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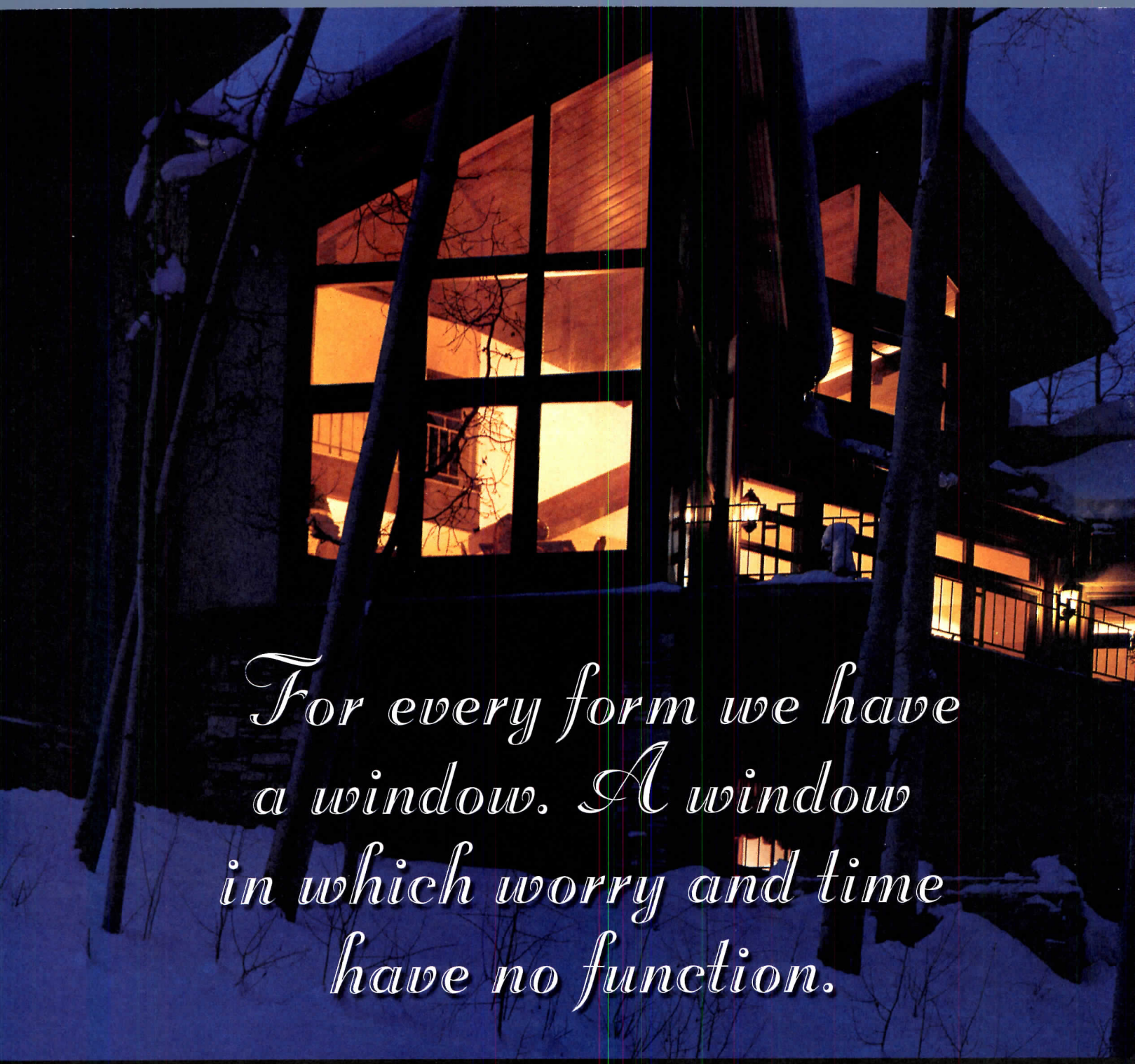
Forward-thinking Architects Learn to Bend House Rules



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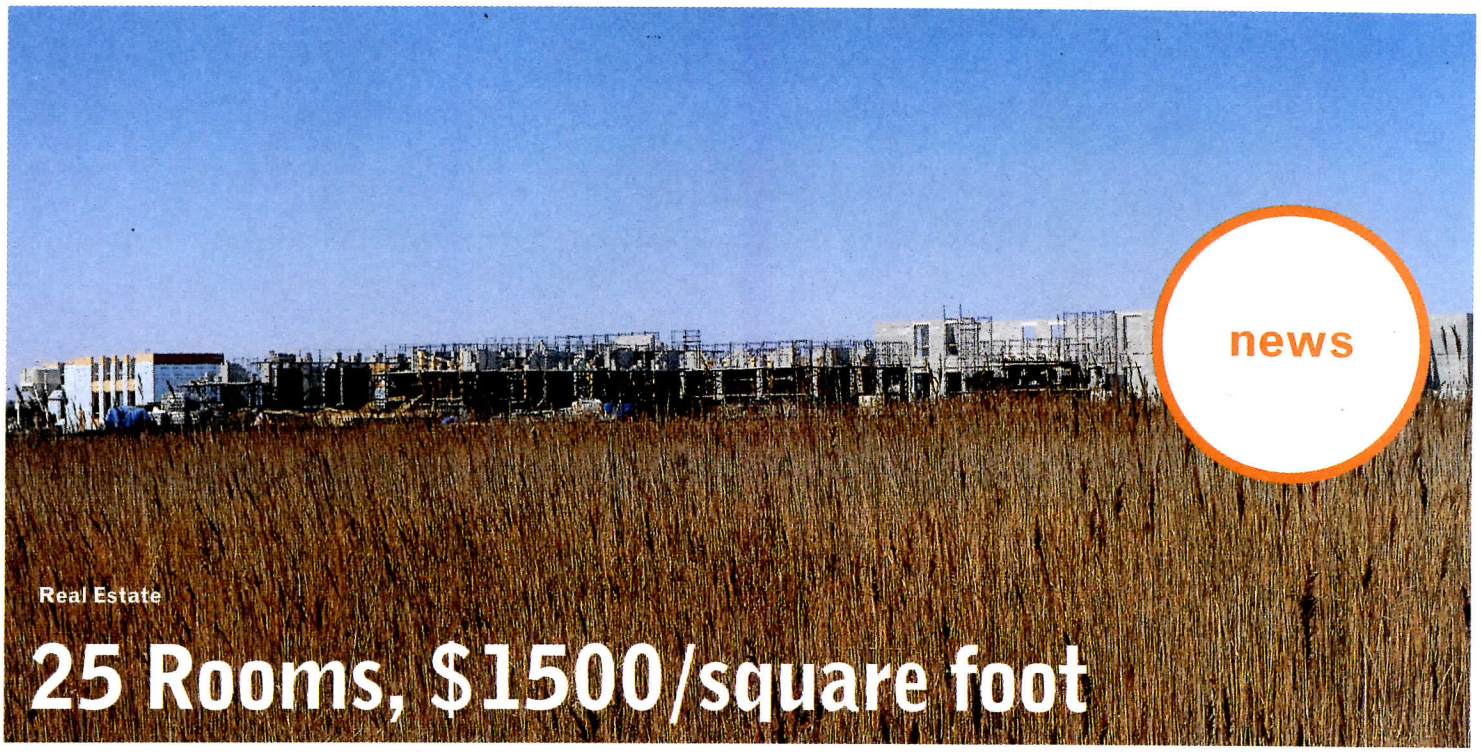


news

Real Estate

25 Rooms, $1500/square foot

Since its barely legal plans were quietly hustled through the Sagaponack town council in the winter of 1998, Manhattan investor Ira Rennert's $100 million mega-manse (above) has been the talk and worry of New York's tony Hamptons. The once-dignified seaside town was so horrified by this zoning sleight of hand that it put a size limit on private houses: New homes must now top out at a paltry 20,000 square feet.

At 66,000 square feet, Rennert's is the largest private home in the United States, beating out Bill Gates (40,000 square feet) and Bill Clinton (55,000 square feet) with 25 bedrooms, 30 bathrooms, two bowling alleys and a 100-car garage among its many indulgences. The kinda classical, sorta Tuscan giant, called Fair Field and designed by Ferguson, Shamamian & Rattner Architects of New York, has even inspired a novel, James Brady's 1999 *The House That Ate the Hamptons*. While it has not yet escaped its own 63-acre lot to consume the entire South Fork of Long Island, as it nears completion, the house is raising real concerns about the next mogul's monster. Bigger is better, right? *Philip Nobel*

1 Room, $3.50/square foot

If big things come in small packages, as they say, a group of architecture students at Louisiana State University (LSU) is creating a very grand gesture: new homes for the people of Reynosa, Mexico. Since the North American Free Trade Agreement (NAFTA) took effect in 1994, the Texas border-town's population has doubled to more than 1 million. Living conditions are grim, particularly in one squatter settlement known as Roma, where residents crowd into leaky shanties made of scavenged cardboard and tin.

LSU architecture professor David Baird wants to fix the sorry state of Reynosa's housing. Baird is teaching a course called "The Mexico Project," in which second-year architecture students design and build an inexpensive prototype home that could become affordable dwellings for Reynosa's huddled masses. The finished product (left) is made of concrete wall panels, wood, and tin, and costs about $270 to erect. For students, the Mexico Project is a hands-on chance to learn about design–build while building a social conscience.

The noble venture is truly collaborative. Two Baton Rouge churches and a Seattle computer manufacturer contributed money to develop the prototype; LSU engineering faculty have offered to test the house's concrete structure; and a local advertising company has promised to donate used vinyl billboard screens to make waterproof roofing materials for future homes. Baird and his students plan to spend the next few months testing the prototype before heading to Mexico to install a test home. There they'll teach Reynosa's residents to build similar dwellings, even leaving them equipped with a bilingual owner's manual. *Raul A. Barreneche*

news

Home Improvement

Earth's Largest Collection Just Got Bigger

Amazon.com already sells books, music, videos, software, even toys over the Internet, making it harder to find an excuse to get out and shop in the real world. Now add to their seemingly limitless offerings hardware and software of a different sort. This winter, the Seattle-based digital retailer launched an online home improvement shop hawking everything from tool belts to belt sanders, plus lawn and garden items, painting supplies, even plumbing. In February, Amazon announced that it would acquire an 18 percent interest in living.com, an Austin-based home furnishings Internet retailer, with rights to buy an additional 9 percent stake in the company. Amazon will market living.com on its own website.

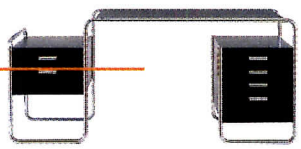
Products *Compiled by Sarah Palmer*

Strong Lines, Bold Colors

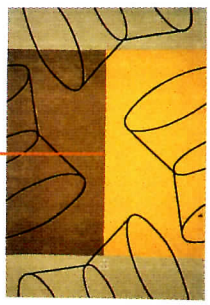
New York–based designer Carl Martinez creates customized products for the home. Martinez has designed a series of elegant one-of-a-kind doorpulls made of hand-blown glass, custom designed in any color or pattern, or bronze with nickel or gold platings. *Carl Martinez Hardware: 212.941.8142*

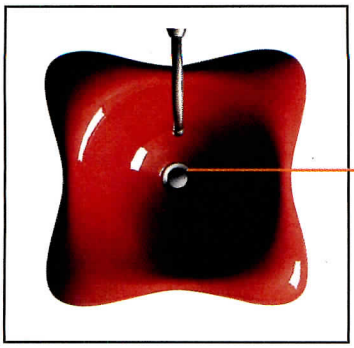
From Pallucco Italia comes Scoop, a multifunctional stool with seats that are available in natural wood finishes, stained wood, or upholstery. Depending on the material, the stools can double as chairs, tables, or footrests. *Luminaire: 312.664.9582*

ICF, a distributor for Gebrüder Thonet, will produce original Bauhaus furniture designs, some for the first time. Among the newly launched pieces is a desk designed by Marcel Breuer with a chromium-plated tubular steel frame. The top and drawers are lacquered beechwood, available in black, red, or white. *ICF: 800.237.1625*

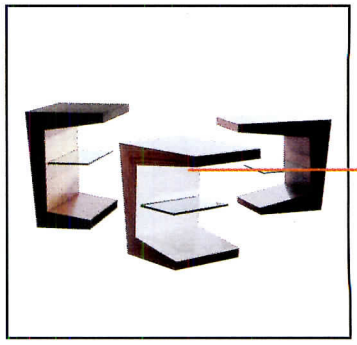


M & M Design International is distributing designer Adam D. Tihany's first residential collection of rugs, called *rugs.link*. Many of the rugs contain geometric patterns that fit together like a jigsaw puzzle. These wool rugs are available in a variety of colors and eight different patterns. *M & M Design International: 212.726.0015*

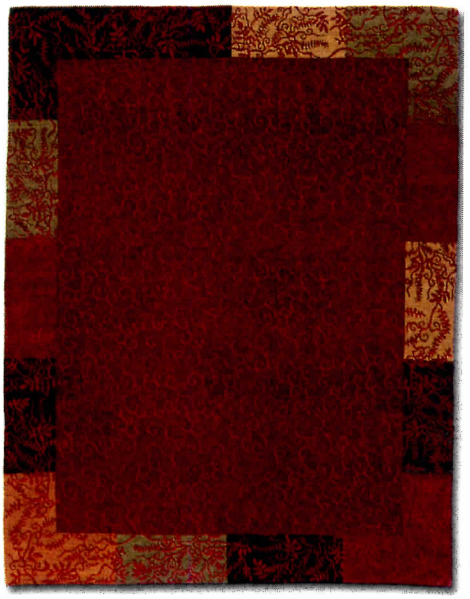




Kitchen and bathroom giant Kohler has introduced Dolce Vita, a sink with a curved organic form that resembles a blossom. Made of cast iron, the sink is available in a variety of colors, both bright and subdued. *800.4.KOHLER*



Wedge tables, which Jean Tarantino designed for Ted Boerner's furniture collection, incorporate such unexpected materials as cork, rubber, and wood veneers into the custom designs. The tabletop is cantilevered over the base, and there is a fixed glass shelf in the center. *Ted Boerner Furniture: 415.487.0110*



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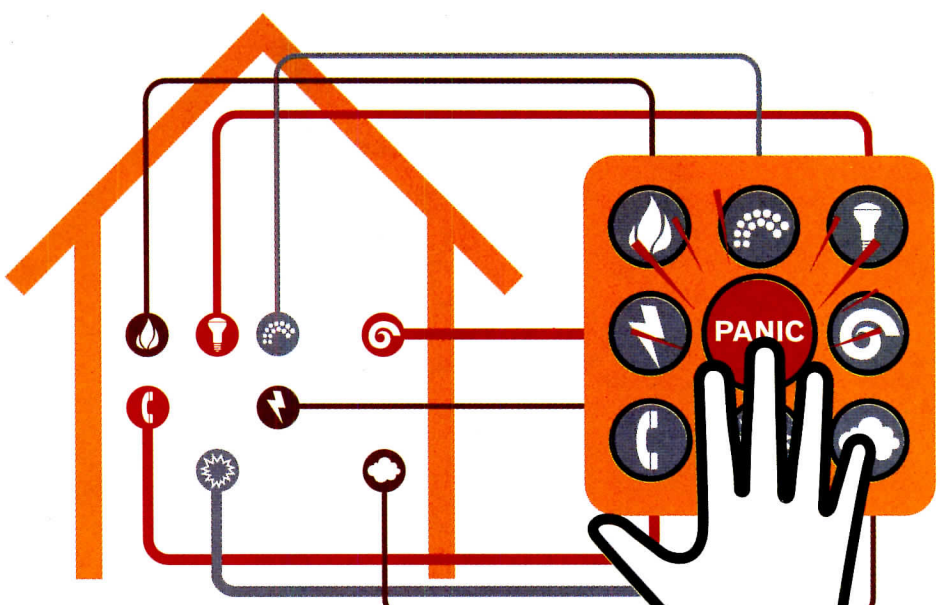


Technology at Home

How Many Consultants Does It Take To Change a Light Bulb?

Ever-changing household automation spells trouble for untrained clients and architects.

Pop culture has long glorified the fully automated home. In Woody Allen's 1973 movie *Sleeper*, the home of the year 2173 included robotic servants and even mechanized sex in the "orgasmatron," a vertical pod that offers mutual satisfaction in about 20 seconds. Today's sophisticated clients aren't looking for automated sex pods, but they're demanding—and getting—some pretty impressive technology in their homes.

Simply stated, if you can turn something on and off, you can automate it. The most common home automation systems link disparate appliances and other devices through data cables. Simple tasks that were once done with the flick of a switch—turning on a light, firing up the stove—can now be programmed from stand-alone control panels, personal computers, or even from remote locations over a cellular phone.

Mood-enhancing systems lead every client's list of gizmos for the home. Lighting can be programmed to match activities—bright lights for cocktails, dim for dining. Plug in a state-of-the-art audio-video system and your home becomes a theater. You'll want to protect all that expensive equipment with equally sophisticated security cameras you can monitor through the Internet. There are also sophisticated climate controls that regulate heat, humidity, and even the water temperature in the whirlpool.

Hot-wiring the house costs big bucks. Chicago-based architect Fred Wilson of Morgante-Wilson Architects typically spends about five percent of the construction budget on some combination of automated systems in every high-end residence he designs. The point of having automated technology is to "add comfort and enjoyment; but it also adds anxiety," cautions Wilson. The complexity of some systems can baffle even the most techno-savvy homeowner. For instance, on the third day that Wilson visited a new home he had designed, and heard the same Linda Rondstadt CD playing on the $70,000 stereo system, the client finally confessed he had no idea how to turn it off. Therein lies a major hidden cost: Clients often have to rely on high-priced technicians to maintain their high-tech machines.

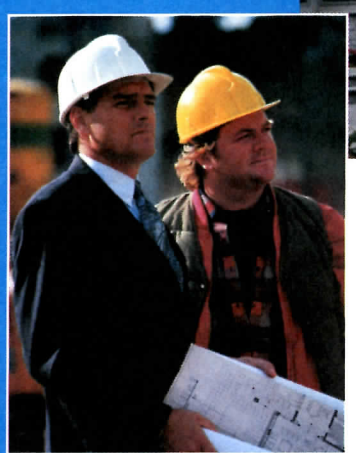
Architect Frank Dill oversees the coordination of automation systems and architectural design for Seattle-based Finne Architects. Dill has difficulty staying on top of the ever-evolving technical requirements demanded by home technology. "We define the program and then we get an expert in that area on board to handle all the technical stuff," explains Dill.

He finds the manufacturers of new whiz-bang devices much less designer-friendly than those in other residential industries, such as kitchen appliances, because the home automation industry is still oriented to the homeowner. "Our focus has been more toward builders and consumers," admits Charles McGrath, executive director of the Washington, D.C.–based Home Automation Association. While refrigerator manufacturers will gladly customize their appliances to match a kitchen, electronics companies are not accustomed to working with architects. "They expect to sell the product and they're done," explains Dill.

Home technology architects must keep themselves up to date on nonstop advances in high-tech home products. But can they be sure they're specifying something today that will accommodate tomorrow's standards? "*There's no guarantee.*" warns Craig Shifflett, operator manager of Residential Technology Systems. "You just never know."

No matter how you look at it, home automation adds another layer of technology to the building process and another tier of consultants to the architect's team. But an intelligent, proactive approach to these technologies can make clients' lives simpler—and architects', too. *Edward Keegan*

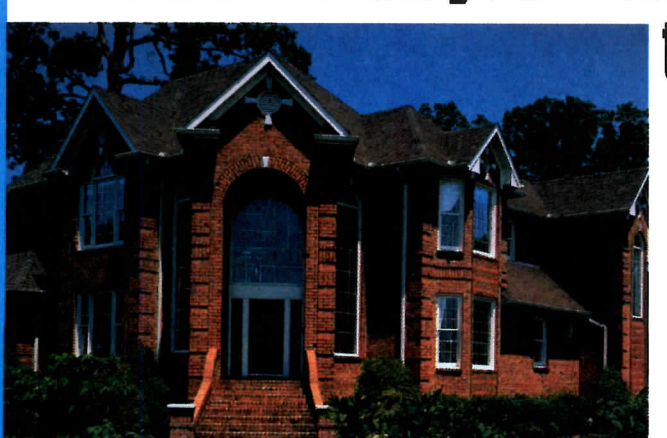
Q: How can you DESIGN a home with innovative flexibility and solid durability?



When your goal is to design homes that attract homebuyers, why let construction materials limit the possibilities. With versatile masonry, you can build on your most imaginative concepts. Today's concrete and clay masonry offer flexible options to create beautiful homes inside and out – from stucco over concrete masonry to innovative use of brick and colored mortar. Beyond beauty, you deliver the solid strength and disaster-resistance today's homeowners value most.*

**The 1998 Homeowner Report,* Portland Cement Association. Study available on request.

A: BUILD on your imagination with today's masonry.



Photograph courtesy of General Shale Brick.

To create homes as distinctive as they are durable, include masonry in your plans. For information on masonry and cements for masonry, contact the Portland Cement Association.

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Technology

People in Fiberglass Houses

If you live in a fiberglass house you can throw stones—because the 4-inch-thick walls and roof will easily withstand the impact. In fact, it's difficult to do much damage at all to the composite panels now infiltrating the residential construction market. (Similar plastics are already used in airplane interiors, boat hulls, and even telephone poles.) Manufacturers make the plastic panels sound superhuman: They claim the product is twice as strong as plywood, weighs a third as much as wood, and is seismically stable (more elastic than lumber), waterproof, and resistant to termites and rot. You can erect a 1,500-square-foot home built of fiberglass panels in 5 days—and it will cost up to 20 percent less than a wood-framed house. And the panels have a built-in insulation value of R29. What more could you want in a residential building system?

Sparks, Nevada–based American Structural Composites (ASC) claims to be the only U.S. company manufacturing the lightweight-yet-high-strength structural wall and roof panels, which are made of 1/16-inch-thick fiberglass-reinforced plastic bonded to a solid foam core. They're similar to the more common structural insulated panel systems known as SIPS, which have wooden skins bonded to foam centers, but are significantly lighter than their wooden counterparts. The fiberglass panels can be attached to standard floors and foundations with a proprietary system of plastic connectors, and can accept standard doors, windows, and electrical and plumbing equipment. You can cover them in stucco—and no one will ever know you created a house of cheap plastic. For more information, contact ASC, (775)355-4444; *www.asc-housing.com*. *Raul A. Barreneche*

Department of Scary Thoughts

Ready, Aim...

Portland-based interior designer Paul Scardina has his eye on your job. The former president of Oregon's IIDA (International Interior Design Association) chapter, who's now busy pushing interior design licensing through that state's legislature, thinks he and other interior designers are the ideal candidates to build your clients' homes. Scardina described his alarmingly naive design strategy to Portland's *Daily Journal of Commerce*: "You have to start with the end user and find out how you want to develop a space." Then you just "wrap the architecture around that space." Voilà: instant house.

Scardina has already built one home in Portland—and he's eagerly pushing his services as a house designer so he can get his hands on more. "I don't know how common it is for an interior designer to design an entire house, but it's certainly something I'd like to see become more widespread," Scardina enthuses. Architects, can you feel your blood pressure rising?

Tax Codes

Top areas with highest median residential property tax bills in 1999 (populations over 250):

Town	ZIP Code	Annual Tax
Fisher Island, FL	33109	$16,254
Rancho Santa Fe, CA	92067	$10,427
Eastchester, NY	10709	$ 8,744
Mountain Lakes, NJ	07046	$ 8,059
Hillside, IL	60162	$ 7,999
New York City (Upper East Side)	10021	$ 7,890
Lake Forest, IL	60045	$ 7,619
Houston	77024	$ 7,540
Villanova, PA	19085	$ 7,049
Newport Beach, CA	92657	$ 6,841

Facts and Figures

February 2000 Housing Statistics (February figures compared with January 2000)

Total housing starts (annual rate)	1.78 million	▲ up
Single-family starts (annual rate)	1.31 million	▼ down
New home sales (annual rate)	919,000	▼ down
Existing home sales (annual rate)	4.75 million	▼ down

National Average Mortgage Rates as of April 10

30-year fixed-rate mortgage	7.88%	▼ down
1-year ARM mortgage	6.65%	▲ up

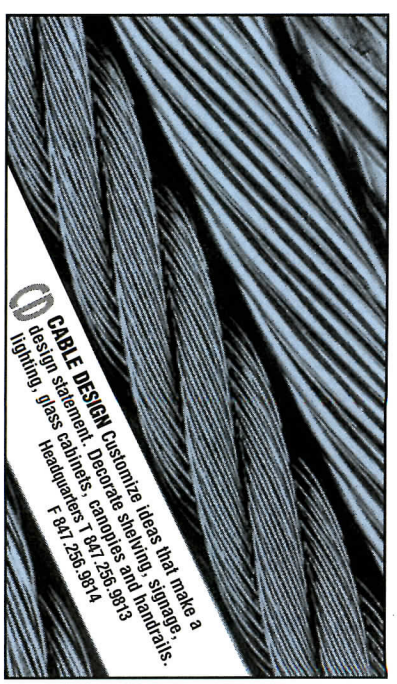
Calling Cards
Tools of the Design Trade

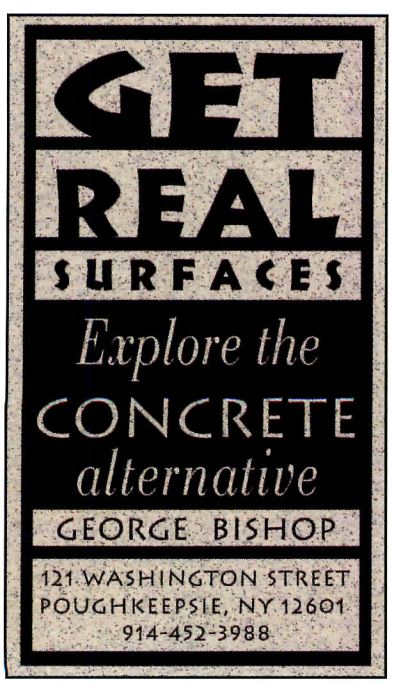
Introducing Calling Cards

Architecture's new advertising section, *Calling Cards*, is designed to help businesses and services reach the best of all audiences at the lowest cost and maximum efficiency.

This new, cost effective section will run in June, August, October and December with a special nod to *Architecture House* in November.

It's so simple—just send your business card and a check (1x-$450, 3x-$400) and we will print your card in the next issue. The August issue closes June 22, so act fast.





For more information call Michael Parrish at 212.536.5194

news

A California designer turns his improvised kitchen expertise into a bankable enterprise.

In Business

Recipe for Success

In the 1970s, Fu-tung Cheng was an artist keeping himself alive by building and sometimes designing small house remodels. They paid the bills but left him uninspired. One day, he found himself carving away at a blank stucco wall, "making moves on the fly, adding things to it—little fossils and stones. Suddenly I wasn't bored with building anymore." In 1978, he hung out his shingle and launched Cheng Designs to create kitchens, living rooms, and whole houses based on his style of ad hoc improvisation.

Cheng never went to architecture school. "I never set out to be an architect, but found myself designing homes. I studied people like Frank Lloyd Wright and Rudolf Schindler to learn about everything from compression to composition." Eventually, Cheng realized that he was spending a great deal of time designing custom kitchen hoods for his house commissions. "There were not that many well-designed hoods out there, so I made a few." After 20 years of creating custom fixtures, he decided to capitalize on his experience and launched Cheng Products in 1998.

These days, the 51-year-old Cheng runs a successful mini-conglomerate from his workshop and office in Berkeley. He still tries to do a house a year (he has designed five so far), but most of his energy is taken up by his product division. There are currently nine kitchen hoods in production; later this year, Cheng plans to unveil a line of concrete countertops for kitchens and baths, with collections of sinks and soaking tubs on the horizon.

Cheng Design is now a full-fledged corporation backed by investors and managed by a board of advisors. Last year Cheng raised $1 million through a private share offering to past and present clients to be able to expand his activities (he and partner Bonnie Thomas retain just over 50 percent of the shares). Cheng needed funding to boost research and development, build up his marketing structure, and invest in more efficient production methods. He promises investors a healthy return of up to 13 percent after three years of no or negative income. So far, the business plan is right on track, Thomas reports.

What motivated Cheng to take on the added labor of the product operation? "I do the products so I can make architecture, which is a money-losing proposition," he explains. But that's not to say he considers them a subsidy for his architectural work; rather, they create a steady revenue stream and stabilize the overall operation, as Thomas explains.

Though pricey, the hoods, most of which retail in the $6,000 to $8,000 range (two models top the $10,000 mark), are already popular among local architects—and they're beginning to garner national attention. Cheng has built up a mailing list of over 7,000 designers and retailers through word-of-mouth and responses to national publications of his work.

Cheng's sculptural range hoods provide some welcome practical features, such as expanding glass shelves for storing spices. The soon-to-be-launched countertops, by comparison, are truly innovative. Using a proprietary method ("It's a little like a recipe for cooking a good meal," says Cheng, who is also an avid chef), he pours concrete in perfectly smooth plastic-faced molds that he discards after just one use.

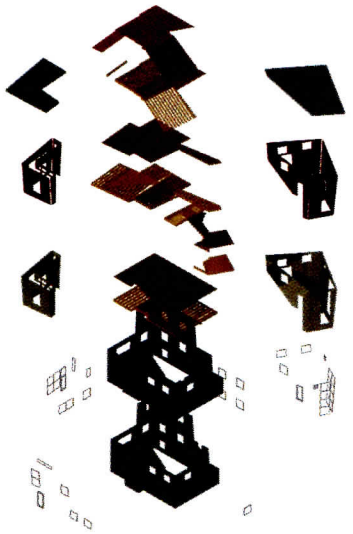
The result of his special blend of ingredients and technique—trademarked as Geocrete—is a surface as smooth and hard as granite that resists cracking, staining, and discoloration. "I've never seen marble look as good," proclaims one client. The countertops have quirky details—what another client calls "Fu-isms"—like channels cut into the surface to serve as drains and attachments for cutting boards.

Cheng Design offers an exciting new model for the designer as entrepreneur, one that is modular and adaptable. You can buy one of Cheng's hoods or countertops, have him design a custom fixture, or commission him to design an entire kitchen—or even a whole house. The work is difficult to define, as it moves between fine art, construction, interior design, furniture, and architecture. But it is this flexibility that makes this jack-of-all-trades so attractive to people inside and outside the design professions. It shows that good design can enter people's lives through every surface or space of their homes. *Aaron Betsky*

Beyond the Box

editorial

Every day, it seems, the Internet teaches us new tricks for doing old tasks. The Internet has transformed the simplest of chores: how we order food, rent movies, pay our bills, file our taxes, and, most of all, shop—for everything from books to vitamins to postage stamps. On the home front, we can do everything online from scouting out mortgages to buying hammers, to feathering our nests down to the last pillow. We can have it all, almost instantaneously.



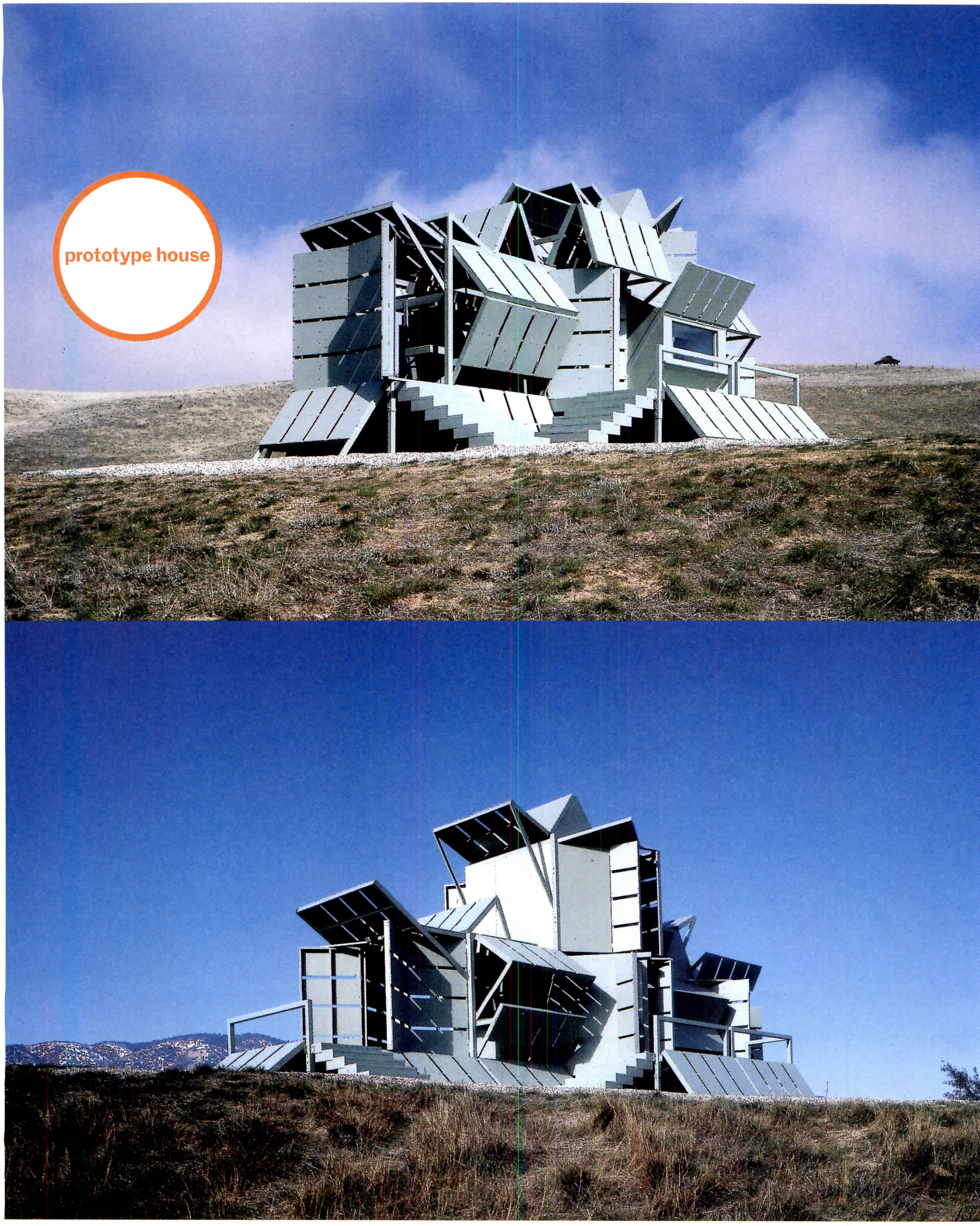
Exploded axonometric of eHouse 2000 (page 200)

In this accelerated digital world, the housing industry seems downright archaic, plodding into the 21st century with the speed and foresight of the Titanic. Kent Larsen, who is leading M.I.T.'s search for the house of the future (page 200), best sums up the slow state of the U.S. residential market: "We're still building houses the way we first built cars—by hand."

In Europe, the most innovative residential designs are coming from the margins of the architectural profession—from prolific, architect-trained product designers. Stefan Lindfors and Matteo Thun are creating mass-produced houses that are flexible, affordable, quick-to-build, and energy efficient. And good looking, too. These designers understand the rigors of producing huge runs of chairs and silverware—and are treating the house as another product zipping down the assembly line.

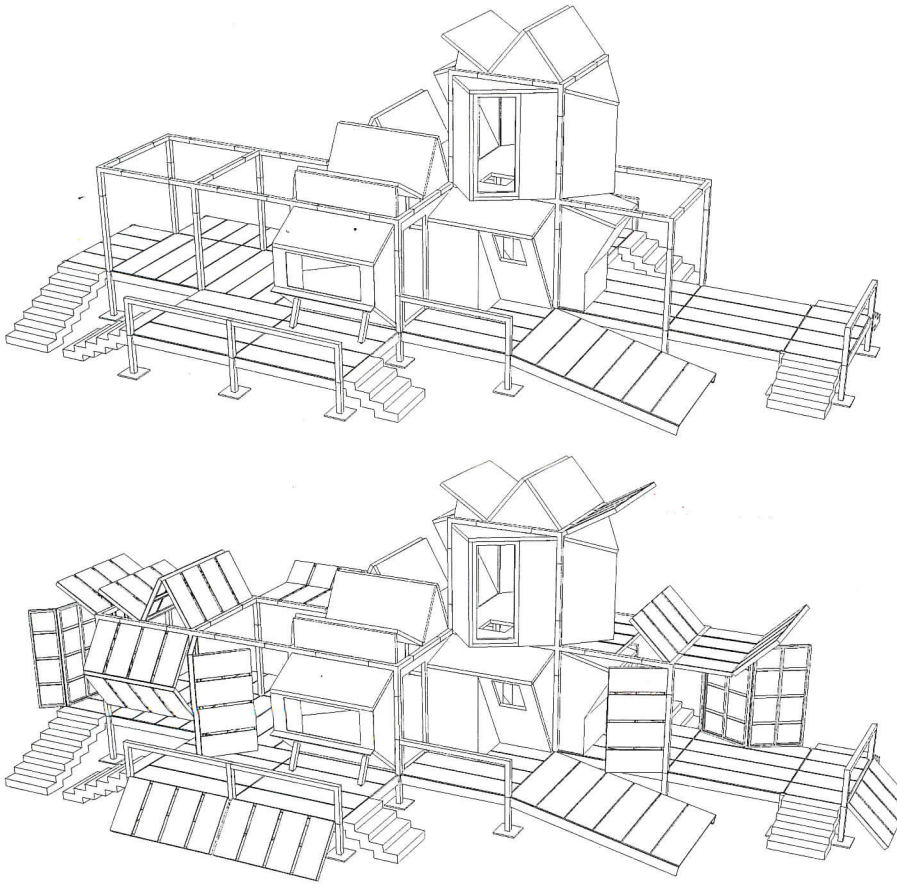
In this country, few truly innovative houses are being built. As in Europe, housing that ventures beyond the box of convention is coming from outside mainstream practice. Larsen's M.I.T. project is just one of several that pair industry and academia to reap big financial and intellectual rewards. How better to make new products status quo than by making manufacturers partners in design? In California, Mike Jantzen is putting his muscle and his money where his mouth is. Jantzen erected a prototype house that investigates mobility and modularity and challenges the aesthetic norms of four walls and a roof (page 188). And in Nevada, manufacturer ASC is building homes out of cheap fiberglass shells (page 182). Borrowing from the same rigid, lightweight plastics technology used to make boat hulls and telephone poles, ASC's strategy resembles that of the European product designers: Think beyond the limits of architecture, and use outside materials and production methods to create viable housing.

If we can transform this nation's entire economy with the click of a mouse, we must be able to kick its backward-looking housing industry into the future. Architects and manufacturers need to think—and act—outside the box to revolutionize shelter. And they need to make builders hip to the possibilities of broader thinking. As Larsen argues, "the time is right" to rethink every aspect of how we build homes. *Raul A. Barreneche*


prototype house

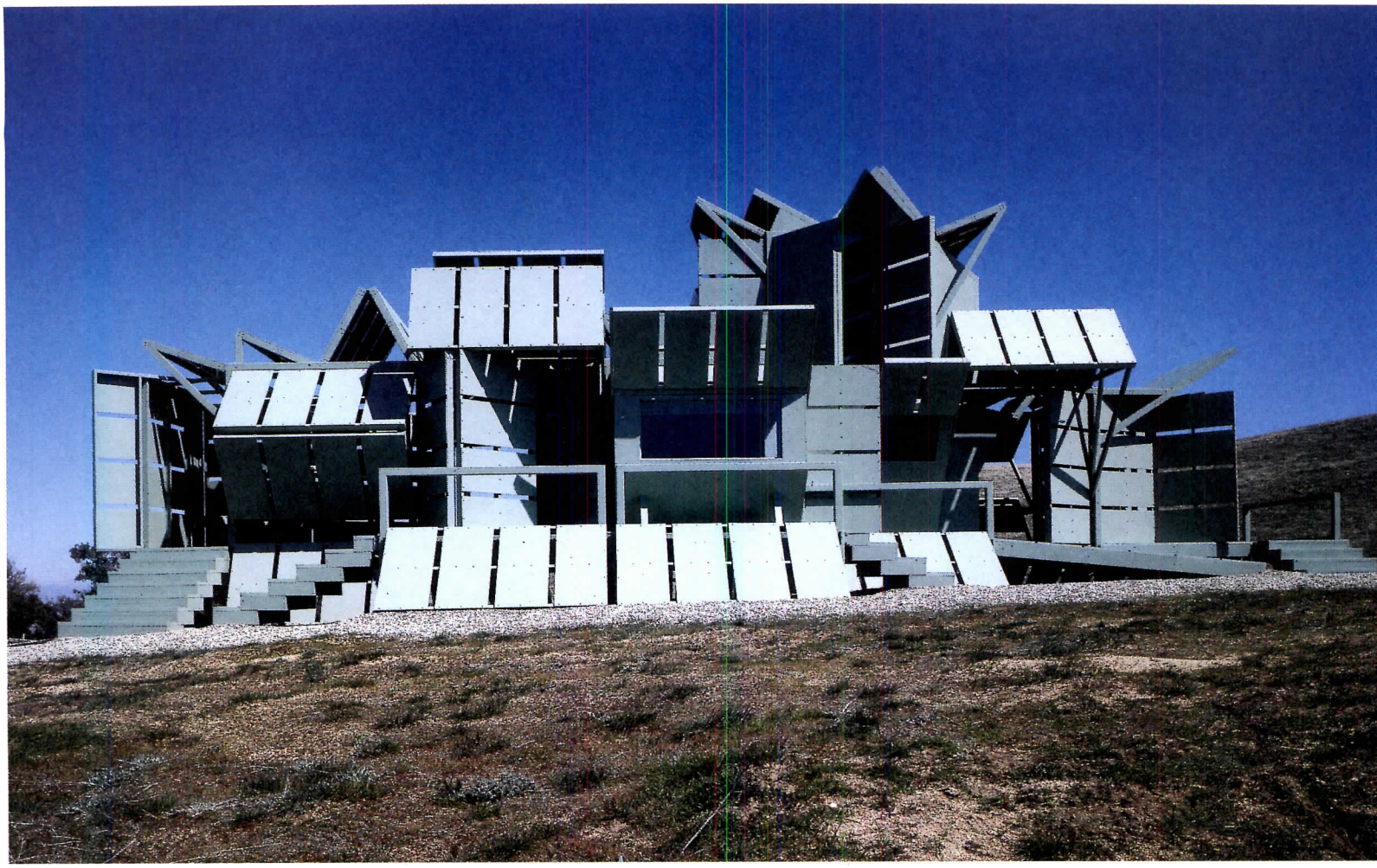
The Shape of Things to Come?

Designer Michael Jantzen explores highly flexible—and highly quirky—eco-friendly habitats.



M-HOUSE, GORMAN, CALIFORNIA
CLIENT: Withheld at client's request
ARCHITECT: Michael Jantzen and Associates, Valencia, California—Michael Jantzen (principal-in-charge)
ENGINEER: Advanced Structures Incorporated (structural)
COST: Withheld at client's request
PHOTOGRAPHER: Tom Bonner

Resembling an unexpected mirage, the M-House prototype commands a barren hillside in Southern California (facing page). The fireproof, rot-resistant concrete-board panels cladding its exterior are slotted to let in views and air (facing page, top) or solid to block unwanted sun (facing page, bottom). Axonometrics (left) show the boxy steel frame fitted with floors, ramps, and fixed wall panels (at top) and hinged, slotted sunscreens (at bottom).



By Ann Jarmusch

Michael Jantzen is a practical dreamer determined to change the way we experience shelter and space. For more than two decades, the Valencia, California–based artist and designer has conceived and hand-built experimental houses and futuristic structures that stretch conventional thinking like a rubber band, promote autonomous, sustainable living, and, as he paraphrases the architects of Sea Ranch, "sit lightly on the land." For nearly a year, Jantzen has been single-handedly building what he calls M-House, a one-bedroom cottage with its own structural logic and expressive power. The sage-green prototype, which looks like a robust sculpture unfolding its sun-seeking petals or a monumental piece of origami, sits atop a small mountain northwest of Los Angeles, 4,600 feet above sea level.

A multimedia pioneer and conceptual artist, Jantzen says bluntly he has no interest in becoming an architect. Yet he persists in rethinking the norms of domestic space by challenging expectations. He does away with flat floors and walls in favor of ramps, peaked ceilings, and acutely angled walls and blurs distinctions between indoors and outdoors, as on an enclosed deck.

M-House is the first example to be built of Jantzen's M-vironments, a building system of simple, standardized components that can be made of a variety of materials, depending on the use. Aside from the obvious allusion to the word environments, Jantzen says the title of his project comes from a vague hodgepodge of terms: millennium, modularity, manipulation, the designer's name, and the shape of the structure.

M-House's sturdy structural core is built of cubic steel frames that form modular 8-foot bays. Hinged concrete-board panels, measuring 4-by-8 feet and 1/2 inch thick, are bolted into predrilled holes in the 1/2-inch-thick steel armature. Jantzen envisions that the house could be clad in glass and perforated-metal skins over the concrete-board substrate. The size of the house is variable: Steel-framed modules can be added or subtracted both vertically and horizontally.

Working with L.A.-based engineers Advanced Structures Incorporated, Jantzen designed the house to withstand serious earthquakes and winds up to 80 miles per hour. Because of its wind-buffeted location near the San Andreas Fault, the prototype is heavier and sturdier than future versions may need to be, says Jantzen. With simple tools, M-House can be expanded, shrunk, reconfigured, or dismantled and transported to a new site. The designer estimates that a crew of four could assemble the house in a week and dismantle it in less time. Moving it is easy on the land and the builder since M-House has no foundations. The house is lifted off the ground by steel posts that rest on 18-inch-square steel plates. Like a camping tent, 14 steel chains tie down the house; the chains are then tied to steel anchors sunk into concrete-filled holes around the house's perimeter.

M-House is flexible, responsive to its inhabitants, weather conditions, and a variety of sites. The prototype contains a bedroom, sitting room, a galley kitchen, and small bath on the first floor, and a sleeping loft with a tiny fireplace on the second. The rooms, however, can be completely reconfigured, thanks to the mutability of M-House's structural system. A solid panel may fold out to form a sunshade in one place, while an identical panel folds inward to make the sloped back of a chair. Narrow slots in exterior panels help filter summer's hot sun, frame views of the mountains and sky, and tame strong winds into a soft whistle. "This design is about accommodating potential change," Jantzen says. "The house doesn't have to be fixed in time, function, or style."

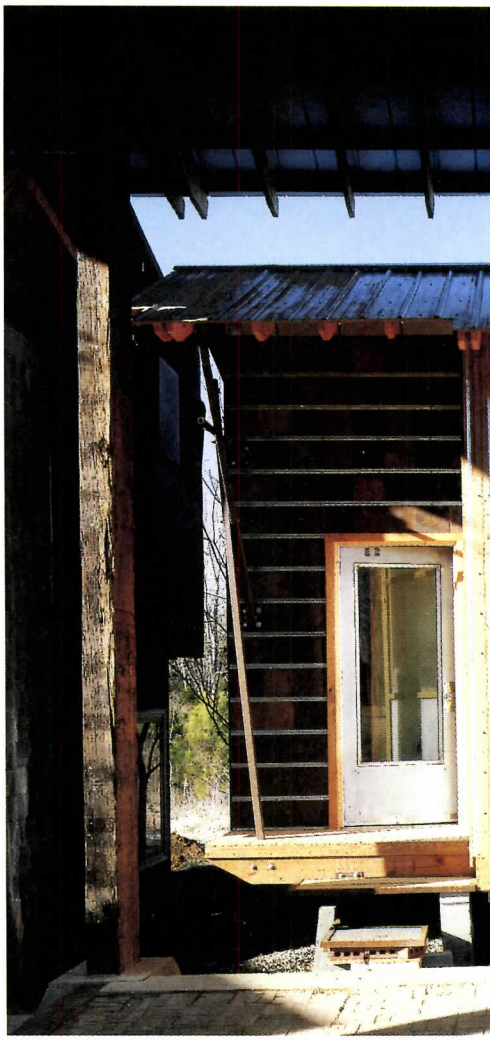
Jantzen likens the 1,000-square-foot prototype to a boat, an apt comparison considering it's tightly interlocking indoor and outdoor areas, built-in furniture, and such space-savers as a rolling wall unit that conceals a ladder to a second-story loft and doubles as a pantry. M-House also resembles a delightfully eccentric playhouse equipped with decks on three sides, a whimsical excess of outdoor staircases (there are five), quirky nooks and a loft that will make a fine lookout. (At the moment, Jantzen is finishing the interiors, a job he'll do by himself at a cost of several thousand dollars.)

Jantzen won't say how much the prototype cost, nor will he name the private investors behind M-House; he will only say they are people who have supported his work for a long time. One of the goals of building the prototype is to attract new investors to build a high-tech resort filled with M-House guest cottages. Jantzen is also promoting his movable, malleable building system for everything from office cubicles to retail displays, kids' play structures to exhibit booths. "I invent new systems that generate form, without taking control of it," explains Jantzen. "You end up with much more unexpected forms that way. I want to be surprised by the way things turn out."

Ann Jarmusch is the architecture critic for the San Diego Union-Tribune.

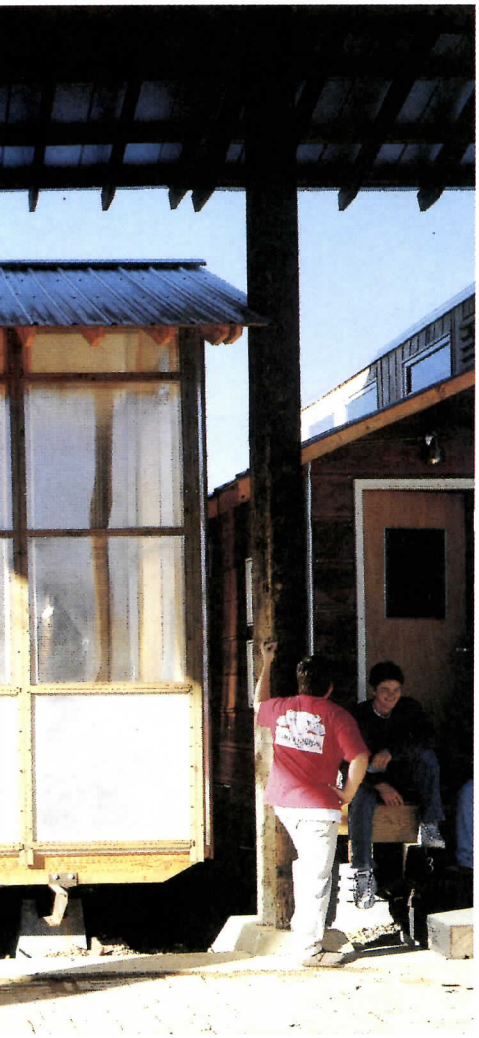
M-House's south facade (facing page, top) reveals shaded outdoor living areas and a large picture window (at center) framing views of surrounding hills. Views of its still-unfinished interiors show folding panels attached to the modular steel frame. The modestly scaled spaces include built-in furniture (facing page, bottom left) and small nooks that will contain video installations of landscape views (facing page, bottom right). The cement-board panels can be fitted with insulation and solid enclosures, or left open to the elements.

country house



The Super Shed: Not Your Ty

Students at Auburn University's R
in putting a roof over their heads.



bical Dorm
al Studio get a lesson

RURAL STUDIO, NEWBERN, ALABAMA
ARCHITECT: Auburn University College of Architecture, Design & Construction, Rural Studio, Newbern, Alabama—Samuel Mockbee, Bryan Bell, Stephen Hoffman, Richard Hudgens, Christian Trask (professors); Chris Robinson, Barnum Tiller, Thomas Palmer, Jarrod Hart (barn superstructure); Jacqui Overby, Jamie Phillips, Amy Helman (composting privy and showers); Stephen Hoffman, Marnie Bettridge, James Kirkpatrick, David Bonn, Brandi Boutwell, Melissa Vernie, Andrew Ledbetter (cottages); Melissa Vernie (kitchen) **CONSULTANTS:** Donald Parr (construction); Charles Jay (electrical) **PHOTOGRAPHER:** Timothy Hursley

The Super Shed's first four cottages set the tone for future expansion of the Rural Studio's academical village. The two-story unit (above left), which includes an apartment above and a communal kitchen below, was a collaborative project designed and built by a group of fifth-year architecture students. Three other students individually constructed their single-story cottages (above center and right) as design-build thesis projects. The results reflect their individual interests in materials, planning, and tectonics.

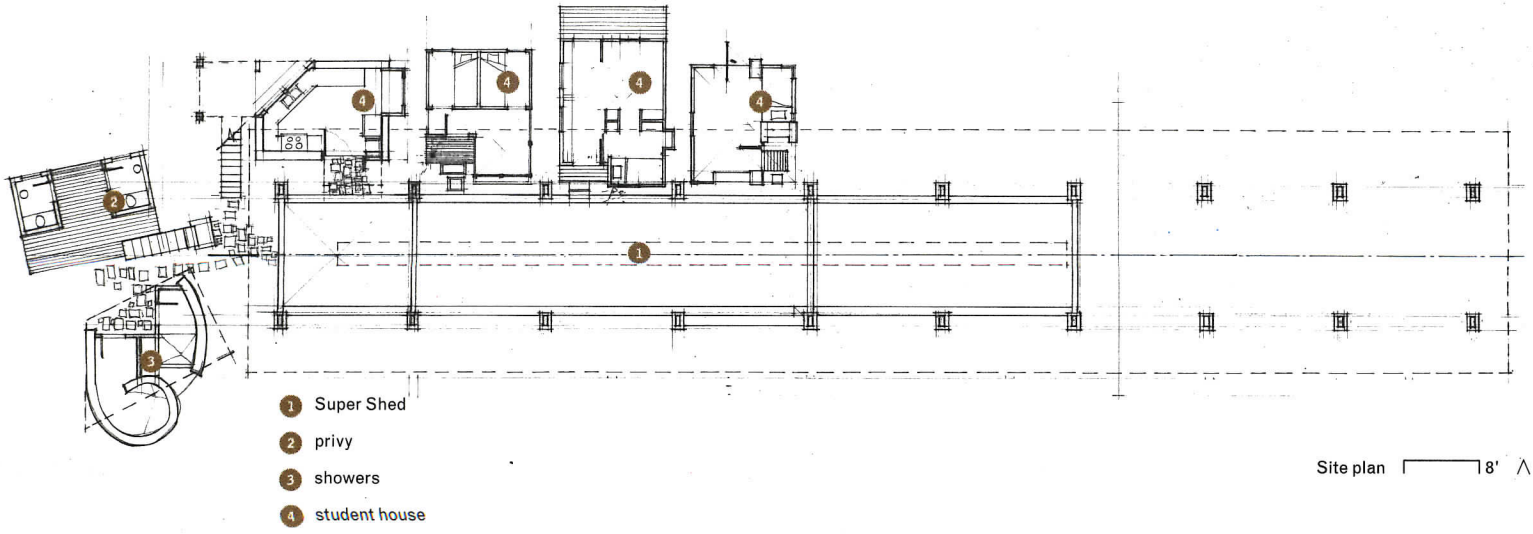
By Vernon Mays

Something extraordinary is happening on the grounds of one of Newbern, Alabama's grand old houses. Students of Auburn University's Rural Studio are erecting, with apologies to Thomas Jefferson, their own version of the academical village. For seven years, director Samuel Mockbee's young charges at the Rural Studio have been building low-cost houses and community buildings for a culture left destitute by the exploitation of land and labor in the Black Belt region of the South (*Architecture*, January 1997, page 49). This time, Mockbee's troops are marshalling their own time and donated materials to produce modest, but artful, homes of their own.

In typical no-nonsense style, Mockbee says the evolving live–work environment grew out of need: With as many as 16 second-year architecture students occupying the Studio's current home—a once grand but slightly worn, 110-year-old Victorian house—Mockbee was increasingly concerned that the old place might not hold up. "So the thing to do was turn the students loose to build their own little cottages," he says.

The goals of the program were more sophisticated than simply solving a housing crunch. Mockbee likes to portray the project as a kind of romantic throwback to Thoreau—giving the students their own kind of Walden experience. "What we try to establish at the Rural Studio is the right environment for learning about architecture," explains resident instructor Steve Hoffman. "This experience becomes a memory bank. It becomes a library. It fosters a sense of freedom and creativity. And it builds experience."

The student-built houses nestle beneath a 144-foot-long, barnlike timber shelter—affectionately known as "the Super Shed"—that steps down an incline and acts as a covered axis through a five-acre site. There are currently four tiny cottages on the shed's north flank,

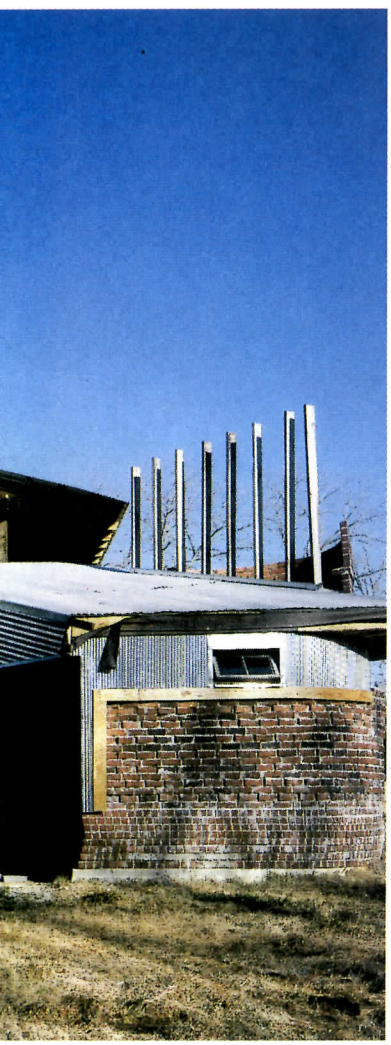


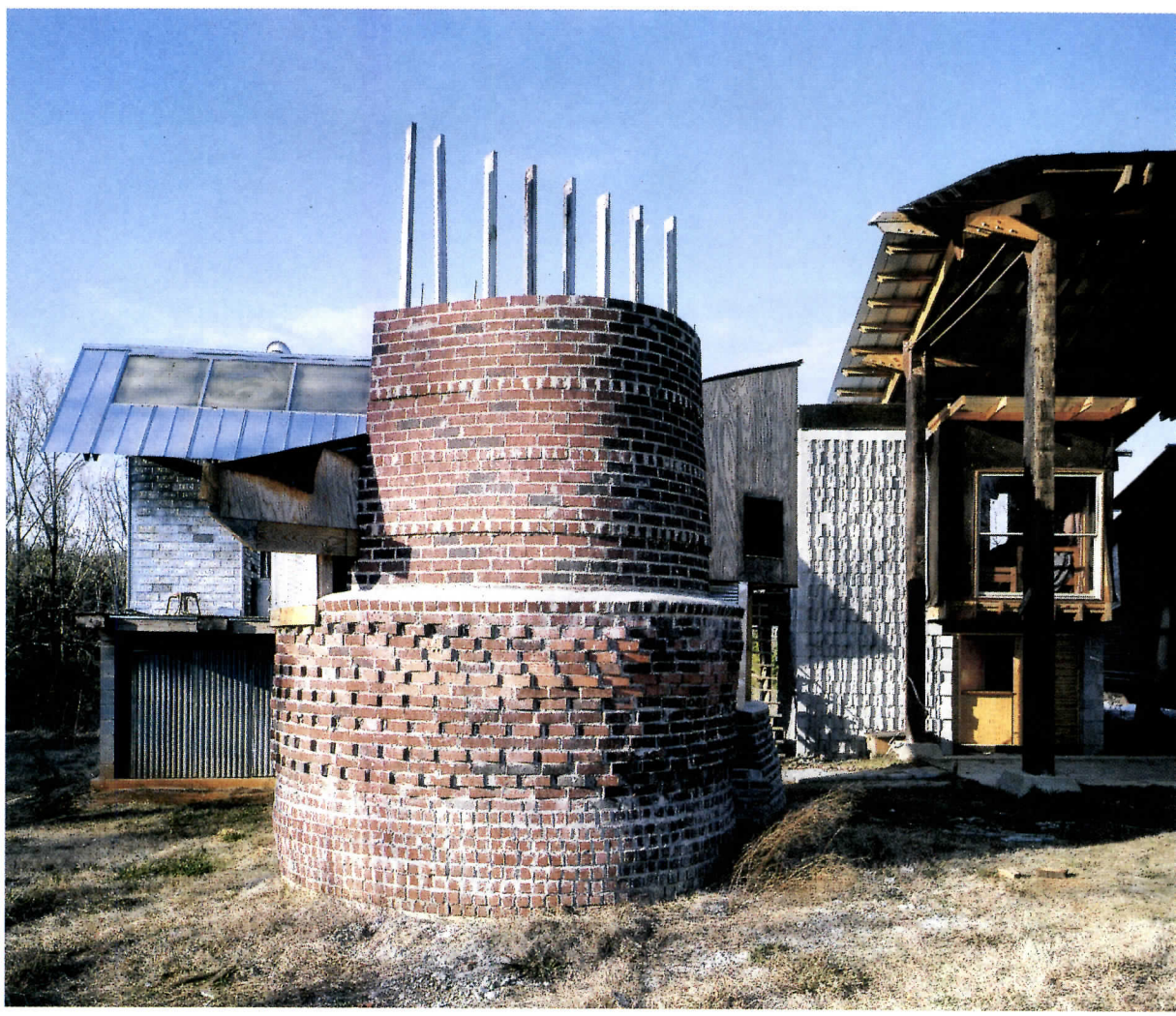
The studio's pedagogy is grounded in hands-on experience, in which students are removed from campus and required to live together and work as teams. "Many, many hands have touched this project," says resident instructor Steve Hoffman. The project began in 1997, when several thesis students built the main superstructure at the Auburn University satellite (top) and began working on two service buildings on the shed's western end (plan, above). So far, four cottages have been completed; there are plans to build five more. A large commons for lectures and dining is envisioned at the colonnade's east end.

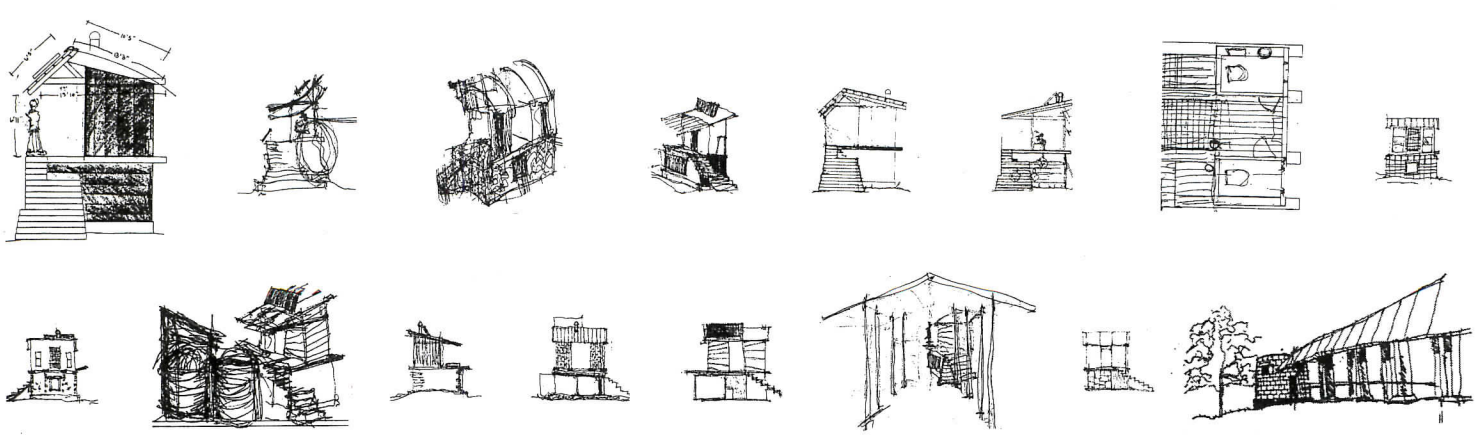
slipped between the columns; five more are to be built on the south side. A brick promenade streams down the center of the shed, like Jefferson's lawn at the University of Virginia, with a bath house and privy on the shed's low end.

The mini-houses are designed as thesis projects by fifth-year students, but since the designers graduate before they have a chance to live in their creations, the structures are ultimately inhabited by second-year students. In designing their houses, some students dwell on materials; others find satisfaction in the plan. But, sooner or later, they each come to a predictable end. "If students learn anything, it's that they can't build by themselves. It takes somebody else to hold the other end of the two-by-four," observes Mockbee. Whatever preconceptions they bring to the process, students inevitably must weigh their ideals against the reality of what they can build with their own hands. "That way, later in their careers when they are working with contractors, they will have more realistic expectations of what can be realized on a job site," says Hoffman. He tells of one student who called in a local mason to help build a concrete-block wall. "He thought laying block would be an easy task, but after watching this man who had done the same thing for 25 years, the student almost gave up. He realized there was an art to it, something beyond the technical."

Mockbee is quick to point out that everyone at the Rural Studio learns by example about the power of the architectural profession to lead both small groups and entire communities. But they also have to confront the pragmatics of building: how to deal with gravity, how to keep water out of a building, how much a sheet of drywall weighs. Failure is sometimes the greatest teacher—the advantage being that students are given the latitude to back up, rip down what they've created, and rework it.





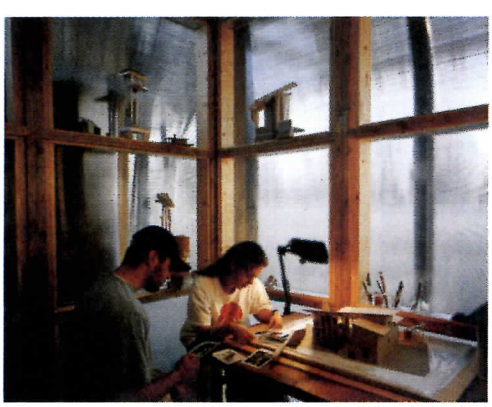


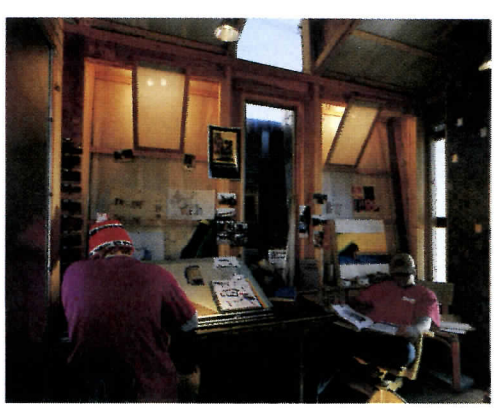
A view from the deck of the privy, which is partially clad in surplus license plates, looks directly through the axial shed (above left), which is supported on columns recovered from an old railroad trellis. Hoffman calls the privy (above center, at left) a "high-tech outhouse," with stalls in the upper level and the mechanics of a composting toilet in the masonry box below. The bathhouse (above right) is typical of Rural Studio projects that involve several generations of designers and workers. A thesis student completed the original design and laid the bricks interspersed with green bottles; the following year, second-year students completed the structure. The bathhouse includes a small private shower and a larger group shower beneath a skylight, which has yet to be completed. Developmental sketches (above) explore the form and placement of the privy and bathhouse.

Resourcefulness is another skill that students must acquire. Not only do they have to dig their own foundations, they also have to negotiate for free or low-cost materials from local suppliers and other generous souls. The result is a hodgepodge of ersatz materials: The houses are clad in old street signs, scraps of steel plate, plastic laminate samples, and printing plates from the local newspaper. The new privy is shingled with surplus license plates donated by a county judge. These rough-and-tumble materials lend the mini-campus a funky vernacular look with its own peculiar charm. "When the western sunlight hits that license-plate wall, there's a rainbow on it just like the Guggenheim in Bilbao," Hoffman enthuses.

In the end, the students don't explore any groundbreaking construction techniques or cutting-edge materials; their projects remain tectonic explorations of scavenged materials. The most invaluable lesson of Mockbee's hands-on experiment, though, may be exploring the human dimension of architecture—teaching students how to collaborate with peers and work with subcontractors. "The methodology in the working world will be the same as building any of these cottages," Mockbee says. "It's sort of a beginner's course, but it's a good start."

Future plans for the Super Shed call for completing the last five cottages and adding a large commons building on the undeveloped eastern end of the colonnade. In time, Mockbee's ad-hoc academical village will total nine living units with a capacity of 18 students. For Mockbee, the ultimate satisfaction is not fulfilling the long-range master plan, but watching the quirky little buildings rising out of the ground. "I was 30-some years old the first time I actually built a building" he recalls. "For these students to be able to build something at their young age is pretty profound." ■





Some cottages include back doors (facing page) in anticipation of a porch that may someday connect them, creating a new social space that's an alternative to the shed. Built largely from donated and scavenged materials, the cottages share a rural vernacular spirit that yields a consistent aesthetic, despite their individual differences (top). Views of the cottage interiors reflect the interests and talents of the students who built them. One cottage, built by a student with an interior design background, features careful details and a bay window of translucent polycarbonate panels (above left). Another has the simplest exterior, but the most resolved interior (above center). A third cottage (above right) is a study in materials, with exposed framing covered by fire-retardant canvas, a hand-molded acrylic skylight, and a section of wall shingled with tiny plastic laminate samples.

smart houses

Labs for Living

With help from industry and academe, home pioneers try building the houses of the future—now. By Nina Rappaport

Architects have been investigating mass-produced houses since Walter Gropius and Konrad Wachsmann attempted to design an industrialized, modular "packaged house" in 1941. But designers have yet to infiltrate the construction industry. Now, solo architects and university architecture programs are trying to break that impasse by collaborating with the building industry to create the house of the future. They're reaping obvious benefits by partnering with such manufacturing giants as Georgia Pacific and Procter & Gamble and software companies such as Compaq and Bentley Systems to create flexible, quick-to-build, environmentally responsible houses with the latest digital and material technologies. As architect Kent Larsen of M.I.T. suggests, "the time is right" to rethink standard shelter. "Builders can't get skilled labor, there are new high-tech appliances available, and untraditional households need flexible homes. We're still building houses the way we first built cars," maintains Larsen, "by hand." Following are reports on three experiments in housing of the future. These projects humanize the machine for living—and expand the architect's role in its creation.

House_n

At M.I.T.'s School of Architecture and Planning, a team of faculty and students are researching an ambitious $11 million project that directors Kent Larsen and Chris Luebkeman refer to as "House_n" (*Architecture*, November 1999, page 133). Larsen and Luebkeman are pooling resources from M.I.T.'s Media Laboratory and technology departments throughout the university to develop a "smart" home that isn't "a specific, identifiable house design," explains Larsen, but rather "a system for people to craft their own designs [to create customized, mass-produced houses]".

The key to developing House_n has been the unprecedented collaboration—both financial and intellectual—of construction, computer, and consumer product companies, which have each contributed $100,000 for the chance to test their products in M.I.T.'s experimental houses. (Donors maintain intellectual property rights on the research.) Participants in House_n include Procter & Gamble, Compaq, Bentley Systems, Owens Corning, Leviton, and Centex Homes.

In an M.I.T. lab, Larsen and Lubkeman's research team is currently building room mock-ups to test the design and technology of a kitchen, a "medical nook" that has built-in health equipment, and a flexible living/dining space. The second phase of the project will build a prototype house (that won't be inhabited) with these rooms in place; the third phase will let a family try out the prototype firsthand.

The House_n prototypes will address new technologies and living patterns. One prototype house, which might be located in South Carolina, for instance, will be geared to meeting the needs of retiring baby boomers with technology worthy of NASA, including health-monitoring devices built into the home. A second house, located on a site

SIMPLE STORAGE Modular wall elements can incorporate storage systems that automatically distribute goods throughout the house, using electronic product I.D. codes that will soon replace package bar codes.

INSTANT INFORMATION The house can communicate with its occupants, using colorful graphics for children or large text and audio for the elderly. A bedroom wall can become a weather map of your destination as you pack for a trip.

ADAPTABLE SPACE Walls, cabinets, and work surfaces can have multiple functions. The house opens to the exterior in spring and seals itself from the elements in winter. The house can expand as a family grows, then contract during retirement years. Transparent glazing can change to translucent for privacy and opaque for light control according to a room's activities.

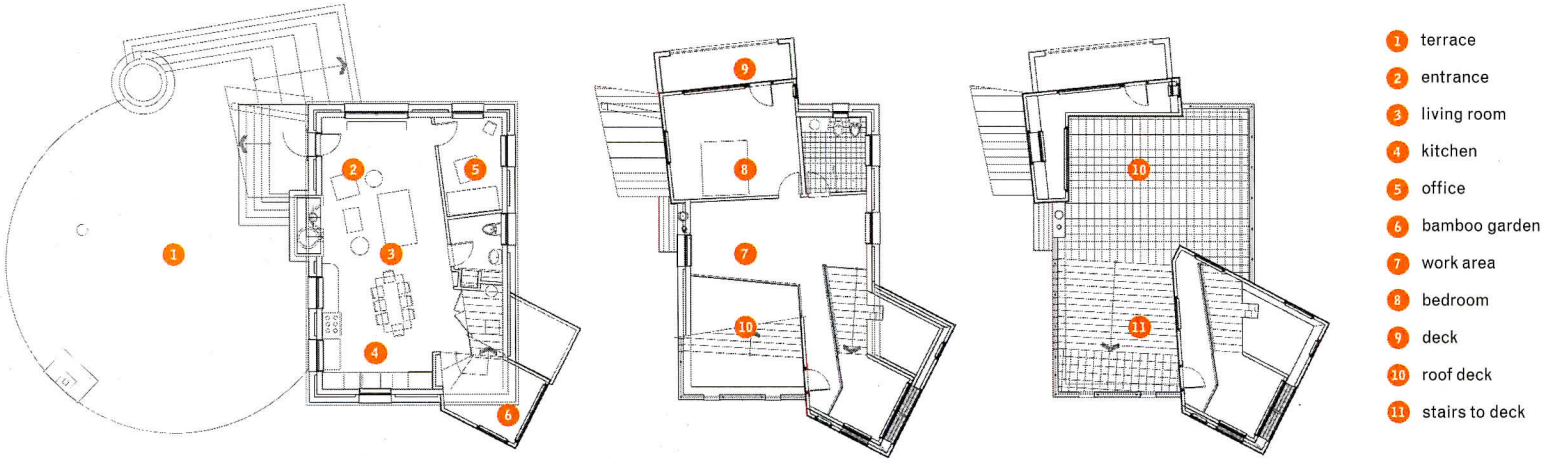
FLEXIBLE WALLS Exterior walls create and store energy with integrated layers of thin photovoltaic film, clear insulation, and thermal mass for heat storage.

COMFORT The house will help occupants remain self-reliant as they age, and will easily house both the very young and the elderly. Counter heights will adjust to the user. Low-cost robotic appliances will help with such tedious household chores as vacuuming and storing groceries.

DAILY CHECKUPS Small wireless sensors worn by occupants will allow the house to monitor their health, nutrition, and exercise, helping identify potential problems. They will "visit" their doctor for checkups without having to leave the house.

EASY COMPUTING Nearly all surfaces contain sensors linked to inexpensive computers, which monitor the state of the physical world. These sensors will let the house recognize what its occupants are doing and anticipate their needs.

CLEAR CONNECTIONS The house will be a center of learning and invention, in which its residents are connected to family and friends. Interactive, multisensory technologies will forge face-to-face connections with the outside world.



Ground-floor plan 9' Second-floor plan Third-floor plan

"The time is right to rethink standard shelter. Builders can't get skilled labor, there are new high-tech appliances out there, and untraditional households need flexible homes."

in Cambridge, Massachusetts, will monitor household energy consumption with computer controls. The houses will feature energy-producing wall panels and "integrated intelligent panels" that Luebkeman is developing with M.I.T.'s Materials Science and Engineering Department. These snap-together components will be fully finished with built-in electronics, HVAC, lighting, and communication devices. The same system could have different aesthetic expressions—for instance, a modernist look with sleek finishes, or a traditional New England style. Both houses are currently in the experimental and design phase.

eHouse2000

New York City architect Michael McDonough just broke ground on a more individual experiment he calls "eHouse2000," located in Ulster County, New York. Developed in conjunction with big-name corporate partners Andersen Windows, Georgia Pacific, Plybo Products, and Winter Panel Corporation, McDonough used the name "eHouse" because he signed on sponsors and specified products electronically; that is, entirely over the Internet.

McDonough's venture, he says, "developed out of an entrepreneurial spirit, like the proverbial inventor tinkering in his garage." Frustrated that university projects often take a long time to get off the ground, McDonough decided to build the house of the future by himself, with a focus on environmentally efficient materials and building systems. The project is a test not only for the architect but for the manufacturers as well: They are contributing expertise and actual products in exchange for links from McDonough's website to their own, and they plan to capitalize on the research being done with their products.

New materials and building systems will be installed throughout the 1,600-square-foot house, which will be completed this summer. The primary structure, for instance, is a new wooden truss system made of cheaper, often unused low-end lumber, developed by Georgia Pacific; the flooring is made of sustainable bamboo. Photovoltaic panels will power yard lighting and a water pump, though the home's primary power system will be hydroelectric. A hydroponic garden (one that grows in gravel or liquid, rather than soil) and bamboo grove will oxygenate the air.

Computer chips embedded in thermostat controls will monitor eHouse2000's temperature, air quality, energy use, and the status of the radiant cooling system and heating equipment. Serial ports will feed this information to a website, where McDonough and others can monitor the house's performance.

Nomadic Transit Module

The Nomadic Transit Module (NTM) is a compact, modular house designed and built by 70 students and faculty at Catholic University of America's School of Architecture and Planning. The 576-square-foot

1. self-healing, zinc- and tin-coated stainless-steel roof, by Follansbee Steel
2. engineered laminated veneer lumber (LVL) I-beam framing, by Georgia Pacific
3. CFC-free foamglas cavity insulation, by Pittsburgh Corning
4. aerated, autoclaved concrete-block walls with recycled fly-ash, by BABB International
5. structural insulated panels (cut with computerized CAD/CAM technology), by Winter Panel
6. high-performance, low-e glazed doors and windows, by Andersen Window

PERMANENT SETTING Catholic University's Nomadic Transit Module (NTM) is now situated on a wooded site along the Severn River, near Annapolis, Maryland, where it was shipped on the back of a flatbed truck, like a mobile home. The enclosed north elevation (above) conceals the NTM's services; a small, freestanding "battery barn" (at right) was designed to house energy-generating equipment. (The current owner elected to hook up the house to the local grid instead, and is currently using the shed for storage.)

"Though modeled on the simplicity of a Japanese teahouse, the NTM is a sophisticated home that can be built on any site.... It's more than an experiment in architecture; it's an experiment in efficient living."

home, created over four years by Associate Dean Ann Cederna's design–build studio, utilizes the latest materials and digital technology. One of the project's goals, says Cederna, "is for students to tackle consumerism and maximize their efforts to address the economy of means—energy and material efficiency, as well as using space and living efficiently—in response to suburban sprawl."

A Vierendel structural frame with 4-by-4-inch hollow steel tubes makes up the NTM's structure—a first for such a system in the housing industry, according to Cederna. The steel frame is clad with a thin, laminated metal-panel skin and a new type of 1-inch-thick insulated glass developed by glass manufacturer Viracon. The basic 40-by-12-by-12-foot module, which can be stacked or connected to create larger structures, is the same dimension as many mobile homes so it can be easily transported on a flatbed truck. Donated materials from building corporations helped foot the $160,000 materials bill; labor was free.

Though modeled on the outward simplicity of a Japanese teahouse, the NTM is a sophisticated, electronically controlled, and environmentally efficient home that can be built on any site. Along one solid wall, which should be placed facing north in most climates, is a service zone incorporating plumbing chases, a bathroom, washer and dryer, water heater, computer system, and a compact kitchen. The main living space is an open, loftlike area (which should face south) for living, sleeping, and working, which is filled with built-in furniture.

Beneath the floor is a 14-inch-thick plenum concealing HVAC ducts and a cable tray for electrical wiring. A central computer controls all of the home's building systems, from security and lighting to appliances, and can be operated via telephone. The NTM's designers created a small ancillary building as a "battery barn" for storing the energy cells that would power the house.

After completing the NTM prototype at Catholic University's Washington, D.C., campus, the students shipped the compact home via flatbed truck to a wooded site near Annapolis, Maryland. That's where Steve Green, a Catholic University alum who purchased the prototype for less than the market value (between $80,000 and $100,000), now calls the NTM home. "It's more than just an experiment in architecture; it's an experiment in efficient living," *Green enthuses*. "My life is more condensed now."

Cederna is now working with the NTM's corporate donors to continue developing the building technologies and forms tested in the NTM. She hopes that the manufacturers will make these innovations part of the mainstream housing market. Because Cederna advocates efficiency in every sense, it will be up to the public to change their attitudes about how they use space at home; they'll have to do more with less square footage. ■

Nina Rappaport is a New York City–based freelance writer.

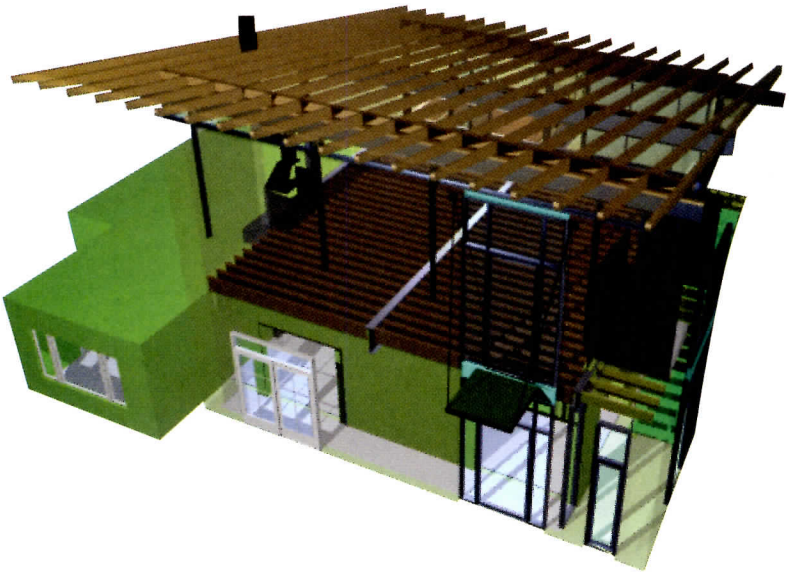
DINING/WORK AREA The NTM embraces its surroundings with a long, south-facing window wall that visually minimizes barriers between inside and out—and makes the house feel less cramped. Overlooking an outdoor deck, a wooden table plugs into the NTM's electrical system, allowing it to double as both a dining table and workspace with integral computer and audio-visual connections.

SLEEPING AREA Modular furnishings in the bedroom area exemplify NTM's simplicity and economy of means. The pullout Murphy bed allows the same space to be used for sleeping, eating, relaxing, or working. The skylight above minimizes the compact house's sense of enclosure and adds natural illumination.

SERVICES The tiny bathroom along the solid, north-facing service zone contains the toilet and sink; the shower is in a separate closet space. Sliding door panels keep intrusions into the main space to a minimum.

KITCHEN The compact kitchen is really a single wall piled high with built-in cabinets and polished, energy efficient appliances. A washer/dryer and water heater are concealed behind the solid closet panel at right. The edge of the table visible in the foreground is the dining/work table in the main living space.

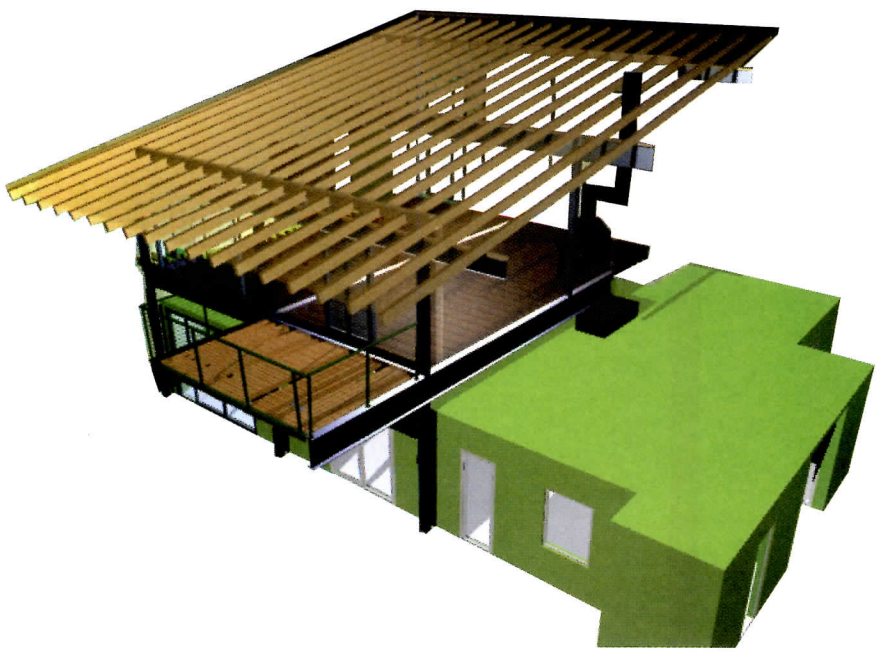

block house



The street elevation (facing page) offers a deck with a sliver view of the Pacific; the double chain-link fence is permanent but the shrubs are expected to grow through it, mostly concealing the fence. Drawings (left and below) reveal how the cantilevered roof rises above the addition's shell, exposing a continuous band of clerestory glass.

Boxed Up, But Not Boxed In

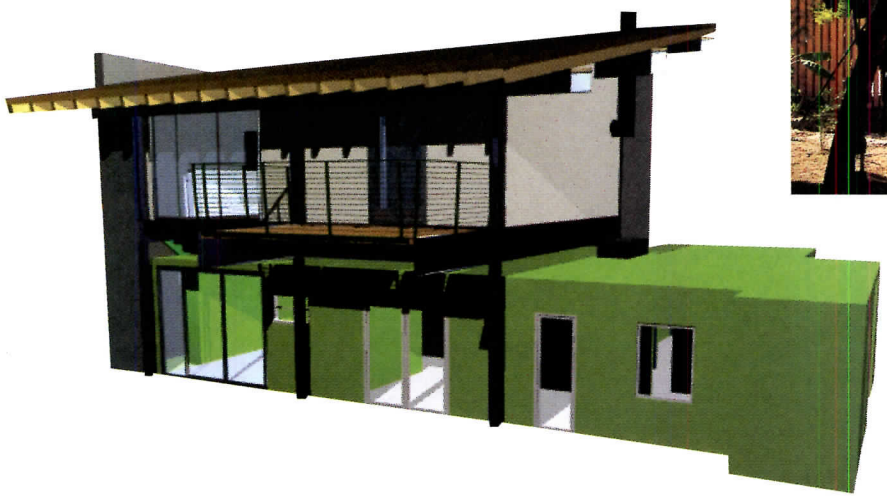
San Diego architect Public invents a new kind of addition to the suburban tract house.



SU MEI YU ADDITION
LA JOLLA, CALIFORNIA

CLIENTS: Su Mei Yu and Italo Scanga
ARCHITECT: Public, San Diego—James Brown, James Gates (principals); Freddie Croce (project architect); Hussein Munaim, Taylor Osborn, Scot Bennett, Eric Gomez (design team); Phil Oliversen, Alex Stone (field team)
LANDSCAPE ARCHITECT: Aeria
ENGINEER: Flores, Lund, and Mobayed (structural)
CONSULTANT: Brummitt Energy Associates (energy)
GENERAL CONTRACTOR: Public
COST: $300,000
PHOTOGRAPHERS: David Hewitt, Anne Garrison

By Lawrence W. Cheek



Su Mei Yu and Italo Scanga's San Diego home was a drab, cheaply built, confining 1950 ranchburger. But it had two qualities that made it, against great odds, a treasure. The place had a history: Like most of its neighbors, it was a Sears kit house built for Jewish professors teaching at the nearby University of California at San Diego when local landlords wouldn't rent to them. And its owners cherished it.

Yu, a restaurateur of Thai-Chinese descent, and Scanga, an artist, simply told architects James Brown and James Gates, of Public, that they needed to add a room to the house they had lived in since 1982. Their only specification was that the feel of the existing house should be preserved. When Brown and Gates presented their initial design, the clients reacted with a decisive few words: "Stunning. Build it."

Brown and Gates designed a simple yet—considering the neighborhood context—dramatic concrete-block box to wrap over and around the old house. The addition provided a 900-square-foot library and a small bath on the second floor, and preserved the avocado-green ranchito inside the first floor, like an archaeological dig encased in a museum. But Public's strategy isn't a wry commentary on 1950s bad taste; the old house's spaces are left nearly untouched and the clients are happily using them. The addition is respectful and practical.

The art of Public's addition lies mainly in one inspired gesture. As one enters, a two-foot-wide gap separates the new facade from the old. The strip between the two walls is covered with pebbles, as if the landscape extended inside the house. This empty transitional space mediates between the house's two generations, creating a sense of equilibrium rather than tension, and suggesting that the house is a living organism in the natural process of growing a new shell. "Usually a remodel either tries to fit in or contrast dramatically with what's already there," says Brown. "This one examines the existing house, but doesn't corrupt it."

The shell grows to a neighborhood-alarming height of 22 feet 8 inches on the west and south sides. On the northwest corner, the avocado ranch blurts out of its new container and peeks outside, with a prominent bay window marking the bedroom. The 12-inch concrete-block walls of the new box carry the seismic load and anchor the three bolted I-beams that support the new second floor. Much of the addition's character is invested in those concrete blocks, which are flecked with black pumice and honed to a satin finish; from the street they could pass for exotic granite. The new room upstairs is a 30-by-30-foot library and gallery with two protruding decks. Ascending to the loftlike gallery, one feels a transition to a new and better world—but as

New and original materials—and colors—mingle in the rear elevation (facing page and left). The original exterior redwood siding, painted with the clients' cherished avocado green (left, at bottom), now also appears on interior walls.

the stairs burst into that world, there's a greeting from a partition painted the same avocado color as the old ranch. It's not just a thoughtful transition; it affirms that the old house is worth respecting.

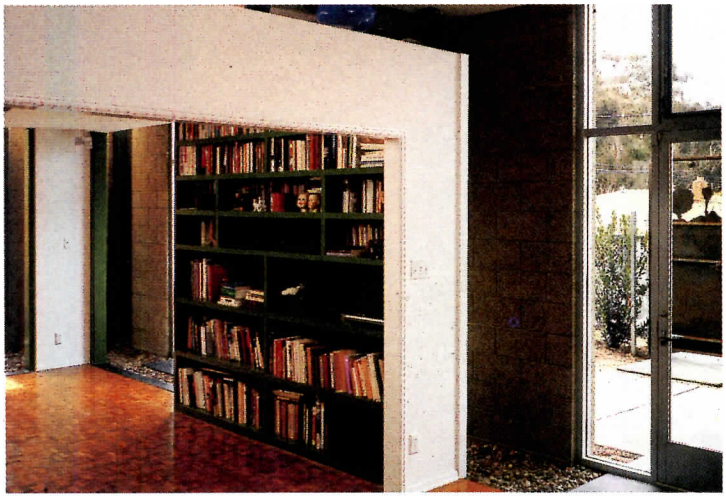
Why bow to middle-class, mass-market design from the 1950s? In *Complexity and Contradiction in Architecture*, Robert Venturi argued for "an inclusive... architecture [with] room for the fragment, for contradiction, for improvisation, and for the tensions these produce." This is fine justification for theoretical architecture, but it would be lost on many real-world clients. In Public's revolutionary add-on, the rationale, like the program, was disarmingly simple. The clients had even selected that green paint themselves, long ago. "I don't know why, but it makes me feel peaceful," says Su Mei Yu. "It reminds me of Thailand, the banana leaves." Says Brown, simply, "We respected what the house offered us."

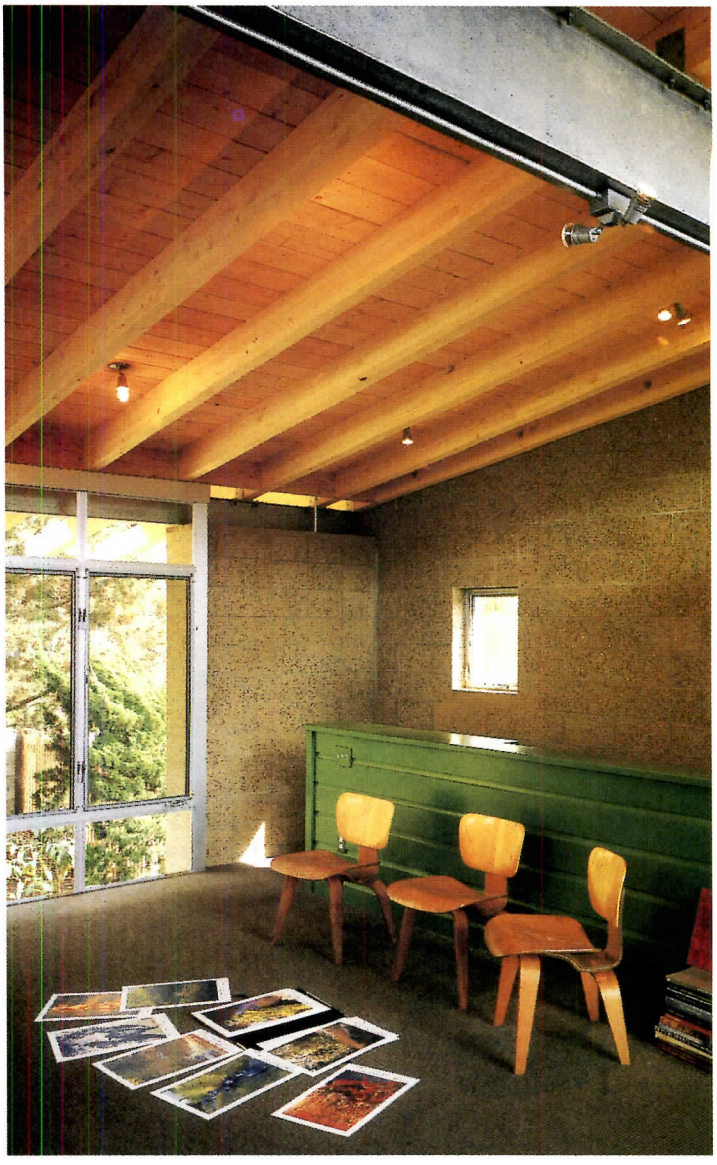
Debut	**Public**	San Diego, California

Public, James Brown and James Gates's quirky and versatile San Diego design-build firm, materialized in 1989 when the former Cal Poly San Luis Obispo roommates leased an office together. As Brown (at left) and Gates (at right) tell it, they were so poor they fabricated a name from the existing letters on the former tenant's sign: Notary Public.

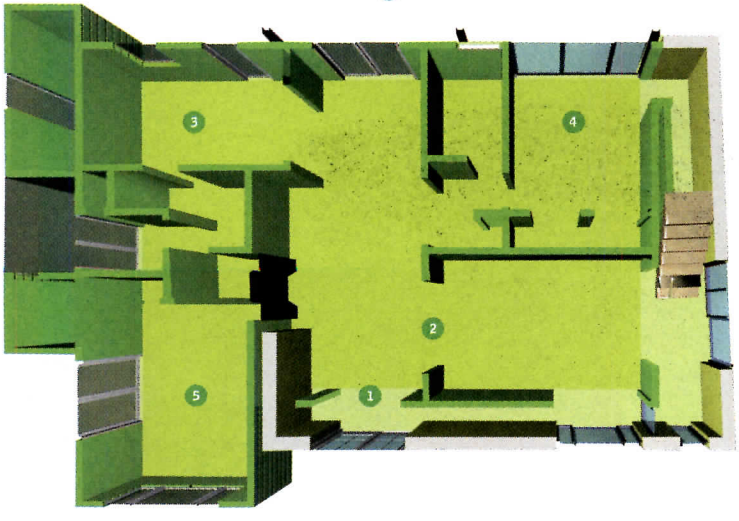
Today, the slightly more prosperous six-person firm operates in the shell of a former carpet warehouse, building sculptural furnishings in a back room. Nearly all their commissions to date have been low-budget residences and commercial tenant renovations, including a self-service dog wash. They revel in using industrial castoffs, such as gratings and steel doors, and monitor them for the moment when the rust is just right for sealing.

More than just adding living space, the renovation shelters the clients' widely varied collection of books and art—some of which has been in storage because the original 1,250-square-foot house couldn't accommodate it. Upstairs is a loftlike library (right); below is a living space contained within the shell of the original house (below). A two-foot-wide swath of heavy gravel mediates between the new and old shells of the house (facing page), showcasing the old like an archaeological treasure.

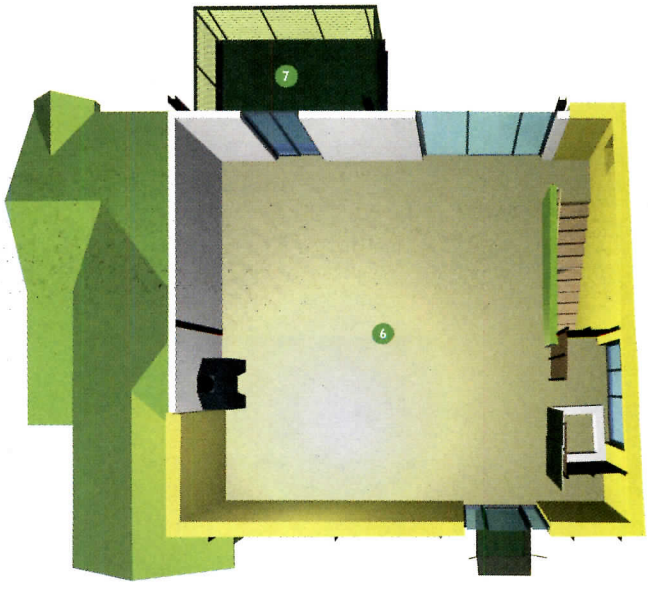




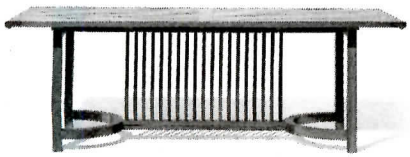
1 entrance foyer
2 living room
3 kitchen
4 office
5 master bedroom
6 library
7 outdoor deck



Ground-floor plan ⌜——⌝ 6' <



Second-floor plan



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Turning Kyoto Into Kindling

continued from page 79

including carpenters, plasterers, roof tilers, gardeners, copper workers, tatami makers, and window paperers. The loss trickles down to the host of craftsmen and material suppliers who, in turn, support those trades.

Also eradicated is the gracious architectural expression of traditional Kyoto life. The delicate wooden grillwork facing the street expresses the customary division of public and private. The lattice is cut slightly thinner than in other cities, suggesting Kyoto's taste for refinement. An extra-large entrance hall, or *genkan*, provides a place for the outside world and inner life to meet (visitors rarely advance beyond this space). A narrow veranda, or *engawa*, faces the tiny inner gardens. The workplace and home coexist while maintaining a comfortable remove from one another. Not surprisingly, the sterile apartments that replace the machiya never incorporate these features.

The endangered machiya, however, could yet be saved. Thanks in part to Japan's economic slump, Kyoto is beginning to reexamine its values. Faced with wholesale destruction of wooden neighborhoods, local preservation groups have sprung up throughout the city. Professional organizations, such as the Kyoto Townhouse Revitalization Society and Kyoto Townhouse Craftsmen's Group, have begun to mobilize. More hopeful still, the inheritance tax is up for revision. The change was not initiated expressly to save townhouses, but it could help their cause. Meanwhile, a group of foreign residents, having witnessed preservation's benefits in their homelands, joined with Japanese friends to form the International Society to Save Kyoto (*web.kyoto_inet.or.jp/org/bigkarma/issk/*). A recent survey found more thatn 60,000 intact machiya in Kyoto's four central wards, giving hope to a machiya renaissance.

Perhaps most encouragingly, it has become trendy to open shops, restaurants, and galleries in renovated townhouses. A former *sake* shop has found a new life, for example, as Kyoto's most attractive stone-oven pizzeria. Sipping grappa in the warm light that reflects off its plastered clay walls, one senses that there is more to machiya than meets the eye. Their importance as architectural and cultural artifacts extends beyond the age of their inception, to the active life of the city today, and beyond, to tomorrow. ■

Marc Peter Keane is an adjunct professor at the Kyoto University of Art and Design and author of Japanese Garden Design. He is chairman of the International Society to Save Kyoto.

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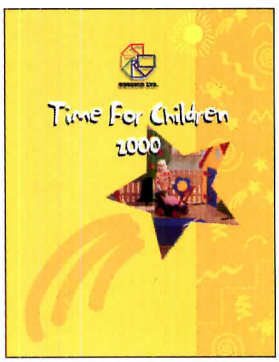

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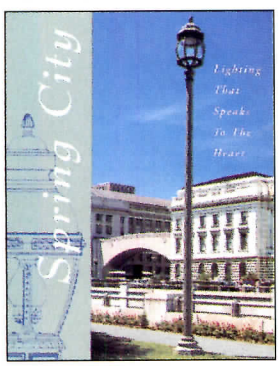

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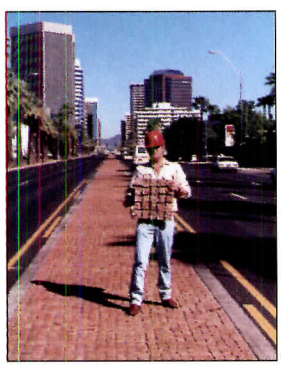

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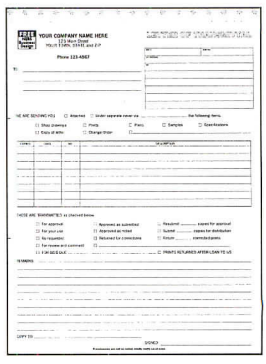

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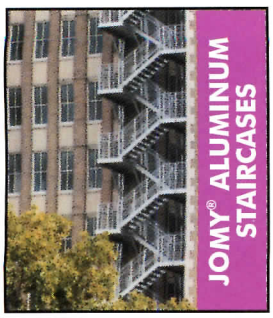

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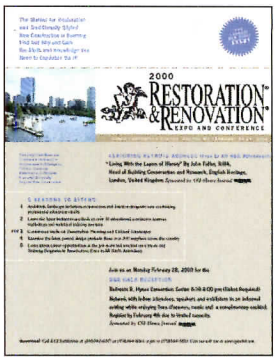

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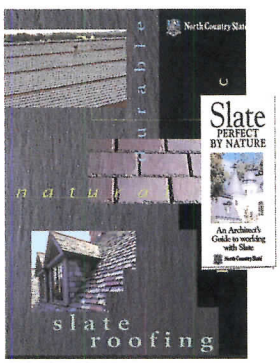

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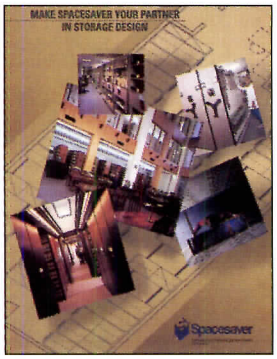

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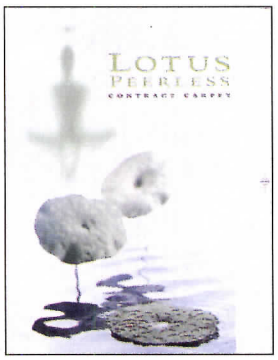

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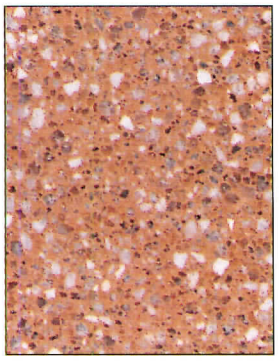

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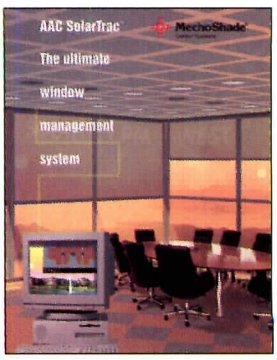

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Pilgrimages

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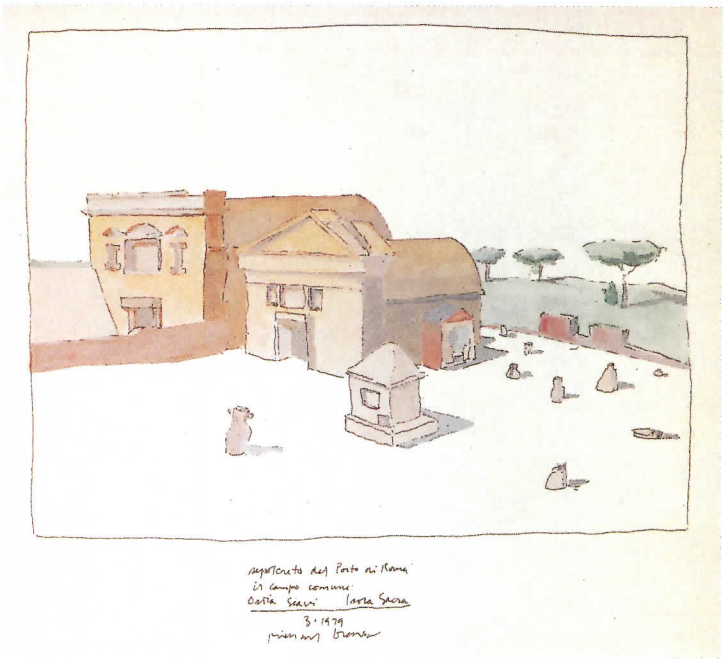
cameras, which I feel interfere with the experience, but have seen a lot in studying my slides that I did not see when I was there. My compulsion is different: I do not consider a day's travel complete until I have written it all down in a notebook in the evening. What are these notes for? Not for reading afterward—I save them all, but by now there are too many for reading them to be feasible. And if I do dip in much later, it is details of meals, hotels, and passing angst that I like best, not the laborious descriptions. Such records are the pilgrim's best badge of seriousness—the experience is not only to be enjoyed, it is to be understood and formed into something with a shape of its own. Writing things down, like drawing them on small sheets of paper, is an exercise in remembering and a way of saying you are not content to leave it to memory. The goal is only reached when you fix it in a semireliable place of your own, on paper. ■

Robert Harbison teaches at the School of Architecture and Interior Design at the University of North London. His previous books include Thirteen Ways *(MIT Press, 1997),* The Built, the Unbuilt, and the Unbuildable *(MIT Press, 1991), and* Eccentric Spaces *(1977, reprinted by MIT Press, 2000).*



Michael Graves' 1979 drawing of Isola Sacra cemetery in Ostia

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Easy Money

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early as its first day of trading. Its stock, which debuted at $6, closed at $5.63, or "underwater" in Wall Street parlance. It sank steadily over the next year, dropping as low as $2.25—dangerously close to penny-stock territory—before rebounding to just over $4 per share by the beginning of this spring. (HLM moved in January from the Nasdaq Small-Cap Market to the American Stock Exchange, which has the advantage of being publicly listed—you can find it in the newspaper, in other words—which is not the case for Nasdaq's small-cap stocks.)

"The market does deal in a certain amount of glamour, and the glamour stocks today are anything e-commerce and dot-com," Harris says when asked about HLM's lagging stock price. "But people are going to come back to value stocks, and people will discover us." Harris says he believes the stock ought to be trading in the $6 to $8 range. Some signs of life in the stock price would make the employee stock option plan, which is offered to everyone in the company, a much more significant lure for potential hires.

For the quarter ending January 28, 2000, HLM's revenues were $14.3 million, up from about $12 million for the same period a year ago. Net income was $192,082, down from $205,389. Compare those modest numbers to those reported by Fluor, the huge California-based engineering and construction company, and you begin to understand the difficulty HLM faces in attracting the attention of investors. For the same quarter, Fluor reported earnings of $52 million on revenues of $3 billion. Its market cap is well over $2 billion; HLM's has fallen to an almost miniature $10 million. And even Fluor watched its stock price sink over the past year, as money poured out of the New York Stock Exchange, where it's listed, into the tech-heavy Nasdaq.

Now that HLM has to answer to stockholders, does it carry out its business any differently? Have its priorities shifted? Brannon, HLM's CFO, says no. "Our mission hasn't changed just because we held a public offering. And as long as we continue to fulfill that mission, the investors and our clients are going to be happy. There's no conflict there."

But Sam Spata, senior principal at the New York office of architecture heavyweight HOK, maintains that public companies have to face the question of divided loyalties. "Our feeling about IPOs is that once you go public you have the problem of having to prove something in terms of earnings every quarter or even every 30 days," he says. "Suddenly you have a new partner, named Wall Street, who may not understand very well how your industry operates. And once you make that bargain, it starts driving our business. How can it not?"

Christopher Hawthorne is a Brooklyn-based writer.

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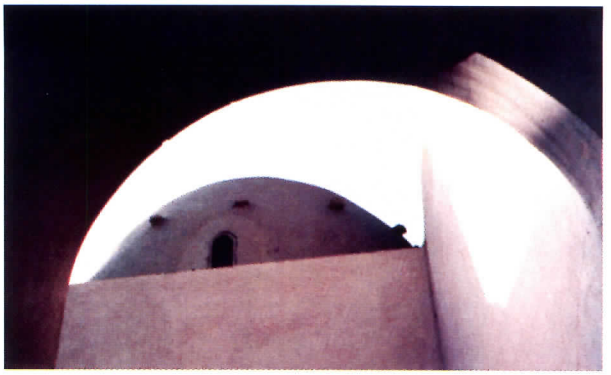

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Baroque

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followed by impressive displays of historic material. Original drawings and models from Gian Lorenzo Bernini's workshop-of urban fountains, festival devices, and some of the greatest of Rome's urban theaters at St. Peter's—demonstrate a heightened sensual attitude which willfully confounded the spiritual with the erotic imagination. The nude bodies caught in the thrust of the natural elements in Bernini's Four Rivers Fountain in Piazza Navona display a libidinal energy that competes with the state's agenda of religious conversion.

While no other city was as thoroughly staged as 17th-century Rome, the absolutist courts of Europe transposed the conceits of baroque planning to their sites of power, creating ever more astounding projections of ideology on the landscape. As the curls of powdered wigs got stacked higher and the ritual of court became both the means and the ends of aristocratic existence, the architectural settings became obsessively coordinated into total environments, organically conceived from the swirling countercurves of the doorknobs to the extension of the palace to the garden and on to the surrounding region. Louis XIV's Versailles, for example, embodied in architectural terms the hierarchical relationships of the state: The palace is located at the heart of a radiocentric ordering system, with a trident of streets facing the city side and nearly infinite axes of gardens behind it. But, with the exception of Versailles, baroque settings tended to exaggerate the extent of real power; papal Rome was a premiere case of showiness over substance. As Hillary Ballon remarks in one of the few essays in the catalog worth reading, the grandeur of such baroque schemes as Nicodemus Tessin's core of palaces in Stockholm "illustrates a fundamental paradox of baroque power, namely the contradiction between the enormous scale of the architecture and the weakness of the state."

Despite the complexity of the baroque phenomenon and its political and social implications, the selection of exhibition material seems guided by the simple criteria of works that enchant or overwhelm. The task of assembling more than 80 period models from all over Europe was no doubt formidable; their availability provided the structure for the show, as well as a good pretext for avoiding reflections on stylistic development, typology, or patronage. Baroque's excesses, then, come across as the main message of the exhibition, and only a few themes receive sustained treatment (gardens, fireworks, architectural libraries). Due to the lack of available materials, the show also has conspicuous absences, such as the *continued on page 229*

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Baroque

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baroque treasures from Sicily and Bavaria, but the sensual satisfaction provided by the models included make up for oversights, both geographic and conceptual.

The models fill the rooms the same way in which the full-scale constructions were intended to fill landscapes. In some cases, as in that of the Fireworks Pavilion by Jan ten Compte in the Hague, a model appears suggestively in tandem with a large oil painting showing the same work in its historic context. The size and detail of the models are often breathtaking, ranging from intricate sectional studies such as the one showing the hung vaults of Matthias Gerl's Piarist Church in Vienna (1751), to a huge, fully detailed replica of Villa Pisani at Stra, to Vauban's model of the fortress city of Neuf-Brisach (1698), to a rare landscape model for the concentrically organized gardens of the Orangery at Gotha (1748). The absolute novelties of the show came from Russia with gargantuan models for the never-built neoclassical Kremlin Palace designed for Moscow by Vasily Bazhenov (1769) and the partially completed monastery and cathedral of Smol'ny near St. Petersburg. The latter, designed by Italo-French émigré Francesco Bartolomeo Rastrelli in 1748, occupies about 225 square feet and appears as a dazzling confection of white Corinthian columns, gilded onion-shaped cupolas, and powder blue walls. There is no question that this model would make the best cover image for the lavishly illustrated 621-page catalog, which was edited by Millon.

The Triumph of the Baroque elicits reactions that are unusual for an architecture exhibition: People gasped with surprise as they strolled from room to room encountering new perspectives, and squealed with pleasure as they were treated to mini light shows above the model of a palace. Like the architecture, the scale, detail, and palpable beauty of the models simply get people involved. Perhaps the real triumph of the baroque was not in its effectiveness as propaganda, but in the indulgent pleasure it still provides through its dynamic expressions of form and its unabashed attitude toward decoration. Bizarre but comprehensible to the senses, the baroque—and this stunning exhibition—may be best appreciated as a reminder of what architecture could be, before the historic rift when architects' ideas about what is appropriate for society began to jar with what people could identify and even fall in love with.

The Triumph of the Baroque: Architecture in Europe 1600–1750, National Gallery of Art, Washington, D.C., May 21–October 9, 2000. Catalog published by Rizzoli.

Lowered Premium

Mickey O'Connor shames CIGNA for laying waste to Gordon Bunshaft's landmark Connecticut General headquarters in suburban Hartford.

In 1952, the Connecticut General Life Insurance Company hired Gordon Bunshaft of Skidmore, Owings & Merrill to design a corporate headquarters on 650 acres of Connecticut forest on the outskirts of Hartford. Today, the same company (now called CIGNA) plans to bulldoze the Wilde Building, as it's known, and replace it with an ersatz carnival of mixed uses—just shy of its 50th birthday, after which the modern landmark would be eligible for historic protection.

It was bound to happen: The preservationist movement has finally caught up to the suburban office park. Now what? In an age hypersensitive to the detriments of urban sprawl, "office park" is a dirty word. But in 1957, when Connecticut General vacated its downtown Hartford location for Bunshaft's leafy enclave, sprawl was what you did on the sofa after a hard day at the office.

Connecticut General wholeheartedly believed in the future of the glass-walled, free-plan, columnless office Bunshaft had crafted. In addition to snagging the celebrated modernist hot on the heels of the success of his seminal Lever House in New York City, the client completed an International Style trifecta with sculpture and landscape design by Isamu Noguchi and interior design and furnishings by Florence Knoll. *This was a class act.*

But CIGNA's new plan isn't about class; it's about money. They see an opportunity to make some dough by chopping up the pastoral parcel and selling it off to the highest bidders. Meanwhile, CIGNA's party line floats the questionable boast that they are "preserving" what they call the South Building, an undistinguished 1970s concrete addition to the Connecticut General campus. They avoid mentioning that their master plan levels every other building, including Bunshaft's, to make way for a hotel and conference center, lots for bloated custom homes, and an 18-hole golf course designed by legendary linksman Arnold Palmer.

The subdivision—while an unfortunate assassination of the property's bucolic character—is at least economically understandable. But if CIGNA was in a preservationist state of mind, why not save the building of which they were so fond they named it for their beloved former CEO, Frazier Wilde? Why not choose the building that they first introduced to its employees (and the general public) with a massive public-relations blitz, including a documentary film and propaganda-like pamphlets that touted Bunshaft's progressive thinking? Why throw this rich history out the window?

Most irritating is that CIGNA *could have* their cake and eat it too. They can play reckless real estate developer with their patch of the Connecticut woods *and* keep the Bunshaft building as a reminder of modernism's (and Connecticut General's) idealistic roots in improving society. Consolidate the remaining CIGNA offices (headquarters moved to Philadelphia in 1981) into the Wilde Building and provide Hartford's golfing set with beautiful views of a contemporary architectural icon. ■

Giving Gordon the shaft: Company cafeteria (at right) cantilevers over shallow reflecting pool. Free-plan offices (background) of Connecticut General headquarters exhibit signature International Style glazing and column-free interior.

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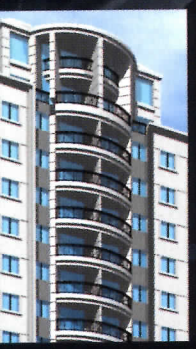

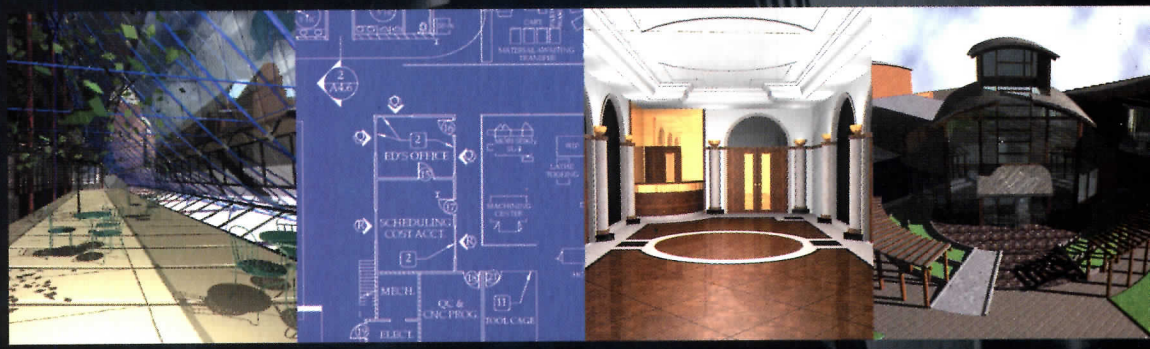

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