M. Duany is a principal in the Miami firm Duany Plater-Zyberk & Company with his wife, Elizabeth Plater-Zyberk. The firm was founded in 1980 at the time of the couple's design for Seaside, Florida, which began an ongoing debate on the alternatives to suburban sprawl. Both partners teach at the Urban Land Institute and the University of Miami and were involved in founding the Congress for the New Urbanism.

This issue of RECORD displays some of the few excellent house designs completed recently. But these designs are incomprehensible to many in the architectural profession, just as the hundreds of thousands of builder houses completed this year are incomprehensible to the elite architects whose work is highlighted herein. There is a schism in the profession so deep that few can discern the realities of both sides, let alone straddle the abyss.

Inhabitants of each side are self-sufficient. They have not only their own publications but their own history, methodologies, professional organizations, great masters, language, and so on. They rarely acknowledge each other except to be dismissive—one side is painted as artsy, impractical, and self-indulgent, while the other is seen as commercial and kitschy. There would be no need for rapprochement except that if they worked together, these two groups could take steps to salvage the architectural profession's failing covenant with the public.

Housing consumers, in all their variety, have a huge effect on design, but they are largely misunderstood by most architects. For the sake of clarity, I will delineate four categories of consumer: the Patron, the Client, the Victim, and the Customer—with this last category being the one that needs the most attention.

Patrons are architectural sophisticates. They commission a building as a work of art and are willing to put up with high costs and controversy in support of a designer's concept. As they are often

a major force behind most of what is deemed worthy of publishing, Patrons permeate architectural periodicals. Although patrons are rare, their numbers appear greater because they are geographically concentrated near the media meccas of New York and Los Angeles. Note how quickly the Patron class drops away as you move toward Philadelphia or Irvine.

A second type, the Client, is not so much sophisticated as savvy. By making themselves accessible to architects during the design process, Clients *acquire* a modicum of sophistication. The resulting buildings can be quite good. Often, a government official will rise to the level of Client. Clients underwrite most of the decently designed housing in America.

Victims are those who, due to limited income or a tight local housing market, have no choices. They are grateful for any sort of place of their own and must accept whatever is available. Some affordable housing designed for this part of the population, such as Michael Piatok's, can be very good; Dan Solomon's housing in the tight market of San Francisco can be austere and elegant. Strong design in this category is often a result not just of talent but of a desire to accommodate consumers who have no choice in the matter (and who often grow to appreciate good architecture).

The Customer is the most common consumer of housing—and the most problematic. Customers have no contact with architects: they arrive at a decision to purchase in an uneducated state

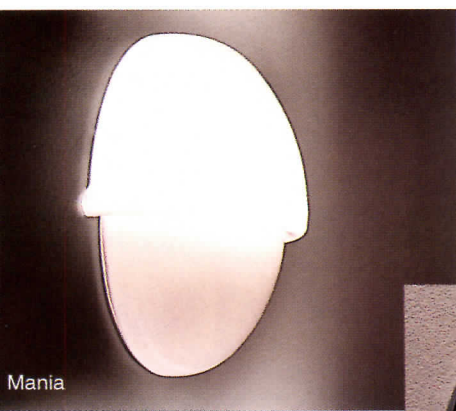
at best, but more often after being manipulated during their experience of comparison shopping. Only slightly attuned to the rigors of design, a Customer is lured by stylistic kitsch and gimmicky programs offered by developers. Since these options are always readily available, they tend to drive out decent residential architecture. The situation is exacerbated by the fact that most "good" architects disparage and ignore this market, as architecture school has taught them to do.

This is a huge mistake. The Customer housing market, in desperate need of talent, is a venue in which good architecture can flourish. Architects must take on the difficult and problematic category of Customer; it is imperative that these consumers enter the consciousness of the architectural profession, which is missing out on a huge segment of the built environment.

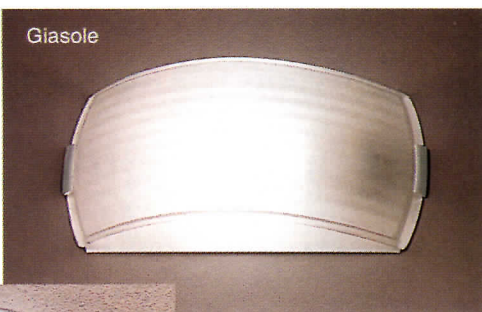
Confusing a Customer with a Client will leave architects with unsold housing and in financial ruin. But addressing the Customer correctly will enable us to alter our landscape for the better. ■

Contributions: *If you would like to express your opinion in this column, please send submissions by mail (with a disk) to Speak Out, Architectural Record, Two Penn Plaza, New York, N.Y. 10121; by fax to 212/904-4256; or by E-mail by visiting www.archrecord.com and clicking on News/Features/Dialogue. Essays must not exceed 700 words. The editors reserve the right to edit for space and clarity. Where substantial editing occurs, the author will receive text approval.*





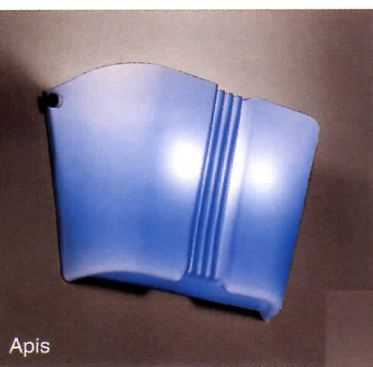
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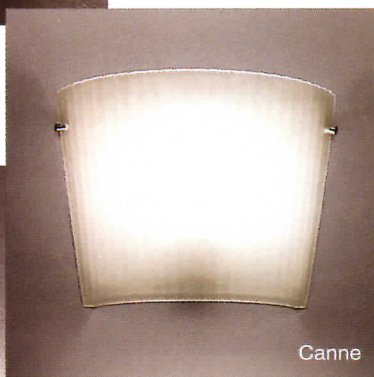
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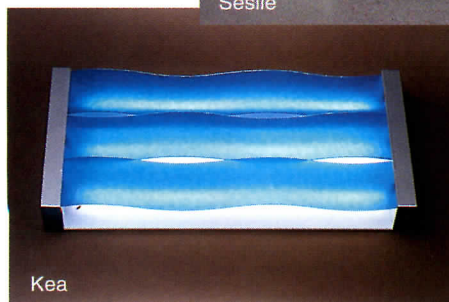
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CIRCLE 12 ON INQUIRY CARD

MENTORS Getting involved in “green” design: a primer on the important issues and the options available to architects.

Sandy Mendler, AIA, is a senior designer at Hellmuth, Obata + Kassabaum in Washington, D.C., and leads the firm’s sustainable design group. She is on the board of directors of the U.S. Green Building Council and is vice chair of the AIA Committee on the Environment.

As sustainability takes greater precedence in the design of new buildings, architects getting started with the “green” way have an abundance of complex issues to consider. RECORD asked Sandy Mendler of HOK to provide an overall strategy for designers who are embarking on sustainable projects.

You have just been given a terrific opportunity to design a “green” building. What next? What to think about first? There are many critical issues to address at each stage of the design process—and due to their complexity, it would take a long time to address each of them fully. But to get started, this overview can be used as a framework.

Initiating the project: Select team members who share an interest in sustainable design and look for allies to supplement your efforts, such as local green building organizations and university resources. Build a common vocabulary and understanding of the issues involved. Invest time in sustainable design goal setting. Develop an energy budget and quantitative performance goals wherever possible. Consider using the U.S. Green Building Council’s rating system to identify performance targets (see www.USGBC.org).

Considering the context: Look at possible reuse of existing structures and redevelopment of urban areas to reduce sprawl. Develop links to public transit and strategies to create pedestrian-friendly, livable communities. Respond to the cultural and historic context and protect sensitive natural areas.

Siting the building: Consider how the massing and orientation will affect energy performance, opportunities for daylighting, and natural ventilation. Look at how design options will influence water features such as flood plains, wetlands, and stream corridors. To preserve natural amenities, minimize the need for cut-and-fill and control the location of site utilities.

Shaping the design solution: Consider passive heating, cooling, and ventilating strategies and daylighting opportunities. Integrate renewable energy systems and water-reuse strategies. Evaluate heating and cooling loads of proposed building configurations, heat-recovery opportunities, and locations of intake and exhaust air.

Developing the planning concept: Create planning strategies and flexible infrastructures to enhance long-term flexibility and avoid premature building obsolescence. Provide effective ventilation and isolate potential sources of contamination. Develop strategies to accommodate recycling, including collection facilities at the point of use on each floor and staging areas at the loading dock.

Developing specifications: Clearly identify environmental performance goals in specifications, such as maximum allowable volatile organic compounds (VOC) content, minimum recycled content, non-permissible toxic materials, and energy and/or water efficiency of appliances, fixtures, and equipment. Develop specifications for construction-waste recycling, reuse of on-site materials, tree protec-

tion, and erosion control.

Optimizing the design: Use the building envelope to reduce heating and cooling loads while maximizing the use of daylighting. Use energy and daylight modeling to determine optimal glazing performance, insulation values, and interior and exterior sunshading. Develop daylight strategies in tandem with electric lighting. Consider ceiling height, reflectivity of interior finishes and furniture, fixture efficiency, and lamp longevity.

Investigating materials: Search for materials that are durable and low-maintenance and will have low environmental impact throughout their life cycle. This includes raw materials, production processes, packaging and shipping, installation and use, and disposal and reuse. Explore opportunities to use smaller quantities of materials, reclaim existing, salvaged, or refurbished ones, and incorporate locally manufactured materials.

Getting it built: Communicate the project’s environmental goals to the construction team. Carefully review submittals, shop drawings, and proposed materials substitutions, and document the lessons you have learned for future projects. ■

Questions: *If you have a question about your career, professional ethics, the law, or any other facet of architecture, design, and construction, please send submissions by mail to Mentors, Architectural Record, Two Penn Plaza, New York, N.Y. 10121; by fax to 212/904-4256; or by E-mail by visiting www.archrecord.com and clicking on News/Features/Dialogue. Submissions may be edited for space and clarity.*



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CIRCLE 13 ON INQUIRY CARD

PULSE RECORD readers were asked: Does the architectural profession need the star system?

Yes: It's part of architecture's glamour—what the profession has that medicine doesn't. But the problem remains that young designers aren't known to society at large. Today's stars are the same bunch of 50-year-olds that Philip Johnson has been calling "the kids" for decades.
—Jayne Merkel
Editor, Oculus magazine
New York City

No: Let the buildings we design be stars. As in pop music, one-hit wonders abound in the profession.
—Roberto B. Yumol
Honolulu, HI.

No: It's all smoke and mirrors. For me the issue is talent. Some people are more talented than others. That's a very undemocratic thing to say. If it happens that people of talent achieve some kind of public

profile, unfortunately I'm part of the machinery.

Some people's ability to get work is contingent on remaining in the public eye. But I have to say that I'm more struck by the architects of my generation who are extremely reluctant to toot their own horns. They ought to be out there screaming, because they have good ideas.
—Herbert Muschamp
Architecture Critic
The New York Times

Yes: The star system is not a necessity but an inevitability in any field. There's a need for a standard by which to judge the success of a profession, and the stars fulfill that need. Architects may follow the lead of the stars. Or, if they challenge them, then the cycle begins again.
—Aida Isabel Latorre
Dallas

No: Stars enhance the visibility of our profession, and I thank them for that. But the profession also owes thanks to the thousands of lesser-known architects who have made it their mission to strive for excellence and take good care of clients. Both groups need each other to give our profession credibility, but we don't need a system.
—Bruce H. Schmiedl, AIA, CSI
via E-mail

Yes: The profession needs celebrities and heroes to provide visionary designs that inspire other architects. Where we fail is in our awards, which recognize big-name architects without acknowledging the others who make projects work beyond the conceptual thinking.
—Dale A. Anderson, AIA, NCARB
Tsang Partnership Inc.
Tacoma, Wash.

Yes: Having stars and heroes in architecture is important for two reasons: education and inspiration. Stars are valuable for educating the general public on the importance of good design. Architects such as Zaha Hadid and Billie Tsien encourage young women working in the male-dominated profession.
—Eric Mersmann
Hancock + Hancock Inc.
Chicago

No: Haven't we done enough hero worship by the time we graduate from school? Glamorous architecture is fine, but what do you say about those frequently published firms that don't even have basic medical coverage for their employees?
—Steve Shay
MIT
Cambridge, Mass.

This Month's Question

Do you plan to take any action on the Y2K crisis?

In March, ARCHITECTURAL RECORD reported that firms can take technical and legal steps to reduce the impact of the year 2000 computer glitch (page 72). According to author B. J. Novitski, the problem might result in "a variety of scheduling and calculation errors. Older computers with internal clocks may simply cease functioning." Equally alarming is the idea that building systems such as elevators will fail, creating legal implications for design professionals. The clock is running . . . tell us what you plan to do.

Do you plan to take any action on the Y2K crisis? Yes No

Copy and fax this form to 212/904-4256, or, to respond by E-mail, visit www.archrecord.com and click on News/Features/Dialogue to voice your opinion.

Note: Pulse reflects individual responses to each month's question and is not meant to be construed as formal research.

What is your plan of action?

May an editor contact you for comments?

Yes No

Name

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CRITIQUE Could Piano's Debis Tower in Berlin have been built in the U.S.? The answer reveals the flaws afflicting American architecture.

BY PETER DAVEY

One of the most perceptive recent remarks about the differences between North American and European architecture appeared in the October 1998 issue of *RECORD* in James Russell's discussion of Renzo Piano's Debis Tower in Berlin. He asked, could the building's elaborate, delicately scaled and energy-conserving outer wall "have been done in America?" The energy-conservation and glare-control aspects of the system would, he wrote, "be even more advantageous in most of America, which is warmer and sunnier than northern Europe," though the double-wall strategy might not work in areas of high humidity.

Yet "as for cost," he continued, "tall buildings are generally far less expensive to build in America, but heavily customized curtain walls are more common in Europe, so the premium for such specialized technology in the United States would likely be far higher."

There, in a nutshell, lie the chief differences between commercial building practice in the two biggest Western economies. Germany and the U.S. in many ways stand at opposite ends of a range of architectural production, a spectrum that can also accommodate the work of all other prosperous countries: not only those in the West, but East Asia and Australasia as well.

What enabled Piano's design in Berlin to be built? There are at least three factors. First, Germany has not been blessed with an abun-

dance of fossil energy (nor cursed by it either; North Sea oil has been one of the major reasons for Britain's industrial decline in the last three decades). So, Germany and other prosperous northern European countries like Austria, Sweden, and Switzerland have stood in the forefront of energy conservation, particularly for buildings. Regulations and (sometimes) tax structures encourage investment in energy-efficient envelopes and control systems. The double wall, with its climate-buffering interstitial layer of air, is becoming commonplace in such cultures.

Power to the people

The second factor behind Piano's wall is German insistence that individuals should have some control over their immediate environment: privacy, light, and atmospheric conditions. The push for spatial individuality comes partly from the unions, but mainly from a social consensus that office workers should have a sense of particular and private places within the whole.

As a consequence of social pressure, most new German office buildings contain assemblies of one- or two-person cells, each with openable windows; inhabitants can alter the temperature and ventilation of their particular spaces without greatly varying the building's overall energy demands (increasingly sophisticated environmental control systems clearly help in this respect). The German insistence on individual work rooms can lead to long, boring corridors, and though the notion of *Burolandschaft* (landscaped open



Piano's Debis Tower, with its energy-conserving outer wall.

offices) first emerged in Hamburg in the late 1960s, it has not been very widely adopted.

A more spatially and humanistically interesting system, the combi-office, in which individual cells cluster around open group spaces, has evolved in the Netherlands, Sweden, and north Germany. It is appearing sporadically throughout northern Europe, and has generated some remarkable buildings, such as Ralph Erskine's Stockholm World Trade Centre and Niels Torp's recently completed British Airways headquarters at Heathrow near London.

The third factor is that the most distinguished office buildings in northern Europe are usually built by companies for their own use—to project company ethos in their

buildings, and experiment with new social and spatial relationships involving all parties, from shareholders to cleaners, giving everyone some benefit and making the whole act as an advertisement for the firm. How different this is from current practice in Britain, where, following U.S. practice (or so we are told), companies avoid owning buildings in which their workers toil so as to avoid tying up too much capital in prop-

erty. But with the largely German-directed Euro becoming a possible world rival to the dollar, the undisputed rule of American management theory, and its spatial effects, may be up for reconsideration.

Land of the free

There is a fourth factor enabling Piano to create such an idiosyncratic wall. German architects (and foreigners who design buildings in Germany) have much more autonomy than most other architects when they design commercial buildings. Most German architects curse their country's stringent regulations, but they actually seem more free of constraint than designers almost anywhere else in the world. They have a client body that broadly views architecture as an instrument for the improvement of humankind and its relationship to the natural world.

Peter Davey is the editor of *The Architectural Review* in London.

Federal and state building controls may be stringent, but authorities at every level believe in trying to obtain good architecture, and the criteria they use are far more subtle and humanly relevant than the “biggest,” “tallest,” or “most expensive.” Also, German architectural organizations encourage and promote a competition system that is not only well run and widely used at every level, but is considered to be a mechanism by which the profession teaches itself to face new challenges.

German architects retain the prestige and power over the building process that has been greatly eroded in the U.S. and Britain. Their output ranges from the free and sometimes apparently wild productions of the Organic school, led by people like Behnisch and Hubner, to the extremely austere Rationalist broodings of such architects as O. M. Ungers and Josef P. Kleihues.

North versus south

I have placed Germany at one end of my spectrum because it is the biggest and most powerful state in the new Europe and is building so much right now. But smaller northern countries share its ethos and surpass it in different respects: the Finnish competition system, for instance, is more rigorous and instructive; Dutch social housing sets standards for the rest of the world; and the recent Norwegian architectural awareness program, intended to generate architectural, ecological, and urban awareness at every level from primary school to boardroom, is exemplary in its international importance.

In Europe, a divide between north and south runs roughly along the Rhine. Above that line, architectural education is dominated by the formidable Technische Hochschule model. Below it, the Beaux Arts school forms the pattern. In the latter, concern rests more with *grand parti* and *bella figura* than with the craft of assembling buildings for social purposes. This generalization is wild, but it has some substance.

Most French architects, for instance, pass their working drawings to a *bureau d'études* and remain rather ignorant of construction. In Italy, architects like Piano, Massimiliano Fuksas, and Giancarlo de Carlo, who understand how to build and can make powerful tectonic statements, are few and far between. An even wilder generalization suggests that, if architecture is pursued in the south as an art and a medium dominated by figure, there is a northern relationship between constructive



Lever House in New York City, unusual in the U.S. for its innovative corporate design.

concerns and belief in building as an instrument for human betterment.

I sometimes wonder if some of the difference between architecture in America and in northern Europe stems from a tradition of reverence for figure and architecture for art's sake that began when 19th-century American architects like H. H. Richardson attended the Ecole des Beaux Arts.

From the northern perspective, American commercial architecture seems exceedingly bland. Of course, most commercial architecture anywhere seems pretty dull, but the U.S. no longer appears to produce buildings that change our perceptions of the nature of commercial work like Torp's SAS building in Stockholm, Erskine's Ark in London,

Norman Foster's Hong Kong and Shanghai Bank headquarters in Hong Kong, or his Commerzbank in Frankfurt.

American shortcomings

The U.S. has not always been like this. Think of the Larkin Building, Johnson Wax, or Lever House. It is perhaps impertinent to suggest reasons for the lack of such architecture in contemporary America, but from the outside, it seems clear that business does not want innovation. Set formulas are delivered with amazing efficiency by the development and construction industries.

Architecture seems to be literally marginalized, with the thin external skin being the only area left in which architects have much freedom of expression—since it has no effect on the bottom line. Space gets squashed out of consideration. No wonder PoMo (a kind of interior decoration brought to the exterior) was an American invention. Nor is it surprising that it was smeared across the world in the wake of U.S. global economic domination. (In London, for instance, SOM and its colleagues achieved boring results with the unprecedented aggressiveness of silly facade patterns and sadly proportioned squares at Canary Wharf.) PoMo may be long over as a cultural force, if it ever was one, but it seems to be taking a long time to die.

So successful has the American commercial recipe been that (again as a wild generalization) its mediocrity seems to spill over into other kinds of large buildings. Plainly there are exceptions: Frank Gehry, Richard Meier, and others keep astonishing us all. But for a nation with the size and wealth of the U.S., such highlights seem rather sparse.

There is, of course, the licensed opposition. People like Peter Eisenman and John Hedjuk continue to produce willfully antihuman designs in the name of art. And as high priests of a would-be avant garde, they explain their work in arcane, hieratic language. Why is so much American discussion about

architecture conducted in prose of unparalleled turgidity? Even English critics who emigrate to America wouldn't dream of using an Anglo-Saxon word when an impressive, Greek-derived word is available. Interesting as the ideas may sometimes be, I am convinced that the abstraction of much American academic debate—particularly its reluctance to engage with the reality and presence of buildings with any clarity—is partly responsible for the dullness of much architecture.

Of course, a vast wealth of architectural talent and imagination exists in America, and it most commonly finds expression in relatively small buildings, which are less subject to the power of the real estate, development, and construction industries: town libraries and local schools; university departments; headquarters and plants for businesses too small to be closely supervised by the stock market; and a host of other types.

But above all: houses. The U.S. has a far greater number of individual houses than anywhere in the world. The best of them show an unparalleled range of invention in form, space, materiality, and contextual relationship. Houses are crucial indicators of local culture, and they show that regionalism is flourishing in America.

In a sense, there are two kinds of American architecture: the bland, pompous expressions of imperial economic power, and the more imaginative smaller works—which are also more innovative technically than the big stuff. It is there we often find new forms of energy conservation and social thinking.

It is always difficult for architects generating brilliant small buildings to make big ones that have the same sparkle. But signs here and there in the U.S. suggest this may be happening. The rest of us hope that America will start to export such imaginative power, instead of the boring stodge that is deadening cities around the world. A Gehry in Bilbao and a Steven Holl in Helsinki are not enough. ■

DIGITAL ARCHITECT

The computer education received by today's architecture students may not provide them with the skills sought by employers.

BY B. J. NOVITSKI

Architects and educators have long disagreed about which skills should be taught in architecture schools and which, if any, are best taught later, during apprenticeships. Professors typically emphasize design and theory, believing that the more practical skills are better conveyed in a professional context. They fear that offering more skills-oriented training might turn the professional institutions into vocational schools. Meanwhile, practitioners complain that recent graduates come to them unprepared for real work.

This disagreement has now expanded to include computer skills: schools increasingly focus on experimentation with sophisticated design software, while firms grumble that young graduates can't even do simple computer drafting.

At the same time, some interns are entering firms with computer-aided design (CAD) skills that far outstrip those of their employers. That's because some architecture schools have incorporated new digital technologies in such radical ways that the curriculum is being transformed. At the New Jersey Institute of Technology, Miami University in Oxford, Ohio, and the University of Oregon, for example, computers have been integrated into design studios for more than a decade; as a result, students are facile with the range of software at their disposal.

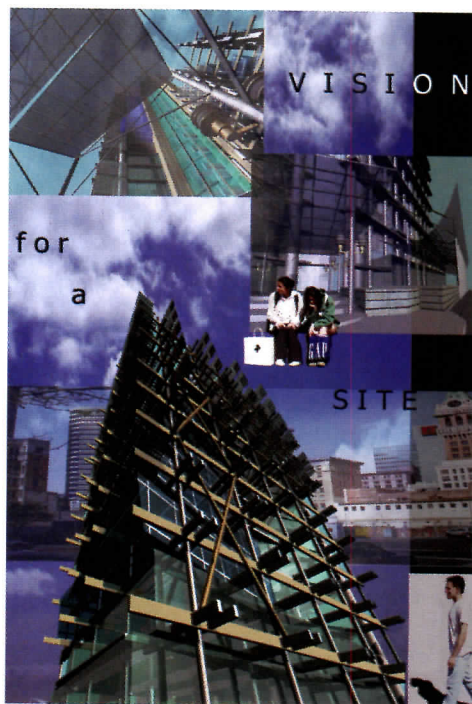
Michael Dingeldein, AIA, of Steed Hammond Paul Architects in Hamilton, Ohio, the former chair of the AIA's Computer-Aided Practice Professional Interest Area and a teacher at Miami University, is a

proponent of such advanced study. "Working with 3D modeling software makes the students better 3D thinkers. The amount of information they can imagine and test extends their design abilities," he says.

This does not mean that computers can substitute for talent. John Marx, architect and senior project designer in the San Francisco office of Kaplan McLaughlin Diaz, teaches digital design at the University of California in Berkeley and concurs with Dingeldein on the value of 3D modeling. The proportion of outstanding designers has probably remained constant despite the emergence of technology.

Other schools, such as the Massachusetts Institute of Technology, the University of British Columbia, and the University of Hong Kong, are experimenting with worldwide "virtual studios." In these classes, students team up to design and explore solutions to communication problems brought on by collaborating across time zones and language differences. (See "The Architecture of Cyberspace," ARCHITECTURAL RECORD, November 1997, page 139.)

Robert Woodbury, an architecture professor at the University of Adelaide, in Australia, says innovative ways of exploiting technology often originate in academia rather than in the profession. For example, most CAD-based urban models now used by governments around the world were built in architecture schools. As students come to college with an unprecedented software fluency, professors who once taught how-to courses are



Daniel Guich, a student at the University of California, Berkeley, was required to use computer techniques to design and present this poster for a course in digital design.

instead looking for ways technology can foster creativity, communication skills, and critical thinking.

Experience wanted

Many schools now teach 3D modeling in design studios, but some are dabbling in still more cutting-edge processes. While still a graduate student at the University of Oregon, Francis Dardis developed techniques for generating unusual and imaginative imagery. Encouraged by professor Daniel Herbert, Dardis would begin with a physical model

of a simple concept. Then he would place the model on a scanner and create a 2D image, which he would subject to a variety of Adobe PhotoShop "filters." These filters perform such manipulations as adjusting contrast, adding textures, blurring lines, and changing colors. The results inspired new design ideas, which were then sketched and scanned. And the cycle continued. In the end, Dardis came up with not only a credible project but also imagery that exceeds typical student projects.

Although he has not had the opportunity to apply such novel techniques in practice, Dardis found that his courage to include innovative imagery in his portfolio made him more interesting to prospective employers. He now teaches digital design media at his alma mater. He's found that using this improved imagery with the students there leads them to a more idea-rich design process.

By experimenting with this cyclical process—from design concept to computer image to design development—Dardis believes "students more readily accept the computer as an integral tool in their media repertoires. This acceptance helps students benefit from image manipulation tools, 2D drafting

tools, and 3D modeling." An intern's ideal portfolio, he says, would demonstrate a balance between 2D drafting skills and adventurous imagery.

Without the pressure to produce real buildings, students are free to try out imaginative design techniques that would be unrecognizable in a professional setting. These techniques have the potential to transform the profession just by virtue of their creativity. However, some adjustments to firm culture may be necessary before practitioners can appreciate and adapt to the skills brought by interns (most of whom are, after all, still inexperienced in the practice of architecture).

But even as intern portfolios become more populated with computer work of all kinds, they're still lacking in their traditional area of weakness: an understanding of materials, details, construction methods, building codes, and other practical issues.

Familiarity with these areas most often develops during internship. In the past, such learning was associated with years of manual drafting under the supervision of a more experienced architect.

Computer technology is, ironically, depriving many interns of this experience for several reasons. Some of those who come into a firm with strong modeling skills may be sequestered in a narrow design niche where they do not have the opportunity to develop other skills.

But another, more important reason may be that young people new to a practice that makes good use of technology may find limited opportunities for mentoring. The senior designers often feel it's more efficient to do all their drafting themselves—they can do it on a computer practically as fast as they can think about it. Even large projects can now be executed by relatively small design teams.

As a result, however, in comparison to their predecessors, many of the architects who will reach mid-level positions in the next 10 to 15

years will lack exposure to a broad range of practical experiences. What will this mean to the profession and the quality of buildings?

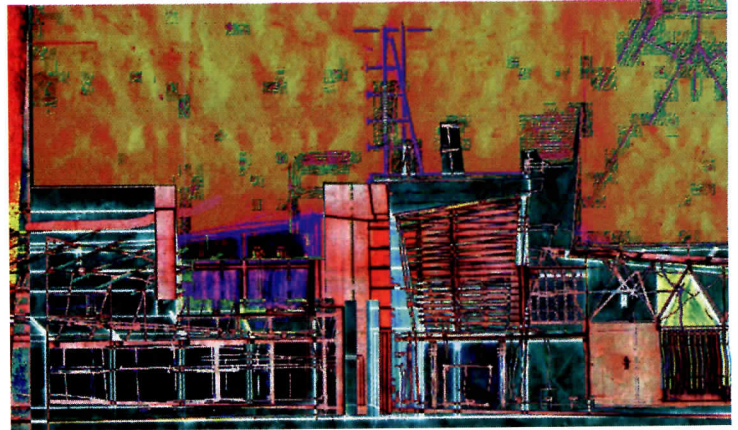
Dingeldein says his firm is addressing this situation in several ways. Because most senior designers are not yet fluent in 3D modeling, they will often team up with younger designers, thus offering an apprenticeship, albeit a nontraditional one.

But this is not enough, he admits. "Interns come into a firm and think all they want is to be under the wing of a designer," Dingeldein says. "But when it comes time to pass the licensing exam or put a building together, they will not have sat through a long drafting experience or seen how a wall section is drawn." One way to approach this problem, he says, is to require mid-level job captains to take on more jobs, thus forcing them to use more intern-level help.

New employees fresh from school find a familiar and comfortable home in Kaplan McLaughlin Diaz's design department, where all designers use 3D modeling. In testament to the acceptance of fledgling designers here, it was a new intern who initially got the studio interested in animations. But, according to Marx, "even though they know how to generate form, interns don't yet understand the building types."

The firm aims to help them to become something more than form makers. "We want the interns we work with to acquire the background they need to understand how buildings go together pragmatically, from both a design and a construction standpoint," Marx says.

At the beginning of design, for example, a senior practitioner within the firm will discuss with an intern the practical program requirements of the particular building type. And for some projects, interns in the design department are allowed to follow the project as it progresses through the firm, working temporarily within the other departments that handle such aspects as design



Corina Martinez, a graduate of the Boston Architectural Center, uses computer-based graphic standards for master plan projects at Shepley, Bulfinch, Richardson & Abbott.

development and construction documents.

What students can do

The dilemma for students is that computer technology is giving them more, not less, to learn during their school years. There is probably no single school that regularly turns out graduates with solid grounding in all areas of design, theory, and practical experience.

At the Boston Architectural Center (BAC), the curriculum emphasizes practice-related work. Every student is required to work in a firm full-time while going to school at night. If students can survive this grueling regimen, which can take them eight to 10 years to complete, they emerge with practical skills that make them more readily employable than most graduates of more traditional programs.

A recent BAC graduate, Corina Martinez, has worked at the Boston firm of Shepley, Bulfinch, Richardson & Abbott Architects for several years. She says her background and broader experience enabled her to come to her first job with a more realistic view of the kinds of work interns are typically given. While in school, she was careful to balance her 3D modeling and 2D drafting courses. Now she uses these skills in creating a computer-based

graphic standard for the firm's master plan projects.

Still, like any intern, she has to be vigilant, making sure that her employer allows her to expand her skills into all of the areas laid out in the Intern Development Program, a plan developed and jointly run by the AIA, the National Council of Architectural Registration Boards, the Association of Collegiate Schools of Architecture, and the American Institute of Architecture Students to hone the professional skills of young architects.

Martinez's challenge is not new. Dedicated graduates of architecture programs have generally tried to contribute creatively to their newfound place of employment while struggling to fill in the gaps in their professional education. But the culture in which this occurs has altered dramatically due to technological changes. Adapting to new ways of working will require flexibility among all concerned: students, professors, and practitioners. A good place to start would be for each group to find some way to see what the others are doing and analyze the differences in each of their expectations.

"For better or for worse, computing is changing the field of architecture and will continue to do so," Professor Woodbury says. "As academics, our best role is to seek out those changes or create them; to challenge them or foster them; and to try to make these changes, which are inevitable, more interesting and productive." ■

EXHIBITIONS A preview of MoMA's splashy summer show, which examines innovative houses from around the world.

BY SUSAN DOUBILET

"The Un-Private House," the first in a series of thematic architecture exhibitions at The Museum of Modern Art in New York, will be on view from July 1 to October 5, 1999. Organized by Terence Riley, chief curator of MoMA's department of architecture and design, the show will examine 26 recent houses by international architects whose designs "reflect the transformation of the private house in response to changing cultural conditions and recent architectural innovations." The following discussion of the exhibition is based on photographs of some of the projects, an essay from the exhibition catalog by Riley, and an interview with him.

By mounting the exhibition "The Un-Private House," MoMA positions itself, once again, at the cutting edge of architecture. In the first place, it is showcasing houses influenced by the latest oldie-but-goodie, Ludwig Mies van der Rohe. Second, many of the houses examined are not "boxes" but "blobs" (defined as structures enclosed by geometrically complex forms). And third, in virtually all of these houses the spaces unfold cinematically; in other words, to comprehend them one must move through them.

The three themes—transparency, fluidity, and spatial unfolding—all imply an absence of barriers, hence the "un-private" in the show's title. By choosing 26 unusual

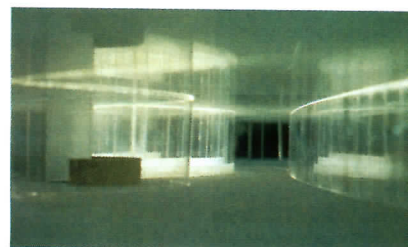
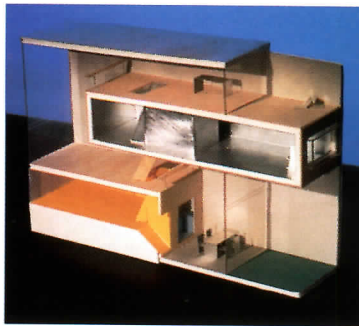
Susan Doubilet is co-author of American House Now (Rizzoli), Private Architecture (Monacelli), and the upcoming European House Now (Rizzoli).

dwellings, Riley reconfirms the view of the house as a laboratory and indicator of design invention. And as each example refers to at least one of the three ideas, the exhibition promises to be complex, vital, and stimulating.

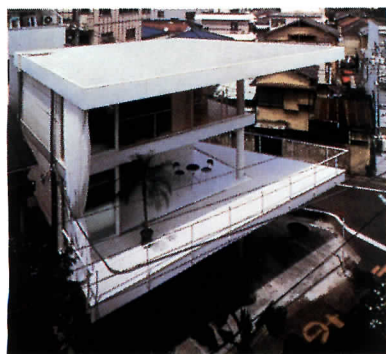
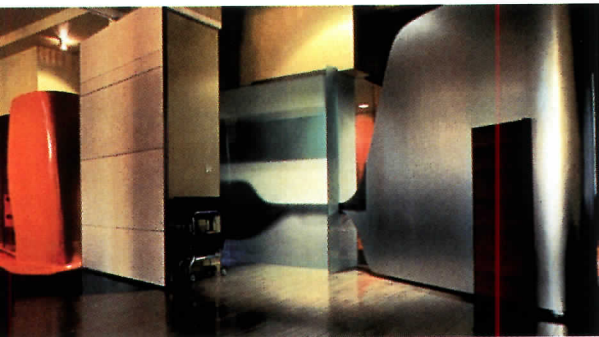
As for the revival of interest in the work of Mies van der Rohe: who would have guessed it? Thirty years ago, the early Postmodernists denounced his work as sterile and uncontextual, and fantasized about drowning it: Recall Stanley Tigerman's revisionist collage of a sinking Crown Building.

Back then, the most adventurous young architects, the so-called New York Five (Richard Meier, Charles Gwathmey, Peter Eisenman, Michael Graves, and John Hejduk) turned to the seminal work of Le Corbusier for inspiration (while others, of course, turned their focus further back in history). Now, the work of Corb, while still admired, is for the most part considered too static by the architects represented in the upcoming MoMA exhibition, many of whom are a generation younger than the NY5 members.

In the current re-revision of Mies, his work is recalled not for its coldness but for the sensuousness of its materials. Most important in today's focus on Mies is the issue of transparency (not coincidentally the significant precept of the "Light Construction" exhibition at MoMA in 1995). Current architects are concerned with implications of transparency that expand on Mies's interests. They use glass not only to allow residents to look out but also, in urban situations, to allow



What's in: Guthrie + Buresh's WorkHouse in Los Angeles (top); MVRDV's row house scheme (above left); and Herzog & de Meuron's Kramlich Residence (above).



What's on the edge: Kolatan/MacDonald Studio's Ost/Kuttner Apartments in Manhattan (top); Van Berkel & Bos—UN Studio's Moebius House in Holland (above); Shigeru Ban's Curtain Wall House in Tokyo (left); and Archi-Tectonics' Millbrook Residence (below).



Who's in the show: Archi-Tectonics, Shigeru Ban, Michael Bell, Preston Scott Cohen, Xaveer de Geyter, François de Menil, Neil Denari, Diller + Scofidio, Farjádí Farjádí, Guthrie + Buresh, Hanrahan and Meyers, Hariri & Hariri, Herzog & de Meuron, Steven Holl, Kolatan/MacDonald Studio, Rem Koolhaas, Lupo/Rowen, Michael Maltzan, MVRDV, Sanaa/Sejima/Nishizawa, Joel Sanders, Scogin Elam and Bray, Clorindo Testa, Bernard Tschumi, Ungers and Kinslow, and Van Berkel & Bos.

strangers (not present around Mies's secluded Farnsworth House) to peer in.

Two glass-faced row houses in Amsterdam (page 43, bottom left) by Winy Maas of the Rotterdam partnership MVRDV are among those that provocatively use glazing. Maas is quoted in Riley's essay as saying, "Putting the inside, even your own, on display seems a very modern topic." He compares it to the way people "show their privacy on television in order to attract attention."

For Maas, exhibitionism is a design goal. Compare Mies, who had the arrogance to frame his clients' view of the world but the delicacy and subtlety to remove his clients and their personal activities from sight. The two row houses by MVRDV are cleaved by a path at their party wall (the traditional guarantor of privacy), offering passersby a seductively oblique view into the houses. This is, indeed, wall as television screen, life as soap opera, voyeurism by invitation.

Key to today's repositioning of Mies is the work and writings of Rem Koolhaas and his firm, the Office for Metropolitan Architecture, whose Bordeaux House is in the exhibition. In Koolhaas's book *S, M, L, XL*, the vision of Mies, says Riley, "is no longer pure, classical, and sober, but queer (or bent) . . . , Hollywood, and delirious." Riley points to the Bordeaux House's plinth as derivative of Schinkel by way of Mies, to one view of the house as a "remake" of the garden view of Mies's Riehl House, and to another as an echo of Mies's unbuilt "glass house on a Hillside" of 1934.

The Swiss architectural firm Herzog & de Meuron is also engaged in reinterpreting Mies's work. In the Kramlich Residence (page 43, bottom right), "the hovering roof sheltering a glass enclosure," suggests Riley, "is part Barcelona Pavilion, part Farnsworth House."

While "blob" houses may sound strange, technological advances have made them possible. Computers have simplified the

visualization and fabrication of continuously flowing surfaces, which can be molded out of fiberglass, as seen in the intensely colored Ost/Kuttner Apartment by Kolatan/MacDonald Studio (this page, top left). Several other houses in the exhibition, including the seductive Moebius House (this page, second from top) by Van Berkel & Bos, take both their names and their primary forms from similar geometries. These complex forms impart a sense of spatial fluidity, blurring the boundaries between exterior and interior spaces and between one interior space and another.

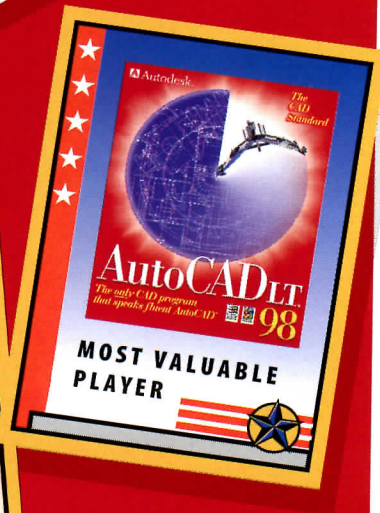
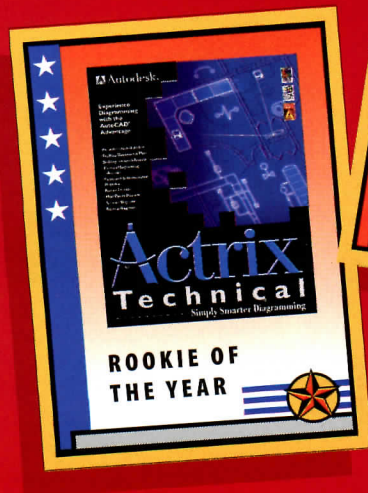
As for houses influenced by a cinematic approach to design, these are conceived so that their spaces can be understood by the visitor only as they unfold—frame by frame. Although by definition these places must be perceived in person, the exhibition will try to re-create the experience as realistically as possible. In addition to including some 25 conventional models, it will include computer-generated and digitally enhanced photographs and drawings, as well as interactive displays developed with the MIT Media Lab. The latter will let visitors take a virtual tour of several projects.

Riley's catalog essay strains hard not only to substantiate the trend toward transparency and fluidity but also to argue that the houses reflect sociological shifts in our society. It is true that childless people, a growing segment of the population, may require fewer discrete spaces, that the computer ties our private spaces to the outside world, and that the hybrid home/office is proliferating. But the show's custom houses scarcely validate these generalized points, and vice versa.

Come July, we will be able to experience, on our own, the sense of boundlessness, seamlessness, and fluidity conveyed by these houses. Some will be found radiant, some a bit alienating, but the totality may indicate that architects have begun to deviate from the established path in order to pursue new fantasies about form and space. ■

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CIRCLE 25 ON INQUIRY CARD

CORRESPONDENT'S FILE Denizens of Dallas have revitalized a stagnant urban core with housing, museums, and even public transit.

BY DAVID DILLON

David Dillon is a contributing editor of RECORD and the architecture critic for the Dallas Morning News.

Only 10 years ago, downtown Dallas had a measly 250 residents—all of them in one building. Today, more than 13,000 people live in apartments, condominiums, and lofts within a half-mile of the central core, a diaspora of suburbanites testing city life. Of all the changes in Dallas in the 1990s, this rediscovery of the center may be the most important.

It is already the most surprising, given the city's history as a capital of sprawl, where inhabitants routinely abandoned its downtown for cheaper land farther out. Between 1945 and 1965 the city's population jumped from 295,000 to 680,000 while its area expanded from 114 square miles to almost 300. It has since grown to 342 square miles, with a population of slightly more than one million. The cumulative effect is a stagnant employment environment and a downtown that has 35 percent office vacancy—the highest in the country—and 37 percent of its land in parking lots. Housing alone can't solve the problems, but it is essential for sustained renewal.

The new urbanites are living in conventional one- and two-bedroom apartments, in high-rise condominiums, and in stunning converted lofts such as the American Beauty Mill, whose 80 apartments were carved out of raw industrial concrete. Roughly one-third of the new housing is lofts, a figure that would be considerably higher had Dallas not demolished most of its recyclable warehouses and industrial buildings. Even though this new housing is still scattered and generally disconnected from grocery stores, dry



Pei Cobb Freed's Morton H. Meyerson Symphony Center (above); the Convention Center Station (left), part of the unexpectedly successful DART light-rail system.

cleaners, and other forms of residential life support, it represents a striking vote of confidence in a downtown that only a few years ago looked bombed out and left for dead.

Sparking this revival have been plummeting downtown land prices (from \$200 or more per square foot five years ago to \$50 today), suburban gridlock, and the unexpected success of Dallas Area Rapid Transit's new light-rail system. Dallas is a car and freeway city, meant to be seen at 60 miles per hour with the top down, and skeptics thought that residents would never be enticed onto trains and that DART rail would be an expensive flop.

The skeptics were wrong. Since DART opened a 20-mile starter line in June 1996, ridership has risen to 40,000 daily, 33 percent above projections. Development has begun to sprout around some stations, raising hopes for the eventual densification of Dallas. Real estate agents have even begun saying "close to DART line" in their listings. DART has purchased 55 more cars and is extending lines to the northern suburbs of Garland and Plano, which are expected to boost ridership to 57,000 passengers a day. A commuter rail line to Fort Worth will open next year.

Even though the light-rail system is still embryonic (the trains

don't run to Dallas/Fort Worth Airport or the major medical centers, for example), it is making the city feel good about itself. Combined with the \$1 billion reconstruction of Central Expressway, Dallas's equivalent of Chicago's Dan Ryan or the San Diego Freeway, it appears the fragments are being reconnected.

Dallas is also a river city, a fact that even natives tend to forget. For 90 years it has been trying to cash in on the Trinity River, which sometimes surges and sometimes trickles through downtown. The latest effort is a \$1.2 billion plan calling for parks, trails, and a chain of small lakes, crisscrossed by bridges and bordered by a new tollway. Spanish architect Santiago Calatrava has provided sketches and models for several of the bridges, though the nature of his involvement is unclear. The city and its consultants are lobbying the state to do something other than conventional concrete girder bridges, but Calatrava's work—while much



A view into the "gathering," or central hall, of the Women's Museum, designed by Wendy Evans Joseph.

more expressive—is expensive and time-consuming.

The new Trinity plan is proving as controversial as the old ones. Critics claim it is too expensive and that the combination of levees and a tollway will create an impenetrable barrier between city and river that will kill economic and recreational opportunities. Advocates respond that a tollway is the key to solving

downtown's traffic problems, and that the chain of lakes is the best way to turn a drainage ditch into a civic asset.

Dallas was founded by a land speculator and has always been a city of deals, which became painfully apparent during last year's design competition for a new sports arena. The owners of the Dallas Stars and Dallas Mavericks, Tom Hicks and Ross Perot Jr., threatened to move the teams unless the city anted up \$126 million toward the project—then essentially froze the city out of the process. The selection of a retro Deco design by Washington, D.C., architect David M. Schwarz—chosen over adventurous, contemporary schemes by Helmut Jahn and Kohn Pedersen Fox—created an uproar.

The debate got louder when the city manager resigned to go to

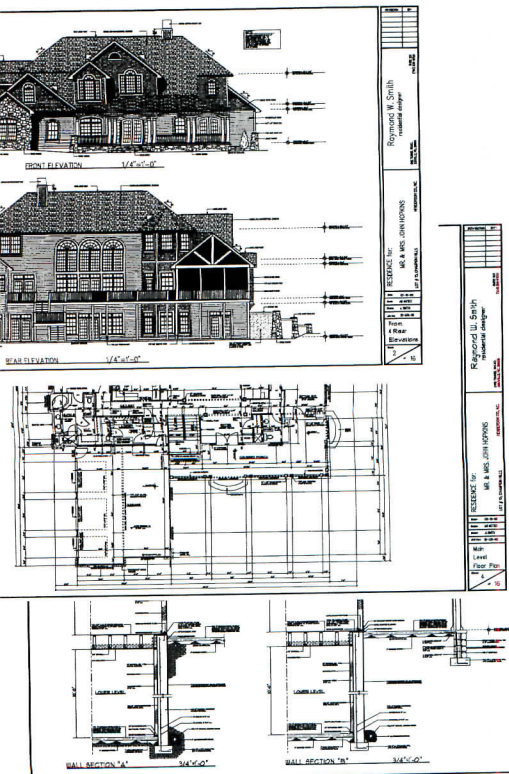
work for Hicks, and the mayor's wife turned out to have \$500,000 in stock options from one of Hicks's media companies. The Dallas City Council's call for an ethics investigation went nowhere; meanwhile, the \$250 million arena is scheduled to open in 2001.

In the late 1970s, Dallas began working on a downtown arts district. The Dallas Museum of Art (by Edward Larrabee Barnes) opened in 1984 and the Morton H. Meyerson Symphony Center (Pei Cobb Freed & Partners) followed in 1989. Then nothing, as a combination of real estate bust and municipal inertia stopped development in its tracks.

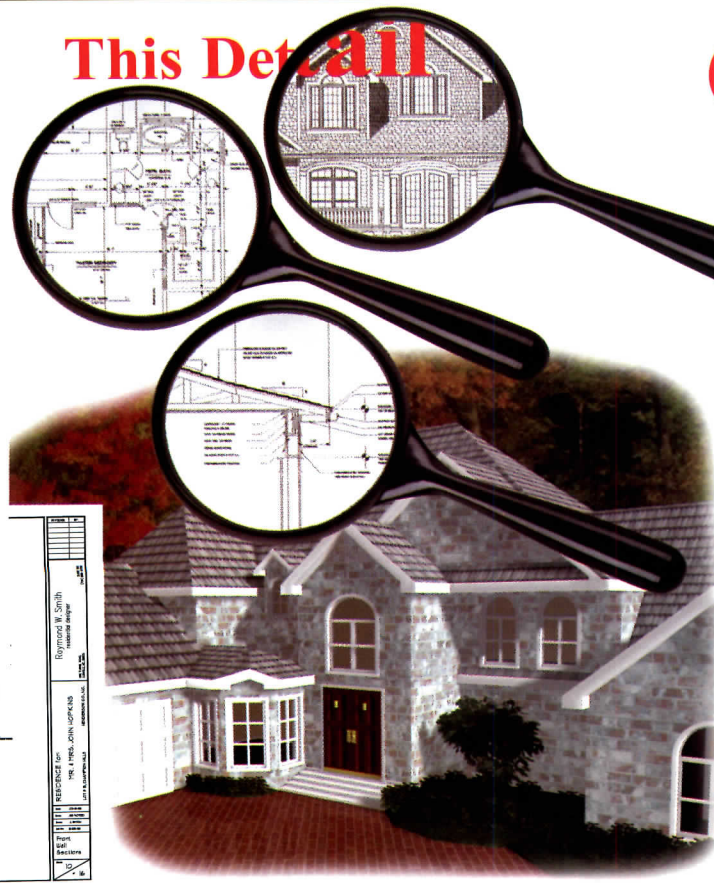
However, last April came the announcement of a \$250 million performing arts center that would include new homes for the Dallas Opera and the Dallas Theater Center, as well as for several smaller performing arts groups that have been priced out of performance space. The plans are fuzzy and the funding uncertain, but the proposal

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Air Barrier		2078	sqft	0.15	5.00
Subtotal				10.00	24.44
EXTERIOR FINISH					
Brick					135.00
Siding					25.00
Cable Siding		81	sqft	2.70	10.00
White Vinyl		1237	sqft	1.07	10.00
Black Sander		1026	sqft	1.95	10.00
White Vinyl		1	each	14.50	5.00
Brick Mortar		7	cwt	15.70	10.00
Brick Moulding		7	cwt	2.80	10.00
Siding Starter		19	feet	0.25	10.00
Siding S-Moulding		207	feet	0.16	10.00
Siding Dripcap		228	feet	0.16	10.00
Outside Siding Corner		55	feet	0.18	5.00
Inside Siding Corner		42	feet	1.00	5.00
Door Trim		80	feet	2.30	10.00
Window Trim		267	feet	1.20	10.00
Subtotal		128	sqft	0.42	10.00
TOTAL PROJECT COST					
					726.15

Working Drawings

3D Renderings

Material-Take-Offs

CIRCLE 26 ON INQUIRY CARD

represents one of the few dramatic plans for the arts district in a decade.

Another is the proposed \$32 million Patsy and Raymond Nasher Sculpture Garden, to be located between the art museum and the Meyerson. Widely considered the finest private collection of modern sculpture in the world, the Nasher gift would give the district vital connective tissue and an international cultural attraction comparable to the Kimbell and Amon Carter museums in Fort Worth.

The latter is undergoing a \$40 million expansion by its original architect, Philip Johnson, while the Modern Art Museum of Fort Worth is about to break ground on a building designed by Tadao Ando. These developments, coupled with the entertainment and culture boom in downtown Fort Worth, have made Dallasites even more eager to get on with their own arts district.

Meanwhile, on the south side's Fair Park, the only extant 1930s exposition ground in America, New



David M. Schwarz's winning entry for the Dallas Arena (above); the American Beauty Mill (left), a mill from 1912 that has been converted into 80 loft apartments.

York architect Wendy Evans Joseph is designing the Women's Museum: An Institute for the Future. Within the shell of a 1909 structure that has been a cattle barn and opera house, she has created a dramatic

three-story space surrounded by exhibits on such topics as diversity, women's movements, and women in the arts. Many will be computerized and incorporate the latest telecommunications. The \$20 million project

is privately funded and will open in October 2000.

Fair Park is both a National Historic Landmark and a local treasure, yet except for three weeks during the State Fair every October it remains eerily quiet. Dozens of schemes have been presented for reviving it, some of which have produced improvements to buildings and grounds—but not a new vision for the park.

These problems mirror those of the rest of South Dallas, which is poor, black, and neglected. A recent study showed that many South Dallas residents drive 25 miles to shop. Ninety percent of the city's new jobs are north and west of downtown. The imminent arrival of a Wal-Mart and an Albertson's supermarket may change the scene, but the economic imbalance between north and south remains one of Dallas's oldest and most intractable problems. After the revitalizing of downtown, it may be the city's most important challenge. ■

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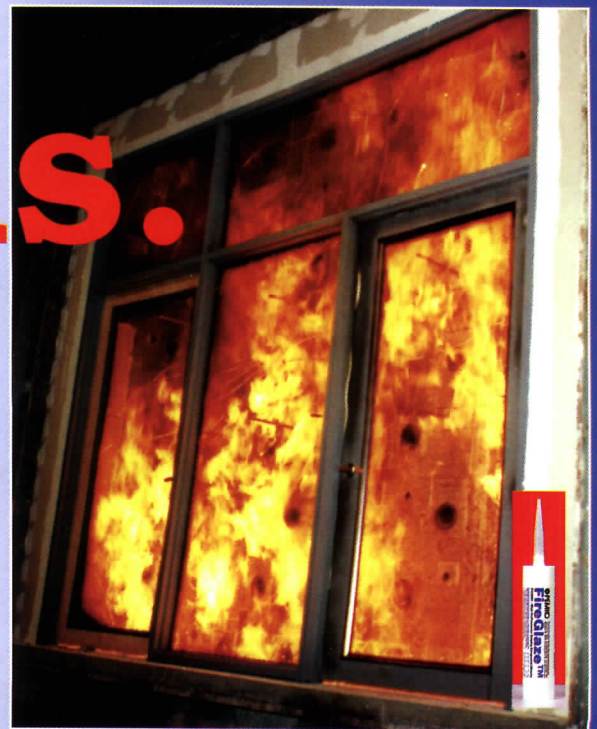
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CIRCLE 27 ON INQUIRY CARD



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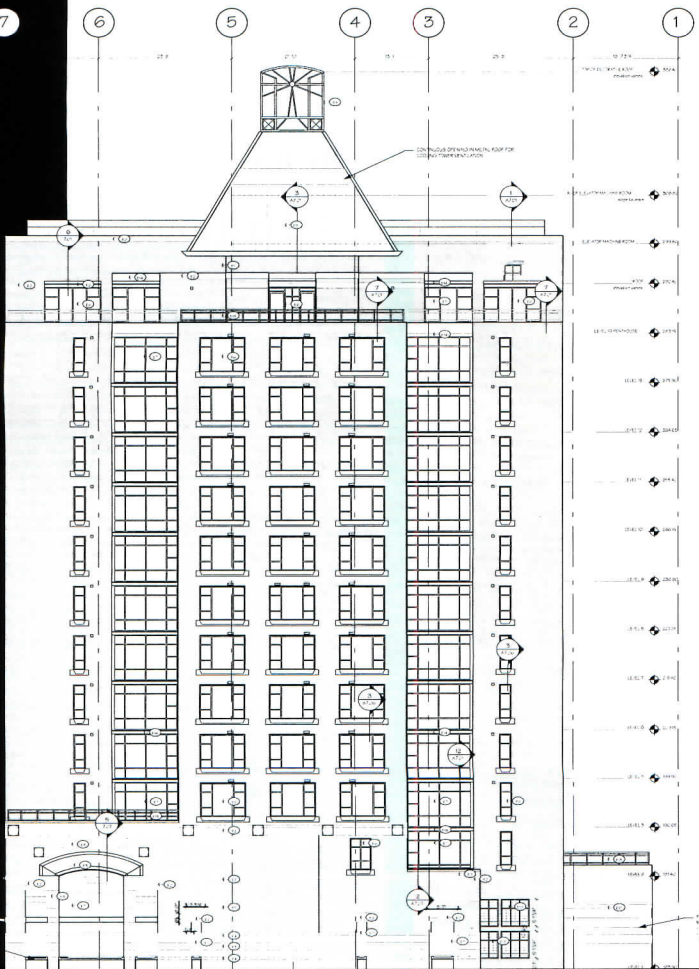
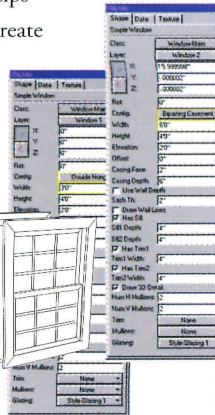
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CIRCLE 28 ON INQUIRY CARD



Mike Huggins, Burrows Huggins Architects, Vancouver, Canada



RECORD NEWS

CHANDIGARH 50 YEARS LATER: A PLANNED CITY AT A CROSSROADS

Half a century has gone by since Le Corbusier and his team began to design Chandigarh as the new state capital of Punjab in Northern India. The city was to be a showpiece of the newly independent nation, symbolizing Prime Minister Nehru's vision of modernization for a post-colonial democracy committed to secularism. The milestone was marked in January when critics, architects, students, and others came from around the world to "Celebrating Chandigarh: 50 Years of the Idea," a conference on the past, present, and possible futures of one of the most daring urban experiments of the 20th century.

One of the conference's high points was a discourse by K. R. Narayan, the president of India, on architecture and urbanism and their social impact. In addition, history was brought alive by people directly involved in Chandigarh's founding: architect Balkrishna Doshi revealed the depth of Le Corbusier's insights into India, while engineer Mahendra Raj recalled the construction process and the important role played by P. L. Varma (chief engineer of Punjab), the main client.

But the discussions were not always adulatory. There were many debates over and criticisms of the urban plan, representing different social and economic perspectives: some Indians call Chandigarh the "green city" and think it the best place to live in India, while others consider it a lifeless garden suburb on a regimented grid plan.

The preservation question

Chandigarh today is at a crossroads. Critics argue that it is all too zoned and controlled, that the time has come to open it up more to densification (read developers). This, some people say, will create a more urbane, stimulating place. Defenders warn that deregulation will lead

rapidly to the sort of uncontrolled laissez-faire mess that characterizes most Indian cities: overcrowding, noise, and destruction of nature. Chandigarh is now confronted by the forces of migration from country to city, privatization in the economy, and globalization as a pervasive force.

On the other hand, the capitol complex has never looked more splendid, though it is missing a key piece: the Governor's Palace, which Nehru canceled because he considered it too "undemocratic." For the conference, a full-scale replica of the palace, including the inverted crescent form on top shown in Le Corbusier's sketches, was constructed overnight out of bamboo scaffolding and fabric.

Still incomplete

The capitol is a sort of cosmic and political landscape—a piece of "land art" before its time—in which the Parliament, High Court, and Secretariat are dynamic sculptural forms, conversing with one another and guiding the eye toward the foothills of the Himalayas. Missing is the Governor's Palace, with its foreground of artificial valleys and waterways, which is essential for the effect and scale of the rest. It should now be built, but as a place for exhibitions and cultural events, even a world center for seminars on modernization, the city, and nature.

Chandigarh is still in its infancy. Now is the time to consider what can change and what should be protected. The capitol complex should be completed and given World Heritage status. As Chandigarh matures, the capitol is likely to come into its own as a great social landscape conception. It is part of India's—and the world's—spiritual and cultural heritage, a timeless and universal idea.

William J.R. Curtis



ISOZAKI DESIGNS A CENTERPIECE FOR THE CAPITAL OF OHIO

The Center of Science and Industry (COSI) in Columbus, Ohio, has embarked on an ambitious project that will result in a state-of-the-art facility designed by Japanese architect Arata Isozaki and a new role as the focus of redevelopment in the state capital.

entrances look to "the past—memories of city life—and something new, a look into the future."

The building's shell is made of 60-by-10-foot, light gray precast-concrete panels—the largest Isozaki has employed in a design—while stainless-steel joints between the

panels reflect the sun to give the surface some animation.

The interior is organized around a central circulation spine (below), which travels the entire 960-foot length. Exhibition areas, two theaters (one an IMAX), and a skylit atrium are all



Financed with \$125 million in public and private funding, the new COSI, slated for completion in November, will replace an older facility opened in 1964. The new 320,000-square-foot structure is sited on one of the best pieces of land in Columbus: 17 acres on the banks of the Scioto River, directly across from the downtown area.

Isozaki's design utilizes a portion of an older structure—a high school built in 1924 that faces east on the riverbank—as a secondary entrance and a space for a restaurant and offices. The new building—an oblong, boatlike shape—will stretch behind the old school, with a main entrance on the west side. According to the architect, the two

accessible from the central corridor. To ensure that the museum's layout is clear to visitors, the exhibition areas off the spine are divided into seven "learning worlds," self-contained environments with myriad hands-on activities; for instance, in the "Gadgets" area, children can swing in a harness to demonstrate the properties of a pendulum.

COSI will be the central landmark of \$2 billion worth of development in Columbus. The city is building an arena and 90 adjoining acres of new residential, retail, commercial, and entertainment facilities. Also in the works are new shopping districts and expansions of the zoo and convention center. Soren Larson



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CIRCLE 29 ON INQUIRY CARD



AFTER TERRIBLE STAGNATION, VITALITY RETURNS TO CALIFORNIA TOWN

The redevelopment of obsolete and often heavily polluted urban industrial properties, called brownfields, has been a cherished goal for those who are concerned about urban sprawl and looking to a postindustrial future. Several new projects in Emeryville, California, are providing one vision of what that future could look like.

Located between Oakland and Berkeley, Emeryville was long known for heavy industry, railyards, and meat-processing plants. By the 1970s, industrial restructuring and economic stagnation left 60 percent of the city's property vacant or underutilized, and created problems such as contaminated groundwater.

As in many other depressed areas, artists were among the first to resettle Emeryville. They were followed by developers, attracted by the city's location at the nexus of several freeways, and high-tech companies such as Sybase, who were lured by the proximity to the University of California at Berkeley campus. What resulted was an often curious amalgam of suburban development formulas jammed together at urban densities, with big box "power centers" next to housing and corporate campuses abutting converted warehouses.

The current boom shows no sign of abating. Officials estimate that one million square feet worth of

construction is currently under way in this 1.2-square-mile city. Recently approved projects include Pixar Village—a 400,000-square-foot headquarters campus for the Steve Jobs-led computer animation studio, designed by Bohlin Czynwinski Jackson and master planned by Peter Walker Associates—and the Jerde Partnership's Emeryville Town Center, a mixed-use project integrating a hotel, housing, and 400,000 square feet of retail and entertainment space, centered around a "main street."

The most dramatic development has been the first building of the Chiron Corporation's 14-building research campus, by Legoretta Arquitectos (above). With Legoretta's bold massing and trademark bright color palette, the biotech lab dominates the surrounding landscape, providing a symbol for Emeryville's new era. *Eric C. Y. Fang*

AS CONDE NAST PREPARES TO MOVE, ITS OLD BUILDING GETS A NEW LOOK

Determined to convert a "boxy, boring" 24-story midtown Manhattan office building into a new showpiece for Madison Avenue, Roger Duffy, AIA, a partner at Skidmore, Owings & Merrill, has designed a renovation and addition to an existing structure that promises to add an unusual new sculptural element to the skyline and a striking street-level presence.

The building is currently the headquarters for Condé Nast, which, in a much-publicized move, will be relocating in August to new digs on Times Square (two blocks away from SOM's other major midtown project, a 50-story

with a dramatic glass entry zone.

In a 22-foot-wide space between 350 Madison and the adjacent building to the south, the entry zone will be lit from below, creating a volume of amber light reflected up from a basement-level pool. A glass bridge leading from the entry door to the lobby will appear to float above the pool, Duffy says. A glass elevator—visible from the outer vestibule but approached from the lobby—will be added to serve the higher floors, while new retail space at street level will be enclosed by glass panels that wrap around into the lobby. The rooftop addition will be cantilevered over the glass entry zone.

To blend the old and new elements, a continuous metal mesh surface, beginning at the lobby level, will be wrapped around the entire structure. Panels of gray-striped glass within the wrap will allow tenants to see out the original windows, but from the outside, the wrapper will appear to be part of a continuous plane. "The idea," Duffy says, "is to avoid the appearance of punched windows."

The renovations are expected to be complete in early 2000 for an as-yet-undetermined tenant.

Julie Moline



tower code-named Site One). Duffy's design calls for 110,000 square feet of additional office space and a new two-story lobby

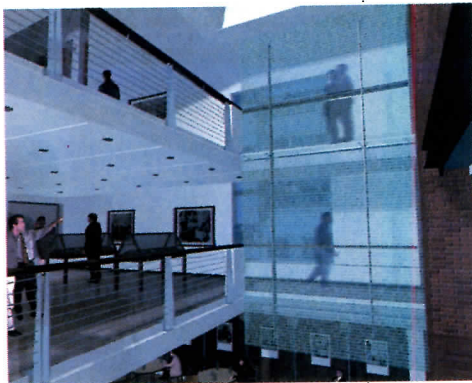
MLK IS NEXT FOR D.C. The next major memorial in Washington, D.C., will be one honoring Dr. Martin Luther King Jr. Thirty-six years after King stood on the steps of the Lincoln Memorial and gave his "I Have a Dream" speech, Congress has authorized funds for the project and an international competition is being held for the design of the memorial. With a theme of "The Man—The Movement—The Message," the competition program challenges entrants to convey King's commitment to the civil rights movement, his spirituality, and the tragedy of his assassination.

The project is being run by Alpha Phi Alpha, the country's oldest black fraternity, of which Dr. King was a member. The competition will be open to all disciplines and ages and will be administered by the Washington-Alexandria Center for Architecture, the same group that oversaw the Vietnam Veterans Memorial and the Women in Military Service to America competitions. A jury has yet to be finalized. The registration deadline is October 15, with submissions due by December 1. Winners will be announced next year on January 17, Dr. King's birthday. Registration information can be found at www.mlkmemorial.org. *Ellen Sands*

AUSCHWITZ SYNAGOGUE TO BE RESTORED, WITH A NEW VISITORS' CENTER

Thousands of tourists a year visit Auschwitz and Birkenau, the death camps in Poland where four million people, including one million Jews, were murdered by the Nazis. The remains of these killing centers are deeply disturbing, though they merely hint at the inconceivable horrors they contained.

Displayed within Auschwitz,



now a National Museum, are barracks and crematoria, filled with thousands of shoes, prosthetic devices, false teeth, and prisoners' hair. Some of the torture chambers are intact, as are the gas chambers.

Yet before World War II, the nearby Polish town of Oswiecim enjoyed a long legacy of Jewish life, culture, and history dating back to the year 1250. Preceding the Holocaust, this local Jewish community numbered over 8,000, and 19 synagogues were dotted across the town. Today, one Jewish man, age 78, resides in Oswiecim.

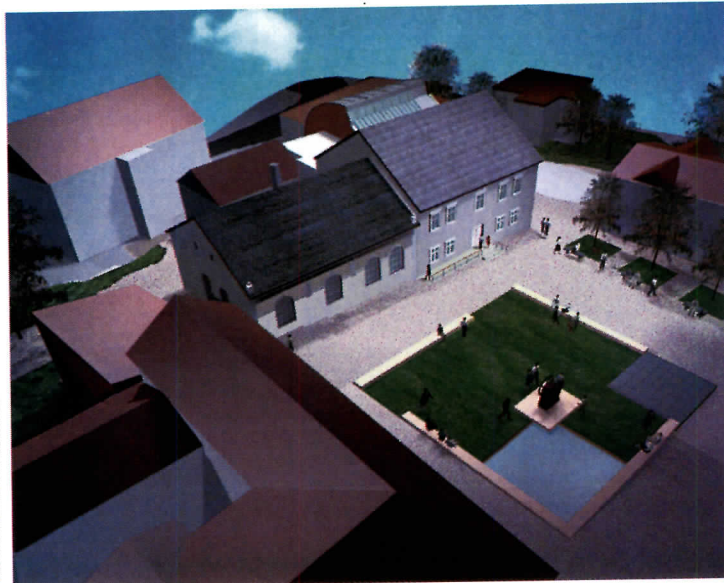
Building a foundation

In 1995 a Manhattan-based foundation was formed, the Auschwitz Jewish Center Foundation, with the aim of saving the only remaining synagogue in Oswiecim and funding a cultural facility memorializing Jewish life in Eastern Europe: a place where visitors could learn not only how Jews died but how they had lived.

The foundation's architect—Arthur Rosenblatt, FAIA, of RKK&G Museum and Cultural Facilities

Consultants—was the founding director of the United States Holocaust Memorial Museum in Washington, D.C. He is quick to point out the significance of the project's modest scale. "This is not the restoration of a grand old synagogue in a large city. [It] is the only example of the reconstruction of a simple synagogue in a small town in Poland, providing a place for people to pray after visiting the camps." Rosenblatt also sees the project as an economic rejuvenator for Oswiecim: "The townspeople are hopeful for tourism and have become zealous partners in the effort. It's an opportunity for Polish entrepreneurship."

The work will take up to two years and cost as much as \$10 million. The initial phase (above right) involves the renovation and rededication of the Lomdei Mishnayot Synagogue, the construction of an adjacent visitors' center, and the



restoration of the town square. Currently a parking lot, Skarbek Square was where local Jews were rounded up during the occupation before being deported to ghettos and death camps.

Until recently, the synagogue building was used as a carpet warehouse, but a recent government program established to provide restitution for seized Jewish property returned it to the closest active Jewish community, in Bielsko-Biala. Title has been transferred to the

foundation, and the building is now listed in the historic registry.

The red brick visitors' center was designed as a contemporary interpretation of a local style. It will house exhibition and contemplation space, a kosher cafeteria, and a lecture hall. A stone "wall of memory," with personalized dedications and a hanging glass wall (left) engraved with names of former Jewish communities, counteracts the anonymity of Auschwitz and Birkenau.

Susanna Sirefman

NEW URBANISM: THE DEBATE GOES ON American schools of architecture have been reluctant to embrace New Urbanism, typically viewing the movement as an appalling, kitschy revival of the kind of sentimental architecture that belongs only on Hallmark cards. Meanwhile, the canny New Urbanists, led by the team of Andres Duany and Elizabeth Plater-Zyberk (see page 22) in Miami, are successfully conquering the media and the world of real estate, and are to some extent rewriting the nation's zoning codes. The opposing sides were brought together in March at the Harvard Graduate School of Design for a summit, "Exploring (New) Urbanism," led by Alex Krieger, Harvard's chair of planning and urban design. The conference sold out almost immediately; most leading New Urbanists participated, and other voices included the mayors of Milwaukee, Las Vegas, and Cincinnati; congressman Earl Blumenauer of California; and various critics, professors, and architects.

The intended climax, however, was a flop. This was a debate between Duany and Dutch architect Rem Koolhaas—meant to be a pro and con on New Urbanism, except that Koolhaas never stated a position. New Urbanist Dan Solomon described Koolhaas's technique as a rope-a-dope strategy: as Ali, he hung on the ropes in hopes that Duany, as Frazier, would punch himself into exhaustion. The result was that the conference had nobody to articulate an alternative vision of the future of the built environment. Many alluded to such a vision, but it was perhaps not a vision of traditional urban order, but a celebration of the chaos of democracy. Both the New Urbanists and what we might call the New Chaoticists saw themselves as champions of democracy: the New Urbanists for the democracy of popular taste, the Chaoticists for unfettered entrepreneurialism. Sprawl, however, had no defenders. It was also apparent that both the New Urbanists and the academic community are aware of two issues: finding ways to bring New Urbanist principles into the city, where they can revive decayed neighborhoods, rather than operating at the rural fringe; and keeping New Urbanism marketable to a wide public, without resorting to Disneyland-style design. The latter issue was encapsulated when Duany said he regarded style as "camouflage" for the underlying principles of greater density, mixed income, and mixed use. *Robert Campbell*

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IN VIEW OF THE PYRAMIDS, WESTERN PIZZAZZ HITS THE SAHARA

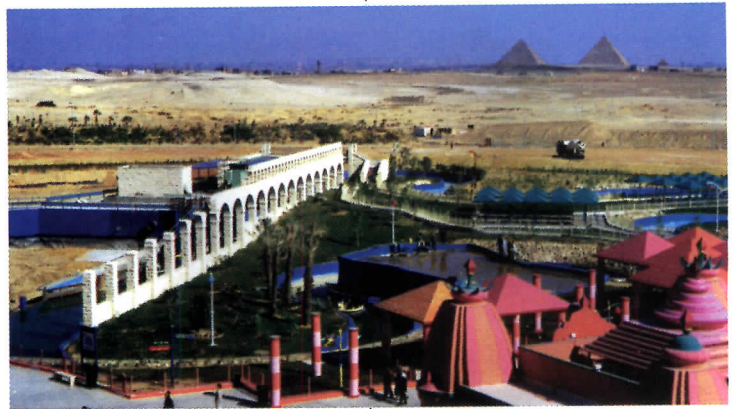
An ice rink within sight of the Great Pyramids of Giza seems improbable enough, but it's only one of the attractions in a new \$100 million-plus theme park and entertainment complex in the Sahara desert near Cairo.

Called Dreamland, the project is the largest and costliest of its kind in the Middle East. The first phase—three-quarters of what will eventually comprise a 102-acre, 3.2-million-square-foot theme park, including typical amusement rides and food and retail attractions—opened in January. The developer, Ahmed Bahgat Fatouh, an engineer and one of Egypt's wealthiest industrialists, is confident enough to have ordered working drawings on the second phase to proceed.

John M. Ciocci, a senior designer with Forrec Ltd. of Toronto and Dreamland's project manager, says his firm's 1996 master plan

incorporated an irrigation system fed by the Nile River, which allowed an 18-hole golf course to be built and about 1,000 mature palm trees to be planted. He also says Fatouh preferred a Western-style park to the Egyptian archaeological themes Forrec originally proposed. "We estimate the park will attract about four million people a year. There is a population of 40 million to draw from in the Middle Eastern region, including Cairo, one of the world's most highly populated cities," notes Ciocci.

The second phase, to be completed in 2001, includes a 500,000-square-foot shopping and resort center—with retail tenants, cinemas, office space, and two hotels—that will be connected to the theme park by a main retail street and plaza. This phase will add more stores, a food bazaar, an IMAX cinema, and the ice rink.



The various parts of the development will share more than 3,000 parking spaces; a four-lane highway and a direct bus service connect the complex to Cairo.

The theme park and shopping resort/center, along with a huge housewares outlet being built nearby, are the centerpieces of a 5,000-acre residential and retail project called 6th of October City that Fatouh is developing.

Current visitors to Dreamland encounter a 90-foot-high man-

made mountain and waterfall, which dominates the theme areas and culminates at the base in a small lake that hosts boat rides. A restaurant on top offers the best views of the Pyramids, although they are visible from any point in the park.

Ciocci says the water features heighten Dreamland's oasis character, and the colorful playgrounds, landscaped grounds, ponds, fountains, and formal gardens serve to relieve the austere aridity of the surrounding desert. *Albert Warson*

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ART MUSEUMS IN THE CAROLINAS FIND SUPPORT AND NEW HOMES

In two cities in the Carolinas, potent public and private financial support has led to the installation of art institutions in renovated downtown buildings.

In January, the Mint Museum of Art, located in a mostly suburban area of Charlotte, N.C., opened the downtown Mint Museum of Craft + Design in a renovated department store. Nearby, the first artists will arrive in September for residencies at the Tryon Center for Visual Art, which will open in a renovated Gothic Revival church. The projects are nestled in the shadow of the Bank of America (formerly Nationsbank) Corporate Center, the 61-story Cesar Pelli tower housing the bank that paid for both museums.

The new Mint Museum occupies 16,000 square feet in a building it shares with an extension of the University of North Carolina at

Charlotte's College of Architecture, which will help organize design exhibitions. The museum might later expand into office space on an



upper floor, says director Mark Leach. "We've got nothing short of a stunning solution, a wonderful sense of openness and connectedness," says Leach of the \$10 million

renovation, designed by Charlotte's Lee-Nichols Architecture. "No matter where you are in the building, you can see [other sections]."

The Tryon Center enjoys a similarly expansive view, at least on the south side, from the first-floor public gallery up to the rafters. The former stone-walled Presbyterian church, designed 75 years ago by James McMichael, was damaged in a 1984 fire, and the local Fishero McGuire Kruger Architects left some scarred brick exposed. The firm adorned the new construction, which staggers back along three levels on the north side, with two-tone, quarter-sawn oak doors and accents. Gothic arches house new windows, and skylights illuminate painting studios in the \$7 million project.

Meanwhile, 90 miles south, Columbia, South Carolina, recently welcomed the Columbia Museum of Art to its new home in a renovated former Macy's (left). The city donated the building for the project, Richland County pitched in another

\$3.5 million, and the museum raised the balance of the \$16 million cost.

As with the Charlotte projects, the Columbia renovation entailed completely gutting the original structure. In addition, the Columbia project involved tearing down part of an adjacent, also abandoned department store for a new entrance marked by a neo-Palladian arch. "Inside, we wanted people to forget where they used to buy underwear," says architect Ashby Gressette of the local Stevens & Wilkinson office.

The firm completely reconfigured the interior around the generous 28-foot bays. The museum's chief curator, Bill Bodine, says the space is ideal: "This building is as good as it possibly can get for adaptive reuse." The museum moved from 30,000 square feet in a nearby historic home to 85,000 square feet in the former store, with about 45,000 available for expansion. *Chuck Twardy*

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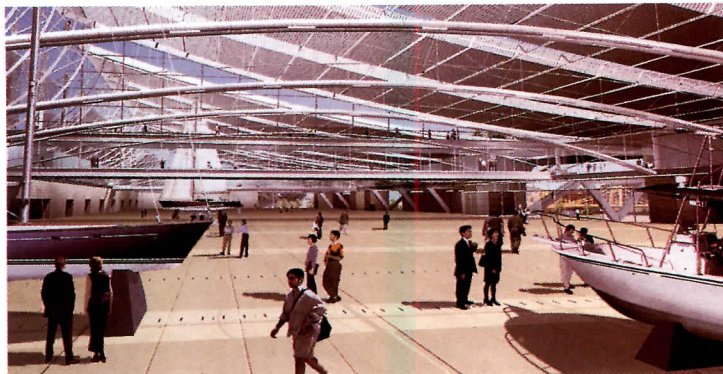
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VINOLY'S CONVENTION CENTER TO ENLIVEN PITTSBURGH RIVERFRONT

On a prime downtown site overlooking the Allegheny River, Rafael Viñoly is designing a new convention center for Pittsburgh that will echo the look of one of the city's salient features: its many suspension bridges.

Viñoly won the competition to design the David L. Lawrence Convention Center with a plan that features a metal roof structured as a suspension bridge and draped over a column-free space. The roof's curved surface will be coated by water from the recirculated air cooling system to give it a glittering quality; at night, the transparent building will be lighted to create a glowing presence.

At the riverside edge of the building, a cantilevered, public ter-

race will reach to the bank, giving visitors an opportunity to view the city as a whole. The main public concourse of the building—also facing the river—will be linked by a bridge to a public plaza on nearby Penn Avenue. On the city side, a public promenade on the upper level will funnel pedestrians from the streets into the building and toward the river. The main exhibition hall opens to the concourse and has sweeping views of the river, while meeting rooms and conference facilities are organized in two bands at either edge.

The 1.4 million-square-foot center, being built at a cost of \$218 million, is scheduled for completion in 2001. *Soren Larson*

HUGE MALL OPENS IN ENGLAND AS EUROPE MOVES TO HALT ITS TYPE

Bluewater, in Kent, just southeast of London's orbital motorway, the M25, is a huge and controversial shopping center—and likely the last of its kind to have been built in Europe.

The \$560 million center (over \$800 million including transportation infrastructure) is already an anachronism. It was granted planning permission five years ago, before European governments decided to clamp down on out-of-town shopping due to the devastation it caused to nearby town centers and communities. Grants have already been allocated to towns near Kent to enable them to strengthen their cores.

Nevertheless, Bluewater opened on schedule on March 16. Texas architect Eric Kuhne, employed by the developer, the Australian company Land Lease, insisted that "we've really designed a city rather than a retail destination." For Bluewater, his first U.K. project, Kuhne's team was made up of 500 architects and engineers, including four U.K.-based firms—Benoy, Brooker Flynn Architects, BDG McColl, and the U.K. branch of RTKL—as well as the Detroit-based JPRA.

Kuhne's influence is obvious. Bluewater is on a Texan rather than a U.K. scale, with 1.6 million square feet of retail space—matching that of London's shopping mecca, Oxford Street. Its 13,000-capacity parking lot is second in the country to Heathrow Airport's. Bluewater's anchor stores are located on the ends of three two-story malls: one with a landscape design theme (and the biggest conservatory in the U.K.); an upmarket guild-themed mall; and the main retail drag, which connects the two. Each has custom-designed street furniture and civic art.

The complex is built in a former chalk pit, now landscaped with lakes, parks, and pedestrian-friendly "town squares." It offers visitors shopping, refreshment, and cinemas in an environment flooded with natural light and fresh air.

Design debates

Acutely aware of the need to repackage this American-style mall for its U.K. context, Kuhne drew on a wide variety of sources from English history, literature, and art—for instance, using poetry in friezes above shop doors—with mixed success, according to some local critics. Purists believe the rampant commercialism wouldn't sit well with the quoted authors and artists. U.K. retailers, for their part, are eager to see whether Kuhne's new creation, which is in many ways a dinosaur, will survive.

Architects have also weighed in. In January, Rem Koolhaas gave a much-publicized talk at the Architectural Association in London and cited statistics gathered by a research team at Harvard indicating that traditional retail shopping was entering a terminal decline. "[Retail] is a way that people have to personalize their lives," counters Kuhne. "With [the country having] the most disposable income and the most enlightened customer base ever, I find [Koolhaas's assertion] hard to believe." *Katherine MacInnes*

HARVARD TOWER EMERGES FROM THE ASHES The long-lost tower of Harvard's Memorial Hall will be rebuilt this summer. The immense Ruskinian Gothic building was designed by Ware and Van Brunt in honor of Harvard's Northern (but, it is said, not Southern) Civil War dead. The tower, which rose more than 210 feet upon completion in 1878, was a Cambridge landmark for generations until a spectacular fire destroyed its mansard spire in 1956.

The new tower (model at left) will cost about \$4 million and is expected to be completed by the end of the year. The architect for the reconstruction is CBT/Childs Bertman Tseckares of Boston, with Maurice Childs the senior principal in charge and James McBain the project architect.

During the years following the fire, the architecture of Memorial Hall was so far out of fashion that no serious effort was made to rebuild it. But in the 1980s a major restoration of the entire building began. The vast dining hall and the 1,100-seat wood-and-iron Sanders Theater were restored under the direction of Venturi, Scott Brown and Associates.

The late architectural historian Margaret Henderson Floyd researched the tower's complex design history for the reconstruction. Three different versions had been built, all of them designed by the original firm. Because the first was deemed too plain, in 1878 the architects added what they called a "skyline package" of cresting, finials, and narrow dormers. In 1897, they redesigned it again to accom-

modate the donation of a huge clock, changing the roofing to copper. The 1878 design was chosen for reconstruction because it best matched the detail and polychrome roofing of the rest of the building. *Jonathan Hale*



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TOWERS GO UP IN ARGENTINA TO COMBAT HOUSING SHORTAGES

On a government-owned site in Cordoba, Argentina, that was neglected and then occupied by homeless people for many years, local firm Novillo y Asociados SRL has designed a complex of five towers that will hold 300 apartments, providing much-needed residences.

The firm won a national competition, staged by the government, in which designs were submitted for a 2.7-acre lot, with at least 10 percent dedicated to commercial activities. In Novillo's scheme, priority is given to open spaces, as the site is one of the few undeveloped plots left in the crowded neighborhood. The towers are being built at the maximum height permitted in order to keep as much ground

space free as possible. Four of the octagonal towers stand 16 stories; a fifth, shorter than the others and designed with a different crown, is intended to give an image of diversity. The complex is being built using what the architects call "traditional and rationalized technologies": reinforced concrete and traditional masonry walls, covered with plaster to create plain white facades.

The towers are sited in a curving line along a central avenue, with public spaces along their bases: a parking lot with a garden on its roof, a piazza surrounded by shops, and a reflecting pool, which serves as a historical reference to the creek that used to run through the site. *Soren Larson*

CHICAGO'S HISTORIC RELIANCE BUILDING TO BE REFURBISHED AS A HOTEL

After decades of neglect and uncertainty about its marketability, Chicago's historic Reliance Building (D. H. Burnham & Co., 1895) will reopen this fall as the 122-room Hotel Burnham, operated by the Kimpton Hotel Group of San Francisco. The

city of Chicago acquired the building by eminent domain in 1994 and devoted \$6.6 million to the restoration of its terra-cotta skin, executed by the design/build team of McClier/UBM.

McClier repaired or replaced

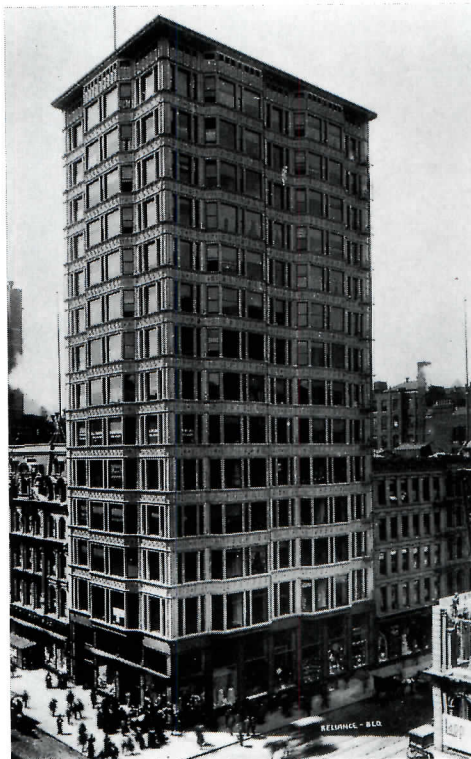
3,000 pieces of terra cotta, installed a cast-aluminum cornice (the original terra-cotta one had been removed in the 1940s), and replaced all windows.

The firm is now working with Antunovich Associates, the architects converting the interior to hotel use, to restore the original elevator lobby and the street-level storefront.

As long as the space across the street remains undeveloped, hotel guests will enjoy an expansive view north to the mar-quees of the Oriental and Chicago theaters and the river beyond. State Street pedestrians will enjoy an unob-

structed view of the newly gleaming Reliance Building.

The prospect of losing that "amenity," if and when the neighboring site is developed, does not seem to concern the parties involved. "There's now a higher level of interest in making the right urban planning decisions in Chicago than there had been in the past," suggests Ed Woodbury, the vice president of McCaffery Interests (which with Mansur & Company and Granite Development Corporation formed a limited partnership as Canal Street Hotel Partners to develop the project). "I think the city will do the right thing on that block, and keep the Reliance Building and other neighbors in mind." *Thomas Connors*



WAYNE BERG, FAIA The design world has lost an architect of prodigious talent: Wayne Berg, FAIA, died February 25 at age 52 after a protracted battle with brain cancer. He left a series of competition- and award-winning projects now or soon to be under construction; these will become his final legacy to American architecture.

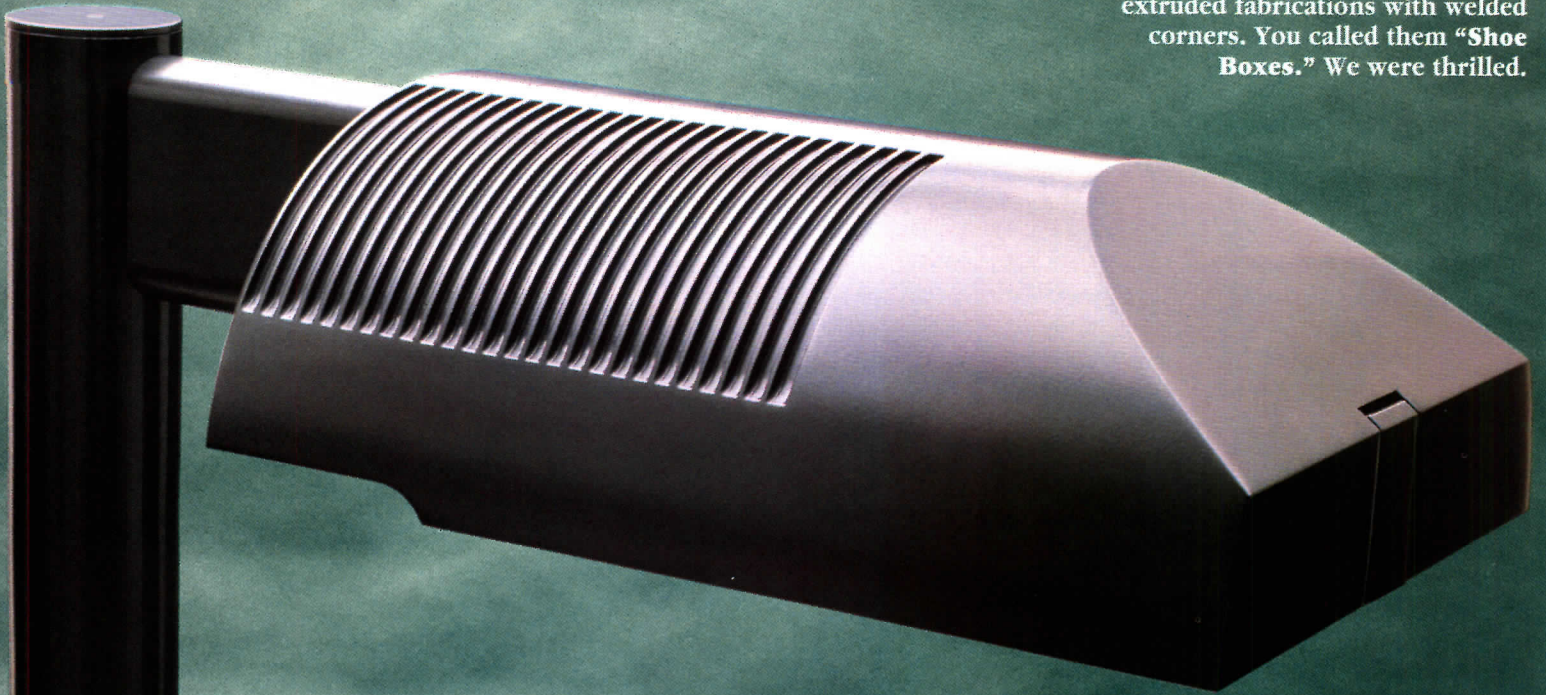
Berg's career spanned three decades and two coasts. Trained at Montana State University, he ventured first to the West Coast, where he worked with the Bumgardner Partnership in Seattle and then with Backen Arrigoni & Ross in San Francisco. In 1974 he moved to New York and worked in the office of Robert A. M. Stern before founding his own firm in 1978. In 1987 he joined Pasanella + Klein Stolzman + Berg Architects P.C. as design principal. Always generous with his time, Berg contributed greatly to the architecture culture in New York City as an assistant adjunct professor at Columbia University, and as vice president of the AIA New York Chapter and chair of its Design Awards Committee. Berg was elected to the College of Fellows of the AIA in 1995.

His architecture was rooted in two fundamental principles: the articulation of functions through the assemblage of bold, primary volumes of contrasting materials, and the celebration of materials, texture, and craft through detailing. These principles can be seen in such projects as the Gallatin County Detention Center in Montana (1984), the addition to and renovation of the Reed Library at the State University of New York Fredonia campus (1992), and the Education & Development Center at Clinch Valley College of the University of Virginia (1997). In the last several years his hand was behind five winning competition entries, including Stable Residence Hall at Pratt Institute, the Williamsburg Community Center in Brooklyn, and the Children's and Youth Wing at Brooklyn Central Library.

Berg will be remembered as a designer who brought classical Modernist principles to a new level of relevance for our time. He is survived by his wife, Ann Hutchens Berg, along with his parents, a sister, and a stepson. A memorial service will be held April 14 in St. Paul's Chapel at Columbia University. *Margaret Helfand, FAIA*

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NEWS BRIEFS

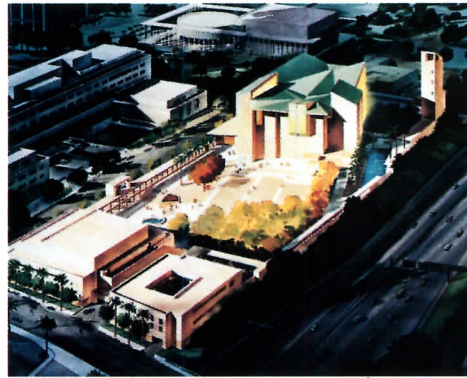
Trouble at Taliesin The Taliesin Preservation Commission, the non-profit group overseeing the restoration of Frank Lloyd Wright's former home and studio in Spring Green, Wisconsin, is in default of an \$8 million loan from the state. The culprits: unforeseen construction difficulties and the high cost of refurbishing the complex, overly optimistic estimates of the number of visitors, and shortfalls in funding from other sources. State officials are resigned to the default and will cover the debt with unexpended funds; meanwhile, Taliesin is looking into fundraising alternatives, new marketing initiatives, and new partnerships.

Museum mavens Two major European firms have been commissioned to design new museums. Zaha Hadid of London has won a competition to design the Center for the Contemporary Arts in Rome. The new center—on the site of a former

military barracks—will house an art museum, an architecture museum, and a range of cultural services. Hadid's flowing, modulated design of structures with different heights interacts with the existing barracks and moves horizontally along the original military layout.

Meanwhile, Switzerland's Herzog & de Meuron has been tapped to design a new home for the M. H. de Young Memorial Museum in San Francisco's Golden Gate Park. At 270,000 square feet, the new de Young will be the firm's largest project in the U.S. Herzog & de Meuron will now submit a design to the trustees; construction isn't expected to begin until 2002.

Zumthor takes Mies The Mies van der Rohe Award for Architecture, given biannually, has gone to Swiss architect Peter Zumthor, whose art museum in Bregenz, Austria, was deemed by the jury to be the best building completed in Europe within the last two years. The award, worth



Moneo's cathedral design.

roughly \$50,000, will be presented April 16 at the Mies van der Rohe Pavilion in Barcelona.

Moneo moves ahead Work begins this month on Our Lady of the Angels, Rafael Moneo's new cathedral for the Catholic Archdiocese of Los Angeles. Part of a \$163 million complex going up downtown, the cathedral will have space for 3,000 worshippers and will open onto a two-acre-plus

plaza. Because the new cathedral's predecessor closed after earthquake damage in 1994, English firm Silvertown UK has been contracted (for \$2 million) to provide seismic protection for the new structure. Silvertown's patented Andre bearings use a rubber component to

accommodate up to two feet of movement.

Memorial service The General Services Administration is holding a competition to design a memorial on the site in downtown Manhattan where workers found an 18th-century African burial ground while constructing the new Federal Building. Five teams—consisting of architects, historians, and other professionals—will compete to design a 2,000-square-foot "interpretive center," explaining the

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significance of the site. The teams—each of which includes at least one African-American among its leadership—are led by Design and Production; Duckett and Associates/H. J. Russell & Co.; I.D.I. Construction Company; Promatech; and Studioworks U.A.I.

Sunny design Bernard Tschumi Architects has won a competition to design the new school of architecture at Florida International University in Miami. Tschumi, working with Bruno-Elias & Associates, will design the new \$15 million school on a prominent site near one of the main campus entrances.

High rollers Manhattan's 55 Wall Street building, constructed in 1842 as a merchant exchange, was going to be restored as a hotel by the entrepreneurial Cipriani family. Now, after the Ciprianis backed out to devote time to other projects in New York, Regent International Hotels has stepped in. Under a design by

M/G Architects, the landmarked Greek Revival building is being converted to the Regent Wall Street, a luxury hotel with rooms starting in the \$450 range. The stunning,



UNM's Cancer Research Center.

34,000-square-foot grand ballroom—with its elliptical dome and a 2,700-pound chandelier—will be the centerpiece.

Foster's next foray Foster and Associates has won a competition for the headquarters of a reinstated London Assembly. Foster's design, a

glazed, football-shaped building on the south side of the River Thames near the Tower of London and Tower Bridge, was chosen by the government over a proposed renovation of a landmark building in historic Bloomsbury.

Bridgework Rosales Rosales Gottenmoeller & Associates of Boston, together with Steinman De Leuw Engineers of Baltimore, will design the new Woodrow Wilson Bridge in Washington, D.C. The \$600 million bridge, which will replace an existing one, is the centerpiece of a five-mile-long, \$1.8 billion project that also encompasses four adjacent interchanges in Virginia and Maryland. Construction of the twin-bridge, draw-span design begins in 2000.

RIBA's man Marco Goldschmied, managing director of the Richard

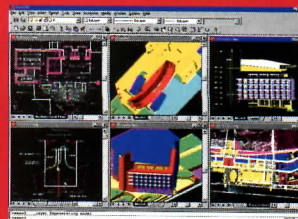
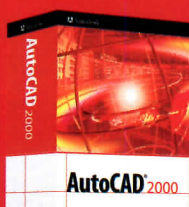
Rogers Partnership, has been elected the next president of the Royal Institute of British Architects. Goldschmied says he wants to "re-establish a public understanding of what architecture can do." He will assume office in July.

Local color Dekker/Perich/Sabatini, an Albuquerque firm, has imbued the new University of New Mexico Cancer Research Center with the vernacular style of the Southwest. Exterior materials and interior public spaces make reference to the desert's textures and colors. The building houses 33 bio-research laboratories, along with other labs and various research and academic facilities.

Taking the gold William Curtis, a frequent contributor to RECORD and author of several books on architecture, has been awarded the Tau Sigma Delta National Honor Society's 1999 Gold Medal in Architecture and Allied Arts. ■

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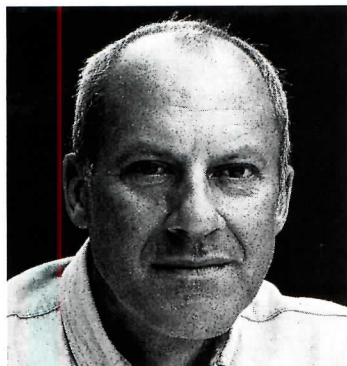
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Sir Norman Foster talks about the Reichstag and the importance of research. Robert Ivy, FAIA, RECORD's editor-in-chief, recently traveled to London and met with Sir Norman Foster. During their talk, excerpted on RECORD's Web site, Foster described his office, which overlooks the Thames, as an "island in the middle of London. It has its own currency and its own internal language." The architects who work there come and go seven days a week, 24 hours a day. "In terms of its hours and its attitudes, [the office] is like a school of architecture," he says. The learning environment extends to the variety of projects. "We have tremendous stimulation in the projects we do. They are a pretty wide mixture, which is also fairly unusual."

One of the things that sets Foster's practice apart from others is his emphasis on research. "We do an incredible amount of research," he says. "It's instrumental in terms of breaking down barriers [between clients and architects]. I think it's a very revealing process. If you get it right, it commands a tremendous amount of respect from the people who commissioned you."

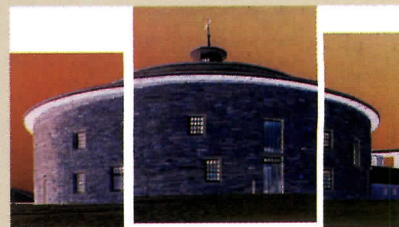
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WHAT IN THE WORLD? This month's challenge tests your knowledge of one of the world's basic building types. Most architects wouldn't compete for an opportunity to design one of these buildings, but this example is unusual. Answer the questions correctly, submit the form, and you may be eligible to win a free one-year subscription to RECORD.



SOLUTIONS The building pictured in the #3-99 "What in the World?" challenge is "The Ship," part of the Spaarndam Housing Block in western Amsterdam.

The third public housing facility in this district designed by Michel de Klerk, the structure was completed in 1917. The building's wealth of ornamentation is characteristic of the work of the Amsterdam School, sometimes called the Wendigen Group, whose members achieved prominence in Holland between 1918 and 1931. The movement's aim was maximum expression through opulence of form.



DATESEVENTS

Calendar

Concept House 1999

London

Through April 10

Showcases sustainable, mass-produced urban row house concepts. Designs are by this year's winner, Pierre D'Avoine, and others. RIBA Architecture Gallery. 44/171/580-5533.

Museum Architecture and Changing Civic Identity

Los Angeles

Through April 18

Explores the museum's role as a vital part of communities. Recent centers for art, science, and culture (such as the Getty Center and the California Science Center at Exposition Park) are featured. Fisher Gallery, University of Southern California. 213/740-4561.

Encounters: The Vernacular Paradox of Israeli Architecture

New York City

Through April 21

This exhibition highlights the architectural results of Israel's immigrant roots. Pratt Manhattan Gallery. 718/636-3517.

Photography and Transformations: Venezia-Marghera

Montreal

Through April 25

Fifteen Italian photographers explore the relationship of historic Venice with the polluted modern industrial port of Marghera, which is nearby. Canadian Centre for Architecture. 514/939-7000.

The Museum as Art: Photographs by Elizabeth Gill Lui

Washington, D.C.

Through April 30

An exhibition of photographs of 20th-century museum architecture demonstrates the ongoing transformation of the museum aesthetic. American Institute of Architects Headquarters Gallery. 202/638-3221.

Marion Mahony and Walter Burley Griffin

Sydney, Australia

Through May 2

Explores the professional and spiritual journey of architects Mahony and Griffin, from their years in Frank Lloyd Wright's office through their 1920s and 30s Australian and Indian work. Powerhouse Museum. 61/2/217-0111.

Maya Lin: Topologies

Des Moines

Through May 23

Includes prints, drawings, models, and large-scale installations in wood, glass, and wax—all dealing with the ecology of landscape—by the creator of the Vietnam Veterans Memorial in Washington, D.C. Des Moines Art Center. 515/277-4405.

Bauhaus on the Carmel: Modernism in Haifa

Chicago

Through May 31

Photographs of residential, commercial, and civic Bauhaus-style buildings depict development in Haifa during the first half of the century. Atrium Gallery, Chicago Architecture Foundation. 312/922-3432.

Hospitality Design '99

Las Vegas

April 8-10

More than 500 exhibits and 18 educational sessions on hospitality design. Sands Expo and Conference Center. Call 888/200-8498 or visit www.hdexpo.com.

Thinking about Landscape

Cambridge, Mass.

April 9-10

A range of landscapes, from 17th-century French gardens to contemporary designs, will be evaluated through study of interdisciplinary fields: literature, geology, environmental history, and sociology. Piper Auditorium, Graduate School of Design, Harvard University. 617/496-8728.

Merchant Prince and Master Builder: Kaufmann and Wright

Pittsburgh

April 10-October 3

An exhibition exploring the belief shared by Frank Lloyd Wright and his client Edgar Kaufmann—for whom he designed Fallingwater in 1936—that "good design" had the power to change lives. Heinz Architectural Center, Carnegie Museum of Art. 412/622-3131.

1999 Eco Design Arts Conference

Eugene, Ore.

April 15-18

This year's theme, "Equity and Ecology," explores the important connections between social and ecological issues, and the critical roles played by artists, designers, planners, and community members in crafting cultures of social and ecological equity. School of Architecture and Allied Arts, University of Oregon. Call 541/346-0719 or visit <http://gladstone.uoregon.edu/~hopes>.

Peter Aldington's Garden and Classic Village Houses

London

April 17-May 1

Presented in this exhibition are a trio of 1960s garden houses by Peter and Margaret Aldington, whose work redefined the English country house. RIBA Architecture Gallery. 44/171/580-5533.

Big Soft Orange

San Francisco

April 17-June 25

This traveling exhibition, which inaugurates the California College of Arts and Crafts' Logan Gallery, features innovative designs for housing in the Netherlands by four young Dutch architecture firms. 415/551-9210.

Gardens of Today—History of Tomorrow: Landscape Design

Vienna, Austria

April 23-24

In this conference addressing landscape design at the end of the millennium and future trends, 12

European and American landscape architects will discuss their work. Atelierhaus, Academy of Fine Arts. Fax 43/1/3678-608 for information.

EnvironDesign3

Baltimore

April 29-May 1

This conference focuses on green design and building practices, as well as the tangible, inspirational benefits of the sustainable design movement. Hyatt Regency Hotel. Call 561/627-3393 or register online at www.isdesignet.com.

American Institute of Architects National Convention

Dallas

May 6-9

The theme of this year's AIA national convention is "Think Big, Make It Happen." Architects can earn all 36 Learning Units needed for AIA accreditation by attending seminars and exhibitor education sessions. Dallas Convention Center. For information on exhibiting at the convention, contact Hill, Holliday Exhibition Services at 617/572-3553. For information on attending, visit www.aiaonline.com/convention98.

L.A. Modernism Show

Santa Monica, Calif.

May 7-9

An eclectic assemblage of design and artwork of the past 100 years: Art Deco tables, Bauhaus chairs, 1950s loungers, Austrian glass, posters. The show traces history through the creations of graphic, industrial, furniture, and fashion designers and artists. Santa Monica Civic Auditorium. 310/455-2886.

1999 International ARCHIBUS/FM Users' Conference

La Jolla, Calif.

May 19-21

In 45 different sessions, attendees will discuss their facilities management activities and learn how others are achieving the best results. Hyatt Regency La Jolla. For more information call 617/338-1011 or visit www.archibus.com.

(continued on page 68)

Competitions

Presidential Design Awards

Entry/nomination deadline: April 8
The Presidential Awards for Design Excellence recognize work that has been sponsored, authorized, or commissioned by the U.S. Government and has been completed or in use between January 1, 1989, and January 1, 1999. There is no entry fee, and nominations are requested. Nominations are also requested for the Presidential Millennium Design Awards, which honor federal design projects completed in the 20th century that have made a significant contribution to the environment and quality of life in the U.S. Contact Thomas Grooms at the U.S. General Services Administration, 202/501-1888, or thomas.grooms@gsa.gov.

The Van Alen Institute Dinkeloo Fellowship

Submission deadline: May 7
A two-month stay at the American

Academy in Rome will be awarded to the entrant who best demonstrates how architecture and technology can be environmentally conscious. Open only to those who have graduated or will graduate from U.S. architecture degree programs between May 1990 and September 1999. For a competition packet, call the Van Alen Institute at 212/924-7000, E-mail vanalen@vanalen.org., or write to 30 West 22nd Street, New York, N.Y. 10010.

California's Central Valley: Housing the Next 10 Million

Submission deadline: May 1
This ideas competition, focused on less-land-intensive housing models and urban planning implementation tools, will help local decision-makers deal more effectively with the projected growth of California's Central Valley. Open to students and professionals. Contact William Liskamm, AIA

California Council, 916/448-9082, or visit www.aiacc.org.

Shinkenchiu Residential Design Competition 1999

Submission deadline: May 13
This brief requests a theater for 200 people on a square, surrounded by four-story buildings, in a city of 100,000. Entrants are asked to design a two-story block of approximately 6,500 square feet containing a theater, a bar/cafe/teria, and shops on the ground level and a small library on the second level. The theater is to be complete with all necessary equipment and amenities. Open to students and professionals. Contact Shinkenchiu-sha Co., Ltd., 81/3/3811-9375.

Resort Concept Competition

Submission deadline: May 15
The San Francisco-based Valor Group is sponsoring a competition for the design of an environmentally sensitive, portable tent village. For

more information, call 415/276-5958.

Ermanno Piano Scholarship

Submission deadline: May 31
Open to 1998 architecture graduates, this scholarship helps to further education through a six-month internship with the Renzo Piano Building Workshop in Genoa, Italy. The winner will also receive a \$10,000 grant. Applicants must send an 8½-by-11-inch portfolio (maximum of seven pages in Italian, French, or English) to Renzo Piano Workshop Foundation, Via Rubens 29, 16158 Genoa, Italy.

Architecture + Energy: Building Excellence in the Northwest

Submission deadline: June 4
Administered by AIA/Portland and sponsored by the Northwest Energy Efficiency Alliance, this competition seeks successful integration of architectural design in commercial
(continued on page 184)

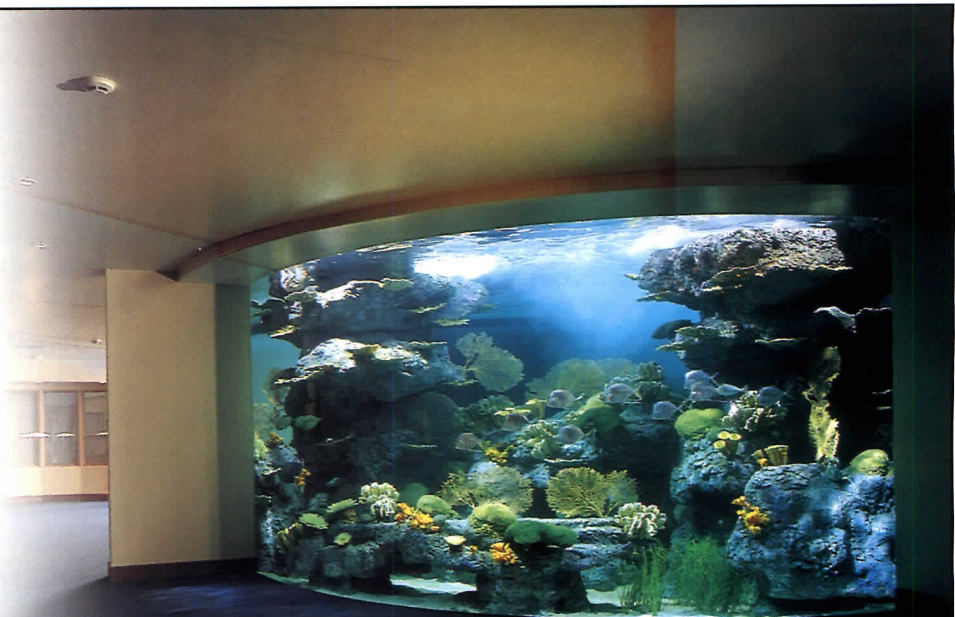
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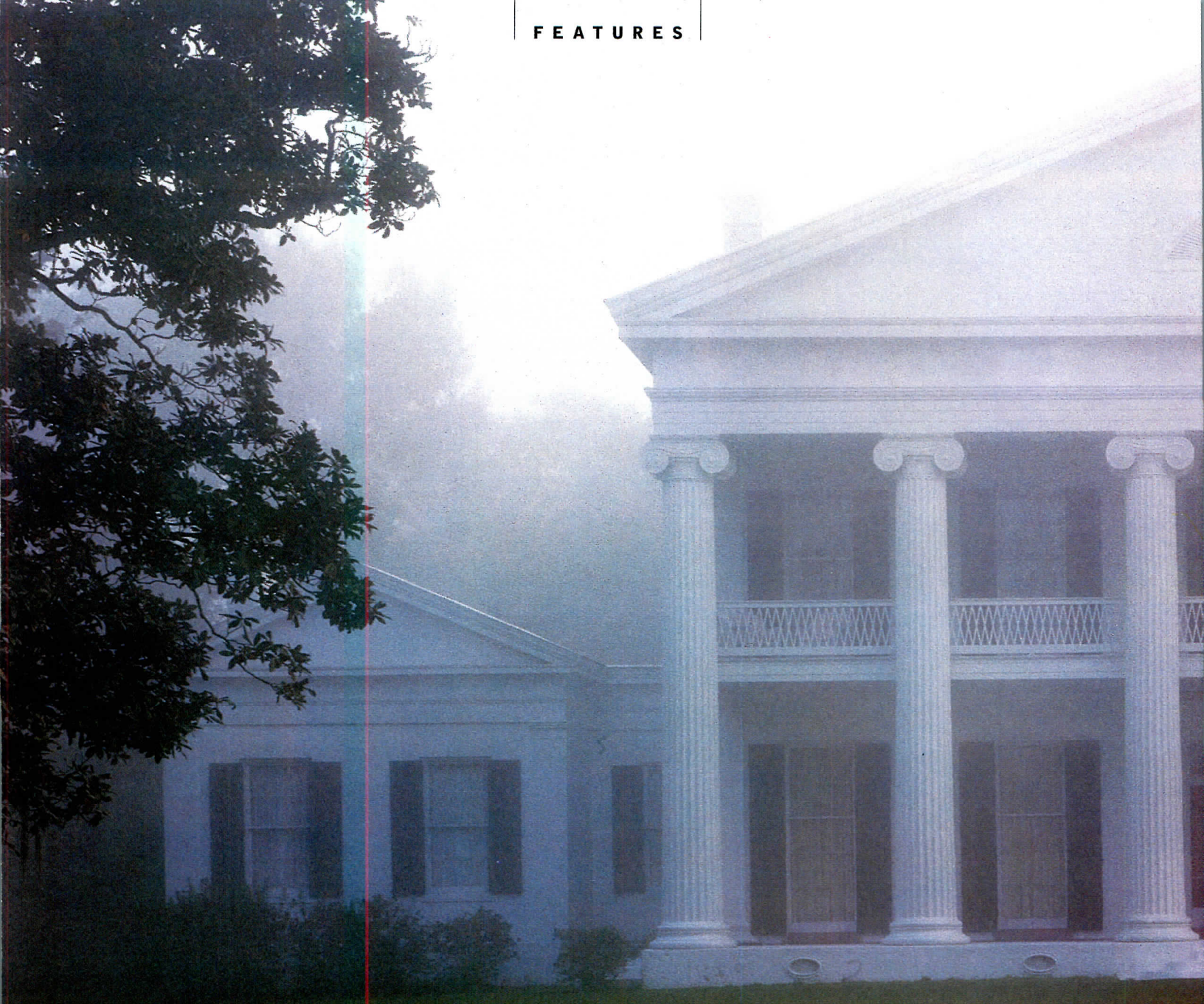


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ESSAY: Is There an American Architecture?

ROBERT CAMPBELL QUESTIONS THE TRADITIONALLY
ACCEPTED NOTIONS OF TIME AND PLACE
IN AN INCREASINGLY MULTICULTURAL WORLD.



by Robert Campbell

For the first time in many years of Record Houses, the selections this year include houses that are neither in the United States nor designed by American architects. As we near the turn of the millennium, this appears to be a significant decision. The world in the next century, we all know, will be far more multicultural, more international. Maybe it doesn't make sense anymore to think of a house as an expression of individual national, regional, or ethnic culture. Then again, if not cultural difference, what's to make a house in one place different from a house anywhere else? Do we really want a homogeneous built world? There'd be no reason to travel—and, indeed, there's less reason every day.

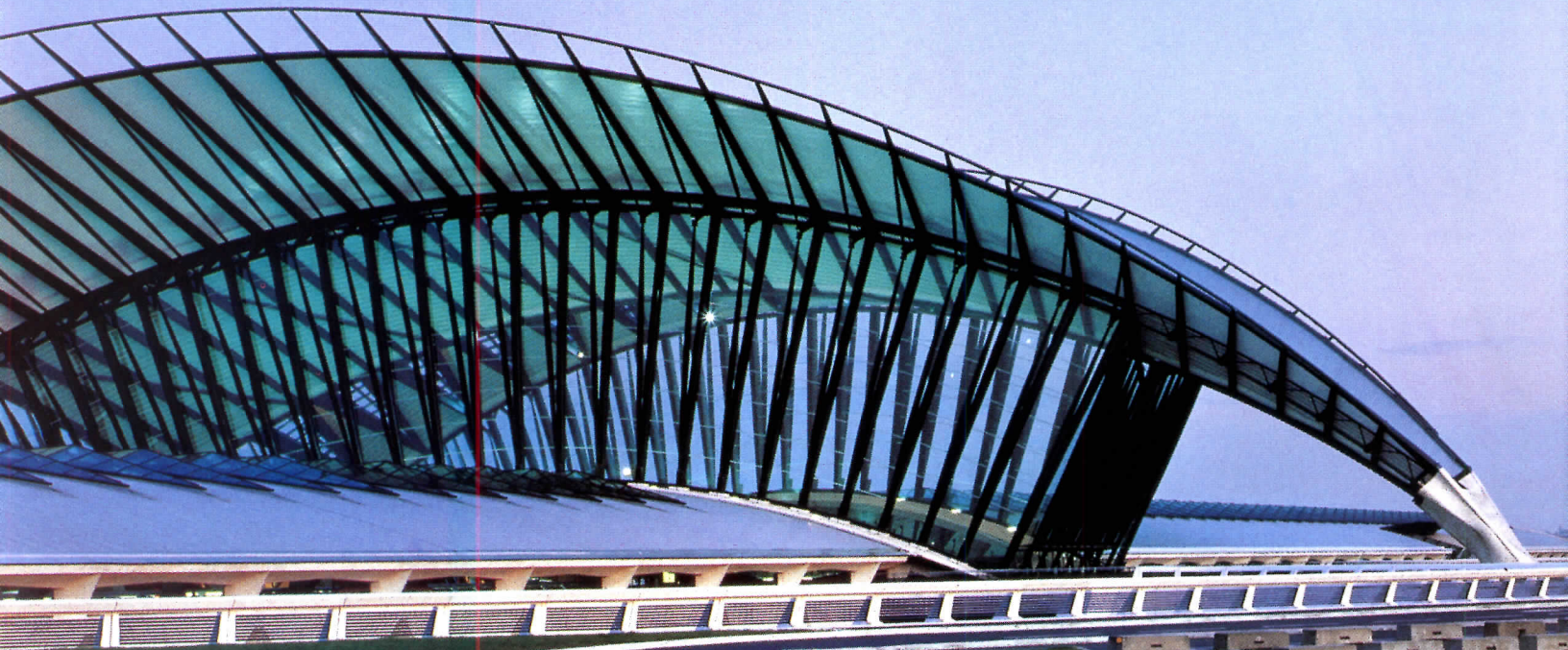
Anyway, it seems a good moment to reflect on houses and what

makes them meaningful. As I get older, I get more self-indulgent. I ask the reader to bear with me for what is going to be an old-fashioned, rambling personal essay.

Everyone who's lucky enough to grow up in the same house over a period of time possesses, within his or her memory, a mythic place. On the following page there is a poem about the mythic house in my own life. It's a poem about my grandparents' house, where I spent my summers until I was 18. It's not only about racing out of the living room, across the porch and lawn, and onto the beach—although that's something I did a lot of, and all I was really thinking about when I wrote the poem. It's also about growing up, crossing thresholds, and moving from a dark safe place, nestled among the mysterious presence of adults, out into

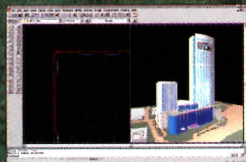
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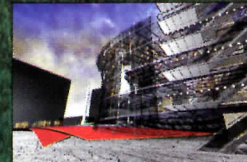
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Railway Station Lyon - Satolas, France.
Architect and Engineer: Santiago CALATRAVA VALLS.
Photographer: Paolo Rosselli.

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The Screened Porch

A chorus upon the pure
 formal fling of myself
 projectile, arrow, bird
 on the axis of the world
 out of the dark and brown
 bookshelved living room,
 the catapulting feet
 tiny, naked, pounding
 the Navaho rugs, the call
 of gulls, the shuffle of oaks,
 the blade of threshold brass,
 the porch air bright and warm,
 smell of the sun, a figure
 shadowy on the swing
 or creaking in the wicker,
 the smash through the screen door,
 the stone path chilly, the pierce
 of acorns, the downward leap
 through the wall and the hot steps,
 the pale and yielding sand,
 the lake, the far dissolving
 horizon of New York State,
 the screen door slam behind.

—R.C.

the wide, bright, sexual, sometimes scary vistas of the world. The door always does, of course, slam shut behind you. You can't go home again. But the house lives on in your memory, which re-creates it as a work of art. The house becomes a storage chest of memories you often revisit. As such, it must be exclusive to you. To be wholly yours, it must be, in some manner, unlike any other house in the world.

That's a personal meaning of house. Here's a more social one. Madewood Plantation is on a bayou in Louisiana off the Mississippi River. I visited it in 1996, when the National Design Committee of the AIA was touring different sites along the river, and I've been thinking about it ever since. Someone once said that over the course of American history, the dream of an ideal community has been replaced by the dream of an ideal house. There's a lot of truth to that—depressing truth—but Madewood makes you realize the reality is more complicated.

Like some of Frank Lloyd Wright's houses, Madewood has a formal front and an informal back. Facing the bayou across a wide lawn, the front is Greek Revival—

white, columned, symmetrical. It's handsome but pretty boring. You can find its like almost anywhere in the U.S.—the Hudson River or the Midwest, for example. Like so many other American architects, Henry Howard, Madewood's architect, adopted a European formal idea but then ripped it from its context of gardens or terraces and simply dropped it down on the lawn like a prized piece of statuary. It's as if the house had been purchased by a rich tourist and shipped across the sea. There is something very American and strange about the result. It characterizes us as a slightly lost culture.

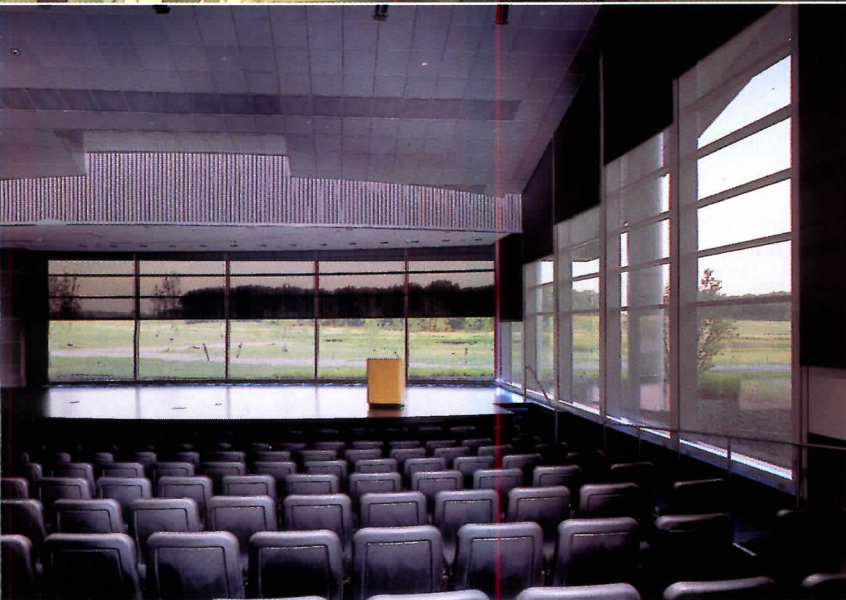
But when you come around to the back of Madewood, everything changes. This part of the house faces a group of outbuildings—slave quarters, work sheds, perhaps cottages for the boys of the family to move into as they grew into adolescence. Some are attached to the house, some not. The house responds by becoming irregular, its symmetries violated. The rear facade has been shaped and distorted by its need to respond to the life of a particular family, and to the tiny community the family has created around itself. The outrigger buildings are like spreading roots, anchoring the house into the land. It's as if the house would float adrift on its green sea of grass in the huge, vacant North American landscape—and the equally huge and vacant lack of American history or culture—if it did not throw out these props to make for itself a rudimentary community.

Madewood embodies two dreams. The Greek Revival front represents the patriotic dream of membership in a national consensus. The Greek Revival was the first national style. It was an assertion of solidarity with the Roman republic, the ancient Greek democracies, and the contemporary Greek rebellion against the Turks—as opposed to what were seen as the corrupt monarchies of Europe. Since the South was soon to divorce itself from the rest of the union, this statement of membership in a national community was clearly fictive. And, of course, it was a dream that left many people out. Nevertheless, it was an optimistic and ambitious dream.

Madewood's backyard is, again, a dream of membership, not in a national but a local community. However, no local community

Madewood Plantation's architecture seems like a prized piece of statuary taken from Europe and dropped onto a lawn in America.





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actually existed, so the house had to create its own context with the outbuildings, which cluster like a village or members of an extended family. The house thus generates a place for itself to live in. It's a fiction, again. Madewood offers a double code, then: the front for membership in a national consensus, the rear for membership in a local community. Both are false, both touching, both admirable—both very American. And both remain vitally alive today in, let's say, the mythic land of Disney.

So maybe there is such a thing as American architecture. If there is, it has a lot to do with emulation (or denial) of foreign cultures—whereas emulation in European architecture, perhaps, is more often of other classes. Mark Lilla, the editor of the magazine *Public Interest*, recently cited at a conference a passage in Mark Twain's *Innocents Abroad*. The book is a travelogue of a cruise to Europe and the Holy Land. In it, one of the travelers describes a friend, Mr. Gordon, an American who is trying too hard to be French. He wears a rose in his buttonhole. Envelopes bearing foreign postmarks protrude from his breast pocket. He cultivates a mustache and pointed beard in the manner of Napoleon III. Comments Twain: "Oh, it is pitiable to see [an American] making of himself a thing that is neither male nor female, neither fish, flesh nor fowl—a poor, miserable, hermaphrodite Frenchman!"

Can anyone deny that American architecture, and American schools of architecture, were—at least until recently—heavily populated with Mr. Gordons? Teachers who usually lacked degrees in philosophy spent more time talking about French and German philosophers and sociologists than teaching

anything you could properly call architecture. (I define architecture as "the art of making places.") Or think of the house styles in any American suburb, or even in a sophisticated place like Celebration, Florida: Chateausque, Neo-Georgian. Mr. Gordon would have been first in line with his down payment. There are, of course, innocents abroad on both sides of the Atlantic, as Charles Jencks noted, and the Pacific, as he might have added. Inappropriate cultural imitation is everywhere today. You can also make a fool of yourself by going the other way, becoming a caricature American, a figure just as silly as Mr. Gordon's caricature Frenchman. Even Frank Lloyd Wright, with his pompous prairie bluster against everything European, verged on being such a cartoon.

Still, the problem is a serious one that won't go away. If we all go on speaking each other's architectural language and imitating each other's culture, the result will be worldwide architectural entropy. The built world will decline from difference into sameness. Just as we see indigenous verbal languages shriveling everywhere, being replaced by two or three international tongues, so architectural language will become universal. Everything will be international style. The so-called International Style wasn't the only international style. So was Post-Modernism, the style that embodied most vividly Mr. Gordon's view of the world. So was deconstruction. So are many movements today.

Surely a homogeneous built world is the ultimate horror. That's why the Aga Khan Awards for architecture, recently described in *RECORD* [November, 1998, page 68], are so interesting. They're the only serious effort to discover and cultivate a kind of design that will retain its cultural language without copycatting the past. That's not an easy job, and it requires deep attention to the essence of a culture, as well as a sensitive response to whatever is genuinely local: climate, materials, building traditions, perceptions, and what Spanish architect Rafael Moneo calls "the whisper of the site."

What does all this tell us about the 1999 Record Houses? Well, for one thing, that they're very diverse, thank heavens. At this writing I've seen only a cursory description of each house, and a couple of pictures. One trend is a revival of what you might call Arts and Crafts. The Rosebery House in Australia, built of "indigenous eucalyptus wood," appears to be a celebration of natural local materials as resolute as any dwelling by, say, Greene & Greene. The original Arts and Crafts movement, to which the Greene brothers subscribed, began as a rebellion (*continued on page 184*)

Madewood's rear facade is not symmetrical, but shaped and distorted to meet the needs of the family.



PORTFOLIO: Five pavilions provide tiny hideaways in the residential realm

Extraordinary things can happen when a building's footprint and the required program become extremely small. The simple box—liberated from functional complexity—can emerge as an exquisitely crafted object. Or as a folly: quirky and whimsical. Or as an exploration of a single focused idea—be it rational, conceptual, provocative, or even absurd. Ironically, the modest requirements of such pavilions can open the way to vast realms of invention.

In this portfolio, we offer a sampler of tiny buildings on residential properties, beginning with an unfolding pavilion, whose myriad configurations transform it into a meditative retreat, a small theatrical stage, a boathouse, and much more. Our selection continues with a sliding study on rails; a “glass box” cantilevered over a river; a guest cabin folly; and a wooden cabana that's as delicately crafted as a cricket cage.

We invite you—through our pages—to visit these places of relaxation. Lean back, kick off your shoes, and stay as long as you like. Sarah Amelar

Unfolding Lakeside Retreat

A VERITABLE CHINESE PUZZLE OF A PAVILION

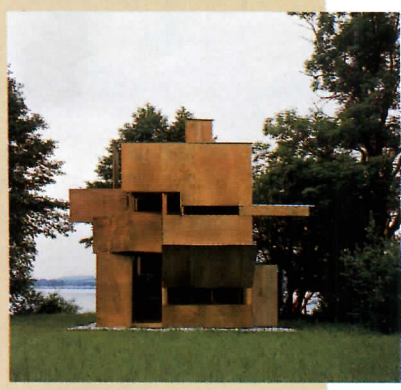
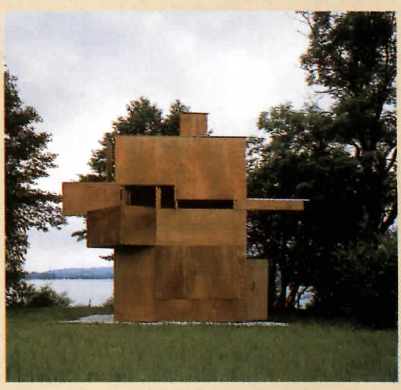
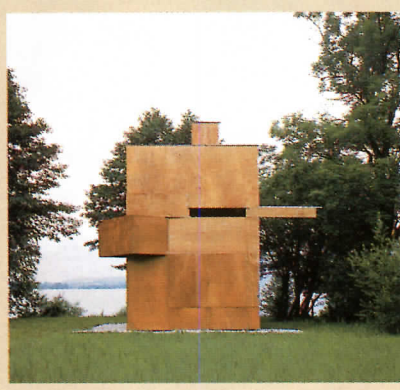
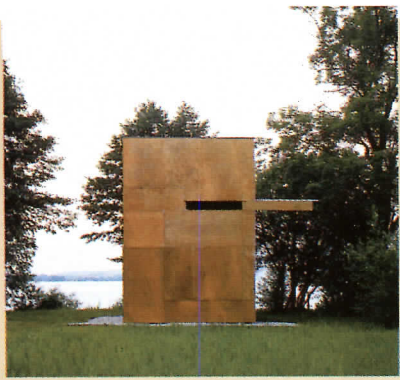
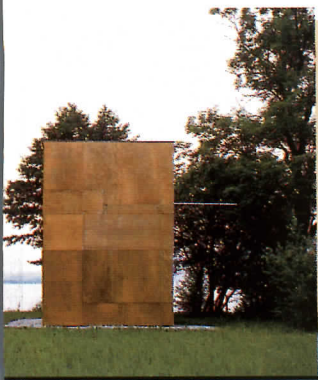
ARCHITECT HANS PETER Wörndl's GucklHüpf pavilion was designed to remain in a constant state of transformation. Its hinged plywood panels invite compositional reinvention, as these elements alternately serve as ramps, doors, hatches, balconies, or window shutters.

Wörndl and two collaborators built the structure themselves, using off-the-shelf hardware, to create a three-story interior space beneath a smaller room and a roof deck.

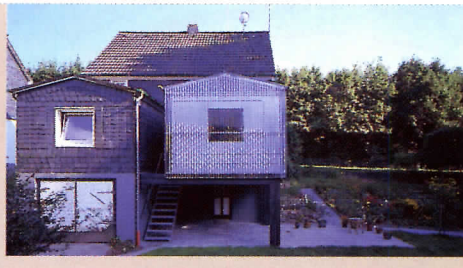
The owners quickly found myriad uses for this pavilion, making it a place for bird-watching, meditation, boat storage, musical performances, parties, and poetry readings. Due to a legal controversy, however, it was disassembled and placed in storage, where it awaits its next metamorphosis.

Project: *The GucklHüpf, Mondsee, Austria*
Architect: *Hans Peter Wörndl*





Sliding Study on Rails



A HOUSE ADDITION THAT MOVES WITH THE SEASONS

ENVISIONING an addition with tremendous flexibility, the client requested a workspace that could change function when the upstairs tenant of 60 years moves out.

Taking the notion of transformation as a departure point, architects Kalhöfer-Korschildgen designed a second-story study, set on steel rails with columns, that two adults can easily reposition. In summer, the addition is separated from the house by a new steel-grate

deck. In winter, the client can walk to work without wearing a coat.

The study's exterior skin of clear corrugated PVC reveals the underlying conduits like an exposed neural network. Plywood interior walls and foil-covered insulation panels are removable to convert this room into a greenhouse.

Project: *Movable Study, Remscheid-Lüttringhausen, Germany*

Architects: *Kalhöfer-Korschildgen*

Miesian Boat House

A PERCH FOR WATCHING THE RIVER FLOW BY

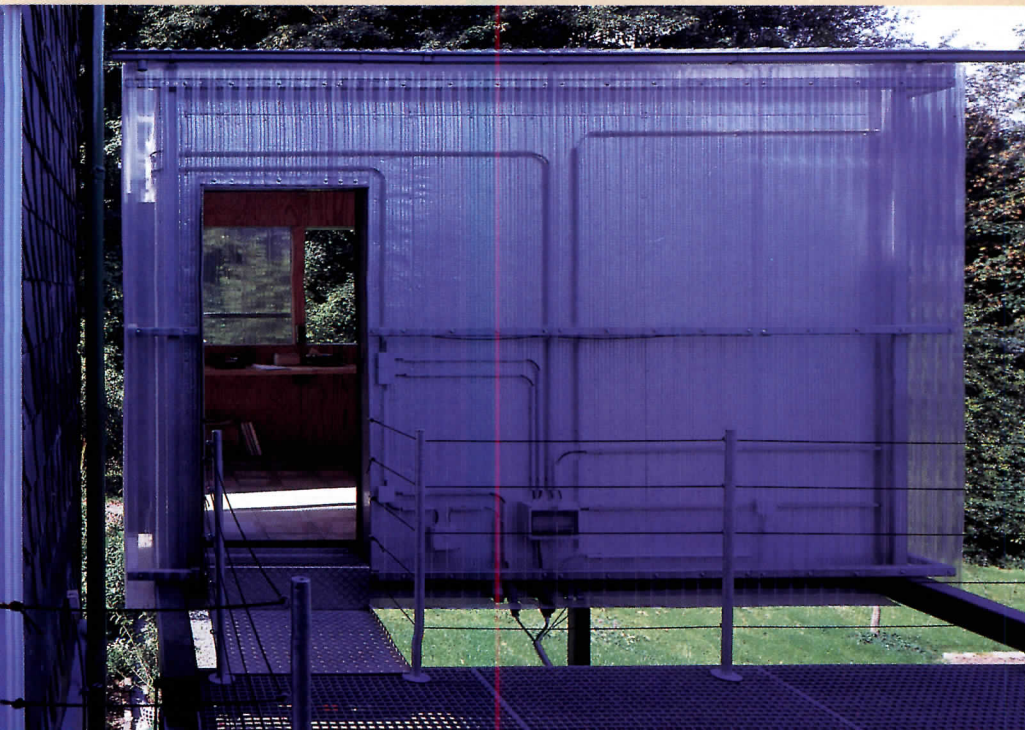
TO VICARIOUSLY experience water-borne pleasures, a former boat owner of advanced age hired architects Brookes Stacey Randall to design a river-watching pavilion for himself and his wife. The couple wanted a place near their vast gardens to relax alone or with guests.

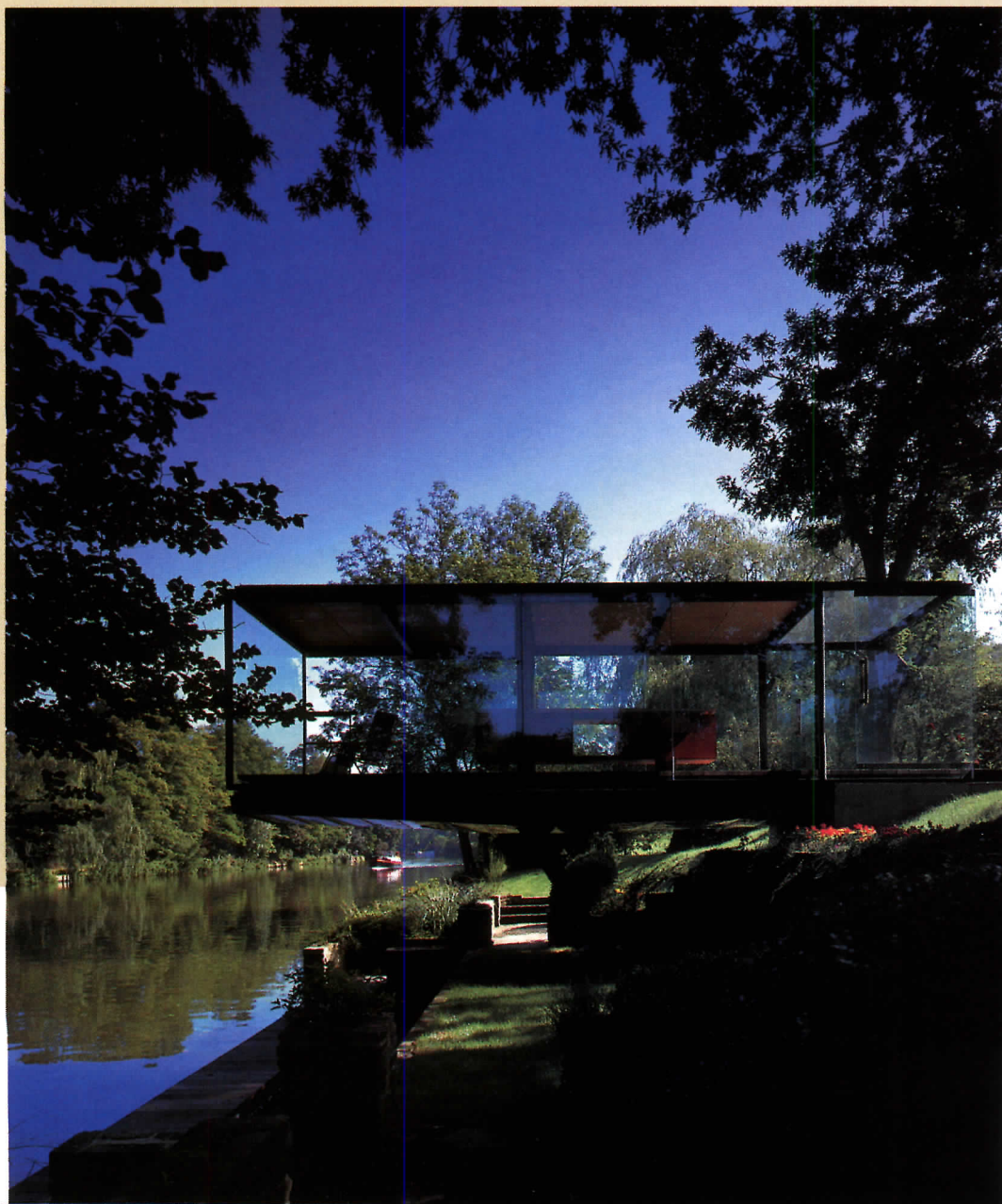
Aware that the local planning board had already rejected two proposals for solidly traditional structures on this pristine site, Brookes Stacey Randall decided to design a jewel-like building that would be subtle and transparent.

The architects oriented a glassy rectangular volume perpendicular to the river's edge to reduce its perceived mass from the facing bank. To give the sensation of floating on water, they cantilevered it over the river.

Project: *The Boat Pavilion, Streatley-on-Thames, England*

Architects: *Brookes Stacey Randall*

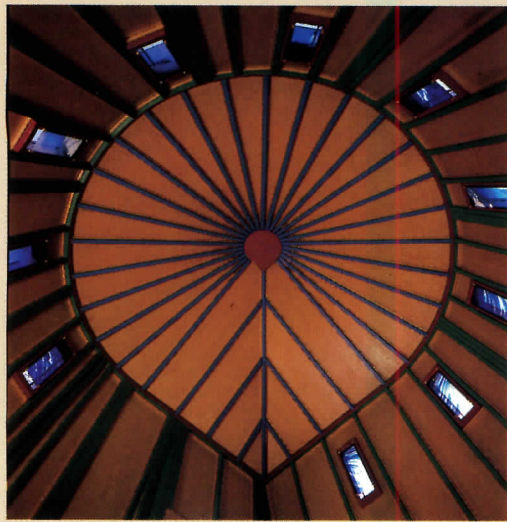




Guest Cabin Folly



A PRIVATE WOODLAND HIDEAWAY FOR VISITORS



WIND WHISTLE is a lakeside property in rural Wisconsin with a main house and a collection of six small back buildings nestled among fields of wildflowers.

Though many of these structures, all designed by Stageberg Beyer Sachs, are tinged with whimsy, only the new guest cottage is actually called "The Whim." A bright blue, shingle-covered thumb-shaped cabin, it rises to a red

sheet-metal crown. On the interior, the ceiling converges in a colorful board-and-batten pattern, described by the architect as an "eye of God."

Warmed by a wood-burning stove, this tiny structure has its own deck, small kitchen area, and an extension housing a full bathroom.

Project: *The Whim Guest Cottage, Wisconsin*

Architects: *Stageberg Beyer Sachs, Inc.*

Sun-Bathing Cabana

A FINELY CRAFTED SUMMER HOUSE BUILT IN A WEEK





FOR A LUSH garden on the outskirts of Vienna, architect Georg Marterer designed a poetically simple sunbathing hut. Using unplanned timber, ordinary nails, steel gusset plates, a corrugated aluminum roof, and hemp-rope tension cords, he constructed it himself—a process that he says took only 40 hours.

A modular system, based on a cube, regulates the form, allowing for relatively easy deconstruction or enlargement. This battened timber pavilion delicately touches the ground (with its high water table) only where the 10 vertical posts meet square concrete pads. Horizontal slats filter light to the interior, where the owners study, dine, store gardening equipment, entertain visitors, or simply take in the fresh air.

Project: *Summer House, Vienna-Neuwaldegg, Austria*

Architect: *Georg Marterer*



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Record Houses 1999

Is she beautiful?" Groucho Marx once reportedly said of a woman. "Well, if you take away her eyes, nose, and mouth, all you're left with is a blank expression." A similar comment could almost apply to the eight projects chosen as this year's Record Houses. True, their range of expression owes much to their prominent features: the massing, spatial sequences, and rhythms of apertures and materials. But in every case, the site or "blank" canvas, unlike that featureless face, holds a distinctive and compelling character.

The sites vary from the arid desert of Arizona to a tiny urban lot in Toronto, a salty pond's edge in Long Island to a meadow in Vermont, a hilly orchard in rural France to a classic townhouse row in Chicago, a bungalow-filled 'hood in Los Angeles to a lush gully in Australia.

Houses by:

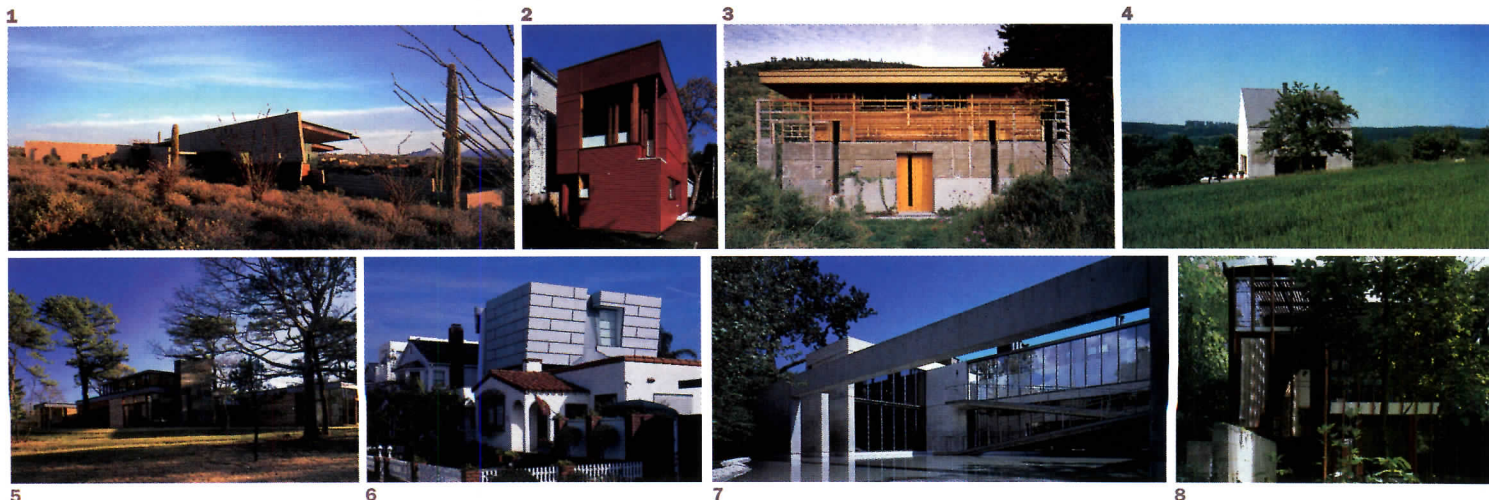
1. William P. Bruder, Architect
2. Shim-Sutcliffe Architects
3. Michael Singer, Inc.
4. Herzog & de Meuron
5. Tod Williams Billie Tsien and Associates
6. Morphosis
7. Tadao Ando Architect & Associates
8. Andresen O'Gorman Architects

A powerful sense of place preceded the architecture—and, with each house, prompted a potent response. Metaphors evoking the forms and textures of the surrounding landscape, for example, characterize Will Bruder's Byrne Residence in

Arizona, as well as Brit Andresen and Peter O'Gorman's Rosebery House in eastern Australia. Lying low in the desert, Bruder's building evokes the Southwest's subtle and dramatic rock formations: shifting strata, chasms, and canyons. Andresen O'Gorman's timber-battened house, by contrast, draws poetic inspiration from its region's delicate eucalyptus groves.

Instead of echoing the setting, some projects offer a decisive counterpoint. In Toronto's Craven Road House, Shim-Sutcliffe Architects joined commonplace materials with the precision of fine cabinetry—inserting an essay in subtle invention into a neighborhood of conventional aluminum-sided cottages. In his museumlike Chicago house, Tadao Ando created an inward-facing precinct—a tranquil world apart—while still retaining a dialogue with the city's panorama of rooftops.

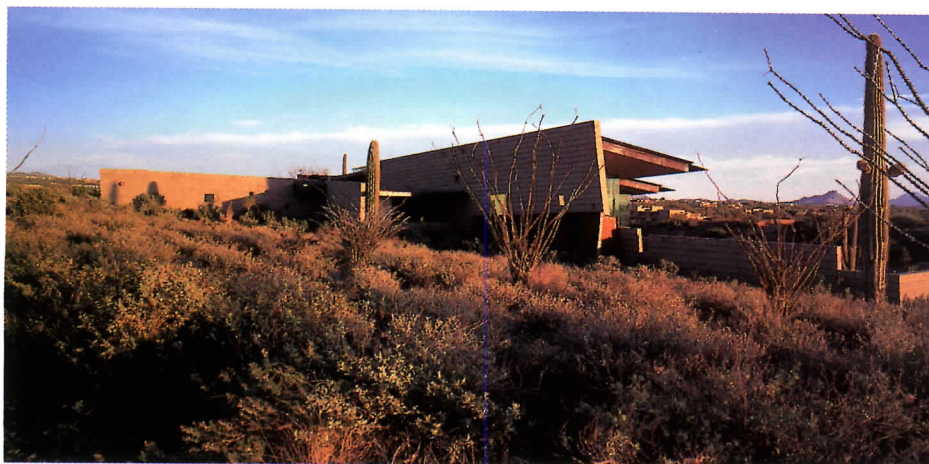
In this era when American cityscapes have yielded to the homogenizing effects of Banana Republics and Pottery Barns, when the force of the Euro threatens to blend France's quiche Lorraine with England's beef-and-kidney pie, when throngs of workers spend their days in the experiential sameness of cyberspace, real-world architectural diversity is still alive and well. Sarah Amelar





The main entry (this page) shows how vertical elements balance the angled roofs and canted walls. From the street the house presents a mostly solid front (opposite).

In the Arizona desert, **WILL BRUDER** creates a house that emerges from its rocky site, evoking chasms, canyons, and shifting strata.



by Clifford A. Pearson

Spend some time with architect Will Bruder and you'll hear as much about geology as architecture. The man knows his strata, canyons, and fossils. After all, he is married to an archaeologist and has designed an interpretive center for viewing native American rock art [RECORD, October 1995, page 64]. A Midwesterner by birth, Bruder loves the desert and all its rugged glory the way a convert loves his adopted religion. Needless to say, geological metaphors abound in the Byrne Residence, a 2,900-square-foot house that appears to be at once anchored to and emerging from a rocky hillside about 60 miles north of downtown Phoenix.

First, there are the house's canted concrete-block walls, which evoke the sloped cliff faces of Western mesas. Not only do the masonry blocks inch out from the vertical plane as they rise, but the courses—exposed on the interiors and exteriors—are laid at an angle to the floor, recalling rock strata that have shifted over time. In addition, parallel walls stand close together, forming compressed spaces that Bruder calls “canyons.” With sunlight floating in from clerestory windows, narrow skylights, and irregularly placed openings in the walls, the effect is dramatic, as if one were walking through a charged landscape.

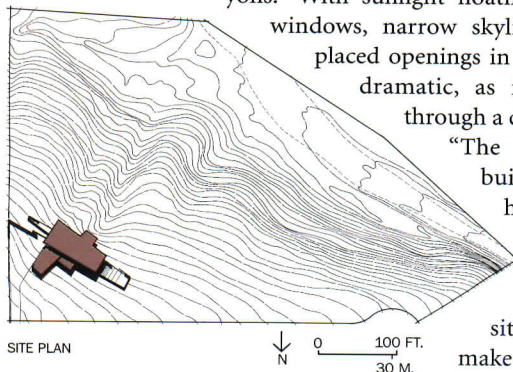
“The original idea was to build a tilt-up concrete house, to have it unfold out of the earth,” explains Bruder. But when contractors said site conditions would make tilt-up construction

difficult, the architect switched to concrete block. The resulting design, says Bruder, seems to be “extruded” from the land, rather than unfolding out of it. “In the end, I think this was the right way to go. You get a better sense of stratification and of layering.”

Set on a five-acre site beyond the sprawl of the country's sixth largest city (and one of its fastest growing), the Byrne Residence presents an almost solid face to visitors approaching by car: concrete block, rusting steel, and copper cladding. It's an uncompromising facade—not as graceful as it might have been, but strongly connected to the desert terrain. Visitors enter through a glass-and-metal seam between the copper-clad garage block and the elongated form of the house. The interior unfolds as a pair of canyons—one serving as the main-floor spine, the other leading down to the lower level. Each is defined by a thick masonry wall along one side and a clear-glass plane at the end that draws you along with the promise of a view. On the main floor, the canyon reveals the house's structural system: a great sloping metal roof attached to a concrete-block wall with seven steel brackets. By pulling the roof four inches from the wall and allowing daylight to creep in through a long narrow skylight, Bruder both creates and exposes the illusion of weighty elements floating in space.

Modest in size, the house draws our attention through contrasting shadow and light, architectural brawn and visual dexterity. While its north facade is mostly concrete block, the south side is just the opposite, with expanses of glass that reveal impressive views of arid hills and great sculptural cacti. If the front elevation is a cliff face, the back is a crystalline formation breaking free of the earth. The highlight of this transparent composition is a glass table set in a faceted, glass-enclosed dining room that projects beyond the rest of the house.

To take advantage of a climate that encourages outdoor living, the house has a patio off the living room and a long terrace off the master



SITE PLAN

Project: Byrne Residence, North Scottsdale, Arizona

Owners: Bill and Carol Byrne


Architect: William P. Bruder,

Architect—Will Bruder, Tim Christ,

Jack DeBartolo III

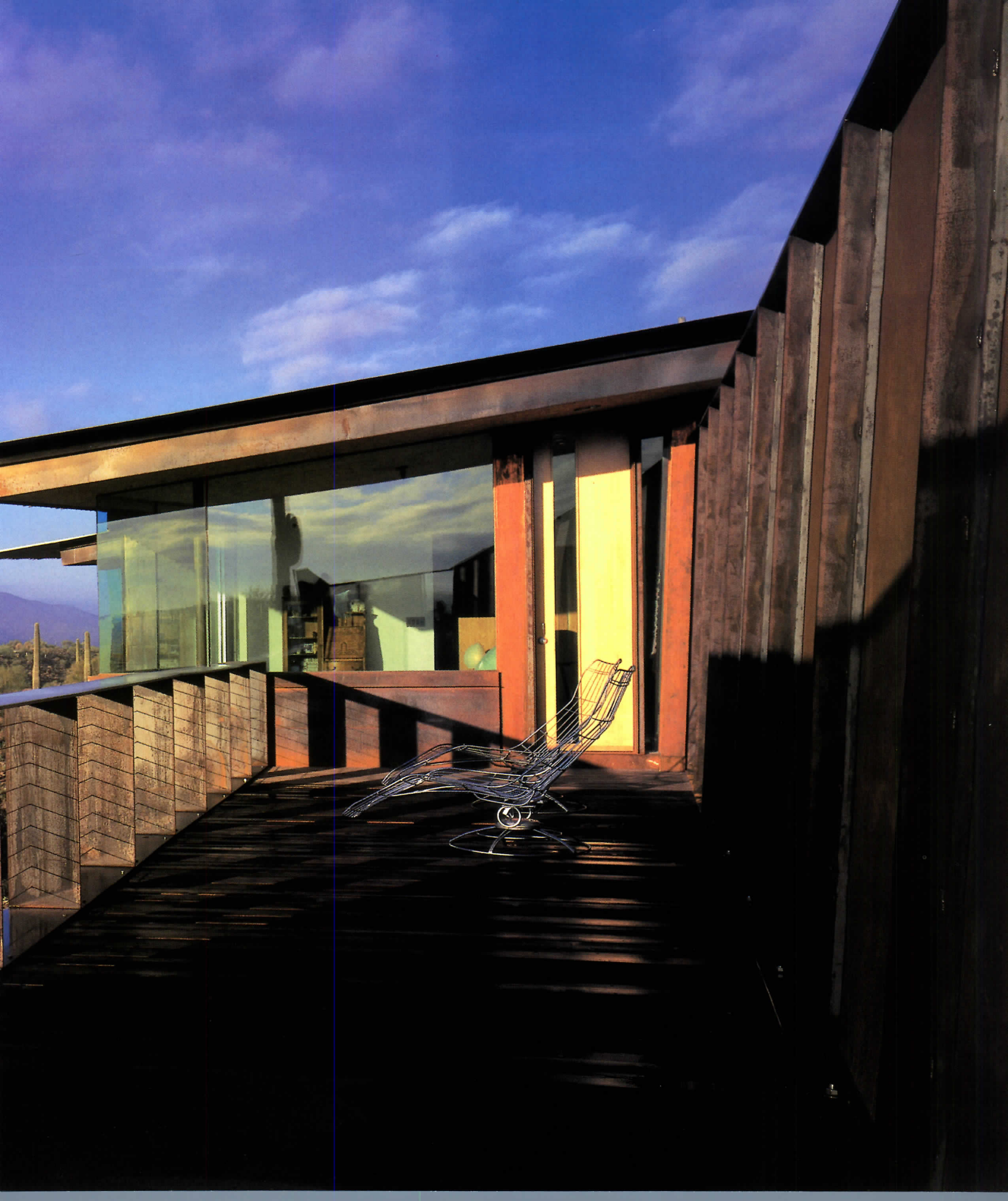
Engineers: Rudow & Berry (structural); Roy Otterbein (mechanical); CA Energy Designs (electrical)

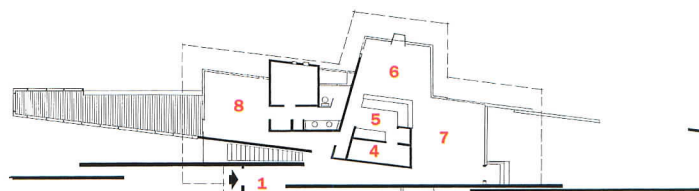
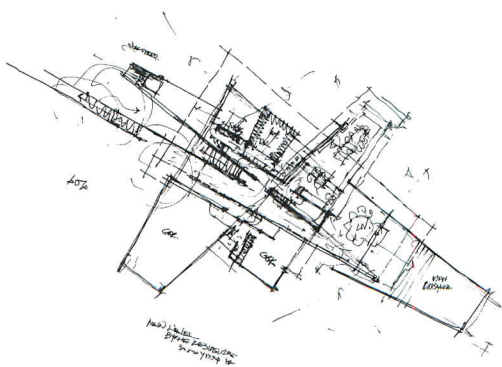
General Contractor: Bill Byrne



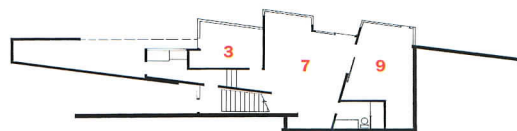
A terrace off the master bedroom offered the architect a chance to play with varying degrees of transparency. Angled planes of rusting steel mesh, a

steel-plate balustrade, and large sheets of glass on the house filter, frame, or reflect views of the desert and nearby mountains.





MAIN FLOOR

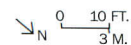


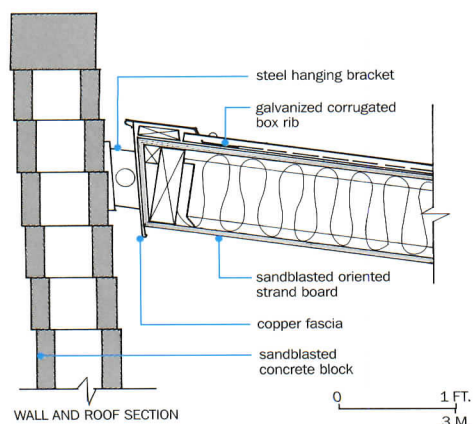
LOWER FLOOR

1. Entry
2. Garage
3. Bedroom
4. Pantry
5. Kitchen
6. Dining
7. Living
8. Master bedroom
9. Office

From the east (top) and the west (opposite), the house opens up to views and reveals an architecture of walls extending beyond the

interior spaces. Landscaping was kept simple in order to allow the natural desert flora to reclaim the land around the house.





bedroom that extend the interiors—providing casual spaces for enjoying an alfresco meal or reading a good book. Such weaving together of indoors and out certainly has roots in Frank Lloyd Wright’s work, which Bruder has long studied, but the use of rusting metal mesh and canted concrete walls brings a 1990s aesthetic to the work.

Rather than designing an overly precious landscape, Bruder let the desert flora reestablish itself all the way up to the house’s hard edges. The careful fit between house and site—requiring the removal of only a few cacti during construction—made the landscaping job easier.

By tucking the building up against a hillside, Bruder protects it from the desert sun’s brute force and creates a cool lower level for guest bedrooms and home offices. The heavily glazed living room, though, faces southwest and can take a beating from the sun in the winter when the rays are low enough to slip under the deeply cantilevered metal-deck roof. “This was a trade-off we were willing to make to get the views,” explains Bruder. “And we’re adding perforated fabric scrims to the windows here.” The rest of the house stays cool most of the time, thanks to natural ventilation through screened doors and casement windows set within the insulated glazed walls.



Casement windows like the tall one set within a large plane of glass in the dining room provide cross ventilation.

The clients, Bill and Carol Byrne, had lived in more traditional houses in New Jersey and Arizona. But both knew a great deal about architecture—he as a general contractor and she as a textile and interior designer. Before hiring Bruder, the Byrnes prepared a program calling for a “simple and basic” house that was “comfortable and modest,” had nat-

BRUDER CREATES THE ILLUSION OF HEAVY ELEMENTS FLOATING IN SPACE.

ural materials, and was energy-efficient. They imposed no stylistic requirements other than a request for “organic architecture.” Other architects who interviewed for the job looked at the rocky, sloped site and talked about all the problems of building on it. “When Will looked at the site, he got excited immediately,” remembers Carol. “Within 15 minutes he was already putting ideas down on paper.”

Working as his own general contractor, Bill Byrne took on the job of building something radically different from the colonial houses that usually fill his work sheet. Concrete slabs, corbeled masonry walls, and a great cantilevered steel-framed roof were all new to him. The most challenging task, he says, was making sure that a canted block wall properly met a roof tilting in two directions.

Despite all the angles, the house never seems off-kilter or unbalanced. This is because every canted or angled element is structural and reveals the way it is built. “They’re not faked with gyp board and studs,” says Tim Christ, a member of Bruder’s project team. In other words, these

angles aren’t just for show or for expressing some theoretical conceit.

In several of Bruder’s recent projects, including Temple Kol Ami in Scottsdale, the Cox Residence in Cave Creek, Arizona, and the design of a Scottsdale Arts Center exhibition on 25 years of his work, the architect explored innovative ways of building concrete-block walls. Rotating, corbeling, and moving blocks in and out of plumb are some of the imaginative ways he has stacked these humdrum masonry units. The result is a rich palette of effects made from just one cheap material. And when sunlight is added, the rewards are even greater.

When asked about inspirations for his recent work, Bruder recommends a visit to Frank Lloyd Wright’s Harold Price Sr. House (also called the “Grandma House”) in the Phoenix suburb of Paradise Valley. Dating from 1954, the Price House has concrete-block walls that corbel out as they rise and an expansive roof that seems to float above bands of glass. Without trying to copy the look or feeling of a Wright design, Bruder has clearly borrowed a few of the master’s ideas and taken them in his own distinctive, freewheeling direction. ■

Sources

Sandblasted concrete block: *Western Block*

Insulated and tempered glass: *HGP International*

Locksets: *Titan*

Bathroom accessories: *Agape*

Sofas and chairs: *Ligne Roset*

Wire chairs: *Knoll (Harry Bertioia)*

Interior ambient lighting: *Tech*

Downlights: *Halo*

Task lighting: *Album*

Lighting controls: *Lutron*



“Canyons” that slope to the lower level (top) and create a circulation spine for the main floor (right) seem to be shaped by geological forces. The concrete blocks in the canted interior walls are laid in courses parallel to the angled roof, not the floor. Rebar runs vertically through each concrete-block cell and across every third course. Glass orbs are by artist Mayme Katz.





The north side of the Craven Road House is only 18 inches from the property line, allowing a slotlike passage to the south.

In a small house for an architectural biographer, SHIM-SUTCLIFFE ARCHITECTS bring together the cottage and the loft.

by Charles Linn, AIA

Robert Hill is passionate about his house. For Shim-Sutcliffe Architects, whom he hired to design it, Hill was no ordinary client. An architect himself, he really knew buildings and he knew what he wanted. He holds a day job as an archivist-researcher for a Toronto architectural firm, but his life's work has been the compilation of a massive biographical index on late Canadian architects and their work. "When it is complete," says Brigitte Shim, noting that Hill is currently working on architects whose last names begin with T, "it will be a national treasure."

Hill's diminutive jewel of a house sits on Craven Road in a densely built middle-class neighborhood in northeast Toronto. Though the building appears elegantly simple, it satisfies complicated and often conflicting requirements. The U.S.\$65,000 construction budget for this 1,100-square-foot house was as minuscule as its 25-by-90-foot lot. "That did not include 'soft' costs," says Hill, "such as design fees, property costs, household appliances, and utility hookups." To stay within the budget, Hill, Shim, and her partner, Howard Sutcliffe, along with the general contractor and various fabricators, regularly dissected and analyzed the design in minute detail. In the process, they developed a strict hierarchical ordering within the house. They ranked the relative importance of the spaces, determined how to organize them and how much volume to apportion to each, and at the same time examined how the building would be constructed. Compromises were made so that the money was spent wisely and according to Hill's wishes.

The first thing to go was the garage, which Hill considered a wasteful expenditure, even though it's technically a city requirement on Craven, a narrow road without on-street parking. Hill is a dedicated pedestrian who relies almost completely on Toronto's public transportation system and has never owned a car. He sought and received a variance permitting a vehicle to be parked in his front yard when necessary. To retain a small yard on the south side of the house, the width of the build-

ing was kept to 17 feet and the north side was pushed as close to the property line as possible: 18 inches. The house's 32-foot depth allows Hill to have a small garden in the back.

"The ways in which priorities are ordered in my life are very much in evidence in the final design," says Hill. To keep the building shell's cost to a minimum, the foundation was built of block rather than poured concrete. While the perimeter walls are six inches deep to allow for extra insulation, the exterior skin is

Many homeowners on Rhodes Street subdivided their 25-foot-wide by 180-foot-deep lots and sold the rear portions for building sites that front on Craven Road (site plan below right). Hill bought a 90-foot-deep plot for his house (below left).



what Shim describes as "just a rain screen." It consists of exterior plywood whose joints have been caulked with silicon and covered with battens. The deep red finish is a semitransparent exterior stain covered by a coating that protects its rich color from ultraviolet light. Though the roof appears

Project: Craven Road House, Toronto, Ontario

Owner: Robert Hill

Architect: Shim-Sutcliffe Architects—Brigitte Shim, Howard Sutcliffe, principal designers

Engineer: New Onen (structural)

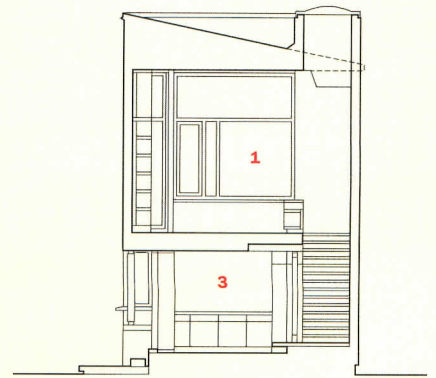
Consultants: Cannon Nursery (land-

scape design); Takashi Sakamoto (lighting); Steve Bugler (custom doors, windows, and cabinetry); Rob Beraldo, Arthur Billard (custom library cabinetry); Sam Monteleone (miscellaneous metals)

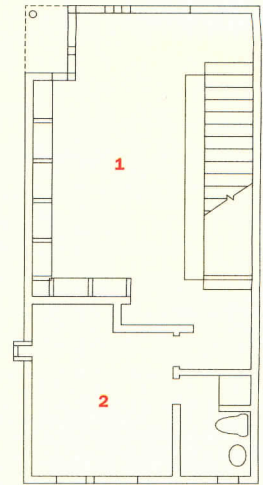
General Contractor: Ptarmigan Construction



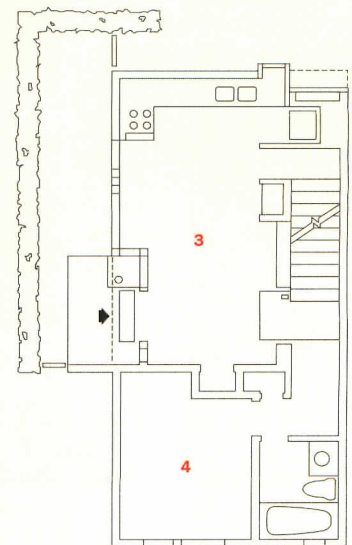
The architects describe the house's exterior skin (above and right) as a "taut wrapper." The plywood is finished with a deep red semi-transparent stain covered by a protective coating. Virtually all of Hill's activities center around the kitchen/dining room (opposite bottom left) and library (opposite right).



SECTION LOOKING WEST



SECOND FLOOR



GROUND FLOOR

1. Library
2. Bedroom
3. Kitchen/dining
4. Bedroom



PHOTOGRAPHY: © MICHAEL AWAD (TOP LEFT); JAMES DOW (BOTTOM LEFT AND RIGHT)

flat, it is actually made of prefabricated, low-slope roof trusses, covered with shingles and concealed by a low parapet wall.

The kitchen/dining room, where Hill prepares meals and entertains friends, is cottagelike in its proportions. Located on the first level, just off the entry, it has a sunny, southern exposure. Although the architects decided to lower the room's height—the ceiling is only seven feet, six inches high—the resulting shorter stairway to the library allows for more spacious landings. Painted terra-cotta red and mauve, with maple cupboards and incandescent lighting, it is the most intimate space in the house.

Hill often works on his opus at home, and the size and orientation of his library reflect his priorities—just as the kitchen embodies the warmth and communal spirit of a hearth. One knows immediately upon entering the library that this is a room of industry, that important work goes on here. The library's proportions are loftlike, with the distance to the ceiling a luxurious 12 feet, providing wall space to accommodate Hill's large collection of books, files, and architectural posters. When at home, he spends most of his waking hours in this library, and it shows in its custom details—from the built-in bookcases to the large custom-made, mahogany-framed windows, which open up the west wall and southwest corner to admit daylight and neighborhood views. Hill himself is quick to

point out, however, that inventive cost-cutting had its place even in this room: "The bookcases look like they're maple, but they're really medium-density fiberboard edged in maple. The maple flooring is number-two grade," he says, adding proudly that he installed it himself. Even the custom-looking adjustable light fixtures were made from inexpensive outdoor lamp holders fitted with chrome-plated canopies.

The Craven Road House strikes a rare balance between the realities of economics and the breadth of its owner's desires. Hill finds it personally satisfying that the architectural solution appears simple rather than complicated—a testament to the ingenuity behind this highly refined design. ■

Sources

Exterior finishes: Plywood and timber board with Sikkens Cetol finish (Azko Coatings)

Shingles: Thorndale Roof Systems

Custom windows and doors: Radiant City Millworks

Cabinetry: Radiant City Millworks

Paints and stains: Para Paints

Floor tile: Olympic Tile

Library cabinetry: Catfish Design/Build

Lighting: Eurolite, Rab, Luxo

Bathroom faucets: Moen (faucets), Speakman (shower controls)

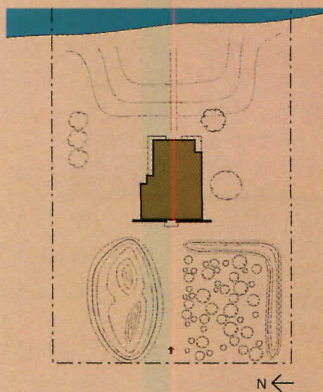
Bathroom fixtures: Universal Rundle

Kitchen sink: Kindred Industries

Kitchen faucets: Chicago Faucet



Surrounded by typical New England houses, Huber's residence creates its own setting with an earth mound and a grove of re-planted trees in the front yard (site plan). The front elevation (above) screens the house from the street, while the back (opposite) opens to river views. South-facing windows (right) help warm the interiors.



Moving from sculpture to architecture (and back), **MICHAEL SINGER** explores boundaries that both separate and connect.



by Clifford A. Pearson

Since he began making sculptures in forests and swamps in the 1970s, artist Michael Singer has been exploring the intersection of built and natural environments. His early works were ethereal constructions of bamboo, fallen trees, and various kinds of wood that sat lightly on the ground or, in some cases, emerged from bodies of water. Over the years, he has turned to heavier materials, especially concrete, with projects that question the boundaries between architecture and art, landscape and construction. For example, he and artist Linnea Glatt turned what might have been a dreary garbage-transfer station in Phoenix into a giant environmental sculpture that the public can walk through and where visitors can learn about recycling [see *RECORD*, June 1994, page 98.]

As the scope and scale of his projects have grown, Singer has collaborated with architects such as Kallmann McKinnell and Wood and Behnisch, Behnisch & Partners on indoor and outdoor gardens at large office complexes. He has also designed small pavilions on private estates. So when Parker Huber, a therapist and nature writer, asked him to design a house in Brattleboro, Vermont, just 20 miles from Singer's own residence and studio, Singer was ready for the challenge.

A Brattleboro resident since 1979, Huber had been looking for many years for the right site on which to build a small home. Since he doesn't drive, the site had to be within walking or bicycling distance of town. It also needed a clearing large enough so no trees would have to be cut down during construction, and south-facing views so the interiors could be warmed by the sun. Once he found the right place to build, Huber had few specific requests. "I don't need closets and I don't cook," says Huber, who lives simply, with little furniture and few possessions, but indulges a passion for folk dancing. In his low-key manner,

he says, "All I need is a place to dance and to inspire my work."

On his first visit to the site, Singer immediately saw connections between the architectural project and a large sculpture he was creating in his studio. Like much of his artwork, the sculpture dealt with issues of enclosure, layering, and materiality. As the design and construction of the house progressed, Singer continued to work on the sculpture, and the two projects informed each other.

"From the very beginning, I saw the front of the house as a screen to the street," says Singer. Made of concrete panels that the artist cast on his barn floor and topped with a cedar trellis that is slowly turning a color similar to the concrete, the screen is a richly textured threshold between the public realm and the private. Like much of Singer's sculpture, the dwelling's front elevation incorporates carved wooden strips set in cast concrete. In an intriguing play on materials, it also includes concrete versions of these carved strips (cast from molds made from the same wood pieces). Nonstructural and extending beyond the width of the house, the screen is bolted to the concrete slab beneath it and the wood-framed house behind it. When the newly planted vines—including grape, ivy, honeysuckle, and Virginia creeper—mature, the front of the house will become a lush plane of green, linking yet separating outdoors and in.

Designed and built in one year for just \$150,000, the 1,500-square-foot house is a straightforward structure with wood trusses engineered to support snow loads on what is essentially a flat roof. A 500-square-foot U-shaped loft rests on three-by-10-inch timber beams on its south and west sides and is suspended from the ceiling at its northeast corner. The exposed rough-sawn timbers were cut by the same person who has been providing wood for Singer's sculptures for the past two decades. A concrete pier-and-beam structure that stands inside the 15-foot-high living space and extends from a large concrete chimney also helps support the second floor. A fireplace at the base of the chimney and an exhaust pipe at the top have yet to be installed, so the brawny chimney is more sculptural than functional at this point.

Just as he makes changes in his sculptures as they are built, Singer finetuned the Huber residence during construction. For example,

Project: *J. Parker Huber House, Brattleboro, Vermont*

Owner: *J. Parker Huber*

Designer: *Michael Singer, Inc.—*

Michael Singer, Sterling Mc Murrin, design team

General Contractor: *Heartwood Builders—Peter Vandertuin*

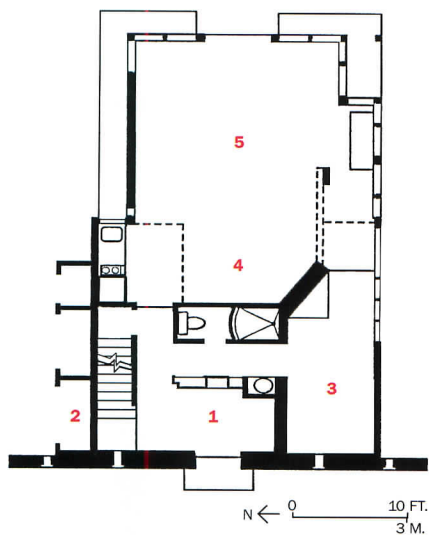


The 15-foot-high living room is the center of the house, wrapped on the south and east by sliding and casement windows to capture the

views. The chimney's concrete panels were cast on various materials (such as wood, Masonite, and glass) for different effects.



1. Entry foyer
2. Storage/mechanical
3. Office
4. Living
5. Dance floor



A wall niche (right) and a bench (far right) turn the small entry foyer into an intimate setting. The copper-leafed niche is set within a subtly colored plaster wall.



he added a tall narrow window on the north elevation during framing so he could capture a view of trees in the distance.

The dwelling centers around a double-height living space with spectacular views to the east and south. Occupying much of the room is a maple dance floor that rests on wood beams and cushioning to give it some spring. Private spaces—including a small kitchen, a bathroom, and areas for sleeping and working—wrap around the building's more solid west and north sides. The simple plan allows for flexibility of use. Indeed, the loft was originally designed as the client's office, with his bedroom below. But Huber has set up the loft for sleeping and placed his desk on the main floor to take advantage of the large, south-facing windows there.

Darkly pigmented concrete floors on the main level, a spruce floor on the loft, and white gypsum-board walls establish a simple stage for dramatic features such as views of the Connecticut River and Mount Wantastiquet and the sculptural chimney. Like Singer's artwork, the chimney is made of concrete panels cast on such surfaces as an old wood floor, sheets of Masonite, and panes of glass and is inlaid with strips of copper and copper-leafed pieces of carved wood. Set in front of large, south-facing windows, the chimney and the concrete pier-and-beam structure also serve a more prosaic function: to absorb solar energy during winter days and then release it slowly during the night.

Singer designed most of the sparse furnishings himself: a bench



in the foyer, a curving couch in the living room, bookcases upstairs. If left to his own devices, Huber would probably just toss a few pillows on the floor. The same kind of minimal aesthetic can be seen in the entry foyer, where a copper-leafed niche is set within a subtly hued plaster wall. Decorated with a bowl of flowers and lit from a single fixture above, the niche is a Zenlike composition that captures the essence of the house.

Since he writes about nature, Huber wanted a place that would integrate indoors and out. His house succeeds at this by capturing views, bringing a concrete planter indoors, and even offering a view of a distant bridge from the bathroom. Outdoors, Singer cut away some of the ground in the backyard to open a view to the river below and then used the fill to create a mound out front. He also took about 100 small trees—birch, maple, poplar, ash, and aspen—from a farmer's field and planted them in one half of the front yard so they work with the earth mound to create a landscape that seems as if it might have grown naturally. The result is a house that, Huber explains, "helps connect me to this place."

A year after completing the house, Singer is still working on the sculpture that inspired it. For him, art is slower than architecture. ■

Sources

Sliding and casement windows:

Marvin Windows

Paint: *Benjamin Moore*

Exterior stain: *Cabot*

Entry wall plaster: *Silpro*

Copper leaf: *Sepp Leaf Products*

Copper-leaf patina: *Jax Chemical*

Plumbing fixtures: *Moen*

Table and couch: *Custom designed by Michael Singer, Inc.*

Couch upholstery: *Sunbrella*

Concrete countertops: *Custom designed by Michael Singer, Inc.*



A planter set in the concrete floor (right in photo) continues a line of flower beds that wrap around three sides of the house.



Grassy hills surround the classic domestic form (above)—ironically cast in a non-traditional material: concrete. A single tree

in front of the house evokes a portrait by painter René Magritte in which an apple blocks the view of the subject's face.

In rural France, HERZOG & DE MEURON reconsider the essence of House.

by Sarah Amelar

At first glance, Herzog & de Meuron's small dwelling in Leymen, France, appears to be the quintessential child's drawing of a house. With its single, self-contained volume, steeply pitched roof, and tall chimney, it's like a monopoly piece set in the hilly meadows of northeastern France. But on second glance, this modest structure appears both familiar and provocatively unfamiliar.

Cast in pale gray exposed concrete, this traditional form is hardly clad in the classic materials of the child's-eye view or the archetypical house. And, even more striking, this 1,700-square-foot building bears a curious relationship to the landscape—respectful and open to it, yet decisively setting itself apart, almost in opposition. Characteristic of Herzog & de Meuron, this dialogue with the natural context is unexpected and compelling. And like much of the firm's work, the project invites intellectual readings as well as purely visceral responses, alternately delighting, amusing, and confounding local observers.

Lying just a few kilometers from France's Swiss and German borders, the countryside of Leymen is scattered with small, rustic timber or half-timber houses and barns. With its traditional silhouette, Herzog & de Meuron's project fits right in—but not quite. On the approach along a narrow winding road, the small house looms from above on its hillside perch; oddly enough, the building's flat underside can be glimpsed from below. Raised on pilotis, the house is flanked by a cast-concrete reflecting pool and deck—lateral extensions of the first floor, forming a plinth. This simple horizontal plane does not carve into the hill or otherwise engage it. Instead, it hovers above the slope, accentuating the contrast between the terrain's undulations and the structure's level planes. The house, with its own attached site, seems almost portable—as if the whole assemblage could be picked up and moved. At the same time it's also site-responsive, with the elevated deck gesturing toward the hill, while allowing the landscape to flow around and beneath the architecture.

A work of gentle contradictions, the house appears both heavy and light: solidly cast in concrete, it floats visually on the strategically placed pilotis. A thick-walled monolith (without eaves and stripped down to its essence), the cottage also takes on a lightness and transparency at its large windows. Between uninterrupted expanses of wall,

Project: *House at Leymen, Haut Rhine, France*

Owner: *Hanspeter Rudin*

Architect: *Herzog & de Meuron—
Jacques Herzog and Pierre de Meuron,*

*partners-in-charge; Lukas Bögli—
project architect*

Engineer: *H. P. Frei, Bauingenieur
Basel, Mitarbeit F. Männel (structural)*

Consultants: *B. Sontag (concrete)*

PHOTOGRAPHY: © MARGHERITA SPILUTTINI



some rooms reveal themselves fully from the outside, as oblique corner views pierce through the building to the landscape beyond. And though the platform appears unmistakably level, it's certainly not grounded; in fact, from some angles, the house and its base seem practically on the verge of tipping.

In another twist on expectations, the “front door” is accessed from the underbelly of the building, up a narrow flight of stairs—hardly the main entry to the iconic House. As Swiss-based Jacques Herzog and Pierre de Meuron discovered, French laws do not require a cellar, whereas Swiss building codes, says Herzog, mandate a subterranean refuge in case of war. Without basement laws, the architects were inspired to minimize

or clear away whatever normally sits beneath a house, and to separate it from the ground. They reduced the mechanical room to a 170-square-foot plan and may eventually embed a freestanding wine cellar in the hillside. Without a basement, the entry stairs descend from the center of the house's smooth underside in a highly visible way. Like a retractable stairway, they are reminiscent of the steps at Fallingwater that drop down into



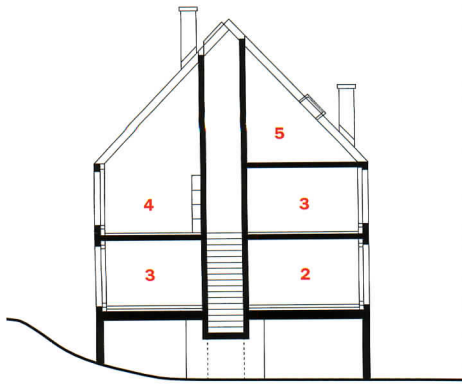
the waterfall—but, in fact, they are substantial, unmovable, and solidly cast in concrete.

On the interior, the plan is simple. At the lowest level, a living/dining area, a kitchen, a small bedroom, and a bath surround the centrally located stair. Between the first and second floors, the stairwell is encased in white-painted loam, or adobe, walls that soar to the roof peak. This tall passageway—with its sculptural loam handrail, charcoal-gray

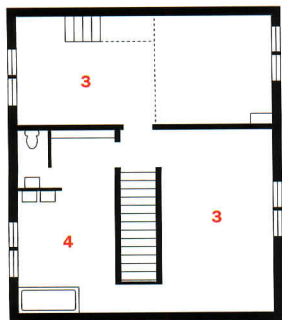
THE HOUSE WITH ITS PLATFORM APPEARS ALMOST PORTABLE—AS IF IT COULD BE PICKED UP AND MOVED.

concrete steps, and Corbusian composition of openings, is lit by a skylight, which plays off against a long, horizontal strip of fluorescent bulbs. Two bedrooms and a palatial bathroom occupy the second level. With a crystal chandelier whimsically hung from a 19-foot-high cathedral ceiling, the 220-square-foot bathroom is one of this diminutive house's grandest spaces. “I don't see the bathroom as a technical-functional space,” remarks Herzog, “but as a wonderful place hopefully to celebrate a good sex life.” Near the tub, sunlight streams in through a large south-facing window while a high interior opening catches oblique rays from the stairway skylight. The third level houses a mezzanine balcony with a skylit laundry room.

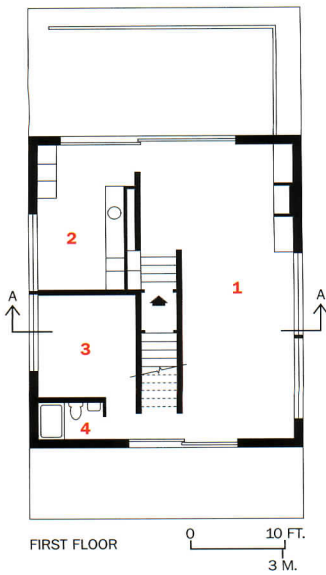
A strong connection with the landscape shapes the house's



SECTION A-A



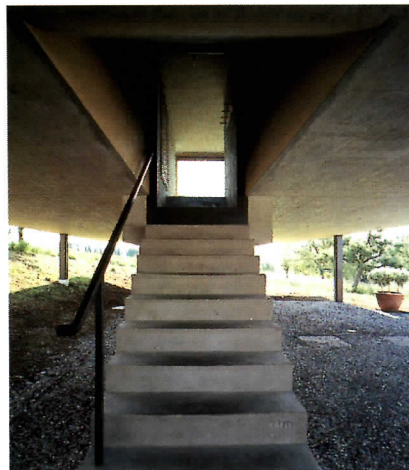
SECOND FLOOR



FIRST FLOOR

0 10 FT.
3 M.

1. Living/dining
2. Kitchen
3. Bedroom
4. Bath
5. Laundry



The "front door" is accessed from beneath the seemingly traditional house—up a narrow flight of concrete stairs (opposite and left) that lies directly below the soaring stairwell between the first and second levels.



The adobe-lined stairwell (above left and right) rises to the roof peak. A skylight plays off against a horizontal strip of fluorescent bulbs and an internal window that opens onto the palatial bathroom (below).

interior as much as its exterior. Wide, sliding, floor-to-ceiling windows, framed in oak, open the rooms to the fields and orchards. In warm weather, these openings can transform the interior; the kitchen, for example, virtually becomes a dining porch. Enhancing the ambiguity between indoors and outdoors, concrete flooring continues inside from the deck, and loam not only covers the walls but also surrounds the house as an indigenous clay in this rural terrain. (The name Leymen actually connotes loam, and recent visitors on a rainy day arrived with much of this tawny material caked to their shoes.) On the lowest floor, closest to the meadows, the adobe walls retain a natural sandy tone that gives way to



white paint in the stairwell and upstairs walls, while the concrete flooring is supplanted by parquet in the bedrooms above. Daylight animates these surfaces, catching glints of straw in the adobe and trowelwork in the concrete, while reflections from the shallow pool shimmer onto the ceiling.

Just as the house's interior fluctuates with the light, Herzog and de Meuron envisioned the exterior changing significantly with the elements. Hoping to

create a water-stained, mossy elevation, the architects designed gutters to channel rainwater down the west facade's outer edges into the reflecting pool. (At a larger building for the Ricola company in nearby Laufen, Switzerland, Herzog & de Meuron designed an entirely wet facade, directing rainwater down the building's whole face.) "We like to use water to change architecture," explains Herzog, "the way rain washes a piece of stone. Algae forms, reshaping and softening the hard edges."

In that vein, explains Herzog, "We preferred to retain the unfinished quality of the concrete so that the house could continue to evolve over time." Recently, he was pleased when a critic compared the House at Leymen to modest dwellings near the Adriatic that stand unfinished, yet are fully inhabited, with laundry flapping on the line. Indeed, the neighbors at Leymen keep asking the owner: "When will your house be finished?" The construction is complete, but if the seasons have their way, the house will remain a work in progress.

One could call the House at Leymen an icon, a pictograph, or an archetype—one might even call it generic or dumb (in a Venturian sense). When observers first see it, though, they often smile for reasons they can't quite identify—perhaps because its primal form taps into the long-lost pleasures of childhood. ■

Sources

Windows: Gutzwiler, Hagenthal

Roof: Dirrig (built-up wood with slate-grain surface and metal eaves)

Skylights: Custom designed by Herzog & de Meuron with Gutzwiler, Hagenthal

Concrete: B. Sontag

A lanternlike silhouette at night, the house reveals its inner workings through wide, floor-to-ceiling windows.



**Glazed passages link
the living-room pavilion
(below) to the master-
bedroom wing and the
guest wing (opposite).**



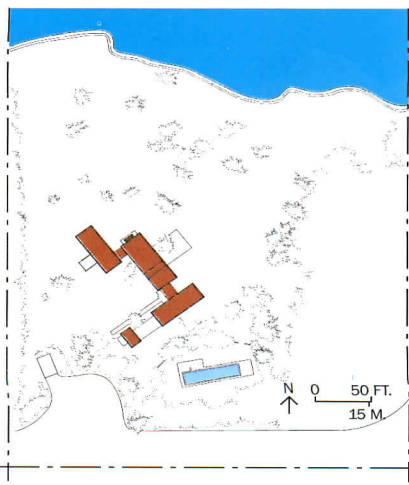
A spare and serene Long Island retreat

by **TOD WILLIAMS BILLIE TSIEN**
refines a classic Modernist paradigm.

by **Suzanne Stephens**



Architecture doesn't have to be astonishingly innovative to jolt the observer. The Rifkind residence, an impeccably crafted weekend home by architects Tod Williams and Billie Tsien, shows it can simply emerge from skillful use of the Modernist lexicon. Williams places the house's provenance somewhere between Philip Johnson's Glass House and a Los Angeles Case Study house, but actually any number of Modernist predecessors could be invoked. Because the architects brought together Modernism's tectonic principles with restraint and panache, the building has a timeless yet fresh quality. This is not the shock of the new, but of something extremely well done.



The low, unassuming complex occupies a three-acre site on Long Island's south shore with sweeping views of a large salt-water pond and towering black pines. The clients envisioned a place that would embrace the outdoors, "a tent in the woods"—albeit a 3,700-square-foot tent. Robert Rifkind, a Manhattan lawyer, and his wife, Arleen, a pharmacology professor, wanted to come here to read, work, and casually entertain their friends and grown chil-

dren. "We have a traditional, crowded apartment in the city," Arleen Rifkind explains. "This had to be spare, uncluttered, and serene." They were already converts to classic Modernism, having summered for many years in a nearby house designed by Marcel Breuer and renovated by Joseph d'Urso. Needless to say, they didn't even consider the Shingle Style.

Williams and Tsien organized the house as three linked rectangular pavilions gently perched on a rise facing the water. On the entry side, the pavilions form a court, where the driveway and potting shed are located. From this perspective, so little glazing interrupts the expanses of cedar siding that the place almost looks closed for the season. "We tried to see how quiet it could be on the land," explains Williams. Nevertheless, the clean horizontal lines of the tongue-and-groove

siding, marked by half-inch reveals, give the entrance elevations a strong visual presence.

The front entry is discreet, in a Modernist vein, with the foyer occupying a link between the main living pavilion and the guest wing perpendicular to it. On the living room's far end, a similar passage leads to a master-bedroom wing that matches the guest wing in size. "Tod is allergic to the arbitrary," observes Arleen Rifkind. "Everything is so balanced."

Upon entering this residence, the first-time visitor is suddenly riveted by the view: floor-to-ceiling windows frame an arresting panorama of water, trees, and the land's gentle contours. The dining area, efficiently placed between the foyer and the partially enclosed kitchen, looks out onto the water, as does the kitchen. The living room is surrounded by expansive window walls facing north and northeast, as well as the clerestory windows that wrap the 14-foot-high ceiling. A loftlike study overlooking the living room offers still more views; it opens onto a rooftop terrace, where one can glimpse the ocean beyond the pond.

The house clearly overcomes a drawback of many Modernist one-story buildings—the monotony of a uniformly flat ceiling plane.

Project: *Rifkind House, Long Island, New York*

Owners: *Robert and Arleen Rifkind*

Architect: *Tod Williams Billie Tsien and Associates—Tod Williams and Billie Tsien, partners-in-charge; Peter Arnold, project architect*

Engineer: *Severud Assoc.—Ed Messina*

General Contractor: *Andreassen and Bulgin—Ed Bulgin, principal; Frank Cafone, project foreman*

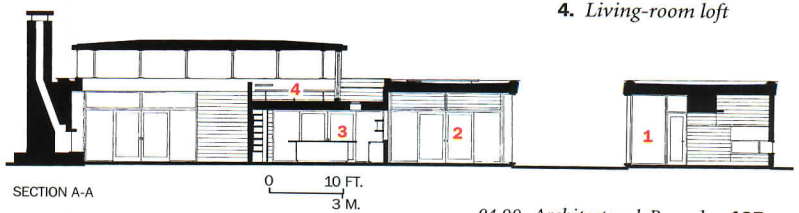
Consultants: *Robert Toole (landscape); Edison Price—Rick Shaver (lighting); Weber and Grahm (mechanical)*



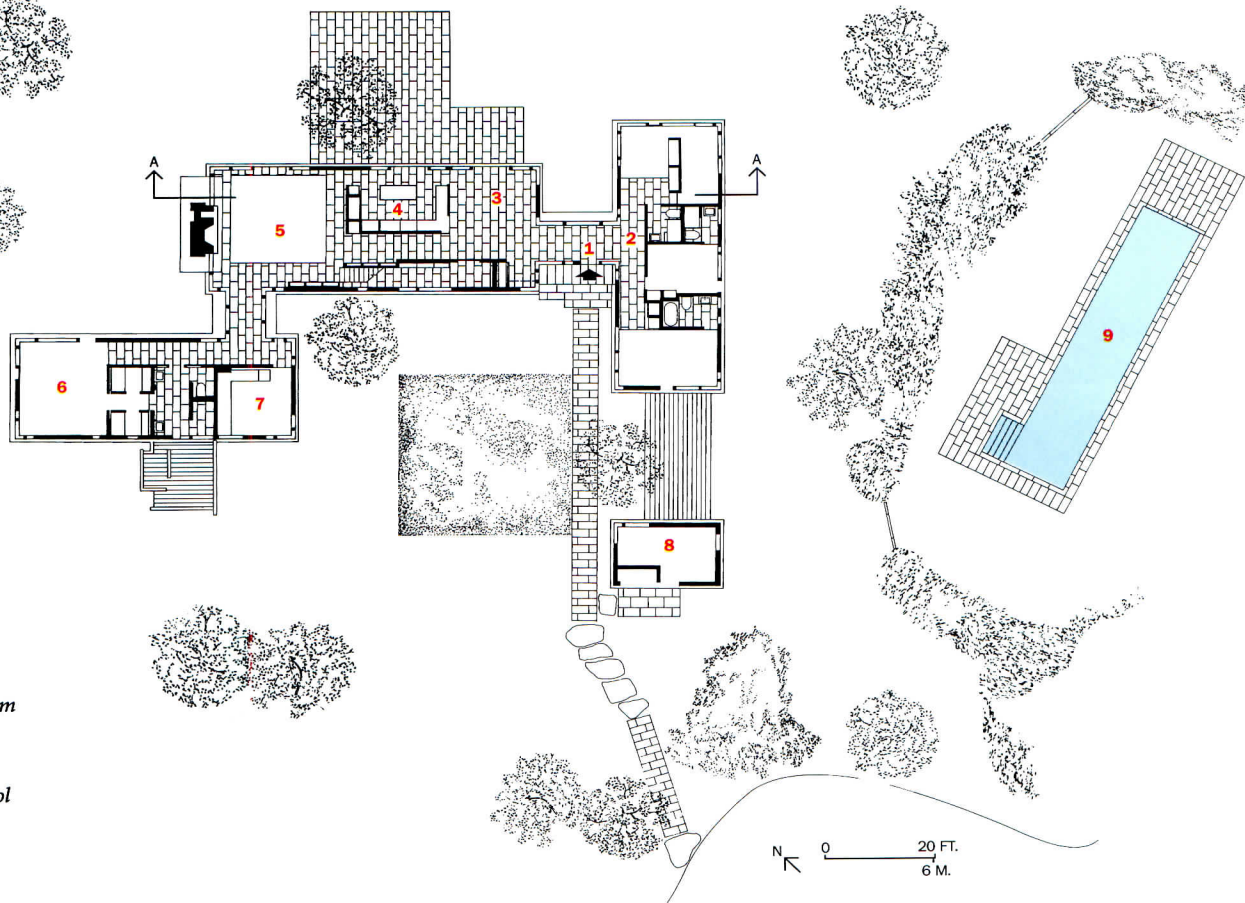
Williams and Tsien designed the rear of the house to open up to views of the pond through window walls and clerestory windows (above). Laminated long-span timbers, 16 inches deep and 50 or 60 feet long, depending on the pavilion's size, create ring beams that carry the clerestory and roofs; 24- and 20-foot I-shaped laminated beams span the pavilions. The cedar siding contrasts with the lead-coated copper fascia and flashing covering the ring beams (photos opposite) and the bluestone chimney (left).



1. Guest room
2. Dining
3. Kitchen
4. Living-room loft



1. Entrance
2. Guest wing
3. Dining area
4. Kitchen
5. Living
6. Master bedroom
7. Study
8. Potting shed
9. Swimming pool



Though most of the ceilings hover just under 10 feet, Williams and Tsien capped the kitchen at seven feet (à la Wright), in distinct contrast to the double height of the adjoining living room. A narrow, slotlike passage between the kitchen and window wall rises to the living room's height, a shift subtly emphasized by the latticed soffit that filters daylight from above.

The sequence of compressed and expanding spaces, extending from guest wing to living room, is calibrated to dramatize the vista of

from meeting completely. Here they inserted a reentrant corner with copper flashing that recalls Mies's brick-and-steel details. As the architects are quick to acknowledge, the contractor's commitment to craft played a major role in the project's success—in, for example, working out the corner detail from the architects' sketch. "This is not off the shelf," says Williams.

Besides having craft-conscious builders, it helped that the site was exceptional and the program uncomplicated. It helped, too, that the

THE SEQUENCE OF VISTAS, OBSERVES THE CLIENT, "GIVES YOU A SENSE OF WALKING PAST A JAPANESE SCROLL PAINTING THAT GOES ON FOREVER."

trees and water. "It gives you a sense," says Arleen Rifkind, "of walking past a Japanese scroll painting that goes on forever."

The abundance of natural materials inside and out also marks the house's deference to Modernist tradition. Douglas fir lines the exterior walls, while honed and splitface bluestone paves the floors in the hall, dining area, kitchen, and living room, uniting the interior with the terrace. And the living room's massive bluestone fireplace has a strong counterpoint in the finely crafted, rectilinear cherrywood staircase and library.

If the house appears simple in its parti, the structure is more complex. To cantilever the roof over glazed corners, Williams and Tsien, in effect, created ring beams of long-span laminated timbers. The ring beam assemblage rests on bearing walls or columns; in the living room, in turn, it carries slender steel clerestory columns that support the roof.

Throughout the house, skillful detailing provides a sense of scale and craft, animating otherwise abstract forms and surfaces. For example, Williams and Tsien turn solid exterior corners by keeping the cedar siding

budget was decent (the actual figure has been withheld from publication) and the clients were interested in architecture and extremely receptive. Most important, the architectural idea was simple, straightforward, and not gimmicky. The architects were thinking about the human experience of space, light, and view as much as the overall form. As an accomplished synthesis of so many Modernist notions, the Rifkind house becomes paradigmatic of its type. "We don't care about being ground-breaking in design," Tsien says. "But we still feel we're moving forward." ■

Sources

Engineered lumber: *Trus Joist Macmillan*

Windows: *Duratherm Window Corp. (wood); J. Sussman Inc. (aluminum)*

Cabinetry: *Fabricated by Craz Woodworking Associates*

Skylights: *Insula Dome*

Stone: *Johnson and Rhodes Bluestone*

Custom wall panels: *William Somerville, Inc.*

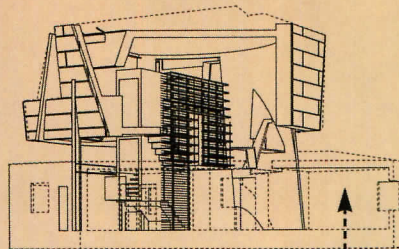
Furniture: *Custom designed by Williams Tsien; fabricated by Stephen Iino*

Plants: *The Bayberry (plant suppliers)*

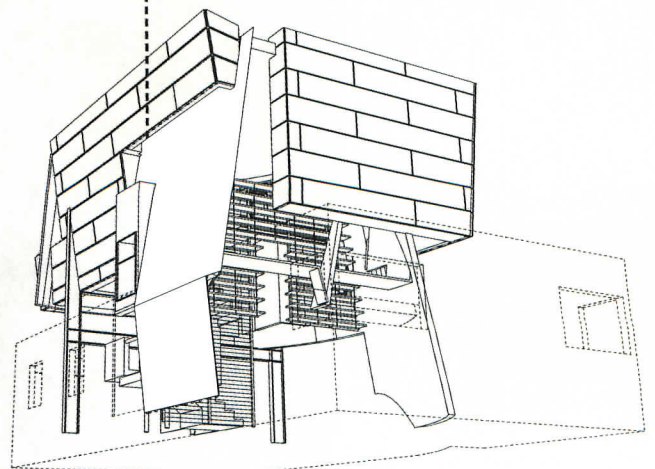


In addition to glass window walls, the living room is surrounded on three sides by clerestory windows (above); on the fourth side, glass doors lead from the study-loft (far right), overlooking the living room, to an outdoor roof terrace. A cherrywood staircase between walls of shelves (right) links the two levels.





The addition, seen from the street (top), is a polyhedron that wraps around a truncated cone. The gleaming cone atop the remodeled one-story bungalow (above) is gradually revealed on the rear south facade.



ELEVATION PERSPECTIVE - NORTHEAST VIEW

A polyhedron and a truncated cone rise from a traditional cottage transformed by **MORPHOSIS**.



by Suzanne Stephens

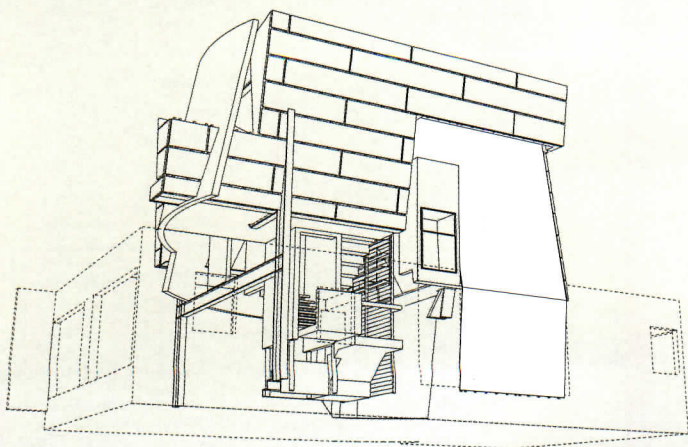
The biggest thing about Morphosis's Landa House is the architectural concept. And that's sizable. The clients, Jutta Landa, a film professor, and her husband, Hans, an engineering consultant, had purchased a 1945 Mediterranean-style bungalow, set in Manhattan Beach, California, amid a picturesque jumble of small houses with handkerchief-size yards and picket fences. "We were looking for an architect—a modern one—who could put something on a small lot and not have it just look like a concrete box," Jutta Landa explains. They asked Morphosis principal Thom Mayne to renovate the bungalow and add space on the upper levels for a new study and master bedroom and bath while retaining the ground floor for an open-plan living room/dining area/kitchen, a family room, and a bedroom. The remodeled

portion would total 1,067 square feet, the addition only 609 square feet. To complicate matters, the site was tight (a 30-by-100-foot lot) and the budget was limited to about \$205,000.

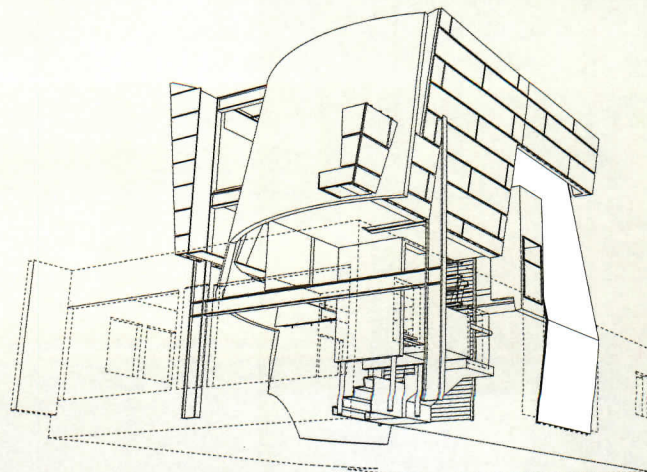
Considering that Mayne now operates on an international scale, designing office buildings, schools, and big-budget houses, one would think he'd have no time for the small stuff. Evidently not. "The scale allows you to investigate something in a focused way that can become an element of a larger work," he says. While this design solution reflects an unresolved tension between innovation and contextualism, it nevertheless demonstrates boldly how the perception of space in a tiny area can be exploited dramatically through architectural maneuvers.

Mayne accepted the limited budget and site with the understanding that "We would begin with a formal investigation and then work backward to make it function programmatically for the owners," he recalls. "You can do this with a house," he argues, "since the program is much more fluid than, say, that of a school."

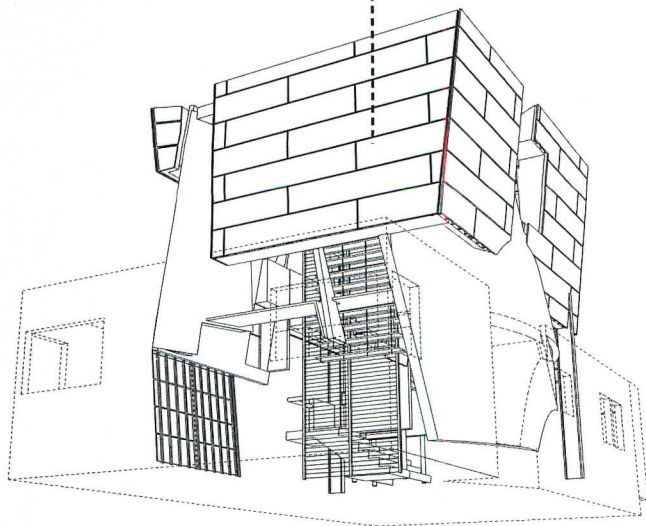
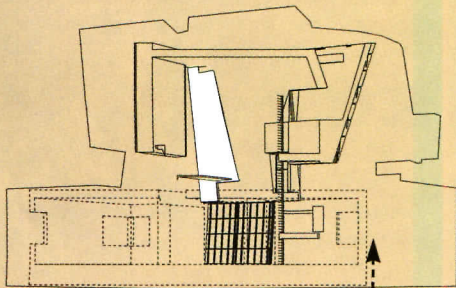
The architect came up with a scheme that would remove the roof of the one-story cottage and insert a new two-level volumetric structure on top. A partial cube, distorted into a polyhedron faced in fiber-reinforced cement board, wraps around a truncated cone clad in zinc



ELEVATION PERSPECTIVE - EAST VIEW



ELEVATION PERSPECTIVE - SOUTHEAST VIEW



ELEVATION PERSPECTIVE - NORTHWEST VIEW

panels. The sleek, metallic gray structure sits on the remodeled base like a UFO tethered to the existing building's inner core. The new unabashedly overwhelms the old, making the stuccoed wood-frame ground floor a pedestal for the sculptural object above. Yet on the interior, Mayne successfully has created rich spatial effects, amplifying views and light with unexpected fissures of glass, all accomplished without violating the 30-foot-height limit and setback restrictions of the neighborhood.

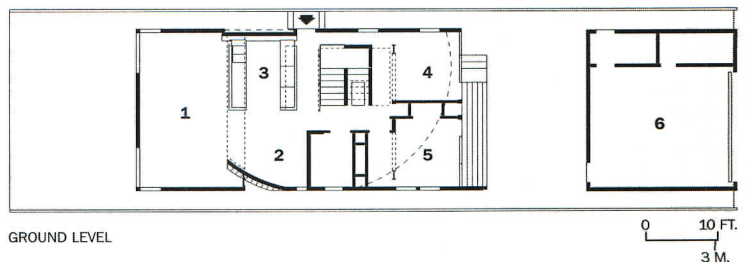
For years, Morphosis has shown a penchant for Platonic geometric forms and the rational qualities they bring to a design problem. At the same time, Mayne has demonstrated an urge to create radical collisions between volumes—to see how accidents and distortions can be resolved. Although other architects, in recent years, have experimented with non-Euclidean geometries and even “blob” formations (with no internally regulated shape), Mayne stands by his more formalistic approach. “The design process needs a fixed departure point,” he states. “I may begin with these forms, but I don’t have a strong image in mind about the result. At the end of the process, the original gesture may no longer be very visible.”

The visitor entering the low-ceilinged first floor—a horizontal zone of rooms with conventional dimensions—is given only a few hints of the shape of things to come. The sole clues to the spatial dynamic above it are a partially curved wall enclosing the dining area, and crevices and light shafts in the kitchen ceiling. A central concrete stair (part of a core made up of a steel moment frame, with plywood shear walls, housing HVAC units and storage) leads up to the second level. Here the canted walls of the polyhedron and the curved, truncated cone begin to radically open up the interior spaces. A large glazed fissure in the study's front wall discloses views of palm trees and rooftops; glass slots at the interstices of the cube's and cone's overlapping walls admit additional ambient light. Library shelves of perforated steel allow even more light to suffuse the space.

The perforated stainless-steel stair between the second and third levels reinforces the sense of weightlessness and luminosity, which increases as one ascends through the house. Here, too, the truncated cone asserts itself, terminating in a curved metal wall that defines the master bedroom.

Mayne's design process leading to this solution involved models, hand-drawn perspective sections, and three-dimensional computer drawings. The computer enabled him to generate a series of elevations and sections at 12 rotated positions so he could study the resolution of forms from different angles. “You can't understand architecture in terms of a

1. Living
2. Dining area
3. Kitchen
4. Den
5. Bedroom
6. Garage



GROUND LEVEL

fixed position," he remarks. "It's about moving through and around it."

Working within these rigorous constraints, Mayne creatively investigated ideas that could apply to other programs and larger scales—particularly ways to activate and open up interior spaces. The exterior, however, is more problematic. Here the weighty sculpture of interlocking forms may read as an autonomous unit, but it appears to be jarringly spliced onto the one-story white stucco base and its conventional architectural elements. Had there been a larger budget, no doubt Mayne would have designed the base to look more abstract (as it does in the model) and less like a house. Such objections, of course, depend on

MAYNE INVESTIGATED IDEAS THAT COULD BE APPLIED ON A LARGER SCALE.

the observer. The clients like the way old and new are blended: "It is seamless," Jutta Landa maintains.

In addition, one expects the north elevation facing the pedestrian street to be the most important facade, a convention faithfully honored by the other houses on the block. Instead, the main entry and the most dramatic elevation, with its curved, gleaming metallic surface, face the freestanding garage and the car street to the rear. A more successful visual dissonance, oddly enough, occurs in the way the hybrid form fits into the beach-town context of cottages with gable roofs and American colonial or Spanish Mediterranean motifs. Indeed, the surrounding collage of parts and pieces of houses allows the sculpture to stand as an artifact popping up above a polyglot of red-tile roofing. The experiment, therefore, both answers and raises questions. As it should. ■

Project: Landa House, Manhattan Beach, California

Owner: Jutta and Hans Landa

Architect: Morphosis—Thom Mayne, principal; John Enright, project architect; Brandon Welling and Frank Brodbeck, project team

General Contractor: Michael Lee

Custom contracting: Mauricio Gomez (shelving); Tom Farrage Co. (balcony)

Engineer: Mike Ishler (structural)

Sources

Fiber-reinforced cement board: Supra-Board

Metal panels: Zincaalum (Zactique finish)

Stairs and decking: Industrial Metal Supply (stainless-steel perforated)

Plastic glazing: Lexan

Glass: Architectural Glass Systems

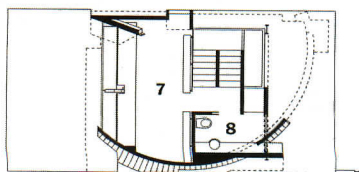
Granite: Ara-promarble

Paints and stains: Hammerite

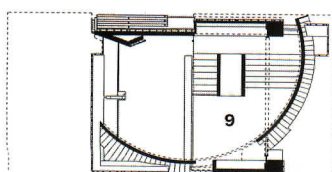


A perforated stainless-steel stair (above) between the library and the bedroom gives the space a luminous quality, enhanced by perforated steel shelving. Zinc panels line the bedroom wall (left).

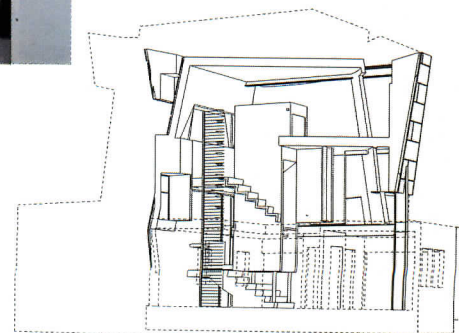
7. Library
8. Master bath
9. Master bedroom



FIRST LEVEL



SECOND LEVEL



EAST-WEST SECTION



Building for the first time on American soil, Japanese architect **TADAO ANDO** tests the wintry waters of Chicago.



A shallow pool (opposite and left), for viewing only, is the contemplative focus of this museumlike house. From the vantage point of the entry wing (opposite), the private wing appears in the distance, beyond the ramp linking the living room and roof deck.

Few architects maintain as consistent a vision of what they think a house should be as the Osaka-based designer Tadao Ando. In his houses—as in his museums and churches—minimalist expression and exquisite concrete construction predominate, but they are modulated by daylight, wind, and water. The integration of natural forces activates the buildings' interiors, blurring the borders between inside and outside, often in ways that are unexpected in a home. While understated and elegant, Ando's houses are far from passive. Instead, the play of natural elements—even the manner in which light enters a room—is intended to challenge the everyday experience of the inhabitants.

These homes have met with great success in Japan, where the climate is forgiving and the tradition of interweaving interior and exterior deep-rooted. With his recently completed house in Chicago, Ando has had his first chance to test his ideas in America.

Located on the city's north side, where 19th-century dwellings and small apartment buildings fill street upon street, the house sits on a 75-foot-wide midblock site, a triple lot. Designed for a gay male couple as a quiet retreat from hectic urban life, the 5,600-square-foot house fills just a strip of its 14,000-square-foot site. Its simple concrete-walled entry does not exactly blend with its brick and graystone neighbors, but it

Naomi R. Pollock, AIA, is ARCHITECTURAL RECORD's Tokyo-based correspondent. She was guest curator of the traveling exhibition "Japan 2000: Architecture for the Japanese Public."

by Naomi R. Pollock, AIA

maintains a subdued presence with a contemplative, inward focus.

Behind the plain wrapper lies a house composed of three discrete pieces: a two-story entry-and-guest wing in front, a three-story private wing in back, and a single-story living/dining room in between. As in many traditional Japanese buildings, a sequence of exterior and interior spaces leads the way inside. With each axial shift, the city is left further behind.

First, a grand stair directs visitors to an entry court some five feet above street level. From here a 90-degree turn reveals a second court aligned with the house's dominant north-south axis, running perpendicular to the street. Although an enclosed entry hall marks the last threshold from outside to inside, continuous stone flooring and glass partitions render that transition ambiguous. The hall provides a place for visitors to pause before proceeding to the living/dining room.

While the entry volume houses two guest rooms, the more private volume contains the kitchen, the library, and a bedroom suite on the

HERE MINIMALISM AND EXQUISITE CONCRETE WORK ARE MODULATED BY DAYLIGHT, WIND, AND WATER.

first floor, with the master bedroom on the second floor and a study directly above it. A narrow stone-clad stairway links these levels. The intimacy of the study, a third-floor aerie lined with oak cabinetry and flooring, contrasts strongly with the large scale of the living/dining room below.

Set between parallel concrete planes, the elongated living/dining room serves as an essential circulation conduit, as well as the center of the house. The room's distinctive character is shaped by its monolithic exposed concrete walls, whose velvety surfaces and unadorned simplicity bely the tremendous effort behind their construction. Indeed, Ando's high-quality concrete work required rigorous supervision, as the forms, separators, and even some of the pouring techniques in Chicago differed from his Japanese methods.

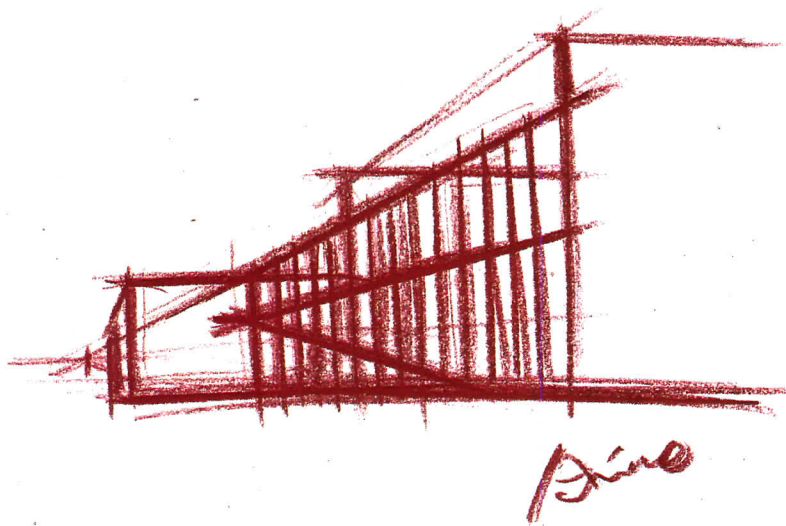
The Windy City's climatic extremes called for a waterproof

Project: Private Residence, Chicago
Owner: Name withheld at owner's request

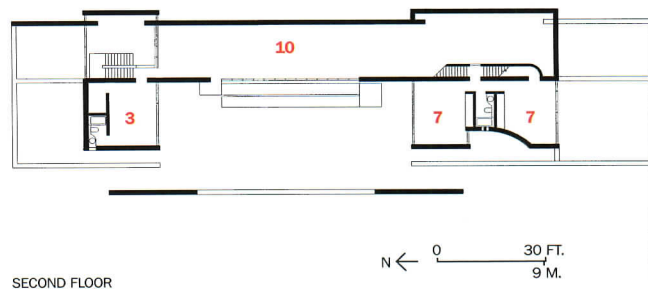
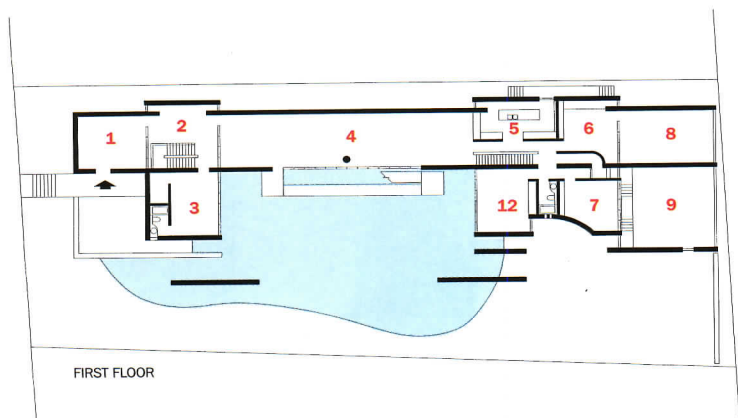
Architect: Tadao Ando Architect & Associates; Tadao Ando—design principal; Masataka Yano—project architect



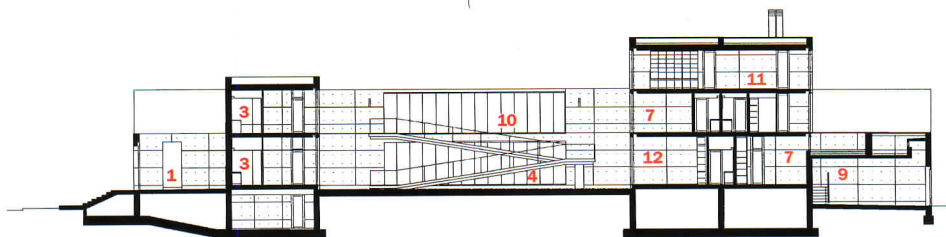
From the sloped walled garden at the house's south end, the long roof deck with its bull-nosed stairway is visible.



1. Entry court
2. Entry hall
3. Guest room
4. Living/dining
5. Kitchen



The ramp's scale may seem unusually large for a domestic setting, but it serves as a meditative walkway for viewing the pool and its surroundings.



6. Library
7. Bedroom
8. Garden
9. Garage
10. Terrace
11. Study
12. Sitting room

sealant on the wall's exterior surface, as well as a three-inch-thick insulation sandwiched between two six-inch-thick masonry layers. (Though such extensive insulation is unnecessary in most of Japan, where temperatures rarely drop below freezing, Ando had incorporated a similar triple-layer wall construction into his Church on the Water in Hokkaido.) Despite technical differences and language barriers, reports Ando, "a level of construction equal to that in Japan was attained."

Opposite the living/dining area's great wall, floor-to-ceiling glass panels interrupt the facing concrete plane, opening the interior toward a 2,000-square-foot reflecting pool that fans out from the building's edge like an extension of the main room. In stark contrast to the precise rectilinear architectural components, an undulating mound of gray limestone gravel outlines the curvilinear pool. The shallow basin holds a layer of water approximately five inches deep, designed to shimmer with gentle breezes and changing daylight. During the winter months, when the pool is drained, the great sea of limestone gravel on

its inner surface becomes an equally powerful meditative focus.

The pool is "an exterior space but psychologically it is a room," explains Ando's project architect, Masataka Yano. Echoing the vertical planes of the living/dining area, freestanding concrete walls partially

DESPITE THE OBSTACLES, SAYS ANDO, "A LEVEL OF CONSTRUCTION EQUAL TO THAT IN JAPAN WAS ATTAINED."

enclose the pool and enhance its roomlike character. But this is not a room for entry. It is purely a visual experience.

The only direct physical connection between the living room and the pool is a small platform, just outside the living room door, that hovers over the water's surface and gives rise to an external ramp. The gently sloping switchbacks connect the living room to an expansive roof terrace above; but, more important, they provide places to survey the



scenery. The roof terrace is a habitable outdoor room for casual lounging, as well as occasional parties. Though exposed to the sky, it is enclosed by a concrete wall on one side and glass panels on the other,

THE MARRIAGE OF POOL AND HOUSE IS A DARING STRATEGY FOR CHICAGO, A CITY WITH BONE-CHILLING WINTERS.

which shield the space while framing additional views of the pool and its surroundings.

Beyond the pool, the landscape appears less controlled. Several clusters of trees mask unsightly utility poles and a neighboring alley while subtly drawing the eye beyond the property to the abstract forms of nearby rooftops and a distant domed church. The architect added several trees to the existing mulberries, maples, poplars, and locusts that he saved. By far the most spectacular of the rescued trees are two enormous poplars, one of which reigns supreme in the rear yard, where an arc was carved from the concrete in the private wing to preserve the tree's magnificent crown.

Though characteristic of Ando's work, the marriage of pool and house is a daring strategy for Chicago, where abundant snow and bone-



chilling temperatures are the winter norm. Yet the two strike a delicate balance that is both stimulating and soothing. It comes as no surprise that Ando chose to transplant his vision to Chicago. What is remarkable is how well an architecture so intertwined with nature works in this urban setting. ■

Sources

Walls: Exposed reinforced concrete (interior and exterior)

Windows: Custom extruded aluminum mullions, jambs, heads, and sills

Glazing: Insulating double low-e glass

Roofing: Gravel ballast with water-proofing polyethylene membrane

Floors: Granite and oak

Exterior paving: Granite

The ambiguity between indoors and outdoors is particularly striking at night. From the entry court, looking south through the two-story entry hall (right), one might mistake the indoor stair for an exterior element. This double reading is accentuated by the distant glazed plane, which serves as an indoor partition on the ground floor, separating the entry hall from the living room, but on the second level marks the edge of the roof terrace.





The north elevation (above) echoes the rhythm of the grove. Decks (opposite), beneath acrylic roofing and batten screens, link the house's three pavilions.

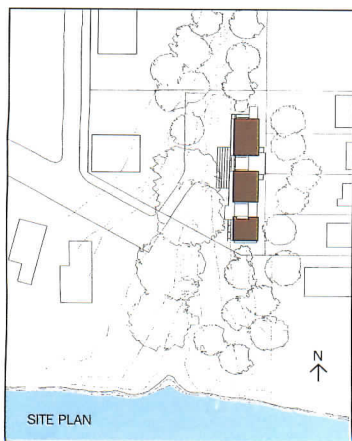
Like a grove of eucalyptus trees, ANDRESEN O'GORMAN'S Rosebery House takes root in a lush Australian gully.



Gullies in the subtropical Australian city of Brisbane are magical places. Deep, lush folds in a hilly terrain, they are remnants of the original landscape, secluded by tall trees and layers of tangled vines from suburban neighbors on more buildable land. Wild and overgrown, the site of Rosebery House posed difficulties. Its gully retreats from the northern sun, running south down to the wide, meandering Brisbane River. The slope to either side is steep. A storm-water easement added building restrictions, as bridging the easement would have increased the cost considerably. The owners, a couple with

two young children, had sold their house on the adjoining lot to build anew on the hidden piece of land they most loved.

With a small budget of U.S.\$132,000, the task for Brisbane-based architects Brit Andresen and Peter O'Gorman was to intervene in this landscape without destroying its inherent qualities. "You have an obligation to the landscape to recognize that it's powerful—to honor it," asserts O'Gorman. His work with Andresen often explores the relationship between architect-



David Clark studied architecture at the University of Queensland. Based in Sydney, he is design editor of *Belle* magazine.

by David Clark

ture and landscape, stressing what they consider to be the spatial importance of "the void over the object" and the need to "suppress the building to the site."

To emphasize the elongated shape of the gully—and the connection it forms between the hill and the river—the architects designed a long, narrow dwelling sited along the north-south contours of the terrain. Pushed to the lot's eastern edge, the 1,800-square-foot house turns its back on the suburban backyards to its east; its westward elevation faces the gully and a grove of mature camphor-laurel trees, which provide much of the privacy and scale of the landscape. To the south, only glimpses of the river appear through thick layers of foliage, as a strip of government land separates the site from the river's edge.

A priority of the design was to bring north light into a potentially gloomy place under the canopy of tall trees. (North light in Australia

LIKE TREES IN A FOREST, THE BATTENED SCREENS FILTER RAYS OF SUNLIGHT.

is the equivalent of south light in the northern hemisphere.) By breaking the building into three pavilions linked by semi-outdoor decks, the architects brought daylight into key interior spaces. Extensive glazing and sections of clear corrugated acrylic roofing, layered with timber batten screens, yield a quality of light that mimics the rays of sun filtering through the surrounding trees.

Exposed timber studs in the building's single skin provide a rhythm within the grove. This skin is partly opaque with plywood or fibrous cement boards and partly transparent with glazing and horizontal lead strips matching the scale of the trees' most delicate branches. Eucalyptus hardwoods—"strong, beautiful timbers," as O'Gorman describes them, "that allow for small sections and fine detailing"—are used throughout the house to reveal primary structure, along with secondary and tertiary elements. Again, the architecture evokes trees in the landscape.

Project: Rosebery House, Brisbane, Queensland, Australia

Owners: G. Hooper and L. Weedon

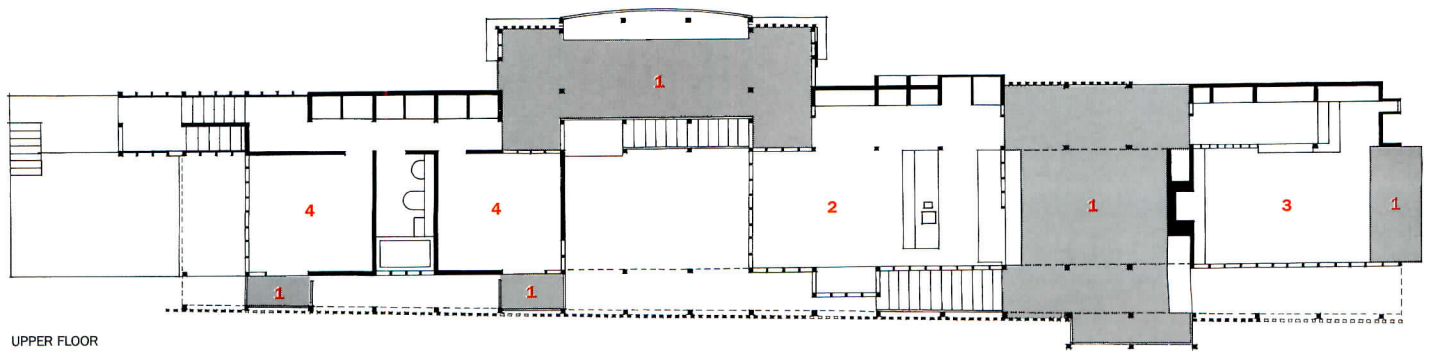
Architects: Andresen O'Gorman Architects—Brit Andresen and Peter

O'Gorman, partners-in-charge

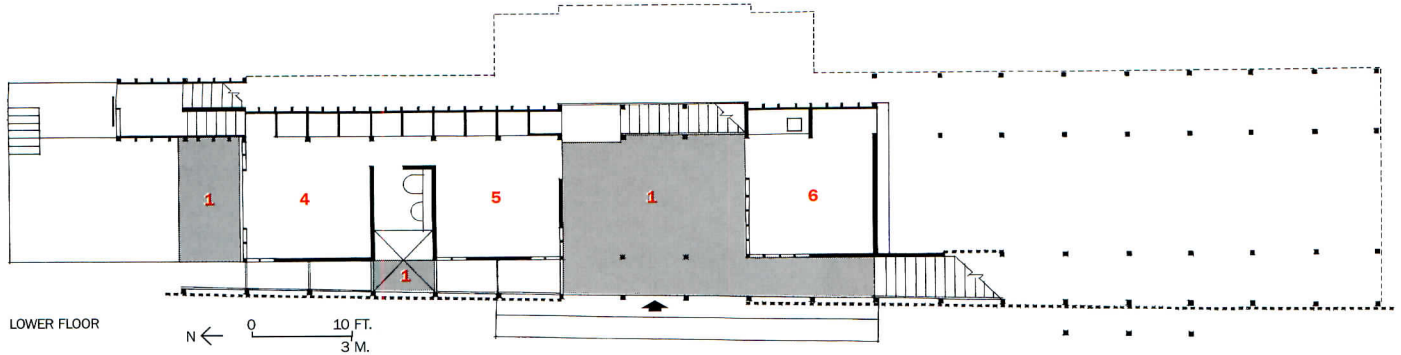
Engineer: John Batterham

Landscaping: Andresen O'Gorman Architects

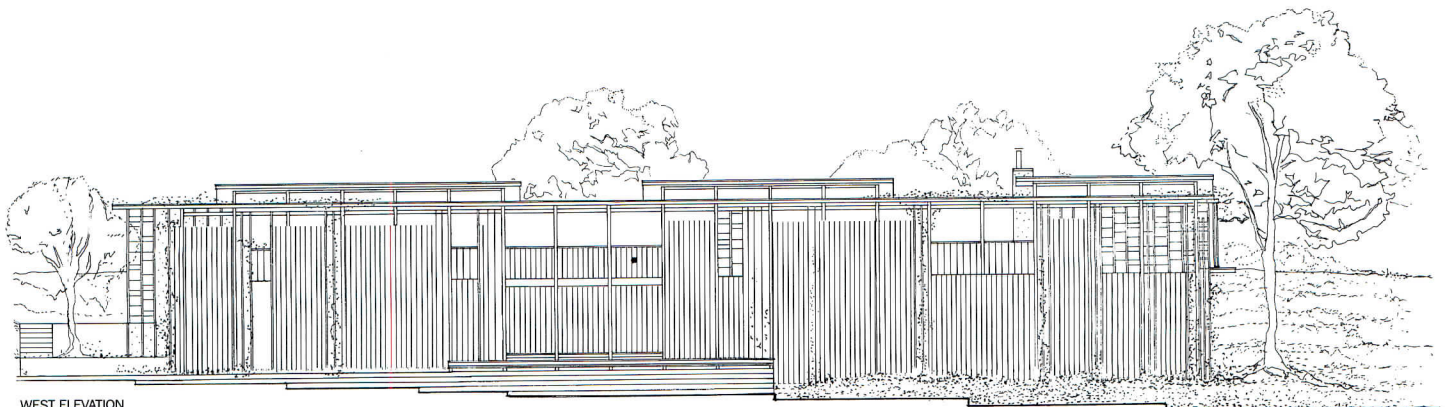
General Contractor: Lon Murphy



UPPER FLOOR



LOWER FLOOR



WEST ELEVATION

1. Deck
2. Kitchen/dining
3. Sitting room
4. Bedroom
5. Kitchen
6. Printmaking studio/laundry



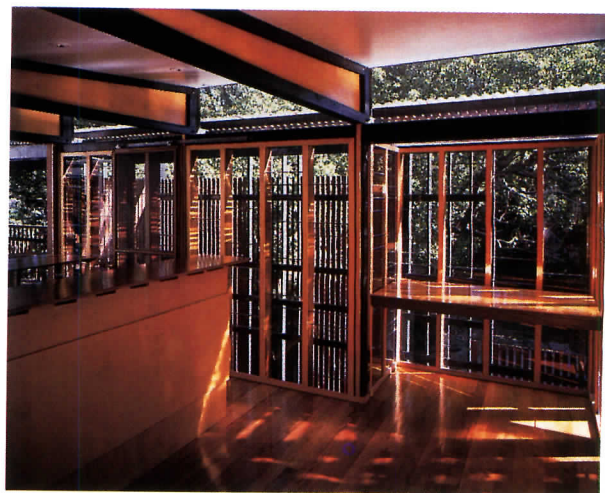
EAST-WEST SECTION THROUGH GULLY

A batted screen along the western, or entry, facade (opposite) shades the building and mediates between the scale of the house and the gully. Balconies, stairways, and an outdoor shower occupy the interstitial zone between the house and the screen.



The language of slender eucalyptus members continues from the facade throughout the house: from the private sitting room's

Zenlike sliding screen (below) and hearthside windows (opposite) to the light-filled kitchen/dining area (right top and bottom).



Near the center of the long western facade, a double-height void marks the entry point. This elevation, approached from the west, is remarkable for its expansive semitransparent timber screen, which veils the building, masking its domestic scale and adopting the grander scale of the gully. Detached from the main body of the house, the screen mediates between the dwelling and its site. Constructed from indigenous eucalyptus hardwoods, this element has, as Andresen says, “a warp and weft as if woven from the trees.” Over time, it will be covered with vines and creepers, she adds, “amplifying the sense of the gully.”

Behind the entry screen stand the three pavilions, also constructed of eucalyptus timber. The middle—and most public—volume houses the kitchen and indoor eating area upstairs, with a laundry room below, which doubles as a printmaking studio for one of the adults who is an artist. The double-height outdoor room separates these communal

indoor spaces from the northern pavilion, which is dedicated to sleeping and bathing. Here a master bedroom suite and study occupy the ground floor below the children’s two bedrooms and a bathroom. The study and printmaking studio are connected by a ground-level deck in the double-height space, while a higher deck overlooks it, linking the second-story bedrooms with the kitchen and dining area. A southern deck runs between the dining room and the third pavilion, containing a single room—a den or private retreat—elevated among the trees. Set a few steps below the rest of the upper level, this retreat stands apart as a unique place. With a fireplace at one end, it also has sliding screens that open toward the trees and offer a glimmer of the river.

In this warm climate, the partially covered decks provide transitional spaces that enhance the rich experience of the architecture. They are ambiguous zones, at once part of the building and part of the





In this warm climate, shaded decks, protected from the elements by clear acrylic roofing, form semi-outdoor rooms (left and in wall detail below), effectively increasing the house's area from 1,800 to 2,700 square feet.



outdoors, that allow relaxed eating and entertaining while, the architects suggest, “giving some of the built form back to the landscape.” Just behind the screen—a shading device that plays away from the building toward the river—are interstitial spaces, including balconies from the children’s bedrooms and an outdoor shower off the master bathroom.

ENGAGING THE LANDSCAPE, THE HOUSE FUSES THE ORGANIC AND THE TECTONIC.

Three separate stairways add to the complexity of the house’s interrelated parts, informally offering alternate journeys through the building and its landscape.

The architects envision the program evolving as time passes. The entire ground floor, for instance, might become the domain of teenage children as their parents move to the upper rooms. In the meantime, sliding screen walls can be pushed aside temporarily to transform the study, studio, and central deck (for parties or exhibitions) into a single platform—a veranda that overlooks the gully like a stage set in the landscape.

The house draws poetic and structural inspiration from the layering and transparency of the eucalyptus forests that once populated the region and still fringe the city’s outskirts. Unlike Northern European or American trees, which can appear solid and impenetrable, Queensland province’s eucalypti are sparsely foliated. “The structure of these trees is

always obvious,” observes Andresen. “You see all the trunks, branches, tendrils, and leaves. Because of this transparency, you can see the trees behind them as well. You see the layers of the landscape.”

The traditional architecture around Brisbane favors light timber structures—simple boxlike forms elevated above the ground with attached covered verandas. This house shares much with the local vernacular, particularly in its materials, ambiguous indoor/outdoor spaces, and relaxed atmosphere. Unlike these conventional forms, however, which are replicated throughout the region regardless of site conditions, Rosebery House engages the landscape more directly by fusing the tectonic with the organic. Finely tuned to the climate, the views, the breezes and sunlight, this building in no way detracts from the seductive qualities of site. In fact, it enhances them. Providing comfort and enclosure, it is a house where one is always in touch with the spirit of the place. ■

Sources

Roofing: *Lysaghts (corrugated steel)*

Skylights: *Custom fabricated by Lon Murphy (corrugated acrylic)*

Fibrous cement boards: *James Hardies*

Glazing: *Custom fabricated by Lon Murphy (with lead mullions)*

Doors: *Custom fabricated by Lon Murphy (Australian eucalyptus)*

Windows: *Custom fabricated by Lon Murphy (Australian eucalyptus)*

Paneling: *Brim's Ply*

Cabinetwork: *Custom fabricated by Lon Murphy (Australian hardwoods and plywood)*

Siting Houses in Hard Places

MUCH OF THE BEST LAND HAS ALREADY BEEN BUILT ON, LEAVING ENVIRONMENTALLY SENSITIVE OR OTHERWISE DIFFICULT SITES FOR ARCHITECTS TO GRAPPLE WITH.

by Elaine Martin Petrowski

Roger Williams, FAIA, used a machete to hack his way through the vines, poison oak, and thorny blackberry canes that impeded his path around the 48-acre site where his clients hoped to build a house on Lake Campbell, near the Puget Sound in Washington. Aside from the brambles and the dense undergrowth, there were symptoms of bigger problems. The ground was soggy from underground springs, while steep, rocky outcroppings and patches of slippery mud made the going treacherous. And the view over the lake was awesome—when you could find a level spot from which to admire it, says Williams, a principal at Mithun Partners in Seattle.

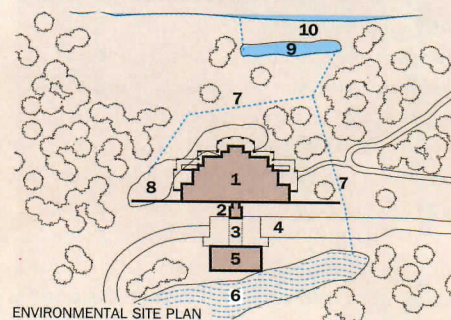
Clearly, building a house on this site was going to be difficult. But, like many architects, Williams has faced many of these difficult sites recently. Increasingly, houses are designed for sites no one would have dreamed of building houses on 20 years ago. That's because much of the desirable land in the United States and other developed countries is used up.

That leaves housing sites with shifting, swampy, or rocky soils, expansive clay, or underground springs; ecologically sensitive places, such



TWO LARGE RETAINING WALLS hold the soil, while an extensive drainage system keeps water from an underground spring out of this house on a steep site near Lake Campbell, Washington.

- | | |
|-------------------|----------------------|
| 1. Residence | 6. Spring |
| 2. Entry pavilion | 7. Drainage line |
| 3. Entry tunnel | 8. Sandy soil pocket |
| 4. Drive | 9. Pond |
| 5. Garage | 10. Lake Campbell |



ENVIRONMENTAL SITE PLAN

as wetlands or places with rare and indigenous wildlife and vegetation, that can be built upon only if it is possible to do so with minimal impact on the terrain; land that floods each spring and fall; lots so steep that surely any house built there would tumble down the slope; or places so remote that it requires a helicopter, a barge, or other unusual methods to deliver building supplies and people to the site.

Lots in brownfield areas also qualify as places that are difficult to build on. These formerly undesirable locations are increasingly being used for home sites as land in urban locations becomes rare and expensive. Technically, a brownfield is any nonvirgin land, including industrial sites, former military bases, and building lots with or without rubble or waste. Using brownfield land preserves "greenfields" elsewhere. It also helps redensify and rebuild the urban fabric, since brownfields are typically infill areas. Architects can play an important part in making these sites suitable for residential use by concentrating construction on usable portions of the land and devoting other portions to roads or recreation, capping polluted areas with a concrete or clay slab, or creating a building

Elaine Martin Petrowski is a freelance writer specializing in housing-related topics. She is based in Ridgewood, New Jersey.

CONTINUING EDUCATION

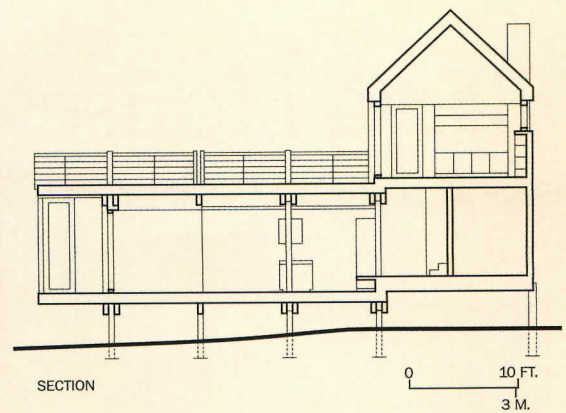
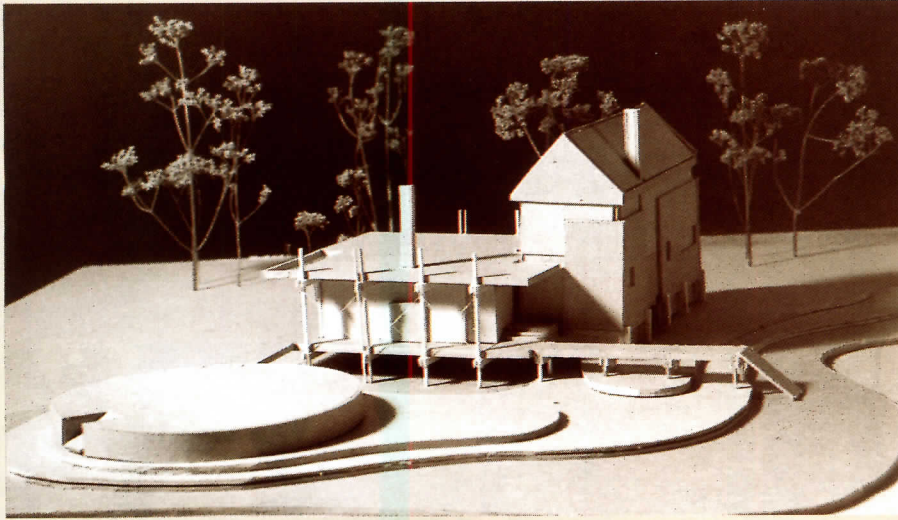


Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 158 and follow the instructions

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Explain the problems of designing houses that will be built on steep slopes.
2. Discuss the methods used to drain water from building sites and protect foundations from moisture.
3. Identify issues involved in building on brownfields.
4. List the problems that come with building on secluded sites.
5. Discuss issues of building on wetlands.



ONCE BUILT, this house, by *bnk Architects*, will sit atop 30-foot-long piles, approximately 20 feet of which will be below grade. To create a septic field, the loam will be excavated and replaced with less-porous fill to prevent contamination of the groundwater. The fill area will be regraded and contained within a circular stone wall as a landscape element.

foundation that steps around problem areas so that they remain undisturbed.

Challenging sites affect more than the foundation. They frequently dictate the way the house looks, how it is built, and the materials that are selected. Williams's clients, for instance, originally envisioned a brick Georgian mansion on their hillside. They got a rambling contemporary made of concrete masonry units. "The site nullified the symmetrical Georgian look and forced us to come up with something completely different," he says. "The result is a house that probably wouldn't work anywhere else, but is just right for this site."

The following case studies illustrate a few of the options for architects building on tough sites. In each case, engineering gymnastics, extensive field studies, lots of extra time, and legions of consultants were required. Additional costs on these kinds of sites are a given. As David Kriegel of *bnk Architects* in New York City points out: "Builders, subcontractors, and engineers who do residential work deal with the same forms and technology again and again. When you have a new approach, they need to take the time to think about it. If they have to think about it, you will pay a premium." In addition, engineering fees, consultants' costs, and the sheer pragmatics of getting equipment on and off steep, rocky, or touchy sites add to the expense.

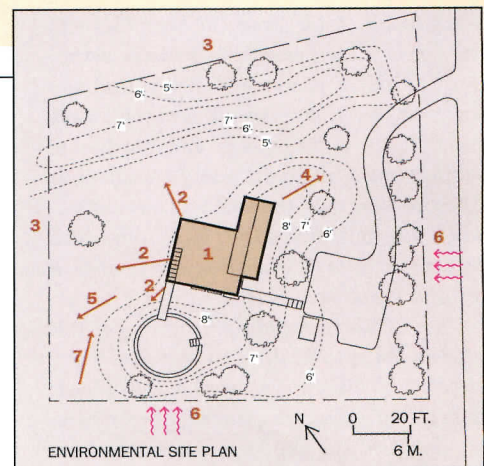
"It's essential that your client understand what he or she is getting into before design starts," Williams says. One of the reasons he was

UNIQUE SITES MAKE ARCHITECTS WORK HARDER AND PROVIDE THE CHANCE TO INVENT SOMETHING NEW.

hired for the Lake Campbell project is that he showed up to walk the site before discussing costs and design ideas with his clients. "You have to tell your clients up front exactly what the problems are and how they will affect the work."

But difficult sites also carry the potential for problems never encountered before, which gives architects an opportunity to create new

1. Residence
2. Ocean view
3. Wetlands
4. Sunrise
5. Sunset
6. Noise
7. Summer wind



designs and solutions. "Unique sites make you work harder and provide you with the opportunity to invent something new," says Dan Wheeler, FAIA, of Wheeler Kearns Architects in Chicago. "In that sense, they are refreshing."

Steep sites, shifting soil

In some regions, steep sites are becoming a way of life for architects. These regions include the western coasts of the United States, Canada, and Mexico, where people want to build along the sloped shoreline, or where encroaching population is forcing development up the sides of mountains.

Williams has done enough work on steep slopes that he is no longer intimidated by them. "The land nobody wanted the first time around because it posed too many problems or was too far away—that's what we're building on these days," he says. "The good news is these sites often have the best views."

There are ways to stabilize a slope and, thus, prevent erosion, which is what can ultimately undermine the foundation. The rate of erosion is determined by the porosity of the soil, the gradient of the slope, and the volume and velocity of water runoff. While engineers use a formula to determine what measures must be taken to stabilize the land, there is a point at which restraining the soil becomes impossibly

expensive, says Bill Horak of Anvil Corp., in Bellingham, Washington, who did the geotechnical survey work at the Lake Campbell site.

A slope stability analysis should be conducted to determine the best way to grade the site and design the foundation, he recommends. One way to minimize excavation is to drive piles or sink step-down footings, which must be embedded at the proper depth below the face of the slope so that there is a safety factor in case of erosion. This approach, if carefully done, preserves the site and the vegetation—which plays a big part in holding the soil in place.

Alternately, the slope can be reshaped and fortified by excavating the soil and replacing it with materials that have greater stability, such as a combination of soil, stone, and geotextiles. Or the slope can be terraced. Both of these choices mean tearing up the site, an option that was not acceptable to Williams' clients—disturbing the vegetation would alter the natural habitat and result in excessive runoff into the lake.

Williams had to find a way to step the house down the slope, funnel the moisture away from it, and somehow secure the foundation—all with minimal impact to the environment. He started by developing a concrete and masonry retaining wall, measuring 25 feet in height and 230 feet in length, a portion of which doubles as the back wall of the house. The wall, in effect, forms a terrace that holds the soil. By tucking the garage into the hill, the back and side walls of that building also serve as retaining walls, as do the side walls of a passageway between the garage and the house.

The architect also had to take into account the quality of the soil. Borings were done before work began, but excavators later discovered a pocket of sandy soil that “went all the way to China,” Williams says. The

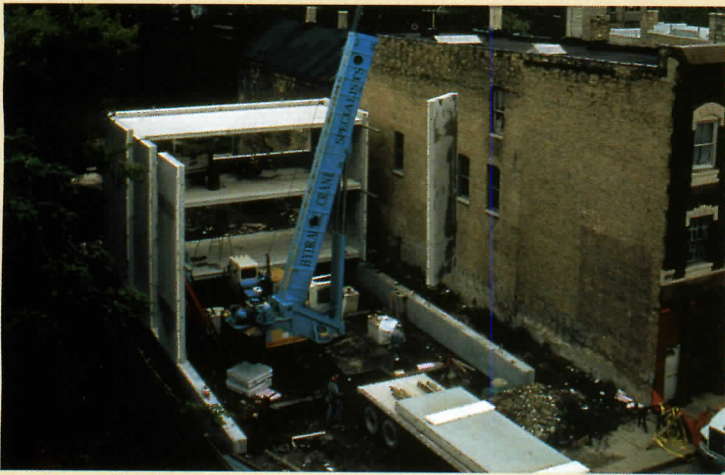
foundation had to be reengineered during construction, making the footings wider to distribute the load over the sand and provide a more stable base. “This proves that you can do all the preliminary work and still there are delays and added expenses.”

Any time the grade and soil are disturbed, the flow of water is altered. On this site, a spring posed additional problems. Unless properly directed, the water would have infiltrated the house. Channeling storm water away from the slope was equally important. “Our aim was to drain the soil as fast as possible so the slope would remain stable,” Williams says. He devised a small network of drain lines to carry the water to a retention pond near the lake that slows the rush of water and gives silt a place to settle out. This pond is also a landscape feature.

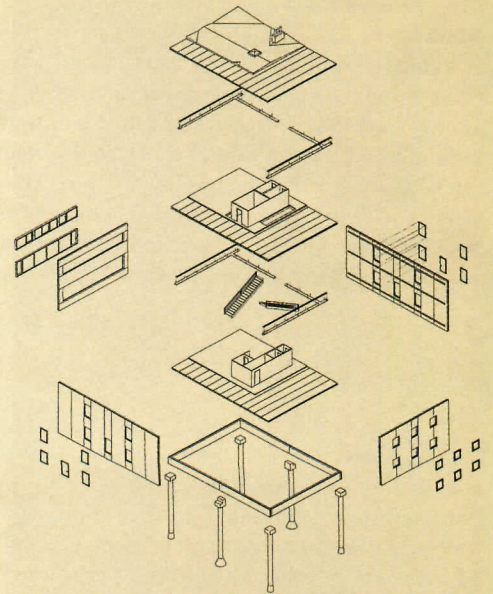
Williams, together with a waterproofing consultant, came up with a moisture-protection system for the retaining walls that would seem like overkill on any other site. It includes a waterproofing bituthane and betonite membrane applied over the concrete; a half-inch preformed

THE BEHAVIOR OF DRY SOIL CAN BE PREDICTED, BUT WET SOIL SLIPS AND SLIDES IN UNANTICIPATED WAYS.

drainage mat with filter fabric that catches and drops the water before it reaches the waterproofing; six-inch perforated PVC drain pipes that collect water at six-foot intervals and drain it to the catchment system; a 12-inch-thick wall of gravel that speeds the flow of water to the pipes; and nylon mesh outside the gravel that filters fine soils that could clog the drainage system.



BROWNFIELD CONSTRUCTION brought an unusual set of design problems for Wheeler Kearns Architects, who designed this house in downtown Chicago. The site was filled with rubble from previous buildings. Removing the debris would have been costly, so the house was built atop a series of caissons that were drilled through the rubble. The walls are precast concrete, which went up quickly and met city fire codes.



Should we build here at all? Sand dunes, like rows of granulated waves, once moved along the seashores in Virginia. Now there are houses. In Montana, towering pines once marched over mountaintops while streams hurried past. Now the peaks have been shaved and the land cleared to make way for ranches. In California, the rocky cliffs along the beach used to be home to seabirds and small stands of tenacious trees. Now there are houses clinging to the ledges.

"Just because it's physically possible to build on a parcel doesn't mean it makes long-term sense to do so," says Eric Goldstein, a senior attorney with the Natural Resources Defense Council. But communities often lack vision, even when it comes to environmentally sensitive sites. This is not just something that was true historically, he adds. "Houses are going up in ridiculous places right now."

Ridiculous, in this sense,

means two things. Not only are houses going up in places where the ecology is fragile, but also in precarious places—pinned to sheer rock, teetering on piers above flood zones, or hovering over swamps—places where "houses have no business being built in the first



place," says David Kriegel of bnk Architects in New York City. "It just proves that anything can be built on if you're willing to throw enough money at it. But do you have any

semblance of what the conditions were that drew you to the site in the first place?"

Often, where a house is built is not the architect's choice. "Your choice becomes, 'What are the client's priorities and how do I meet them and still protect the environment?'" says Dan Wheeler, FAIA, of Wheeler Kearns Architects in Chicago. The firm recently completed a home in rural Michigan. The owners wanted to respect the gently sloping site and disturb the land as little as possible, while taking advantage of the view of the hillside meadow beyond.

The house (left) sits with its broad side against the sweep of the land. Mounting the house on pilotis helped minimize the impact to the site—both visually and environmentally. "Raising the

house allows the existing topography to run underneath and leaves the watershed undisturbed," explains project architect Mark Weber.

Preserving the natural flow of water should be a priority on any project, says Muscoe Martin, AIA, of Susan Maxman & Partners, who is the current chair of the AIA Committee on the Environment (COTE). "The architect needs to look beyond the confines of the building walls," Martin says. "Respect the natural topography and the watercourses; the flow was being handled perfectly before we got there."

Gail Lindsey, AIA, of Design Harmony in Wake Forest, North Carolina, and former chair of the COTE, agrees. "Sometimes I think architects should refuse to design homes for these fragile sites," she says. "But then I realize that at least when we are involved in these projects, it's in an educated and informed manner. As architects, we can make informed decisions and preserve what is there." *E.M.P.*

Used land

It sounds like a recipe for disaster: clients with a minimal budget who want to build on a 48-foot-wide urban lot in a busy commercial area in Chicago with extensive subsoil debris and foundation rubble from old buildings. Yet it is the kind of situation that many designers face, including Wheeler Kearns Architects.

"The urban environment is tremendously complex—not only because these sites have been built on already, but because there are adjoining buildings to contend with," Wheeler says. Some of the problems

THE EXTENSIVE ENGINEERING INVOLVED IN STABILIZING BEACHFRONT LAND IS OFTEN NOT WORTH THE COST.

are pragmatic: material handling, parking, and cranes are all more difficult to coordinate in tight spaces. Security measures in dicey neighborhoods and establishing good relations with existing neighbors are problems many architects and homeowners fail to consider.

But perhaps the biggest expense is testing for and abating hazardous pollutants. "You just can't predict what you will find on some of these sites—even after extensive research into the historic uses of the land," Wheeler adds. Mitigating contamination can mean anything from delicately excavating around buried hazards to calling in the Environmental Protection Agency and initiating a full-fledged cleanup.

"All of these are obstacles," Wheeler says. "But each obstacle becomes part of the building context and informs the design. Expressing the conflicts and resolutions should be a design opportunity, not a limitation."

At the Chicago site, the project engineer suggested leaving the rubble in place and incorporating it into the design. "A lightbulb went on," Wheeler says. Taking a cue from the surrounding commercial construction, the architects decided to make the home/office (the clients are graphic artists) out of the precast concrete. This helped minimize labor and expenses as well.

Work began by drilling through, rather than removing, the rubble to install six site-cast concrete caissons. These are 43 feet deep in order to reach bearing-capacity soil. Insulated concrete grade beams span the caissons and support the structure. The drill team installed steel casings 12 feet deep to hold the old rubble walls in place and reduce risk to the properties adjacent to the new house, says Joseph Burns, AIA, a structural engineer and principal at Thornton-Tomasetti in Chicago. The method and materials minimized the staging area. The structure was erected in four days and the final cost was \$79 per square foot.

The cost of seclusion

Island and beach sites bring new challenges to the equation. As more and more people choose to live near the water, houses are put in increasingly precarious places. Many beachfront structures are designed to give way when there is a storm or a flood and dissolve into the sea. Adding bulkheads or other devices to stabilize the waterfront and the house involves such extensive engineering that these efforts are not worth the cost—to say nothing of how such measures alter the ecology of the site. In addition, many architects, following the advice of coastal geologists, feel that nature has a right to "win."

This view is extreme, says Gail Lindsey, AIA, of Design Harmony in Wake Forest, North Carolina, and former chair of the AIA

Committee on the Environment. “Architects can see sensitive sites as an opportunity to participate in and to educate clients about environmentally sound building practices,” she says. “If you’re going to build on the site, you can make a house that will stand up to all but the worst storms without a lot of extra expense.” Also, she says, there are not many homeowners willing to go to the trouble and expense of building something that won’t exist after the next hurricane.

At Dewees Island, a 1,206-acre island north of Charleston, South Carolina, the ecological guidelines created by Burt Hill Kosar Rittelman limited development to a maximum of 150 home sites, none of which may be larger than 5,000 square feet or disturb more than 7,500 square feet of land, including driveways, paths, porches, decks, patios, and easements. Houses must be sited to minimize the number of trees removed, and built within the maritime forest, well back from the sand dunes. Lawns are not permitted.

Lindsey was required to conduct an environmental analysis for the 5,000-square-foot house she designed for a two-acre site on the island. Her firm did the work, plotting the variety and location of the vegetation, the path of the sun, and the way water flowed over the site. A meteorologist was hired to analyze the prevailing breezes and how the new structure would affect wind circulation at adjacent homes.

The outcome of the analysis was a greater awareness, for both Lindsey and the homeowners, of the natural dynamics of the site. For example, some of the palmettos that stood where the house was to be built were moved instead of destroyed. The homeowners recognized the value of retaining all the vegetation—both in stabilizing the soil and providing precious shade.

The logistics of building on the island were more problematic than any design limitations, Lindsey says. There are no bridges to the island and no paved roads or cars; residents zip around in golf carts. Supplies were ordered on an as-needed basis and carefully scheduled for

FEW TOPICS HAVE MET WITH MORE CONTROVERSY IN THE DEVELOPMENT WORLD THAN WETLANDS REGULATIONS.

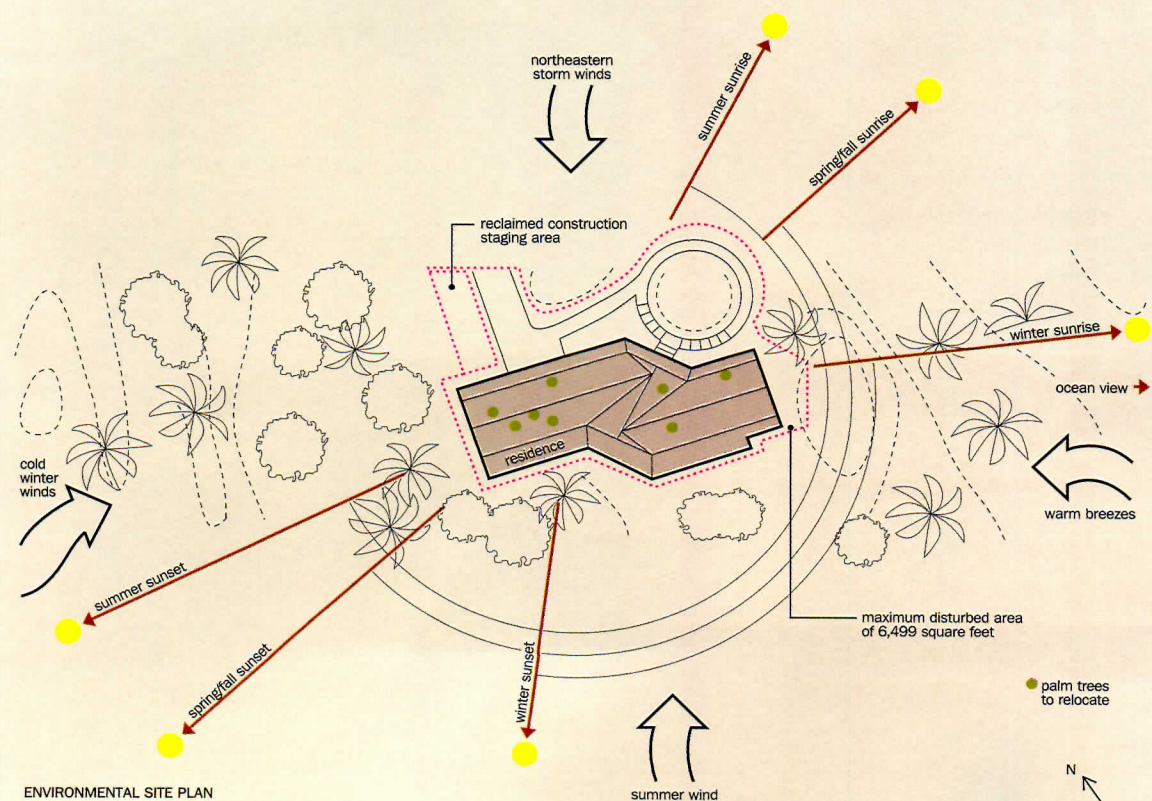
delivery by barge. Workers were ferried, six at a time, with round trips taking 30 minutes. Construction waste was recycled or carried off the island. Altogether, these limitations added 25 percent to the price of the job.

Working with an experienced builder helped the process. “On a difficult site, I prefer to involve the builder from the start and look for someone who is open to trying something different,” she says. “All the expertise in the world is not a substitute for a good relationship.”

Uh-oh, wetlands

Few topics meet with more controversy in the world of homebuilding than wetlands regulations. That’s because the terminology, originally presented in 1977 in the Clean Water Act, is vague and confusing, according to a March 1999 overview of the subject by the National Association of Home Builders. Wetlands, whether adjacent to salt or fresh water, are broadly defined by the vegetation that is found on them, not by the presence of standing water. In fact, they may be miles from the nearest body of water and include land that is boggy only a few days out of the year and deceptively dry at other times.

The federal government’s official policy toward wetlands is “no net loss.” This is interpreted in various ways by each state. But, in general, existing wetlands may not be endangered and any damage that is done to them during construction must be mitigated or compensated for by creating new wetlands elsewhere. The net result is that areas near wetlands are not only, in many cases, difficult to build on, but are also subject to layers of regulations—federal, state, and local.



AN ENVIRONMENTAL ANALYSIS is mandatory for houses to be built on Dewees Island in South Carolina. Design Harmony conducted their clients’ analysis with the help of a landscape architect and a meteorologist. Special attention was paid to the prevailing winds and how the new house would affect the breezes destined for neighboring dwellings. Based on the analysis, the homeowners decided to relocate palmettos that were within the footprint of the house to another place on their property, rather than simply cutting them down.

Once architects wend their way through the permitting process, which often requires costly assistance from an environmental consultant, they must figure out the best way to stabilize the site for building, design a suitable foundation, and limit runoff—all within the framework of local restrictions.

Architect David Kriegel is in the bidding process for the construction of a house in North Haven, New York, on Long Island's Peconic Bay. The 3/4-acre site is adjacent to wetlands and is on a flood plain. The new owners hit groundwater by digging 12 inches down, and the soil is soft and wet most of the time. Kriegel had to "do some homework" to understand the best way to build there. His best source was the Federal Emergency Management Administration, whose Web site and publications, including the "Coastal Construction Manual" (February 1986), provided design specifics. He also worked closely with local building code officials who, he says, "are familiar with the area and have a wealth of information."

According to state regulations, houses cannot be built within 75 feet of designated wetlands. FEMA stipulates that the finished floor and mechanical systems must be eight feet above sea level. Runoff from the site must be limited, since a rush of fresh water will affect area salinity levels, harming the wildlife and vegetation.

Local health department regulations require that the septic field be elevated far enough above the groundwater to allow room for the sewage to leach. As a result, the sandy loam in one area of Kriegel's site must be excavated to a depth of 12 feet and replaced with a less porous fill to create a septic field. The architect's plan calls for containing the field, which must also rise three feet above grade to make room for the sewage

to leach below, in a circular stone wall. All of this will add at least \$15,000 to the project.

The home will rest on treated-wood pilings, which go down 20 feet through a mix of sand and decaying vegetation to reach load-bearing soil. Instead of creating a platform atop the pilings, Kriegel will try to incorporate the rough wood members into the finished level of construction. "Placing pilings is not a precise process. I know they will be roughly eight feet apart, but the keyword is 'roughly,'" he says. "We'll have

BUILDING CODE OFFICIALS HAVE A WEALTH OF INFORMATION ABOUT BUILDING ON DELICATE SITES.

to compensate for this above."

He's anticipating other problems as construction gets under way. For example, the ground is soft enough that trucks may not be able to drive on it without sinking. This will mean laying boards or stone, or waiting for a summer dry spell. Also, fill will have to be brought in to create a driveway and landscape areas—the owners are counting on plantings to screen their view of neighboring homes and to provide at least a psychological barrier to noise from the nearby roads.

But, once complete, the house will have a panoramic view of the gentle fields that surround it and the estuary beyond. The capped septic field will serve as a "lawn," giving the owners space to garden and a place to entertain. And, perhaps best of all, the dwelling will have a minimal impact on the wildlife, the wetlands, and the vegetation that surround it. ■

AIA / ARCHITECTURAL RECORD CONTINUING EDUCATION



INSTRUCTIONS

- ◆ Read the article "Siting Houses for Hard Places" using the learning objectives provided.
- ◆ Complete the questions below, then check your answers (page 182).
- ◆ Fill out and submit the AIA/CES education reporting form (page 182) or file the form on ARCHITECTURAL RECORD's Web site at www.archrecord.com to receive two AIA Learning Units.

QUESTIONS

1. What methods are used to stabilize a steep slope to make it suitable for building?

2. What conditions need to be considered when building on a brown-field site?

3. What are some of the problems encountered when building on a secluded site?

4. What are the problems involved in building near wetlands?

NEW PRODUCTS



WATER IN THE RESIDENTIAL LANDSCAPE IS NOW AN AFFORDABLE OPTION

Water features, once narrowly confined to aristocratic estates, are increasingly being used in smaller-scale residential gardens. The combination of off-the-shelf components and vendors who are able to create customized systems for reasonable prices has opened up a world of possibilities for the landscape designer.

For a Southern California residence, the landscape architecture firm SWA Group created two distinct water features that were interrelated technically but achieved diametrically opposed ends. The first, a series of 12 spouts overhanging a narrow pool, is intended to create an ambient effect: a low, constant gurgle that reverberates off the marble surfaces of a sunken

Paul Bennett is a senior writer for Landscape Architecture magazine.

patio. In the yard above, a more public and social area, SWA incorporated recessed nozzles into the combing of a pool, transforming an unexciting rectangular plane of water into a dynamic spectacle during dinner parties and other times when the pool is not being used.

John Loomis, a landscape architect at SWA, worked with the Fountain People, a water feature vendor based in San Marcos, Texas, to design the system. According to Loomis, much of the water technology on the market now was originally developed by WET Design of Universal City, California, one of the highest-profile water-feature design firms in the country, whose project list includes Disney's Epcot Center and the new Bellagio resort in Las Vegas. Over the years WET has developed a host of innovative designs for precision jets, high-volume pumps, and

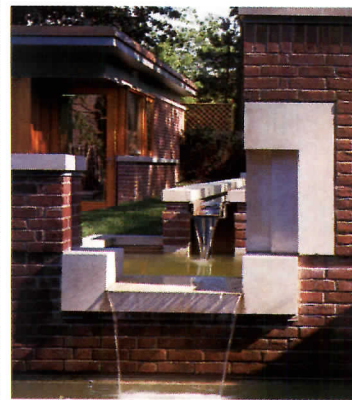
The sound, movement, and reflection of water is both stimulating and calming. In countries such as China, where its presence nourished crops and supplied fish, it came to symbolize wealth. Times have changed, and affordable water features are now available for the residential landscape due to innovative drains, pumps, jets, and filters—available off the shelf or easily customized—that help provide water wherever the imagination allows. This month, landscape writer Paul Bennett describes several residential water-feature projects that utilized a variety of products to enhance their landscapes. —Rita F. Catinella, Products Editor

drainage systems that have revolutionized water features. Over time, much of WET's innovative technology has trickled into the retail market at reasonable prices.

In Toronto, architects Brigitte Shim and Howard Sutcliffe used water as the organizing principle for a reconfigured patio and garden room. The design—a linear trough emptying into two square pools and framed by strongly architectural brick walls—was formed in response to the client's interest in Mies van der Rohe and the elegant simplicity of high Modernism. By using hand-molded brick supplied by Canada Brick to create the trough and the walls—which the architects call "brick hedges"—Shim-Sutcliffe extended the vocabulary of the existing house into the garden.

The ease of configuring pumping systems was crucial to the design of a garden created by Nelson Byrd Landscape Architects. The garden surrounds a quiet, meditative pool, framed in slate and fed by a small gurgling waterfall. Two symmetrical rills—one filled with water, the other with stones—balance the feature symbolically and spatially. According to Thomas L. Woltz, a landscape architect in the firm, the pumping system was designed for simplicity using a submersible Little Giant pump. Located in one of the smaller pools for easy maintenance, the pump sucks water from the pool through the shallow rill and flows it back through the small waterfall.

For a Charlottesville residence, Woltz designed a small, stand-alone fountain situated in a small basin. After a pool contractor submitted an



Shim-Sutcliffe's hand-molded "brick hedges" (above) and SWA's water features for a Southern California residence (left top and bottom).

exorbitant estimate for a basin, Woltz shifted gears, searching out less expensive materials. The basin was constructed with bricks made from a local soapstone quarry, and Aquatic Eco-Systems Inc., a pump vendor, advised Woltz on a magnetic-drive submersible pump that can run at low speeds without overheating. The stone fountain was custom fabricated by Stone Forest in Santa Fe. *Paul Bennett*

Configuring water features takes ingenuity. But a helpful vendor doesn't hurt. Here are several suppliers who design water features:

The Fountain People, San Marcos, Tex. 512/392-1155. **CIRCLE 200**
 Little Giant Pump Co., Oklahoma City, Okla. 405/947-2511. **CIRCLE 201**
 Aquatic Eco-Systems Inc., Apopka, Fla. 800/422-3939. **CIRCLE 202**
 Canada Brick, Mississauga, Ont. 800/268-5800. **CIRCLE 203**
 Stone Forest, Santa Fe, N.M. 505/986-8883. **CIRCLE 204**

ELEMENTS FOR THE RESIDENTIAL LANDSCAPE

The property surrounding a residence offers the landscape architect an opportunity to create a variety of personal spaces for homeowners. Whether the grounds are large or small, elements such as conservatories, stone walls, and path lights help create vignettes that allow landscaped spaces to feel almost as intimate as those indoors.



◀ **Stone walls**

Carolina LedgeStone is a system of multi-stone modular components with Cultured Stone Products' exclusive interlocking mortar groove. A highly textured, smaller-scale ledgeStone, the product adds strong shadow interest to any vertical surface and installs without grouting. Components are supplied in a combination of lengths. The wall featured here is in pewter gray. 800/255-1727. Cultured Stone, Napa, Calif. **CIRCLE 207**

▶ **Durable sunshade**

The Palazzo sunshade provides a durable weatherproof covering that can be equipped with internal wiring for lighting or optional motor drive. The most secure installation is the specially designed hinged ground socket embedded in concrete. A range of 100 percent acrylic awning and marine-weight fabrics are offered. 403/448-1044. Envirodesigns Inc., Edmonton, Alta. **CIRCLE 205**



▶ **A brighter path**

HADCO has introduced the Garden Art Collection of landscape lighting fixtures. The collection offers the look of hand-crafted, solid-copper construction, and is available in a number of unique styles, including mushroom, tiffany, deck, and single and double tulip. Designed for path- and spread-lighting applications, the luminaires are handmade, giving each its own shape and texture. As the fixtures weather, they take on a rustic patina. 717/359-7131. HADCO, Littlestown, Pa. **CIRCLE 206**



▶ **English conservatories**

Amdega, Britain's oldest manufacturer of timber conservatories and summer houses, has introduced a range of eight "Botanical Colours." Densely pigmented, these colors range from traditional creams, blues, and greens to a vibrant lilac and a deep, rich red. Shown here is a Gothic freestanding conservatory in Amdega's Wisteria Lilac shade. Available in the U.S. 800/922-0110. Amdega, Glenview, Ill. **CIRCLE 208**



▶ **Redwood fencing**

Redwood creates a pleasant fencing that is durable for outdoor use. All redwood is decay- and insect-resistant, and has natural dimensional stability. Fences of various heights and in many patterns can be designed to screen, divide, shelter, and shade. Retaining walls, shelters, planters, and benches can be integrated with fence construction. 415/382-0662. California Redwood Association, Novato, Calif. **CIRCLE 209**



▶ **Outdoor furniture**

Inspired by garden furniture created for great seaside cottages, the Cranberry Island Set pairs Weatherend Chairs with Sunbrella cushions and a Cranberry Island Pedestal Table. Each piece is constructed from mahogany using full mortise-and-tenon joinery bonded with a marine-grade epoxy for maximum strength and durability. The set is also offered in a wide range of custom colors, as well as natural

teak and mahogany. 800/456-6483. Weatherend Estate Furniture, Rockland, Me. **CIRCLE 210**



PRODUCT BRIEFS

▼ Extra-deep whirlpool

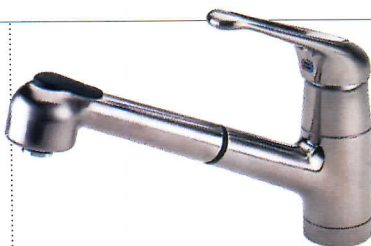
The Reprise Whirlpool, by Absolute, features a textured tub bottom, an extra-deep design, and two air-volume controls. Constructed of acrylic and U.L.-



approved, Reprise includes six multi-directional and individually flow-adjustable jets. Available exclusively in white, the whirlpool measures 70 by 34 by 22 inches. 800/359-3261. Absolute, Chandler, Ariz. **CIRCLE 211**

▼ Bar faucet

The Koral single-hole bar faucet, from Phylrich International, is shown in a finish combination of satin nickel highlighted with polished gold. The component construction system allows the client a choice of any two-tone combination of the company's 17 hand-worked finishes. 213/467-3143. Phylrich International, Los Angeles. **CIRCLE 212**



▲ New stainless-steel finish

Price Pfister offers a new stainless-steel finish for its 533 kitchen pull-out faucet. The faucet features a head that adjusts for both stream and spray, and is available in a variety of finishes: polished chrome, white, combination chrome/white, and almond. The ceramic disk valve is guaranteed for life against leaks. 800/Pfaucet. Price Pfister, Inc., Pacoima, Calif. **CIRCLE 213**

► Keeping dinner warm

The GE Profile Performance Series warming drawer is ideal for busy kitchens used for high-volume cooking and frequent entertaining. Available in widths of 27 or 30 inches, the new drawer conveniently installs under a cooktop or wall oven, among standard cabinet drawers, or alone in an island. Four different temperature settings are available. A special half-rack allows double stacking of both plates and food dishes, maximizing capacity. The slotted stainless-steel construction of the rack ensures even heat distribution. 800/626-2000. GE Appliances, Louisville, Ky. **CIRCLE 214**

► Bake in a flash

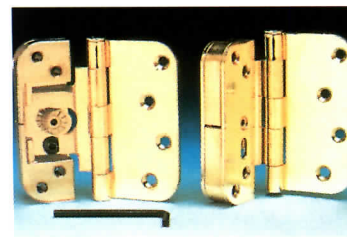
The Flashbake 120, which uses high-energy halogen light controlled by a microprocessor, cooks food with the moisture, texture, and quality expected from a traditional thermal oven in approximately half the time. The Flashbake 120 will be the first countertop model that can plug into any standard 120-volt outlet; it will also be available in wall-mount models. The oven is pre-programmed to apply



energy at different times during the cooking cycle to penetrate and cook from above and below. 510/498-4200. Flashbake, Fremont, Calif. **CIRCLE 215**

► Patio door hinges

Stanley Hardware offers a line of adjustable hinges designed specifically for residential use on wood-frame patio doors. The hinges allow for independent lateral movement of the door within the frame. 800/337-4393. Stanley Hardware, New Britain, Conn. **CIRCLE 216**



◀ Handcrafted glass console

The Glacier Console, from Porcher, is a handcrafted console lavatory made from ½-inch clear Starphire glass. Measuring 29½ inches wide, 34 inches high, and 24¼ inches front to back, the Console has a six-inch-deep basin. The practical frosted-glass pattern serves to hide water spots. The Glacier Console comes complete with mounting hardware and two chrome legs. 800/359-3261. Porcher Ltd., Chandler, Ariz. **CIRCLE 217**

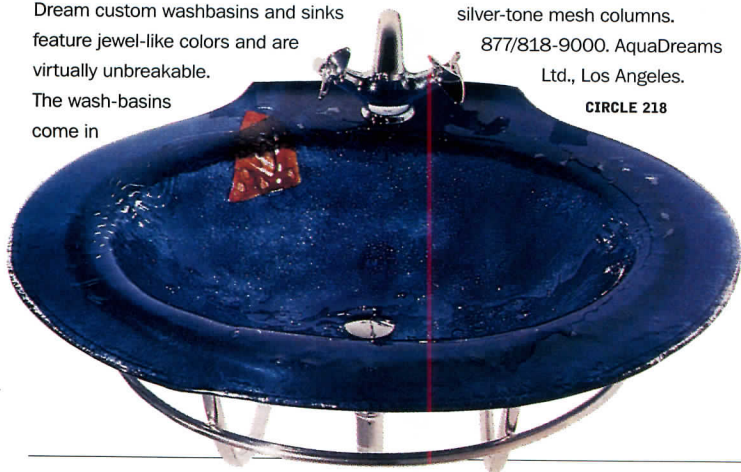


PRODUCT BRIEFS

▼ Custom glass sinks

Created in Germany through an exclusive process known as glass fusion, Aqua-Dream custom washbasins and sinks feature jewel-like colors and are virtually unbreakable.

The wash-basins come in



unusual oval or wedge shapes free of hard edges, and they may be set into a variety of pedestal and wall-mounted stands, from tubular metal supports to silver-tone mesh columns.

877/818-9000. AquaDreams Ltd., Los Angeles.

CIRCLE 218

► Universal design cabinets

KraftMaid Cabinetry has expanded its Passport Series, making the products available through the company's semi-custom cabinetry line. The series is available in all of the styles, finishes, and optional features offered in KraftMaid's traditional cabinets. The Passport Series is the only cabinet line that has been certified for universal design by the Institute for Technology Development. Passport now includes 10 door styles in four wood species, and features up to 12 finishes. 800/571-1990. KraftMaid Cabinetry, Inc., Middlefield, Ohio.

CIRCLE 219



▼ Prevent shower-shock

Moen Incorporated's Posi-Temp pressure-balancing valve has been improved to offer increased cartridge-corrosion resistance and make overall installations easier and more cost-effective for builders, installers, and

homeowners alike. The Posi-Temp valve balances shower pressure in the waterlines to help reduce the potentially dangerous shower-shock effect (the immediate rush of hot or cold water when someone flushes the toilet, starts the washing machine, etc.), and to maintain water temperature plus or minus two degrees Fahrenheit. 800/BUY-MOEN. Moen Incorporated, North Olmsted, Ohio. CIRCLE 220



◀ Motion-sensing switches

Eagle Electric has introduced motion-sensing wall switches that provide energy savings, safety, and convenience in residential applications. The switches contain passive infrared sensors with a fresnel lens, giving them the capacity to detect large and small movements by occupants in a room. This enables the device to turn on and maintain lighting when a room is occupied, and automatically turn off lights in unoccupied rooms. The switches replace standard wall switches, with no additional wiring necessary. 718/937-8000. Eagle Electric Manufacturing Co., Long Island City, N.Y.

CIRCLE 221

► More fashion with your flush

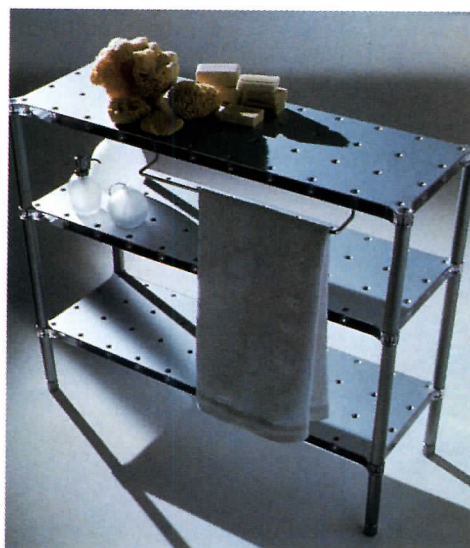
A series of six designs of wall-mounted toilets are available from Duravit USA, including a new model by Philippe Starck. Each wall-mounted unit features a concealed tank and carrier system: the tank mounts inside the wall, which saves valuable floor space and allows for greater design flexibility. Bowl heights can be set according to the needs of the individual, and all toilets are equipped with a feature that uses 50 percent less water than regular toilets while ensuring a hygienic flush. Duravit USA, Inc., Duluth, Ga. CIRCLE 222



▼ Versatile shelf system

Partner, a new shelf system from Kartell, can be reconfigured and fitted with

optional accessories to work in the living room, bath, or kitchen. While Partner has a lightweight appearance, it is con-



structed to withstand and safely hold the weight of even the heaviest books or objects. The frames are made from extruded aluminum; the shelves are made of injection-molded plastic in a honeycomb pattern, which is then sandwiched between two very thin sheets of anodized aluminum. Designed by Alberto Meda and Paolo Rizzatto, Partner is available in 10 sizes. 212/966-6665. Kartell, New York City. CIRCLE 223

"THIS IS NO TIME TO BE WEAK," HE CAUTIONED.

The competition was robust.
And the challenge was
anything but decaffeinated.

Yet the owners of Coffee People knew exactly what they wanted in their new West Coast coffee chain. A democratic blend of fresh-roasted Beatnik culture, genuine community involvement, and a staff who really knew beans.

With Retail Planning Associates at their side, the concepts began to brew. Due to the cost and magnitude of a 25 store roll-out, RPA relied heavily on Sherwin-Williams products as a design element, using it creatively on ceilings, walls and floors. The flavor is retro and distinct, with a color palette strong enough to stimulate and attract a whole new breed of java junkies.



part of the adventure.



Retail Design Consultancy - Retail Planning Associates / Columbus, OH

Location - Coffee People / Portland, Oregon

Project Paint Colors - Sherwin-Williams ColorAnswers®: Luminary Gold SW1362 / Carob Brown SW1322

Project Stain Colors - custom colors

Products - EverClean®, Color Accents™, and H & C™ Concrete Stains

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CIRCLE 67 ON INQUIRY CARD

PRODUCT BRIEFS

▼ No need to duck

The Craftmaster Cremona eight-foot door design features two panels with a soft, crowning curve at the top. The door arrives primed and ready to finish, with a smooth surface that accepts high-gloss paint. As a standard door, the Cremona is available in widths from one to three feet. 800/405-2233. Masonite Corporation, Chicago. **CIRCLE 224**



▲ Audible art

A new concept in home theater and home audio, Gekko Flat Speakers employ a patented technology that evenly disperses high-quality sound throughout the room. The flat design, intended for wall mounting, is aestheti-

cally versatile—the speaker can be transformed into a work of art suited to virtually any decor. The ArtGekko collection features over 450 images that can be printed onto acoustically permeable synthetic silk to create a custom speaker grille. 203/961-0500. Noise Cancellation Technologies, Inc., Stamford, Conn.

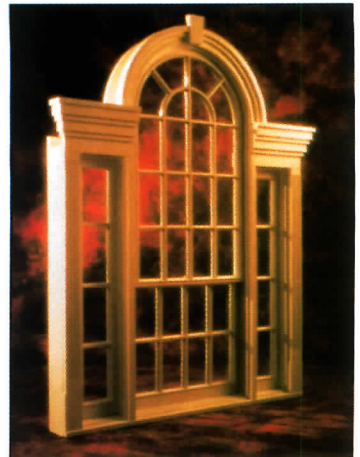
CIRCLE 225

▼ Divided light windows

Vetter's Ashford Collection features aligned, historically correct 1/8-inch muntin bars on each side of the insulated glass window, with a muntin grille built into the sash between the two panes of glass.

This gives the complete sash the strength of two full panes of glass, as well as a boost in energy efficiency. All wood parts are pretreated with a water-repellent preservative. 715/693-8407.

Vetter, Mosinee, Wis. **CIRCLE 226**



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PRODUCT BRIEFS

▼ Paper-thin concrete

Roc Inc. offers a concrete-patterned wallcovering, the first in its new line of Paper Werks products. The print enables residential and commercial designers,

as well as do-it-yourselfers, to obtain the modern industrial look of exposed concrete without incurring the time and expense of tearing down existing walls or pouring new ones. 800/942-4902. Roc Inc., Blaine, Wash. **CIRCLE 227**



► Tornado-tough siding

Mastic introduces QUEST³ Series premium vinyl siding, featuring the company's new T³ system—with a double nail hem and a heftier locking system. The siding is 200 percent more rigid than standard vinyl siding. The double nail hem holds the panel so securely that it is able to withstand winds of up to 190 miles per hour. The product line features 12 colors and three profiles. 800/MASTIC6. Mastic, Sidney, Ohio.

CIRCLE 228



◀ Encapsulated fiberglass

Johns Manville ComfortTherm insulation—for use in walls and under floors—is encapsulated with a poly-wrap system that reduces airborne fibers and puts a barrier between the environment and the fiberglass. ComfortTherm, the only encapsulated insulation with a polyethylene facing, which blocks water vapor, is certified to contain at least 25 percent recycled glass. 800/654-3103. Johns Manville Corporation, Denver.

CIRCLE 229



Can you afford Value Engineering?

Don't risk lawsuits and the costs of restoration work just because someone down the line wanted to save a couple bucks. Do it right the first time with the only ASTM-tested cavity drainage material—Mortar Net™.

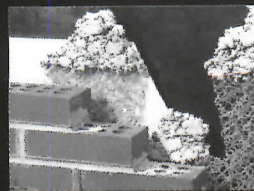
Mortar Net Drainage System prevents the cavity from becoming clogged with mortar droppings. Due to its patented dovetail shape and 90% open mesh, Mortar Net allows water to maintain a path of exit to the weeps, preventing damage caused by mortar damming and the blockage of weep holes.

Mortar dropping collection devices are a necessary part of the cavity wall flashing drainage system. Don't be fooled by cheap imitations—no other design matches the performance of Mortar Net. Just look for our unique green mesh to ensure reliability every time.

For more information, please contact Mortar Net at 800-664-6638 or visit our Web site at www.mortarnetusa.com.



Damming and clogging of cavities can cause costly repairs due to water damage.



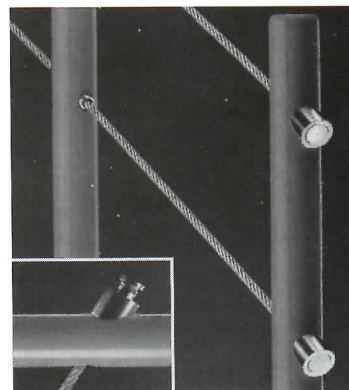
The Mortar Net Drainage System allows water to maintain a path of exit to the weeps, preventing damage caused by the blockage of weep holes.

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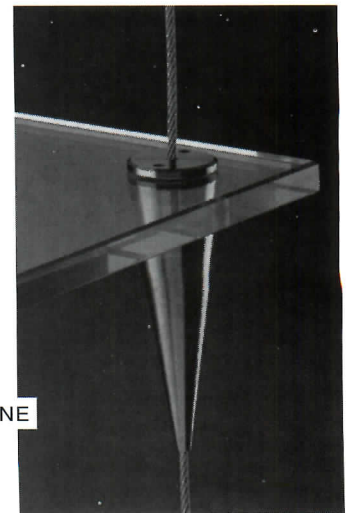
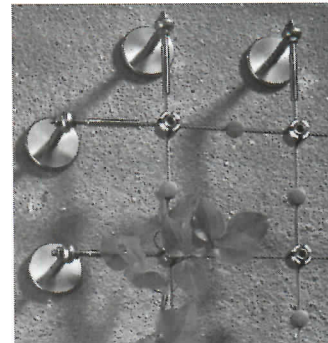
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PRODUCT LITERATURE

Downlighting brochure

Lightolier's Decorative Calculite downlighting product brochure is for specifiers concerned with specification-grade lighting for high-end commercial projects. 401/846-2012. Lightolier, Fall River, Mass. **CIRCLE 230**

Roofing catalog

Siplast, Inc.'s 1999 Modified Roofing Systems Catalog describes in detail the complete line of the company's engineered roofing systems. 800/922-8800. Siplast, Irving, Tex. **CIRCLE 231**

Acrylic sample sheet

A sample kit containing an Acrylite AR abrasion-resistant acrylic sheet test is available through CYRO Industries. 800/631-5384. CYRO Industries, Rockaway, N.J. **CIRCLE 232**

Architectural windows

A new brochure, "Architectural Windows for Colleges and Universities," highlights 12 of the many services Wausau Metals provides to help building teams involved

in selecting windows for such institutions. 715/845-2161. Wausau Metals, Wausau, Wis. **CIRCLE 233**

Whirlpools and faucets

Two new books from American Standard feature more than 30 whirlpool models and more than 120 designs of shower systems, bathroom faucets, and kitchen faucets. 800/524-9797. American Standard, Piscataway, N.J. **CIRCLE 234**

Glass structures

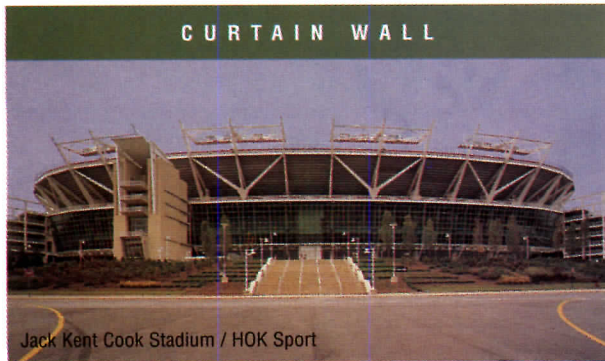
W&W Glass Systems, Inc./Pilkington Planar Systems' latest brochure features the company's developments in the areas of glass-fin and tension structures, skylights and canopies. 800/452-7925. W&W Glass Systems, Inc., Nanuet, N.Y. **CIRCLE 235**

Commercial roofing

Celotex has a new brochure featuring premium laminated shake shingles for commercial applications. The shingles come in a range of colors and with various warranties. 813/873-4230. Celotex Corporation, Tampa, Fla. **CIRCLE 236**



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PRODUCT LITERATURE

Shower enclosures

Duschqueen's literature features a new line of solid brass framed and frameless glass shower enclosures. 800/348-8080. Duschqueen, Inc., Wyckoff, N.J. **CIRCLE 237**

Preformed millwork

The 1999 Life-Time Catalog features more than 2,500 detailed and preformed architectural millwork items. All items ship in 10 working days or less. 800/367-1076. RAS Industries, Charleroi, Pa. **CIRCLE 238**

Electrical troubleshooting

Electrical Applications for Air Conditioning & Refrigeration Systems explains and illustrates methods for troubleshooting the full spectrum of electrical or electronic circuits for these systems. 770/925-9388. The Fairmont Press, Lilburn, Ga. **CIRCLE 239**

Damp location lighting

Ardee Lighting offers a new brochure titled "Clickstrip for Damp Locations," featuring flexible, low-voltage linear strip

lighting designed specifically for environments like decks, gazebos, and walkways. 704/482-2811. Ardee Lighting, Shelby, N.C. **CIRCLE 240**

HVAC/mechanical insulation

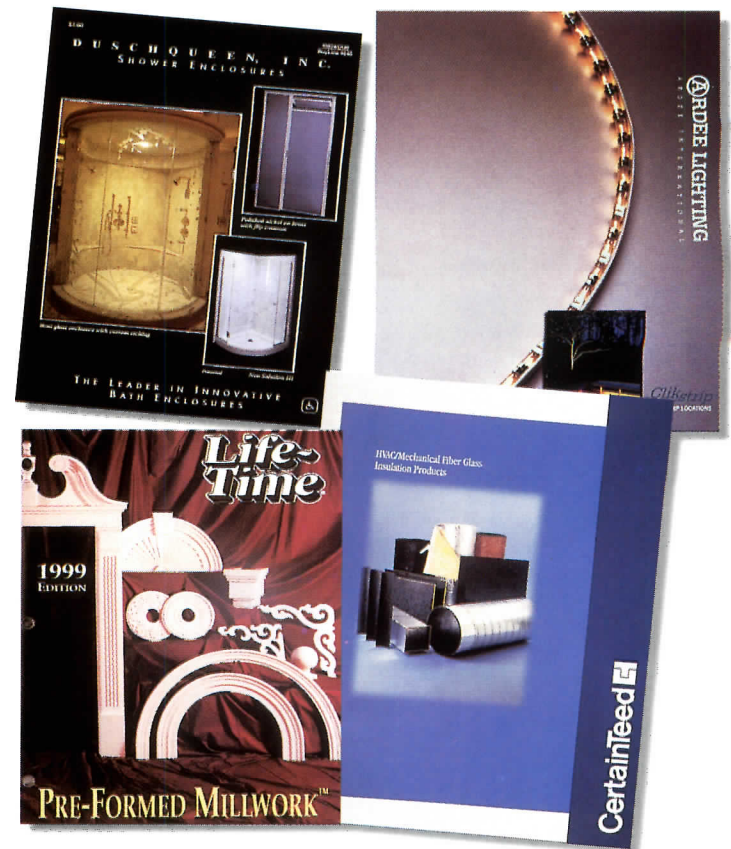
Specifiers, contractors, and distributors can use a new brochure from CertainTeed to familiarize themselves with the company's full line of HVAC/mechanical fiberglass insulation products. 800/233-8990. CertainTeed, Valley Forge, Pa. **CIRCLE 241**

Kitchen and bath design

"Kitchen & Bath Theme Design—An Architectural Guide," from the National Kitchen & Bath Association, is available for members and consumers. 800/843-6522. National Kitchen & Bath Association, Hackettstown, N.J. **CIRCLE 242**

Doorlights/doors/windows

ODL's 1999 product catalog, along with a new 12-page product brochure, offers detailed product information and new product photography. 800/253-3900. ODL, Zeeland, Mich. **CIRCLE 243**



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Questions appear on page 158. To receive CES credits, fill in the education reporting form below or on our Web site (www.archrecord.com).

1. There are many ways to stabilize a slope. But first, a slope-stability analysis should be conducted on steep sites. If a slide area is found, the foundation must be designed accordingly. One way is to drive piles to hold the house. These piles must be embedded at the proper depth below the face of the slope, so that there is a safety factor in case the surface soil washes away. Another way the slope can be fortified to make it suitable for building on is by excavating the soil and replacing it with materials that have greater stability, such as gravel or a combination of soil, gravel, and geotextiles. Other methods are to terrace the slope or to use a retaining wall. A drawback to these alternatives is that they require tearing up the site—a problem if the land contains endangered species or is otherwise environmentally sensitive.
2. Brownfields, or used-land sites, require special consideration due to the presence of rubble or waste on the lot and the fact that they are located in an urban environment. They may involve pollution abatement issues, material-handling logistics, security provisions, difficulties in handling unfriendly neighbors, complications from lot-line wall

construction, and zoning requirements that don't match existing conditions.

3. Secluded and precarious sites bring new challenges to the building process. There may be problems getting to the site, or access may be limited by the fact that there are no paved roads or bridges. If workers and materials have to be taken to the location by ferry or barge, time and cost is added to the work schedule. Also, planning for the delivery and storage of materials becomes more complex. In some areas, local restrictions call for restoring the site to its original condition once construction is completed. This involves removing waste and replacing vegetation. Environmental analyses may need to be submitted to local review boards to demonstrate how the new structure will affect wind circulation, habitat, the flow of water across the site, and other environmental elements.
4. Building near wetlands is a controversial issue. These sites are subject to federal, state, and local regulations. The federal government's policy is to avoid building on or close to wetlands. If they are endangered, then the lost wetlands must be compensated for by creating new wetland areas. After the environmental issues are dealt with, the architect must determine the best ways to stabilize the site, design a suitable foundation, and limit runoff. Wetlands often have poor soil and, because of the amount of moisture, an inability to support loads. They usually have a high level of groundwater, which poses problems in building the foundation, getting good water, and locating a septic system.



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AMERICAN ARCHITECTURE from page 81

against the impersonal, machine-made eclecticism of the Victorian era. It was a return to human hands and natural materials in opposition to the Industrial Revolution. Apparently, it's alive and well in Brisbane.

But there's also a more contemporary movement that is, in its way, another version of something like Arts and Crafts. Today, instead of rebelling against the Industrial Revolution, we're rebelling against the digital revolution. Because we're starved for sensory experience as we spend our lives staring at electronic blips, so we too are reviving a past. But in an amusing irony, the past we are reviving is the Industrial Revolution—the very thing the first Arts and Crafts movement hated. Suddenly, trussed steel bridges and concrete factories look beautiful because they seem so real—in fact, so "crafted" as compared to the digital world. Perhaps we can see a hint of this second Arts and Crafts revolution in the work of Thom Mayne of Morphosis, or of Tod Williams and Billie Tsien.

Finally, the International Style at its best, with all its elegance and its deliberate, surreal, often moving attempt to be timeless and placeless, appears to be strongly present, in different ways, in the houses by Tadao Ando and

Herzog & de Meuron. The second of these is International in the way it emphasizes its placelessness by being positioned on a plinth, as if it were a movable object displayed in a museum. Yet it's antimodern in its attempt to create an iconic image, a pictograph, of house-ness. It draws on deep cultural memory, like a Jungian archetype or a meditation by Heidegger. Judging, as one shouldn't, from just a couple of pictures, it's at once the most interesting and the most disturbing of the houses. Made of concrete, it imitates the shapes and spans of wood construction; set on a pedestal, it deliberately divorces itself from the realities of site, climate, and construction: everything that is local. It reads very much as an architect's "statement," made for a peer group rather than a user. It may be hard to inhabit, because it seems already fully inhabited by the architect's imagination. For all its fascination, I'm not sure I'd be able to incorporate it into my sense of myself the way I did my grandparents' house. But, at the very least, it helps define some of the predicaments of architects today, in that it presents to us for our contemplation a fully abstracted version of Disneyland kitsch, and asks us a question: in a cyberworld, what is the meaning of time and place? ■

DATES/EVENTS from page 68

buildings in Idaho, Montana, Oregon, and Washington. For information, call 503/223-8757 or E-mail aeprogram@aiaportland.com.

Design Housing for Roswell, New Mexico

Submission deadline: June 10

The flood-prone cow town infamous for alleged UFO sightings is seeking designs for housing. As much as \$10,000 may be awarded. Call 323/296-6226 for registration information.

The American Wood Preservers Institute "Century's Best" Awards

Submission deadline: August 2

This competition seeks designs for deck, dock, garden, playground, or other treated wood construction. The grand prize winner will be awarded a trip to the Sundance Resort in Utah. To obtain an entry form, call 800/356-2974 or visit www.awpi.org.

Boston Society of Architects Design Awards Programs

Submission deadline: August (call for details)

The Boston Society of Architects announces two awards programs. The Architectural Design Honors Awards Program is open to projects anywhere in the world by Massachusetts architects,

and to built projects in the state designed by any architect worldwide. The eighth annual Unbuilt Architecture Design Awards are open to architects, architectural educators, and architectural students throughout the world. For submission guidelines, call the BSA at 617/951-1433 x221 or E-mail bsarch@architects.org.

1999 James Marston Fitch Charitable Foundation Mid-Career Grant Awards

Application deadline: September 1

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Please submit information for events and competitions at least six weeks prior to the magazine's publication date (May 15 for the July issue).

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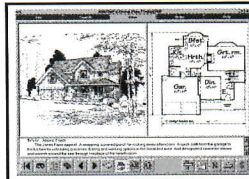
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THE FUTURE With the explosion of wireless digital communications, rooftops are taking on a new role.

BY ALYSSA KATZ



When Robert Venturi placed a mock television antenna on the roof of a Philadelphia nursing home in 1963—a playful commentary on the recreational habits of the elderly—he couldn't have known that a future generation of architects would do much the same thing for practical reasons. Though cable television knocked aerials off their perches, the arrival of wireless digital communications has hardly cleaned up skylines—in fact, it's brought a new array of silhouettes into view.

Forests of antenna poles relaying cellular and PCS calls have sprung up on top of commercial buildings everywhere, sometimes accompanied by satellite dishes relaying high-speed Internet connections through the air. And in order to launch digital television, broadcasters are cutting multimillion-dollar deals to place towers hundreds of feet high on top of the tallest structures they can find. In downtown Detroit, for example, the Renaissance Center is the prospective host of a 300-foot-high structure on its rooftop.

Fearing that their buildings are starting to look a little spiky, many owners and developers are turning to architects to help them corral the messes on their rooftops into forms that do justice to the structures they sit on.

Once reserved for cooling systems and window-washing rigs, rooftop rentals are now a \$200 million-a-year business. By 2005,

Alyssa Katz is a freelance writer based in Brooklyn, New York.

estimates Elliott Hamilton of the Strategis Group, a wireless-industry consulting firm, the tops of up to 50,000 buildings will be rented for some kind of apparatus. Rooftop management firms now hook up communications companies with fortuitously located buildings, and downtown properties and highway-side sites have become particularly valuable real estate, where rooftop spaces rent for anywhere from \$600 to \$1,500 a month.

Landlords are encouraged to think of the antennae as tenants who won't need parking or complain when the air-conditioning breaks down. But aesthetically minded owners and occupants sometimes need a harder sell. In Lexington, Massachusetts, the Stride Rite shoe company's headquarters is perched alongside Route 128, the lifeline of Boston's high-tech corridor. When the company refused to ruffle the clean lines of its 1971 concrete-and-glass complex, Sprint and Bell Atlantic offered an alternative: enclosures mounted on top of existing elevator hoistways, stairwells, and toilet cores that extended them all upward by several feet. Made of foam-core fiberglass, which can be impregnated with durable color pigment, the additions were designed to match the concrete seamlessly even as they allow unimpeded transmission of cell-phone signals.

"Some owners aren't so enlightened," laments architect Bob Evans of New York's Evans, Heintges, who consulted on the effort. "You see antennas that have nothing to do with the architectonic order of the building."



The fiberglass shielding, manufactured by Stealth Network Technologies of North Charleston, South Carolina, is also turning up in fake Spanish tile, simulated brickface, and stucco.

But adding mass doesn't necessarily work on a large scale, and newer technologies are requiring more creative responses. Purveyors of wireless phone services—which provide calling capacity and high-speed Internet access to corporate subscribers—ricochet microwaves between their customers and several hub rooftops. Ideally, receiving rooftops have a clear line of sight to a hub, and the hubs to each other; if they don't, it's possible to bounce the signal through an intermediate stop. (There's little guesswork involved: engineers consult 3D digital renderings of downtowns, compiled through a painstaking process that combines map data with information gleaned from planes that slowly scan cities block by block.)

To maintain clear transmissions between the hubs while concealing them from passersby, the owners of a 1929 Chicago building replaced the original finial with a tower featuring a stacked series of circular shelves, each housing antennae pointing all over the city. The shelves

Stealth Network Technologies' fiberglass shielding system provided enclosure for wireless communication equipment atop a church in Monrovia, California (before, left, and after, above).

are ringed with tubes of light and topped with a glowing spire.

Architects are starting to figure out how to meld the technical and aesthetic demands of the wireless age. For New York City's 4 Times Square, Dan Kaplan of Fox & Fowle extended structural girders into a 75-foot-high rooftop frame, set at a 45-degree angle to the building line, that will house up to 200 broadcast and telecommunications antennae surrounding a 150-foot digital TV transmitter. Supporting equipment is housed in a structure hidden behind four massive billboards. "It's an integrated machine up there," says Kaplan. "We wanted texture; we wanted to see these elements. That's tough, because you've also got to plan for the ways technology will change over time."

Someone looking at such tech-topped buildings a few decades from now may find it easy to date them to the turn of the millennium. In years to come, orbiting transmitters are likely to be serious rivals to lowly rooftops. "The window of opportunity for these rooftop structures is about 10 years," guesses Jerry Marmelstein, president of Vermont-based Riser Management Systems. "Our kids will look up and see 40 satellites twinkling in the night sky." ■

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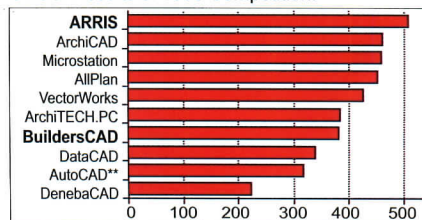
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